



MOVE YOUR ENVIRONMENT FORWARD

SITE CHARACTERIZATION WORK PLAN

Ingraham Street Sidewalk Groundwater- Site # 224142

88 Ingraham Street, Brooklyn, New York

Prepared For:

Contract# D009808, Work Assignment No. 38
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7012

Prepared By:

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

HRP #: DEC1038.P2

Issued On: May 15, 2024



TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	Purpose and Objectives	1
1.2	Site Description and Background Information	2
1.3	Previous Investigations.....	3
1.4	Site Geology and Hydrogeology.....	6
1.5	Areas of Concern	7
2.0	SITE CHARACTERIZATION (SC) SCOPE OF WORK	9
2.1	Preliminary Activities	9
2.1.1	Work Plan.....	9
2.1.2	Health and Safety Plan	9
2.1.3	Community Air Monitoring Plan.....	9
2.1.4	Quality Assurance Project Plan	9
2.2	Investigation, Environmental Sampling, and Implementation	10
2.2.1	Permit Acquisition	11
2.2.2	Underground Utility Clearance and Ground Penetrating Radar (GPR)	11
2.2.3	Hydraulic Profiling and Grab Groundwater Sampling.....	11
2.2.4	Soil Boring Installation and Sampling	12
2.2.5	Monitoring Well Installation.....	13
2.2.6	Well Development.....	13
2.2.7	Sampling of Monitoring Wells	14
2.2.8	Sub-Slab SVI Structure Sampling	14
2.2.9	Permanent Soil Vapor Points	15
2.2.10	Sample Handling Procedures	15
2.2.11	Decontamination Procedures.....	15
2.2.12	Disposal of IDW.....	16
2.2.13	Analytical Data Quality Evaluation.....	16
2.2.14	Base Map Development and Site Survey.....	17
2.3	Site Characterization Report.....	17
2.3.1	Electronic Data Delivery	17
2.3.2	Site Characterization Report.....	17
3.0	GREEN AND SUSTAINABLE REMEDIATION BEST MANAGEMENT PRACTICES (BMPS)	19
4.0	SITE-SPECIFIC QUALITY ASSURANCE PROJECT PLAN	21
4.1	Site Specific Sampling	21
4.1.1	Sample Handling	21
4.2	Data Quality Assessment and Usability.....	21
5.0	PROJECT MANAGEMENT	22
5.1	Project Schedule and Key Milestones	22
5.2	Key Project Personnel.....	23

6.0 REFERENCES.....24

Figures

Figure 1	Site Location Map
Figure 2	Site Map
Figure 3	Surrounding Property Use
Figure 4	Groundwater Laboratory Analytical Results (Detections Only) - November 2023
Figure 5	Soil Vapor Laboratory Analytical Results (Detections Only) - November 2023
Figure 6A	Proposed Groundwater Investigation Locations
Figure 6B	Proposed Soil Vapor Investigation Locations

Tables

Table 1	Historic Property Use and Relevant Regulatory Findings
Table 2	Groundwater Laboratory Analytical Results (Detections Only) - November 2023
Table 3A	Soil Vapor Laboratory Analytical Results (Detections Only) - November 2023
Table 3B	Soil Vapor Laboratory Analytical Results (NYSDOH Matrices A, B, C - Detections Only) - November 2023
Table 4	Sampling Summary
Table 5	Analytical Methods/Quality Assurance Summary
Table 6	Existing Monitoring Well Construction Details

Appendices

Appendix A	Popular Hand Laundry CVOC Concentration Graphs
Appendix B	November 2023 Laboratory Analytical Reports and Data Usability Summary Reports
Appendix C	Site-Specific Health and Safety Plan
Appendix D	Community Air Monitoring Plan

1.0 INTRODUCTION

On November 23rd, 2022, HRP Associates, Inc. (HRP) was authorized to complete this New York State Department of Environmental Conservation (NYSDEC) Work Assignment (WA) No. 38 (D009808-38) for a Site Characterization (SC) at the Ingraham Street Sidewalk Groundwater Site (Site #224142), herein referred to as the “Site”, which centers around 88 Ingraham Street, Brooklyn, New York. The focus of the SC is to investigate chlorinated volatile organic compound (CVOC) impacts to Site soil, groundwater, and soil vapor. The scope of work for the SC discussed herein, was developed based on HRP’s review of documents detailing previous subsurface investigations completed at the Site and other nearby sites from 1996 to 2023, groundwater and soil vapor sampling completed at the Site by HRP in November 2023, and discussions and planning with NYSDEC staff.

1.1 Purpose and Objectives

This site-specific SC Work Plan describes the scope of work, including all proposed field activities, laboratory analyses, and data Quality Assurance/Quality Control (QA/QC) evaluations that will be associated with the SC. 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 SC is necessary where data indicates contamination is present at levels and/or at frequencies sufficient for DER to require a full delineation of the nature and extent of the contamination and to allow a decision by DER regarding any necessary remediation. In accordance with DER-10 *Technical Guidance for Site Investigation and Remediation (May 2010)*, the primary objectives of the SC scope of work are to:

- Investigate the identified areas of concern (AOCs) associated with the area surrounding the Site, determine if they have resulted in surface or subsurface contamination and evaluate the extent of the contamination.
- Obtain geologic and hydrogeologic data from the Site. The specific information that should be collected and/or verified includes soil types (or fill), depth to groundwater, groundwater flow direction, subsurface geology, bedrock characteristics, etc.
- Determine if applicable standards, criteria, and guidance contained in NYSDEC DER-10 and set forth for the Site are contravened.
- Preliminarily delineate the vertical and horizontal extent of contaminated groundwater, if any.
- Establish a baseline for any remedial work that will be necessary to address impacted media.
- Determine if the Site represents a threat to public health or the environment.

1.2 Site Description and Background Information

The Site centers around 88 Ingraham Street, Brooklyn, New York and encompasses the area surrounding four NYSDEC remediation sites: Popular Hand Laundry (#V00170), Ingraham Street Logistics (#C224393), Cornish Knit Goods/Cornish Mini-Mills (#V00409), and Joyva Vacant Lot (#V00332). The English Kills section of Newtown Creek (#241117) is located north of the Site. The Site is generally bound by Johnson Avenue to the North, Harrison Place and the L-Line Subway (beneath Harrison Place) to the South, Varrick Avenue to the East, and Knickerbocker Avenue to the West. The Site location is depicted on **Figure 1**. A Site Map depicting the NYSDEC Sites noted above and existing monitoring wells and soil vapor points associated with the Sites is included as **Figure 2**.

The Site and surrounding area consist primarily of properties zoned for industrial use, but also include residential and commercial properties. Based on HRP's review of environmental records obtained through Environmental Data Resources (EDR), historical Site industrial operations included metal manufacturing, neon sign manufacturing, textile dyeing, wood product manufacturing, automotive repair, mirror manufacturing, paint spraying, adhesive manufacturing, electrical product manufacturing, and chemical storage facilities. Properties which include current or historical uses which may represent potential sources of CVOC contamination are presented on **Table 1** and **Figure 3**.

Descriptions of the four NYSDEC remediation sites included in the Ingraham Street Sidewalk Groundwater Site, including their current and historical uses and relevant regulatory findings based on previous environmental reports and records obtained through EDR, are summarized below. Previous environmental investigations are summarized in **Section 1.3**.

- Popular Hand Laundry is a 0.2-acre property occupied by a two-story building with a partial basement and attached garage located at 88 Ingraham Street, Brooklyn, NY. The site is currently used for a commercial furniture restoration business and art gallery. Historic uses of the site include textile dyeing dating back to as early as 1933, dry cleaning from 1951-2003, and laundry from 1965-2007. This facility was listed as a Resource Conservation and Recovery Act (RCRA) large quantity generator (LQG) for waste code F002 – spent halogenated solvents from 1965-2007.
- Ingraham Street Logistics is a 0.8-acre lot located at 450 Johnson Avenue, Brooklyn, NY. The site includes three interconnected buildings (two warehouses and an office building) occupied by food and beverage distributor. The remainder of the property is an asphalt paved parking lot. The site has been historically used as a lumber yard, automotive repair, metal manufacturing, box manufacturing, envelope manufacturing, and an electric scooter company.
- Cornish Knit Goods/Cornish Mini-Mills is a 0.57-acre parcel with a four-story building and an adjacent addition on the eastern portion of the building located at 121 Ingraham Street/ 89 Porter Avenue, Brooklyn, NY. The building was reportedly built in 1925 and housed a textile

manufacturer and dry cleaner, until 1980. The building is currently occupied by the Peter Jay Sharp Center for Opportunity, a social work office and community center.

- Joyva Vacant Lot is a 0.5-acre lot located at 498 Johnson Avenue, adjacent (east) of the Cornish Knit Goods/Cornish Mini-Mills site. The site currently consists of an asphalt paved parking area. The site has been historically used as a scrap metal yard.

1.3 Previous Investigations

Previous investigations into CVOC contamination at the Site were completed from 1996 to the present and are summarized below.

Popular Hand Laundry (#V00170)

Environmental investigation and remediation activities have been performed at Popular Hand Laundry from 1996-2017 by Dvirka and Bartilucci Consulting Engineers (D&B), Miller Environmental Group Inc. (MEG), Tyree Brothers Environmental Services, Inc. (Tyree), and EnviroTrac Engineering, PE, PC (EnviroTrac). In 1996 the site was entered into the NYSDEC Voluntary Cleanup Program (VCP) based on the presence of tetrachloroethene (PCE), and related CVOC breakdown products in site soil, groundwater, and soil vapor. PCE was detected in on-site soils at concentrations exceeding Restricted Residential Use Soil Cleanup Objectives (RRUSCOs) beneath the site building around dry cleaning machines and in the garage. PCE and breakdown products were detected at concentrations exceeding NYSDEC Class GA criteria in monitoring wells on-site and downgradient of the site on the southern sidewalk (NW-2) and northern sidewalk (NW-1, MW-3, and MW-6) of Ingraham Street. CVOCs were detected at maximum concentrations in the wells downgradient of the site, including detections above Class GA criteria in multilevel monitoring wells NW-1 and NW-2 to a maximum depth of 50 feet below grade (ft bg).

Two air sparge/soil vapor extraction (AS/SVE) systems operated at the site from 2001-2005, and 2010-2016. The first system consisted of one AS well and one SVE well located in front of the site building in the vicinity of NW-2. The second system consisted of two AS wells and two SVE wells located in the center of two story portion of the site building. In May 2015 and August 2016, NYSDEC approved the shutdown of the AS and SVE components of the system respectively. The two SVE wells within the site building were repurposed for a sub slab depressurization system (SSDS) which continues to operate at the site.

Ingraham Street Sidewalk Groundwater (#224142)

CVOC impacts to off-site groundwater and soil vapor around the Popular Hand Laundry site were further investigated in a SC for the Site (#224142) completed by Shaw Environmental & Infrastructure Engineering of New York, P.C. (Shaw) from 2011-2014. The SC included the installation of soil borings on the north and south sidewalks of Ingraham Street in front of Popular Hand Laundry to depths ranging from approximately 20-50 ft bg. Soil borings were utilized for a membrane interface probe (MIP) survey and collection of subsurface soil samples. In addition, the shallow monitoring well MW-6 multilevel monitoring wells MLW-1 through -4, and soil vapor points SV-1 through -7 were installed downgradient of Popular Hand Laundry on Ingraham Street and

Johnson Avenue and in a lot upgradient of Popular Hand Laundry. The existing monitoring wells and soil vapor points are depicted on **Figure 2**.

Findings from the off-site work completed by Shaw are summarized below:

- Soil sampling completed based on the MIP results found CVOCs were detected above Commercial Use Soil Cleanup Objectives (CUSCOs) in only 1 of 29 soil samples. Specifically, PCE was detected at 850 milligrams per kilogram (mg/kg) in a saturated soil sample collected at a depth of 34-35 ft bg from the northern sidewalk of Ingraham Street between NW-1 and MW-6. No other CVOCs were detected at a concentration exceeding 5 mg/kg in any other soil samples collected.
- CVOCs are present in groundwater beneath Johnson Avenue at concentrations exceeding Class GA criteria (downgradient of Popular Hand Laundry). CVOc impacts on Johnson Avenue are generally limited to the eastern-most well MLW-4.
- CVOCs are present in groundwater upgradient of Popular Hand Laundry at MLW-1; however, CVOc concentrations at MLW-1 were generally an order of magnitude lower than concentrations observed downgradient of Popular Hand Laundry.
- PCE and TCE are present in soil vapor on the north sidewalk of Ingraham Street at concentrations at which the NYSDOH Soil Vapor/Indoor Air Decision Matrices (Decision Matrices) would recommend mitigation if observed in sub-slab samples. PCE and TCE concentrations in soil vapor in the southern sidewalk of Johnson Avenue were below levels at which the Decision Matrices recommend mitigation.

Groundwater and Soil Vapor Sampling November 2023

In November 2023, HRP conducted groundwater and soil vapor sampling at existing monitoring wells and soil vapor points on Ingraham Street and Johnson Avenue downgradient of Popular Hand Laundry. Groundwater samples were collected for VOC analysis by EPA Method 8260 using the low-flow method from monitoring wells NW-1, MW-3, MW-6, MLW-2, MLW-3, and MLW-4. Soil vapor samples were collected for VOC analysis by EPA Method TO-15 using summa canisters equipped with two-hour regulators from sidewalk soil vapor points SV-1, SV-4, SV-5, SV-6, and SV-7. An outdoor air sample was also collected. During the sampling event NW-2 and MW-2 were observed to be abandoned. HRP was not provided with any documentation for the abandonment of these wells. Monitoring wells MLW-3 (45 ft interval), MWL-4 (15 ft and 40 ft intervals) and soil vapor points SV-2 and SV-3 were not sampled as the road box covers could not be removed.

Groundwater results are presented on **Table 2** and **Figure 4**. Soil vapor results are presented on **Tables 3A** (detections of all VOCs) and **3B** (detections of VOCs from Decision Matrices A, B, and C) and depicted on **Figure 5**. Graphs comparing 2023 results to previous results from sampling events conducted at the wells by the Popular Hand Laundry volunteer are presented in **Appendix A**. Laboratory analytical reports and data usability summary reports (DUSRs) which did not reject any data from the sampling event are included in **Appendix B**.

Findings from the November 2023 sampling event are summarized below:

- CVOCs (PCE and breakdown products) remain at concentrations exceeding Class GA criteria in groundwater downgradient of Popular Hand Laundry on Ingraham Street and Johnson Avenue.
- The highest concentrations of CVOCs in groundwater are present at multilevel well NW-1 where PCE was observed at concentrations ranging from 16,000 micrograms per liter ($\mu\text{g/L}$) to 29,000 $\mu\text{g/L}$ at screen intervals from 15-20 ft bg to 45-50 ft bg. PCE concentrations are about two orders of magnitude higher than those detected in the most recent sample data provided to HRP from 2016.
- Groundwater PCE concentrations decline sharply moving east from NW-1 as 130 $\mu\text{g/L}$ and 54 $\mu\text{g/L}$ of PCE were observed at MW-6 (50 ft from NW-1) and MW-3 (85 ft from NW-1). The PCE/CVOC concentrations detected in these wells show more moderate increases from previous results.
- On the north sidewalk of Ingraham Street, PCE in soil vapor remains at concentrations at which the Decision Matrices would recommend mitigation if observed in sub-slab samples. On the southern sidewalk of Johnson Avenue, PCE, TCE, and cis-1,2-dichloroethene (cis-1,2-DCE) remain in soil vapor below concentrations at which the Decision Matrices recommend mitigation; however vinyl chloride was detected at a concentration at which mitigation would be recommended.

Ingraham Street Logistics (#C224393)

Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology D.P.C. (Langan) conducted a Phase I ESA and Phase II ESA at Ingraham Street Logistics in 2019, followed by a Supplemental Site Investigation in 2022. The Phase I ESA identified two Recognized Environmental Conditions (RECs) for the site including the historic uses of the site (auto repair, metal working, and various types of manufacturing) and the presence of off-site groundwater contamination (identified by the 2011-2014 Ingraham Sidewalk Groundwater SC). The subsurface investigations identified CVOC impacts to groundwater in temporary monitoring wells on the southern portion of the site near Ingraham Street, but at concentrations which were 1-2 orders of magnitude lower than concentrations detected in off-site wells NW-1, MW-3, and MW-6. Concentrations of PCE and breakdown products in groundwater are depicted on **Figure 4**. CVOCs were detected in soil at concentrations exceeding NYSDEC Part 375 Protection of Groundwater and RRU SCOs in two soil samples collected from the southern portion of the site, including PCE at a concentration of 20 mg/kg at 1-3 ft bg, and vinyl chloride at a concentration of 15 mg/kg at 14-14.5 ft bg.

Cornish Knit Goods/ Cornish Mini-Mills (#V00409)

In 2001 CEA Engineers, P.C. (CEA) conducted a subsurface investigation at Cornish Knit Goods/Cornish Mini-Mills under the VCP. The investigation identified a source area of PCE in shallow soils beneath the slab of the southern portion of the site building, in the area of dry cleaning machines. Based on limited documentation provided to HRP, an AS/SVE system was installed for

remediation of PCE and breakdown products beneath the site. The AS portion of the system was later shutdown. In March 2023, NYSDEC approved conversion of the SVE system to an SSDS for the site building. A network of four on-site and off-site monitoring wells (MW-2, MW-6, MW-7, and MW-8) are sampled on a semi-annual basis by the volunteer. Based on the most recent groundwater data provided to HRP, collected April 2023, CVOCs including PCE was present at concentrations exceeding Class GA criteria in four of the five wells, including in monitoring wells MW-2 and MW-7 located on the site's southern and eastern boundaries. Concentrations of PCE and CVOC breakdown products detected during the April 2023 groundwater sampling event are depicted on **Figure 4**.

Joyva Vacant Lot (#V00332)

EMTEQUE Corporation conducted a Phase II ESA at the site in August of 1998 and identified PCE and breakdown products in groundwater at concentrations exceeding Class GA criteria by up to two orders of magnitude. The highest concentrations of PCE in groundwater were found in monitoring wells closest to Cornish Knit Goods/Mini-Mills to the west. Based on the groundwater results and the absence of CVOC detections in on-site soils, EMTEQUE attributed the groundwater impacts to Cornish Knit Goods/Mini-Mills. A Corrective Action Plan prepared by EMTEQUE and submitted to NYSDEC in December 1999 proposed shallow excavation of on-site soils due to PAH and metal impacts, however the plan was not approved by NYSDEC. None of the records provided to HRP indicate remediation was ever performed on the site. The site is currently classified as a class N site (designating it as no further action at this time).

1.4 Site Geology and Hydrogeology

Topography of the Site ranges between approximately 22 ft above mean sea level (amsl) on Ingraham Street and Harrison Place to approximately 12 ft amsl on Johnson Avenue, sloping north towards the English Kills section of Newtown Creek.

The 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 Site is part of the Hartland Formation, a mica-schist and quartz feldspar granulite. Approximate depth to bedrock is between 200 and 249 feet (USGS, Bedrock-Surface Elevation and Overburden Thickness Maps of the Five Boroughs, New York City, New York). Bedrock is overlain by the Upper Cretaceous Raritan Formation, the lower layer of coastal plain deposits, consisting of clay, silty clay, sand and gravel (Fisher et al., 1970). Site surficial geology is mapped as till, deposited by glacial ice with a variable texture consisting of poorly sorted mixtures of clay, sand, silt, and gravel (Caldwell et. al., 1986). According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey, the Site and surrounding area are mapped as Urban Land.

Soil boring logs from previous investigations were reviewed as part of the preparation of this work plan. Based on soil boring logs prepared by Shaw for the 2014 Ingraham Street Sidewalk Groundwater SC, soils consist of approximately 10 ft of fill underlain by a silty sand with varying amounts of silt and gravel to boring completion depths of approximately 50 ft bg. Boring logs prepared by Langan and CEA for investigations at Ingraham Street Logistics, and Cornish Knit

Goods/Cornish Mini-Mills respectively, described similar soil composition. Previous investigations did not encounter bedrock beneath the Site to a maximum boring completion depth of 50 ft bg.

Based on measurements from previous investigations, depth to water ranges from approximately 6 ft bg on Johnson Avenue to approximately 16 ft bg on Ingraham Street. The 2014 Ingraham Sidewalk Groundwater SC completed by Shaw showed groundwater generally flows north toward the English Kills section of Newtown Creek.

1.5 Areas of Concern

Based on review of previous investigations associated with the Site, and discussions with the NYSDEC, HRP has identified the following off-site AOCs to be investigated as part of the Ingraham Street Sidewalk Groundwater SC.

1. CVOC Impacts to Shallow and Deep Groundwater Near NW-1: Based on sampling completed by HRP in November 2023, PCE is present in groundwater at concentrations ranging from 16,000 µg/L to 29,000 µg/L in NW-1 at depths up to 50 ft bg (as shown on **Figure 4, Table 1**, and graphs in **Appendix A**).
 - a. Samples from other nearby monitoring wells suggest concentrations drop off steeply in shallow groundwater to the north (TMW07, TMW08, TMW10) and east (MW-6, MW-3); however, concentrations remain above Class GA criteria in each of these locations. In addition, monitoring wells MW-2 and NW-2 have been abandoned, and could not be sampled in November 2023. Therefore the current lateral extent of CVOC impacts to groundwater is a data gap.
 - b. Based on the November sampling event, PCE remains at a concentration of 25,000 µg/L in the deepest interval of NW-1 (50 ft), therefore, the vertical extent of CVOC impacts at NW-1 is a data gap.
 - c. The source of CVOC impacts observed at NW-1 is a data gap. Monitoring wells immediately downgradient of the Popular Hand Laundry Site have been abandoned and therefore that site could not be evaluated as a source of the NW-1 impacts during the November 2023 groundwater sampling. PCE concentrations in groundwater collected from temporary monitoring wells installed at Ingraham Street Logistics are several orders of magnitude lower than those observed at NW-1, suggesting this site is not a source of the impacts. However, unknown preferential pathways may have resulted in transport of PCE from either site to NW-1.
2. CVOC Impacts to Soil Near NW-1: Concentrations of PCE observed at NW-1 are indicative of a PCE source area and potential presence of dense non-aqueous phase liquid (DNAPL) at or near NW-1. A MIP survey and soil sampling completed during the 2014 Ingraham Sidewalk Groundwater SC did not identify a source of PCE/CVOC impacts to soil underneath the sidewalk; however, the increase in PCE concentrations observed at NW-1 between 2016 and

2023 indicates a release may have occurred since the last SC investigation; therefore current soil quality near NW-1 is a data gap.

3. CVOC Impacts to Shallow Groundwater in Cornish Knit Goods/Mini Mills Off-Site Area: Sampling completed at monitoring wells MW-2 and MW-7 suggest PCE/CVOC impacts to groundwater extend off-site to the south and east respectively (**Figure 4**). The extent of CVOC impacts to shallow off-site groundwater to the north of MW-6 are also unknown.
4. SVI Impacts to Off-Site Properties: Sampling completed by HRP in November 2023 indicates CVOCs are present in soil vapor on the north side of Ingraham Street and south side of Johnson Avenue at concentrations at which the NYSDOH Decision Matrices would recommend mitigation for sub-slab samples (**Table 2, Figure 5**). Although no groundwater sampling has been completed in the off-site area surrounding Cornish Knit Goods/Mini-Mills, CVOC impacts to on-site groundwater and soil vapor suggest off-site impacts may be present. With the exception of sampling in the VCP/BCP site buildings, SVI structure sampling has not been completed within the Site.

2.0 SITE CHARACTERIZATION (SC) SCOPE OF WORK

This scope of work has been designed to gather data to evaluate the project objectives listed in **Section 1.1** and AOCs listed in **Section 1.5**. The following sections provide specifics regarding the scope of work developed under this NYSDEC-approved Work Assignment in support of an SC at the Site.

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 A** of this Work Plan),
- Generic Quality Assurance Project Plan (QAPP).

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 SC Work Plan has been prepared for use in performing the SC and will serve as the site-specific FAP. This SC Work Plan identifies the components of the SC 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 5.1** of this SC Work Plan.

2.1.2 Health and Safety Plan

A site-specific HASP is provided in **Appendix C**. The site-specific HASP provides guidance to maximize health and safety of on-site workers during SC - specific tasks including media sampling, installation of wells, surveying and other field related activities.

2.1.3 Community Air Monitoring Plan

A Community Air Monitoring Plan (CAMP) that details procedures for air monitoring during intrusive activities is included in **Appendix D**.

2.1.4 Quality Assurance Project Plan (QAPP)

A site-specific QAPP has been prepared and is included in **Section 4** of this SC 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 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. D009808-38.

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 DUSR will be included in the SC Report 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 SC will include the components described below and will consist of subsurface/intrusive characterization. The SC will consist of characterizing and sampling of the subsurface soil, groundwater, and soil vapor to meet project objectives. The number and type of samples to be collected is discussed below and summarized in **Tables 4** and **5**. The field investigation tasks for the Site are listed below in the order that they will be completed:

1. Permit Acquisition
2. Underground Utility Identification, Clearance, and Location using Ground-Penetrating Radar (GPR)
3. Hydraulic Profiling and Grab Groundwater Sampling
4. Soil Boring Installation and Sampling
5. Monitoring Well Installation and Sampling
6. Sub-Slab SVI Structure Sampling
7. Permanent Soil Vapor Point Installation and Sampling
8. Characterization and Disposal of Investigation Derived Waste
9. Analytical Data Quality Evaluation
10. Base Map Development and Site Survey

2.2.1 Permit Acquisition

Prior to commencement of intrusive work to be conducted in the right-of-way (sidewalks), all necessary permits will be obtained by the drilling contractor. This will include New York City Department of Transportation (NYCDOT) “street opening” permits.

2.2.2 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 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 GPR survey to attempt to locate subsurface piping and utilities prior to drilling.

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 UST (underground storage tank) graves. The objective of performing this survey is to make subsurface investigation as safe as possible for the field staff, to protect utilities, and to identify possible sources and migration pathways (utility corridors, etc.). All anomalies identified during the GPR survey will be marked out in the field.

Following GPR mark-out and prior to drilling, the upper five feet at all boring locations will be cleared of any underground utilities by non-mechanical means, such as hand-digging.

2.2.3 Hydraulic Profiling and Grab Groundwater Sampling

Please note this portion of the SC investigation was completed by HRP in April 2023, with approval from NYSDEC, based on a draft of this SC work plan dated March 29, 2024.

Groundwater flow characteristics and quality will be investigated using the Waterloo Aquifer Profiling System (APS). The Waterloo APS utilizes a 2-inch screen driven using a track-mounted drill rig and the direct push method. The deionized water is injected through the screen into the aquifer while measuring depth, pressure, and flow rate. From these data, a real time continuous log of index of hydraulic conductivity (iK) is calculated and displayed on a profile vs depth in real time. The iK profile can then be used to select depth intervals for grab groundwater samples. Grab groundwater samples are collected using the same 2-inch screen in the same drilling run. Grab groundwater samples are collected using a peristaltic pump and the low-flow method, allowing for water quality parameters

(pH, specific conductance, dissolved oxygen [DO], and oxygen reduction potential [ORP]) to be recorded and to reach stabilization before the sample is collected.

Up to seven soil borings will be advanced to a depth of 100 ft bg or refusal (whichever comes first), using the direct push method. At each location, the Waterloo APS will be used to produce an iK vertical profile and collect up to 10 grab groundwater samples in vertical profile. The iK profile will be used to identify potential preferential flow pathways and aquitards in the soil column. Grab groundwater samples will be biased to the depth of preferential pathways and on top of aquitards, where PCE and CVOCs are most likely to be found. Hydraulic profiling/grab groundwater borings are depicted on **Figure 6A**. Locations have been selected to define the vertical and horizontal extent of CVOC groundwater impacts in the area of NW-1, and to identify potential sources of impacts observed at NW-1.

Up to 90 groundwater samples (including quality assurance/quality control [QA/QC]) will be collected for laboratory analysis of Target Compound List (TCL) VOCs +10 by EPA Method 8260. Up to 10 groundwater samples will be collected per boring, one sample per 10 ft, biased towards preferential flow pathways or aquitards. QA/QC samples, including field duplicate, matrix spike (MS), matrix spike duplicate (MSD), trip blank, and equipment blank (deionized water collected through Waterloo tubing following decontamination procedures between borings), will be collected at a frequency of 1 per 20 site samples.

Groundwater sample totals are presented by sample type and lab analysis on **Table 4** and the quality assurance summary is presented on **Table 5**.

2.2.4 Soil Boring Installation and Sampling

Please note this portion of the SC investigation was completed by HRP in April 2023, with approval from NYSDEC, based on a draft of this SC work plan dated March 29, 2024.

Soil borings will be installed to characterize soils in up to three locations which were previously characterized by the Waterloo APS to correlate lithology to iK. Soil borings will also be screened and sampled for VOC contamination to potentially identify a source of PCE impacts to groundwater observed in NW-1.

Up to three soil borings will be advanced using a sonic drill rig or direct push drill rig to characterize subsurface conditions from surface grade to approximately 100 feet ft bg or refusal. The soil boring locations will be co-located with hydraulic profiling and grab groundwater sampling locations described in **Section 2.2.3**. Soil boring locations are shown on **Figure 6A**. Exact locations may vary based on the results from the GPR survey. Soils will be logged continuously in 5-ft intervals by an HRP geologist according to grain size, moisture, color, and odor. Soils will be screened for VOCs using a calibrated photoionization detector (PID).

Up to 16 soil samples will be collected from each boring. Soil samples will be biased towards observations of contamination (elevated PID readings, odors, staining, etc). At least two samples will be collected per 5-ft interval from the upper 15 ft of each boring. At least one sample will be

collected every 10 ft of soil sampling. One soil sample will be collected from the first 2 ft of each boring. One soil sample will be collected from the groundwater interface at each boring.

Up to 57 soil samples (including QA/QC) will be collected for laboratory analysis of TCL VOCs +10 by EPA Method 8260. QA/QC samples, including field duplicate, MS, and MSD, will be collected at a frequency of 1 per 20 site samples.

Soil sample totals are presented by sample type and lab analysis on **Table 4** and the quality assurance summary is presented on **Table 5**.

2.2.5 Monitoring Well Installation

Up to six permanent monitoring wells will be installed on-site. The purpose of the monitoring wells will be to further delineate CVOC impacts to shallow groundwater which may lead to SVI. Five of the six monitoring wells will be installed in the vicinity of Cornish Knit Goods/Cornish Mini-Mills to screen for impacts to off-site groundwater related to PCE impacts detected on-site, and to screen for the presence of an upgradient off-site source. One monitoring well will be installed on Johnson Avenue to delineate CVOC impacts to shallow groundwater observed in MLW-4. The proposed monitoring well locations are depicted on **Figure 6A**.

Prior to installation of each monitoring well, soils will be sampled continuously using a drill rig and the direct push method, characterized by HRP's on-site geologist, and screened using a calibrated PID. Following soil screening, a hollow stem auger drilling rig will be advanced through the overburden materials and used to set the shallow wells. The wells will be installed such that the well screen will intersect the observed water table elevation. The target depth and construction of these wells will be dependent on the subsurface conditions encountered in the field.

The monitoring wells are to be constructed of schedule 40 PVC solid well pipe riser and a 10-foot PVC 10-slot screen that will be positioned to intercept the water table. Monitoring wells installed in the right-of-way will be installed using a hollow-stem auger drilling rig. These wells will be installed using 2-inch PVC with appropriately sized sand packs and bentonite seals. The wells will be finished with either a stick-up protective casing or a flush mounted protective cover. All equipment will be appropriately decontaminated between sampling locations. Any soil cuttings generated by the monitoring well installation will be containerized.

2.2.6 Well Development

The newly installed monitoring wells will be developed by surging and removing water with a submersible pump or bailer. Development will be deemed complete upon removal of 6 to 10 well volumes and when a turbidity reading of 50 Nephelometric Turbidity Units (NTUs) or less is achieved or purged water is visibly clear.

All purge water obtained during well development will be containerized in appropriately labeled 55-gallon drums and disposed of in accordance with NYSDEC DER-10. If impacts are observed, the contaminated groundwater will be segregated and handled as described in **Section 2.2.8**. All

sampling equipment will be appropriately decontaminated between sampling locations or disposed of after a one-time use.

2.2.7 Sampling of Monitoring Wells

The 6 proposed monitoring wells and up to 17 existing monitoring wells will be sampled as part of this SC. Monitoring well IDs and construction details for existing wells proposed for sampling are presented in **Table 6**. Monitoring well locations are depicted on **Figure 6A**.

Depth to water measurements will be collected from all newly installed and existing monitoring wells to the nearest 0.01 foot from the surveyed points prior to sampling activities and the data will be used to construct a groundwater contour map to determine the direction of groundwater flow.

Groundwater samples will be collected from the newly installed wells within seven days of the completion of well development. All groundwater samples will be collected in accordance with low-flow groundwater sampling procedures.

Up to 33 groundwater samples (including QA/QC) will be collected for laboratory analysis of TCL VOCs +10 by EPA Method 8260. QA/QC samples, including field duplicate, MS, MSD, equipment blank, and trip blank, will be collected at a frequency of 1 per 20 site samples.

Groundwater sample totals are presented by sample type and lab analysis on **Table 4** and the quality assurance summary is presented on **Table 5**.

2.2.8 Sub-Slab SVI Structure Sampling

Up to 10 off-site structures will be selected for off-site SVI structure sampling based on responses to access requests, and consultation with the NYSDEC and the NYSDOH. A selection of properties proposed for solicitation are depicted on **Figure 6B**. Additional properties may be solicited following review of soil vapor sampling and SVI analytical results. The SVI structure sampling will include the completion of a NYSDOH Indoor Air Quality Questionnaire and Building Inventory.

Sub-slab soil vapor points will be installed and sampled 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. Indoor and outdoor air samples will be collected simultaneous to sub-slab soil vapor samples and will be placed at a height corresponding to the average breathing level (i.e., approximately 5 feet above the ground surface). All SVI air and sub-slab soil vapor samples will be collected using 6 liter summa canisters fitted with 24-hour regulators. All samples will be analyzed for VOCs via EPA Method TO-15.

It is anticipated up to 44 soil vapor samples will be collected in total. Sampling at each structure will include at a minimum, 1 sub-slab soil vapor sample, 1 basement ambient air sample, 1 first floor

ambient air sample, and 1 outdoor air sample will be collected. Duplicate indoor air samples will be collected at a frequency of 1 per 20 air samples. Locations of sub-slab soil vapor samples, indoor air, and outdoor air samples for the SVI structure sampling will be determined in the field. Sample locations and totals are summarized on **Table 4** and laboratory QA/QC details are summarized on **Table 5**.

2.2.9 Permanent Soil Vapor Points

Up to 10 permanent soil vapor points will be installed in the right-of-way (city sidewalks) to delineate CVOC impacts to soil vapor following the initial round of sub-slab SVI structure sampling. Proposed soil vapor point locations will be determined following the initial round of sub-slab SVI structure sampling based on results of sub-slab soil vapor sampling and groundwater characterization results.

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. Following soil screening, 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 one 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 for 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 3 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 19 air samples (17 soil vapor, 1 outdoor ambient air, and 1 duplicate soil vapor), will be submitted to the ELAP accredited laboratory and analyzed for VOCs via EPA Method TO-15. One outdoor air sample will be collected per day of sampling. Duplicate soil vapor samples will be collected at a frequency of one 1 per twenty 20 soil vapor samples. Sample types and totals are summarized in **Table 4** and laboratory QA/QC details are summarized on **Table 5**.

2.2.10 Sample Handling Procedures

Nitrile gloves will be worn at all times 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.

2.2.11 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 FAP on file with NYSDEC. 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 a designated waste-container staging area.

2.2.12 Disposal of IDW

IDW that is generated from the monitoring well installation and development of monitoring wells shall be handled in accordance with NYSDEC DER-10. HRP will be responsible for supplying the equipment and materials necessary for the proper handling and storage of the IDW, such as DOT-approved fifty-five (55)-gallon drums, roll-off containers and/or holding tanks. All containers will be labeled and stored in accordance with applicable NYSDEC regulations.

Soil shall be handled and disposed of in accordance with DER-10. If off-site disposal of IDW is required, it will be disposed of or treated according to applicable local, state, and federal regulations. Soils from the investigation may be disposed within the monitoring well borehole as backfill over the bentonite seal provided the cuttings do not exhibit staining, odors, or elevated PID readings.

It is anticipated that purge water generated during the development and sampling of the monitoring wells will require off-site disposal based on the previous Site data. Decontamination fluids will be containerized separately from other IDW, and any decontamination fluids that do not exhibit evidence of contamination will be containerized separately.

2.2.13 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 from protocols specified in the plans will require advance approval 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.

2.2.14 Base Map Development and Site Survey

Following installation, all monitoring wells and soil vapor points will be surveyed 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. Coordinates and elevations provided to HRP by the surveyor will be plotted on an aerial image base map of the Site. Monitoring well top of casing elevations will be recorded using a vertical datum to within an accuracy of plus or minus 0.01 feet. A notch will be etched in all interior casings, or a permanent black mark (as historically used), to provide a reference point for all future groundwater elevation measurements. All location data collected by HRP or the licensed surveyor will be included on site basemaps and entered into the NYSDEC's EQUIS database.

2.3 Site Characterization 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 Site Characterization Report

The Site Characterization Report (SCR) will be prepared as part of this work assignment following completion of the field activities. The SCR 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.

The SCR prepared as part of this assignment will also provide: a summary of the general nature of contamination on the Site to the extent investigated by the SC; the areas of concern requiring further investigation and/or remediation; and any significant events or seasonal variation which may have influenced sampling procedures or analytical results. A description of each area of concern identified will include: approximate dimensions of suspected and actual contamination; the suspected source of contamination; and a recommendation for additional investigation, remediation, or no further action. 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 be bookmarked and one hard copy of the report will be sent. Since the SVI and/or other investigation

activities will be performed on private property, two (2) versions of the SCR will be submitted. A standard SCR, and a version in which the addresses of off-site properties have been redacted.

3.0 GREEN AND SUSTAINABLE REMEDIATION BEST MANAGEMENT PRACTICES (BMPS)

Through the course of the SC, HRP will implement Green and Sustainable Best Management Practices (BMPS) to reduce negative impacts to air, water, solid waste, etc. In consultation with NYSDEC, quantifiable impact reductions achieved by green and sustainable remediation BMPS implemented during the SC investigations (e.g. tons of carbon reduced, gallons of fuel saved, pounds of waste reduced) may be included in Site fact sheets to promote public awareness of NYSDEC green and sustainable BMPS.

Green and Sustainable Remediation BMPS to be implemented as part of this project are summarized below, organized by BMPS implemented in project planning and field work phases of work.

Project Planning BMPS

- BMP 1) A well-conceived dynamic sampling plan will be developed for the Site to assure that the data collected at project on-set adequately addresses Site data gaps, consequently reducing remobilization of field crews and equipment. A conceptual site model (CSM) will be developed for the Site, incorporating Site sampling data, Site history, and current and historical off-site land use to identify data gaps and allows for refinement as additional data becomes available. Data visualization techniques such as concentration “heat maps” for contaminants of concern, will be utilized to refine the CSM and project SOW. Refinement of the CSM and SOW will be performed with the primary goal of achieving the purposes and objectives of the SC as described in **Section 1.1**. Green and sustainable impact reductions will be a secondary goal of CSM/SOW refinement and care will be taken to ensure SOW changes do not impact the efficacy of the SC.
- BMP 2) Efforts will be made to schedule Site visits and field work to reduce energy consumption and air emissions associated with mobilizations to and from the Site. The following BMPS will be implemented related to HRP mobilization:
- BMP 2a) Field work schedules will be consolidated by coordinating with contractors and property owners. Specifically, if possible, GPR work will be performed in the same mobilization as intrusive work at the Site. Property access will be coordinated to conduct sub-slab SVI investigations in the fewest mobilizations possible (i.e., if possible, the sub-slab SVI locations will be scheduled to be completed in one (1) mobilization from HRP’s office as opposed to separate mobilizations).
- BMP 2b) When two (2) or more HRP personnel are involved in a trip to and from the Site, personnel will “car-pool” by sharing a vehicle, reducing energy consumption and emissions associated with taking multiple vehicles to the Site.

Field Work BMPS

- BMP 3) Installation of soil vapor points with direct push drilling methods instead of hollow stem auger methods to reduce the generation of waste drill cuttings and reduce drill rig operation time.
- BMP 4) Soil vapor points will be installed as permanent points with protective road boxes so they may be utilized for potential future sampling events. This will reduce energy usage, air

emissions, and mobilizations associated with installing new soil vapor points if re-sampling is required during a future investigation.

- BMP 5) When not in use, vehicles, trucks, drill rigs, and other equipment, as applicable, will be shut off to reduce energy consumption and emissions related to engine idling.
- BMP 6) Dedicated plastic tubing will be installed to collect groundwater samples from permanent monitoring wells, reducing waste generated by using new tubing if monitoring wells are scheduled to be sampled during future events.
- BMP 7) Waste cardboard generated from labware (sample jars, bottle ware, and summa cannisters) will be reused or recycled to reduce waste.

4.0 SITE-SPECIFIC QUALITY ASSURANCE PROJECT PLAN

The Generic QAPP (on file with the NYSDEC) provides general information related to QA/QC procedures associated with the collection and analysis of samples of environmental media and includes specific representative 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.

Laboratory analytical work will be performed by a NYSDOH ELAP approved laboratory certified in CLP and solid and hazardous waste analytical testing. A DUSR will be included in the SCR 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.

4.1 Site Specific Sampling

4.1.1 Sample Handling

Soil, groundwater, and air samples will be collected during this SC. 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 5**. Proposed sample locations are depicted on **Figures 6A** and **6B**.

4.2 Data Quality Assessment and Usability

Data quality objectives for the Site are focused towards delineating the extent of contamination offsite of the Former Popular Hand Laundry and Cornish Knit/Cornish Mini Mill sites.

To achieve these objectives, QA/QC measures will be implemented throughout the off-site investigation to provide input as to the validity and usability of data generated through soil, groundwater, soil vapor 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.

For all data generated during the SC Investigation, a Category B Data package and Data Usability Summary Report (DUSR) will be prepared to provide a thorough evaluation of analytical data utilizing third-party data validation. Environmental Data Services, Inc. (EDS), a woman-owned business enterprise (WBE) will be the third-party data validator for this project.

5.0 **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.

5.1 **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)	12/01/2023	5/17/2024
Task 2 – Investigation, Environmental Sampling, and Implementation	NYCDOT Permit Acquisition (Mobilization 1)	COMPLETED APRIL 2024	COMPLETED APRIL 2024
	Hydraulic Profiling and Grab Groundwater Sampling and Soil Boring Installation	COMPLETED APRIL 2024	COMPLETED APRIL 2024
	Monitoring Well Installation	6/03/2024	6/07/2024
	Monitoring Well Sampling	6/17/2024	6/21/2024
	Sub-Slab SVI (Heating Season)	11/15/2024	3/31/2025
	Soil Vapor Point Installation and Sampling	5/01/2025	5/05/2025
Task 3 – Site Characterization Report (SCR)	Report Preparation and Submittal	6/01/2025	9/01/2025

5.2 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
<u>Patrick Montuori, P.G.</u> (Project Manager)	HRP Associates, Inc. (Prime Consultant)	Project Manager	Overall management of the WA
<u>Bryan Sherman, ASP</u> (Project Manager)	HRP Associates, Inc.	Office Health & Safety Manager	Approval of HASP and responsible for overall health and safety issues with the WA
<u>Michael Varni</u> (Senior Project Geologist)	HRP Associates, Inc.	Corporate QA/QC Officer	Responsible for QA/QC on the WA
<u>Leah Topping</u> (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
- GPR – American Geophysics
- Drilling (Groundwater Vertical Profiles/Direct Sensing, Soil Borings)– Cascade
- Drilling (Monitoring Wells, Soil Vapor Points) – TBD
- Laboratory – NYSDOH ELAP Laboratory
- Data Validation – Environmental Data Services, Inc.
- IDW Disposal – TBD

6.0 REFERENCES

Published Documents

Caldwell, D.H., et.al., 1986, Surficial Geologic Map of New York, New York State Museum – Geological Survey, Map and Chart series No. 40.

Fisher, D.W., et. al., 1970, Geologic Map of New York, New York State Museum and Science Service, Map and Chart Series No. 15.

New York State Department of Environmental Conservation, Division of Environmental Remediation, DER-10 Technical Guidance for Site Investigation and Remediation, May 2010.

New York State Department of Health, Center for Environmental Health, Bureau of Environmental Exposure Investigation, Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006, Updated May 2017.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. <http://websoilsurvey.sc.egov.usda.gov/>. Accessed [2/26/2023].

United States Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation, National Functional Guidelines for Inorganic Data Review, January 2017.

United States Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation, National Functional Guidelines for Organic Data Review, January 2017.

Previous Investigations

Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C., September 2022 Supplemental Site Investigation Report, NYSDEC Site Number: #C224393.

CEA Engineers P.C., August 2001 Voluntary Clean-up Agreement Site Investigation Report Cornish Knit Goods/Cornish Mini Malls Report, NYSDEC Site Number: #V00940.

CEA Engineers P.C., March 2000 Phase I Environmental Site Assessment and Limited Building Material Survey Report, NYSDEC Site Number: #V00940.

EMTEQUE Consultants, December 1999 Draft Corrective Action Report, NYSDEC Site Number: #V00332.

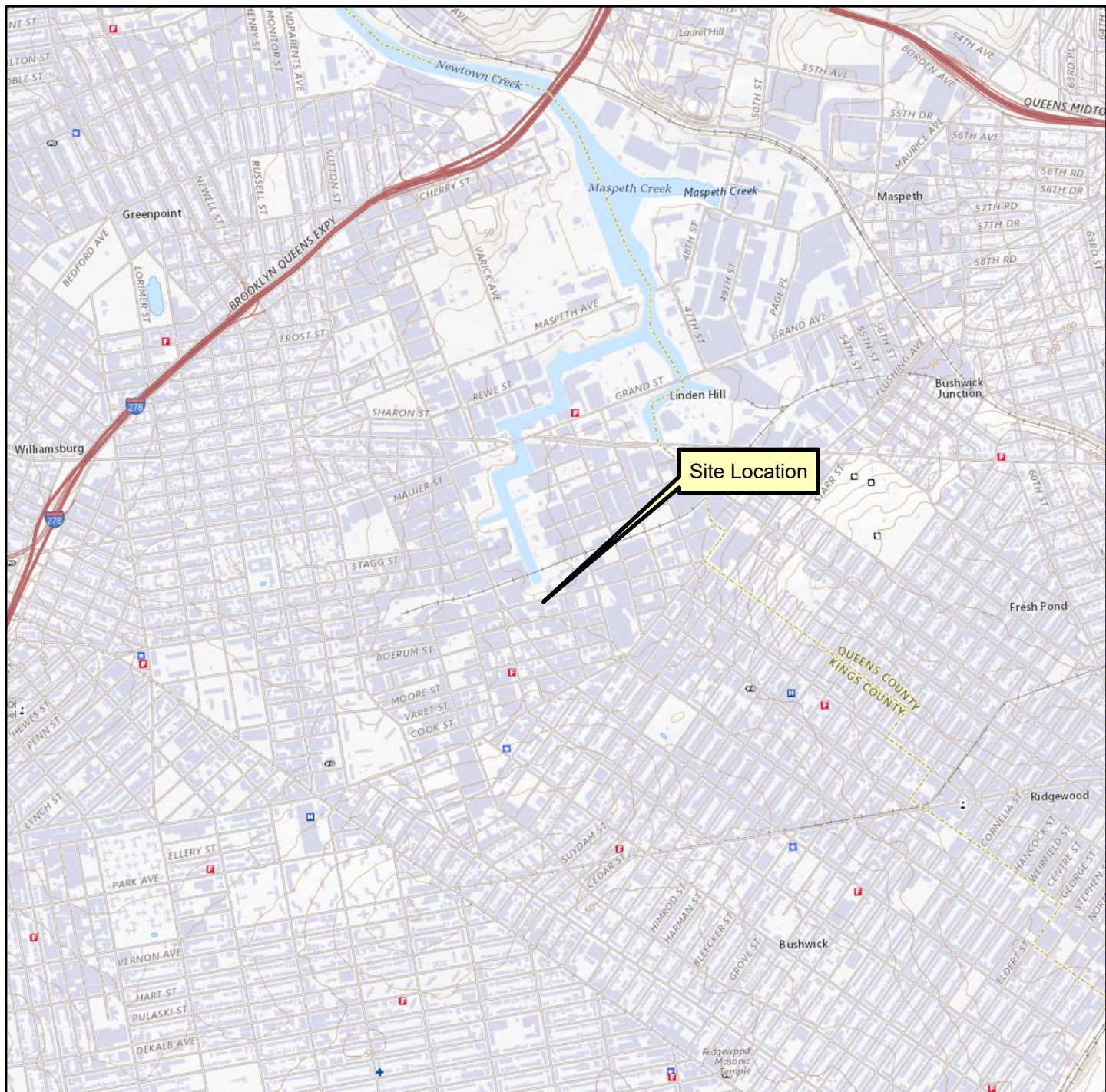
Shaw Environmental, Inc., February 2015 Site Characterization Report, NYSDEC Site Number: C224142.

Dvirka and Bartilucci Consulting Engineers, December 1996 Voluntary Cleanup Site Assessment Report, NYSDEC Site Number: #V00170.

Dvirka and Bartilucci Consulting Engineers, December 1996 Voluntary Cleanup Supplementary Site Assessment Report, NYSDEC Site Number: #V00170.

Envirotrac Environmental Services, September 2017 Site Management Plan Report, NYSDEC Site Number: V00170.

FIGURES



0 500 1,000 2,000 3,000 4,000
Feet



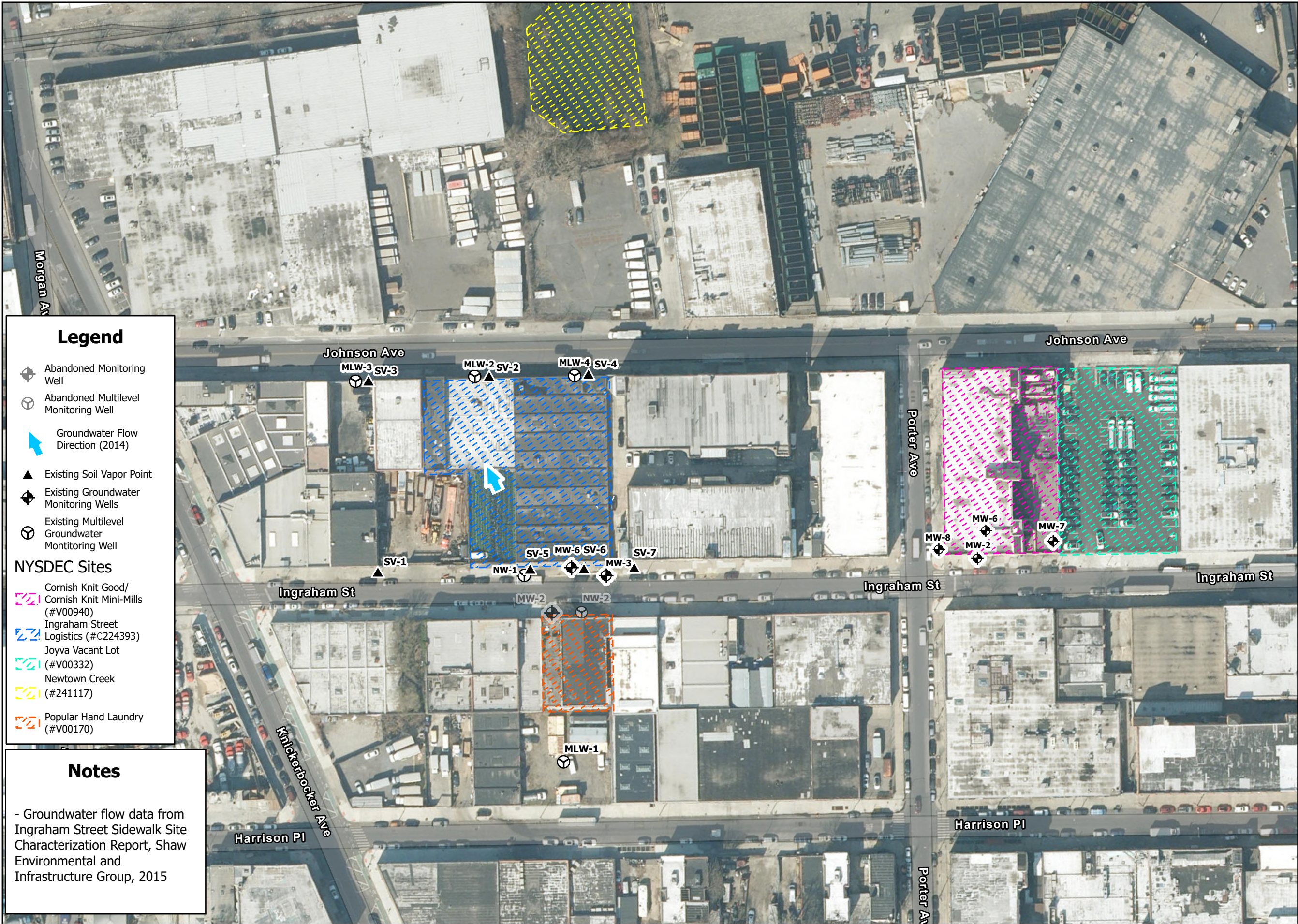
Figure 1
Site Location
Ingraham Street Sidewalk Groundwater
Site #224142
88 Ingraham Street
Brooklyn, New York
HRP # DEC1038.P2

USGS Quadrangle Information
Quad ID: 42078-G3
Name: Attica, New York
Date Rev: 1976
Date Pub: 1979



ONE FAIRCHILD SQUARE
SUITE 110
CLIFTON PARK, NY 12065
(518) 877-7101
HRPASSOCIATES.COM

Path: S:\Data\NNYDEC - NYSDEC\NEW YORK\VARIOUS NYC\DEC1038P2 - Region 2 NYC Sites\GIS\Ingraham_gw\ingraham_gw.aprx



Legend

- Abandoned Monitoring Well
- Abandoned Multilevel Monitoring Well
- Groundwater Flow Direction (2014)
- Existing Soil Vapor Point
- Existing Groundwater Monitoring Wells
- Existing Multilevel Groundwater Monitoring Well

NYSDEC Sites

- Cornish Knit Good/ Cornish Knit Mini-Mills (#V00940)
- Ingraham Street Logistics (#C224393)
- Joyva Vacant Lot (#V00332)
- Newtown Creek (#241117)
- Popular Hand Laundry (#V00170)


Notes

- Groundwater flow data from Ingraham Street Sidewalk Site Characterization Report, Shaw Environmental and Infrastructure Group, 2015



MOVE YOUR ENVIRONMENT FORWARD

ONE FAIRCHILD SQUARE
SUITE 110
CLIFTON PARK, NY 12065
(518) 877-7101
HRPASSOCIATES.COM



North

0 25 50 100 Feet

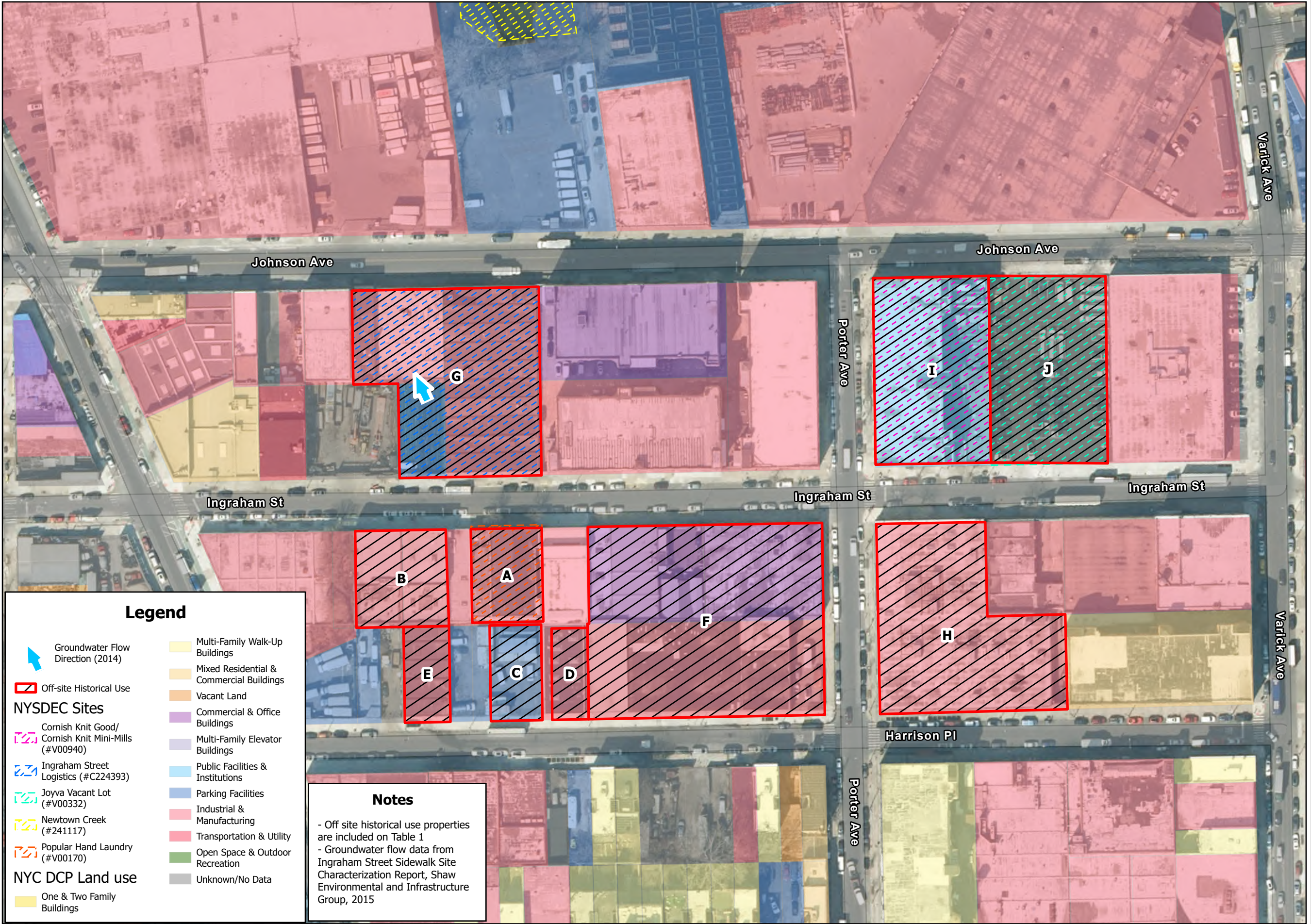
Revisions	No.	Date	Designed By:	Drawn By:	Reviewed By:
			LLT	LLT	PWM
Issue Date:	5/13/2024	Project No:	DEC1038P2	Sheet Size:	11x17

Site Map

Ingraham Street Sidewalk Groundwater
Site #224142
88 Ingraham Street
Brooklyn, New York

Figure No.
2

Path: S:\Data\NINYDEC - NYSDEC\NEW YORK\VARIOUS NYC\DEC1038P2 - Region 2 NYC Sites\GIS\ingraham_gw\ingraham_gw.aprx



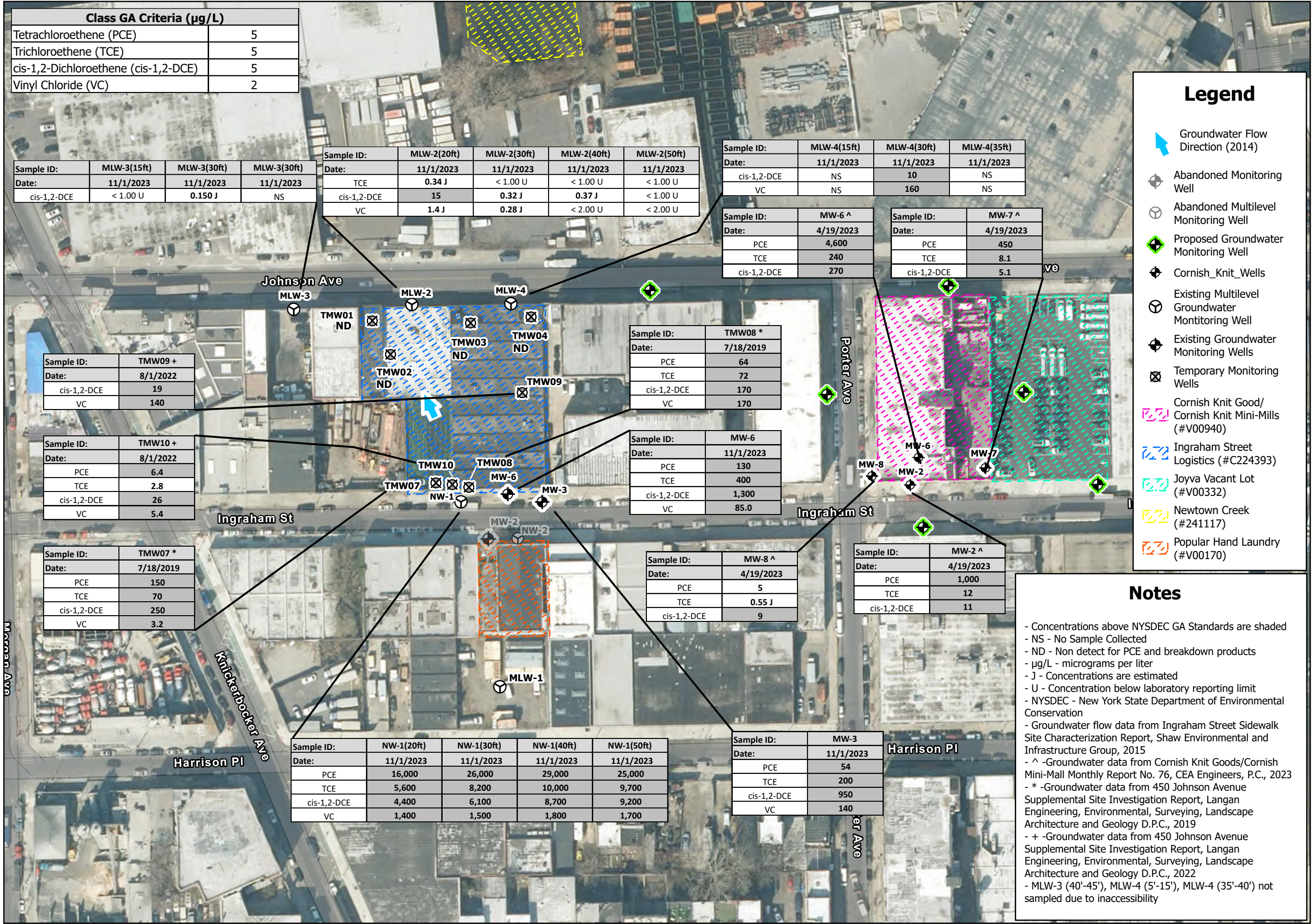
0 25 50 100
Feet

Revisions	No.	Date	Designed By:	Drawn By:	Reviewed By:
			LLT	LLT	PWM
Issue Date:	3/14/2024	Project No:	DEC1038.P2	Sheet Size:	11x17

Surrounding Property Use

Ingraham Street Sidewalk Groundwater
Site #224142
88 Ingraham Street
Brooklyn, New York

Figure No.
3



Class GA Criteria (µg/L)	
Tetrachloroethene (PCE)	5
Trichloroethene (TCE)	5
cis-1,2-Dichloroethene (cis-1,2-DCE)	5
Vinyl Chloride (VC)	2

Sample ID:	MLW-3(15ft)	MLW-3(30ft)	MLW-3(30ft)
Date:	11/1/2023	11/1/2023	11/1/2023
cis-1,2-DCE	< 1.00 U	0.150 J	NS

Sample ID:	MLW-2(20ft)	MLW-2(30ft)	MLW-2(40ft)	MLW-2(50ft)
Date:	11/1/2023	11/1/2023	11/1/2023	11/1/2023
TCE	0.34 J	< 1.00 U	< 1.00 U	< 1.00 U
cis-1,2-DCE	15	0.32 J	0.37 J	< 1.00 U
VC	1.4 J	0.28 J	< 2.00 U	< 2.00 U

Sample ID:	MLW-4(15ft)	MLW-4(30ft)	MLW-4(35ft)
Date:	11/1/2023	11/1/2023	11/1/2023
cis-1,2-DCE	NS	10	NS
VC	NS	160	NS

Sample ID:	MW-6 ^
Date:	4/19/2023
PCE	4,600
TCE	240
cis-1,2-DCE	270

Sample ID:	MW-7 ^
Date:	4/19/2023
PCE	450
TCE	8.1
cis-1,2-DCE	5.1

Sample ID:	TMW09 +
Date:	8/1/2022
cis-1,2-DCE	19
VC	140

Sample ID:	TMW10 +
Date:	8/1/2022
PCE	6.4
TCE	2.8
cis-1,2-DCE	26
VC	5.4

Sample ID:	TMW07 *
Date:	7/18/2019
PCE	150
TCE	70
cis-1,2-DCE	250
VC	3.2

Sample ID:	TMW08 *
Date:	7/18/2019
PCE	64
TCE	72
cis-1,2-DCE	170
VC	170

Sample ID:	MW-6
Date:	11/1/2023
PCE	130
TCE	400
cis-1,2-DCE	1,300
VC	85.0

Sample ID:	MW-8 ^
Date:	4/19/2023
PCE	5
TCE	0.55 J
cis-1,2-DCE	9

Sample ID:	MW-2 ^
Date:	4/19/2023
PCE	1,000
TCE	12
cis-1,2-DCE	11

Sample ID:	NW-1(20ft)	NW-1(30ft)	NW-1(40ft)	NW-1(50ft)
Date:	11/1/2023	11/1/2023	11/1/2023	11/1/2023
PCE	16,000	26,000	29,000	25,000
TCE	5,600	8,200	10,000	9,700
cis-1,2-DCE	4,400	6,100	8,700	9,200
VC	1,400	1,500	1,800	1,700

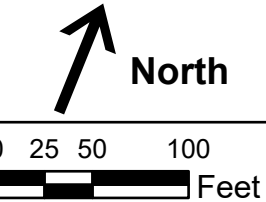
Sample ID:	MW-3
Date:	11/1/2023
PCE	54
TCE	200
cis-1,2-DCE	950
VC	140

Legend

- Groundwater Flow Direction (2014)
- Abandoned Monitoring Well
- Abandoned Multilevel Monitoring Well
- Proposed Groundwater Monitoring Well
- Cornish_Knit_Wells
- Existing Multilevel Groundwater Monitoring Well
- Existing Groundwater Monitoring Wells
- Temporary Monitoring Wells
- Cornish Knit Good/ Cornish Knit Mini-Mills (#V00940)
- Ingraham Street Logistics (#C224393)
- Joyva Vacant Lot (#V00332)
- Newtown Creek (#241117)
- Popular Hand Laundry (#V00170)

Notes

- Concentrations above NYSDEC GA Standards are shaded
- NS - No Sample Collected
- ND - Non detect for PCE and breakdown products
- µg/L - micrograms per liter
- J - Concentrations are estimated
- U - Concentration below laboratory reporting limit
- NYSDEC - New York State Department of Environmental Conservation
- Groundwater flow data from Ingraham Street Sidewalk Site Characterization Report, Shaw Environmental and Infrastructure Group, 2015
- ^ -Groundwater data from Cornish Knit Goods/Cornish Mini-Mall Monthly Report No. 76, CEA Engineers, P.C., 2023
- * -Groundwater data from 450 Johnson Avenue Supplemental Site Investigation Report, Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology D.P.C., 2019
- + -Groundwater data from 450 Johnson Avenue Supplemental Site Investigation Report, Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology D.P.C., 2022
- MLW-3 (40'-45'), MLW-4 (5'-15'), MLW-4 (35'-40') not sampled due to inaccessibility



Revisions	No.	Date
Designed By:	LLT	
Drawn By:	LLT	
Reviewed By:	PWM	
Issue Date:	5/14/2023	
Project No:	DEC1038.P2	
Sheet Size:	11x17	

Groundwater Laboratory
Analytical Results (2019-2023)
PCE and Breakdown Products
(Detections Only)

Ingraham Street Sidewalk Groundwater
Site #224142
88 Ingraham Street
Brooklyn, New York

Path: S:\Data\NINYDEC - NYSDEC\NEW YORK\VARIOUS NYC\DEC1038P2 - Region 2 NYC Sites\GIS\Ingraham gw\ingraham gw.aprx



MOVE YOUR ENVIRONMENT FORWARD

ONE FAIRCHILD SQUARE
SUITE 110
CLIFTON PARK, NY 12065
(518) 877-7101
HRPASSOCIATES.COM

North

0 25 50 100 Feet

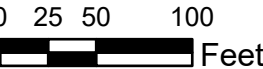
Revisions	No.	Date	Designed By: LLT	Drawn By: LLT	Reviewed By: PWM

Soil Vapor Sampling Results 2023
NYSDOH Decision
Matrix Parameters
(Detections Only)

Ingraham Street Sidewalk Groundwater
Site #224142
88 Ingraham Street
Brooklyn, New York

Figure No.

5



Issue Date: 5/15/2024	Designed By: LLT	Revisions
	No. Date	
Project No: DEC1038.P2	Drawn By: LLT	
Sheet Size: 11x17	Reviewed By: PWM	

Proposed Groundwater Investigation Locations

Ingraham Street Sidewalk Groundwater
Site #224142
88 Ingraham Street
Brooklyn, New York

Figure No.
6A

Path: S:\Data\NINYDEC - NYSDEC\NEW YORK\VARIOUS NYC\DEC1038P2 - Region 2 NYC Sites\GIS\Ingraham - gw.aprx



Legend

- ▲ Existing Soil Vapor Point
- ➡ Groundwater Flow Direction (2014)
- Proposed SVI Investigation Locations

NYSDEC Sites

- Name
- Cornish Knit Good/
Cornish Knit Mini-Mills
(#V00940)
 - Ingraham Street
Logistics (#C224393)
 - Joyva Vacant Lot
(#V00332)
 - Newtown Creek
(#241117)
 - Popular Hand Laundry
(#V00170)

Notes

- PCE concentration in micrograms per meter cubed ($\mu\text{g}/\text{m}^3$)
- NS - Not Sampled due to inaccessibility
- Groundwater flow data from Ingraham Street Sidewalk Site Characterization Report, Shaw Environmental and Infrastructure Group, 2015



MOVE YOUR ENVIRONMENT FORWARD

ONE FAIRCHILD SQUARE
SUITE 110
CLIFTON PARK, NY 12065
(518) 877-7101
HRPASSOCIATES.COM



0 50 100 200
Feet

Revisions	No.	Date
Designed By:	LLT	
Drawn By:	LLT	
Reviewed By:	PWM	
Issue Date:	2/27/2024	
Project No:	DEC1038.P2	
Sheet Size:	11x17	

Proposed Soil Vapor Investigation Locations

Ingraham Street Sidewalk Groundwater
Site #224142
88 Ingraham Street
Brooklyn, New York

Figure No.

6B

Esri Community Maps Contributors, NYC OpenData, New Jersey Office of GIS, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc. MET/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS, New York State, Maxar, Microsoft

TABLES

Table 1
Historic Property Use and Relevant Regulatory Findings

Ingraham Street Groundwater Plume
NYSDEC Site # 224142
Ingraham Street
Brooklyn, NY

Map ID	Distance from Site Boundary (ft)	Address	Historic Use	Business Name	Years Listed	Relevant Regulatory Findings
Off-Site (within 500 ft)						
A	50	88 Ingraham Street	Textile Dyeing	Skien Dyeing	1933	Popular Hand Laundry NYSDEC VCP - V00170 PBS No: 2-602710 RCRA-LQG - F002
			Dry Cleaning	Popular Uniform	1951-2003	
			Laundry	Popular Hand Laundry	1965-2007	
B	60	78-82 Ingraham Street	Woodworking Casket Manufacturing	(None Listed)	1933-2007	-
C	80	89 Harrison Place	Fur Dyeing	(None Listed)	1933	-
D	80	91 Harrison Place	Neon Sign Manufacturing	(None Listed)	1933	-
			Metal Working	(None Listed)	1951-present	
E	85	77 Harrison Place	Garage with Gasoline Tanks	(None Listed)	1933	-
			Metal Cabinet Manufacturing	(None Listed)	1951	
			Metal Working	(None Listed)	1965-1977	
			Auto Repair and Garage	(None Listed)	1987-2007	
F	90	100-110 Ingraham Street/ 97 Harrison Place	Stone Cutting and Grinding	(None Listed)	1933-1951	PBS No: 2-069787
			Food and Bottling Manufacturing	(None Listed)	1965-Present	
G	105	450 Johnson Avenue	Lumber Yard	(None Listed)	1907-1951	Ingraham Street Logistics NYSDEC BCP - C224393 RCRA-SQG - D001
			Auto Garage	(None Listed)	1928-1934	
			Metal Working	(None Listed)	1933	
			Paper Box Manufacturing	(None Listed)	1951	
			Envelop Manufacturing	(None Listed)	1922-Present	
H	405	65 Porter Avenue	Mirror Manufacturing	Lambert Novelty Mirror Works Inc.	1965-2005	-
I	450	89 Porter Avenue	Textile Mill	Cornish Knitgoods and Cornish Mini-Mills	1980-1995	Cornish Knit Goods/Cornish Mini-Mills NYSDEC VCP - V00409 RCRA-LQG - F001, F002 NYSDEC Spill Nos. 0812527, 0410148 PBS No: 2-607895
J	600	498 Johnson Avenue	Scrap Yard	Joyva Corporation	1951 - 2007	Joyva Vacant Lot NYSDEC VCP - V00332

Notes:
BCP= Brownfield Cleanup Program
LQG = Large Quantity Generator
NYSDEC = New York State Department of Environmental Conservation
PBS= Petroleum Bulk Storage
RCRA = Resource Conservation and Recovery Act
SQG = Small Quantity Generator
UST= Underground Storage Tank

RCRA Waste Codes
D001 = Ignitable Waste
F001=Spent Halogenated Solvents for Degreasing
F002 = Spent Halogenated Solvents

Table 2
Groundwater Laboratory Analytical Results (Detections Only) - November 2023
VOCs
Ingraham Street Sidewalk Groundwater
Site #224142
Ingraham Street
Brooklyn, New York

Sample ID:	NYDEC Class GA Criteria	MLW-2(20ft)	MLW-2(30ft)	MLW-2(40ft)	MLW-2(50ft)	MLW-3(15ft)	MLW-3(30ft)	MLW-4(30ft)
Date Collected:		11/01/2023	11/01/2023	11/01/2023	11/01/2023	11/01/2023	11/01/2023	11/01/2023
Lab Report Number:		23K0271	23K0271	23K0271	23K0271	23K0271	23K0271	23K0271
Volatile Organic Compounds (VOCs) (µg/l)								
1,1-Dichloroethane	5	2.40	4.00	5.20	1.00	< 1.00 U	< 1.00 U	5.90
1,1-Dichloroethene	5	< 1.00 U	< 1.00 U	0.310 J	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
1,2-Dichlorobenzene	3	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
1,4-Dichlorobenzene	3	0.130 J	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
1,4-Dioxane	NP	< 50.0 U	< 50.0 U	30.0 J	100	< 50.0 U	< 50.0 U	19.0 J
Acetone	50	2.20 J	< 50.0 U	< 50.0 U	< 50.0 U	3.30 J	2.30 J	2.20 J
Benzene	1	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	0.200 J
Chlorobenzene	5	1.60	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
cis-1,2-Dichloroethene	5	15.0	0.320 J	0.370 J	< 1.00 U	< 1.00 U	0.150 J	10.0
Ethylbenzene	5	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
Isopropylbenzene	5	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
Methyltertbutyl ether	10	8.80	1.50	3.90	26.0	< 1.00 U	0.230 J	13.0
Tetrachloroethene	5	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
Toluene	5	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
Total Xylenes	5	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
trans-1,2-Dichloroethene	5	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
Trichloroethene	5	0.340 J	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
Vinyl chloride	2	1.40 J	0.280 J	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	160

Sample ID:	NYDEC Class GA Criteria	MW-3	MW-6	NW-1(20ft)	NW-1(30ft)	NW-1(40ft)	NW-1(50ft)
Date Collected:		10/31/2023	10/31/2023	10/31/2023	10/31/2023	10/31/2023	10/31/2023
Lab Report Number:		23K0271	23K0271	23K0271	23K0271	23K0271	23K0271
Volatile Organic Compounds (VOCs) (µg/l)							
1,1-Dichloroethane	5	< 10.0 U	< 1.00 U	< 1.00 U	0.280 J	0.390 J	0.450 J
1,1-Dichloroethene	5	2.60 JD	3.80	14.0	20.0	22.0	22.0
1,2-Dichlorobenzene	3	< 10.0 U	< 1.00 U	0.230 J	0.360 J	0.370 J	0.280 J
1,4-Dichlorobenzene	3	< 10.0 U	< 1.00 U	0.170 J	0.210 J	0.190 J	0.140 J
1,4-Dioxane	NP	< 500 U	< 50.0 U	< 50.0 U	< 50.0 U	< 50.0 U	< 50.0 U
Acetone	50	< 500 U	2.10 J	3.00 J	2.90 J	< 50.0 U	< 50.0 U
Benzene	1	2.20 J	< 1.00 U	0.560 J	0.850 J	1.00	1.20
Chlorobenzene	5	< 10.0 U	< 1.00 U	0.490 J	0.720 J	0.800 J	0.800 J
cis-1,2-Dichloroethene	5	950	1,300	4,400	6,100	8,700	9,200
Ethylbenzene	5	< 10.0 U	< 1.00 U	0.370 J	0.530 J	0.570 J	0.520 J
Isopropylbenzene	5	< 10.0 U	< 1.00 U	0.220 J	0.310 J	0.300 J	0.250 J
Methyltertbutyl ether	10	< 10.0 U	< 1.00 U	0.260 J	0.200 J	0.230 J	0.230 J
Tetrachloroethene	5	54	130	16,000	26,000	29,000	25,000
Toluene	5	< 10.0 U	< 1.00 U	1.40	2.10	2.40	2.50
Total Xylenes	5	< 10.0 U	< 1.00 U	< 1.00 U	1.10	1.10	< 1.00 U
trans-1,2-Dichloroethene	5	10	9.70	22.0	110	93.0	110
Trichloroethene	5	200	400	5,600	8,200	10,000	9,700
Vinyl chloride	2	140	85.0	1,400	1,500	1,800	1,700

Legend	
<1	Parameter not detected above the laboratory reporting limit
1	Parameter reported above the laboratory reporting limit but below the applicable regulatory standard/criterion
1	Parameter reported at a concentrations greater than NYSDEC Class GA Criteria

Notes:
µg/l = micrograms per liter
NA = Not Analyzed
NP = not promulgated/ no applicable cleanup criteria
NYSDEC = New York State Department of Environmental Conservation
J = Concentration is estimated
Dup taken from MLW -4(30ft)



Table 3A
Soil Vapor Laboratory Analytical Results (Detections Only) - November 2023
VOCs
Ingraham Street Sidewalk Groundwater
Site #224142
88 Inrgraham Street
Brooklyn, New York

Sample ID:	SV-1	SV-4	SV-5	SV-6	SV-7	OA-1
Date Collected:	11/01/2023	11/01/2023	11/01/2023	11/01/2023	11/01/2023	11/01/2023
Lab Report No:	23K0462	23K0462	23K0462	23K0462	23K0462	23K0462
Volatile Organic Compounds (VOC) (µg/m ³)						
1,1,1-Trichloroethane	7.50 J	< 0.550 U	< 8.20 U	4.90 J	8.7	< 0.190 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 46.0 U	0.930 J	< 46.0 U	< 46.0 U	< 46.0 U	1.00 J
1,1-Dichloroethane	< 6.10 U	7.9	< 6.10 U	< 6.10 U	< 6.10 U	< 0.140 U
1,2,4-Trimethylbenzene	< 7.40 U	0.300 J	< 7.40 U	< 7.40 U	< 7.40 U	0.58
1,2-Dichloroethane	< 6.10 U	< 0.400 U	< 6.10 U	< 6.10 U	< 6.10 U	0.0820 J
1,2-Dichlorotetrafluoroethane (Freon 114)	< 10.0 U	< 0.700 U	< 10.0 U	< 10.0 U	< 10.0 U	0.120 J
1,3,5-trimethyl-benzene	< 7.40 U	< 0.490 U	< 7.40 U	< 7.40 U	< 7.40 U	0.150 J
1,4-Dichlorobenzene	< 9.00 U	< 0.600 U	< 9.00 U	< 9.00 U	< 9.00 U	0.0840 J
1-Ethyl-4-methyl-benzene	< 7.40 U	< 0.490 U	< 7.40 U	< 7.40 U	< 7.40 U	0.150 J
2-Butanone (MEK)	< 180 U	< 12.0 U	< 180 U	< 180 U	< 180 U	1.70 J
Acetone	< 140 U	8.10 J	< 140 U	< 140 U	< 140 U	27
Benzene	1.90 J	0.32	1.60 J	< 4.80 U	1.90 J	1
Bromodichloromethane	61	< 0.670 U	< 10.0 U	12	< 10.0 U	< 0.230 U
Carbon tetrachloride	< 9.40 U	< 0.630 U	< 9.40 U	< 9.40 U	< 9.40 U	0.54
Chloroform	1,400	5.9	14	10	240	0.120 J
Chloromethane	< 6.20 U	< 0.410 U	< 6.20 U	< 6.20 U	< 6.20 U	1
cis-1,2-Dichloroethene	77	5.8	< 5.90 U	14	210	< 0.140 U
Cyclohexane	< 5.20 U	< 0.340 U	< 5.20 U	< 5.20 U	< 5.20 U	0.46
Dichlorodifluoromethane	< 7.40 U	< 0.490 U	< 7.40 U	< 7.40 U	< 7.40 U	2.7
Ethanol	< 110 U	20	< 110 U	< 110 U	< 110 U	28
Ethylbenzene	< 6.50 U	0.360 J	< 6.50 U	< 6.50 U	< 6.50 U	1.2
Heptane	< 6.10 U	< 0.410 U	< 6.10 U	< 6.10 U	< 6.10 U	0.74
Isopropyl Alcohol	< 150 U	52	< 150 U	< 150 U	< 150 U	9.7
m,p-Xylene	< 13.0 U	1.1	< 13.0 U	< 13.0 U	< 13.0 U	4.4
Methylene chloride	< 52.0 U	< 3.50 U	< 52.0 U	< 52.0 U	< 52.0 U	0.660 J
Methyltertbutyl ether	< 5.40 U	6.8	< 5.40 U	< 5.40 U	< 5.40 U	< 0.130 U
o-Xylene	< 6.50 U	0.51	< 6.50 U	< 6.50 U	< 6.50 U	1.3
Styrene	< 6.40 U	0.380 J	< 6.40 U	< 6.40 U	< 6.40 U	0.120 J
Tetrachloroethene	10,000	10	6,300	15,000	7,100	1.9
Toluene	< 5.70 U	1.2	< 5.70 U	< 5.70 U	< 5.70 U	29
trans-1,2-Dichloroethene	3.20 J	< 0.400 U	< 5.90 U	5.9	5.50 J	< 0.140 U
Trichloroethene	1,100	1.1	220	1,200	2,100	< 0.190 U
Trichlorofluoromethane	< 34.0 U	2.10 J	3.50 J	4.60 J	4.90 J	1.7
Vinyl chloride	< 3.80 U	170	< 3.80 U	< 3.80 U	< 3.80 U	< 0.0890 U

Legend	
<1	Parameter not detcted above the laboratory reporting limit
1	Parameter reported above the laboratory reporting limit but below the appilicable regulatory standard/criterion
1	Parameter reported at a concentration greater than NYSDOH Soil Vapor ImmediateGuidence
1	Parameter reported at a concentration greater than NYSDOH Soil Vapor Guidance

Notes:
J = Concentration is estimated
NYSDOH = New York Department of Health
NP = not promulgated/ no applicable action level
U = Reported result is non-detected at the reporting limit
µg/m³ = micrograms per cubic meter



Table 3B
Soil Vapor Laboratory Analytical Results (NYSDOH Matrices A, B, C - Detections Only) - November 2023
VOCs
Ingraham Street Sidewalk Groundwater
Site #C224142
88 Ingraham Street
Brooklyn, New York

Sample ID:	SV-1	SV-4	SV-5	SV-6	SV-7	OA-1
Date Collected:	11/01/2023	11/01/2023	11/01/2023	11/01/2023	11/01/2023	11/01/2023
Lab Report No:	23K0462	23K0462	23K0462	23K0462	23K0462	23K0462
Volatile Organic Compounds (VOC) ($\mu\text{g}/\text{m}^3$)						
1,1,1-Trichloroethane	7.50 J	< 0.550 U	< 8.20 U	4.90 J	8.7	< 0.190 U
1,1-Dichloroethane	< 6.10 U	7.9	< 6.10 U	< 6.10 U	< 6.10 U	< 0.140 U
Carbon tetrachloride	< 9.40 U	< 0.630 U	< 9.40 U	< 9.40 U	< 9.40 U	0.54
cis-1,2-Dichloroethene	77	5.8	< 5.90 U	14	210	< 0.140 U
Methylene chloride	< 52.0 U	< 3.50 U	< 52.0 U	< 52.0 U	< 52.0 U	0.660 J
Tetrachloroethene	10,000	10	6,300	15,000	7,100	1.9
Trichloroethene	1,100	1.1	220	1,200	2,100	< 0.190 U
Vinyl chloride	< 3.80 U	170	< 3.80 U	< 3.80 U	< 3.80 U	< 0.0890 U

Legend	
<1	Parameter not detected above the laboratory reporting limit
1	Parameter reported above the laboratory reporting limit but below the applicable regulatory standard/criterion

Notes:

J = Concentration is estimated

NP = not promulgated/ no applicable action level

U = Reported result is non-detected at the reporting limit

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

**Table 4
Sampling Summary
Site Characterization**

**NYSDEC Site # 224142
Ingraham Street Sidewalk Groundwater
Brooklyn, NY**

Activity/ Matrix	Number of Sample Locations	Proposed Sample Locations	Number of Samples to be Collected	Analyses
Soil	3	Up to 3 exploratory soil borings Up to 16 soil samples collected per boring	57 (48 site samples, 9 QA/QC)	TCL VOCs+10 by EPA Method 8260 QA/QC per 20 samples: duplicate, MS, MSD
Groundwater	7	Up to 7 proposed hydraulic profiling/grab groundwater sample points Up to 10 samples collected per point	90 (70 site samples, 20 QA/QC)	TCL VOCs+10 by EPA Method 8260 QA/QC per 20 samples: duplicate, MS, MSD, field blank, trip blank
	23	Up to 6 proposed and 17 existing permanent monitoring wells	33 (23 site samples, 10 QA/QC)	TCL VOCs+10 by EPA Method 8260 QA/QC per 20 samples: duplicate, MS, MSD, field blank, trip blank
Soil Vapor	10	SVI investigations in up to 10 structures with 4 samples collected per structure, including: 1 first floor indoor air sample, 1 basement indoor air sample, 1 sub-slab soil vapor sample, and 1 outdoor air sample	43 (10 sub-slab soil vapor, 10 basement indoor air, 10 first floor indoor air, 10 outdoor air, 3 duplicate)	VOCs by EPA Method TO-15 QA/QC per 20 samples: duplicate indoor air
	17	Up to 10 proposed permanent vapor point locations and 7 existing soil vapor point locations; 1 soil vapor grab sample per location; 1 outdoor ambient air sample per day of sampling	19 (17 soil vapor, 1 outdoor ambient air, 1 duplicate)	VOCs by EPA Method TO-15 QA/QC per 20 samples: duplicate soil vapor sample

Notes:

MS/MSD: Matrix spike/matrix spike duplicate

SVI: Soil vapor intrusion

TAL: Target analyte list

TCL: Total compound list

VOCs: Volatile organic compounds

Table 5
Analytical Methods/ Quality Assurance Summary
Site Characterization

Ingraham Street Sidewalk Groundwater
NYSDEC Site #224142
88 Ingraham Street
Brooklyn, New York

				Containers per Sample			Preservation Requirments			
Parameter	Number of Samples (Including Field QC)	Preparation Method	Analytical Method	No.	Size	Type	Temp.	Light Sensitivity	Chemical	Maximum Holding Time
Soil										
VOCs	57	5035A	SW-846 Method 8260B	1	2 oz	clear glass jar	2-6° C	No	sodium bisulfate/ freezing	14 Days
Groundwater										
VOCs	113	5053	SW-846 Method 8260B	3	40 mL vials	glass vials	2-6° C	No	HCl	14 Days
Soil Vapor/Air										
VOCs	43	NA	EPA TO-15	1	6-Liter	summa cannister 8- hour or 24-hour regulator	NA	No	NA	30 Days (summa cannister)
VOCs	19	NA	EPA TO-15	1	6-Liter	summa cannister 2- hour regulator	NA	No	NA	30 Days (summa cannister)

Table 6
Existing Monitoring Well Construction Details

Ingraham Street Sidewalk Groundwater
NYSDEC Site #224142
Ingraham Street
Brooklyn, New York

Existing Monitoring Well ID	Screen Setting (ft bg)	Well Diameter/Notes
NW-1	5-10- 15 - 20 25 - 30 35 - 40 45 - 50	Well construction log unavailable. Screen setting based on NW-2 log included in Popular Hand SMP and labels on well heads. 5-10, 25-30, 35-40, 45-50 constructed as 0.5-inch wells. 15-20' constructed as 1-inch well. 5-10' well dry.
MLW-2	8 -10 18 - 20 28 - 30 38 - 40 48 - 50	Multi-port well. 1.7-inch total diameter, ~0.5-inch ports in honeycomb.
MW-3	20	0.75-inch well. Well construction log unavailable. Measured total depth shown.
MLW-3	5 -15 25 - 30 40 - 45	1-inch wells. 15' and 30' wells housed in 8-inch roadbox. 45' well housed in separate adjacent 3-inch roadbox, could not be opened during 11-2023 sampling event.
MLW-4	5 -15 25 - 30 35 - 40	1-inch wells. Located in 3 separate, adjacent 3-inch roadboxes. 15' and 40' roadboxes could not be opened during 11-2023 sampling event.
MW-6	16 - 26	2-inch well

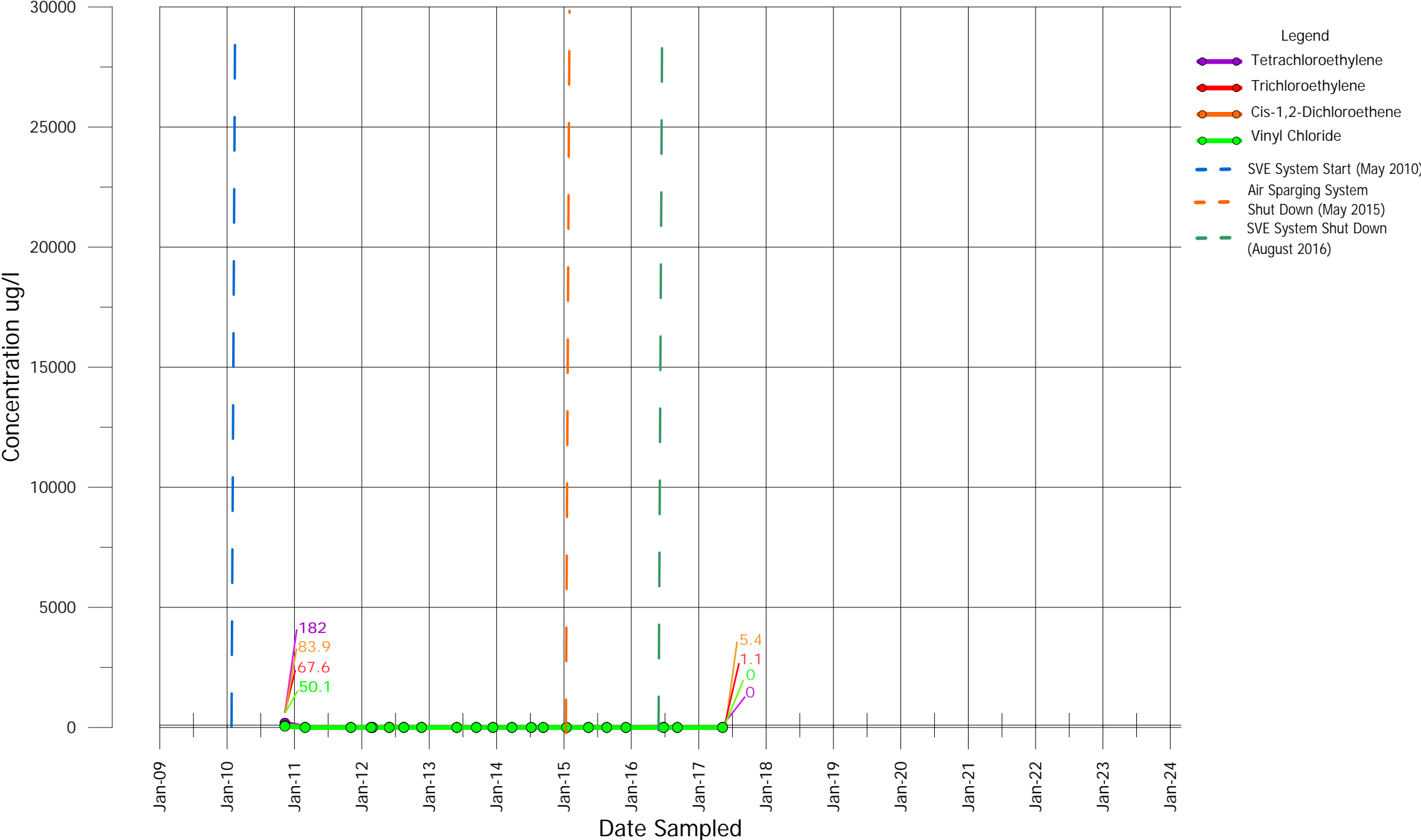
Notes:

Well diameters/notes based on 10/31/23-11/1/23 sampling event conducted by HRP
ft bg = feet below grade

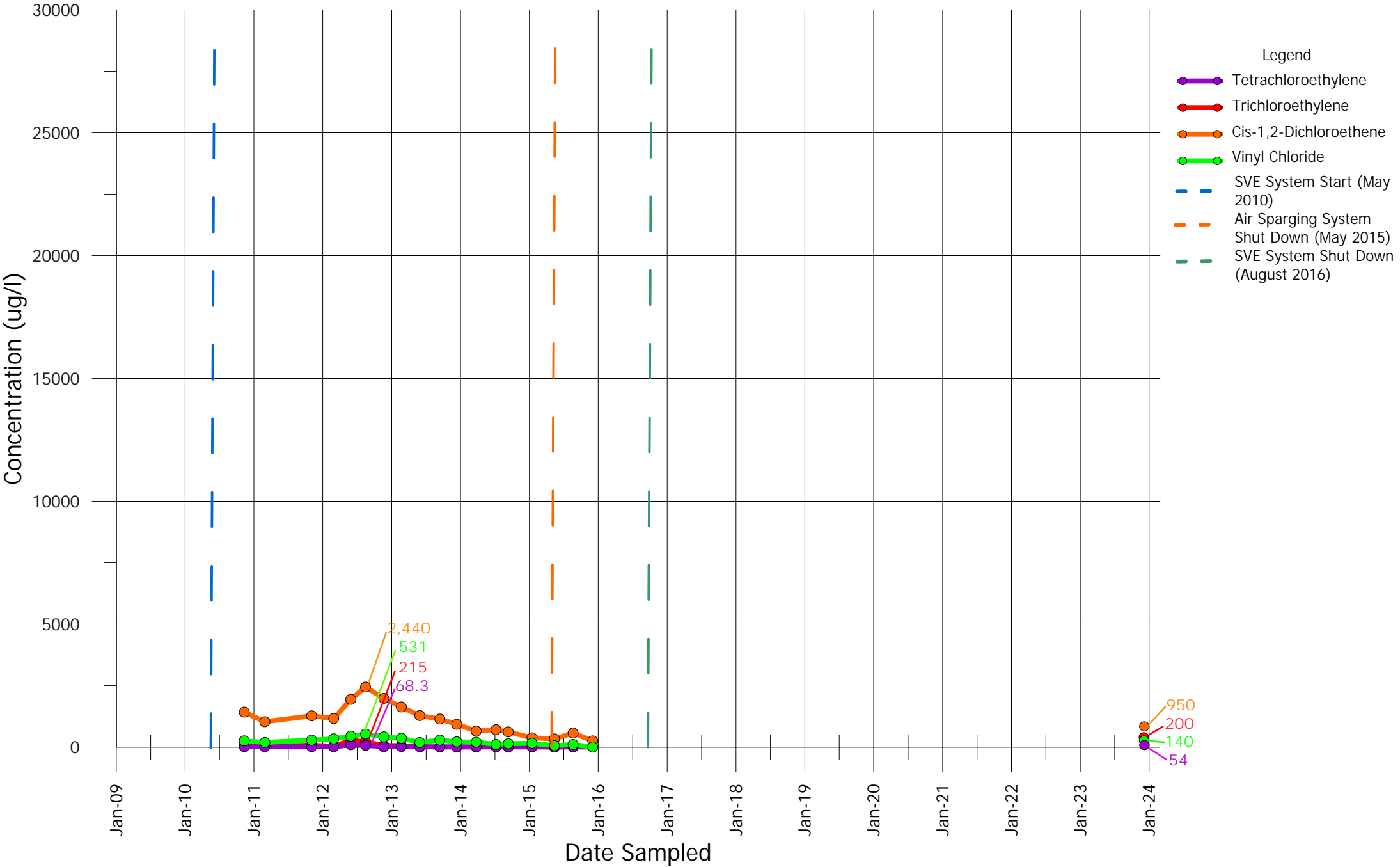
APPENDIX A

Popular Hand Laundry CVOC Concentration Graphs

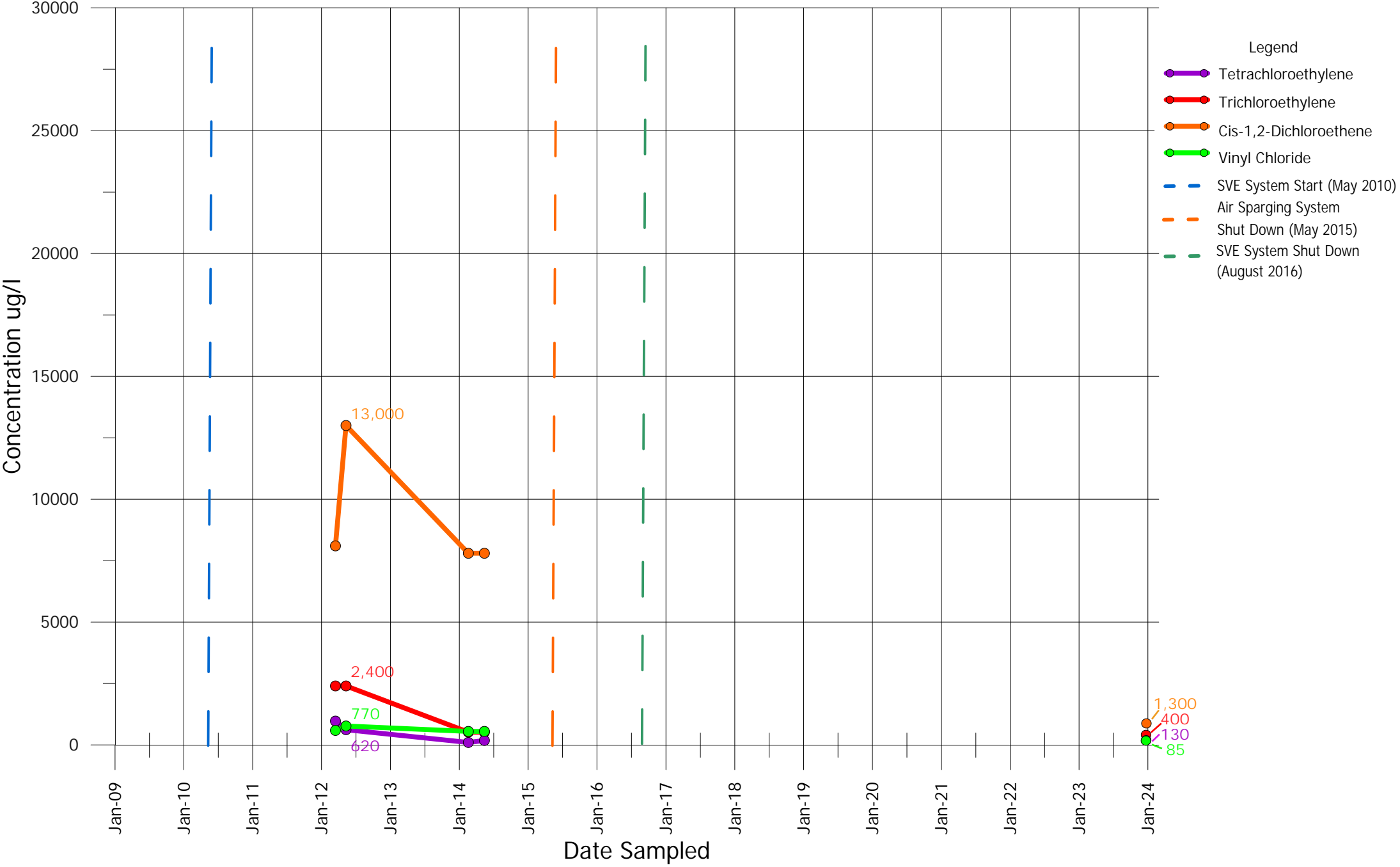
Ingraham St Sidewalk Groundwater, Brooklyn, NY
VOC Concentrations in Groundwater (ug/l)
MW-2



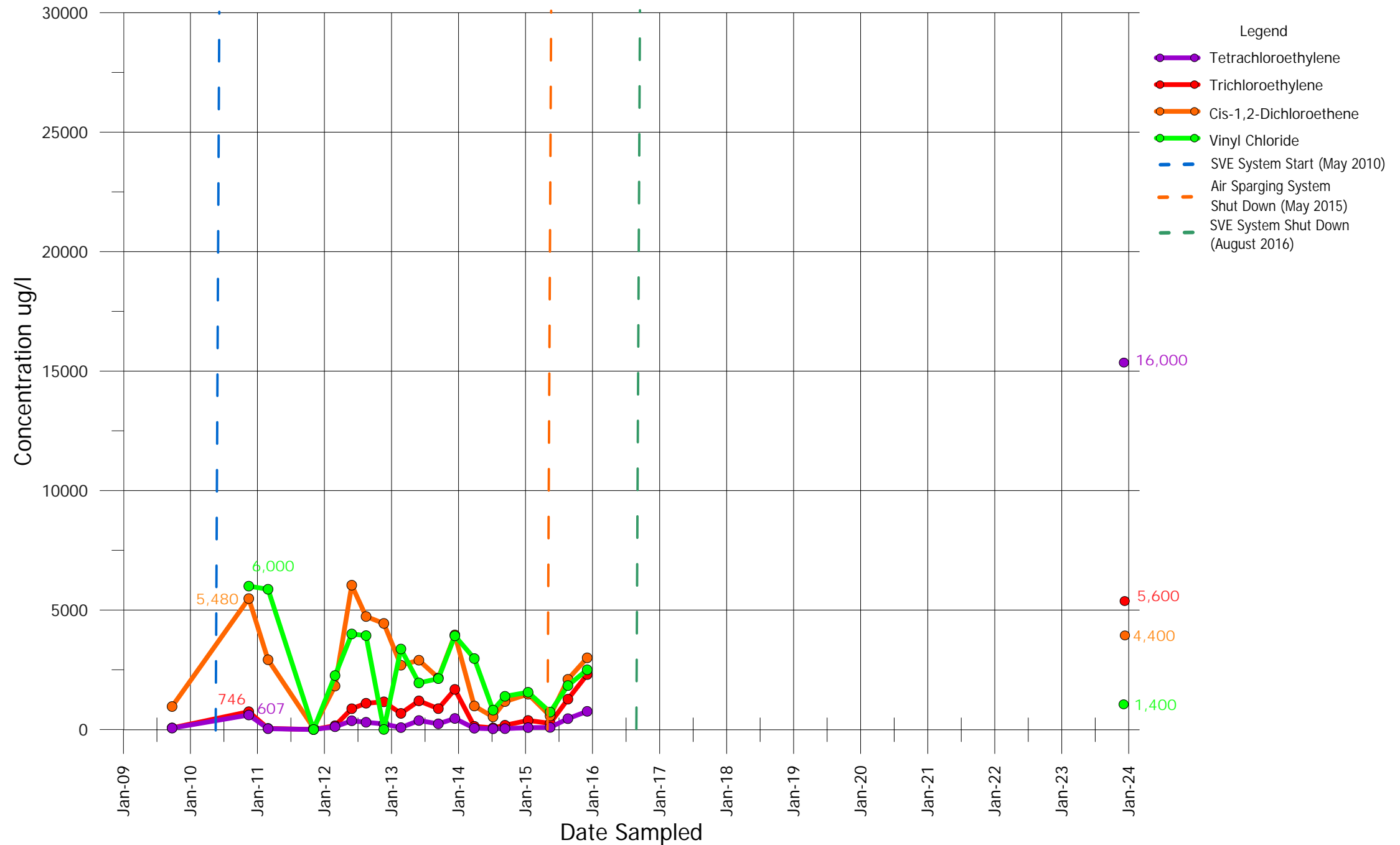
Ingraham St Sidewalk Groundwater, Brooklyn, NY
VOC Concentrations in Groundwater (ug/l)
MW-3



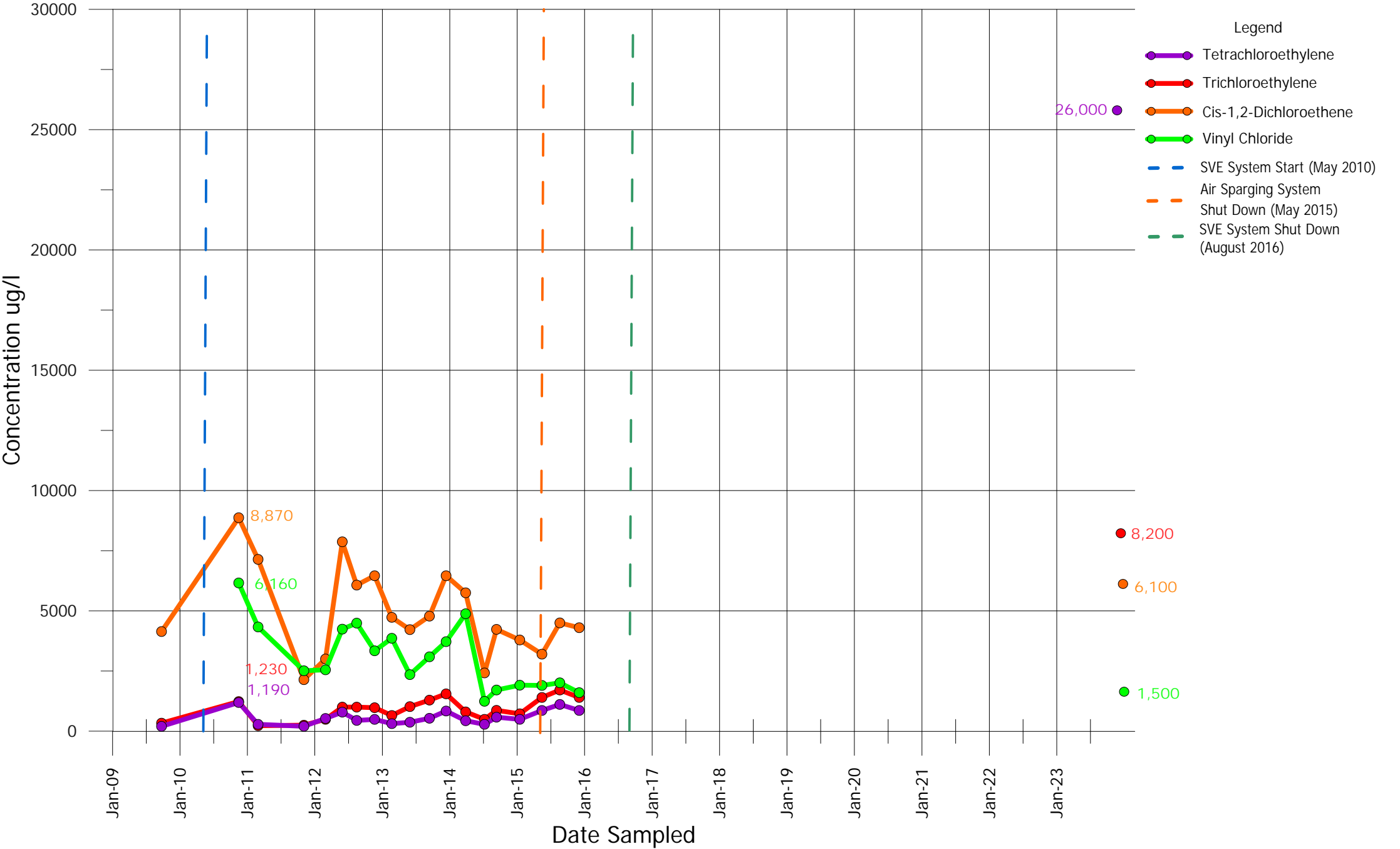
Ingraham St Sidewalk Groundwater, Brooklyn, NY
VOC Concentrations in Groundwater (ug/l)
MW-6



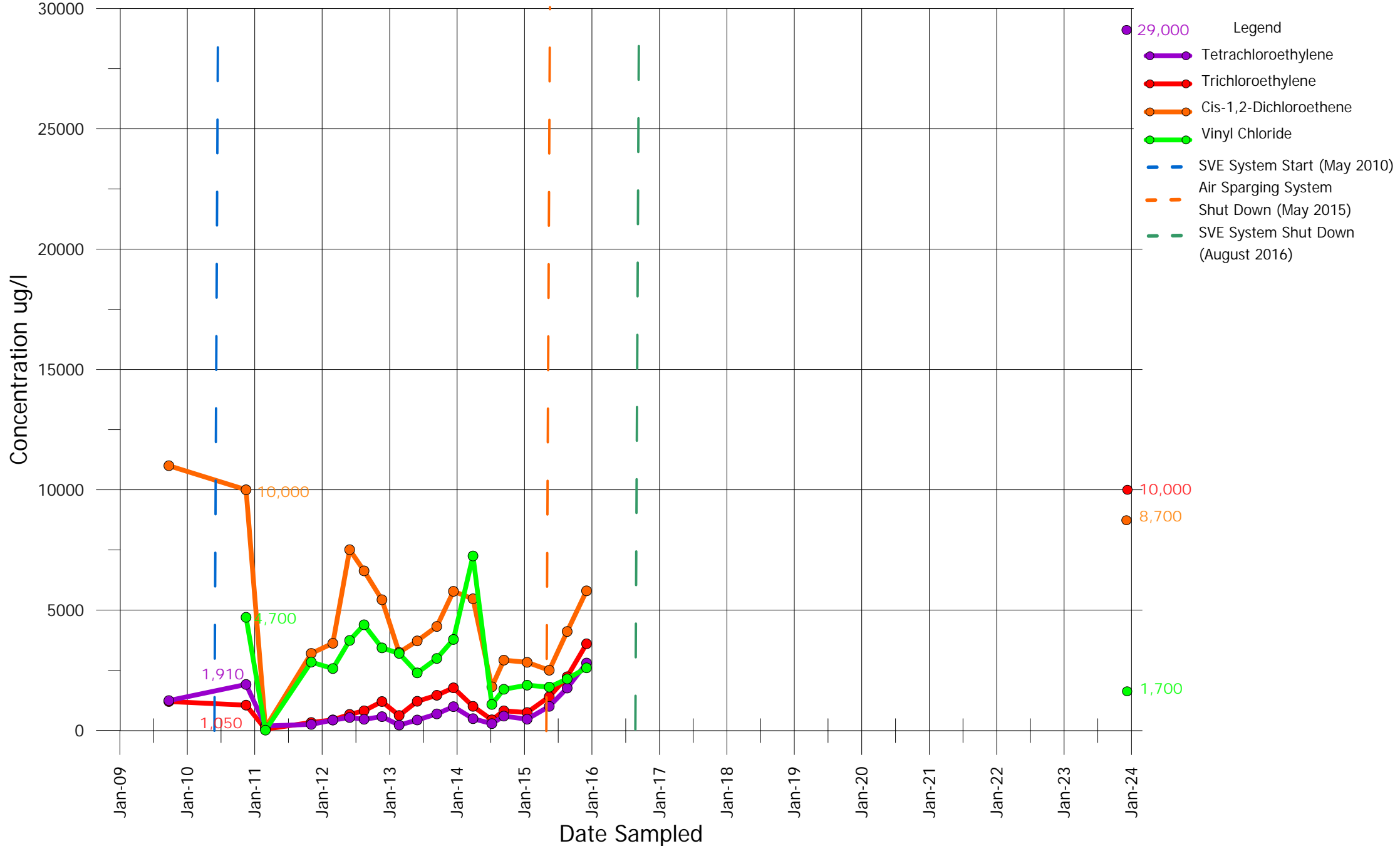
Ingraham St Sidewalk Groundwater, Brooklyn, NY
VOC Concentrations in Groundwater (ug/l)
NW-1 (20')



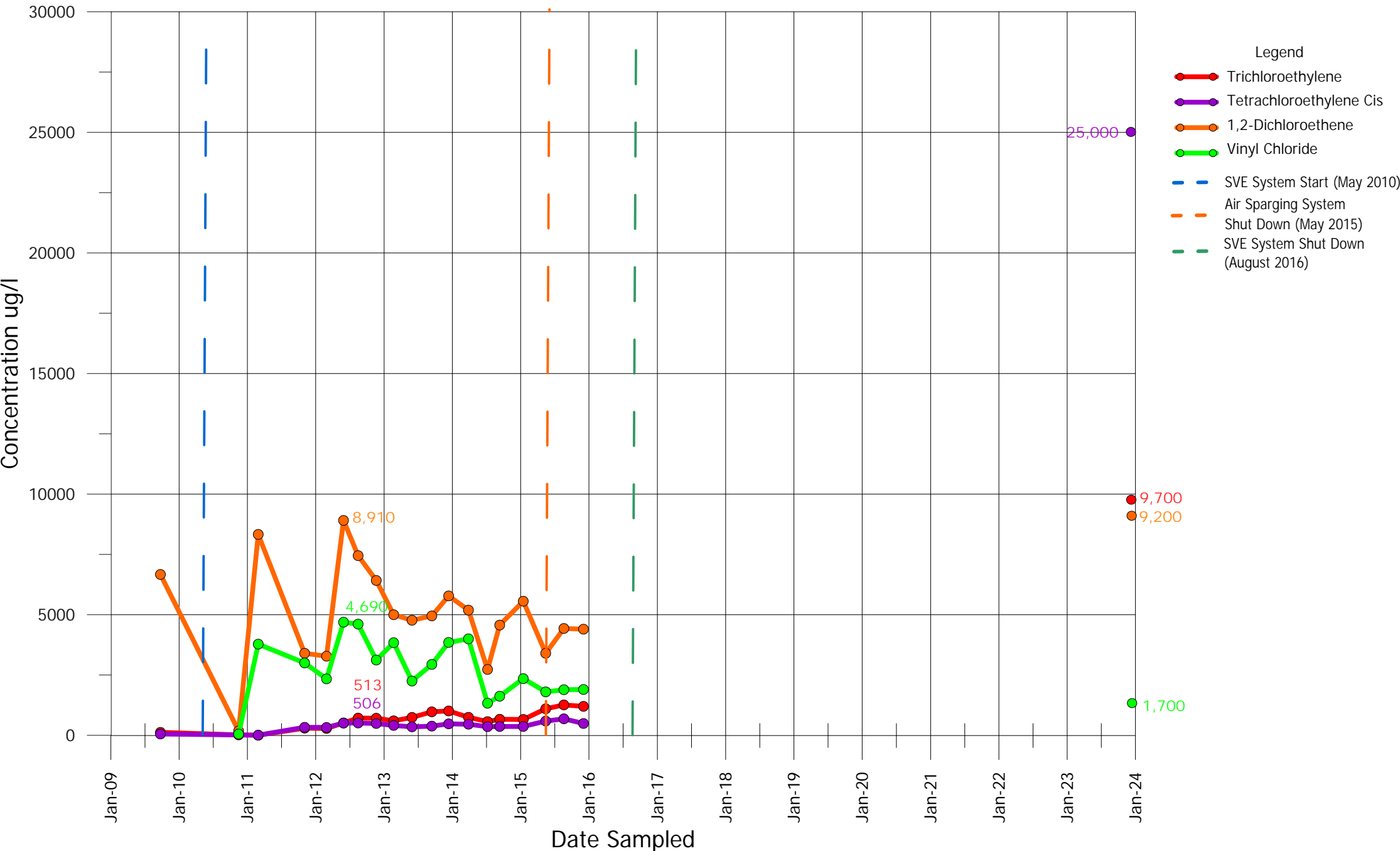
Ingraham St Sidewalk Groundwater, Brooklyn, NY
VOC Concentrations in Groundwater (ug/l)
NW-1 (30')



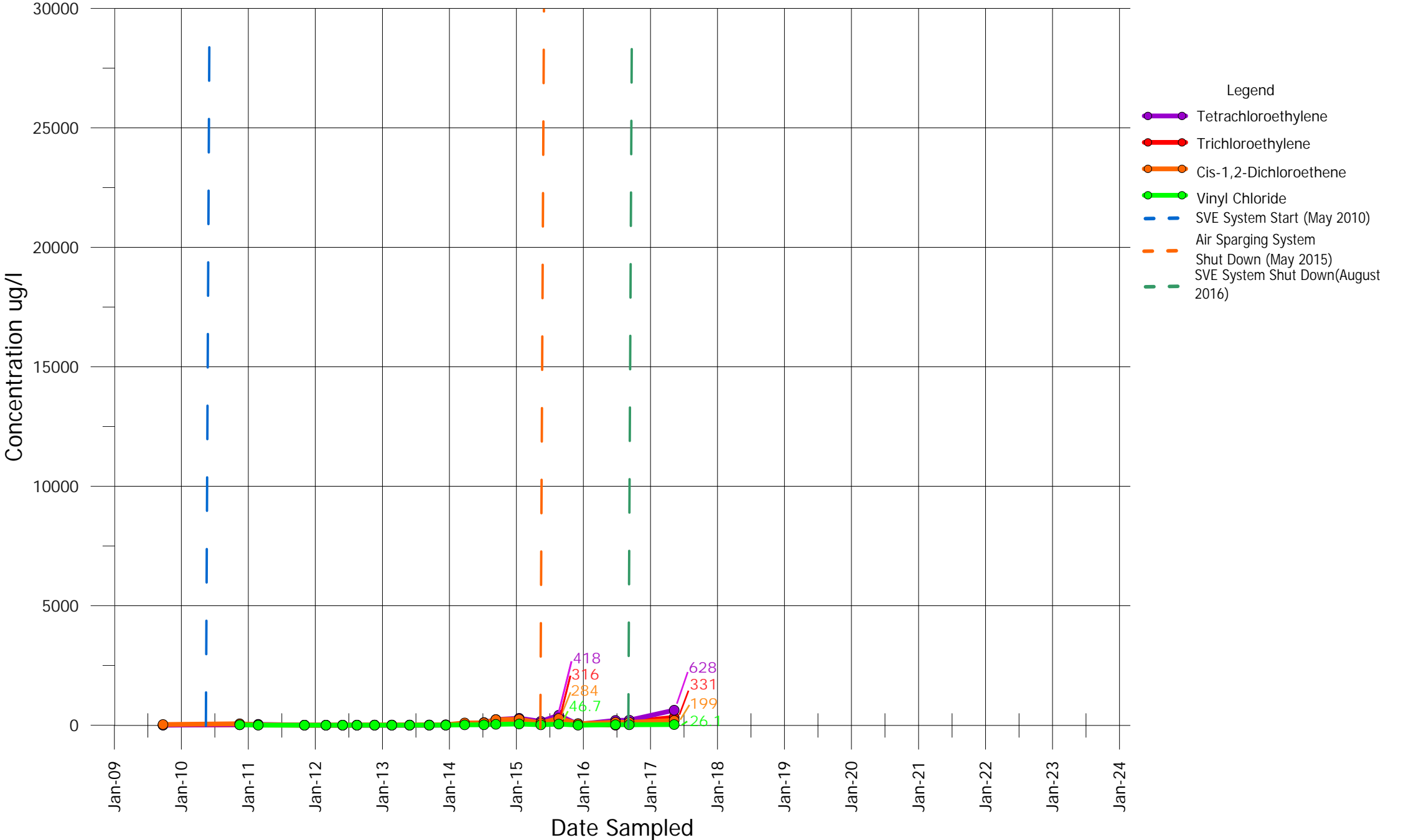
Ingraham St Sidewalk Groundwater, Brooklyn, NY
VOC Concentrations in Groundwater (ug/l)
NW-1 (40')



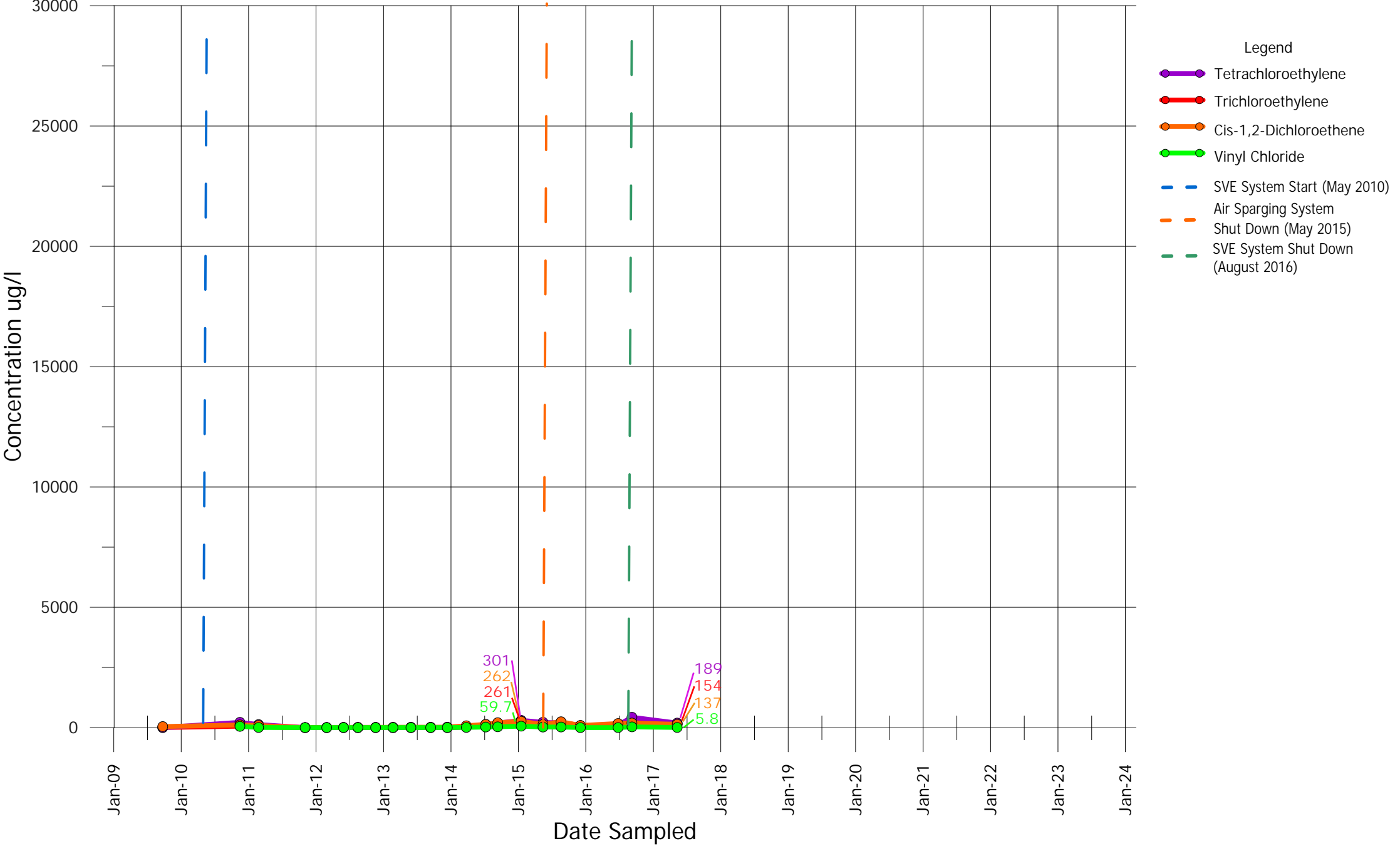
Ingraham St Sidewalk Groundwater, Brooklyn, NY
VOC Concentrations in Groundwater (ug/l)
NW-1 (50')



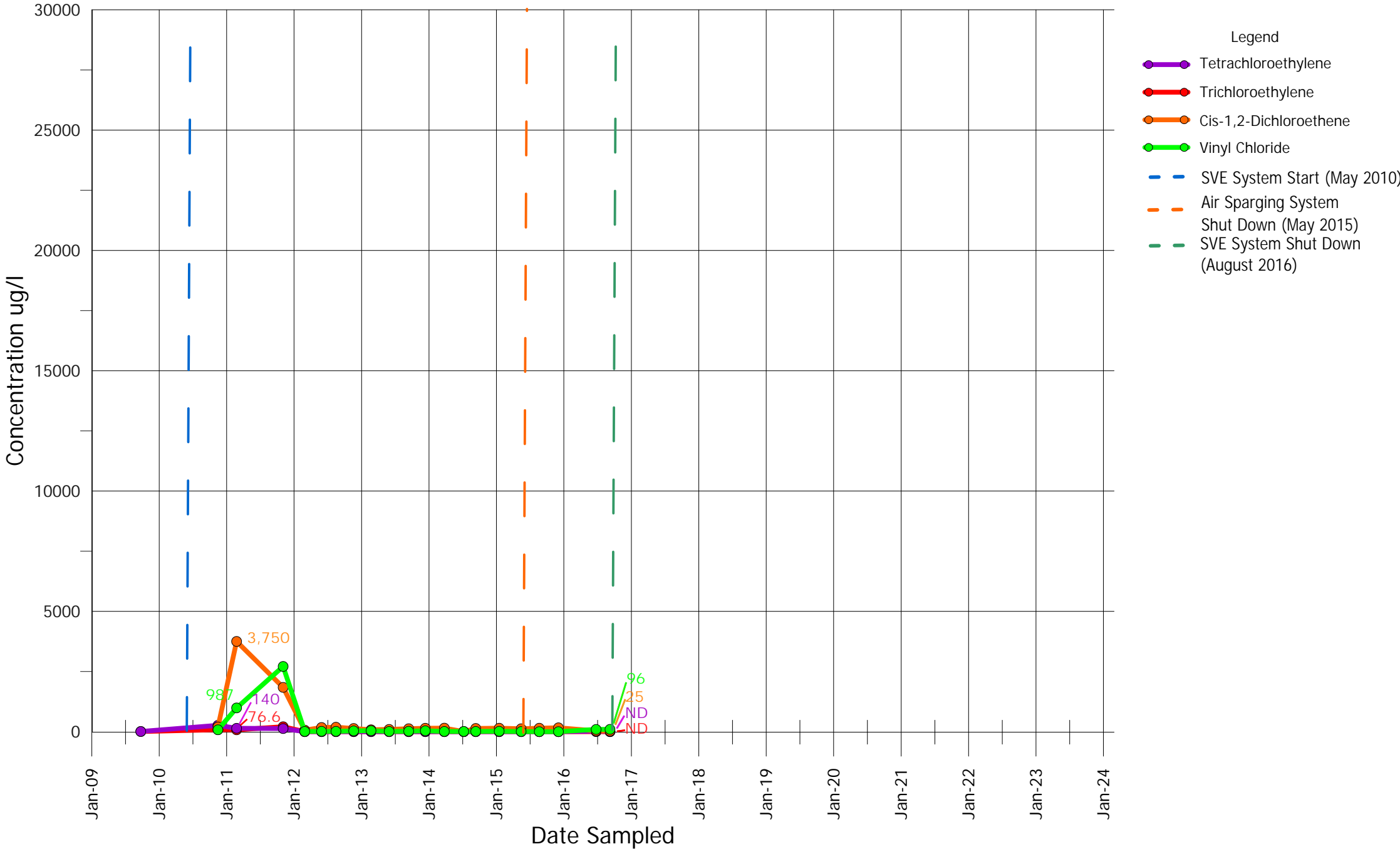
Ingraham St Sidewalk Groundwater, Brooklyn, NY
VOC Concentrations in Groundwater (ug/l)
NW-2 (20')



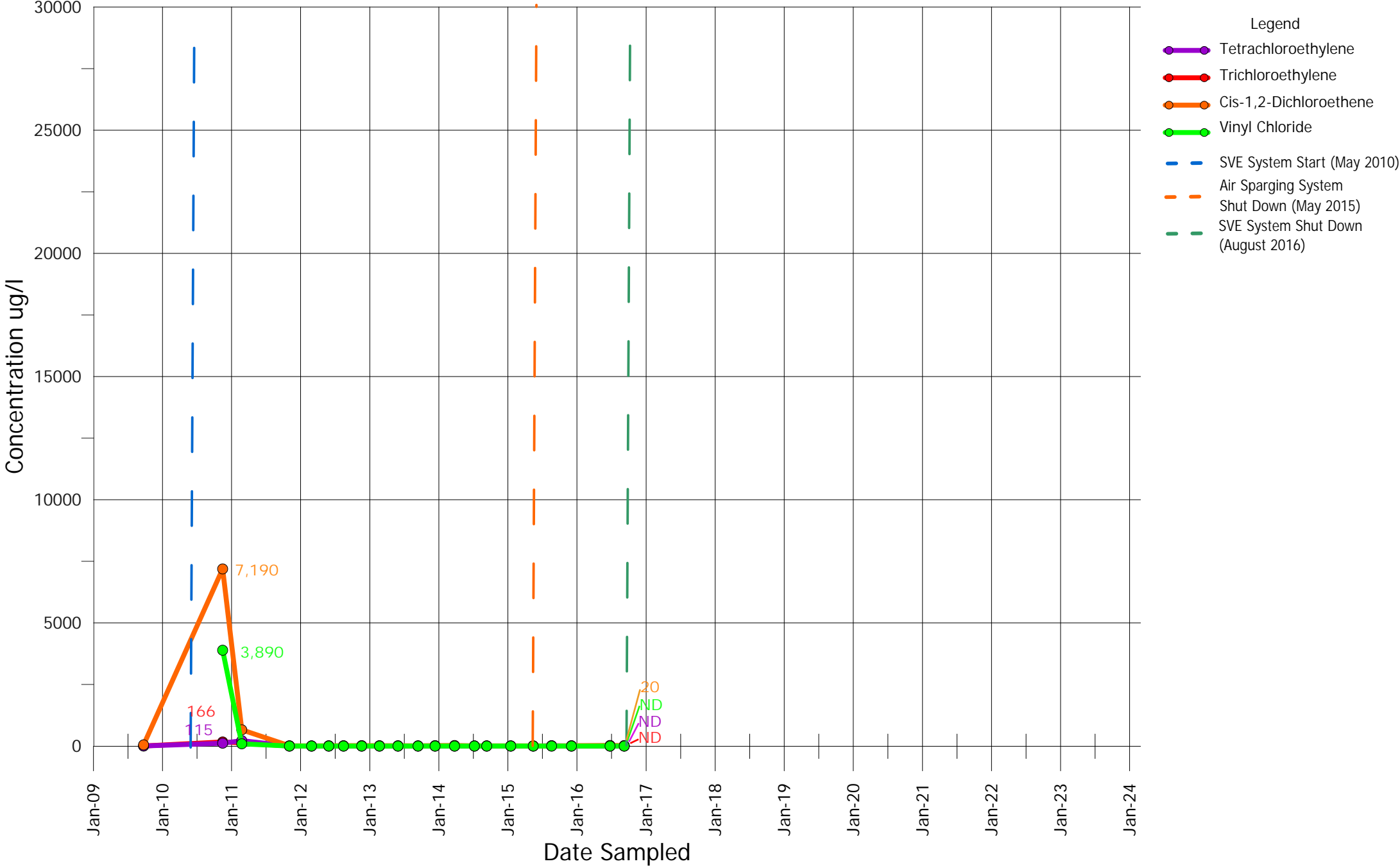
Ingraham St Sidewalk Groundwater, Brooklyn, NY
VOC Concentrations in Groundwater (ug/l)
NW-2 (30')



Ingraham St Sidewalk Groundwater, Brooklyn, NY
VOC Concentrations in Groundwater (ug/l)
NW-2 (40')



Ingraham St Sidewalk Groundwater, Brooklyn, NY
VOC Concentrations in Groundwater (ug/l)
NW-2 (50')



APPENDIX B

November 2023 Laboratory Analytical Reports and Data Usability Summary Reports

November 13, 2023

Javier Perez-Maldonado
NYDEC_HRP Associates - Clifton Park, NY
1 Fairchild Square, Suite 110
Clifton Park, NY 12065

Project Location: Brooklyn, NY
Client Job Number:
Project Number: C224142
Laboratory Work Order Number: 23K0271

Enclosed are results of analyses for samples as received by the laboratory on November 2, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Raymond J. McCarthy
Project Manager

Table of Contents

Sample Summary	4
Case Narrative	5
Sample Results	8
23K0271-01	8
23K0271-02	11
23K0271-03	14
23K0271-04	17
23K0271-05	20
23K0271-06	23
23K0271-07	26
23K0271-08	29
23K0271-09	32
23K0271-11	35
23K0271-12	38
23K0271-13	41
23K0271-14	44
23K0271-15	47
23K0271-16	50
23K0271-18	53
23K0271-19	56
Sample Preparation Information	59
QC Data	60
Volatile Organic Compounds by GC/MS	60
B357164	60
B357293	63

Table of Contents (continued)

B357164	70
B357293	70
Flag/Qualifier Summary	71
Certifications	72
Chain of Custody/Sample Receipt	74

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332NYDEC_HRP Associates - Clifton Park, NY
1 Fairchild Square, Suite 110
Clifton Park, NY 12065
ATTN: Javier Perez-Maldonado

REPORT DATE: 11/13/2023

PURCHASE ORDER NUMBER: 147890

PROJECT NUMBER: C224142

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23K0271

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: Brooklyn, NY

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
NW-1(20')	23K0271-01	Water		SW-846 8260D	
NW-1(30')	23K0271-02	Water		SW-846 8260D	
NW-1(40')	23K0271-03	Water		SW-846 8260D	
NW-1(50')	23K0271-04	Water		SW-846 8260D	
MW-2	23K0271-05	Water		SW-846 8260D	
MLW-2(20')	23K0271-06	Water		SW-846 8260D	
MLM-2(30')	23K0271-07	Water		SW-846 8260D	
MLW-2(40')	23K0271-08	Water		SW-846 8260D	
MLW-2(50')	23K0271-09	Water		SW-846 8260D	
MW-3	23K0271-11	Water		SW-846 8260D	
MLW-4(30')	23K0271-12	Water		SW-846 8260D	
MW-6	23K0271-13	Water		SW-846 8260D	
DUP-1	23K0271-14	Water		SW-846 8260D	
FB	23K0271-15	Field Blank		SW-846 8260D	
Trip Blank	23K0271-16	Trip Blank Water		SW-846 8260D	
MLW-3(15')	23K0271-18	Water		SW-846 8260D	
MLW-3(30')	23K0271-19	Water		SW-846 8260D	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

REVISED 11/13/23: Sample IDs of samples -01 through -04 revised, and sample -10 canceled, per client request.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

SW-846 8260D

Qualifications:**L-07**

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:**1,1-Dichloroethylene**

B357164-BSD1

Acetone

B357164-BSD1

MS-24

Either matrix spike or matrix spike duplicate is outside of control limits, but the other is within limits. Analysis is in control based on laboratory fortified blank recovery.

Analyte & Samples(s) Qualified:**Vinyl Chloride**

B357293-MSD1

RL-11

Elevated reporting limit due to high concentration of target compounds.

Analyte & Samples(s) Qualified:

23K0271-11[MW-3], 23K0271-14[DUP-1]

V-05

Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

Analyte & Samples(s) Qualified:**1,1-Dichloroethylene**

23K0271-01[NW-1(20')], 23K0271-02[NW-1(30')], 23K0271-03[NW-1(40')], 23K0271-04[NW-1(50')], 23K0271-13[MW-6], 23K0271-15[FB], 23K0271-16[Trip Blank], B357164-BLK1, B357164-BS1, B357164-BSD1, S095886-CCV1

Acetone

23K0271-01[NW-1(20')], 23K0271-02[NW-1(30')], 23K0271-03[NW-1(40')], 23K0271-04[NW-1(50')], 23K0271-13[MW-6], 23K0271-15[FB], 23K0271-16[Trip Blank], B357164-BLK1, B357164-BS1, B357164-BSD1, S095886-CCV1

Bromomethane

23K0271-01[NW-1(20')], 23K0271-02[NW-1(30')], 23K0271-03[NW-1(40')], 23K0271-04[NW-1(50')], 23K0271-13[MW-6], 23K0271-15[FB], 23K0271-16[Trip Blank], B357164-BLK1, B357164-BS1, B357164-BSD1, S095886-CCV1

Chloromethane

23K0271-01[NW-1(20')], 23K0271-02[NW-1(30')], 23K0271-03[NW-1(40')], 23K0271-04[NW-1(50')], 23K0271-13[MW-6], 23K0271-15[FB], 23K0271-16[Trip Blank], B357164-BLK1, B357164-BS1, B357164-BSD1, S095886-CCV1

Vinyl Chloride

23K0271-13[MW-6], 23K0271-15[FB], 23K0271-16[Trip Blank], B357164-BLK1, B357164-BS1, B357164-BSD1, S095886-CCV1

V-20

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:**Bromochloromethane**

B357164-BS1, B357164-BSD1, S095886-CCV1

V-34

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

Analyte & Samples(s) Qualified:**Bromomethane**

23K0271-01[NW-1(20')], 23K0271-02[NW-1(30')], 23K0271-03[NW-1(40')], 23K0271-04[NW-1(50')], 23K0271-13[MW-6], 23K0271-15[FB], 23K0271-16[Trip Blank], B357164-BLK1, B357164-BS1, B357164-BSD1, S095886-CCV1

Chloromethane

23K0271-01[NW-1(20')], 23K0271-02[NW-1(30')], 23K0271-03[NW-1(40')], 23K0271-04[NW-1(50')], 23K0271-13[MW-6], 23K0271-15[FB], 23K0271-16[Trip Blank], B357164-BLK1, B357164-BS1, B357164-BSD1, S095886-CCV1

V-35

Initial calibration verification (ICV) did not meet method specifications and was biased on the high side for this compound. Reported result is estimated.

Analyte & Samples(s) Qualified:**Acetone**

B357164-BS1, B357164-BSD1, S095886-CCV1

Carbon Disulfide

B357164-BS1, B357164-BSD1, S095886-CCV1

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: NW-1(20')

Sampled: 10/31/2023 12:40

Sample ID: 23K0271-01

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	3.0	50	2.0	µg/L	1	V-05, J	SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Benzene	0.56	1.0	0.18	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Bromochloromethane	ND	1.0	0.28	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Bromodichloromethane	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Bromoform	ND	1.0	0.41	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Bromomethane	ND	2.0	1.3	µg/L	1	V-05, V-34	SW-846 8260D	11/3/23	11/4/23 13:33	EEH
2-Butanone (MEK)	ND	20	1.7	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Carbon Disulfide	ND	5.0	1.6	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Carbon Tetrachloride	ND	5.0	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Chlorobenzene	0.49	1.0	0.12	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Chlorodibromomethane	ND	0.50	0.20	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Chloroethane	ND	2.0	0.34	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Chloroform	ND	2.0	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Chloromethane	ND	2.0	0.50	µg/L	1	V-05, V-34	SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Cyclohexane	ND	5.0	1.8	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	0.85	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
1,2-Dibromoethane (EDB)	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
1,2-Dichlorobenzene	0.23	1.0	0.13	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 13:33	EEH
1,3-Dichlorobenzene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
1,4-Dichlorobenzene	0.17	1.0	0.13	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
1,1-Dichloroethane	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
1,2-Dichloroethane	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
1,1-Dichloroethylene	14	1.0	0.14	µg/L	1	V-05	SW-846 8260D	11/3/23	11/4/23 13:33	EEH
cis-1,2-Dichloroethylene	4400	400	56	µg/L	400		SW-846 8260D	11/6/23	11/6/23 14:34	LBD
trans-1,2-Dichloroethylene	22	1.0	0.17	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
1,2-Dichloropropane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
cis-1,3-Dichloropropene	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
trans-1,3-Dichloropropene	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
1,4-Dioxane	ND	50	18	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Ethylbenzene	0.37	1.0	0.22	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 13:33	EEH
2-Hexanone (MBK)	ND	10	1.2	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Isopropylbenzene (Cumene)	0.22	1.0	0.15	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Methyl Acetate	ND	1.0	0.61	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Methyl tert-Butyl Ether (MTBE)	0.26	1.0	0.17	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Methyl Cyclohexane	ND	1.0	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Methylene Chloride	ND	5.0	0.18	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	1.3	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Styrene	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Tetrachloroethylene	16000	400	67	µg/L	400		SW-846 8260D	11/6/23	11/6/23 14:34	LBD
Toluene	1.4	1.0	0.22	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
1,2,3-Trichlorobenzene	ND	5.0	0.34	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
1,2,4-Trichlorobenzene	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: NW-1(20')

Sampled: 10/31/2023 12:40

Sample ID: 23K0271-01

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1-Trichloroethane	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
1,1,2-Trichloroethane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Trichloroethylene	5600	400	70	µg/L	400		SW-846 8260D	11/6/23	11/6/23 14:34	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	0.21	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH
Vinyl Chloride	1400	800	95	µg/L	400		SW-846 8260D	11/6/23	11/6/23 14:34	LBD
Xylenes (total)	ND	1.0	1.0	µg/L	1		SW-846 8260D	11/3/23	11/4/23 13:33	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	104	70-130	11/4/23 13:33
1,2-Dichloroethane-d4	104	70-130	11/6/23 14:34
Toluene-d8	100	70-130	11/4/23 13:33
Toluene-d8	100	70-130	11/6/23 14:34
4-Bromofluorobenzene	99.3	70-130	11/4/23 13:33
4-Bromofluorobenzene	95.5	70-130	11/6/23 14:34

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: NW-1(20')

Sampled: 10/31/2023 12:40

Sample ID: 23K0271-01

Sample Matrix: Water

Tentatively Identified Compounds - Volatile Compounds (ESTIMATED VALUES REPORTED)

Analyte	Results	Units	Response	RT	DF	CAS #	Q#	Method	Date Prepared	Date/Time Analyzed	Analyst
No TICs Found	0.0	µg/L			1			SW-846 8260D	11/3/23	11/4/23 13:33	EEH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: NW-1(30')

Sampled: 10/31/2023 11:50

Sample ID: 23K0271-02

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	2.9	50	2.0	µg/L	1	V-05, J	SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Benzene	0.85	1.0	0.18	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Bromochloromethane	ND	1.0	0.28	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Bromodichloromethane	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Bromoform	ND	1.0	0.41	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Bromomethane	ND	2.0	1.3	µg/L	1	V-05, V-34	SW-846 8260D	11/3/23	11/4/23 14:01	EEH
2-Butanone (MEK)	ND	20	1.7	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Carbon Disulfide	ND	5.0	1.6	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Carbon Tetrachloride	ND	5.0	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Chlorobenzene	0.72	1.0	0.12	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Chlorodibromomethane	ND	0.50	0.20	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Chloroethane	ND	2.0	0.34	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Chloroform	ND	2.0	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Chloromethane	ND	2.0	0.50	µg/L	1	V-05, V-34	SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Cyclohexane	ND	5.0	1.8	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	0.85	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
1,2-Dibromoethane (EDB)	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
1,2-Dichlorobenzene	0.36	1.0	0.13	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:01	EEH
1,3-Dichlorobenzene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
1,4-Dichlorobenzene	0.21	1.0	0.13	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
1,1-Dichloroethane	0.28	1.0	0.14	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:01	EEH
1,2-Dichloroethane	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
1,1-Dichloroethylene	20	1.0	0.14	µg/L	1	V-05	SW-846 8260D	11/3/23	11/4/23 14:01	EEH
cis-1,2-Dichloroethylene	6100	400	56	µg/L	400		SW-846 8260D	11/6/23	11/6/23 15:00	LBD
trans-1,2-Dichloroethylene	110	1.0	0.17	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
1,2-Dichloropropane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
cis-1,3-Dichloropropene	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
trans-1,3-Dichloropropene	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
1,4-Dioxane	ND	50	18	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Ethylbenzene	0.53	1.0	0.22	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:01	EEH
2-Hexanone (MBK)	ND	10	1.2	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Isopropylbenzene (Cumene)	0.31	1.0	0.15	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Methyl Acetate	ND	1.0	0.61	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Methyl tert-Butyl Ether (MTBE)	0.20	1.0	0.17	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Methyl Cyclohexane	ND	1.0	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Methylene Chloride	ND	5.0	0.18	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	1.3	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Styrene	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Tetrachloroethylene	26000	400	67	µg/L	400		SW-846 8260D	11/6/23	11/6/23 15:00	LBD
Toluene	2.1	1.0	0.22	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
1,2,3-Trichlorobenzene	ND	5.0	0.34	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
1,2,4-Trichlorobenzene	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: NW-1(30')

Sampled: 10/31/2023 11:50

Sample ID: 23K0271-02

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1-Trichloroethane	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
1,1,2-Trichloroethane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Trichloroethylene	8200	400	70	µg/L	400		SW-846 8260D	11/6/23	11/6/23 15:00	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	0.21	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH
Vinyl Chloride	1500	800	95	µg/L	400		SW-846 8260D	11/6/23	11/6/23 15:00	LBD
Xylenes (total)	1.1	1.0	1.0	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:01	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	106	70-130	11/4/23 14:01
1,2-Dichloroethane-d4	104	70-130	11/6/23 15:00
Toluene-d8	101	70-130	11/4/23 14:01
Toluene-d8	99.8	70-130	11/6/23 15:00
4-Bromofluorobenzene	99.7	70-130	11/4/23 14:01
4-Bromofluorobenzene	96.0	70-130	11/6/23 15:00

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: NW-1(30')

Sampled: 10/31/2023 11:50

Sample ID: 23K0271-02

Sample Matrix: Water

Tentatively Identified Compounds - Volatile Compounds (ESTIMATED VALUES REPORTED)

Analyte	Results	Units	Response	RT	DF	CAS #	Q#	Method	Date Prepared	Date/Time Analyzed	Analyst
No TICs Found	0.0	µg/L			1			SW-846 8260D	11/3/23	11/4/23 14:01	EEH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: NW-1(40')

Sampled: 10/31/2023 12:25

Sample ID: 23K0271-03

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	2.0	µg/L	1	V-05	SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Benzene	1.0	1.0	0.18	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Bromochloromethane	ND	1.0	0.28	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Bromodichloromethane	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Bromoform	ND	1.0	0.41	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Bromomethane	ND	2.0	1.3	µg/L	1	V-05, V-34	SW-846 8260D	11/3/23	11/4/23 14:29	EEH
2-Butanone (MEK)	ND	20	1.7	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Carbon Disulfide	ND	5.0	1.6	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Carbon Tetrachloride	ND	5.0	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Chlorobenzene	0.80	1.0	0.12	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Chlorodibromomethane	ND	0.50	0.20	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Chloroethane	ND	2.0	0.34	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Chloroform	ND	2.0	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Chloromethane	ND	2.0	0.50	µg/L	1	V-05, V-34	SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Cyclohexane	ND	5.0	1.8	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	0.85	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
1,2-Dibromoethane (EDB)	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
1,2-Dichlorobenzene	0.37	1.0	0.13	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:29	EEH
1,3-Dichlorobenzene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
1,4-Dichlorobenzene	0.19	1.0	0.13	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
1,1-Dichloroethane	0.39	1.0	0.14	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:29	EEH
1,2-Dichloroethane	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
1,1-Dichloroethylene	22	1.0	0.14	µg/L	1	V-05	SW-846 8260D	11/3/23	11/4/23 14:29	EEH
cis-1,2-Dichloroethylene	8700	400	56	µg/L	400		SW-846 8260D	11/6/23	11/6/23 15:26	LBD
trans-1,2-Dichloroethylene	93	1.0	0.17	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
1,2-Dichloropropane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
cis-1,3-Dichloropropene	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
trans-1,3-Dichloropropene	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
1,4-Dioxane	ND	50	18	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Ethylbenzene	0.57	1.0	0.22	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:29	EEH
2-Hexanone (MBK)	ND	10	1.2	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Isopropylbenzene (Cumene)	0.30	1.0	0.15	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Methyl Acetate	ND	1.0	0.61	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Methyl tert-Butyl Ether (MTBE)	0.23	1.0	0.17	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Methyl Cyclohexane	ND	1.0	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Methylene Chloride	ND	5.0	0.18	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	1.3	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Styrene	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Tetrachloroethylene	29000	400	67	µg/L	400		SW-846 8260D	11/6/23	11/6/23 15:26	LBD
Toluene	2.4	1.0	0.22	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
1,2,3-Trichlorobenzene	ND	5.0	0.34	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
1,2,4-Trichlorobenzene	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: NW-1(40')

Sampled: 10/31/2023 12:25

Sample ID: 23K0271-03

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1-Trichloroethane	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
1,1,2-Trichloroethane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Trichloroethylene	10000	400	70	µg/L	400		SW-846 8260D	11/6/23	11/6/23 15:26	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	0.21	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH
Vinyl Chloride	1800	800	95	µg/L	400		SW-846 8260D	11/6/23	11/6/23 15:26	LBD
Xylenes (total)	1.1	1.0	1.0	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:29	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	104	70-130	11/6/23 15:26
1,2-Dichloroethane-d4	106	70-130	11/4/23 14:29
Toluene-d8	101	70-130	11/4/23 14:29
Toluene-d8	99.4	70-130	11/6/23 15:26
4-Bromofluorobenzene	100	70-130	11/4/23 14:29
4-Bromofluorobenzene	96.4	70-130	11/6/23 15:26

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: NW-1(40')

Sampled: 10/31/2023 12:25

Sample ID: 23K0271-03

Sample Matrix: Water

Tentatively Identified Compounds - Volatile Compounds (ESTIMATED VALUES REPORTED)

Analyte	Results	Units	Response	RT	DF	CAS #	Q#	Method	Date Prepared	Date/Time Analyzed	Analyst
No TICs Found	0.0	µg/L			1			SW-846 8260D	11/3/23	11/4/23 14:29	EEH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: NW-1(50')

Sampled: 10/31/2023 13:00

Sample ID: 23K0271-04

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	2.0	µg/L	1	V-05	SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Benzene	1.2	1.0	0.18	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Bromochloromethane	ND	1.0	0.28	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Bromodichloromethane	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Bromoform	ND	1.0	0.41	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Bromomethane	ND	2.0	1.3	µg/L	1	V-05, V-34	SW-846 8260D	11/3/23	11/4/23 14:56	EEH
2-Butanone (MEK)	ND	20	1.7	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Carbon Disulfide	ND	5.0	1.6	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Carbon Tetrachloride	ND	5.0	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Chlorobenzene	0.80	1.0	0.12	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Chlorodibromomethane	ND	0.50	0.20	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Chloroethane	ND	2.0	0.34	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Chloroform	ND	2.0	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Chloromethane	ND	2.0	0.50	µg/L	1	V-05, V-34	SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Cyclohexane	ND	5.0	1.8	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	0.85	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
1,2-Dibromoethane (EDB)	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
1,2-Dichlorobenzene	0.28	1.0	0.13	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:56	EEH
1,3-Dichlorobenzene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
1,4-Dichlorobenzene	0.14	1.0	0.13	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
1,1-Dichloroethane	0.45	1.0	0.14	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:56	EEH
1,2-Dichloroethane	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
1,1-Dichloroethylene	22	1.0	0.14	µg/L	1	V-05	SW-846 8260D	11/3/23	11/4/23 14:56	EEH
cis-1,2-Dichloroethylene	9200	400	56	µg/L	400		SW-846 8260D	11/6/23	11/6/23 15:52	LBD
trans-1,2-Dichloroethylene	110	1.0	0.17	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
1,2-Dichloropropane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
cis-1,3-Dichloropropene	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
trans-1,3-Dichloropropene	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
1,4-Dioxane	ND	50	18	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Ethylbenzene	0.52	1.0	0.22	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:56	EEH
2-Hexanone (MBK)	ND	10	1.2	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Isopropylbenzene (Cumene)	0.25	1.0	0.15	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Methyl Acetate	ND	1.0	0.61	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Methyl tert-Butyl Ether (MTBE)	0.23	1.0	0.17	µg/L	1	J	SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Methyl Cyclohexane	ND	1.0	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Methylene Chloride	ND	5.0	0.18	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	1.3	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Styrene	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Tetrachloroethylene	25000	400	67	µg/L	400		SW-846 8260D	11/6/23	11/6/23 15:52	LBD
Toluene	2.5	1.0	0.22	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
1,2,3-Trichlorobenzene	ND	5.0	0.34	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
1,2,4-Trichlorobenzene	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: NW-1(50')

Sampled: 10/31/2023 13:00

Sample ID: 23K0271-04

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1-Trichloroethane	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
1,1,2-Trichloroethane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Trichloroethylene	9700	400	70	µg/L	400		SW-846 8260D	11/6/23	11/6/23 15:52	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	0.21	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH
Vinyl Chloride	1700	800	95	µg/L	400		SW-846 8260D	11/6/23	11/6/23 15:52	LBD
Xylenes (total)	ND	1.0	1.0	µg/L	1		SW-846 8260D	11/3/23	11/4/23 14:56	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	105	70-130	
1,2-Dichloroethane-d4	105	70-130	
Toluene-d8	102	70-130	
Toluene-d8	98.9	70-130	
4-Bromofluorobenzene	101	70-130	
4-Bromofluorobenzene	95.8	70-130	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: NW-1(50')

Sampled: 10/31/2023 13:00

Sample ID: 23K0271-04

Sample Matrix: Water

Tentatively Identified Compounds - Volatile Compounds (ESTIMATED VALUES REPORTED)

Analyte	Results	Units	Response	RT	DF	CAS #	Q#	Method	Date Prepared	Date/Time Analyzed	Analyst
No TICs Found	0.0	µg/L			1			SW-846 8260D	11/3/23	11/4/23 14:56	EEH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MW-2

Sampled: 10/31/2023 00:00

Sample ID: 23K0271-05

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	2.0	50	2.0	µg/L	1	J	SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Benzene	ND	1.0	0.18	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Bromochloromethane	ND	1.0	0.28	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Bromodichloromethane	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Bromoform	ND	1.0	0.41	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Bromomethane	ND	2.0	1.3	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
2-Butanone (MEK)	ND	20	1.7	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Carbon Disulfide	ND	5.0	1.6	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Carbon Tetrachloride	ND	5.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Chlorobenzene	ND	1.0	0.12	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Chlorodibromomethane	ND	0.50	0.20	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Chloroethane	ND	2.0	0.34	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Chloroform	ND	2.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Chloromethane	ND	2.0	0.50	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Cyclohexane	ND	5.0	1.8	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	0.85	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
1,2-Dibromoethane (EDB)	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
1,2-Dichlorobenzene	ND	1.0	0.13	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
1,3-Dichlorobenzene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
1,4-Dichlorobenzene	ND	1.0	0.13	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Dichlorodifluoromethane (Freon 12)	ND	2.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
1,1-Dichloroethane	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
1,2-Dichloroethane	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
1,1-Dichloroethylene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
cis-1,2-Dichloroethylene	11	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
trans-1,2-Dichloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
1,2-Dichloropropane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
cis-1,3-Dichloropropene	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
trans-1,3-Dichloropropene	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
1,4-Dioxane	ND	50	18	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Ethylbenzene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
2-Hexanone (MBK)	ND	10	1.2	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Isopropylbenzene (Cumene)	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Methyl Acetate	ND	1.0	0.61	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Methyl tert-Butyl Ether (MTBE)	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Methyl Cyclohexane	ND	1.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Methylene Chloride	ND	5.0	0.18	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
4-Methyl-2-pentanone (MIBK)	ND	10	1.3	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Styrene	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
1,1,2,2-Tetrachloroethane	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Tetrachloroethylene	6.0	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Toluene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
1,2,3-Trichlorobenzene	ND	5.0	0.34	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
1,2,4-Trichlorobenzene	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MW-2

Sampled: 10/31/2023 00:00

Sample ID: 23K0271-05

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1-Trichloroethane	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
1,1,2-Trichloroethane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Trichloroethylene	8.1	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	0.21	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Vinyl Chloride	1.4	2.0	0.24	µg/L	1	J	SW-846 8260D	11/6/23	11/6/23 12:23	LBD
Xylenes (total)	ND	1.0	1.0	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:23	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	105	70-130	
Toluene-d8	99.5	70-130	
4-Bromofluorobenzene	95.6	70-130	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MW-2

Sampled: 10/31/2023 00:00

Sample ID: 23K0271-05

Sample Matrix: Water

Tentatively Identified Compounds - Volatile Compounds (ESTIMATED VALUES REPORTED)

Analyte	Results	Units	Response	RT	DF	CAS #	Q#	Method	Date Prepared	Date/Time Analyzed	Analyst
No TICs Found	0.0	µg/L			1			SW-846 8260D	11/6/23	11/6/23 12:23	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MLW-2(20')

Sampled: 11/1/2023 11:15

Sample ID: 23K0271-06

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	2.2	50	2.0	µg/L	1	J	SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Benzene	ND	1.0	0.18	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Bromochloromethane	ND	1.0	0.28	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Bromodichloromethane	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Bromoform	ND	1.0	0.41	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Bromomethane	ND	2.0	1.3	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
2-Butanone (MEK)	ND	20	1.7	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Carbon Disulfide	ND	5.0	1.6	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Carbon Tetrachloride	ND	5.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Chlorobenzene	1.6	1.0	0.12	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Chlorodibromomethane	ND	0.50	0.20	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Chloroethane	ND	2.0	0.34	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Chloroform	ND	2.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Chloromethane	ND	2.0	0.50	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Cyclohexane	ND	5.0	1.8	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	0.85	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
1,2-Dibromoethane (EDB)	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
1,2-Dichlorobenzene	ND	1.0	0.13	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
1,3-Dichlorobenzene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
1,4-Dichlorobenzene	0.13	1.0	0.13	µg/L	1	J	SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Dichlorodifluoromethane (Freon 12)	ND	2.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
1,1-Dichloroethane	2.4	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
1,2-Dichloroethane	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
1,1-Dichloroethylene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
cis-1,2-Dichloroethylene	15	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
trans-1,2-Dichloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
1,2-Dichloropropane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
cis-1,3-Dichloropropene	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
trans-1,3-Dichloropropene	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
1,4-Dioxane	ND	50	18	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Ethylbenzene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
2-Hexanone (MBK)	ND	10	1.2	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Isopropylbenzene (Cumene)	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Methyl Acetate	ND	1.0	0.61	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Methyl tert-Butyl Ether (MTBE)	8.8	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Methyl Cyclohexane	ND	1.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Methylene Chloride	ND	5.0	0.18	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
4-Methyl-2-pentanone (MIBK)	ND	10	1.3	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Styrene	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
1,1,2,2-Tetrachloroethane	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Tetrachloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Toluene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
1,2,3-Trichlorobenzene	ND	5.0	0.34	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
1,2,4-Trichlorobenzene	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MLW-2(20')

Sampled: 11/1/2023 11:15

Sample ID: 23K0271-06

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1-Trichloroethane	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
1,1,2-Trichloroethane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Trichloroethylene	0.34	1.0	0.17	µg/L	1	J	SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	0.21	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Vinyl Chloride	1.4	2.0	0.24	µg/L	1	J	SW-846 8260D	11/6/23	11/6/23 9:47	LBD
Xylenes (total)	ND	1.0	1.0	µg/L	1		SW-846 8260D	11/6/23	11/6/23 9:47	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	104	70-130	
Toluene-d8	99.2	70-130	
4-Bromofluorobenzene	96.5	70-130	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MLW-2(20')

Sampled: 11/1/2023 11:15

Sample ID: 23K0271-06

Sample Matrix: Water

Tentatively Identified Compounds - Volatile Compounds (ESTIMATED VALUES REPORTED)

Analyte	Results	Units	Response	RT	DF	CAS #	Q#	Method	Date Prepared	Date/Time Analyzed	Analyst
No TICs Found	0.0	µg/L			1			SW-846 8260D	11/6/23	11/6/23 9:47	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MLM-2(30')

Sampled: 11/1/2023 11:35

Sample ID: 23K0271-07

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	2.0	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Benzene	ND	1.0	0.18	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Bromochloromethane	ND	1.0	0.28	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Bromodichloromethane	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Bromoform	ND	1.0	0.41	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Bromomethane	ND	2.0	1.3	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
2-Butanone (MEK)	ND	20	1.7	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Carbon Disulfide	ND	5.0	1.6	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Carbon Tetrachloride	ND	5.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Chlorobenzene	ND	1.0	0.12	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Chlorodibromomethane	ND	0.50	0.20	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Chloroethane	ND	2.0	0.34	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Chloroform	ND	2.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Chloromethane	ND	2.0	0.50	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Cyclohexane	ND	5.0	1.8	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	0.85	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
1,2-Dibromoethane (EDB)	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
1,2-Dichlorobenzene	ND	1.0	0.13	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
1,3-Dichlorobenzene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
1,4-Dichlorobenzene	ND	1.0	0.13	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Dichlorodifluoromethane (Freon 12)	ND	2.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
1,1-Dichloroethane	4.0	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
1,2-Dichloroethane	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
1,1-Dichloroethylene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
cis-1,2-Dichloroethylene	0.32	1.0	0.14	µg/L	1	J	SW-846 8260D	11/6/23	11/6/23 10:13	LBD
trans-1,2-Dichloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
1,2-Dichloropropane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
cis-1,3-Dichloropropene	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
trans-1,3-Dichloropropene	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
1,4-Dioxane	ND	50	18	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Ethylbenzene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
2-Hexanone (MBK)	ND	10	1.2	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Isopropylbenzene (Cumene)	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Methyl Acetate	ND	1.0	0.61	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Methyl tert-Butyl Ether (MTBE)	1.5	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Methyl Cyclohexane	ND	1.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Methylene Chloride	ND	5.0	0.18	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
4-Methyl-2-pentanone (MIBK)	ND	10	1.3	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Styrene	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
1,1,2,2-Tetrachloroethane	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Tetrachloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Toluene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
1,2,3-Trichlorobenzene	ND	5.0	0.34	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
1,2,4-Trichlorobenzene	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MLM-2(30')

Sampled: 11/1/2023 11:35

Sample ID: 23K0271-07

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1-Trichloroethane	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
1,1,2-Trichloroethane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Trichloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	0.21	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Vinyl Chloride	0.28	2.0	0.24	µg/L	1	J	SW-846 8260D	11/6/23	11/6/23 10:13	LBD
Xylenes (total)	ND	1.0	1.0	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:13	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	105	70-130	
Toluene-d8	99.8	70-130	
4-Bromofluorobenzene	95.6	70-130	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MLM-2(30')

Sampled: 11/1/2023 11:35

Sample ID: 23K0271-07

Sample Matrix: Water

Tentatively Identified Compounds - Volatile Compounds (ESTIMATED VALUES REPORTED)

Analyte	Results	Units	Response	RT	DF	CAS #	Q#	Method	Date Prepared	Date/Time Analyzed	Analyst
No TICs Found	0.0	µg/L			1			SW-846 8260D	11/6/23	11/6/23 10:13	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MLW-2(40')

Sampled: 11/1/2023 12:00

Sample ID: 23K0271-08

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	2.0	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Benzene	ND	1.0	0.18	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Bromochloromethane	ND	1.0	0.28	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Bromodichloromethane	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Bromoform	ND	1.0	0.41	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Bromomethane	ND	2.0	1.3	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
2-Butanone (MEK)	ND	20	1.7	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Carbon Disulfide	ND	5.0	1.6	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Carbon Tetrachloride	ND	5.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Chlorobenzene	ND	1.0	0.12	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Chlorodibromomethane	ND	0.50	0.20	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Chloroethane	ND	2.0	0.34	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Chloroform	ND	2.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Chloromethane	ND	2.0	0.50	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Cyclohexane	ND	5.0	1.8	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	0.85	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
1,2-Dibromoethane (EDB)	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
1,2-Dichlorobenzene	ND	1.0	0.13	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
1,3-Dichlorobenzene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
1,4-Dichlorobenzene	ND	1.0	0.13	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Dichlorodifluoromethane (Freon 12)	ND	2.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
1,1-Dichloroethane	5.2	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
1,2-Dichloroethane	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
1,1-Dichloroethylene	0.31	1.0	0.14	µg/L	1	J	SW-846 8260D	11/6/23	11/6/23 10:39	LBD
cis-1,2-Dichloroethylene	0.37	1.0	0.14	µg/L	1	J	SW-846 8260D	11/6/23	11/6/23 10:39	LBD
trans-1,2-Dichloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
1,2-Dichloropropane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
cis-1,3-Dichloropropene	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
trans-1,3-Dichloropropene	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
1,4-Dioxane	30	50	18	µg/L	1	J	SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Ethylbenzene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
2-Hexanone (MBK)	ND	10	1.2	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Isopropylbenzene (Cumene)	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Methyl Acetate	ND	1.0	0.61	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Methyl tert-Butyl Ether (MTBE)	3.9	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Methyl Cyclohexane	ND	1.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Methylene Chloride	ND	5.0	0.18	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
4-Methyl-2-pentanone (MIBK)	ND	10	1.3	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Styrene	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
1,1,2,2-Tetrachloroethane	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Tetrachloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Toluene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
1,2,3-Trichlorobenzene	ND	5.0	0.34	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
1,2,4-Trichlorobenzene	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MLW-2(40')

Sampled: 11/1/2023 12:00

Sample ID: 23K0271-08

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1-Trichloroethane	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
1,1,2-Trichloroethane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Trichloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	0.21	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Vinyl Chloride	ND	2.0	0.24	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD
Xylenes (total)	ND	1.0	1.0	µg/L	1		SW-846 8260D	11/6/23	11/6/23 10:39	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	104	70-130	
Toluene-d8	99.5	70-130	
4-Bromofluorobenzene	97.0	70-130	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MLW-2(40')

Sampled: 11/1/2023 12:00

Sample ID: 23K0271-08

Sample Matrix: Water

Tentatively Identified Compounds - Volatile Compounds (ESTIMATED VALUES REPORTED)

Analyte	Results	Units	Response	RT	DF	CAS #	Q#	Method	Date Prepared	Date/Time Analyzed	Analyst
No TICs Found	0.0	µg/L			1			SW-846 8260D	11/6/23	11/6/23 10:39	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MLW-2(50')

Sampled: 11/1/2023 11:40

Sample ID: 23K0271-09

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	2.0	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Benzene	ND	1.0	0.18	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Bromochloromethane	ND	1.0	0.28	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Bromodichloromethane	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Bromoform	ND	1.0	0.41	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Bromomethane	ND	2.0	1.3	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
2-Butanone (MEK)	ND	20	1.7	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Carbon Disulfide	ND	5.0	1.6	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Carbon Tetrachloride	ND	5.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Chlorobenzene	ND	1.0	0.12	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Chlorodibromomethane	ND	0.50	0.20	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Chloroethane	ND	2.0	0.34	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Chloroform	ND	2.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Chloromethane	ND	2.0	0.50	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Cyclohexane	ND	5.0	1.8	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	0.85	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
1,2-Dibromoethane (EDB)	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
1,2-Dichlorobenzene	ND	1.0	0.13	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
1,3-Dichlorobenzene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
1,4-Dichlorobenzene	ND	1.0	0.13	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Dichlorodifluoromethane (Freon 12)	ND	2.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
1,1-Dichloroethane	1.0	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
1,2-Dichloroethane	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
1,1-Dichloroethylene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
cis-1,2-Dichloroethylene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
trans-1,2-Dichloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
1,2-Dichloropropane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
cis-1,3-Dichloropropene	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
trans-1,3-Dichloropropene	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
1,4-Dioxane	100	50	18	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Ethylbenzene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
2-Hexanone (MBK)	ND	10	1.2	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Isopropylbenzene (Cumene)	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Methyl Acetate	ND	1.0	0.61	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Methyl tert-Butyl Ether (MTBE)	26	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Methyl Cyclohexane	ND	1.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Methylene Chloride	ND	5.0	0.18	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
4-Methyl-2-pentanone (MIBK)	ND	10	1.3	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Styrene	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
1,1,2,2-Tetrachloroethane	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Tetrachloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Toluene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
1,2,3-Trichlorobenzene	ND	5.0	0.34	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
1,2,4-Trichlorobenzene	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MLW-2(50')

Sampled: 11/1/2023 11:40

Sample ID: 23K0271-09

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1-Trichloroethane	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
1,1,2-Trichloroethane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Trichloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	0.21	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Vinyl Chloride	ND	2.0	0.24	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD
Xylenes (total)	ND	1.0	1.0	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:06	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	106	70-130	
Toluene-d8	99.8	70-130	
4-Bromofluorobenzene	95.6	70-130	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MLW-2(50')

Sampled: 11/1/2023 11:40

Sample ID: 23K0271-09

Sample Matrix: Water

Tentatively Identified Compounds - Volatile Compounds (ESTIMATED VALUES REPORTED)

Analyte	Results	Units	Response	RT	DF	CAS #	Q#	Method	Date Prepared	Date/Time Analyzed	Analyst
No TICs Found	0.0	µg/L			1			SW-846 8260D	11/6/23	11/6/23 11:06	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MW-3

Sampled: 10/31/2023 13:02

Sample ID: 23K0271-11

Sample Matrix: Water

Sample Flags: RL-11

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	500	20	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Benzene	2.2	10	1.8	µg/L	10	J	SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Bromochloromethane	ND	10	2.8	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Bromodichloromethane	ND	5.0	1.6	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Bromoform	ND	10	4.1	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Bromomethane	ND	20	13	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
2-Butanone (MEK)	ND	200	17	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Carbon Disulfide	ND	50	16	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Carbon Tetrachloride	ND	50	1.6	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Chlorobenzene	ND	10	1.2	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Chlorodibromomethane	ND	5.0	2.0	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Chloroethane	ND	20	3.4	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Chloroform	ND	20	1.4	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Chloromethane	ND	20	5.0	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Cyclohexane	ND	50	18	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	50	8.5	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
1,2-Dibromoethane (EDB)	ND	5.0	1.6	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
1,2-Dichlorobenzene	ND	10	1.3	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
1,3-Dichlorobenzene	ND	10	1.4	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
1,4-Dichlorobenzene	ND	10	1.3	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Dichlorodifluoromethane (Freon 12)	ND	20	1.6	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
1,1-Dichloroethane	ND	10	1.4	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
1,2-Dichloroethane	ND	10	3.0	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
1,1-Dichloroethylene	2.6	10	1.4	µg/L	10	J	SW-846 8260D	11/6/23	11/6/23 14:08	LBD
cis-1,2-Dichloroethylene	950	10	1.4	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
trans-1,2-Dichloroethylene	10	10	1.7	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
1,2-Dichloropropane	ND	10	1.9	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
cis-1,3-Dichloropropene	ND	5.0	1.6	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
trans-1,3-Dichloropropene	ND	5.0	1.4	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
1,4-Dioxane	ND	500	180	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Ethylbenzene	ND	10	2.2	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
2-Hexanone (MBK)	ND	100	12	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Isopropylbenzene (Cumene)	ND	10	1.5	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Methyl Acetate	ND	10	6.1	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Methyl tert-Butyl Ether (MTBE)	ND	10	1.7	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Methyl Cyclohexane	ND	10	1.6	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Methylene Chloride	ND	50	1.8	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
4-Methyl-2-pentanone (MIBK)	ND	100	13	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Styrene	ND	10	1.5	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
1,1,2,2-Tetrachloroethane	ND	5.0	1.4	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Tetrachloroethylene	54	10	1.7	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Toluene	ND	10	2.2	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
1,2,3-Trichlorobenzene	ND	50	3.4	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
1,2,4-Trichlorobenzene	ND	10	3.0	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MW-3

Sampled: 10/31/2023 13:02

Sample ID: 23K0271-11

Sample Matrix: Water

Sample Flags: RL-11

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1-Trichloroethane	ND	10	1.5	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
1,1,2-Trichloroethane	ND	10	1.9	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Trichloroethylene	200	10	1.7	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Trichlorofluoromethane (Freon 11)	ND	20	1.5	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	10	2.1	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Vinyl Chloride	140	20	2.4	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD
Xylenes (total)	ND	10	10	µg/L	10		SW-846 8260D	11/6/23	11/6/23 14:08	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	104	70-130	
Toluene-d8	99.2	70-130	
4-Bromofluorobenzene	96.0	70-130	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MW-3

Sampled: 10/31/2023 13:02

Sample ID: 23K0271-11

Sample Matrix: Water

Tentatively Identified Compounds - Volatile Compounds (ESTIMATED VALUES REPORTED)

Analyte	Results	Units	Response	RT	DF	CAS #	Q#	Method	Date Prepared	Date/Time Analyzed	Analyst
No TICs Found	0.0	µg/L			10			SW-846 8260D	11/6/23	11/6/23 14:08	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MLW-4(30')

Sampled: 11/1/2023 09:50

Sample ID: 23K0271-12

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	2.2	50	2.0	µg/L	1	J	SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Benzene	0.20	1.0	0.18	µg/L	1	J	SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Bromochloromethane	ND	1.0	0.28	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Bromodichloromethane	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Bromoform	ND	1.0	0.41	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Bromomethane	ND	2.0	1.3	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
2-Butanone (MEK)	ND	20	1.7	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Carbon Disulfide	ND	5.0	1.6	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Carbon Tetrachloride	ND	5.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Chlorobenzene	ND	1.0	0.12	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Chlorodibromomethane	ND	0.50	0.20	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Chloroethane	ND	2.0	0.34	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Chloroform	ND	2.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Chloromethane	ND	2.0	0.50	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Cyclohexane	ND	5.0	1.8	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	0.85	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
1,2-Dibromoethane (EDB)	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
1,2-Dichlorobenzene	ND	1.0	0.13	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
1,3-Dichlorobenzene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
1,4-Dichlorobenzene	ND	1.0	0.13	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Dichlorodifluoromethane (Freon 12)	ND	2.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
1,1-Dichloroethane	5.9	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
1,2-Dichloroethane	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
1,1-Dichloroethylene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
cis-1,2-Dichloroethylene	10	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
trans-1,2-Dichloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
1,2-Dichloropropane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
cis-1,3-Dichloropropene	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
trans-1,3-Dichloropropene	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
1,4-Dioxane	19	50	18	µg/L	1	J	SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Ethylbenzene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
2-Hexanone (MBK)	ND	10	1.2	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Isopropylbenzene (Cumene)	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Methyl Acetate	ND	1.0	0.61	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Methyl tert-Butyl Ether (MTBE)	13	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Methyl Cyclohexane	ND	1.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Methylene Chloride	ND	5.0	0.18	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
4-Methyl-2-pentanone (MIBK)	ND	10	1.3	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Styrene	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
1,1,2,2-Tetrachloroethane	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Tetrachloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Toluene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
1,2,3-Trichlorobenzene	ND	5.0	0.34	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
1,2,4-Trichlorobenzene	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MLW-4(30')

Sampled: 11/1/2023 09:50

Sample ID: 23K0271-12

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1-Trichloroethane	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
1,1,2-Trichloroethane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Trichloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	0.21	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Vinyl Chloride	160	2.0	0.24	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD
Xylenes (total)	ND	1.0	1.0	µg/L	1		SW-846 8260D	11/6/23	11/6/23 11:57	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	103	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	95.8	70-130	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MLW-4(30')

Sampled: 11/1/2023 09:50

Sample ID: 23K0271-12

Sample Matrix: Water

Tentatively Identified Compounds - Volatile Compounds (ESTIMATED VALUES REPORTED)

Analyte	Results	Units	Response	RT	DF	CAS #	Q#	Method	Date Prepared	Date/Time Analyzed	Analyst
No TICs Found	0.0	µg/L			1			SW-846 8260D	11/6/23	11/6/23 11:57	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Sampled: 10/31/2023 12:09

Field Sample #: MW-6

Sample ID: 23K0271-13

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	2.1	50	2.0	µg/L	1	V-05, J	SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Benzene	ND	1.0	0.18	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Bromochloromethane	ND	1.0	0.28	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Bromodichloromethane	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Bromoform	ND	1.0	0.41	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Bromomethane	ND	2.0	1.3	µg/L	1	V-05, V-34	SW-846 8260D	11/3/23	11/4/23 17:13	EEH
2-Butanone (MEK)	ND	20	1.7	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Carbon Disulfide	ND	5.0	1.6	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Carbon Tetrachloride	ND	5.0	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Chlorobenzene	ND	1.0	0.12	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Chlorodibromomethane	ND	0.50	0.20	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Chloroethane	ND	2.0	0.34	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Chloroform	ND	2.0	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Chloromethane	ND	2.0	0.50	µg/L	1	V-05, V-34	SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Cyclohexane	ND	5.0	1.8	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	0.85	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
1,2-Dibromoethane (EDB)	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
1,2-Dichlorobenzene	ND	1.0	0.13	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
1,3-Dichlorobenzene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
1,4-Dichlorobenzene	ND	1.0	0.13	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
1,1-Dichloroethane	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
1,2-Dichloroethane	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
1,1-Dichloroethylene	3.8	1.0	0.14	µg/L	1	V-05	SW-846 8260D	11/3/23	11/4/23 17:13	EEH
cis-1,2-Dichloroethylene	1300	50	7.0	µg/L	50		SW-846 8260D	11/6/23	11/6/23 16:18	LBD
trans-1,2-Dichloroethylene	9.7	1.0	0.17	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
1,2-Dichloropropane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
cis-1,3-Dichloropropene	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
trans-1,3-Dichloropropene	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
1,4-Dioxane	ND	50	18	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Ethylbenzene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
2-Hexanone (MBK)	ND	10	1.2	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Isopropylbenzene (Cumene)	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Methyl Acetate	ND	1.0	0.61	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Methyl Cyclohexane	ND	1.0	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Methylene Chloride	ND	5.0	0.18	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	1.3	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Styrene	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Tetrachloroethylene	130	1.0	0.17	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Toluene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
1,2,3-Trichlorobenzene	ND	5.0	0.34	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
1,2,4-Trichlorobenzene	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Sampled: 10/31/2023 12:09

Field Sample #: MW-6

Sample ID: 23K0271-13

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1-Trichloroethane	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
1,1,2-Trichloroethane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Trichloroethylene	400	50	8.7	µg/L	50		SW-846 8260D	11/6/23	11/6/23 16:18	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	0.21	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Vinyl Chloride	85	2.0	0.24	µg/L	1	V-05	SW-846 8260D	11/3/23	11/4/23 17:13	EEH
Xylenes (total)	ND	1.0	1.0	µg/L	1		SW-846 8260D	11/3/23	11/4/23 17:13	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	105	70-130	11/6/23 16:18
1,2-Dichloroethane-d4	106	70-130	11/4/23 17:13
Toluene-d8	100	70-130	11/6/23 16:18
Toluene-d8	102	70-130	11/4/23 17:13
4-Bromofluorobenzene	95.6	70-130	11/6/23 16:18
4-Bromofluorobenzene	99.1	70-130	11/4/23 17:13

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MW-6

Sampled: 10/31/2023 12:09

Sample ID: 23K0271-13

Sample Matrix: Water

Tentatively Identified Compounds - Volatile Compounds (ESTIMATED VALUES REPORTED)

Analyte	Results	Units	Response	RT	DF	CAS #	Q#	Method	Date Prepared	Date/Time Analyzed	Analyst
No TICs Found	0.0	µg/L			1			SW-846 8260D	11/3/23	11/4/23 17:13	EEH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: DUP-1

Sampled: 11/1/2023 00:00

Sample ID: 23K0271-14

Sample Matrix: Water

Sample Flags: RL-11

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	100	4.0	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Benzene	ND	2.0	0.37	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Bromochloromethane	ND	2.0	0.57	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Bromodichloromethane	ND	1.0	0.32	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Bromoform	ND	2.0	0.82	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Bromomethane	ND	4.0	2.6	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
2-Butanone (MEK)	ND	40	3.4	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Carbon Disulfide	ND	10	3.1	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Carbon Tetrachloride	ND	10	0.33	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Chlorobenzene	ND	2.0	0.24	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Chlorodibromomethane	ND	1.0	0.40	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Chloroethane	ND	4.0	0.68	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Chloroform	ND	4.0	0.28	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Chloromethane	ND	4.0	1.0	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Cyclohexane	ND	10	3.5	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	10	1.7	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
1,2-Dibromoethane (EDB)	ND	1.0	0.32	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
1,2-Dichlorobenzene	ND	2.0	0.26	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
1,3-Dichlorobenzene	ND	2.0	0.27	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
1,4-Dichlorobenzene	ND	2.0	0.26	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Dichlorodifluoromethane (Freon 12)	ND	4.0	0.32	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
1,1-Dichloroethane	5.1	2.0	0.27	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
1,2-Dichloroethane	ND	2.0	0.61	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
1,1-Dichloroethylene	ND	2.0	0.28	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
cis-1,2-Dichloroethylene	7.8	2.0	0.28	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
trans-1,2-Dichloroethylene	ND	2.0	0.34	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
1,2-Dichloropropane	ND	2.0	0.39	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
cis-1,3-Dichloropropene	ND	1.0	0.33	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
trans-1,3-Dichloropropene	ND	1.0	0.28	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
1,4-Dioxane	ND	100	36	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Ethylbenzene	ND	2.0	0.44	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
2-Hexanone (MBK)	ND	20	2.4	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Isopropylbenzene (Cumene)	ND	2.0	0.30	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Methyl Acetate	ND	2.0	1.2	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Methyl tert-Butyl Ether (MTBE)	11	2.0	0.34	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Methyl Cyclohexane	ND	2.0	0.31	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Methylene Chloride	ND	10	0.35	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
4-Methyl-2-pentanone (MIBK)	ND	20	2.6	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Styrene	ND	2.0	0.30	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
1,1,2,2-Tetrachloroethane	ND	1.0	0.27	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Tetrachloroethylene	ND	2.0	0.34	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Toluene	ND	2.0	0.45	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
1,2,3-Trichlorobenzene	ND	10	0.68	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
1,2,4-Trichlorobenzene	ND	2.0	0.60	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: DUP-1

Sampled: 11/1/2023 00:00

Sample ID: 23K0271-14

Sample Matrix: Water

Sample Flags: RL-11

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1-Trichloroethane	ND	2.0	0.30	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
1,1,2-Trichloroethane	ND	2.0	0.38	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Trichloroethylene	ND	2.0	0.35	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Trichlorofluoromethane (Freon 11)	ND	4.0	0.31	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	2.0	0.42	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Vinyl Chloride	120	4.0	0.47	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD
Xylenes (total)	ND	2.0	2.0	µg/L	2		SW-846 8260D	11/6/23	11/6/23 13:42	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	106	70-130	
Toluene-d8	99.4	70-130	
4-Bromofluorobenzene	96.8	70-130	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: DUP-1

Sampled: 11/1/2023 00:00

Sample ID: 23K0271-14

Sample Matrix: Water

Tentatively Identified Compounds - Volatile Compounds (ESTIMATED VALUES REPORTED)

Analyte	Results	Units	Response	RT	DF	CAS #	Q#	Method	Date Prepared	Date/Time Analyzed	Analyst
No TICs Found	0.0	µg/L			2			SW-846 8260D	11/6/23	11/6/23 13:42	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Sampled: 11/1/2023 11:25

Field Sample #: FB

Sample ID: 23K0271-15

Sample Matrix: Field Blank

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	2.6	50	2.0	µg/L	1	V-05, J	SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Benzene	ND	1.0	0.18	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Bromochloromethane	ND	1.0	0.28	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Bromodichloromethane	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Bromoform	ND	1.0	0.41	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Bromomethane	ND	2.0	1.3	µg/L	1	V-05, V-34	SW-846 8260D	11/3/23	11/4/23 9:00	EEH
2-Butanone (MEK)	ND	20	1.7	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Carbon Disulfide	ND	5.0	1.6	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Carbon Tetrachloride	ND	5.0	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Chlorobenzene	ND	1.0	0.12	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Chlorodibromomethane	ND	0.50	0.20	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Chloroethane	ND	2.0	0.34	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Chloroform	ND	2.0	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Chloromethane	ND	2.0	0.50	µg/L	1	V-05, V-34	SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Cyclohexane	ND	5.0	1.8	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	0.85	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
1,2-Dibromoethane (EDB)	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
1,2-Dichlorobenzene	ND	1.0	0.13	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
1,3-Dichlorobenzene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
1,4-Dichlorobenzene	ND	1.0	0.13	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
1,1-Dichloroethane	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
1,2-Dichloroethane	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
1,1-Dichloroethylene	ND	1.0	0.14	µg/L	1	V-05	SW-846 8260D	11/3/23	11/4/23 9:00	EEH
cis-1,2-Dichloroethylene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
trans-1,2-Dichloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
1,2-Dichloropropane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
cis-1,3-Dichloropropene	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
trans-1,3-Dichloropropene	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
1,4-Dioxane	ND	50	18	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Ethylbenzene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
2-Hexanone (MBK)	ND	10	1.2	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Isopropylbenzene (Cumene)	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Methyl Acetate	ND	1.0	0.61	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Methyl Cyclohexane	ND	1.0	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Methylene Chloride	ND	5.0	0.18	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	1.3	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Styrene	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Tetrachloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Toluene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
1,2,3-Trichlorobenzene	ND	5.0	0.34	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
1,2,4-Trichlorobenzene	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Sampled: 11/1/2023 11:25

Field Sample #: FB

Sample ID: 23K0271-15

Sample Matrix: Field Blank

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1-Trichloroethane	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
1,1,2-Trichloroethane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Trichloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	0.21	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Vinyl Chloride	ND	2.0	0.24	µg/L	1	V-05	SW-846 8260D	11/3/23	11/4/23 9:00	EEH
Xylenes (total)	ND	1.0	1.0	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:00	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	106	70-130	
Toluene-d8	102	70-130	
4-Bromofluorobenzene	97.4	70-130	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: FB

Sampled: 11/1/2023 11:25

Sample ID: 23K0271-15

Sample Matrix: Field Blank

Tentatively Identified Compounds - Volatile Compounds (ESTIMATED VALUES REPORTED)

Analyte	Results	Units	Response	RT	DF	CAS #	Q#	Method	Date Prepared	Date/Time Analyzed	Analyst
No TICs Found	0.0	µg/L			1			SW-846 8260D	11/3/23	11/4/23 9:00	EEH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: Trip Blank

Sampled: 11/1/2023 00:00

Sample ID: 23K0271-16

Sample Matrix: Trip Blank Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	2.8	50	2.0	µg/L	1	V-05, J	SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Benzene	ND	1.0	0.18	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Bromochloromethane	ND	1.0	0.28	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Bromodichloromethane	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Bromoform	ND	1.0	0.41	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Bromomethane	ND	2.0	1.3	µg/L	1	V-05, V-34	SW-846 8260D	11/3/23	11/4/23 9:27	EEH
2-Butanone (MEK)	ND	20	1.7	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Carbon Disulfide	ND	5.0	1.6	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Carbon Tetrachloride	ND	5.0	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Chlorobenzene	ND	1.0	0.12	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Chlorodibromomethane	ND	0.50	0.20	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Chloroethane	ND	2.0	0.34	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Chloroform	ND	2.0	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Chloromethane	ND	2.0	0.50	µg/L	1	V-05, V-34	SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Cyclohexane	ND	5.0	1.8	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	0.85	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
1,2-Dibromoethane (EDB)	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
1,2-Dichlorobenzene	ND	1.0	0.13	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
1,3-Dichlorobenzene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
1,4-Dichlorobenzene	ND	1.0	0.13	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
1,1-Dichloroethane	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
1,2-Dichloroethane	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
1,1-Dichloroethylene	ND	1.0	0.14	µg/L	1	V-05	SW-846 8260D	11/3/23	11/4/23 9:27	EEH
cis-1,2-Dichloroethylene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
trans-1,2-Dichloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
1,2-Dichloropropane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
cis-1,3-Dichloropropene	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
trans-1,3-Dichloropropene	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
1,4-Dioxane	ND	50	18	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Ethylbenzene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
2-Hexanone (MBK)	ND	10	1.2	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Isopropylbenzene (Cumene)	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Methyl Acetate	ND	1.0	0.61	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Methyl Cyclohexane	ND	1.0	0.16	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Methylene Chloride	ND	5.0	0.18	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	1.3	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Styrene	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Tetrachloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Toluene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
1,2,3-Trichlorobenzene	ND	5.0	0.34	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
1,2,4-Trichlorobenzene	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: Trip Blank

Sampled: 11/1/2023 00:00

Sample ID: 23K0271-16

Sample Matrix: Trip Blank Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1-Trichloroethane	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
1,1,2-Trichloroethane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Trichloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	0.15	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	0.21	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Vinyl Chloride	ND	2.0	0.24	µg/L	1	V-05	SW-846 8260D	11/3/23	11/4/23 9:27	EEH
Xylenes (total)	ND	1.0	1.0	µg/L	1		SW-846 8260D	11/3/23	11/4/23 9:27	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	105	70-130	
Toluene-d8	102	70-130	
4-Bromofluorobenzene	96.8	70-130	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: Trip Blank

Sampled: 11/1/2023 00:00

Sample ID: 23K0271-16

Sample Matrix: Trip Blank Water

Tentatively Identified Compounds - Volatile Compounds (ESTIMATED VALUES REPORTED)

Analyte	Results	Units	Response	RT	DF	CAS #	Q#	Method	Date Prepared	Date/Time Analyzed	Analyst
No TICs Found	0.0	µg/L			1			SW-846 8260D	11/3/23	11/4/23 9:27	EEH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MLW-3(15')

Sampled: 11/1/2023 12:24

Sample ID: 23K0271-18

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	3.3	50	2.0	µg/L	1	J	SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Benzene	ND	1.0	0.18	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Bromochloromethane	ND	1.0	0.28	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Bromodichloromethane	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Bromoform	ND	1.0	0.41	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Bromomethane	ND	2.0	1.3	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
2-Butanone (MEK)	ND	20	1.7	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Carbon Disulfide	ND	5.0	1.6	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Carbon Tetrachloride	ND	5.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Chlorobenzene	ND	1.0	0.12	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Chlorodibromomethane	ND	0.50	0.20	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Chloroethane	ND	2.0	0.34	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Chloroform	ND	2.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Chloromethane	ND	2.0	0.50	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Cyclohexane	ND	5.0	1.8	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	0.85	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
1,2-Dibromoethane (EDB)	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
1,2-Dichlorobenzene	ND	1.0	0.13	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
1,3-Dichlorobenzene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
1,4-Dichlorobenzene	ND	1.0	0.13	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Dichlorodifluoromethane (Freon 12)	ND	2.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
1,1-Dichloroethane	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
1,2-Dichloroethane	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
1,1-Dichloroethylene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
cis-1,2-Dichloroethylene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
trans-1,2-Dichloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
1,2-Dichloropropane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
cis-1,3-Dichloropropene	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
trans-1,3-Dichloropropene	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
1,4-Dioxane	ND	50	18	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Ethylbenzene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
2-Hexanone (MBK)	ND	10	1.2	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Isopropylbenzene (Cumene)	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Methyl Acetate	ND	1.0	0.61	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Methyl tert-Butyl Ether (MTBE)	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Methyl Cyclohexane	ND	1.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Methylene Chloride	ND	5.0	0.18	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
4-Methyl-2-pentanone (MIBK)	ND	10	1.3	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Styrene	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
1,1,2,2-Tetrachloroethane	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Tetrachloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Toluene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
1,2,3-Trichlorobenzene	ND	5.0	0.34	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
1,2,4-Trichlorobenzene	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MLW-3(15')

Sampled: 11/1/2023 12:24

Sample ID: 23K0271-18

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1-Trichloroethane	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
1,1,2-Trichloroethane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Trichloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	0.21	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Vinyl Chloride	ND	2.0	0.24	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD
Xylenes (total)	ND	1.0	1.0	µg/L	1		SW-846 8260D	11/6/23	11/6/23 12:49	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	104	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	96.1	70-130	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MLW-3(15')

Sampled: 11/1/2023 12:24

Sample ID: 23K0271-18

Sample Matrix: Water

Tentatively Identified Compounds - Volatile Compounds (ESTIMATED VALUES REPORTED)

Analyte	Results	Units	Response	RT	DF	CAS #	Q#	Method	Date Prepared	Date/Time Analyzed	Analyst
No TICs Found	0.0	µg/L			1			SW-846 8260D	11/6/23	11/6/23 12:49	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MLW-3(30')

Sampled: 11/1/2023 09:45

Sample ID: 23K0271-19

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	2.3	50	2.0	µg/L	1	J	SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Benzene	ND	1.0	0.18	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Bromochloromethane	ND	1.0	0.28	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Bromodichloromethane	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Bromoform	ND	1.0	0.41	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Bromomethane	ND	2.0	1.3	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
2-Butanone (MEK)	ND	20	1.7	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Carbon Disulfide	ND	5.0	1.6	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Carbon Tetrachloride	ND	5.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Chlorobenzene	ND	1.0	0.12	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Chlorodibromomethane	ND	0.50	0.20	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Chloroethane	ND	2.0	0.34	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Chloroform	ND	2.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Chloromethane	ND	2.0	0.50	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Cyclohexane	ND	5.0	1.8	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	0.85	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
1,2-Dibromoethane (EDB)	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
1,2-Dichlorobenzene	ND	1.0	0.13	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
1,3-Dichlorobenzene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
1,4-Dichlorobenzene	ND	1.0	0.13	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Dichlorodifluoromethane (Freon 12)	ND	2.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
1,1-Dichloroethane	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
1,2-Dichloroethane	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
1,1-Dichloroethylene	ND	1.0	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
cis-1,2-Dichloroethylene	0.15	1.0	0.14	µg/L	1	J	SW-846 8260D	11/6/23	11/6/23 13:16	LBD
trans-1,2-Dichloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
1,2-Dichloropropane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
cis-1,3-Dichloropropene	ND	0.50	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
trans-1,3-Dichloropropene	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
1,4-Dioxane	ND	50	18	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Ethylbenzene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
2-Hexanone (MBK)	ND	10	1.2	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Isopropylbenzene (Cumene)	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Methyl Acetate	ND	1.0	0.61	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Methyl tert-Butyl Ether (MTBE)	0.23	1.0	0.17	µg/L	1	J	SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Methyl Cyclohexane	ND	1.0	0.16	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Methylene Chloride	ND	5.0	0.18	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
4-Methyl-2-pentanone (MIBK)	ND	10	1.3	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Styrene	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
1,1,2,2-Tetrachloroethane	ND	0.50	0.14	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Tetrachloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Toluene	ND	1.0	0.22	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
1,2,3-Trichlorobenzene	ND	5.0	0.34	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
1,2,4-Trichlorobenzene	ND	1.0	0.30	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MLW-3(30')

Sampled: 11/1/2023 09:45

Sample ID: 23K0271-19

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1-Trichloroethane	ND	1.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
1,1,2-Trichloroethane	ND	1.0	0.19	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Trichloroethylene	ND	1.0	0.17	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	0.15	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	0.21	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Vinyl Chloride	ND	2.0	0.24	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD
Xylenes (total)	ND	1.0	1.0	µg/L	1		SW-846 8260D	11/6/23	11/6/23 13:16	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	103	70-130	
Toluene-d8	99.0	70-130	
4-Bromofluorobenzene	96.0	70-130	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brooklyn, NY

Sample Description:

Work Order: 23K0271

Date Received: 11/2/2023

Field Sample #: MLW-3(30')

Sampled: 11/1/2023 09:45

Sample ID: 23K0271-19

Sample Matrix: Water

Tentatively Identified Compounds - Volatile Compounds (ESTIMATED VALUES REPORTED)

Analyte	Results	Units	Response	RT	DF	CAS #	Q#	Method	Date Prepared	Date/Time Analyzed	Analyst
No TICs Found	0.0	µg/L			1			SW-846 8260D	11/6/23	11/6/23 13:16	LBD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 5030B Analytical Method:SW-846 8260D

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23K0271-01 [NW-1(20'')]	B357164	5	5.00	11/03/23
23K0271-02 [NW-1(30'')]	B357164	5	5.00	11/03/23
23K0271-03 [NW-1(40'')]	B357164	5	5.00	11/03/23
23K0271-04 [NW-1(50'')]	B357164	5	5.00	11/03/23
23K0271-13 [MW-6]	B357164	5	5.00	11/03/23
23K0271-15 [FB]	B357164	5	5.00	11/03/23
23K0271-16 [Trip Blank]	B357164	5	5.00	11/03/23

Prep Method:SW-846 5030B Analytical Method:SW-846 8260D

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23K0271-01RE1 [NW-1(20'')]	B357293	0.0125	5.00	11/06/23
23K0271-02RE1 [NW-1(30'')]	B357293	0.0125	5.00	11/06/23
23K0271-03RE1 [NW-1(40'')]	B357293	0.0125	5.00	11/06/23
23K0271-04RE1 [NW-1(50'')]	B357293	0.0125	5.00	11/06/23
23K0271-05 [MW-2]	B357293	5	5.00	11/06/23
23K0271-06 [MLW-2(20'')]	B357293	5	5.00	11/06/23
23K0271-07 [MLM-2(30'')]	B357293	5	5.00	11/06/23
23K0271-08 [MLW-2(40'')]	B357293	5	5.00	11/06/23
23K0271-09 [MLW-2(50'')]	B357293	5	5.00	11/06/23
23K0271-11 [MW-3]	B357293	0.5	5.00	11/06/23
23K0271-12 [MLW-4(30'')]	B357293	5	5.00	11/06/23
23K0271-13RE1 [MW-6]	B357293	0.1	5.00	11/06/23
23K0271-14 [DUP-1]	B357293	2.5	5.00	11/06/23
23K0271-18 [MLW-3(15'')]	B357293	5	5.00	11/06/23
23K0271-19 [MLW-3(30'')]	B357293	5	5.00	11/06/23

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357164 - SW-846 5030B										
Blank (B357164-BLK1)										
Prepared: 11/03/23 Analyzed: 11/04/23										
Acetone	ND	50	µg/L							V-05
Benzene	ND	1.0	µg/L							
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	0.50	µg/L							
Bromoform	ND	1.0	µg/L							
Bromomethane	ND	2.0	µg/L							V-05, V-34
2-Butanone (MEK)	ND	20	µg/L							
Carbon Disulfide	ND	5.0	µg/L							
Carbon Tetrachloride	ND	5.0	µg/L							
Chlorobenzene	ND	1.0	µg/L							
Chlorodibromomethane	ND	0.50	µg/L							
Chloroethane	ND	2.0	µg/L							
Chloroform	ND	2.0	µg/L							
Chloromethane	ND	2.0	µg/L							V-05, V-34
Cyclohexane	ND	5.0	µg/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L							
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
1,2-Dichlorobenzene	ND	1.0	µg/L							
1,3-Dichlorobenzene	ND	1.0	µg/L							
1,4-Dichlorobenzene	ND	1.0	µg/L							
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L							
1,1-Dichloroethane	ND	1.0	µg/L							
1,2-Dichloroethane	ND	1.0	µg/L							
1,1-Dichloroethylene	ND	1.0	µg/L							V-05
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
trans-1,2-Dichloroethylene	ND	1.0	µg/L							
1,2-Dichloropropane	ND	1.0	µg/L							
cis-1,3-Dichloropropene	ND	0.50	µg/L							
trans-1,3-Dichloropropene	ND	0.50	µg/L							
1,4-Dioxane	ND	50	µg/L							
Ethylbenzene	ND	1.0	µg/L							
2-Hexanone (MBK)	ND	10	µg/L							
Isopropylbenzene (Cumene)	ND	1.0	µg/L							
Methyl Acetate	ND	1.0	µg/L							
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L							
Methyl Cyclohexane	ND	1.0	µg/L							
Methylene Chloride	ND	5.0	µg/L							
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L							
Styrene	ND	1.0	µg/L							
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L							
Tetrachloroethylene	ND	1.0	µg/L							
Toluene	ND	1.0	µg/L							
1,2,3-Trichlorobenzene	ND	5.0	µg/L							
1,2,4-Trichlorobenzene	ND	1.0	µg/L							
1,1,1-Trichloroethane	ND	1.0	µg/L							
1,1,2-Trichloroethane	ND	1.0	µg/L							
Trichloroethylene	ND	1.0	µg/L							
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L							
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L							
Vinyl Chloride	ND	2.0	µg/L							V-05
m+p Xylene	ND	2.0	µg/L							

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357164 - SW-846 5030B										
Blank (B357164-BLK1)										
Prepared: 11/03/23 Analyzed: 11/04/23										
o-Xylene	ND	1.0	µg/L							
Xylenes (total)	ND	1.0	µg/L							
Surrogate: 1,2-Dichloroethane-d4	26.0		µg/L	25.0		104	70-130			
Surrogate: Toluene-d8	26.0		µg/L	25.0		104	70-130			
Surrogate: 4-Bromofluorobenzene	24.5		µg/L	25.0		98.1	70-130			
LCS (B357164-BS1)										
Prepared: 11/03/23 Analyzed: 11/04/23										
Acetone	83.4	50	µg/L	100		83.4	70-160			V-05, V-35 †
Benzene	11.0	1.0	µg/L	10.0		110	70-130			
Bromochloromethane	12.0	1.0	µg/L	10.0		120	70-130			V-20
Bromodichloromethane	9.94	0.50	µg/L	10.0		99.4	70-130			
Bromoform	8.56	1.0	µg/L	10.0		85.6	70-130			
Bromomethane	8.88	2.0	µg/L	10.0		88.8	40-160			V-05, V-34 †
2-Butanone (MEK)	109	20	µg/L	100		109	40-160			†
Carbon Disulfide	96.0	5.0	µg/L	100		96.0	70-130			V-35
Carbon Tetrachloride	11.3	5.0	µg/L	10.0		113	70-130			
Chlorobenzene	9.69	1.0	µg/L	10.0		96.9	70-130			
Chlorodibromomethane	9.50	0.50	µg/L	10.0		95.0	70-130			
Chloroethane	10.6	2.0	µg/L	10.0		106	70-130			
Chloroform	10.1	2.0	µg/L	10.0		101	70-130			
Chloromethane	5.71	2.0	µg/L	10.0		57.1	40-160			V-05, V-34 †
Cyclohexane	11.6	5.0	µg/L	10.0		116	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	9.58	5.0	µg/L	10.0		95.8	70-130			
1,2-Dibromoethane (EDB)	10.2	0.50	µg/L	10.0		102	70-130			
1,2-Dichlorobenzene	9.66	1.0	µg/L	10.0		96.6	70-130			
1,3-Dichlorobenzene	9.85	1.0	µg/L	10.0		98.5	70-130			
1,4-Dichlorobenzene	9.57	1.0	µg/L	10.0		95.7	70-130			
Dichlorodifluoromethane (Freon 12)	8.59	2.0	µg/L	10.0		85.9	40-160			†
1,1-Dichloroethane	10.8	1.0	µg/L	10.0		108	70-130			
1,2-Dichloroethane	9.17	1.0	µg/L	10.0		91.7	70-130			
1,1-Dichloroethylene	7.97	1.0	µg/L	10.0		79.7	70-130			V-05
cis-1,2-Dichloroethylene	10.8	1.0	µg/L	10.0		108	70-130			
trans-1,2-Dichloroethylene	10.1	1.0	µg/L	10.0		101	70-130			
1,2-Dichloropropane	10.7	1.0	µg/L	10.0		107	70-130			
cis-1,3-Dichloropropene	9.93	0.50	µg/L	10.0		99.3	70-130			
trans-1,3-Dichloropropene	9.74	0.50	µg/L	10.0		97.4	70-130			
1,4-Dioxane	103	50	µg/L	100		103	40-130			†
Ethylbenzene	9.80	1.0	µg/L	10.0		98.0	70-130			
2-Hexanone (MBK)	108	10	µg/L	100		108	70-160			†
Isopropylbenzene (Cumene)	9.80	1.0	µg/L	10.0		98.0	70-130			
Methyl Acetate	10.7	1.0	µg/L	10.0		107	70-130			
Methyl tert-Butyl Ether (MTBE)	11.2	1.0	µg/L	10.0		112	70-130			
Methyl Cyclohexane	9.66	1.0	µg/L	10.0		96.6	70-130			
Methylene Chloride	9.18	5.0	µg/L	10.0		91.8	70-130			
4-Methyl-2-pentanone (MIBK)	112	10	µg/L	100		112	70-160			†
Styrene	9.80	1.0	µg/L	10.0		98.0	70-130			
1,1,2,2-Tetrachloroethane	9.73	0.50	µg/L	10.0		97.3	70-130			
Tetrachloroethylene	9.08	1.0	µg/L	10.0		90.8	70-130			
Toluene	10.0	1.0	µg/L	10.0		100	70-130			
1,2,3-Trichlorobenzene	8.93	5.0	µg/L	10.0		89.3	70-130			
1,2,4-Trichlorobenzene	8.67	1.0	µg/L	10.0		86.7	70-130			
1,1,1-Trichloroethane	9.89	1.0	µg/L	10.0		98.9	70-130			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357164 - SW-846 5030B										
LCS (B357164-BS1)										
Prepared: 11/03/23 Analyzed: 11/04/23										
1,1,2-Trichloroethane	10.0	1.0	µg/L	10.0		100	70-130			
Trichloroethylene	10.3	1.0	µg/L	10.0		103	70-130			
Trichlorofluoromethane (Freon 11)	8.74	2.0	µg/L	10.0		87.4	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	8.84	1.0	µg/L	10.0		88.4	70-130			
Vinyl Chloride	6.63	2.0	µg/L	10.0		66.3	40-160			V-05 †
m+p Xylene	19.8	2.0	µg/L	20.0		98.8	70-130			
o-Xylene	10.0	1.0	µg/L	10.0		100	70-130			
Xylenes (total)	29.8	1.0	µg/L	30.0		99.3	0-200			
Surrogate: 1,2-Dichloroethane-d4	26.3		µg/L	25.0		105	70-130			
Surrogate: Toluene-d8	25.8		µg/L	25.0		103	70-130			
Surrogate: 4-Bromofluorobenzene	25.3		µg/L	25.0		101	70-130			
LCS Dup (B357164-BSD1)										
Prepared: 11/03/23 Analyzed: 11/04/23										
Acetone	68.9	50	µg/L	100		68.9	* 70-160	19.1	25	L-07, V-05, V-35 †
Benzene	10.8	1.0	µg/L	10.0		108	70-130	1.19	25	
Bromochloromethane	12.0	1.0	µg/L	10.0		120	70-130	0.584	25	V-20
Bromodichloromethane	9.68	0.50	µg/L	10.0		96.8	70-130	2.65	25	
Bromoform	8.97	1.0	µg/L	10.0		89.7	70-130	4.68	25	
Bromomethane	9.17	2.0	µg/L	10.0		91.7	40-160	3.21	25	V-05, V-34 †
2-Butanone (MEK)	106	20	µg/L	100		106	40-160	2.39	25	†
Carbon Disulfide	80.1	5.0	µg/L	100		80.1	70-130	18.1	25	V-35
Carbon Tetrachloride	11.1	5.0	µg/L	10.0		111	70-130	1.88	25	
Chlorobenzene	9.86	1.0	µg/L	10.0		98.6	70-130	1.74	25	
Chlorodibromomethane	9.37	0.50	µg/L	10.0		93.7	70-130	1.38	25	
Chloroethane	10.8	2.0	µg/L	10.0		108	70-130	2.34	25	
Chloroform	10.0	2.0	µg/L	10.0		100	70-130	0.498	25	
Chloromethane	6.39	2.0	µg/L	10.0		63.9	40-160	11.2	25	V-05, V-34 †
Cyclohexane	11.6	5.0	µg/L	10.0		116	70-130	0.432	25	
1,2-Dibromo-3-chloropropane (DBCP)	8.63	5.0	µg/L	10.0		86.3	70-130	10.4	25	
1,2-Dibromoethane (EDB)	9.88	0.50	µg/L	10.0		98.8	70-130	3.38	25	
1,2-Dichlorobenzene	9.95	1.0	µg/L	10.0		99.5	70-130	2.96	25	
1,3-Dichlorobenzene	10.1	1.0	µg/L	10.0		101	70-130	2.41	25	
1,4-Dichlorobenzene	9.85	1.0	µg/L	10.0		98.5	70-130	2.88	25	
Dichlorodifluoromethane (Freon 12)	8.49	2.0	µg/L	10.0		84.9	40-160	1.17	25	†
1,1-Dichloroethane	10.6	1.0	µg/L	10.0		106	70-130	1.03	25	
1,2-Dichloroethane	9.07	1.0	µg/L	10.0		90.7	70-130	1.10	25	
1,1-Dichloroethylene	6.70	1.0	µg/L	10.0		67.0	* 70-130	17.3	25	L-07, V-05
cis-1,2-Dichloroethylene	10.5	1.0	µg/L	10.0		105	70-130	2.26	25	
trans-1,2-Dichloroethylene	9.99	1.0	µg/L	10.0		99.9	70-130	1.29	25	
1,2-Dichloropropane	10.4	1.0	µg/L	10.0		104	70-130	3.03	25	
cis-1,3-Dichloropropene	9.53	0.50	µg/L	10.0		95.3	70-130	4.11	25	
trans-1,3-Dichloropropene	9.47	0.50	µg/L	10.0		94.7	70-130	2.81	25	
1,4-Dioxane	101	50	µg/L	100		101	40-130	1.99	50	† ‡
Ethylbenzene	9.87	1.0	µg/L	10.0		98.7	70-130	0.712	25	
2-Hexanone (MBK)	104	10	µg/L	100		104	70-160	3.26	25	†
Isopropylbenzene (Cumene)	9.91	1.0	µg/L	10.0		99.1	70-130	1.12	25	
Methyl Acetate	8.59	1.0	µg/L	10.0		85.9	70-130	22.0	25	
Methyl tert-Butyl Ether (MTBE)	11.1	1.0	µg/L	10.0		111	70-130	0.985	25	
Methyl Cyclohexane	9.71	1.0	µg/L	10.0		97.1	70-130	0.516	25	
Methylene Chloride	7.33	5.0	µg/L	10.0		73.3	70-130	22.4	25	
4-Methyl-2-pentanone (MIBK)	107	10	µg/L	100		107	70-160	5.00	25	†
Styrene	9.79	1.0	µg/L	10.0		97.9	70-130	0.102	25	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B357164 - SW-846 5030B
LCS Dup (B357164-BSD1)

Prepared: 11/03/23 Analyzed: 11/04/23

1,1,2,2-Tetrachloroethane	9.66	0.50	µg/L	10.0		96.6	70-130	0.722	25	
Tetrachloroethylene	8.87	1.0	µg/L	10.0		88.7	70-130	2.34	25	
Toluene	9.78	1.0	µg/L	10.0		97.8	70-130	2.72	25	
1,2,3-Trichlorobenzene	8.71	5.0	µg/L	10.0		87.1	70-130	2.49	25	
1,2,4-Trichlorobenzene	8.71	1.0	µg/L	10.0		87.1	70-130	0.460	25	
1,1,1-Trichloroethane	9.91	1.0	µg/L	10.0		99.1	70-130	0.202	25	
1,1,2-Trichloroethane	9.92	1.0	µg/L	10.0		99.2	70-130	1.00	25	
Trichloroethylene	9.33	1.0	µg/L	10.0		93.3	70-130	10.2	25	
Trichlorofluoromethane (Freon 11)	8.42	2.0	µg/L	10.0		84.2	70-130	3.73	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	7.43	1.0	µg/L	10.0		74.3	70-130	17.3	25	
Vinyl Chloride	6.62	2.0	µg/L	10.0		66.2	40-160	0.151	25	V-05 †
m+p Xylene	19.9	2.0	µg/L	20.0		99.4	70-130	0.605	25	
o-Xylene	10.1	1.0	µg/L	10.0		101	70-130	0.993	25	
Xylenes (total)	30.0	1.0	µg/L	30.0		100	0-200	0.736		
Surrogate: 1,2-Dichloroethane-d4	26.9		µg/L	25.0		108	70-130			
Surrogate: Toluene-d8	25.2		µg/L	25.0		101	70-130			
Surrogate: 4-Bromofluorobenzene	25.5		µg/L	25.0		102	70-130			

Batch B357293 - SW-846 5030B
Blank (B357293-BLK1)

Prepared & Analyzed: 11/06/23

Acetone	ND	50	µg/L							
Benzene	ND	1.0	µg/L							
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	0.50	µg/L							
Bromoform	ND	1.0	µg/L							
Bromomethane	ND	2.0	µg/L							
2-Butanone (MEK)	ND	20	µg/L							
Carbon Disulfide	ND	5.0	µg/L							
Carbon Tetrachloride	ND	5.0	µg/L							
Chlorobenzene	ND	1.0	µg/L							
Chlorodibromomethane	ND	0.50	µg/L							
Chloroethane	ND	2.0	µg/L							
Chloroform	ND	2.0	µg/L							
Chloromethane	ND	2.0	µg/L							
Cyclohexane	ND	5.0	µg/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L							
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
1,2-Dichlorobenzene	ND	1.0	µg/L							
1,3-Dichlorobenzene	ND	1.0	µg/L							
1,4-Dichlorobenzene	ND	1.0	µg/L							
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L							
1,1-Dichloroethane	ND	1.0	µg/L							
1,2-Dichloroethane	ND	1.0	µg/L							
1,1-Dichloroethylene	ND	1.0	µg/L							
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
trans-1,2-Dichloroethylene	ND	1.0	µg/L							
1,2-Dichloropropane	ND	1.0	µg/L							
cis-1,3-Dichloropropene	ND	0.50	µg/L							
trans-1,3-Dichloropropene	ND	0.50	µg/L							
1,4-Dioxane	ND	50	µg/L							
Ethylbenzene	ND	1.0	µg/L							

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B357293 - SW-846 5030B
Blank (B357293-BLK1)

Prepared & Analyzed: 11/06/23

2-Hexanone (MBK)	ND	10	µg/L							
Isopropylbenzene (Cumene)	ND	1.0	µg/L							
Methyl Acetate	ND	1.0	µg/L							
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L							
Methyl Cyclohexane	ND	1.0	µg/L							
Methylene Chloride	ND	5.0	µg/L							
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L							
Styrene	ND	1.0	µg/L							
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L							
Tetrachloroethylene	ND	1.0	µg/L							
Toluene	ND	1.0	µg/L							
1,2,3-Trichlorobenzene	ND	5.0	µg/L							
1,2,4-Trichlorobenzene	ND	1.0	µg/L							
1,1,1-Trichloroethane	ND	1.0	µg/L							
1,1,2-Trichloroethane	ND	1.0	µg/L							
Trichloroethylene	ND	1.0	µg/L							
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L							
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L							
Vinyl Chloride	ND	2.0	µg/L							
m+p Xylene	ND	2.0	µg/L							
o-Xylene	ND	1.0	µg/L							
Xylenes (total)	ND	1.0	µg/L							
Surrogate: 1,2-Dichloroethane-d4	25.6		µg/L	25.0		102	70-130			
Surrogate: Toluene-d8	25.2		µg/L	25.0		101	70-130			
Surrogate: 4-Bromofluorobenzene	24.0		µg/L	25.0		95.9	70-130			

LCS (B357293-BS1)

Prepared & Analyzed: 11/06/23

Acetone	104	50	µg/L	100		104	70-160			†
Benzene	9.70	1.0	µg/L	10.0		97.0	70-130			
Bromochloromethane	9.93	1.0	µg/L	10.0		99.3	70-130			
Bromodichloromethane	10.9	0.50	µg/L	10.0		109	70-130			
Bromoform	10.7	1.0	µg/L	10.0		107	70-130			
Bromomethane	8.88	2.0	µg/L	10.0		88.8	40-160			†
2-Butanone (MEK)	97.7	20	µg/L	100		97.7	40-160			†
Carbon Disulfide	104	5.0	µg/L	100		104	70-130			
Carbon Tetrachloride	9.65	5.0	µg/L	10.0		96.5	70-130			
Chlorobenzene	10.2	1.0	µg/L	10.0		102	70-130			
Chlorodibromomethane	10.9	0.50	µg/L	10.0		109	70-130			
Chloroethane	11.2	2.0	µg/L	10.0		112	70-130			
Chloroform	10.5	2.0	µg/L	10.0		105	70-130			
Chloromethane	8.22	2.0	µg/L	10.0		82.2	40-160			†
Cyclohexane	8.82	5.0	µg/L	10.0		88.2	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	12.4	5.0	µg/L	10.0		124	70-130			
1,2-Dibromoethane (EDB)	11.2	0.50	µg/L	10.0		112	70-130			
1,2-Dichlorobenzene	10.3	1.0	µg/L	10.0		103	70-130			
1,3-Dichlorobenzene	10.0	1.0	µg/L	10.0		100	70-130			
1,4-Dichlorobenzene	9.80	1.0	µg/L	10.0		98.0	70-130			
Dichlorodifluoromethane (Freon 12)	9.76	2.0	µg/L	10.0		97.6	40-160			†
1,1-Dichloroethane	10.0	1.0	µg/L	10.0		100	70-130			
1,2-Dichloroethane	11.5	1.0	µg/L	10.0		115	70-130			
1,1-Dichloroethylene	10.6	1.0	µg/L	10.0		106	70-130			
cis-1,2-Dichloroethylene	9.91	1.0	µg/L	10.0		99.1	70-130			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B357293 - SW-846 5030B
LCS (B357293-BS1)

Prepared & Analyzed: 11/06/23

trans-1,2-Dichloroethylene	9.94	1.0	µg/L	10.0		99.4	70-130			
1,2-Dichloropropane	10.3	1.0	µg/L	10.0		103	70-130			
cis-1,3-Dichloropropene	10.5	0.50	µg/L	10.0		105	70-130			
trans-1,3-Dichloropropene	10.9	0.50	µg/L	10.0		109	70-130			
1,4-Dioxane	100	50	µg/L	100		100	40-130			†
Ethylbenzene	10.1	1.0	µg/L	10.0		101	70-130			
2-Hexanone (MBK)	102	10	µg/L	100		102	70-160			†
Isopropylbenzene (Cumene)	9.73	1.0	µg/L	10.0		97.3	70-130			
Methyl Acetate	9.56	1.0	µg/L	10.0		95.6	70-130			
Methyl tert-Butyl Ether (MTBE)	10.5	1.0	µg/L	10.0		105	70-130			
Methyl Cyclohexane	9.99	1.0	µg/L	10.0		99.9	70-130			
Methylene Chloride	8.70	5.0	µg/L	10.0		87.0	70-130			
4-Methyl-2-pentanone (MIBK)	103	10	µg/L	100		103	70-160			†
Styrene	10.2	1.0	µg/L	10.0		102	70-130			
1,1,2,2-Tetrachloroethane	11.8	0.50	µg/L	10.0		118	70-130			
Tetrachloroethylene	10.3	1.0	µg/L	10.0		103	70-130			
Toluene	9.91	1.0	µg/L	10.0		99.1	70-130			
1,2,3-Trichlorobenzene	10.5	5.0	µg/L	10.0		105	70-130			
1,2,4-Trichlorobenzene	10.4	1.0	µg/L	10.0		104	70-130			
1,1,1-Trichloroethane	10.4	1.0	µg/L	10.0		104	70-130			
1,1,2-Trichloroethane	11.1	1.0	µg/L	10.0		111	70-130			
Trichloroethylene	10.7	1.0	µg/L	10.0		107	70-130			
Trichlorofluoromethane (Freon 11)	10.4	2.0	µg/L	10.0		104	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	11.3	1.0	µg/L	10.0		113	70-130			
Vinyl Chloride	10.1	2.0	µg/L	10.0		101	40-160			†
m+p Xylene	19.6	2.0	µg/L	20.0		97.8	70-130			
o-Xylene	9.91	1.0	µg/L	10.0		99.1	70-130			
Xylenes (total)	29.5	1.0	µg/L	30.0		98.3	0-200			
Surrogate: 1,2-Dichloroethane-d4	26.0		µg/L	25.0		104	70-130			
Surrogate: Toluene-d8	25.2		µg/L	25.0		101	70-130			
Surrogate: 4-Bromofluorobenzene	24.1		µg/L	25.0		96.4	70-130			

LCS Dup (B357293-BS1)

Prepared & Analyzed: 11/06/23

Acetone	96.5	50	µg/L	100		96.5	70-160	7.48	25	†
Benzene	9.37	1.0	µg/L	10.0		93.7	70-130	3.46	25	
Bromochloromethane	9.93	1.0	µg/L	10.0		99.3	70-130	0.00	25	
Bromodichloromethane	10.6	0.50	µg/L	10.0		106	70-130	2.98	25	
Bromoform	10.9	1.0	µg/L	10.0		109	70-130	1.11	25	
Bromomethane	8.99	2.0	µg/L	10.0		89.9	40-160	1.23	25	†
2-Butanone (MEK)	94.5	20	µg/L	100		94.5	40-160	3.33	25	†
Carbon Disulfide	100	5.0	µg/L	100		100	70-130	4.08	25	
Carbon Tetrachloride	9.85	5.0	µg/L	10.0		98.5	70-130	2.05	25	
Chlorobenzene	10.1	1.0	µg/L	10.0		101	70-130	1.48	25	
Chlorodibromomethane	10.4	0.50	µg/L	10.0		104	70-130	3.94	25	
Chloroethane	10.6	2.0	µg/L	10.0		106	70-130	5.43	25	
Chloroform	10.2	2.0	µg/L	10.0		102	70-130	3.09	25	
Chloromethane	7.94	2.0	µg/L	10.0		79.4	40-160	3.47	25	†
Cyclohexane	8.30	5.0	µg/L	10.0		83.0	70-130	6.07	25	
1,2-Dibromo-3-chloropropane (DBCP)	12.4	5.0	µg/L	10.0		124	70-130	0.402	25	
1,2-Dibromoethane (EDB)	10.8	0.50	µg/L	10.0		108	70-130	3.36	25	
1,2-Dichlorobenzene	10.2	1.0	µg/L	10.0		102	70-130	1.76	25	
1,3-Dichlorobenzene	9.85	1.0	µg/L	10.0		98.5	70-130	1.81	25	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B357293 - SW-846 5030B
LCS Dup (B357293-BSD1)

Prepared & Analyzed: 11/06/23

1,4-Dichlorobenzene	9.85	1.0	µg/L	10.0		98.5	70-130	0.509	25	
Dichlorodifluoromethane (Freon 12)	9.25	2.0	µg/L	10.0		92.5	40-160	5.37	25	†
1,1-Dichloroethane	9.46	1.0	µg/L	10.0		94.6	70-130	5.95	25	
1,2-Dichloroethane	10.9	1.0	µg/L	10.0		109	70-130	5.61	25	
1,1-Dichloroethylene	10.2	1.0	µg/L	10.0		102	70-130	4.23	25	
cis-1,2-Dichloroethylene	9.64	1.0	µg/L	10.0		96.4	70-130	2.76	25	
trans-1,2-Dichloroethylene	9.52	1.0	µg/L	10.0		95.2	70-130	4.32	25	
1,2-Dichloropropane	9.99	1.0	µg/L	10.0		99.9	70-130	3.06	25	
cis-1,3-Dichloropropene	10.0	0.50	µg/L	10.0		100	70-130	4.47	25	
trans-1,3-Dichloropropene	10.0	0.50	µg/L	10.0		100	70-130	8.60	25	
1,4-Dioxane	83.2	50	µg/L	100		83.2	40-130	18.6	50	† ‡
Ethylbenzene	9.90	1.0	µg/L	10.0		99.0	70-130	1.70	25	
2-Hexanone (MBK)	99.1	10	µg/L	100		99.1	70-160	2.91	25	†
Isopropylbenzene (Cumene)	9.65	1.0	µg/L	10.0		96.5	70-130	0.826	25	
Methyl Acetate	10.1	1.0	µg/L	10.0		101	70-130	5.69	25	
Methyl tert-Butyl Ether (MTBE)	10.4	1.0	µg/L	10.0		104	70-130	1.15	25	
Methyl Cyclohexane	9.57	1.0	µg/L	10.0		95.7	70-130	4.29	25	
Methylene Chloride	8.25	5.0	µg/L	10.0		82.5	70-130	5.31	25	
4-Methyl-2-pentanone (MIBK)	100	10	µg/L	100		100	70-160	2.90	25	†
Styrene	10.0	1.0	µg/L	10.0		100	70-130	2.08	25	
1,1,2,2-Tetrachloroethane	11.9	0.50	µg/L	10.0		119	70-130	0.338	25	
Tetrachloroethylene	9.99	1.0	µg/L	10.0		99.9	70-130	2.76	25	
Toluene	9.51	1.0	µg/L	10.0		95.1	70-130	4.12	25	
1,2,3-Trichlorobenzene	10.8	5.0	µg/L	10.0		108	70-130	2.16	25	
1,2,4-Trichlorobenzene	10.3	1.0	µg/L	10.0		103	70-130	1.07	25	
1,1,1-Trichloroethane	10.4	1.0	µg/L	10.0		104	70-130	0.289	25	
1,1,2-Trichloroethane	10.8	1.0	µg/L	10.0		108	70-130	2.55	25	
Trichloroethylene	10.1	1.0	µg/L	10.0		101	70-130	5.87	25	
Trichlorofluoromethane (Freon 11)	10.5	2.0	µg/L	10.0		105	70-130	1.15	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.9	1.0	µg/L	10.0		109	70-130	3.52	25	
Vinyl Chloride	9.84	2.0	µg/L	10.0		98.4	40-160	3.00	25	†
m+p Xylene	19.3	2.0	µg/L	20.0		96.6	70-130	1.34	25	
o-Xylene	9.77	1.0	µg/L	10.0		97.7	70-130	1.42	25	
Xylenes (total)	29.1	1.0	µg/L	30.0		96.9	0-200	1.37		
Surrogate: 1,2-Dichloroethane-d4	24.2		µg/L	25.0		96.9	70-130			
Surrogate: Toluene-d8	24.7		µg/L	25.0		98.7	70-130			
Surrogate: 4-Bromofluorobenzene	24.4		µg/L	25.0		97.8	70-130			

Matrix Spike (B357293-MS1)
Source: 23K0271-12

Prepared & Analyzed: 11/06/23

Acetone	92.4	50	µg/L	100	2.21	90.1	70-130			
Benzene	10.1	1.0	µg/L	10.0	0.200	98.6	70-130			
Bromochloromethane	10.6	1.0	µg/L	10.0	ND	106	70-130			
Bromodichloromethane	10.3	0.50	µg/L	10.0	ND	103	70-130			
Bromoform	9.69	1.0	µg/L	10.0	ND	96.9	70-130			
Bromomethane	8.54	2.0	µg/L	10.0	ND	85.4	70-130			
2-Butanone (MEK)	89.8	20	µg/L	100	ND	89.8	70-130			
Carbon Disulfide	123	5.0	µg/L	100	ND	123	70-130			
Carbon Tetrachloride	10.8	5.0	µg/L	10.0	ND	108	70-130			
Chlorobenzene	9.96	1.0	µg/L	10.0	ND	99.6	70-130			
Chlorodibromomethane	10.1	0.50	µg/L	10.0	ND	101	70-130			
Chloroethane	12.0	2.0	µg/L	10.0	ND	120	70-130			
Chloroform	10.7	2.0	µg/L	10.0	ND	107	70-130			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357293 - SW-846 5030B										
Matrix Spike (B357293-MS1)	Source: 23K0271-12			Prepared & Analyzed: 11/06/23						
Chloromethane	9.09	2.0	µg/L	10.0	ND	90.9	70-130			
Cyclohexane	9.55	5.0	µg/L	10.0	ND	95.5	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	10.2	5.0	µg/L	10.0	ND	102	70-130			
1,2-Dibromoethane (EDB)	10.5	0.50	µg/L	10.0	ND	105	70-130			
1,2-Dichlorobenzene	9.85	1.0	µg/L	10.0	ND	98.5	70-130			
1,3-Dichlorobenzene	9.62	1.0	µg/L	10.0	ND	96.2	70-130			
1,4-Dichlorobenzene	9.41	1.0	µg/L	10.0	ND	94.1	70-130			
Dichlorodifluoromethane (Freon 12)	12.3	2.0	µg/L	10.0	ND	123	70-130			
1,1-Dichloroethane	16.4	1.0	µg/L	10.0	5.92	105	70-130			
1,2-Dichloroethane	11.0	1.0	µg/L	10.0	ND	110	70-130			
1,1-Dichloroethylene	11.5	1.0	µg/L	10.0	ND	115	70-130			
cis-1,2-Dichloroethylene	20.6	1.0	µg/L	10.0	10.5	102	70-130			
trans-1,2-Dichloroethylene	10.4	1.0	µg/L	10.0	ND	104	70-130			
1,2-Dichloropropane	9.78	1.0	µg/L	10.0	ND	97.8	70-130			
cis-1,3-Dichloropropene	9.33	0.50	µg/L	10.0	ND	93.3	70-130			
trans-1,3-Dichloropropene	9.39	0.50	µg/L	10.0	ND	93.9	70-130			
1,4-Dioxane	110	50	µg/L	100	18.8	91.1	70-130			
Ethylbenzene	9.95	1.0	µg/L	10.0	ND	99.5	70-130			
2-Hexanone (MBK)	93.2	10	µg/L	100	ND	93.2	70-130			
Isopropylbenzene (Cumene)	9.82	1.0	µg/L	10.0	ND	98.2	70-130			
Methyl Acetate	8.55	1.0	µg/L	10.0	ND	85.5	70-130			
Methyl tert-Butyl Ether (MTBE)	23.2	1.0	µg/L	10.0	13.2	101	70-130			
Methyl Cyclohexane	10.6	1.0	µg/L	10.0	ND	106	70-130			
Methylene Chloride	8.67	5.0	µg/L	10.0	ND	86.7	70-130			
4-Methyl-2-pentanone (MIBK)	94.6	10	µg/L	100	ND	94.6	70-130			
Styrene	9.87	1.0	µg/L	10.0	ND	98.7	70-130			
1,1,1,2-Tetrachloroethane	10.8	0.50	µg/L	10.0	ND	108	70-130			
Tetrachloroethylene	10.8	1.0	µg/L	10.0	ND	108	70-130			
Toluene	9.91	1.0	µg/L	10.0	ND	99.1	70-130			
1,2,3-Trichlorobenzene	9.70	5.0	µg/L	10.0	ND	97.0	70-130			
1,2,4-Trichlorobenzene	9.55	1.0	µg/L	10.0	ND	95.5	70-130			
1,1,1-Trichloroethane	11.1	1.0	µg/L	10.0	ND	111	70-130			
1,1,2-Trichloroethane	10.1	1.0	µg/L	10.0	ND	101	70-130			
Trichloroethylene	10.4	1.0	µg/L	10.0	ND	104	70-130			
Trichlorofluoromethane (Freon 11)	12.4	2.0	µg/L	10.0	ND	124	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	12.0	1.0	µg/L	10.0	ND	120	70-130			
Vinyl Chloride	174	2.0	µg/L	10.0	161	130	70-130			
m+p Xylene	19.8	2.0	µg/L	20.0	ND	98.8	70-130			
o-Xylene	9.75	1.0	µg/L	10.0	ND	97.5	70-130			
Xylenes (total)	29.5	1.0	µg/L	30.0	ND	98.3	0-200			
Surrogate: 1,2-Dichloroethane-d4	25.6		µg/L	25.0		102	70-130			
Surrogate: Toluene-d8	25.0		µg/L	25.0		100	70-130			
Surrogate: 4-Bromofluorobenzene	24.2		µg/L	25.0		96.8	70-130			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357293 - SW-846 5030B										
Matrix Spike Dup (B357293-MSD1)	Source: 23K0271-12			Prepared & Analyzed: 11/06/23						
Acetone	93.3	50	µg/L	100	2.21	91.1	70-130	0.991	30	
Benzene	10.2	1.0	µg/L	10.0	0.200	99.6	70-130	0.989	30	
Bromochloromethane	9.93	1.0	µg/L	10.0	ND	99.3	70-130	6.43	30	
Bromodichloromethane	10.4	0.50	µg/L	10.0	ND	104	70-130	1.74	30	
Bromoform	10.0	1.0	µg/L	10.0	ND	100	70-130	3.35	30	
Bromomethane	8.49	2.0	µg/L	10.0	ND	84.9	70-130	0.587	30	
2-Butanone (MEK)	91.1	20	µg/L	100	ND	91.1	70-130	1.44	30	
Carbon Disulfide	122	5.0	µg/L	100	ND	122	70-130	1.09	30	
Carbon Tetrachloride	10.1	5.0	µg/L	10.0	ND	101	70-130	6.53	30	
Chlorobenzene	10.2	1.0	µg/L	10.0	ND	102	70-130	1.89	30	
Chlorodibromomethane	10.0	0.50	µg/L	10.0	ND	100	70-130	0.0995	30	
Chloroethane	11.4	2.0	µg/L	10.0	ND	114	70-130	5.15	30	
Chloroform	10.4	2.0	µg/L	10.0	ND	104	70-130	2.56	30	
Chloromethane	9.19	2.0	µg/L	10.0	ND	91.9	70-130	1.09	30	
Cyclohexane	9.79	5.0	µg/L	10.0	ND	97.9	70-130	2.48	30	
1,2-Dibromo-3-chloropropane (DBCP)	10.6	5.0	µg/L	10.0	ND	106	70-130	4.71	30	
1,2-Dibromoethane (EDB)	10.6	0.50	µg/L	10.0	ND	106	70-130	1.42	30	
1,2-Dichlorobenzene	9.94	1.0	µg/L	10.0	ND	99.4	70-130	0.910	30	
1,3-Dichlorobenzene	9.78	1.0	µg/L	10.0	ND	97.8	70-130	1.65	30	
1,4-Dichlorobenzene	9.63	1.0	µg/L	10.0	ND	96.3	70-130	2.31	30	
Dichlorodifluoromethane (Freon 12)	12.1	2.0	µg/L	10.0	ND	121	70-130	1.56	30	
1,1-Dichloroethane	16.1	1.0	µg/L	10.0	5.92	102	70-130	2.09	30	
1,2-Dichloroethane	10.5	1.0	µg/L	10.0	ND	105	70-130	4.47	30	
1,1-Dichloroethylene	11.3	1.0	µg/L	10.0	ND	113	70-130	1.84	30	
cis-1,2-Dichloroethylene	19.6	1.0	µg/L	10.0	10.5	91.9	70-130	4.87	30	
trans-1,2-Dichloroethylene	10.3	1.0	µg/L	10.0	ND	103	70-130	0.0967	30	
1,2-Dichloropropane	9.83	1.0	µg/L	10.0	ND	98.3	70-130	0.510	30	
cis-1,3-Dichloropropene	9.37	0.50	µg/L	10.0	ND	93.7	70-130	0.428	30	
trans-1,3-Dichloropropene	9.47	0.50	µg/L	10.0	ND	94.7	70-130	0.848	30	
1,4-Dioxane	119	50	µg/L	100	18.8	99.8	70-130	7.63	30	
Ethylbenzene	10.1	1.0	µg/L	10.0	ND	101	70-130	1.50	30	
2-Hexanone (MBK)	95.6	10	µg/L	100	ND	95.6	70-130	2.56	30	
Isopropylbenzene (Cumene)	9.91	1.0	µg/L	10.0	ND	99.1	70-130	0.912	30	
Methyl Acetate	7.55	1.0	µg/L	10.0	ND	75.5	70-130	12.4	30	
Methyl tert-Butyl Ether (MTBE)	23.0	1.0	µg/L	10.0	13.2	98.5	70-130	0.909	30	
Methyl Cyclohexane	10.5	1.0	µg/L	10.0	ND	105	70-130	0.380	30	
Methylene Chloride	8.62	5.0	µg/L	10.0	ND	86.2	70-130	0.578	30	
4-Methyl-2-pentanone (MIBK)	96.2	10	µg/L	100	ND	96.2	70-130	1.63	30	
Styrene	9.94	1.0	µg/L	10.0	ND	99.4	70-130	0.707	30	
1,1,2,2-Tetrachloroethane	11.1	0.50	µg/L	10.0	ND	111	70-130	2.93	30	
Tetrachloroethylene	10.7	1.0	µg/L	10.0	ND	107	70-130	1.40	30	
Toluene	9.86	1.0	µg/L	10.0	ND	98.6	70-130	0.506	30	
1,2,3-Trichlorobenzene	10.2	5.0	µg/L	10.0	ND	102	70-130	5.42	30	
1,2,4-Trichlorobenzene	9.86	1.0	µg/L	10.0	ND	98.6	70-130	3.19	30	
1,1,1-Trichloroethane	11.2	1.0	µg/L	10.0	ND	112	70-130	0.990	30	
1,1,2-Trichloroethane	10.3	1.0	µg/L	10.0	ND	103	70-130	1.37	30	
Trichloroethylene	10.6	1.0	µg/L	10.0	ND	106	70-130	2.09	30	
Trichlorofluoromethane (Freon 11)	12.1	2.0	µg/L	10.0	ND	121	70-130	2.37	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	11.8	1.0	µg/L	10.0	ND	118	70-130	1.51	30	
Vinyl Chloride	166	2.0	µg/L	10.0	161	50.1 *	70-130	4.71	30	MS-24
m+p Xylene	19.9	2.0	µg/L	20.0	ND	99.6	70-130	0.907	20	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch B357293 - SW-846 5030B
Matrix Spike Dup (B357293-MSD1)
Source: 23K0271-12

Prepared & Analyzed: 11/06/23

o-Xylene	9.98	1.0	µg/L	10.0	ND	99.8	70-130	2.33	30	
Xylenes (total)	29.9	1.0	µg/L	30.0	ND	99.7	0-200	1.38		
Surrogate: 1,2-Dichloroethane-d4	26.6		µg/L	25.0		107	70-130			
Surrogate: Toluene-d8	25.0		µg/L	25.0		99.8	70-130			
Surrogate: 4-Bromofluorobenzene	24.7		µg/L	25.0		98.8	70-130			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL**Tentatively Identified Compounds - Volatile Compounds (ESTIMATED VALUES REPORTED) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch B357164 - SW-846 5030B**Blank (B357164-BLK1)**

Prepared: 11/03/23 Analyzed: 11/04/23

No TICs Found	0.0		µg/L							
---------------	-----	--	------	--	--	--	--	--	--	--

Batch B357293 - SW-846 5030B**Blank (B357293-BLK1)**

Prepared & Analyzed: 11/06/23

No TICs Found	0.0		µg/L							
---------------	-----	--	------	--	--	--	--	--	--	--

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
MS-24	Either matrix spike or matrix spike duplicate is outside of control limits, but the other is within limits. Analysis is in control based on laboratory fortified blank recovery.
RL-11	Elevated reporting limit due to high concentration of target compounds.
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.
V-34	Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.
V-35	Initial calibration verification (ICV) did not meet method specifications and was biased on the high side for this compound. Reported result is estimated.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260D in Water</i>	
Acetone	CT,ME,NH,VA,NY
Benzene	CT,ME,NH,VA,NY
Benzene	CT,NH,NY,VA
Bromochloromethane	ME,NH,VA,NY
Bromodichloromethane	CT,ME,NH,VA,NY
Bromoform	CT,ME,NH,VA,NY
Bromomethane	CT,ME,NH,VA,NY
2-Butanone (MEK)	CT,ME,NH,VA,NY
Carbon Disulfide	CT,ME,NH,VA,NY
Carbon Tetrachloride	CT,ME,NH,VA,NY
Chlorobenzene	CT,ME,NH,VA,NY
Chlorodibromomethane	CT,ME,NH,VA,NY
Chloroethane	CT,ME,NH,VA,NY
Chloroform	CT,ME,NH,VA,NY
Chloromethane	CT,ME,NH,VA,NY
Cyclohexane	ME,NY
1,2-Dibromo-3-chloropropane (DBCP)	ME,NY
1,2-Dibromoethane (EDB)	ME,NY
1,2-Dichlorobenzene	CT,ME,NH,VA,NY
1,3-Dichlorobenzene	CT,ME,NH,VA,NY
1,4-Dichlorobenzene	CT,ME,NH,VA,NY
Dichlorodifluoromethane (Freon 12)	ME,NH,VA,NY
1,1-Dichloroethane	CT,ME,NH,VA,NY
1,2-Dichloroethane	CT,ME,NH,VA,NY
1,1-Dichloroethylene	CT,ME,NH,VA,NY
cis-1,2-Dichloroethylene	ME,NY
trans-1,2-Dichloroethylene	CT,ME,NH,VA,NY
1,2-Dichloropropane	CT,ME,NH,VA,NY
cis-1,3-Dichloropropene	CT,ME,NH,VA,NY
trans-1,3-Dichloropropene	CT,ME,NH,VA,NY
1,4-Dioxane	ME,NY
Ethylbenzene	CT,NH,NY,VA
Ethylbenzene	CT,ME,NH,VA,NY
2-Hexanone (MBK)	CT,ME,NH,VA,NY
Isopropylbenzene (Cumene)	NY,VA
Isopropylbenzene (Cumene)	ME,VA,NY
Methyl Acetate	ME,NY
Methyl tert-Butyl Ether (MTBE)	CT,ME,NH,VA,NY
Methyl tert-Butyl Ether (MTBE)	CT,NH,NY,VA
Methyl Cyclohexane	NY
Methylene Chloride	CT,ME,NH,VA,NY
4-Methyl-2-pentanone (MIBK)	CT,ME,NH,VA,NY
Styrene	CT,ME,NH,VA,NY
1,1,2,2-Tetrachloroethane	CT,ME,NH,VA,NY
Tetrachloroethylene	CT,ME,NH,VA,NY
Toluene	CT,ME,NH,VA,NY
Toluene	CT,NH,NY,VA

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260D in Water	
1,2,3-Trichlorobenzene	ME,NH,VA,NY
1,2,4-Trichlorobenzene	CT,ME,NH,VA,NY
1,1,1-Trichloroethane	CT,ME,NH,VA,NY
1,1,2-Trichloroethane	CT,ME,NH,VA,NY
Trichloroethylene	CT,ME,NH,VA,NY
Trichlorofluoromethane (Freon 11)	CT,ME,NH,VA,NY
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	VA,NY
Vinyl Chloride	CT,ME,NH,VA,NY
Xylenes (total)	ME,NY

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023

Sampled By: SD/117

[illegible]

of Containers
² Preservation Code
³ Container Code
<i>Dissolved Metals Samples</i>
<input type="checkbox"/> Field Filtered
<input type="checkbox"/> Lab to Filter
<i>Orthophosphate Samples</i>
<input type="checkbox"/> Field Filtered
<input type="checkbox"/> Lab to Filter

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composite	Grab	Matrix Code	Conc Code
1	MW-1 (15')	10/31	12:40		X	GW	
2	MW-1 (30')	10/31	11:50 ^{SD}		X	GW	
3	MW-1 (40')	10/31	12:25		X	GW	
4	MW-1 (50')	10/31	13:00		X	GW	
	MW-1 (60') SD	10/31					
5	MW-2	10/31			X	GW	
6	MLW-2 (20')	11/1	11:15		X	GW	
7	MLW-2 (30')	11/1	11:35		X	GW	
8	MLW-2 (40')	11/1	12:00		X	GW	
9	MLW-2 (50')	11/1	11:40		X	GW	

1 Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please
 define)

² **Preservation Codes:**

I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium
Thiosulfate
O = Other (please
define)

³ Container Codes:

A = Amber Glass
G = Glass
P = Plastic
ST = Sterile
V = Vial
S = Summa Canister
T = Tedlar Bag
O = Other (please
define)

PCB ONLY


<input type="checkbox"/>	Soxhlet
<input type="checkbox"/>	Non Soxhlet


Comments: Send copy of data to Ted.wall@hrpassociates.com
* Include CATS report *

Sample IDs of samples -01 through -04 revised, and sample -10 canceled, per client request - RJM 11/13

Please use the following codes to indicate possible sample concentration within the Conc Code column above:

H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:	Program & Regulatory Information				Deliverables	
Received by: (signature)	Date/Time:	<input type="checkbox"/> AWQ STDs	<input type="checkbox"/> NYC Sewer Discharge	<input type="checkbox"/> NY TOGS		<input type="checkbox"/> Enhanced Data Package	<input checked="" type="checkbox"/> NYSDEC EQUIS ED
Relinquished by: (signature)	Date/Time:	<input type="checkbox"/> Part 360 GW (Landfill)	<input type="checkbox"/> NY Restricted Use	<input type="checkbox"/> NY CP-51		<input type="checkbox"/> EQUIS (Standard) ED	<input type="checkbox"/> NY Regulatory ED
Received by: (signature)	Date/Time:	<input type="checkbox"/> NY Unrestricted Use	<input type="checkbox"/> NY Part 375	Other:		<input type="checkbox"/> NY Regs Hits-Only ED	
Relinquished by: (signature)	Date/Time:	Other:				NEI, L&P and AIHA, LLC	
Received by: (signature)	Date/Time:	Project Entity			Other		
Relinquished by: (signature)	Date/Time:	<input checked="" type="checkbox"/> Government	<input type="checkbox"/> Municipality	<input type="checkbox"/> MWRA	<input type="checkbox"/> WRTA	<input type="checkbox"/> Chromatogram	
Received by: (signature)	Date/Time:	<input type="checkbox"/> Federal	<input type="checkbox"/> 21 J	<input type="checkbox"/> School		<input type="checkbox"/> AIHA-LAP, LLC	
		<input type="checkbox"/> City	<input type="checkbox"/> Brownfield	<input type="checkbox"/> MBTA			

	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client HRP Associates
 Project Inauguration St, Side Wall 11-6W
 MCP/RCP Required N/A
 Deliverable Package Requirement N/A
 Location Brooklyn, NY
 PWSID# (When Applicable) N/A
 Arrival Method:
 Courier ☒ Fed Ex ☐ Walk In ☐ Other ☐
 Received By / Date / Time AM 11/12/23 810
 Back-Sheet By / Date / Time LA 11/12/23 840
 Temperature Method Ju # 3
 Temp ☒ < 6° C Actual Temperature 1.5
 Rush Samples: Yes ☒ No ☐ Notify _____
 Short Hold: Yes ☒ No ☐ Notify _____

Login Sample Receipt Checklist – (Rejection Criteria Listing
 – Using Acceptance Policy) Any False statement will be
 brought to the attention of the Client – True or False

	True	False
Received on Ice	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Received in Cooler	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Custody Seal: DATE TIME	<input type="checkbox"/>	<input checked="" type="checkbox"/>
COC Relinquished	<input checked="" type="checkbox"/>	<input type="checkbox"/>
COC/Samples Labels Agree	<input checked="" type="checkbox"/>	<input type="checkbox"/>
All Samples in Good Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Samples Received within Holding Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is there enough Volume	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Proper Media/Container Used	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Splitting Samples Required	<input type="checkbox"/>	<input checked="" type="checkbox"/>
MS/MSD	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Trip Blanks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Lab to Filters	<input type="checkbox"/>	<input checked="" type="checkbox"/>
COC Legible	<input checked="" type="checkbox"/>	<input type="checkbox"/>
COC Included: (Check all included)		
Client <input checked="" type="checkbox"/>	Analysis <input checked="" type="checkbox"/>	Sampler Name <input checked="" type="checkbox"/>
Project <input checked="" type="checkbox"/>	IDs <input type="checkbox"/>	Collection Date/Time <input checked="" type="checkbox"/>
All Samples Proper pH: <u>N/A</u> <input type="checkbox"/> <input type="checkbox"/>		

Notes regarding Samples/COC outside of SOP:

* Sample (MW-2) Not Received
 * 3 Samples Received but not on the COC
 MW-3 taken at 10/31/23
 MLW-3(5') taken at 11/1/23
 MLW-3(30') taken at 11/1/23

Additional Container Notes

Note: West Virginia requires all samples to have their
 temperature taken. Note any outliers.

Effective Date: 07/13/2023

[illegible]

**DATA USABILITY SUMMARY REPORT
2 INGRAHAM STREET, BROOKLYN, NEW YORK**

Client: HRP Associates, In., Clifton Park, New York
SDG: 23K0271
Laboratory: Con-Test, East Longmeadow, Massachusetts
Site: 2 Ingraham Street, Brooklyn, New York
Date: December 23, 2023

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	NW-1(20')	23K0271-01	Water
2	NW-1(30')	23K0271-02	Water
3	NW-1(40')	23K0271-03	Water
4	NW-1(50')	23K0271-04	Water
5	MW-2	23K0271-05	Water
6	MLW-2(20')	23K0271-06	Water
7	MLW-2(30')	23K0271-07	Water
8	MLW-2(40')	23K0271-08	Water
9	MLW-2(50')	23K0271-09	Water
11	MW-3	23K0271-11	Water
12	MLW-4(30')	23K0271-12	Water
12MS	MLW-4(30')MS	23K0271-12MS	Water
12MSD	MLW-4(30')MSD	23K0271-12MSD	Water
13	MW-6	23K0271-13	Water
14	DUP-1	23K0271-14	Water
15	FB	23K0271-15	Water
16	Trip Blank	23K0271-16	Water
18	MLW-3(15')	23K0271-18	Water
19	MLW-3(30')	23K0271-19	Water

A Data Usability Summary Review was performed on the analytical data for fifteen water samples, one aqueous field blank sample, and one aqueous trip blank sample collected on October 31-November 1, 2023 by HRP at the 2 Ingraham Street site in Brooklyn, New York. The samples were analyzed under Environmental Protection Agency (USEPA) "Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions".

Specific method references are as follows:

Analysis
VOC

Method References
USEPA SW-846 Method 8260D

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods and the USEPA Region II Data Review Standard Operating Procedures (SOPs) as follows:

- SOP Number HW-33A, Revision 1, September 2016: Low/Medium Volatile Data Validation;
- and the reviewer's professional judgment.

The following items/criteria were reviewed for this report:

Organics

- Data Completeness
- Holding times and sample preservation
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Method blank and field blank contamination
- Gas Chromatography (GC)/Mass Spectroscopy (MS) tuning
- Initial and continuing calibration summaries
- Compound Quantitation
- Internal standard area and retention time summary forms
- Tentatively Identified Compounds (TICs)
- Field Duplicate sample precision

Data Usability Assessment

There were no rejections of data.

The data are acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedances of QC criteria.

Data Completeness

- The data is a complete Category B data package as defined under the requirements for the NYS Department of Environmental Conservation Analytical Services Protocol.

Volatile Organic Compounds (VOCs)

Holding Times

- All samples were analyzed within 14 days for preserved water samples.

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate percent recoveries (%R).

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The following table presents MS/MSD samples that exhibited percent recoveries (%R) outside the QC limits and/or relative percent differences (RPD) above QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J).

MS/MSD Sample ID	Compound	MS %R/MSD %R/ RPD	Qualifier
12	Vinyl Chloride	OK/50.1%/OK	None - 4X Rule Applies

Laboratory Control Samples/Laboratory Control Sample Duplicates (LCS/LCSD)

- The following table presents LCS/LCSD percent recoveries (%R) and RPD values outside the QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J). Results are valid and usable, however possibly biased.

LCS/LCSD ID	Compound	LCS%R/LCSD%R/ RPD	Qualifier	Affected Samples
B357164-BS1/BSD1	Acetone	OK/68.9%/OK	None	See CCAL
	1,1-Dichloroethylene	OK/67.0%/OK		

Method Blank

- The method blanks were free of contamination.

Field Blank

- Field QC samples are summarized below.

Sample ID	Compound	Conc. ug/L	Qualifier	Affected Samples
FB	Acetone	2.6	None	See TB
Trip Blank	Acetone	2.8	U	1, 2, 5, 6, 12, 13, 18, 19

GC/MS Tuning

- All criteria were met.

Initial Calibration

- The initial calibrations exhibited acceptable %RSD and/or correlation coefficients and mean RRF values.

Continuing Calibration

- The following table presents compounds that exceeded percent difference (%D) and/or RRF values <0.05 (0.01 for poor performers) in the continuing calibration (CCAL). A low RRF indicates poor instrument sensitivity for these compounds. Positive results for these compounds in the affected samples are considered estimated and qualified (J). Non-detect results for these compounds in the affected samples are rejected (R) and are unusable for project objectives. A high %D may indicate a potential high or low bias. All results for these compounds in affected samples are considered estimated and qualified (J/UJ).

CCAL Date	Compound	%D/RRF	Qualifier	Affected Samples
11/04/23 (0548)	Acetone	24.5%	J/UJ	1-4, 13, 15, 16
	Bromochloromethane	31.1%	UJ	
	Bromomethane	24.9%		
	Chloromethane	60.4%		
	1,1-Dichloroethylene	22.5%	J	13, 15, 16
	Vinyl Chloride	30.7%	J/UJ	

Compound Quantitation

- Several samples were analyzed at a dilution due to high concentrations of target compounds. The reporting limits were adjusted accordingly. No action was required.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Tentatively Identified Compounds (TICs)

- TICs were not detected.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

Compound	MLW-4(30') ug/L	DUP-1 ug/L	RPD	Qualifier
Acetone	2.2	4.0U	NC	None
Benzene	0.20	0.37U	NC	

Compound	MLW-4(30") ug/L	DUP-1 ug/L	RPD	Qualifier
1,1-Dichloroethane	5.9	5.1	15%	None
cis-1,2-Dichloroethylene	10	7.8	25%	
1,4-Dioxane	19	36U	NC	
Methyl tert-Butyl Ether	13	11	17%	
Vinyl Chloride	160	120	29%	

Please contact the undersigned at (561) 475-2000 if you have any questions or need further information.

Signed:

Nancy Weaver

Nancy Weaver
Senior Chemist

Dated: 12/23/23

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limits is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

1 - FORM I ANALYSIS DATA SHEET

81

NW-1(20ft)

Laboratory:	Pace New England	Work Order:	23K0271
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk - CO 147890
Matrix:	Water	Laboratory ID:	23K0271-01
		File ID:	E23V30764.D
Sampled:	10/31/23 12:40	Prepared:	11/03/23 12:14
		Analyzed:	11/04/23 13:33
Solids:		Preparation:	SW-846 5030B
		Dilution:	1
Initial/Final:	5 mL / 5 mL		
Batch:	B357164	Sequence:	S095886
		Calibration:	2300982
		Instrument:	GCMSVOA5

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
67-64-1	Acetone	3.0	2.0	50 <i>uJ</i>	V-05, J
71-43-2	Benzene	0.56	0.18	1.0	J
74-97-5	Bromochloromethane		0.28	1.0 <i>uJ</i>	
75-27-4	Bromodichloromethane		0.16	0.50	
75-25-2	Bromoform		0.41	1.0	
74-83-9	Bromomethane		1.3	2.0 <i>uJ</i>	V-05, V-34
78-93-3	2-Butanone (MEK)		1.7	20	
75-15-0	Carbon Disulfide		1.6	5.0	
56-23-5	Carbon Tetrachloride		0.16	5.0	
108-90-7	Chlorobenzene	0.49	0.12	1.0	J
124-48-1	Chlorodibromomethane		0.20	0.50	
75-00-3	Chloroethane		0.34	2.0	
67-66-3	Chloroform		0.14	2.0	
74-87-3	Chloromethane		0.50	2.0 <i>uJ</i>	V-05, V-34
110-82-7	Cyclohexane		1.8	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		0.85	5.0	
106-93-4	1,2-Dibromoethane (EDB)		0.16	0.50	
95-50-1	1,2-Dichlorobenzene	0.23	0.13	1.0	J
541-73-1	1,3-Dichlorobenzene		0.14	1.0	
106-46-7	1,4-Dichlorobenzene	0.17	0.13	1.0	J
75-71-8	Dichlorodifluoromethane (Freon 12)		0.16	2.0	
75-34-3	1,1-Dichloroethane		0.14	1.0	
107-06-2	1,2-Dichloroethane		0.30	1.0	
75-35-4	1,1-Dichloroethylene	14	0.14	1.0 <i>J</i>	V-05
156-60-5	trans-1,2-Dichloroethylene	22	0.17	1.0	
78-87-5	1,2-Dichloropropane		0.19	1.0	
10061-01-5	cis-1,3-Dichloropropene		0.16	0.50	
10061-02-6	trans-1,3-Dichloropropene		0.14	0.50	
123-91-1	1,4-Dioxane		18	50	
100-41-4	Ethylbenzene	0.37	0.22	1.0	J

NW12123/23

1 - FORM I ANALYSIS DATA SHEET

82

NW-1(20ft)

Laboratory:	Pace New England	Work Order:	23K0271
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk - CO 147890
Matrix:	Water	Laboratory ID:	23K0271-01
		File ID:	E23V30764.D
Sampled:	10/31/23 12:40	Prepared:	11/03/23 12:14
		Analyzed:	11/04/23 13:33
Solids:		Preparation:	SW-846 5030B
		Dilution:	1
Initial/Final:	5 mL / 5 mL		
Batch:	B357164	Sequence:	S095886
		Calibration:	2300982
		Instrument:	GCMSVOA5

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
591-78-6	2-Hexanone (MBK)		1.2	10	
98-82-8	Isopropylbenzene (Cumene)	0.22	0.15	1.0	J
79-20-9	Methyl Acetate		0.61	1.0	
1634-04-4	Methyl tert-Butyl Ether (MTBE)	0.26	0.17	1.0	J
108-87-2	Methyl Cyclohexane		0.16	1.0	
75-09-2	Methylene Chloride		0.18	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)		1.3	10	
100-42-5	Styrene		0.15	1.0	
79-34-5	1,1,2,2-Tetrachloroethane		0.14	0.50	
108-88-3	Toluene	1.4	0.22	1.0	
87-61-6	1,2,3-Trichlorobenzene		0.34	5.0	
120-82-1	1,2,4-Trichlorobenzene		0.30	1.0	
71-55-6	1,1,1-Trichloroethane		0.15	1.0	
79-00-5	1,1,2-Trichloroethane		0.19	1.0	
75-69-4	Trichlorofluoromethane (Freon 11)		0.15	2.0	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		0.21	1.0	
1330-20-7	Xylenes (total)		1.0	1.0	
	No TICs Found	0.0			

NW12/23/23

1 - FORM I
ANALYSIS DATA SHEET

108

NW-1(20ft)

Laboratory: Pace New England Work Order: 23K0271
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk - CO 147890
Matrix: Water Laboratory ID: 23K0271-01RE1 File ID: B23V31019.D
Sampled: 10/31/23 12:40 Prepared: 11/06/23 08:31 Analyzed: 11/06/23 14:34
Solids: Preparation: SW-846 5030B Dilution: 400
Initial/Final: 5 mL / 5 mL
Batch: B357293 Sequence: S095964 Calibration: 2301046 Instrument: GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
156-59-2	cis-1,2-Dichloroethylene	4400	56	400	
127-18-4	Tetrachloroethylene	16000	67	400	
79-01-6	Trichloroethylene	5600	70	400	
75-01-4	Vinyl Chloride	1400	95	800	

NW 12/23/23

1 - FORM I ANALYSIS DATA SHEET

118

2

NW-1(30ft)

Laboratory: Pace New England Work Order: 23K0271
 Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk - CO 147890
 Matrix: Water Laboratory ID: 23K0271-02 File ID: E23V30765.D
 Sampled: 10/31/23 11:50 Prepared: 11/03/23 12:14 Analyzed: 11/04/23 14:01
 Solids: Preparation: SW-846 5030B Dilution: 1
 Initial/Final: 5 mL / 5 mL
 Batch: B357164 Sequence: S095886 Calibration: 2300982 Instrument: GCMSVOA5

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
67-64-1	Acetone	2.9	2.0	50 UJ	V-05, J
71-43-2	Benzene	0.85	0.18	1.0	J
74-97-5	Bromochloromethane		0.28	1.0 UJ	
75-27-4	Bromodichloromethane		0.16	0.50	
75-25-2	Bromoform		0.41	1.0	
74-83-9	Bromomethane		1.3	2.0 UJ	V-05, V-34
78-93-3	2-Butanone (MEK)		1.7	20	
75-15-0	Carbon Disulfide		1.6	5.0	
56-23-5	Carbon Tetrachloride		0.16	5.0	
108-90-7	Chlorobenzene	0.72	0.12	1.0	J
124-48-1	Chlorodibromomethane		0.20	0.50	
75-00-3	Chloroethane		0.34	2.0	
67-66-3	Chloroform		0.14	2.0	
74-87-3	Chloromethane		0.50	2.0 UJ	V-05, V-34
110-82-7	Cyclohexane		1.8	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		0.85	5.0	
106-93-4	1,2-Dibromoethane (EDB)		0.16	0.50	
95-50-1	1,2-Dichlorobenzene	0.36	0.13	1.0	J
541-73-1	1,3-Dichlorobenzene		0.14	1.0	
106-46-7	1,4-Dichlorobenzene	0.21	0.13	1.0	J
75-71-8	Dichlorodifluoromethane (Freon 12)		0.16	2.0	
75-34-3	1,1-Dichloroethane	0.28	0.14	1.0	J
107-06-2	1,2-Dichloroethane		0.30	1.0	
75-35-4	1,1-Dichloroethylene	20	0.14	1.0 J	V-05
156-60-5	trans-1,2-Dichloroethylene	110	0.17	1.0	
78-87-5	1,2-Dichloropropane		0.19	1.0	
10061-01-5	cis-1,3-Dichloropropene		0.16	0.50	
10061-02-6	trans-1,3-Dichloropropene		0.14	0.50	
123-91-1	1,4-Dioxane		18	50	
100-41-4	Ethylbenzene	0.53	0.22	1.0	J

NW12123/23

1 - FORM I ANALYSIS DATA SHEET

119

2

NW-1(30ft)

Laboratory: Pace New England Work Order: 23K0271
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk - CO 147890
Matrix: Water Laboratory ID: 23K0271-02 File ID: E23V30765.D
Sampled: 10/31/23 11:50 Prepared: 11/03/23 12:14 Analyzed: 11/04/23 14:01
Solids: Preparation: SW-846 5030B Dilution: 1
Initial/Final: 5 mL / 5 mL
Batch: B357164 Sequence: S095886 Calibration: 2300982 Instrument: GCMSVOA5

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
591-78-6	2-Hexanone (MBK)		1.2	10	
98-82-8	Isopropylbenzene (Cumene)	0.31	0.15	1.0	J
79-20-9	Methyl Acetate		0.61	1.0	
1634-04-4	Methyl tert-Butyl Ether (MTBE)	0.20	0.17	1.0	J
108-87-2	Methyl Cyclohexane		0.16	1.0	
75-09-2	Methylene Chloride		0.18	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)		1.3	10	
100-42-5	Styrene		0.15	1.0	
79-34-5	1,1,2,2-Tetrachloroethane		0.14	0.50	
108-88-3	Toluene	2.1	0.22	1.0	
87-61-6	1,2,3-Trichlorobenzene		0.34	5.0	
120-82-1	1,2,4-Trichlorobenzene		0.30	1.0	
71-55-6	1,1,1-Trichloroethane		0.15	1.0	
79-00-5	1,1,2-Trichloroethane		0.19	1.0	
75-69-4	Trichlorofluoromethane (Freon 11)		0.15	2.0	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		0.21	1.0	
1330-20-7	Xylenes (total)	1.1	1.0	1.0	
	No TICs Found	0.0			

NW12123/23

1 - FORM I
ANALYSIS DATA SHEET

146

NW-1(30ft)

2

Laboratory: Pace New England Work Order: 23K0271
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk - CO 147890
Matrix: Water Laboratory ID: 23K0271-02RE1 File ID: B23V31020.D
Sampled: 10/31/23 11:50 Prepared: 11/06/23 08:31 Analyzed: 11/06/23 15:00
Solids: Preparation: SW-846 5030B Dilution: 400
Initial/Final: 5 mL / 5 mL
Batch: B357293 Sequence: S095964 Calibration: 2301046 Instrument: GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
156-59-2	cis-1,2-Dichloroethylene	6100	56	400	
127-18-4	Tetrachloroethylene	26000	67	400	
79-01-6	Trichloroethylene	8200	70	400	
75-01-4	Vinyl Chloride	1500	95	800	

NW 12/23/23

1 - FORM I ANALYSIS DATA SHEET

157

NW-1(40ft)

3

Laboratory: Pace New England Work Order: 23K0271
 Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk - CO 147890
 Matrix: Water Laboratory ID: 23K0271-03 File ID: E23V30766.D
 Sampled: 10/31/23 12:25 Prepared: 11/03/23 12:14 Analyzed: 11/04/23 14:29
 Solids: Preparation: SW-846 5030B Dilution: 1
 Initial/Final: 5 mL / 5 mL
 Batch: B357164 Sequence: S095886 Calibration: 2300982 Instrument: GCMSVOA5

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
67-64-1	Acetone		2.0	50	V-05
71-43-2	Benzene	1.0	0.18	1.0	
74-97-5	Bromochloromethane		0.28	1.0	
75-27-4	Bromodichloromethane		0.16	0.50	
75-25-2	Bromoform		0.41	1.0	
74-83-9	Bromomethane		1.3	2.0	V-05, V-34
78-93-3	2-Butanone (MEK)		1.7	20	
75-15-0	Carbon Disulfide		1.6	5.0	
56-23-5	Carbon Tetrachloride		0.16	5.0	
108-90-7	Chlorobenzene	0.80	0.12	1.0	J
124-48-1	Chlorodibromomethane		0.20	0.50	
75-00-3	Chloroethane		0.34	2.0	
67-66-3	Chloroform		0.14	2.0	
74-87-3	Chloromethane		0.50	2.0	V-05, V-34
110-82-7	Cyclohexane		1.8	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		0.85	5.0	
106-93-4	1,2-Dibromoethane (EDB)		0.16	0.50	
95-50-1	1,2-Dichlorobenzene	0.37	0.13	1.0	J
541-73-1	1,3-Dichlorobenzene		0.14	1.0	
106-46-7	1,4-Dichlorobenzene	0.19	0.13	1.0	J
75-71-8	Dichlorodifluoromethane (Freon 12)		0.16	2.0	
75-34-3	1,1-Dichloroethane	0.39	0.14	1.0	J
107-06-2	1,2-Dichloroethane		0.30	1.0	
75-35-4	1,1-Dichloroethylene	22	0.14	1.0	V-05
156-60-5	trans-1,2-Dichloroethylene	93	0.17	1.0	
78-87-5	1,2-Dichloropropane		0.19	1.0	
10061-01-5	cis-1,3-Dichloropropene		0.16	0.50	
10061-02-6	trans-1,3-Dichloropropene		0.14	0.50	
123-91-1	1,4-Dioxane		18	50	
100-41-4	Ethylbenzene	0.57	0.22	1.0	J

NW 12/23/23

1 - FORM I ANALYSIS DATA SHEET

158

NW-1(40ft)

3

Laboratory: Pace New England Work Order: 23K0271
 Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk - CO 147890
 Matrix: Water Laboratory ID: 23K0271-03 File ID: E23V30766.D
 Sampled: 10/31/23 12:25 Prepared: 11/03/23 12:14 Analyzed: 11/04/23 14:29
 Solids: Preparation: SW-846 5030B Dilution: 1
 Initial/Final: 5 mL / 5 mL
 Batch: B357164 Sequence: S095886 Calibration: 2300982 Instrument: GCMSVOA5

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
591-78-6	2-Hexanone (MBK)		1.2	10	
98-82-8	Isopropylbenzene (Cumene)	0.30	0.15	1.0	J
79-20-9	Methyl Acetate		0.61	1.0	
1634-04-4	Methyl tert-Butyl Ether (MTBE)	0.23	0.17	1.0	J
108-87-2	Methyl Cyclohexane		0.16	1.0	
75-09-2	Methylene Chloride		0.18	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)		1.3	10	
100-42-5	Styrene		0.15	1.0	
79-34-5	1,1,2,2-Tetrachloroethane		0.14	0.50	
108-88-3	Toluene	2.4	0.22	1.0	
87-61-6	1,2,3-Trichlorobenzene		0.34	5.0	
120-82-1	1,2,4-Trichlorobenzene		0.30	1.0	
71-55-6	1,1,1-Trichloroethane		0.15	1.0	
79-00-5	1,1,2-Trichloroethane		0.19	1.0	
75-69-4	Trichlorofluoromethane (Freon 11)		0.15	2.0	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		0.21	1.0	
1330-20-7	Xylenes (total)	1.1	1.0	1.0	
	No TICs Found	0.0			

11/12/23/23

1 - FORM I
ANALYSIS DATA SHEET

184

3

NW-1(40ft)

Laboratory: Pace New England Work Order: 23K0271
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk - CO 147890
Matrix: Water Laboratory ID: 23K0271-03RE1 File ID: B23V31021.D
Sampled: 10/31/23 12:25 Prepared: 11/06/23 08:31 Analyzed: 11/06/23 15:26
Solids: Preparation: SW-846 5030B Dilution: 400
Initial/Final: 5 mL / 5 mL
Batch: B357293 Sequence: S095964 Calibration: 2301046 Instrument: GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
156-59-2	cis-1,2-Dichloroethylene	8700	56	400	
127-18-4	Tetrachloroethylene	29000	67	400	
79-01-6	Trichloroethylene	10000	70	400	
75-01-4	Vinyl Chloride	1800	95	800	

156-59-2

1 - FORM I ANALYSIS DATA SHEET

195

4

NW-1(50ft)

Laboratory:	Pace New England	Work Order:	23K0271
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk - CO 147890
Matrix:	Water	Laboratory ID:	23K0271-04
		File ID:	E23V30767.D
Sampled:	10/31/23 13:00	Prepared:	11/03/23 12:14
		Analyzed:	11/04/23 14:56
Solids:		Preparation:	SW-846 5030B
		Dilution:	1
Initial/Final:	5 mL / 5 mL		
Batch:	B357164	Sequence:	S095886
		Calibration:	2300982
		Instrument:	GCMSVOA5

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
67-64-1	Acetone		2.0	50	V-05
71-43-2	Benzene	1.2	0.18	1.0	
74-97-5	Bromochloromethane		0.28	1.0	V-05
75-27-4	Bromodichloromethane		0.16	0.50	
75-25-2	Bromoform		0.41	1.0	
74-83-9	Bromomethane		1.3	2.0	V-05, V-34
78-93-3	2-Butanone (MEK)		1.7	20	
75-15-0	Carbon Disulfide		1.6	5.0	
56-23-5	Carbon Tetrachloride		0.16	5.0	
108-90-7	Chlorobenzene	0.80	0.12	1.0	J
124-48-1	Chlorodibromomethane		0.20	0.50	
75-00-3	Chloroethane		0.34	2.0	
67-66-3	Chloroform		0.14	2.0	
74-87-3	Chloromethane		0.50	2.0	V-05, V-34
110-82-7	Cyclohexane		1.8	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		0.85	5.0	
106-93-4	1,2-Dibromoethane (EDB)		0.16	0.50	
95-50-1	1,2-Dichlorobenzene	0.28	0.13	1.0	J
541-73-1	1,3-Dichlorobenzene		0.14	1.0	
106-46-7	1,4-Dichlorobenzene	0.14	0.13	1.0	J
75-71-8	Dichlorodifluoromethane (Freon 12)		0.16	2.0	
75-34-3	1,1-Dichloroethane	0.45	0.14	1.0	J
107-06-2	1,2-Dichloroethane		0.30	1.0	
75-35-4	1,1-Dichloroethylene	22	0.14	1.0	V-05
156-60-5	trans-1,2-Dichloroethylene	110	0.17	1.0	
78-87-5	1,2-Dichloropropane		0.19	1.0	
10061-01-5	cis-1,3-Dichloropropene		0.16	0.50	
10061-02-6	trans-1,3-Dichloropropene		0.14	0.50	
123-91-1	1,4-Dioxane		18	50	
100-41-4	Ethylbenzene	0.52	0.22	1.0	J

NW 12123123

1 - FORM I ANALYSIS DATA SHEET

196

4

NW-1(50ft)

Laboratory:	Pace New England	Work Order:	23K0271
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk - CO 147890
Matrix:	Water	Laboratory ID:	23K0271-04
		File ID:	E23V30767.D
Sampled:	10/31/23 13:00	Prepared:	11/03/23 12:14
		Analyzed:	11/04/23 14:56
Solids:		Preparation:	SW-846 5030B
		Dilution:	1
Initial/Final:	5 mL / 5 mL		
Batch:	B357164	Sequence:	S095886
		Calibration:	2300982
		Instrument:	GCMSVOA5

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
591-78-6	2-Hexanone (MBK)		1.2	10	
98-82-8	Isopropylbenzene (Cumene)	0.25	0.15	1.0	J
79-20-9	Methyl Acetate		0.61	1.0	
1634-04-4	Methyl tert-Butyl Ether (MTBE)	0.23	0.17	1.0	J
108-87-2	Methyl Cyclohexane		0.16	1.0	
75-09-2	Methylene Chloride		0.18	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)		1.3	10	
100-42-5	Styrene		0.15	1.0	
79-34-5	1,1,2,2-Tetrachloroethane		0.14	0.50	
108-88-3	Toluene	2.5	0.22	1.0	
87-61-6	1,2,3-Trichlorobenzene		0.34	5.0	
120-82-1	1,2,4-Trichlorobenzene		0.30	1.0	
71-55-6	1,1,1-Trichloroethane		0.15	1.0	
79-00-5	1,1,2-Trichloroethane		0.19	1.0	
75-69-4	Trichlorofluoromethane (Freon 11)		0.15	2.0	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		0.21	1.0	
1330-20-7	Xylenes (total)		1.0	1.0	
	No TICs Found	0.0			

NW12123123

1 - FORM I
ANALYSIS DATA SHEET

222

4

NW-1(50ft)

Laboratory: Pace New England Work Order: 23K0271
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk - CO 147890
Matrix: Water Laboratory ID: 23K0271-04RE1 File ID: B23V31022.D
Sampled: 10/31/23 13:00 Prepared: 11/06/23 08:31 Analyzed: 11/06/23 15:52
Solids: Preparation: SW-846 5030B Dilution: 400
Initial/Final: 5 mL / 5 mL
Batch: B357293 Sequence: S095964 Calibration: 2301046 Instrument: GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
156-59-2	cis-1,2-Dichloroethylene	9200	56	400	
127-18-4	Tetrachloroethylene	25000	67	400	
79-01-6	Trichloroethylene	9700	70	400	
75-01-4	Vinyl Chloride	1700	95	800	

2123123

1 - FORM I ANALYSIS DATA SHEET

232

5

MW-2

Laboratory:	Pace New England	Work Order:	23K0271
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk - CO 147890
Matrix:	Water	Laboratory ID:	23K0271-05
		File ID:	B23V31014.D
Sampled:	10/31/23 00:00	Prepared:	11/06/23 08:31
		Analyzed:	11/06/23 12:23
Solids:		Preparation:	SW-846 5030B
		Dilution:	1
Initial/Final:	5 mL / 5 mL		
Batch:	B357293	Sequence:	S095964
		Calibration:	2301046
		Instrument:	GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
67-64-1	Acetone	2.0	2.0	50	u
71-43-2	Benzene		0.18	1.0	
74-97-5	Bromochloromethane		0.28	1.0	
75-27-4	Bromodichloromethane		0.16	0.50	
75-25-2	Bromoform		0.41	1.0	
74-83-9	Bromomethane		1.3	2.0	
78-93-3	2-Butanone (MEK)		1.7	20	
75-15-0	Carbon Disulfide		1.6	5.0	
56-23-5	Carbon Tetrachloride		0.16	5.0	
108-90-7	Chlorobenzene		0.12	1.0	
124-48-1	Chlorodibromomethane		0.20	0.50	
75-00-3	Chloroethane		0.34	2.0	
67-66-3	Chloroform		0.14	2.0	
74-87-3	Chloromethane		0.50	2.0	
110-82-7	Cyclohexane		1.8	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		0.85	5.0	
106-93-4	1,2-Dibromoethane (EDB)		0.16	0.50	
95-50-1	1,2-Dichlorobenzene		0.13	1.0	
541-73-1	1,3-Dichlorobenzene		0.14	1.0	
106-46-7	1,4-Dichlorobenzene		0.13	1.0	
75-71-8	Dichlorodifluoromethane (Freon 12)		0.16	2.0	
75-34-3	1,1-Dichloroethane		0.14	1.0	
107-06-2	1,2-Dichloroethane		0.30	1.0	
75-35-4	1,1-Dichloroethylene		0.14	1.0	
156-59-2	cis-1,2-Dichloroethylene	11	0.14	1.0	
156-60-5	trans-1,2-Dichloroethylene		0.17	1.0	
78-87-5	1,2-Dichloropropane		0.19	1.0	
10061-01-5	cis-1,3-Dichloropropene		0.16	0.50	
10061-02-6	trans-1,3-Dichloropropene		0.14	0.50	
123-91-1	1,4-Dioxane		18	50	

MW 12/23/23

1 - FORM I ANALYSIS DATA SHEET

233

5

MW-2

Laboratory:	Pace New England	Work Order:	23K0271
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk - CO 147890
Matrix:	Water	Laboratory ID:	23K0271-05
		File ID:	B23V31014.D
Sampled:	10/31/23 00:00	Prepared:	11/06/23 08:31
		Analyzed:	11/06/23 12:23
Solids:		Preparation:	SW-846 5030B
		Dilution:	1
Initial/Final:	5 mL / 5 mL		
Batch:	B357293	Sequence:	S095964
		Calibration:	2301046
		Instrument:	GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
100-41-4	Ethylbenzene		0.22	1.0	
591-78-6	2-Hexanone (MBK)		1.2	10	
98-82-8	Isopropylbenzene (Cumene)		0.15	1.0	
79-20-9	Methyl Acetate		0.61	1.0	
1634-04-4	Methyl tert-Butyl Ether (MTBE)		0.17	1.0	
108-87-2	Methyl Cyclohexane		0.16	1.0	
75-09-2	Methylene Chloride		0.18	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)		1.3	10	
100-42-5	Styrene		0.15	1.0	
79-34-5	1,1,2,2-Tetrachloroethane		0.14	0.50	
127-18-4	Tetrachloroethylene	6.0	0.17	1.0	
108-88-3	Toluene		0.22	1.0	
87-61-6	1,2,3-Trichlorobenzene		0.34	5.0	
120-82-1	1,2,4-Trichlorobenzene		0.30	1.0	
71-55-6	1,1,1-Trichloroethane		0.15	1.0	
79-00-5	1,1,2-Trichloroethane		0.19	1.0	
79-01-6	Trichloroethylene	8.1	0.17	1.0	
75-69-4	Trichlorofluoromethane (Freon 11)		0.15	2.0	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		0.21	1.0	
75-01-4	Vinyl Chloride	1.4	0.24	2.0	J
1330-20-7	Xylenes (total)		1.0	1.0	
	No TICs Found	0.0			

MW 12/23/23

1 - FORM I ANALYSIS DATA SHEET

247

MLW-2(20ft)

6

Laboratory: Pace New England Work Order: 23K0271
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk - CO 147890
Matrix: Water Laboratory ID: 23K0271-06 File ID: B23V31008.D
Sampled: 11/01/23 11:15 Prepared: 11/06/23 08:31 Analyzed: 11/06/23 09:47
Solids: Preparation: SW-846 5030B Dilution: 1
Initial/Final: 5 mL / 5 mL
Batch: B357293 Sequence: S095964 Calibration: 2301046 Instrument: GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
67-64-1	Acetone	2.2	2.0	50	u J
71-43-2	Benzene		0.18	1.0	
74-97-5	Bromochloromethane		0.28	1.0	
75-27-4	Bromodichloromethane		0.16	0.50	
75-25-2	Bromoform		0.41	1.0	
74-83-9	Bromomethane		1.3	2.0	
78-93-3	2-Butanone (MEK)		1.7	20	
75-15-0	Carbon Disulfide		1.6	5.0	
56-23-5	Carbon Tetrachloride		0.16	5.0	
108-90-7	Chlorobenzene	1.6	0.12	1.0	
124-48-1	Chlorodibromomethane		0.20	0.50	
75-00-3	Chloroethane		0.34	2.0	
67-66-3	Chloroform		0.14	2.0	
74-87-3	Chloromethane		0.50	2.0	
110-82-7	Cyclohexane		1.8	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		0.85	5.0	
106-93-4	1,2-Dibromoethane (EDB)		0.16	0.50	
95-50-1	1,2-Dichlorobenzene		0.13	1.0	
541-73-1	1,3-Dichlorobenzene		0.14	1.0	
106-46-7	1,4-Dichlorobenzene	0.13	0.13	1.0	J
75-71-8	Dichlorodifluoromethane (Freon 12)		0.16	2.0	
75-34-3	1,1-Dichloroethane	2.4	0.14	1.0	
107-06-2	1,2-Dichloroethane		0.30	1.0	
75-35-4	1,1-Dichloroethylene		0.14	1.0	
156-59-2	cis-1,2-Dichloroethylene	15	0.14	1.0	
156-60-5	trans-1,2-Dichloroethylene		0.17	1.0	
78-87-5	1,2-Dichloropropane		0.19	1.0	
10061-01-5	cis-1,3-Dichloropropene		0.16	0.50	
10061-02-6	trans-1,3-Dichloropropene		0.14	0.50	
123-91-1	1,4-Dioxane		18	50	

سر 22/23/23

1 - FORM I ANALYSIS DATA SHEET

248

MLW-2(20ft)

6

Laboratory: Pace New England Work Order: 23K0271
 Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk - CO 147890
 Matrix: Water Laboratory ID: 23K0271-06 File ID: B23V31008.D
 Sampled: 11/01/23 11:15 Prepared: 11/06/23 08:31 Analyzed: 11/06/23 09:47
 Solids: Preparation: SW-846 5030B Dilution: 1
 Initial/Final: 5 mL / 5 mL
 Batch: B357293 Sequence: S095964 Calibration: 2301046 Instrument: GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
100-41-4	Ethylbenzene		0.22	1.0	
591-78-6	2-Hexanone (MBK)		1.2	10	
98-82-8	Isopropylbenzene (Cumene)		0.15	1.0	
79-20-9	Methyl Acetate		0.61	1.0	
1634-04-4	Methyl tert-Butyl Ether (MTBE)	8.8	0.17	1.0	
108-87-2	Methyl Cyclohexane		0.16	1.0	
75-09-2	Methylene Chloride		0.18	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)		1.3	10	
100-42-5	Styrene		0.15	1.0	
79-34-5	1,1,2,2-Tetrachloroethane		0.14	0.50	
127-18-4	Tetrachloroethylene		0.17	1.0	
108-88-3	Toluene		0.22	1.0	
87-61-6	1,2,3-Trichlorobenzene		0.34	5.0	
120-82-1	1,2,4-Trichlorobenzene		0.30	1.0	
71-55-6	1,1,1-Trichloroethane		0.15	1.0	
79-00-5	1,1,2-Trichloroethane		0.19	1.0	
79-01-6	Trichloroethylene	0.34	0.17	1.0	J
75-69-4	Trichlorofluoromethane (Freon 11)		0.15	2.0	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		0.21	1.0	
75-01-4	Vinyl Chloride	1.4	0.24	2.0	J
1330-20-7	Xylenes (total)		1.0	1.0	
	No TICs Found	0.0			

12/23/23

1 - FORM I ANALYSIS DATA SHEET

272

MLM-2(30ft)

Laboratory: Pace New England Work Order: 23K0271
 Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk - CO 147890
 Matrix: Water Laboratory ID: 23K0271-07 File ID: B23V31009.D
 Sampled: 11/01/23 11:35 Prepared: 11/06/23 08:31 Analyzed: 11/06/23 10:13
 Solids: Preparation: SW-846 5030B Dilution: 1
 Initial/Final: 5 mL / 5 mL
 Batch: B357293 Sequence: S095964 Calibration: 2301046 Instrument: GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
67-64-1	Acetone		2.0	50	
71-43-2	Benzene		0.18	1.0	
74-97-5	Bromochloromethane		0.28	1.0	
75-27-4	Bromodichloromethane		0.16	0.50	
75-25-2	Bromoform		0.41	1.0	
74-83-9	Bromomethane		1.3	2.0	
78-93-3	2-Butanone (MEK)		1.7	20	
75-15-0	Carbon Disulfide		1.6	5.0	
56-23-5	Carbon Tetrachloride		0.16	5.0	
108-90-7	Chlorobenzene		0.12	1.0	
124-48-1	Chlorodibromomethane		0.20	0.50	
75-00-3	Chloroethane		0.34	2.0	
67-66-3	Chloroform		0.14	2.0	
74-87-3	Chloromethane		0.50	2.0	
110-82-7	Cyclohexane		1.8	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		0.85	5.0	
106-93-4	1,2-Dibromoethane (EDB)		0.16	0.50	
95-50-1	1,2-Dichlorobenzene		0.13	1.0	
541-73-1	1,3-Dichlorobenzene		0.14	1.0	
106-46-7	1,4-Dichlorobenzene		0.13	1.0	
75-71-8	Dichlorodifluoromethane (Freon 12)		0.16	2.0	
75-34-3	1,1-Dichloroethane	4.0	0.14	1.0	
107-06-2	1,2-Dichloroethane		0.30	1.0	
75-35-4	1,1-Dichloroethylene		0.14	1.0	
156-59-2	cis-1,2-Dichloroethylene	0.32	0.14	1.0	J
156-60-5	trans-1,2-Dichloroethylene		0.17	1.0	
78-87-5	1,2-Dichloropropane		0.19	1.0	
10061-01-5	cis-1,3-Dichloropropene		0.16	0.50	
10061-02-6	trans-1,3-Dichloropropene		0.14	0.50	
123-91-1	1,4-Dioxane		18	50	

MW 12/23/23

1 - FORM I ANALYSIS DATA SHEET

273

MLM-2(30ft)

Laboratory: Pace New England Work Order: 23K0271
 Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk - CO 147890
 Matrix: Water Laboratory ID: 23K0271-07 File ID: B23V31009.D
 Sampled: 11/01/23 11:35 Prepared: 11/06/23 08:31 Analyzed: 11/06/23 10:13
 Solids: Preparation: SW-846 5030B Dilution: 1
 Initial/Final: 5 mL / 5 mL
 Batch: B357293 Sequence: S095964 Calibration: 2301046 Instrument: GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
100-41-4	Ethylbenzene		0.22	1.0	
591-78-6	2-Hexanone (MBK)		1.2	10	
98-82-8	Isopropylbenzene (Cumene)		0.15	1.0	
79-20-9	Methyl Acetate		0.61	1.0	
1634-04-4	Methyl tert-Butyl Ether (MTBE)	1.5	0.17	1.0	
108-87-2	Methyl Cyclohexane		0.16	1.0	
75-09-2	Methylene Chloride		0.18	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)		1.3	10	
100-42-5	Styrene		0.15	1.0	
79-34-5	1,1,2,2-Tetrachloroethane		0.14	0.50	
127-18-4	Tetrachloroethylene		0.17	1.0	
108-88-3	Toluene		0.22	1.0	
87-61-6	1,2,3-Trichlorobenzene		0.34	5.0	
120-82-1	1,2,4-Trichlorobenzene		0.30	1.0	
71-55-6	1,1,1-Trichloroethane		0.15	1.0	
79-00-5	1,1,2-Trichloroethane		0.19	1.0	
79-01-6	Trichloroethylene		0.17	1.0	
75-69-4	Trichlorofluoromethane (Freon 11)		0.15	2.0	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		0.21	1.0	
75-01-4	Vinyl Chloride	0.28	0.24	2.0	J
1330-20-7	Xylenes (total)		1.0	1.0	
	No TICs Found	0.0			

Nov. 21/23/23

1 - FORM I ANALYSIS DATA SHEET

292

8

MLW-2(40ft)

Laboratory: Pace New England Work Order: 23K0271
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk - CO 147890
Matrix: Water Laboratory ID: 23K0271-08 File ID: B23V31010.D
Sampled: 11/01/23 12:00 Prepared: 11/06/23 08:31 Analyzed: 11/06/23 10:39
Solids: Preparation: SW-846 5030B Dilution: 1
Initial/Final: 5 mL / 5 mL
Batch: B357293 Sequence: S095964 Calibration: 2301046 Instrument: GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
67-64-1	Acetone		2.0	50	
71-43-2	Benzene		0.18	1.0	
74-97-5	Bromochloromethane		0.28	1.0	
75-27-4	Bromodichloromethane		0.16	0.50	
75-25-2	Bromoform		0.41	1.0	
74-83-9	Bromomethane		1.3	2.0	
78-93-3	2-Butanone (MEK)		1.7	20	
75-15-0	Carbon Disulfide		1.6	5.0	
56-23-5	Carbon Tetrachloride		0.16	5.0	
108-90-7	Chlorobenzene		0.12	1.0	
124-48-1	Chlorodibromomethane		0.20	0.50	
75-00-3	Chloroethane		0.34	2.0	
67-66-3	Chloroform		0.14	2.0	
74-87-3	Chloromethane		0.50	2.0	
110-82-7	Cyclohexane		1.8	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		0.85	5.0	
106-93-4	1,2-Dibromoethane (EDB)		0.16	0.50	
95-50-1	1,2-Dichlorobenzene		0.13	1.0	
541-73-1	1,3-Dichlorobenzene		0.14	1.0	
106-46-7	1,4-Dichlorobenzene		0.13	1.0	
75-71-8	Dichlorodifluoromethane (Freon 12)		0.16	2.0	
75-34-3	1,1-Dichloroethane	5.2	0.14	1.0	
107-06-2	1,2-Dichloroethane		0.30	1.0	
75-35-4	1,1-Dichloroethylene	0.31	0.14	1.0	J
156-59-2	cis-1,2-Dichloroethylene	0.37	0.14	1.0	J
156-60-5	trans-1,2-Dichloroethylene		0.17	1.0	
78-87-5	1,2-Dichloropropane		0.19	1.0	
10061-01-5	cis-1,3-Dichloropropene		0.16	0.50	
10061-02-6	trans-1,3-Dichloropropene		0.14	0.50	
123-91-1	1,4-Dioxane	30	18	50	J

MLW12/23/23

1 - FORM I ANALYSIS DATA SHEET

293

8

MLW-2(40ft)

Laboratory:	Pace New England	Work Order:	23K0271
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk - CO 147890
Matrix:	Water	Laboratory ID:	23K0271-08
		File ID:	B23V31010.D
Sampled:	11/01/23 12:00	Prepared:	11/06/23 08:31
		Analyzed:	11/06/23 10:39
Solids:		Preparation:	SW-846 5030B
		Dilution:	1
Initial/Final:	5 mL / 5 mL		
Batch:	B357293	Sequence:	S095964
		Calibration:	2301046
		Instrument:	GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
100-41-4	Ethylbenzene		0.22	1.0	
591-78-6	2-Hexanone (MBK)		1.2	10	
98-82-8	Isopropylbenzene (Cumene)		0.15	1.0	
79-20-9	Methyl Acetate		0.61	1.0	
1634-04-4	Methyl tert-Butyl Ether (MTBE)	3.9	0.17	1.0	
108-87-2	Methyl Cyclohexane		0.16	1.0	
75-09-2	Methylene Chloride		0.18	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)		1.3	10	
100-42-5	Styrene		0.15	1.0	
79-34-5	1,1,2,2-Tetrachloroethane		0.14	0.50	
127-18-4	Tetrachloroethylene		0.17	1.0	
108-88-3	Toluene		0.22	1.0	
87-61-6	1,2,3-Trichlorobenzene		0.34	5.0	
120-82-1	1,2,4-Trichlorobenzene		0.30	1.0	
71-55-6	1,1,1-Trichloroethane		0.15	1.0	
79-00-5	1,1,2-Trichloroethane		0.19	1.0	
79-01-6	Trichloroethylene		0.17	1.0	
75-69-4	Trichlorofluoromethane (Freon 11)		0.15	2.0	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		0.21	1.0	
75-01-4	Vinyl Chloride		0.24	2.0	
1330-20-7	Xylenes (total)		1.0	1.0	
	No TICs Found	0.0			

11/21/23/23

1 - FORM I ANALYSIS DATA SHEET

313

9

MLW-2(50ft)

Laboratory:	Pace New England	Work Order:	23K0271
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk - CO 147890
Matrix:	Water	Laboratory ID:	23K0271-09
		File ID:	B23V31011.D
Sampled:	11/01/23 11:40	Prepared:	11/06/23 08:31
		Analyzed:	11/06/23 11:06
Solids:		Preparation:	SW-846 5030B
		Dilution:	1
Initial/Final:	5 mL / 5 mL		
Batch:	B357293	Sequence:	S095964
		Calibration:	2301046
		Instrument:	GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
67-64-1	Acetone		2.0	50	
71-43-2	Benzene		0.18	1.0	
74-97-5	Bromochloromethane		0.28	1.0	
75-27-4	Bromodichloromethane		0.16	0.50	
75-25-2	Bromoform		0.41	1.0	
74-83-9	Bromomethane		1.3	2.0	
78-93-3	2-Butanone (MEK)		1.7	20	
75-15-0	Carbon Disulfide		1.6	5.0	
56-23-5	Carbon Tetrachloride		0.16	5.0	
108-90-7	Chlorobenzene		0.12	1.0	
124-48-1	Chlorodibromomethane		0.20	0.50	
75-00-3	Chloroethane		0.34	2.0	
67-66-3	Chloroform		0.14	2.0	
74-87-3	Chloromethane		0.50	2.0	
110-82-7	Cyclohexane		1.8	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		0.85	5.0	
106-93-4	1,2-Dibromoethane (EDB)		0.16	0.50	
95-50-1	1,2-Dichlorobenzene		0.13	1.0	
541-73-1	1,3-Dichlorobenzene		0.14	1.0	
106-46-7	1,4-Dichlorobenzene		0.13	1.0	
75-71-8	Dichlorodifluoromethane (Freon 12)		0.16	2.0	
75-34-3	1,1-Dichloroethane	1.0	0.14	1.0	
107-06-2	1,2-Dichloroethane		0.30	1.0	
75-35-4	1,1-Dichloroethylene		0.14	1.0	
156-59-2	cis-1,2-Dichloroethylene		0.14	1.0	
156-60-5	trans-1,2-Dichloroethylene		0.17	1.0	
78-87-5	1,2-Dichloropropane		0.19	1.0	
10061-01-5	cis-1,3-Dichloropropene		0.16	0.50	
10061-02-6	trans-1,3-Dichloropropene		0.14	0.50	
123-91-1	1,4-Dioxane	100	18	50	

11/21/23

1 - FORM I ANALYSIS DATA SHEET

314

9

MLW-2(50ft)

Laboratory:	Pace New England	Work Order:	23K0271
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk - CO 147890
Matrix:	Water	Laboratory ID:	23K0271-09
		File ID:	B23V31011.D
Sampled:	11/01/23 11:40	Prepared:	11/06/23 08:31
		Analyzed:	11/06/23 11:06
Solids:		Preparation:	SW-846 5030B
		Dilution:	1
Initial/Final:	5 mL / 5 mL		
Batch:	B357293	Sequence:	S095964
		Calibration:	2301046
		Instrument:	GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
100-41-4	Ethylbenzene		0.22	1.0	
591-78-6	2-Hexanone (MBK)		1.2	10	
98-82-8	Isopropylbenzene (Cumene)		0.15	1.0	
79-20-9	Methyl Acetate		0.61	1.0	
1634-04-4	Methyl tert-Butyl Ether (MTBE)	26	0.17	1.0	
108-87-2	Methyl Cyclohexane		0.16	1.0	
75-09-2	Methylene Chloride		0.18	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)		1.3	10	
100-42-5	Styrene		0.15	1.0	
79-34-5	1,1,2,2-Tetrachloroethane		0.14	0.50	
127-18-4	Tetrachloroethylene		0.17	1.0	
108-88-3	Toluene		0.22	1.0	
87-61-6	1,2,3-Trichlorobenzene		0.34	5.0	
120-82-1	1,2,4-Trichlorobenzene		0.30	1.0	
71-55-6	1,1,1-Trichloroethane		0.15	1.0	
79-00-5	1,1,2-Trichloroethane		0.19	1.0	
79-01-6	Trichloroethylene		0.17	1.0	
75-69-4	Trichlorofluoromethane (Freon 11)		0.15	2.0	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		0.21	1.0	
75-01-4	Vinyl Chloride		0.24	2.0	
1330-20-7	Xylenes (total)		1.0	1.0	
	No TICs Found	0.0			

11/2/23

1 - FORM I ANALYSIS DATA SHEET

332

11

MW-3

Laboratory:	Pace New England	Work Order:	23K0271
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk - CO 147890
Matrix:	Water	Laboratory ID:	23K0271-11
		File ID:	B23V31018.D
Sampled:	10/31/23 13:02	Prepared:	11/06/23 08:31
		Analyzed:	11/06/23 14:08
Solids:		Preparation:	SW-846 5030B
		Dilution:	10
Initial/Final:	5 mL / 5 mL		
Batch:	B357293	Sequence:	S095964
		Calibration:	2301046
		Instrument:	GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
67-64-1	Acetone		20	500	
71-43-2	Benzene	2.2	1.8	10	J
74-97-5	Bromochloromethane		2.8	10	
75-27-4	Bromodichloromethane		1.6	5.0	
75-25-2	Bromoform		4.1	10	
74-83-9	Bromomethane		13	20	
78-93-3	2-Butanone (MEK)		17	200	
75-15-0	Carbon Disulfide		16	50	
56-23-5	Carbon Tetrachloride		1.6	50	
108-90-7	Chlorobenzene		1.2	10	
124-48-1	Chlorodibromomethane		2.0	5.0	
75-00-3	Chloroethane		3.4	20	
67-66-3	Chloroform		1.4	20	
74-87-3	Chloromethane		5.0	20	
110-82-7	Cyclohexane		18	50	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		8.5	50	
106-93-4	1,2-Dibromoethane (EDB)		1.6	5.0	
95-50-1	1,2-Dichlorobenzene		1.3	10	
541-73-1	1,3-Dichlorobenzene		1.4	10	
106-46-7	1,4-Dichlorobenzene		1.3	10	
75-71-8	Dichlorodifluoromethane (Freon 12)		1.6	20	
75-34-3	1,1-Dichloroethane		1.4	10	
107-06-2	1,2-Dichloroethane		3.0	10	
75-35-4	1,1-Dichloroethylene	2.6	1.4	10	J
156-59-2	cis-1,2-Dichloroethylene	950	1.4	10	
156-60-5	trans-1,2-Dichloroethylene	10	1.7	10	
78-87-5	1,2-Dichloropropane		1.9	10	
10061-01-5	cis-1,3-Dichloropropene		1.6	5.0	
10061-02-6	trans-1,3-Dichloropropene		1.4	5.0	
123-91-1	1,4-Dioxane		180	500	

mw. 12/23/23

1 - FORM I ANALYSIS DATA SHEET

333

11

MW-3

Laboratory:	Pace New England	Work Order:	23K0271
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk - CO 147890
Matrix:	Water	Laboratory ID:	23K0271-11
		File ID:	B23V31018.D
Sampled:	10/31/23 13:02	Prepared:	11/06/23 08:31
		Analyzed:	11/06/23 14:08
Solids:		Preparation:	SW-846 5030B
		Dilution:	10
Initial/Final:	5 mL / 5 mL		
Batch:	B357293	Sequence:	S095964
		Calibration:	2301046
		Instrument:	GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
100-41-4	Ethylbenzene		2.2	10	
591-78-6	2-Hexanone (MBK)		12	100	
98-82-8	Isopropylbenzene (Cumene)		1.5	10	
79-20-9	Methyl Acetate		6.1	10	
1634-04-4	Methyl tert-Butyl Ether (MTBE)		1.7	10	
108-87-2	Methyl Cyclohexane		1.6	10	
75-09-2	Methylene Chloride		1.8	50	
108-10-1	4-Methyl-2-pentanone (MIBK)		13	100	
100-42-5	Styrene		1.5	10	
79-34-5	1,1,2,2-Tetrachloroethane		1.4	5.0	
127-18-4	Tetrachloroethylene	54	1.7	10	
108-88-3	Toluene		2.2	10	
87-61-6	1,2,3-Trichlorobenzene		3.4	50	
120-82-1	1,2,4-Trichlorobenzene		3.0	10	
71-55-6	1,1,1-Trichloroethane		1.5	10	
79-00-5	1,1,2-Trichloroethane		1.9	10	
79-01-6	Trichloroethylene	200	1.7	10	
75-69-4	Trichlorofluoromethane (Freon 11)		1.5	20	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		2.1	10	
75-01-4	Vinyl Chloride	140	2.4	20	
1330-20-7	Xylenes (total)		10	10	
	No TICs Found	0.0			

MW, 12/23/23

1 - FORM I ANALYSIS DATA SHEET

348

12

MLW-4(30ft)

Laboratory:	Pace New England	Work Order:	23K0271
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk - CO 147890
Matrix:	Water	Laboratory ID:	23K0271-12
		File ID:	B23V31013.D
Sampled:	11/01/23 09:50	Prepared:	11/06/23 08:31
		Analyzed:	11/06/23 11:57
Solids:		Preparation:	SW-846 5030B
		Dilution:	1
Initial/Final:	5 mL / 5 mL		
Batch:	B357293	Sequence:	S095964
		Calibration:	2301046
		Instrument:	GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
67-64-1	Acetone	2.2	2.0	50	J
71-43-2	Benzene	0.20	0.18	1.0	J
74-97-5	Bromochloromethane		0.28	1.0	
75-27-4	Bromodichloromethane		0.16	0.50	
75-25-2	Bromoform		0.41	1.0	
74-83-9	Bromomethane		1.3	2.0	
78-93-3	2-Butanone (MEK)		1.7	20	
75-15-0	Carbon Disulfide		1.6	5.0	
56-23-5	Carbon Tetrachloride		0.16	5.0	
108-90-7	Chlorobenzene		0.12	1.0	
124-48-1	Chlorodibromomethane		0.20	0.50	
75-00-3	Chloroethane		0.34	2.0	
67-66-3	Chloroform		0.14	2.0	
74-87-3	Chloromethane		0.50	2.0	
110-82-7	Cyclohexane		1.8	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		0.85	5.0	
106-93-4	1,2-Dibromoethane (EDB)		0.16	0.50	
95-50-1	1,2-Dichlorobenzene		0.13	1.0	
541-73-1	1,3-Dichlorobenzene		0.14	1.0	
106-46-7	1,4-Dichlorobenzene		0.13	1.0	
75-71-8	Dichlorodifluoromethane (Freon 12)		0.16	2.0	
75-34-3	1,1-Dichloroethane	5.9	0.14	1.0	
107-06-2	1,2-Dichloroethane		0.30	1.0	
75-35-4	1,1-Dichloroethylene		0.14	1.0	
156-59-2	cis-1,2-Dichloroethylene	10	0.14	1.0	
156-60-5	trans-1,2-Dichloroethylene		0.17	1.0	
78-87-5	1,2-Dichloropropane		0.19	1.0	
10061-01-5	cis-1,3-Dichloropropene		0.16	0.50	
10061-02-6	trans-1,3-Dichloropropene		0.14	0.50	
123-91-1	1,4-Dioxane	19	18	50	J

MLW12123123

1 - FORM I ANALYSIS DATA SHEET

349

12

MLW-4(30ft)

Laboratory: Pace New England Work Order: 23K0271
 Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk - CO 147890
 Matrix: Water Laboratory ID: 23K0271-12 File ID: B23V31013.D
 Sampled: 11/01/23 09:50 Prepared: 11/06/23 08:31 Analyzed: 11/06/23 11:57
 Solids: Preparation: SW-846 5030B Dilution: 1
 Initial/Final: 5 mL / 5 mL
 Batch: B357293 Sequence: S095964 Calibration: 2301046 Instrument: GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
100-41-4	Ethylbenzene		0.22	1.0	
591-78-6	2-Hexanone (MBK)		1.2	10	
98-82-8	Isopropylbenzene (Cumene)		0.15	1.0	
79-20-9	Methyl Acetate		0.61	1.0	
1634-04-4	Methyl tert-Butyl Ether (MTBE)	13	0.17	1.0	
108-87-2	Methyl Cyclohexane		0.16	1.0	
75-09-2	Methylene Chloride		0.18	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)		1.3	10	
100-42-5	Styrene		0.15	1.0	
79-34-5	1,1,2,2-Tetrachloroethane		0.14	0.50	
127-18-4	Tetrachloroethylene		0.17	1.0	
108-88-3	Toluene		0.22	1.0	
87-61-6	1,2,3-Trichlorobenzene		0.34	5.0	
120-82-1	1,2,4-Trichlorobenzene		0.30	1.0	
71-55-6	1,1,1-Trichloroethane		0.15	1.0	
79-00-5	1,1,2-Trichloroethane		0.19	1.0	
79-01-6	Trichloroethylene		0.17	1.0	
75-69-4	Trichlorofluoromethane (Freon 11)		0.15	2.0	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		0.21	1.0	
75-01-4	Vinyl Chloride	160	0.24	2.0	
1330-20-7	Xylenes (total)		1.0	1.0	
	No TICs Found	0.0			

11/21/23

1 - FORM I ANALYSIS DATA SHEET

370

13

MW-6

Laboratory:	Pace New England	Work Order:	23K0271
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk - CO 147890
Matrix:	Water	Laboratory ID:	23K0271-13
		File ID:	E23V30772.D
Sampled:	10/31/23 12:09	Prepared:	11/03/23 12:14
		Analyzed:	11/04/23 17:13
Solids:		Preparation:	SW-846 5030B
		Dilution:	1
Initial/Final:	5 mL / 5 mL		
Batch:	B357164	Sequence:	S095886
		Calibration:	2300982
		Instrument:	GCMSVOA5

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
67-64-1	Acetone	2.1	2.0	50 <i>uJ</i>	V-05, J
71-43-2	Benzene		0.18	1.0	
74-97-5	Bromochloromethane		0.28	1.0 <i>uJ</i>	
75-27-4	Bromodichloromethane		0.16	0.50	
75-25-2	Bromoform		0.41	1.0	
74-83-9	Bromomethane		1.3	2.0 <i>uJ</i>	V-05, V-34
78-93-3	2-Butanone (MEK)		1.7	20	
75-15-0	Carbon Disulfide		1.6	5.0	
56-23-5	Carbon Tetrachloride		0.16	5.0	
108-90-7	Chlorobenzene		0.12	1.0	
124-48-1	Chlorodibromomethane		0.20	0.50	
75-00-3	Chloroethane		0.34	2.0	
67-66-3	Chloroform		0.14	2.0	
74-87-3	Chloromethane		0.50	2.0 <i>uJ</i>	V-34, V-05
110-82-7	Cyclohexane		1.8	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		0.85	5.0	
106-93-4	1,2-Dibromoethane (EDB)		0.16	0.50	
95-50-1	1,2-Dichlorobenzene		0.13	1.0	
541-73-1	1,3-Dichlorobenzene		0.14	1.0	
106-46-7	1,4-Dichlorobenzene		0.13	1.0	
75-71-8	Dichlorodifluoromethane (Freon 12)		0.16	2.0	
75-34-3	1,1-Dichloroethane		0.14	1.0	
107-06-2	1,2-Dichloroethane		0.30	1.0	
75-35-4	1,1-Dichloroethylene	3.8	0.14	1.0 <i>J</i>	V-05
156-60-5	trans-1,2-Dichloroethylene	9.7	0.17	1.0	
78-87-5	1,2-Dichloropropane		0.19	1.0	
10061-01-5	cis-1,3-Dichloropropene		0.16	0.50	
10061-02-6	trans-1,3-Dichloropropene		0.14	0.50	
123-91-1	1,4-Dioxane		18	50	
100-41-4	Ethylbenzene		0.22	1.0	

Adi 2123123

1 - FORM I ANALYSIS DATA SHEET

371

13

MW-6

Laboratory: Pace New England Work Order: 23K0271
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk - CO 147890
Matrix: Water Laboratory ID: 23K0271-13 File ID: E23V30772.D
Sampled: 10/31/23 12:09 Prepared: 11/03/23 12:14 Analyzed: 11/04/23 17:13
Solids: Preparation: SW-846 5030B Dilution: 1
Initial/Final: 5 mL / 5 mL
Batch: B357164 Sequence: S095886 Calibration: 2300982 Instrument: GCMSVOA5

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
591-78-6	2-Hexanone (MBK)		1.2	10	
98-82-8	Isopropylbenzene (Cumene)		0.15	1.0	
79-20-9	Methyl Acetate		0.61	1.0	
1634-04-4	Methyl tert-Butyl Ether (MTBE)		0.17	1.0	
108-87-2	Methyl Cyclohexane		0.16	1.0	
75-09-2	Methylene Chloride		0.18	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)		1.3	10	
100-42-5	Styrene		0.15	1.0	
79-34-5	1,1,2,2-Tetrachloroethane		0.14	0.50	
127-18-4	Tetrachloroethylene	130	0.17	1.0	
108-88-3	Toluene		0.22	1.0	
87-61-6	1,2,3-Trichlorobenzene		0.34	5.0	
120-82-1	1,2,4-Trichlorobenzene		0.30	1.0	
71-55-6	1,1,1-Trichloroethane		0.15	1.0	
79-00-5	1,1,2-Trichloroethane		0.19	1.0	
75-69-4	Trichlorofluoromethane (Freon 11)		0.15	2.0	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		0.21	1.0	
75-01-4	Vinyl Chloride	85	0.24	2.0	J V-05
1330-20-7	Xylenes (total)		1.0	1.0	
	No TICs Found	0.0			

MW 12/23/23

1 - FORM I
ANALYSIS DATA SHEET

389

13

MW-6

Laboratory: Pace New England Work Order: 23K0271
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk - CO 147890
Matrix: Water Laboratory ID: 23K0271-13RE1 File ID: B23V31023.D
Sampled: 10/31/23 12:09 Prepared: 11/06/23 08:31 Analyzed: 11/06/23 16:18
Solids: Preparation: SW-846 5030B Dilution: 50
Initial/Final: 5 mL / 5 mL
Batch: B357293 Sequence: S095964 Calibration: 2301046 Instrument: GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
156-59-2	cis-1,2-Dichloroethylene	1300	7.0	50	
79-01-6	Trichloroethylene	400	8.7	50	

MW12123123

1 - FORM I ANALYSIS DATA SHEET

400

14

DUP-1

Laboratory:	Pace New England	Work Order:	23K0271
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk - CO 147890
Matrix:	Water	Laboratory ID:	23K0271-14
		File ID:	B23V31017.D
Sampled:	11/01/23 00:00	Prepared:	11/06/23 08:31
		Analyzed:	11/06/23 13:42
Solids:		Preparation:	SW-846 5030B
		Dilution:	2
Initial/Final:	5 mL / 5 mL		
Batch:	B357293	Sequence:	S095964
		Calibration:	2301046
		Instrument:	GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
67-64-1	Acetone		4.0	100	
71-43-2	Benzene		0.37	2.0	
74-97-5	Bromochloromethane		0.57	2.0	
75-27-4	Bromodichloromethane		0.32	1.0	
75-25-2	Bromoform		0.82	2.0	
74-83-9	Bromomethane		2.6	4.0	
78-93-3	2-Butanone (MEK)		3.4	40	
75-15-0	Carbon Disulfide		3.1	10	
56-23-5	Carbon Tetrachloride		0.33	10	
108-90-7	Chlorobenzene		0.24	2.0	
124-48-1	Chlorodibromomethane		0.40	1.0	
75-00-3	Chloroethane		0.68	4.0	
67-66-3	Chloroform		0.28	4.0	
74-87-3	Chloromethane		1.0	4.0	
110-82-7	Cyclohexane		3.5	10	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		1.7	10	
106-93-4	1,2-Dibromoethane (EDB)		0.32	1.0	
95-50-1	1,2-Dichlorobenzene		0.26	2.0	
541-73-1	1,3-Dichlorobenzene		0.27	2.0	
106-46-7	1,4-Dichlorobenzene		0.26	2.0	
75-71-8	Dichlorodifluoromethane (Freon 12)		0.32	4.0	
75-34-3	1,1-Dichloroethane	5.1	0.27	2.0	
107-06-2	1,2-Dichloroethane		0.61	2.0	
75-35-4	1,1-Dichloroethylene		0.28	2.0	
156-59-2	cis-1,2-Dichloroethylene	7.8	0.28	2.0	
156-60-5	trans-1,2-Dichloroethylene		0.34	2.0	
78-87-5	1,2-Dichloropropane		0.39	2.0	
10061-01-5	cis-1,3-Dichloropropene		0.33	1.0	
10061-02-6	trans-1,3-Dichloropropene		0.28	1.0	
123-91-1	1,4-Dioxane		36	100	

NW12123123

1 - FORM I ANALYSIS DATA SHEET

401

14

DUP-1

Laboratory:	Pace New England	Work Order:	23K0271
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk - CO 147890
Matrix:	Water	Laboratory ID:	23K0271-14
		File ID:	B23V31017.D
Sampled:	11/01/23 00:00	Prepared:	11/06/23 08:31
		Analyzed:	11/06/23 13:42
Solids:		Preparation:	SW-846 5030B
		Dilution:	2
Initial/Final:	5 mL / 5 mL		
Batch:	B357293	Sequence:	S095964
		Calibration:	2301046
		Instrument:	GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
100-41-4	Ethylbenzene		0.44	2.0	
591-78-6	2-Hexanone (MBK)		2.4	20	
98-82-8	Isopropylbenzene (Cumene)		0.30	2.0	
79-20-9	Methyl Acetate		1.2	2.0	
1634-04-4	Methyl tert-Butyl Ether (MTBE)	11	0.34	2.0	
108-87-2	Methyl Cyclohexane		0.31	2.0	
75-09-2	Methylene Chloride		0.35	10	
108-10-1	4-Methyl-2-pentanone (MIBK)		2.6	20	
100-42-5	Styrene		0.30	2.0	
79-34-5	1,1,2,2-Tetrachloroethane		0.27	1.0	
127-18-4	Tetrachloroethylene		0.34	2.0	
108-88-3	Toluene		0.45	2.0	
87-61-6	1,2,3-Trichlorobenzene		0.68	10	
120-82-1	1,2,4-Trichlorobenzene		0.60	2.0	
71-55-6	1,1,1-Trichloroethane		0.30	2.0	
79-00-5	1,1,2-Trichloroethane		0.38	2.0	
79-01-6	Trichloroethylene		0.35	2.0	
75-69-4	Trichlorofluoromethane (Freon 11)		0.31	4.0	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		0.42	2.0	
75-01-4	Vinyl Chloride	120	0.47	4.0	
1330-20-7	Xylenes (total)		2.0	2.0	
	No TICs Found	0.0			

11/21/23/23

1 - FORM I ANALYSIS DATA SHEET

419

15

FB

Laboratory: Pace New England Work Order: 23K0271
 Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk - CO 147890
 Matrix: Field Blank Laboratory ID: 23K0271-15 File ID: E23V30754.D
 Sampled: 11/01/23 11:25 Prepared: 11/03/23 12:14 Analyzed: 11/04/23 09:00
 Solids: Preparation: SW-846 5030B Dilution: 1
 Initial/Final: 5 mL / 5 mL
 Batch: B357164 Sequence: S095886 Calibration: 2300982 Instrument: GCMSVOA5

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
67-64-1	Acetone	2.6	2.0	50	J V-05, J
71-43-2	Benzene		0.18	1.0	
74-97-5	Bromochloromethane		0.28	1.0	uJ
75-27-4	Bromodichloromethane		0.16	0.50	
75-25-2	Bromoform		0.41	1.0	
74-83-9	Bromomethane		1.3	2.0	uJ V-05, V-34
78-93-3	2-Butanone (MEK)		1.7	20	
75-15-0	Carbon Disulfide		1.6	5.0	
56-23-5	Carbon Tetrachloride		0.16	5.0	
108-90-7	Chlorobenzene		0.12	1.0	
124-48-1	Chlorodibromomethane		0.20	0.50	
75-00-3	Chloroethane		0.34	2.0	
67-66-3	Chloroform		0.14	2.0	
74-87-3	Chloromethane		0.50	2.0	uJ V-05, V-34
110-82-7	Cyclohexane		1.8	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		0.85	5.0	
106-93-4	1,2-Dibromoethane (EDB)		0.16	0.50	
95-50-1	1,2-Dichlorobenzene		0.13	1.0	
541-73-1	1,3-Dichlorobenzene		0.14	1.0	
106-46-7	1,4-Dichlorobenzene		0.13	1.0	
75-71-8	Dichlorodifluoromethane (Freon 12)		0.16	2.0	
75-34-3	1,1-Dichloroethane		0.14	1.0	
107-06-2	1,2-Dichloroethane		0.30	1.0	
75-35-4	1,1-Dichloroethylene		0.14	1.0	uJ V-05
156-59-2	cis-1,2-Dichloroethylene		0.14	1.0	
156-60-5	trans-1,2-Dichloroethylene		0.17	1.0	
78-87-5	1,2-Dichloropropane		0.19	1.0	
10061-01-5	cis-1,3-Dichloropropene		0.16	0.50	
10061-02-6	trans-1,3-Dichloropropene		0.14	0.50	
123-91-1	1,4-Dioxane		18	50	

mu 12/23/23

1 - FORM I ANALYSIS DATA SHEET

420

15

FB

Laboratory:	Pace New England	Work Order:	23K0271
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk - CO 147890
Matrix:	Field Blank	Laboratory ID:	23K0271-15
		File ID:	E23V30754.D
Sampled:	11/01/23 11:25	Prepared:	11/03/23 12:14
		Analyzed:	11/04/23 09:00
Solids:		Preparation:	SW-846 5030B
		Dilution:	1
Initial/Final:	5 mL / 5 mL		
Batch:	B357164	Sequence:	S095886
		Calibration:	2300982
		Instrument:	GCMSVOA5

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
100-41-4	Ethylbenzene		0.22	1.0	
591-78-6	2-Hexanone (MBK)		1.2	10	
98-82-8	Isopropylbenzene (Cumene)		0.15	1.0	
79-20-9	Methyl Acetate		0.61	1.0	
1634-04-4	Methyl tert-Butyl Ether (MTBE)		0.17	1.0	
108-87-2	Methyl Cyclohexane		0.16	1.0	
75-09-2	Methylene Chloride		0.18	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)		1.3	10	
100-42-5	Styrene		0.15	1.0	
79-34-5	1,1,2,2-Tetrachloroethane		0.14	0.50	
127-18-4	Tetrachloroethylene		0.17	1.0	
108-88-3	Toluene		0.22	1.0	
87-61-6	1,2,3-Trichlorobenzene		0.34	5.0	
120-82-1	1,2,4-Trichlorobenzene		0.30	1.0	
71-55-6	1,1,1-Trichloroethane		0.15	1.0	
79-00-5	1,1,2-Trichloroethane		0.19	1.0	
79-01-6	Trichloroethylene		0.17	1.0	
75-69-4	Trichlorofluoromethane (Freon 11)		0.15	2.0	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		0.21	1.0	
75-01-4	Vinyl Chloride		0.24	2.0	WJ
1330-20-7	Xylenes (total)		1.0	1.0	V-05
	No TICs Found	0.0			

11/12/23/23

1 - FORM I ANALYSIS DATA SHEET

432

16

Trip Blank

Laboratory:	Pace New England	Work Order:	23K0271
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk - CO 147890
Matrix:	Trip Blank Water	Laboratory ID:	23K0271-16
		File ID:	E23V30755.D
Sampled:	11/01/23 00:00	Prepared:	11/03/23 12:14
		Analyzed:	11/04/23 09:27
Solids:		Preparation:	SW-846 5030B
		Dilution:	1
Initial/Final:	5 mL / 5 mL		
Batch:	B357164	Sequence:	S095886
		Calibration:	2300982
		Instrument:	GCMSVOA5

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
67-64-1	Acetone	2.8	2.0	50	J V-05, J
71-43-2	Benzene		0.18	1.0	
74-97-5	Bromochloromethane		0.28	1.0	u J
75-27-4	Bromodichloromethane		0.16	0.50	
75-25-2	Bromoform		0.41	1.0	
74-83-9	Bromomethane		1.3	2.0	u J V-05, V-34
78-93-3	2-Butanone (MEK)		1.7	20	
75-15-0	Carbon Disulfide		1.6	5.0	
56-23-5	Carbon Tetrachloride		0.16	5.0	
108-90-7	Chlorobenzene		0.12	1.0	
124-48-1	Chlorodibromomethane		0.20	0.50	
75-00-3	Chloroethane		0.34	2.0	
67-66-3	Chloroform		0.14	2.0	
74-87-3	Chloromethane		0.50	2.0	u J V-05, V-34
110-82-7	Cyclohexane		1.8	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		0.85	5.0	
106-93-4	1,2-Dibromoethane (EDB)		0.16	0.50	
95-50-1	1,2-Dichlorobenzene		0.13	1.0	
541-73-1	1,3-Dichlorobenzene		0.14	1.0	
106-46-7	1,4-Dichlorobenzene		0.13	1.0	
75-71-8	Dichlorodifluoromethane (Freon 12)		0.16	2.0	
75-34-3	1,1-Dichloroethane		0.14	1.0	
107-06-2	1,2-Dichloroethane		0.30	1.0	
75-35-4	1,1-Dichloroethylene		0.14	1.0	u J V-05
156-59-2	cis-1,2-Dichloroethylene		0.14	1.0	
156-60-5	trans-1,2-Dichloroethylene		0.17	1.0	
78-87-5	1,2-Dichloropropane		0.19	1.0	
10061-01-5	cis-1,3-Dichloropropene		0.16	0.50	
10061-02-6	trans-1,3-Dichloropropene		0.14	0.50	
123-91-1	1,4-Dioxane		18	50	

M, 2123/23

1 - FORM I ANALYSIS DATA SHEET

433

16

Trip Blank

Laboratory:	Pace New England	Work Order:	23K0271
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk - CO 147890
Matrix:	Trip Blank Water	Laboratory ID:	23K0271-16
		File ID:	E23V30755.D
Sampled:	11/01/23 00:00	Prepared:	11/03/23 12:14
		Analyzed:	11/04/23 09:27
Solids:		Preparation:	SW-846 5030B
		Dilution:	1
Initial/Final:	5 mL / 5 mL		
Batch:	B357164	Sequence:	S095886
		Calibration:	2300982
		Instrument:	GCMSVOA5

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
100-41-4	Ethylbenzene		0.22	1.0	
591-78-6	2-Hexanone (MBK)		1.2	10	
98-82-8	Isopropylbenzene (Cumene)		0.15	1.0	
79-20-9	Methyl Acetate		0.61	1.0	
1634-04-4	Methyl tert-Butyl Ether (MTBE)		0.17	1.0	
108-87-2	Methyl Cyclohexane		0.16	1.0	
75-09-2	Methylene Chloride		0.18	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)		1.3	10	
100-42-5	Styrene		0.15	1.0	
79-34-5	1,1,2,2-Tetrachloroethane		0.14	0.50	
127-18-4	Tetrachloroethylene		0.17	1.0	
108-88-3	Toluene		0.22	1.0	
87-61-6	1,2,3-Trichlorobenzene		0.34	5.0	
120-82-1	1,2,4-Trichlorobenzene		0.30	1.0	
71-55-6	1,1,1-Trichloroethane		0.15	1.0	
79-00-5	1,1,2-Trichloroethane		0.19	1.0	
79-01-6	Trichloroethylene		0.17	1.0	
75-69-4	Trichlorofluoromethane (Freon 11)		0.15	2.0	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		0.21	1.0	
75-01-4	Vinyl Chloride		0.24	2.0	WJ V-05
1330-20-7	Xylenes (total)		1.0	1.0	
	No TICs Found	0.0			

w12/23/23

1 - FORM I ANALYSIS DATA SHEET

445

18

MLW-3(15ft)

Laboratory:	Pace New England	Work Order:	23K0271
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk - CO 147890
Matrix:	Water	Laboratory ID:	23K0271-18
		File ID:	B23V31015.D
Sampled:	11/01/23 12:24	Prepared:	11/06/23 08:31
		Analyzed:	11/06/23 12:49
Solids:		Preparation:	SW-846 5030B
		Dilution:	1
Initial/Final:	5 mL / 5 mL		
Batch:	B357293	Sequence:	S095964
		Calibration:	2301046
		Instrument:	GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
67-64-1	Acetone	3.3	2.0	50	✓
71-43-2	Benzene		0.18	1.0	
74-97-5	Bromochloromethane		0.28	1.0	
75-27-4	Bromodichloromethane		0.16	0.50	
75-25-2	Bromoform		0.41	1.0	
74-83-9	Bromomethane		1.3	2.0	
78-93-3	2-Butanone (MEK)		1.7	20	
75-15-0	Carbon Disulfide		1.6	5.0	
56-23-5	Carbon Tetrachloride		0.16	5.0	
108-90-7	Chlorobenzene		0.12	1.0	
124-48-1	Chlorodibromomethane		0.20	0.50	
75-00-3	Chloroethane		0.34	2.0	
67-66-3	Chloroform		0.14	2.0	
74-87-3	Chloromethane		0.50	2.0	
110-82-7	Cyclohexane		1.8	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		0.85	5.0	
106-93-4	1,2-Dibromoethane (EDB)		0.16	0.50	
95-50-1	1,2-Dichlorobenzene		0.13	1.0	
541-73-1	1,3-Dichlorobenzene		0.14	1.0	
106-46-7	1,4-Dichlorobenzene		0.13	1.0	
75-71-8	Dichlorodifluoromethane (Freon 12)		0.16	2.0	
75-34-3	1,1-Dichloroethane		0.14	1.0	
107-06-2	1,2-Dichloroethane		0.30	1.0	
75-35-4	1,1-Dichloroethylene		0.14	1.0	
156-59-2	cis-1,2-Dichloroethylene		0.14	1.0	
156-60-5	trans-1,2-Dichloroethylene		0.17	1.0	
78-87-5	1,2-Dichloropropane		0.19	1.0	
10061-01-5	cis-1,3-Dichloropropene		0.16	0.50	
10061-02-6	trans-1,3-Dichloropropene		0.14	0.50	
123-91-1	1,4-Dioxane		18	50	

MLW-3(15ft)

1 - FORM I ANALYSIS DATA SHEET

446

18

MLW-3(15ft)

Laboratory:	Pace New England	Work Order:	23K0271
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk - CO 147890
Matrix:	Water	Laboratory ID:	23K0271-18
		File ID:	B23V31015.D
Sampled:	11/01/23 12:24	Prepared:	11/06/23 08:31
		Analyzed:	11/06/23 12:49
Solids:		Preparation:	SW-846 5030B
		Dilution:	1
Initial/Final:	5 mL / 5 mL		
Batch:	B357293	Sequence:	S095964
		Calibration:	2301046
		Instrument:	GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
100-41-4	Ethylbenzene		0.22	1.0	
591-78-6	2-Hexanone (MBK)		1.2	10	
98-82-8	Isopropylbenzene (Cumene)		0.15	1.0	
79-20-9	Methyl Acetate		0.61	1.0	
1634-04-4	Methyl tert-Butyl Ether (MTBE)		0.17	1.0	
108-87-2	Methyl Cyclohexane		0.16	1.0	
75-09-2	Methylene Chloride		0.18	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)		1.3	10	
100-42-5	Styrene		0.15	1.0	
79-34-5	1,1,2,2-Tetrachloroethane		0.14	0.50	
127-18-4	Tetrachloroethylene		0.17	1.0	
108-88-3	Toluene		0.22	1.0	
87-61-6	1,2,3-Trichlorobenzene		0.34	5.0	
120-82-1	1,2,4-Trichlorobenzene		0.30	1.0	
71-55-6	1,1,1-Trichloroethane		0.15	1.0	
79-00-5	1,1,2-Trichloroethane		0.19	1.0	
79-01-6	Trichloroethylene		0.17	1.0	
75-69-4	Trichlorofluoromethane (Freon 11)		0.15	2.0	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		0.21	1.0	
75-01-4	Vinyl Chloride		0.24	2.0	
1330-20-7	Xylenes (total)		1.0	1.0	
	No TICs Found	0.0			

12123123

1 - FORM I ANALYSIS DATA SHEET

459

MLW-3(30ft)

19

Laboratory: Pace New England Work Order: 23K0271
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk - CO 147890
Matrix: Water Laboratory ID: 23K0271-19 File ID: B23V31016.D
Sampled: 11/01/23 09:45 Prepared: 11/06/23 08:31 Analyzed: 11/06/23 13:16
Solids: Preparation: SW-846 5030B Dilution: 1
Initial/Final: 5 mL / 5 mL
Batch: B357293 Sequence: S095964 Calibration: 2301046 Instrument: GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
67-64-1	Acetone	2.3	2.0	50	u
71-43-2	Benzene		0.18	1.0	
74-97-5	Bromochloromethane		0.28	1.0	
75-27-4	Bromodichloromethane		0.16	0.50	
75-25-2	Bromoform		0.41	1.0	
74-83-9	Bromomethane		1.3	2.0	
78-93-3	2-Butanone (MEK)		1.7	20	
75-15-0	Carbon Disulfide		1.6	5.0	
56-23-5	Carbon Tetrachloride		0.16	5.0	
108-90-7	Chlorobenzene		0.12	1.0	
124-48-1	Chlorodibromomethane		0.20	0.50	
75-00-3	Chloroethane		0.34	2.0	
67-66-3	Chloroform		0.14	2.0	
74-87-3	Chloromethane		0.50	2.0	
110-82-7	Cyclohexane		1.8	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		0.85	5.0	
106-93-4	1,2-Dibromoethane (EDB)		0.16	0.50	
95-50-1	1,2-Dichlorobenzene		0.13	1.0	
541-73-1	1,3-Dichlorobenzene		0.14	1.0	
106-46-7	1,4-Dichlorobenzene		0.13	1.0	
75-71-8	Dichlorodifluoromethane (Freon 12)		0.16	2.0	
75-34-3	1,1-Dichloroethane		0.14	1.0	
107-06-2	1,2-Dichloroethane		0.30	1.0	
75-35-4	1,1-Dichloroethylene		0.14	1.0	
156-59-2	cis-1,2-Dichloroethylene	0.15	0.14	1.0	J
156-60-5	trans-1,2-Dichloroethylene		0.17	1.0	
78-87-5	1,2-Dichloropropane		0.19	1.0	
10061-01-5	cis-1,3-Dichloropropene		0.16	0.50	
10061-02-6	trans-1,3-Dichloropropene		0.14	0.50	
123-91-1	1,4-Dioxane		18	50	

MLW12/23/23

1 - FORM I ANALYSIS DATA SHEET

460

MLW-3(30ft)

19

Laboratory: Pace New England Work Order: 23K0271
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk - CO 147890
Matrix: Water Laboratory ID: 23K0271-19 File ID: B23V31016.D
Sampled: 11/01/23 09:45 Prepared: 11/06/23 08:31 Analyzed: 11/06/23 13:16
Solids: Preparation: SW-846 5030B Dilution: 1
Initial/Final: 5 mL / 5 mL
Batch: B357293 Sequence: S095964 Calibration: 2301046 Instrument: GCMSVOA2

CAS NO.	COMPOUND	CONC. (µg/L)	MDL	RL	Q
100-41-4	Ethylbenzene		0.22	1.0	
591-78-6	2-Hexanone (MBK)		1.2	10	
98-82-8	Isopropylbenzene (Cumene)		0.15	1.0	
79-20-9	Methyl Acetate		0.61	1.0	
1634-04-4	Methyl tert-Butyl Ether (MTBE)	0.23	0.17	1.0	J
108-87-2	Methyl Cyclohexane		0.16	1.0	
75-09-2	Methylene Chloride		0.18	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)		1.3	10	
100-42-5	Styrene		0.15	1.0	
79-34-5	1,1,2,2-Tetrachloroethane		0.14	0.50	
127-18-4	Tetrachloroethylene		0.17	1.0	
108-88-3	Toluene		0.22	1.0	
87-61-6	1,2,3-Trichlorobenzene		0.34	5.0	
120-82-1	1,2,4-Trichlorobenzene		0.30	1.0	
71-55-6	1,1,1-Trichloroethane		0.15	1.0	
79-00-5	1,1,2-Trichloroethane		0.19	1.0	
79-01-6	Trichloroethylene		0.17	1.0	
75-69-4	Trichlorofluoromethane (Freon 11)		0.15	2.0	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		0.21	1.0	
75-01-4	Vinyl Chloride		0.24	2.0	
1330-20-7	Xylenes (total)		1.0	1.0	
	No TICs Found	0.0			

11/21/23/23

November 13, 2023

Javier Perez-Maldonado
NYDEC_HRP Associates - Clifton Park, NY
1 Fairchild Square, Suite 110
Clifton Park, NY 12065

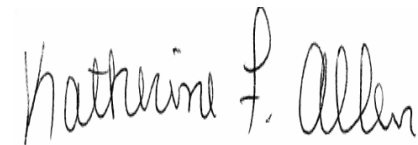
Project Location: Ingraham St, Brookyn, NY
Client Job Number:
Project Number: 224142
Laboratory Work Order Number: 23K0462

Enclosed are results of analyses for samples as received by the laboratory on November 2, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Raymond J. McCarthy
Project Manager



QA Officer
Katherine Allen



Laboratory Manager
Daren Damboragian

NYDEC_HRP Associates - Clifton Park, NY
1 Fairchild Square, Suite 110
Clifton Park, NY 12065
ATTN: Javier Perez-Maldonado

REPORT DATE: 11/13/2023

PURCHASE ORDER NUMBER: 147890

PROJECT NUMBER: 224142

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23K0462

The results of analyses performed on the following samples submitted to Con-Test, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: Ingraham St, Brooklyn, NY

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
SV-7_11.1.23	23K0462-01	Soil Gas		EPA TO-15	
SV-6_11.1.23	23K0462-02	Soil Gas		EPA TO-15	
SV-6_11.1.23_DUP	23K0462-03	Soil Gas		EPA TO-15	
SV-5_11.1.23	23K0462-04	Soil Gas		EPA TO-15	
SV-1_11.1.23	23K0462-05	Soil Gas		EPA TO-15	
OA-1_11.1.23	23K0462-06	Ambient Air		EPA TO-15	
SV-4_11.1.23	23K0462-07	Soil Gas		EPA TO-15	
UNUSED	23K0462-08			-	
UNUSED	23K0462-09			-	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

EPA TO-15**Qualifications:**

L-03 Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:**Benzyl chloride, Isopropanol**

23K0462-01[SV-7_11.1.23], 23K0462-02[SV-6_11.1.23], 23K0462-03[SV-6_11.1.23_DUP], 23K0462-04[SV-5_11.1.23], 23K0462-05[SV-1_11.1.23], 23K0462-06[OA-1_11.1.23], 23K0462-07[SV-4_11.1.23], B357952-BLK1, B357952-BS1

V-20 Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:**Hexachlorobutadiene, Naphthalene**

S096212-CCV1

Z-01 Calibrations RSD for this compound is >30% but <40%.

Analyte & Samples(s) Qualified:**Naphthalene**

23K0462-01[SV-7_11.1.23], 23K0462-02[SV-6_11.1.23], 23K0462-03[SV-6_11.1.23_DUP], 23K0462-04[SV-5_11.1.23], 23K0462-05[SV-1_11.1.23], 23K0462-06[OA-1_11.1.23], 23K0462-07[SV-4_11.1.23], B357952-BLK1, B357952-BS1, S096212-CCV1

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

ANALYTICAL RESULTS

Project Location: Ingraham St, Brookyn, NY
 Date Received: 11/2/2023
Field Sample #: SV-7_11.1.23
Sample ID: 23K0462-01
 Sample Matrix: Soil Gas
 Sampled: 11/1/2023 10:35

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1123
 Canister Size: 6 liter
 Flow Controller ID: 4423
 Sample Type: 2 hr

Work Order: 23K0462
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -8
 Receipt Vacuum(in Hg): -6.6
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling: <20%

EPA TO-15											
Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Acetone	ND	60	14			ND	140	34	30	11/6/23 20:20	KMC
Benzene	0.60	1.5	0.46		J	1.9	4.8	1.5	30	11/6/23 20:20	KMC
Benzyl chloride	ND	6.0	0.81		L-03	ND	31	4.2	30	11/6/23 20:20	KMC
Bromodichloromethane	ND	1.5	0.41			ND	10	2.7	30	11/6/23 20:20	KMC
Bromoform	ND	1.5	0.53			ND	16	5.5	30	11/6/23 20:20	KMC
Bromomethane	ND	1.5	0.80			ND	5.8	3.1	30	11/6/23 20:20	KMC
1,3-Butadiene	ND	1.5	1.3			ND	3.3	2.8	30	11/6/23 20:20	KMC
2-Butanone (MEK)	ND	60	17			ND	180	50	30	11/6/23 20:20	KMC
Carbon Disulfide	ND	15	2.9			ND	47	8.9	30	11/6/23 20:20	KMC
Carbon Tetrachloride	ND	1.5	0.43			ND	9.4	2.7	30	11/6/23 20:20	KMC
Chlorobenzene	ND	1.5	0.38			ND	6.9	1.7	30	11/6/23 20:20	KMC
Chloroethane	ND	1.5	0.95			ND	4.0	2.5	30	11/6/23 20:20	KMC
Chloroform	50	1.5	0.39			240	7.3	1.9	30	11/6/23 20:20	KMC
Chloromethane	ND	3.0	0.61			ND	6.2	1.3	30	11/6/23 20:20	KMC
Cyclohexane	ND	1.5	0.66			ND	5.2	2.3	30	11/6/23 20:20	KMC
Dibromochloromethane	ND	1.5	0.40			ND	13	3.4	30	11/6/23 20:20	KMC
1,2-Dibromoethane (EDB)	ND	1.5	0.50			ND	12	3.8	30	11/6/23 20:20	KMC
1,2-Dichlorobenzene	ND	1.5	0.52			ND	9.0	3.2	30	11/6/23 20:20	KMC
1,3-Dichlorobenzene	ND	1.5	0.56			ND	9.0	3.3	30	11/6/23 20:20	KMC
1,4-Dichlorobenzene	ND	1.5	0.55			ND	9.0	3.3	30	11/6/23 20:20	KMC
Dichlorodifluoromethane (Freon 12)	ND	1.5	0.63			ND	7.4	3.1	30	11/6/23 20:20	KMC
1,1-Dichloroethane	ND	1.5	0.48			ND	6.1	1.9	30	11/6/23 20:20	KMC
1,2-Dichloroethane	ND	1.5	0.56			ND	6.1	2.3	30	11/6/23 20:20	KMC
1,1-Dichloroethylene	ND	1.5	0.43			ND	5.9	1.7	30	11/6/23 20:20	KMC
cis-1,2-Dichloroethylene	53	1.5	0.46			210	5.9	1.8	30	11/6/23 20:20	KMC
trans-1,2-Dichloroethylene	1.4	1.5	0.49		J	5.5	5.9	1.9	30	11/6/23 20:20	KMC
1,2-Dichloropropane	ND	1.5	0.41			ND	6.9	1.9	30	11/6/23 20:20	KMC
cis-1,3-Dichloropropene	ND	1.5	0.67			ND	6.8	3.0	30	11/6/23 20:20	KMC
trans-1,3-Dichloropropene	ND	1.5	0.77			ND	6.8	3.5	30	11/6/23 20:20	KMC
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	1.5	0.60			ND	10	4.2	30	11/6/23 20:20	KMC
1,4-Dioxane	ND	15	7.4			ND	54	27	30	11/6/23 20:20	KMC
Ethanol	ND	60	40			ND	110	75	30	11/6/23 20:20	KMC
Ethyl Acetate	ND	15	4.3			ND	54	16	30	11/6/23 20:20	KMC
Ethylbenzene	ND	1.5	0.44			ND	6.5	1.9	30	11/6/23 20:20	KMC
4-Ethyltoluene	ND	1.5	0.65			ND	7.4	3.2	30	11/6/23 20:20	KMC
Heptane	ND	1.5	0.95			ND	6.1	3.9	30	11/6/23 20:20	KMC
Hexachlorobutadiene	ND	1.5	0.86			ND	16	9.2	30	11/6/23 20:20	KMC
Hexane	ND	60	20			ND	210	70	30	11/6/23 20:20	KMC
2-Hexanone (MBK)	ND	6.0	0.65			ND	25	2.7	30	11/6/23 20:20	KMC
Isopropanol	ND	60	19		L-03	ND	150	47	30	11/6/23 20:20	KMC
Methyl tert-Butyl Ether (MTBE)	ND	1.5	0.74			ND	5.4	2.7	30	11/6/23 20:20	KMC
Methylene Chloride	ND	15	4.0			ND	52	14	30	11/6/23 20:20	KMC
4-Methyl-2-pentanone (MIBK)	ND	1.5	0.79			ND	6.1	3.3	30	11/6/23 20:20	KMC
Naphthalene	ND	1.5	1.0		Z-01	ND	7.9	5.3	30	11/6/23 20:20	KMC
Propene	ND	60	16			ND	100	28	30	11/6/23 20:20	KMC
Styrene	ND	1.5	0.80			ND	6.4	3.4	30	11/6/23 20:20	KMC
1,1,2,2-Tetrachloroethane	ND	1.5	0.37			ND	10	2.5	30	11/6/23 20:20	KMC

ANALYTICAL RESULTS

Project Location: Ingraham St, Brookyn, NY

Date Received: 11/2/2023

Field Sample #: SV-7_11.1.23
Sample ID: 23K0462-01

Sample Matrix: Soil Gas

Sampled: 11/1/2023 10:35

Sample Description/Location:

Sub Description/Location:

Canister ID: 1123

Canister Size: 6 liter

Flow Controller ID: 4423

Sample Type: 2 hr

Work Order: 23K0462

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -8

Receipt Vacuum(in Hg): -6.6

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling: <20%

EPA TO-15

Analyte	ppbv			Flag/Qual	ug/m3			Date/Time		
	Results	RL	MDL		Results	RL	MDL	Dilution	Analyzed	Analyst
Tetrachloroethylene	1000	7.5	2.8	J	7100	51	19	150	11/6/23 20:47	KMC
Tetrahydrofuran	ND	15	3.1		ND	44	9.1	30	11/6/23 20:20	KMC
Toluene	ND	1.5	0.55		ND	5.7	2.1	30	11/6/23 20:20	KMC
1,2,4-Trichlorobenzene	ND	1.5	0.81		ND	11	6.0	30	11/6/23 20:20	KMC
1,1,1-Trichloroethane	1.6	1.5	0.47		8.7	8.2	2.6	30	11/6/23 20:20	KMC
1,1,2-Trichloroethane	ND	1.5	0.38		ND	8.2	2.1	30	11/6/23 20:20	KMC
Trichloroethylene	380	1.5	0.61		2100	8.1	3.3	30	11/6/23 20:20	KMC
Trichlorofluoromethane (Freon 11)	0.87	6.0	0.61		4.9	34	3.5	30	11/6/23 20:20	KMC
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	6.0	0.33		ND	46	2.5	30	11/6/23 20:20	KMC
1,2,4-Trimethylbenzene	ND	1.5	0.69		ND	7.4	3.4	30	11/6/23 20:20	KMC
1,3,5-Trimethylbenzene	ND	1.5	0.77		ND	7.4	3.8	30	11/6/23 20:20	KMC
Vinyl Acetate	ND	30	5.4		ND	110	19	30	11/6/23 20:20	KMC
Vinyl Chloride	ND	1.5	0.68		ND	3.8	1.7	30	11/6/23 20:20	KMC
m&p-Xylene	ND	3.0	1.1	ND	13	4.6	30	11/6/23 20:20	KMC	
o-Xylene	ND	1.5	0.55	ND	6.5	2.4	30	11/6/23 20:20	KMC	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	81.0	70-130	11/6/23 20:20
4-Bromofluorobenzene (1)	85.9	70-130	11/6/23 20:47

ANALYTICAL RESULTS

Project Location: Ingraham St, Brooklyn, NY
 Date Received: 11/2/2023
Field Sample #: SV-6_11.1.23
Sample ID: 23K0462-02
 Sample Matrix: Soil Gas
 Sampled: 11/1/2023 11:02

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1113
 Canister Size: 6 liter
 Flow Controller ID: 4492
 Sample Type: 2 hr

Work Order: 23K0462
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -7
 Receipt Vacuum(in Hg): -6.2
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling: <20%

EPA TO-15

Analyte	ppbv				Flag/Qual	ug/m3			Date/Time		Analyst
	Results	RL	MDL	Results		RL	MDL	Dilution	Analyzed		
Acetone	ND	60	14			ND	140	34	30	11/6/23 22:51	KMC
Benzene	ND	1.5	0.46			ND	4.8	1.5	30	11/6/23 22:51	KMC
Benzyl chloride	ND	6.0	0.81	L-03		ND	31	4.2	30	11/6/23 22:51	KMC
Bromodichloromethane	1.8	1.5	0.41			12	10	2.7	30	11/6/23 22:51	KMC
Bromoform	ND	1.5	0.53			ND	16	5.5	30	11/6/23 22:51	KMC
Bromomethane	ND	1.5	0.80			ND	5.8	3.1	30	11/6/23 22:51	KMC
1,3-Butadiene	ND	1.5	1.3			ND	3.3	2.8	30	11/6/23 22:51	KMC
2-Butanone (MEK)	ND	60	17			ND	180	50	30	11/6/23 22:51	KMC
Carbon Disulfide	ND	15	2.9			ND	47	8.9	30	11/6/23 22:51	KMC
Carbon Tetrachloride	ND	1.5	0.43			ND	9.4	2.7	30	11/6/23 22:51	KMC
Chlorobenzene	ND	1.5	0.38			ND	6.9	1.7	30	11/6/23 22:51	KMC
Chloroethane	ND	1.5	0.95			ND	4.0	2.5	30	11/6/23 22:51	KMC
Chloroform	2.0	1.5	0.39			10.0	7.3	1.9	30	11/6/23 22:51	KMC
Chloromethane	ND	3.0	0.61			ND	6.2	1.3	30	11/6/23 22:51	KMC
Cyclohexane	ND	1.5	0.66			ND	5.2	2.3	30	11/6/23 22:51	KMC
Dibromochloromethane	ND	1.5	0.40			ND	13	3.4	30	11/6/23 22:51	KMC
1,2-Dibromoethane (EDB)	ND	1.5	0.50			ND	12	3.8	30	11/6/23 22:51	KMC
1,2-Dichlorobenzene	ND	1.5	0.52			ND	9.0	3.2	30	11/6/23 22:51	KMC
1,3-Dichlorobenzene	ND	1.5	0.56			ND	9.0	3.3	30	11/6/23 22:51	KMC
1,4-Dichlorobenzene	ND	1.5	0.55			ND	9.0	3.3	30	11/6/23 22:51	KMC
Dichlorodifluoromethane (Freon 12)	ND	1.5	0.63			ND	7.4	3.1	30	11/6/23 22:51	KMC
1,1-Dichloroethane	ND	1.5	0.48			ND	6.1	1.9	30	11/6/23 22:51	KMC
1,2-Dichloroethane	ND	1.5	0.56			ND	6.1	2.3	30	11/6/23 22:51	KMC
1,1-Dichloroethylene	ND	1.5	0.43			ND	5.9	1.7	30	11/6/23 22:51	KMC
cis-1,2-Dichloroethylene	3.4	1.5	0.46			14	5.9	1.8	30	11/6/23 22:51	KMC
trans-1,2-Dichloroethylene	1.5	1.5	0.49			5.9	5.9	1.9	30	11/6/23 22:51	KMC
1,2-Dichloropropane	ND	1.5	0.41			ND	6.9	1.9	30	11/6/23 22:51	KMC
cis-1,3-Dichloropropene	ND	1.5	0.67			ND	6.8	3.0	30	11/6/23 22:51	KMC
trans-1,3-Dichloropropene	ND	1.5	0.77			ND	6.8	3.5	30	11/6/23 22:51	KMC
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	1.5	0.60			ND	10	4.2	30	11/6/23 22:51	KMC
1,4-Dioxane	ND	15	7.4			ND	54	27	30	11/6/23 22:51	KMC
Ethanol	ND	60	40			ND	110	75	30	11/6/23 22:51	KMC
Ethyl Acetate	ND	15	4.3			ND	54	16	30	11/6/23 22:51	KMC
Ethylbenzene	ND	1.5	0.44			ND	6.5	1.9	30	11/6/23 22:51	KMC
4-Ethyltoluene	ND	1.5	0.65			ND	7.4	3.2	30	11/6/23 22:51	KMC
Heptane	ND	1.5	0.95			ND	6.1	3.9	30	11/6/23 22:51	KMC
Hexachlorobutadiene	ND	1.5	0.86			ND	16	9.2	30	11/6/23 22:51	KMC
Hexane	ND	60	20			ND	210	70	30	11/6/23 22:51	KMC
2-Hexanone (MBK)	ND	6.0	0.65			ND	25	2.7	30	11/6/23 22:51	KMC
Isopropanol	ND	60	19	L-03		ND	150	47	30	11/6/23 22:51	KMC
Methyl tert-Butyl Ether (MTBE)	ND	1.5	0.74			ND	5.4	2.7	30	11/6/23 22:51	KMC
Methylene Chloride	ND	15	4.0			ND	52	14	30	11/6/23 22:51	KMC
4-Methyl-2-pentanone (MIBK)	ND	1.5	0.79			ND	6.1	3.3	30	11/6/23 22:51	KMC
Naphthalene	ND	1.5	1.0	Z-01		ND	7.9	5.3	30	11/6/23 22:51	KMC
Propene	ND	60	16			ND	100	28	30	11/6/23 22:51	KMC
Styrene	ND	1.5	0.80			ND	6.4	3.4	30	11/6/23 22:51	KMC
1,1,2,2-Tetrachloroethane	ND	1.5	0.37			ND	10	2.5	30	11/6/23 22:51	KMC

ANALYTICAL RESULTS

Project Location: Ingraham St, Brookyn, NY
Date Received: 11/2/2023
Field Sample #: SV-6_11.1.23
Sample ID: 23K0462-02
Sample Matrix: Soil Gas
Sampled: 11/1/2023 11:02

Sample Description/Location:
Sub Description/Location:
Canister ID: 1113
Canister Size: 6 liter
Flow Controller ID: 4492
Sample Type: 2 hr

Work Order: 23K0462
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -7
Receipt Vacuum(in Hg): -6.2
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling: <20%

EPA TO-15

Analyte	ppbv			Flag/Qual	ug/m3			Date/Time		
	Results	RL	MDL		Results	RL	MDL	Dilution	Analyzed	Analyst
Tetrachloroethylene	2300	15	5.6		15000	100	38	300	11/6/23 23:18	KMC
Tetrahydrofuran	ND	15	3.1		ND	44	9.1	30	11/6/23 22:51	KMC
Toluene	ND	1.5	0.55		ND	5.7	2.1	30	11/6/23 22:51	KMC
1,2,4-Trichlorobenzene	ND	1.5	0.81		ND	11	6.0	30	11/6/23 22:51	KMC
1,1,1-Trichloroethane	0.90	1.5	0.47	J	4.9	8.2	2.6	30	11/6/23 22:51	KMC
1,1,2-Trichloroethane	ND	1.5	0.38		ND	8.2	2.1	30	11/6/23 22:51	KMC
Trichloroethylene	210	1.5	0.61		1200	8.1	3.3	30	11/6/23 22:51	KMC
Trichlorofluoromethane (Freon 11)	0.81	6.0	0.61	J	4.6	34	3.5	30	11/6/23 22:51	KMC
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	6.0	0.33		ND	46	2.5	30	11/6/23 22:51	KMC
1,2,4-Trimethylbenzene	ND	1.5	0.69		ND	7.4	3.4	30	11/6/23 22:51	KMC
1,3,5-Trimethylbenzene	ND	1.5	0.77		ND	7.4	3.8	30	11/6/23 22:51	KMC
Vinyl Acetate	ND	30	5.4		ND	110	19	30	11/6/23 22:51	KMC
Vinyl Chloride	ND	1.5	0.68		ND	3.8	1.7	30	11/6/23 22:51	KMC
m&p-Xylene	ND	3.0	1.1		ND	13	4.6	30	11/6/23 22:51	KMC
o-Xylene	ND	1.5	0.55		ND	6.5	2.4	30	11/6/23 22:51	KMC

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	77.9	70-130	11/6/23 22:51
4-Bromofluorobenzene (1)	83.3	70-130	11/6/23 23:18

ANALYTICAL RESULTS

Project Location: Ingraham St, Brooklyn, NY
 Date Received: 11/2/2023
Field Sample #: SV-6_11.1.23_DUP
Sample ID: 23K0462-03
 Sample Matrix: Soil Gas
 Sampled: 11/1/2023 11:02

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1002
 Canister Size: 6 liter
 Flow Controller ID: 4492
 Sample Type: 2 hr

Work Order: 23K0462
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -7
 Receipt Vacuum(in Hg): -6.3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling: <20%

EPA TO-15

Analyte	ppbv			Flag/Qual	ug/m3			Date/Time		
	Results	RL	MDL		Results	RL	MDL	Dilution	Analyzed	Analyst
Acetone	ND	60	14	L-03	ND	140	34	30	11/6/23 23:41	KMC
Benzene	ND	1.5	0.46		ND	4.8	1.5	30	11/6/23 23:41	KMC
Benzyl chloride	ND	6.0	0.81		ND	31	4.2	30	11/6/23 23:41	KMC
Bromodichloromethane	ND	1.5	0.41		ND	10	2.7	30	11/6/23 23:41	KMC
Bromoform	ND	1.5	0.53		ND	16	5.5	30	11/6/23 23:41	KMC
Bromomethane	ND	1.5	0.80		ND	5.8	3.1	30	11/6/23 23:41	KMC
1,3-Butadiene	ND	1.5	1.3		ND	3.3	2.8	30	11/6/23 23:41	KMC
2-Butanone (MEK)	ND	60	17		ND	180	50	30	11/6/23 23:41	KMC
Carbon Disulfide	ND	15	2.9		ND	47	8.9	30	11/6/23 23:41	KMC
Carbon Tetrachloride	ND	1.5	0.43		ND	9.4	2.7	30	11/6/23 23:41	KMC
Chlorobenzene	ND	1.5	0.38	J	ND	6.9	1.7	30	11/6/23 23:41	KMC
Chloroethane	ND	1.5	0.95		ND	4.0	2.5	30	11/6/23 23:41	KMC
Chloroform	1.8	1.5	0.39		8.8	7.3	1.9	30	11/6/23 23:41	KMC
Chloromethane	ND	3.0	0.61		ND	6.2	1.3	30	11/6/23 23:41	KMC
Cyclohexane	ND	1.5	0.66		ND	5.2	2.3	30	11/6/23 23:41	KMC
Dibromochloromethane	ND	1.5	0.40		ND	13	3.4	30	11/6/23 23:41	KMC
1,2-Dibromoethane (EDB)	ND	1.5	0.50		ND	12	3.8	30	11/6/23 23:41	KMC
1,2-Dichlorobenzene	ND	1.5	0.52		ND	9.0	3.2	30	11/6/23 23:41	KMC
1,3-Dichlorobenzene	ND	1.5	0.56		ND	9.0	3.3	30	11/6/23 23:41	KMC
1,4-Dichlorobenzene	ND	1.5	0.55		ND	9.0	3.3	30	11/6/23 23:41	KMC
Dichlorodifluoromethane (Freon 12)	ND	1.5	0.63	Z-01	ND	7.4	3.1	30	11/6/23 23:41	KMC
1,1-Dichloroethane	ND	1.5	0.48		ND	6.1	1.9	30	11/6/23 23:41	KMC
1,2-Dichloroethane	ND	1.5	0.56		ND	6.1	2.3	30	11/6/23 23:41	KMC
1,1-Dichloroethylene	ND	1.5	0.43		ND	5.9	1.7	30	11/6/23 23:41	KMC
cis-1,2-Dichloroethylene	3.2	1.5	0.46		13	5.9	1.8	30	11/6/23 23:41	KMC
trans-1,2-Dichloroethylene	1.4	1.5	0.49		5.6	5.9	1.9	30	11/6/23 23:41	KMC
1,2-Dichloropropane	ND	1.5	0.41		ND	6.9	1.9	30	11/6/23 23:41	KMC
cis-1,3-Dichloropropene	ND	1.5	0.67		ND	6.8	3.0	30	11/6/23 23:41	KMC
trans-1,3-Dichloropropene	ND	1.5	0.77		ND	6.8	3.5	30	11/6/23 23:41	KMC
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	1.5	0.60		ND	10	4.2	30	11/6/23 23:41	KMC
1,4-Dioxane	ND	15	7.4	L-03	ND	54	27	30	11/6/23 23:41	KMC
Ethanol	ND	60	40		ND	110	75	30	11/6/23 23:41	KMC
Ethyl Acetate	ND	15	4.3		ND	54	16	30	11/6/23 23:41	KMC
Ethylbenzene	ND	1.5	0.44		ND	6.5	1.9	30	11/6/23 23:41	KMC
4-Ethyltoluene	ND	1.5	0.65		ND	7.4	3.2	30	11/6/23 23:41	KMC
Heptane	ND	1.5	0.95		ND	6.1	3.9	30	11/6/23 23:41	KMC
Hexachlorobutadiene	ND	1.5	0.86		ND	16	9.2	30	11/6/23 23:41	KMC
Hexane	ND	60	20		ND	210	70	30	11/6/23 23:41	KMC
2-Hexanone (MBK)	ND	6.0	0.65		ND	25	2.7	30	11/6/23 23:41	KMC
Isopropanol	ND	60	19		ND	150	47	30	11/6/23 23:41	KMC
Methyl tert-Butyl Ether (MTBE)	ND	1.5	0.74	Z-01	ND	5.4	2.7	30	11/6/23 23:41	KMC
Methylene Chloride	ND	15	4.0		ND	52	14	30	11/6/23 23:41	KMC
4-Methyl-2-pentanone (MIBK)	ND	1.5	0.79		ND	6.1	3.3	30	11/6/23 23:41	KMC
Naphthalene	ND	1.5	1.0		ND	7.9	5.3	30	11/6/23 23:41	KMC
Propene	ND	60	16		ND	100	28	30	11/6/23 23:41	KMC
Styrene	ND	1.5	0.80		ND	6.4	3.4	30	11/6/23 23:41	KMC
1,1,2,2-Tetrachloroethane	ND	1.5	0.37		ND	10	2.5	30	11/6/23 23:41	KMC

ANALYTICAL RESULTS

Project Location: Ingraham St, Brookyn, NY
Date Received: 11/2/2023
Field Sample #: SV-6_11.1.23_DUP
Sample ID: 23K0462-03
Sample Matrix: Soil Gas
Sampled: 11/1/2023 11:02

Sample Description/Location:
Sub Description/Location:
Canister ID: 1002
Canister Size: 6 liter
Flow Controller ID: 4492
Sample Type: 2 hr

Work Order: 23K0462
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -7
Receipt Vacuum(in Hg): -6.3
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling: <20%

EPA TO-15

Analyte	ppbv			Flag/Qual	ug/m3			Date/Time		
	Results	RL	MDL		Results	RL	MDL	Dilution	Analyzed	Analyst
Tetrachloroethylene	2600	15	5.6		17000	100	38	300	11/7/23 0:07	KMC
Tetrahydrofuran	ND	15	3.1		ND	44	9.1	30	11/6/23 23:41	KMC
Toluene	ND	1.5	0.55		ND	5.7	2.1	30	11/6/23 23:41	KMC
1,2,4-Trichlorobenzene	ND	1.5	0.81		ND	11	6.0	30	11/6/23 23:41	KMC
1,1,1-Trichloroethane	0.72	1.5	0.47	J	3.9	8.2	2.6	30	11/6/23 23:41	KMC
1,1,2-Trichloroethane	ND	1.5	0.38		ND	8.2	2.1	30	11/6/23 23:41	KMC
Trichloroethylene	200	1.5	0.61		1100	8.1	3.3	30	11/6/23 23:41	KMC
Trichlorofluoromethane (Freon 11)	1.0	6.0	0.61	J	5.7	34	3.5	30	11/6/23 23:41	KMC
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	6.0	0.33		ND	46	2.5	30	11/6/23 23:41	KMC
1,2,4-Trimethylbenzene	ND	1.5	0.69		ND	7.4	3.4	30	11/6/23 23:41	KMC
1,3,5-Trimethylbenzene	ND	1.5	0.77		ND	7.4	3.8	30	11/6/23 23:41	KMC
Vinyl Acetate	ND	30	5.4		ND	110	19	30	11/6/23 23:41	KMC
Vinyl Chloride	ND	1.5	0.68		ND	3.8	1.7	30	11/6/23 23:41	KMC
m&p-Xylene	ND	3.0	1.1		ND	13	4.6	30	11/6/23 23:41	KMC
o-Xylene	ND	1.5	0.55		ND	6.5	2.4	30	11/6/23 23:41	KMC

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	83.6	70-130	11/7/23 0:07
4-Bromofluorobenzene (1)	79.4	70-130	11/6/23 23:41

ANALYTICAL RESULTS

Project Location: Ingraham St, Brooklyn, NY
 Date Received: 11/2/2023
Field Sample #: SV-5_11.1.23
Sample ID: 23K0462-04
 Sample Matrix: Soil Gas
 Sampled: 11/1/2023 11:18

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 2215
 Canister Size: 6 liter
 Flow Controller ID: 4405
 Sample Type: 2 hr

Work Order: 23K0462
 Initial Vacuum(in Hg): -29
 Final Vacuum(in Hg): -9
 Receipt Vacuum(in Hg): -9.0
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling: <20%

EPA TO-15

Analyte	ppbv				Flag/Qual	ug/m3			Date/Time		Analyst
	Results	RL	MDL	Results		RL	MDL	Dilution	Analyzed		
Acetone	ND	60	14			ND	140	34	30	11/6/23 21:10	KMC
Benzene	0.51	1.5	0.46		J	1.6	4.8	1.5	30	11/6/23 21:10	KMC
Benzyl chloride	ND	6.0	0.81		L-03	ND	31	4.2	30	11/6/23 21:10	KMC
Bromodichloromethane	ND	1.5	0.41			ND	10	2.7	30	11/6/23 21:10	KMC
Bromoform	ND	1.5	0.53			ND	16	5.5	30	11/6/23 21:10	KMC
Bromomethane	ND	1.5	0.80			ND	5.8	3.1	30	11/6/23 21:10	KMC
1,3-Butadiene	ND	1.5	1.3			ND	3.3	2.8	30	11/6/23 21:10	KMC
2-Butanone (MEK)	ND	60	17			ND	180	50	30	11/6/23 21:10	KMC
Carbon Disulfide	ND	15	2.9			ND	47	8.9	30	11/6/23 21:10	KMC
Carbon Tetrachloride	ND	1.5	0.43			ND	9.4	2.7	30	11/6/23 21:10	KMC
Chlorobenzene	ND	1.5	0.38			ND	6.9	1.7	30	11/6/23 21:10	KMC
Chloroethane	ND	1.5	0.95			ND	4.0	2.5	30	11/6/23 21:10	KMC
Chloroform	2.8	1.5	0.39			14	7.3	1.9	30	11/6/23 21:10	KMC
Chloromethane	ND	3.0	0.61			ND	6.2	1.3	30	11/6/23 21:10	KMC
Cyclohexane	ND	1.5	0.66			ND	5.2	2.3	30	11/6/23 21:10	KMC
Dibromochloromethane	ND	1.5	0.40			ND	13	3.4	30	11/6/23 21:10	KMC
1,2-Dibromoethane (EDB)	ND	1.5	0.50			ND	12	3.8	30	11/6/23 21:10	KMC
1,2-Dichlorobenzene	ND	1.5	0.52			ND	9.0	3.2	30	11/6/23 21:10	KMC
1,3-Dichlorobenzene	ND	1.5	0.56			ND	9.0	3.3	30	11/6/23 21:10	KMC
1,4-Dichlorobenzene	ND	1.5	0.55			ND	9.0	3.3	30	11/6/23 21:10	KMC
Dichlorodifluoromethane (Freon 12)	ND	1.5	0.63			ND	7.4	3.1	30	11/6/23 21:10	KMC
1,1-Dichloroethane	ND	1.5	0.48			ND	6.1	1.9	30	11/6/23 21:10	KMC
1,2-Dichloroethane	ND	1.5	0.56			ND	6.1	2.3	30	11/6/23 21:10	KMC
1,1-Dichloroethylene	ND	1.5	0.43			ND	5.9	1.7	30	11/6/23 21:10	KMC
cis-1,2-Dichloroethylene	ND	1.5	0.46			ND	5.9	1.8	30	11/6/23 21:10	KMC
trans-1,2-Dichloroethylene	ND	1.5	0.49			ND	5.9	1.9	30	11/6/23 21:10	KMC
1,2-Dichloropropane	ND	1.5	0.41			ND	6.9	1.9	30	11/6/23 21:10	KMC
cis-1,3-Dichloropropene	ND	1.5	0.67			ND	6.8	3.0	30	11/6/23 21:10	KMC
trans-1,3-Dichloropropene	ND	1.5	0.77			ND	6.8	3.5	30	11/6/23 21:10	KMC
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	1.5	0.60			ND	10	4.2	30	11/6/23 21:10	KMC
1,4-Dioxane	ND	15	7.4			ND	54	27	30	11/6/23 21:10	KMC
Ethanol	ND	60	40			ND	110	75	30	11/6/23 21:10	KMC
Ethyl Acetate	ND	15	4.3			ND	54	16	30	11/6/23 21:10	KMC
Ethylbenzene	ND	1.5	0.44			ND	6.5	1.9	30	11/6/23 21:10	KMC
4-Ethyltoluene	ND	1.5	0.65			ND	7.4	3.2	30	11/6/23 21:10	KMC
Heptane	ND	1.5	0.95			ND	6.1	3.9	30	11/6/23 21:10	KMC
Hexachlorobutadiene	ND	1.5	0.86			ND	16	9.2	30	11/6/23 21:10	KMC
Hexane	ND	60	20			ND	210	70	30	11/6/23 21:10	KMC
2-Hexanone (MBK)	ND	6.0	0.65			ND	25	2.7	30	11/6/23 21:10	KMC
Isopropanol	ND	60	19		L-03	ND	150	47	30	11/6/23 21:10	KMC
Methyl tert-Butyl Ether (MTBE)	ND	1.5	0.74			ND	5.4	2.7	30	11/6/23 21:10	KMC
Methylene Chloride	ND	15	4.0			ND	52	14	30	11/6/23 21:10	KMC
4-Methyl-2-pentanone (MIBK)	ND	1.5	0.79			ND	6.1	3.3	30	11/6/23 21:10	KMC
Naphthalene	ND	1.5	1.0		Z-01	ND	7.9	5.3	30	11/6/23 21:10	KMC
Propene	ND	60	16			ND	100	28	30	11/6/23 21:10	KMC
Styrene	ND	1.5	0.80			ND	6.4	3.4	30	11/6/23 21:10	KMC
1,1,2,2-Tetrachloroethane	ND	1.5	0.37			ND	10	2.5	30	11/6/23 21:10	KMC

ANALYTICAL RESULTS

Project Location: Ingraham St, Brookyn, NY

Date Received: 11/2/2023

Field Sample #: SV-5_11.1.23
Sample ID: 23K0462-04

Sample Matrix: Soil Gas

Sampled: 11/1/2023 11:18

Sample Description/Location:

Sub Description/Location:

Canister ID: 2215

Canister Size: 6 liter

Flow Controller ID: 4405

Sample Type: 2 hr

Work Order: 23K0462

Initial Vacuum(in Hg): -29

Final Vacuum(in Hg): -9

Receipt Vacuum(in Hg): -9.0

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling: <20%

EPA TO-15

Analyte	Results	ppbv			Flag/Qual	ug/m3			Dilution	Date/Time		Analyst
		RL	MDL			Results	RL	MDL		Analyzed		
Tetrachloroethylene	930	1.5	0.56			6300	10	3.8	30	11/6/23 21:10		KMC
Tetrahydrofuran	ND	15	3.1			ND	44	9.1	30	11/6/23 21:10		KMC
Toluene	ND	1.5	0.55			ND	5.7	2.1	30	11/6/23 21:10		KMC
1,2,4-Trichlorobenzene	ND	1.5	0.81			ND	11	6.0	30	11/6/23 21:10		KMC
1,1,1-Trichloroethane	ND	1.5	0.47			ND	8.2	2.6	30	11/6/23 21:10		KMC
1,1,2-Trichloroethane	ND	1.5	0.38			ND	8.2	2.1	30	11/6/23 21:10		KMC
Trichloroethylene	40	1.5	0.61			220	8.1	3.3	30	11/6/23 21:10		KMC
Trichlorofluoromethane (Freon 11)	0.63	6.0	0.61		J	3.5	34	3.5	30	11/6/23 21:10		KMC
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	6.0	0.33			ND	46	2.5	30	11/6/23 21:10		KMC
1,2,4-Trimethylbenzene	ND	1.5	0.69			ND	7.4	3.4	30	11/6/23 21:10		KMC
1,3,5-Trimethylbenzene	ND	1.5	0.77			ND	7.4	3.8	30	11/6/23 21:10		KMC
Vinyl Acetate	ND	30	5.4			ND	110	19	30	11/6/23 21:10		KMC
Vinyl Chloride	ND	1.5	0.68			ND	3.8	1.7	30	11/6/23 21:10		KMC
m&p-Xylene	ND	3.0	1.1			ND	13	4.6	30	11/6/23 21:10		KMC
o-Xylene	ND	1.5	0.55			ND	6.5	2.4	30	11/6/23 21:10		KMC

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	83.2	70-130	11/6/23 21:10

ANALYTICAL RESULTS

Project Location: Ingraham St, Brooklyn, NY
Date Received: 11/2/2023
Field Sample #: SV-1_11.1.23
Sample ID: 23K0462-05
Sample Matrix: Soil Gas
Sampled: 11/1/2023 11:25

Sample Description/Location:
Sub Description/Location:
Canister ID: 1506
Canister Size: 6 liter
Flow Controller ID: 4421
Sample Type: 2 hr

Work Order: 23K0462
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -9.5
Receipt Vacuum(in Hg): -8.6
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling: <20%

EPA TO-15

Analyte	ppbv				Flag/Qual	ug/m3			Date/Time		Analyst
	Results	RL	MDL	Results		RL	MDL	Dilution	Analyzed		
Acetone	ND	60	14			ND	140	34	30	11/6/23 22:01	KMC
Benzene	0.60	1.5	0.46		J	1.9	4.8	1.5	30	11/6/23 22:01	KMC
Benzyl chloride	ND	6.0	0.81		L-03	ND	31	4.2	30	11/6/23 22:01	KMC
Bromodichloromethane	9.1	1.5	0.41			61	10	2.7	30	11/6/23 22:01	KMC
Bromoform	ND	1.5	0.53			ND	16	5.5	30	11/6/23 22:01	KMC
Bromomethane	ND	1.5	0.80			ND	5.8	3.1	30	11/6/23 22:01	KMC
1,3-Butadiene	ND	1.5	1.3			ND	3.3	2.8	30	11/6/23 22:01	KMC
2-Butanone (MEK)	ND	60	17			ND	180	50	30	11/6/23 22:01	KMC
Carbon Disulfide	ND	15	2.9			ND	47	8.9	30	11/6/23 22:01	KMC
Carbon Tetrachloride	ND	1.5	0.43			ND	9.4	2.7	30	11/6/23 22:01	KMC
Chlorobenzene	ND	1.5	0.38			ND	6.9	1.7	30	11/6/23 22:01	KMC
Chloroethane	ND	1.5	0.95			ND	4.0	2.5	30	11/6/23 22:01	KMC
Chloroform	280	1.5	0.39			1400	7.3	1.9	30	11/6/23 22:01	KMC
Chloromethane	ND	3.0	0.61			ND	6.2	1.3	30	11/6/23 22:01	KMC
Cyclohexane	ND	1.5	0.66			ND	5.2	2.3	30	11/6/23 22:01	KMC
Dibromochloromethane	ND	1.5	0.40			ND	13	3.4	30	11/6/23 22:01	KMC
1,2-Dibromoethane (EDB)	ND	1.5	0.50			ND	12	3.8	30	11/6/23 22:01	KMC
1,2-Dichlorobenzene	ND	1.5	0.52			ND	9.0	3.2	30	11/6/23 22:01	KMC
1,3-Dichlorobenzene	ND	1.5	0.56			ND	9.0	3.3	30	11/6/23 22:01	KMC
1,4-Dichlorobenzene	ND	1.5	0.55			ND	9.0	3.3	30	11/6/23 22:01	KMC
Dichlorodifluoromethane (Freon 12)	ND	1.5	0.63			ND	7.4	3.1	30	11/6/23 22:01	KMC
1,1-Dichloroethane	ND	1.5	0.48			ND	6.1	1.9	30	11/6/23 22:01	KMC
1,2-Dichloroethane	ND	1.5	0.56			ND	6.1	2.3	30	11/6/23 22:01	KMC
1,1-Dichloroethylene	ND	1.5	0.43			ND	5.9	1.7	30	11/6/23 22:01	KMC
cis-1,2-Dichloroethylene	20	1.5	0.46			77	5.9	1.8	30	11/6/23 22:01	KMC
trans-1,2-Dichloroethylene	0.81	1.5	0.49		J	3.2	5.9	1.9	30	11/6/23 22:01	KMC
1,2-Dichloropropane	ND	1.5	0.41			ND	6.9	1.9	30	11/6/23 22:01	KMC
cis-1,3-Dichloropropene	ND	1.5	0.67			ND	6.8	3.0	30	11/6/23 22:01	KMC
trans-1,3-Dichloropropene	ND	1.5	0.77			ND	6.8	3.5	30	11/6/23 22:01	KMC
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	1.5	0.60			ND	10	4.2	30	11/6/23 22:01	KMC
1,4-Dioxane	ND	15	7.4			ND	54	27	30	11/6/23 22:01	KMC
Ethanol	ND	60	40			ND	110	75	30	11/6/23 22:01	KMC
Ethyl Acetate	ND	15	4.3			ND	54	16	30	11/6/23 22:01	KMC
Ethylbenzene	ND	1.5	0.44			ND	6.5	1.9	30	11/6/23 22:01	KMC
4-Ethyltoluene	ND	1.5	0.65			ND	7.4	3.2	30	11/6/23 22:01	KMC
Heptane	ND	1.5	0.95			ND	6.1	3.9	30	11/6/23 22:01	KMC
Hexachlorobutadiene	ND	1.5	0.86			ND	16	9.2	30	11/6/23 22:01	KMC
Hexane	ND	60	20			ND	210	70	30	11/6/23 22:01	KMC
2-Hexanone (MBK)	ND	6.0	0.65			ND	25	2.7	30	11/6/23 22:01	KMC
Isopropanol	ND	60	19		L-03	ND	150	47	30	11/6/23 22:01	KMC
Methyl tert-Butyl Ether (MTBE)	ND	1.5	0.74			ND	5.4	2.7	30	11/6/23 22:01	KMC
Methylene Chloride	ND	15	4.0			ND	52	14	30	11/6/23 22:01	KMC
4-Methyl-2-pentanone (MIBK)	ND	1.5	0.79			ND	6.1	3.3	30	11/6/23 22:01	KMC
Naphthalene	ND	1.5	1.0		Z-01	ND	7.9	5.3	30	11/6/23 22:01	KMC
Propene	ND	60	16			ND	100	28	30	11/6/23 22:01	KMC
Styrene	ND	1.5	0.80			ND	6.4	3.4	30	11/6/23 22:01	KMC
1,1,2,2-Tetrachloroethane	ND	1.5	0.37			ND	10	2.5	30	11/6/23 22:01	KMC

ANALYTICAL RESULTS

Project Location: Ingraham St, Brookyn, NY

Date Received: 11/2/2023

Field Sample #: SV-1_11.1.23
Sample ID: 23K0462-05

Sample Matrix: Soil Gas

Sampled: 11/1/2023 11:25

Sample Description/Location:

Sub Description/Location:

Canister ID: 1506

Canister Size: 6 liter

Flow Controller ID: 4421

Sample Type: 2 hr

Work Order: 23K0462

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -9.5

Receipt Vacuum(in Hg): -8.6

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling: <20%

EPA TO-15

Analyte	ppbv			Flag/Qual	ug/m3			Dilution	Date/Time	
	Results	RL	MDL		Results	RL	MDL		Analyzed	Analyst
Tetrachloroethylene	1500	1.5	0.56		10000	10	3.8	30	11/6/23 22:01	KMC
Tetrahydrofuran	ND	15	3.1		ND	44	9.1	30	11/6/23 22:01	KMC
Toluene	ND	1.5	0.55		ND	5.7	2.1	30	11/6/23 22:01	KMC
1,2,4-Trichlorobenzene	ND	1.5	0.81		ND	11	6.0	30	11/6/23 22:01	KMC
1,1,1-Trichloroethane	1.4	1.5	0.47	J	7.5	8.2	2.6	30	11/6/23 22:01	KMC
1,1,2-Trichloroethane	ND	1.5	0.38		ND	8.2	2.1	30	11/6/23 22:01	KMC
Trichloroethylene	210	1.5	0.61		1100	8.1	3.3	30	11/6/23 22:01	KMC
Trichlorofluoromethane (Freon 11)	ND	6.0	0.61		ND	34	3.5	30	11/6/23 22:01	KMC
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	6.0	0.33		ND	46	2.5	30	11/6/23 22:01	KMC
1,2,4-Trimethylbenzene	ND	1.5	0.69		ND	7.4	3.4	30	11/6/23 22:01	KMC
1,3,5-Trimethylbenzene	ND	1.5	0.77		ND	7.4	3.8	30	11/6/23 22:01	KMC
Vinyl Acetate	ND	30	5.4		ND	110	19	30	11/6/23 22:01	KMC
Vinyl Chloride	ND	1.5	0.68		ND	3.8	1.7	30	11/6/23 22:01	KMC
m&p-Xylene	ND	3.0	1.1		ND	13	4.6	30	11/6/23 22:01	KMC
o-Xylene	ND	1.5	0.55		ND	6.5	2.4	30	11/6/23 22:01	KMC

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	80.0	70-130	11/6/23 22:01

ANALYTICAL RESULTS

Project Location: Ingraham St, Brooklyn, NY
 Date Received: 11/2/2023
Field Sample #: OA-1_11.1.23
Sample ID: 23K0462-06
 Sample Matrix: Ambient Air
 Sampled: 11/1/2023 12:00

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 2131
 Canister Size: 6 liter
 Flow Controller ID: 4407
 Sample Type: 2 hr

Work Order: 23K0462
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -7
 Receipt Vacuum(in Hg): -6.8
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling: <20%

EPA TO-15

Analyte	ppbv			Flag/Qual	ug/m3			Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL	MDL		Analyzed		
Acetone	12	1.4	0.33		27	3.3	0.78	0.698	11/6/23 19:31		KMC
Benzene	0.33	0.035	0.011		1.0	0.11	0.034	0.698	11/6/23 19:31		KMC
Benzyl chloride	ND	0.14	0.019	L-03	ND	0.72	0.097	0.698	11/6/23 19:31		KMC
Bromodichloromethane	ND	0.035	0.0095		ND	0.23	0.063	0.698	11/6/23 19:31		KMC
Bromoform	ND	0.035	0.012		ND	0.36	0.13	0.698	11/6/23 19:31		KMC
Bromomethane	ND	0.035	0.019		ND	0.14	0.072	0.698	11/6/23 19:31		KMC
1,3-Butadiene	ND	0.035	0.029		ND	0.077	0.065	0.698	11/6/23 19:31		KMC
2-Butanone (MEK)	0.59	1.4	0.39	J	1.7	4.1	1.2	0.698	11/6/23 19:31		KMC
Carbon Disulfide	ND	0.35	0.067		ND	1.1	0.21	0.698	11/6/23 19:31		KMC
Carbon Tetrachloride	0.086	0.035	0.010		0.54	0.22	0.063	0.698	11/6/23 19:31		KMC
Chlorobenzene	ND	0.035	0.0088		ND	0.16	0.040	0.698	11/6/23 19:31		KMC
Chloroethane	ND	0.035	0.022		ND	0.092	0.058	0.698	11/6/23 19:31		KMC
Chloroform	0.024	0.035	0.0091	J	0.12	0.17	0.044	0.698	11/6/23 19:31		KMC
Chloromethane	0.49	0.070	0.014		1.0	0.14	0.029	0.698	11/6/23 19:31		KMC
Cyclohexane	0.13	0.035	0.015		0.46	0.12	0.053	0.698	11/6/23 19:31		KMC
Dibromochloromethane	ND	0.035	0.0094		ND	0.30	0.080	0.698	11/6/23 19:31		KMC
1,2-Dibromoethane (EDB)	ND	0.035	0.012		ND	0.27	0.089	0.698	11/6/23 19:31		KMC
1,2-Dichlorobenzene	ND	0.035	0.012		ND	0.21	0.073	0.698	11/6/23 19:31		KMC
1,3-Dichlorobenzene	ND	0.035	0.013		ND	0.21	0.078	0.698	11/6/23 19:31		KMC
1,4-Dichlorobenzene	0.014	0.035	0.013	J	0.084	0.21	0.077	0.698	11/6/23 19:31		KMC
Dichlorodifluoromethane (Freon 12)	0.54	0.035	0.015		2.7	0.17	0.072	0.698	11/6/23 19:31		KMC
1,1-Dichloroethane	ND	0.035	0.011		ND	0.14	0.045	0.698	11/6/23 19:31		KMC
1,2-Dichloroethane	0.020	0.035	0.013	J	0.082	0.14	0.053	0.698	11/6/23 19:31		KMC
1,1-Dichloroethylene	ND	0.035	0.010		ND	0.14	0.039	0.698	11/6/23 19:31		KMC
cis-1,2-Dichloroethylene	ND	0.035	0.011		ND	0.14	0.043	0.698	11/6/23 19:31		KMC
trans-1,2-Dichloroethylene	ND	0.035	0.011		ND	0.14	0.045	0.698	11/6/23 19:31		KMC
1,2-Dichloropropane	ND	0.035	0.0096		ND	0.16	0.044	0.698	11/6/23 19:31		KMC
cis-1,3-Dichloropropene	ND	0.035	0.016		ND	0.16	0.071	0.698	11/6/23 19:31		KMC
trans-1,3-Dichloropropene	ND	0.035	0.018		ND	0.16	0.082	0.698	11/6/23 19:31		KMC
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	0.017	0.035	0.014	J	0.12	0.24	0.098	0.698	11/6/23 19:31		KMC
1,4-Dioxane	ND	0.35	0.17		ND	1.3	0.62	0.698	11/6/23 19:31		KMC
Ethanol	15	1.4	0.93		28	2.6	1.7	0.698	11/6/23 19:31		KMC
Ethyl Acetate	ND	0.35	0.10		ND	1.3	0.36	0.698	11/6/23 19:31		KMC
Ethylbenzene	0.28	0.035	0.010		1.2	0.15	0.044	0.698	11/6/23 19:31		KMC
4-Ethyltoluene	0.031	0.035	0.015	J	0.15	0.17	0.075	0.698	11/6/23 19:31		KMC
Heptane	0.18	0.035	0.022		0.74	0.14	0.090	0.698	11/6/23 19:31		KMC
Hexachlorobutadiene	ND	0.035	0.020		ND	0.37	0.21	0.698	11/6/23 19:31		KMC
Hexane	ND	1.4	0.46		ND	4.9	1.6	0.698	11/6/23 19:31		KMC
2-Hexanone (MBK)	ND	0.14	0.015		ND	0.57	0.062	0.698	11/6/23 19:31		KMC
Isopropanol	3.9	1.4	0.44	L-03	9.7	3.4	1.1	0.698	11/6/23 19:31		KMC
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.017		ND	0.13	0.062	0.698	11/6/23 19:31		KMC
Methylene Chloride	0.19	0.35	0.094	J	0.66	1.2	0.33	0.698	11/6/23 19:31		KMC
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018		ND	0.14	0.076	0.698	11/6/23 19:31		KMC
Naphthalene	ND	0.035	0.023	Z-01	ND	0.18	0.12	0.698	11/6/23 19:31		KMC
Propene	ND	1.4	0.38		ND	2.4	0.65	0.698	11/6/23 19:31		KMC
Styrene	0.028	0.035	0.019	J	0.12	0.15	0.080	0.698	11/6/23 19:31		KMC
1,1,2,2-Tetrachloroethane	ND	0.035	0.0086		ND	0.24	0.059	0.698	11/6/23 19:31		KMC

ANALYTICAL RESULTS

Project Location: Ingraham St, Brookyn, NY
Date Received: 11/2/2023
Field Sample #: OA-1_11.1.23
Sample ID: 23K0462-06
Sample Matrix: Ambient Air
Sampled: 11/1/2023 12:00

Sample Description/Location:
Sub Description/Location:
Canister ID: 2131
Canister Size: 6 liter
Flow Controller ID: 4407
Sample Type: 2 hr

Work Order: 23K0462
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -7
Receipt Vacuum(in Hg): -6.8
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling: <20%

EPA TO-15

Analyte	ppbv			Flag/Qual	ug/m3			Date/Time		Analyst
	Results	RL	MDL		Results	RL	MDL	Dilution	Analyzed	
Tetrachloroethylene	0.29	0.035	0.013		1.9	0.24	0.089	0.698	11/6/23 19:31	KMC
Tetrahydrofuran	ND	0.35	0.072		ND	1.0	0.21	0.698	11/6/23 19:31	KMC
Toluene	7.6	0.035	0.013		29	0.13	0.048	0.698	11/6/23 19:31	KMC
1,2,4-Trichlorobenzene	ND	0.035	0.019		ND	0.26	0.14	0.698	11/6/23 19:31	KMC
1,1,1-Trichloroethane	ND	0.035	0.011		ND	0.19	0.059	0.698	11/6/23 19:31	KMC
1,1,2-Trichloroethane	ND	0.035	0.0089		ND	0.19	0.049	0.698	11/6/23 19:31	KMC
Trichloroethylene	ND	0.035	0.014		ND	0.19	0.076	0.698	11/6/23 19:31	KMC
Trichlorofluoromethane (Freon 11)	0.31	0.14	0.014		1.7	0.78	0.080	0.698	11/6/23 19:31	KMC
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.13	0.14	0.0077	J	1.0	1.1	0.059	0.698	11/6/23 19:31	KMC
1,2,4-Trimethylbenzene	0.12	0.035	0.016		0.58	0.17	0.079	0.698	11/6/23 19:31	KMC
1,3,5-Trimethylbenzene	0.031	0.035	0.018	J	0.15	0.17	0.088	0.698	11/6/23 19:31	KMC
Vinyl Acetate	ND	0.70	0.12		ND	2.5	0.44	0.698	11/6/23 19:31	KMC
Vinyl Chloride	ND	0.035	0.016		ND	0.089	0.041	0.698	11/6/23 19:31	KMC
m&p-Xylene	1.0	0.070	0.024		4.4	0.30	0.11	0.698	11/6/23 19:31	KMC
o-Xylene	0.30	0.035	0.013		1.3	0.15	0.055	0.698	11/6/23 19:31	KMC

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	98.0	70-130	11/6/23 19:31

ANALYTICAL RESULTS

Project Location: Ingraham St, Brooklyn, NY
 Date Received: 11/2/2023
Field Sample #: SV-4_11.1.23
Sample ID: 23K0462-07
 Sample Matrix: Soil Gas
 Sampled: 11/1/2023 12:00

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 2040
 Canister Size: 6 liter
 Flow Controller ID: 4403
 Sample Type: 2 hr

Work Order: 23K0462
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -9
 Receipt Vacuum(in Hg): -8.3
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling: <20%

EPA TO-15

Analyte	ppbv				ug/m3			Date/Time		
	Results	RL	MDL	Flag/Qual	Results	RL	MDL	Dilution	Analyzed	Analyst
Acetone	3.4	4.0	0.94	J	8.1	9.5	2.2	2	11/6/23 19:56	KMC
Benzene	0.10	0.10	0.031	L-03	0.32	0.32	0.099	2	11/6/23 19:56	KMC
Benzyl chloride	ND	0.40	0.054		ND	2.1	0.28	2	11/6/23 19:56	KMC
Bromodichloromethane	ND	0.10	0.027		ND	0.67	0.18	2	11/6/23 19:56	KMC
Bromoform	ND	0.10	0.036		ND	1.0	0.37	2	11/6/23 19:56	KMC
Bromomethane	ND	0.10	0.053		ND	0.39	0.21	2	11/6/23 19:56	KMC
1,3-Butadiene	ND	0.10	0.084	ND	0.22	0.19	2	11/6/23 19:56	KMC	
2-Butanone (MEK)	ND	4.0	1.1	ND	12	3.3	2	11/6/23 19:56	KMC	
Carbon Disulfide	ND	1.0	0.19	ND	3.1	0.60	2	11/6/23 19:56	KMC	
Carbon Tetrachloride	ND	0.10	0.029	ND	0.63	0.18	2	11/6/23 19:56	KMC	
Chlorobenzene	ND	0.10	0.025	ND	0.46	0.12	2	11/6/23 19:56	KMC	
Chloroethane	ND	0.10	0.063	ND	0.26	0.17	2	11/6/23 19:56	KMC	
Chloroform	1.2	0.10	0.026	5.9	0.49	0.13	2	11/6/23 19:56	KMC	
Chloromethane	ND	0.20	0.041	ND	0.41	0.084	2	11/6/23 19:56	KMC	
Cyclohexane	ND	0.10	0.044	ND	0.34	0.15	2	11/6/23 19:56	KMC	
Dibromochloromethane	ND	0.10	0.027	ND	0.85	0.23	2	11/6/23 19:56	KMC	
1,2-Dibromoethane (EDB)	ND	0.10	0.033	ND	0.77	0.26	2	11/6/23 19:56	KMC	
1,2-Dichlorobenzene	ND	0.10	0.035	ND	0.60	0.21	2	11/6/23 19:56	KMC	
1,3-Dichlorobenzene	ND	0.10	0.037	ND	0.60	0.22	2	11/6/23 19:56	KMC	
1,4-Dichlorobenzene	ND	0.10	0.037	ND	0.60	0.22	2	11/6/23 19:56	KMC	
Dichlorodifluoromethane (Freon 12)	ND	0.10	0.042	ND	0.49	0.21	2	11/6/23 19:56	KMC	
1,1-Dichloroethane	2.0	0.10	0.032	7.9	0.40	0.13	2	11/6/23 19:56	KMC	
1,2-Dichloroethane	ND	0.10	0.038	ND	0.40	0.15	2	11/6/23 19:56	KMC	
1,1-Dichloroethylene	ND	0.10	0.029	ND	0.40	0.11	2	11/6/23 19:56	KMC	
cis-1,2-Dichloroethylene	1.5	0.10	0.031	5.8	0.40	0.12	2	11/6/23 19:56	KMC	
trans-1,2-Dichloroethylene	ND	0.10	0.033	ND	0.40	0.13	2	11/6/23 19:56	KMC	
1,2-Dichloropropane	ND	0.10	0.027	ND	0.46	0.13	2	11/6/23 19:56	KMC	
cis-1,3-Dichloropropene	ND	0.10	0.045	ND	0.45	0.20	2	11/6/23 19:56	KMC	
trans-1,3-Dichloropropene	ND	0.10	0.052	ND	0.45	0.23	2	11/6/23 19:56	KMC	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.10	0.040	ND	0.70	0.28	2	11/6/23 19:56	KMC	
1,4-Dioxane	ND	1.0	0.49	ND	3.6	1.8	2	11/6/23 19:56	KMC	
Ethanol	11	4.0	2.7	20	7.5	5.0	2	11/6/23 19:56	KMC	
Ethyl Acetate	ND	1.0	0.29	ND	3.6	1.0	2	11/6/23 19:56	KMC	
Ethylbenzene	0.084	0.10	0.029	J	0.36	0.43	0.13	2	11/6/23 19:56	KMC
4-Ethyltoluene	ND	0.10	0.043	ND	0.49	0.21	2	11/6/23 19:56	KMC	
Heptane	ND	0.10	0.063	ND	0.41	0.26	2	11/6/23 19:56	KMC	
Hexachlorobutadiene	ND	0.10	0.058	ND	1.1	0.61	2	11/6/23 19:56	KMC	
Hexane	ND	4.0	1.3	ND	14	4.7	2	11/6/23 19:56	KMC	
2-Hexanone (MBK)	ND	0.40	0.043	ND	1.6	0.18	2	11/6/23 19:56	KMC	
Isopropanol	21	4.0	1.3	L-03	52	9.8	3.1	2	11/6/23 19:56	KMC
Methyl tert-Butyl Ether (MTBE)	1.9	0.10	0.049	6.8	0.36	0.18	2	11/6/23 19:56	KMC	
Methylene Chloride	ND	1.0	0.27	ND	3.5	0.93	2	11/6/23 19:56	KMC	
4-Methyl-2-pentanone (MIBK)	ND	0.10	0.053	ND	0.41	0.22	2	11/6/23 19:56	KMC	
Naphthalene	ND	0.10	0.067	Z-01	ND	0.52	0.35	2	11/6/23 19:56	KMC
Propene	ND	4.0	1.1	ND	6.9	1.9	2	11/6/23 19:56	KMC	
Styrene	0.090	0.10	0.054	J	0.38	0.43	0.23	2	11/6/23 19:56	KMC
1,1,2,2-Tetrachloroethane	ND	0.10	0.025	ND	0.69	0.17	2	11/6/23 19:56	KMC	

ANALYTICAL RESULTS

Project Location: Ingraham St, Brookyn, NY
Date Received: 11/2/2023
Field Sample #: SV-4_11.1.23
Sample ID: 23K0462-07
Sample Matrix: Soil Gas
Sampled: 11/1/2023 12:00

Sample Description/Location:
Sub Description/Location:
Canister ID: 2040
Canister Size: 6 liter
Flow Controller ID: 4403
Sample Type: 2 hr

Work Order: 23K0462
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -9
Receipt Vacuum(in Hg): -8.3
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling: <20%

EPA TO-15

Analyte	ppbv			Flag/Qual	ug/m3			Dilution	Date/Time	
	Results	RL	MDL		Results	RL	MDL		Analyzed	Analyst
Tetrachloroethylene	1.5	0.10	0.037		10	0.68	0.25	2	11/6/23 19:56	KMC
Tetrahydrofuran	ND	1.0	0.21		ND	2.9	0.61	2	11/6/23 19:56	KMC
Toluene	0.31	0.10	0.036		1.2	0.38	0.14	2	11/6/23 19:56	KMC
1,2,4-Trichlorobenzene	ND	0.10	0.054		ND	0.74	0.40	2	11/6/23 19:56	KMC
1,1,1-Trichloroethane	ND	0.10	0.031		ND	0.55	0.17	2	11/6/23 19:56	KMC
1,1,2-Trichloroethane	ND	0.10	0.026		ND	0.55	0.14	2	11/6/23 19:56	KMC
Trichloroethylene	0.20	0.10	0.041		1.1	0.54	0.22	2	11/6/23 19:56	KMC
Trichlorofluoromethane (Freon 11)	0.37	0.40	0.041	J	2.1	2.2	0.23	2	11/6/23 19:56	KMC
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.12	0.40	0.022	J	0.93	3.1	0.17	2	11/6/23 19:56	KMC
1,2,4-Trimethylbenzene	0.062	0.10	0.046	J	0.30	0.49	0.23	2	11/6/23 19:56	KMC
1,3,5-Trimethylbenzene	ND	0.10	0.052		ND	0.49	0.25	2	11/6/23 19:56	KMC
Vinyl Acetate	ND	2.0	0.36		ND	7.0	1.3	2	11/6/23 19:56	KMC
Vinyl Chloride	66	0.10	0.046		170	0.26	0.12	2	11/6/23 19:56	KMC
m&p-Xylene	0.26	0.20	0.070		1.1	0.87	0.30	2	11/6/23 19:56	KMC
o-Xylene	0.12	0.10	0.037		0.51	0.43	0.16	2	11/6/23 19:56	KMC

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	94.6	70-130	11/6/23 19:56

Sample Extraction Data

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
23K0462-01 [SV-7_11.1.23]	B357952	1.5	1	N/A	1000	200	10	11/06/23
23K0462-01RE1 [SV-7_11.1.23]	B357952	1.5	100	10	1000	200	200	11/06/23
23K0462-02 [SV-6_11.1.23]	B357952	1.5	1	N/A	1000	200	10	11/06/23
23K0462-02RE1 [SV-6_11.1.23]	B357952	1.5	200	5	1000	200	200	11/06/23
23K0462-03 [SV-6_11.1.23_DUP]	B357952	1.5	1	N/A	1000	200	10	11/06/23
23K0462-03RE1 [SV-6_11.1.23_DUP]	B357952	1.5	200	5	1000	200	200	11/06/23
23K0462-04 [SV-5_11.1.23]	B357952	1.5	1	N/A	1000	200	10	11/06/23
23K0462-05 [SV-1_11.1.23]	B357952	1.5	1	N/A	1000	200	10	11/06/23
23K0462-06 [OA-1_11.1.23]	B357952	1.5	1	N/A	1000	200	430	11/06/23
23K0462-07 [SV-4_11.1.23]	B357952	1.5	1	N/A	1000	200	150	11/06/23

QUALITY CONTROL
Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag/Qual
	Results	RL	Results	RL	ppbv	Result	%REC	Limits	RPD	Limit	
Batch B357952 - TO-15 Prep											
Blank (B357952-BLK1)					Prepared & Analyzed: 11/06/23						
Acetone	ND	0.80									
Benzene	ND	0.020									
Benzyl chloride	ND	0.020									L-03
Bromodichloromethane	ND	0.020									
Bromoform	ND	0.020									
Bromomethane	ND	0.020									
1,3-Butadiene	ND	0.020									
2-Butanone (MEK)	ND	0.80									
Carbon Disulfide	ND	0.20									
Carbon Tetrachloride	ND	0.020									
Chlorobenzene	ND	0.020									
Chloroethane	ND	0.020									
Chloroform	ND	0.020									
Chloromethane	ND	0.040									
Cyclohexane	ND	0.020									
Dibromochloromethane	ND	0.020									
1,2-Dibromoethane (EDB)	ND	0.020									
1,2-Dichlorobenzene	ND	0.020									
1,3-Dichlorobenzene	ND	0.020									
1,4-Dichlorobenzene	ND	0.020									
Dichlorodifluoromethane (Freon 12)	ND	0.020									
1,1-Dichloroethane	ND	0.020									
1,2-Dichloroethane	ND	0.020									
1,1-Dichloroethylene	ND	0.020									
cis-1,2-Dichloroethylene	ND	0.020									
trans-1,2-Dichloroethylene	ND	0.020									
1,2-Dichloropropane	ND	0.020									
cis-1,3-Dichloropropene	ND	0.020									
trans-1,3-Dichloropropene	ND	0.020									
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.020									
1,4-Dioxane	ND	0.20									
Ethanol	ND	0.80									
Ethyl Acetate	ND	0.20									
Ethylbenzene	ND	0.020									
4-Ethyltoluene	ND	0.020									
Heptane	ND	0.020									
Hexachlorobutadiene	ND	0.020									
Hexane	ND	0.80									
2-Hexanone (MBK)	ND	0.020									
Isopropanol	ND	0.80									L-03
Methyl tert-Butyl Ether (MTBE)	ND	0.020									
Methylene Chloride	ND	0.20									
4-Methyl-2-pentanone (MIBK)	ND	0.020									
Naphthalene	ND	0.020									Z-01
Propene	ND	0.80									
Styrene	ND	0.020									

QUALITY CONTROL
Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	Flag/Qual
	Results	RL	Results	RL	ppbv	Result	%REC	Limits	RPD	

Batch B357952 - TO-15 Prep
Blank (B357952-BLK1)

Prepared & Analyzed: 11/06/23

1,1,2,2-Tetrachloroethane	ND	0.020
Tetrachloroethylene	ND	0.020
Tetrahydrofuran	ND	0.20
Toluene	ND	0.020
1,2,4-Trichlorobenzene	ND	0.020
1,1,1-Trichloroethane	ND	0.020
1,1,2-Trichloroethane	ND	0.020
Trichloroethylene	ND	0.020
Trichlorofluoromethane (Freon 11)	ND	0.080
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.080
1,2,4-Trimethylbenzene	ND	0.020
1,3,5-Trimethylbenzene	ND	0.020
Vinyl Acetate	ND	0.40
Vinyl Chloride	ND	0.020
m&p-Xylene	ND	0.040
o-Xylene	ND	0.020

Surrogate: 4-Bromofluorobenzene (1) 7.72 8.00 96.5 70-130

LCS (B357952-BS1)

Prepared & Analyzed: 11/06/23

Acetone	4.14	5.00	82.7	70-130
Benzene	4.26	5.00	85.3	70-130
Benzyl chloride	3.31	5.00	66.2 *	70-130
Bromodichloromethane	4.44	5.00	88.8	70-130
Bromoform	5.15	5.00	103	70-130
Bromomethane	4.91	5.00	98.3	70-130
1,3-Butadiene	4.74	5.00	94.8	70-130
2-Butanone (MEK)	4.44	5.00	88.8	70-130
Carbon Disulfide	6.18	5.00	124	70-130
Carbon Tetrachloride	4.87	5.00	97.5	70-130
Chlorobenzene	4.75	5.00	95.1	70-130
Chloroethane	4.51	5.00	90.1	70-130
Chloroform	5.08	5.00	102	70-130
Chloromethane	4.12	5.00	82.5	70-130
Cyclohexane	4.53	5.00	90.6	70-130
Dibromochloromethane	5.47	5.00	109	70-130
1,2-Dibromoethane (EDB)	4.78	5.00	95.7	70-130
1,2-Dichlorobenzene	4.81	5.00	96.1	70-130
1,3-Dichlorobenzene	5.23	5.00	105	70-130
1,4-Dichlorobenzene	5.00	5.00	100	70-130
Dichlorodifluoromethane (Freon 12)	4.12	5.00	82.3	70-130
1,1-Dichloroethane	4.73	5.00	94.6	70-130
1,2-Dichloroethane	4.99	5.00	99.8	70-130
1,1-Dichloroethylene	5.45	5.00	109	70-130
cis-1,2-Dichloroethylene	4.73	5.00	94.7	70-130
trans-1,2-Dichloroethylene	4.86	5.00	97.2	70-130
1,2-Dichloropropane	4.17	5.00	83.5	70-130

L-03

QUALITY CONTROL
Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag/Qual
	Results	RL	Results	RL	ppbv	Result	%REC	Limits	RPD	Limit	
Batch B357952 - TO-15 Prep											
LCS (B357952-BS1)					Prepared & Analyzed: 11/06/23						
cis-1,3-Dichloropropene	4.49				5.00		89.9	70-130			
trans-1,3-Dichloropropene	5.00				5.00		100	70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	4.67				5.00		93.5	70-130			
1,4-Dioxane	3.77				5.00		75.4	70-130			
Ethanol	3.70				5.00		74.0	70-130			
Ethyl Acetate	4.24				5.00		84.8	70-130			
Ethylbenzene	4.60				5.00		92.1	70-130			
4-Ethyltoluene	4.85				5.00		97.0	70-130			
Heptane	4.68				5.00		93.6	70-130			
Hexachlorobutadiene	4.87				4.25		114	70-130			
Hexane	5.02				5.00		100	70-130			
2-Hexanone (MBK)	3.84				5.00		76.9	70-130			
Isopropanol	3.36				5.00		67.2	* 70-130			L-03
Methyl tert-Butyl Ether (MTBE)	4.69				5.00		93.8	70-130			
Methylene Chloride	4.94				5.00		98.8	70-130			
4-Methyl-2-pentanone (MIBK)	4.46				5.00		89.3	70-130			
Naphthalene	2.87				3.68		78.0	70-130			Z-01
Propene	3.95				5.00		78.9	70-130			
Styrene	4.91				5.00		98.2	70-130			
1,1,2,2-Tetrachloroethane	4.43				5.00		88.7	70-130			
Tetrachloroethylene	4.83				5.00		96.6	70-130			
Tetrahydrofuran	4.84				5.00		96.8	70-130			
Toluene	4.80				5.00		96.0	70-130			
1,2,4-Trichlorobenzene	2.78				3.90		71.3	70-130			
1,1,1-Trichloroethane	4.52				5.00		90.5	70-130			
1,1,2-Trichloroethane	4.89				5.00		97.9	70-130			
Trichloroethylene	4.49				5.00		89.8	70-130			
Trichlorofluoromethane (Freon 11)	5.17				5.00		103	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5.96				5.00		119	70-130			
1,2,4-Trimethylbenzene	4.96				5.00		99.3	70-130			
1,3,5-Trimethylbenzene	5.42				5.00		108	70-130			
Vinyl Acetate	4.87				5.00		97.3	70-130			
Vinyl Chloride	4.63				5.00		92.6	70-130			
m&p-Xylene	10.4				10.0		104	70-130			
o-Xylene	5.22				5.00		104	70-130			
Surrogate: 4-Bromofluorobenzene (1)	8.16				8.00		102	70-130			

Note: Blank Subtraction is not performed unless otherwise noted

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
RL	Reporting Limit
MDL	Method Detection Limit
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
LCS Dup	Duplicate Laboratory Control Sample
MS	Matrix Spike Sample
MS Dup	Duplicate Matrix Spike Sample
REC	Recovery
QC	Quality Control
ppbv	Parts per billion volume
EPA	United States Environmental Protection Agency
% REC	Percent Recovery
ND	Not Detected
N/A	Not Applicable
DL	Detection Limit
NC	Not Calculated
LFB/LCS	Lab Fortified Blank/Lab Control Sample
ORP	Oxidation-Reduction Potential
wet	Not dry weight corrected
% wt	Percent weight
Kg	Kilogram
g	Gram
mg	Milligram
µg	Microgram
ng	Nanogram
L	Liter
mL	Milliliter
µL	Microliter
m3	Cubic Meter
EPH	Extractable Petroleum Hydrocarbons
VPH	Volatile Petroleum Hydrocarbons
APH	Air Petroleum Hydrocarbons
FID	Flame Ionization Detector
PID	Photo Ionization Detector
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
L-03	Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side.
	Data validation is not affected since sample result was "not detected" for this compound.
Z-01	Calibrations RSD for this compound is >30% but <40%.

ANALYST

TPH Thomas P. Hnitecki
STATION Report Queue Station
RJM Raymond J. McCarthy
KMC Kristen M Couture

INTERNAL STANDARD AREA AND RT SUMMARY
EPA TO-15

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (S085380-ICV1)			Lab File ID: J23A090036.D			Analyzed: 04/01/23 05:53			
Bromochloromethane (1)	298104	2.788	289065	2.788	103	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (1)	850179	3.418	804638	3.418	106	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (1)	747035	5.036	717694	5.036	104	60 - 140	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA TO-15

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S096212-CCV1)			Lab File ID: J23A310004.D			Analyzed: 11/06/23 10:34			
Bromochloromethane (1)	233026	2.807	289065	2.788	81	60 - 140	0.0190	+/-0.50	
1,4-Difluorobenzene (1)	714314	3.433	804638	3.418	89	60 - 140	0.0150	+/-0.50	
Chlorobenzene-d5 (1)	618211	5.041	717694	5.036	86	60 - 140	0.0050	+/-0.50	
LCS (B357952-BS1)			Lab File ID: J23A310008.D			Analyzed: 11/06/23 12:21			
Bromochloromethane (1)	223793	2.806	233026	2.807	96	60 - 140	-0.0010	+/-0.50	
1,4-Difluorobenzene (1)	690918	3.433	714314	3.433	97	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (1)	590892	5.04	618211	5.041	96	60 - 140	-0.0010	+/-0.50	
Blank (B357952-BLK1)			Lab File ID: J23A310010.D			Analyzed: 11/06/23 13:25			
Bromochloromethane (1)	216050	2.787	233026	2.807	93	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene (1)	586353	3.417	714314	3.433	82	60 - 140	-0.0160	+/-0.50	
Chlorobenzene-d5 (1)	515335	5.037	618211	5.041	83	60 - 140	-0.0040	+/-0.50	
OA-1_11.1.23 (23K0462-06)			Lab File ID: J23A310024.D			Analyzed: 11/06/23 19:31			
Bromochloromethane (1)	212568	2.783	233026	2.807	91	60 - 140	-0.0240	+/-0.50	
1,4-Difluorobenzene (1)	611958	3.418	714314	3.433	86	60 - 140	-0.0150	+/-0.50	
Chlorobenzene-d5 (1)	581287	5.034	618211	5.041	94	60 - 140	-0.0070	+/-0.50	
SV-4_11.1.23 (23K0462-07)			Lab File ID: J23A310025.D			Analyzed: 11/06/23 19:56			
Bromochloromethane (1)	204920	2.792	233026	2.807	88	60 - 140	-0.0150	+/-0.50	
1,4-Difluorobenzene (1)	595539	3.423	714314	3.433	83	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5 (1)	538049	5.039	618211	5.041	87	60 - 140	-0.0020	+/-0.50	
SV-7_11.1.23 (23K0462-01)			Lab File ID: J23A310026.D			Analyzed: 11/06/23 20:20			
Bromochloromethane (1)	192876	2.791	233026	2.807	83	60 - 140	-0.0160	+/-0.50	
1,4-Difluorobenzene (1)	553464	3.427	714314	3.433	77	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	541643	5.038	618211	5.041	88	60 - 140	-0.0030	+/-0.50	
SV-7_11.1.23 (23K0462-01RE1)			Lab File ID: J23A310027.D			Analyzed: 11/06/23 20:47			
Bromochloromethane (1)	205483	2.787	233026	2.807	88	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene (1)	551470	3.417	714314	3.433	77	60 - 140	-0.0160	+/-0.50	
Chlorobenzene-d5 (1)	571410	5.033	618211	5.041	92	60 - 140	-0.0080	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA TO-15

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
SV-5_11.1.23 (23K0462-04) Lab File ID: J23A310028.D Analyzed: 11/06/23 21:10									
Bromochloromethane (1)	212039	2.791	233026	2.807	91	60 - 140	-0.0160	+/-0.50	
1,4-Difluorobenzene (1)	579294	3.422	714314	3.433	81	60 - 140	-0.0110	+/-0.50	
Chlorobenzene-d5 (1)	552209	5.037	618211	5.041	89	60 - 140	-0.0040	+/-0.50	
SV-1_11.1.23 (23K0462-05) Lab File ID: J23A310030.D Analyzed: 11/06/23 22:01									
Bromochloromethane (1)	230025	2.792	233026	2.807	99	60 - 140	-0.0150	+/-0.50	
1,4-Difluorobenzene (1)	517004	3.427	714314	3.433	72	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	519806	5.038	618211	5.041	84	60 - 140	-0.0030	+/-0.50	
SV-6_11.1.23 (23K0462-02) Lab File ID: J23A310032.D Analyzed: 11/06/23 22:51									
Bromochloromethane (1)	192145	2.786	233026	2.807	82	60 - 140	-0.0210	+/-0.50	
1,4-Difluorobenzene (1)	501261	3.432	714314	3.433	70	60 - 140	-0.0010	+/-0.50	
Chlorobenzene-d5 (1)	524965	5.036	618211	5.041	85	60 - 140	-0.0050	+/-0.50	
SV-6_11.1.23 (23K0462-02RE1) Lab File ID: J23A310033.D Analyzed: 11/06/23 23:18									
Bromochloromethane (1)	195263	2.787	233026	2.807	84	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene (1)	517102	3.417	714314	3.433	72	60 - 140	-0.0160	+/-0.50	
Chlorobenzene-d5 (1)	549896	5.032	618211	5.041	89	60 - 140	-0.0090	+/-0.50	
SV-6_11.1.23_DUP (23K0462-03) Lab File ID: J23A310034.D Analyzed: 11/06/23 23:41									
Bromochloromethane (1)	205016	2.791	233026	2.807	88	60 - 140	-0.0160	+/-0.50	
1,4-Difluorobenzene (1)	544425	3.422	714314	3.433	76	60 - 140	-0.0110	+/-0.50	
Chlorobenzene-d5 (1)	544485	5.038	618211	5.041	88	60 - 140	-0.0030	+/-0.50	
SV-6_11.1.23_DUP (23K0462-03RE1) Lab File ID: J23A310035.D Analyzed: 11/07/23 00:07									
Bromochloromethane (1)	200363	2.787	233026	2.807	86	60 - 140	-0.0200	+/-0.50	
1,4-Difluorobenzene (1)	540475	3.417	714314	3.433	76	60 - 140	-0.0160	+/-0.50	
Chlorobenzene-d5 (1)	577601	5.033	618211	5.041	93	60 - 140	-0.0080	+/-0.50	

CONTINUING CALIBRATION CHECK

EPA TO-15

S096212-CCV1

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	5.00	4.10	1.034114	0.8471638		-18.1	30
Benzene	A	5.00	4.46	0.8123645	0.7251018		-10.7	30
Benzyl chloride	L	5.00	4.28	0.5056852	0.6486795		-14.4	30
Bromodichloromethane	A	5.00	4.63	0.6094342	0.5642426		-7.4	30
Bromoform	A	5.00	5.51	0.4573839	0.5036598		10.1	30
Bromomethane	A	5.00	5.00	0.6761959	0.6766352		0.06	30
1,3-Butadiene	A	5.00	4.81	0.5092257	0.4903281		-3.7	30
2-Butanone (MEK)	A	5.00	4.60	1.148647	1.057853		-7.9	30
Carbon Disulfide	A	5.00	5.76	2.001154	2.303757		15.1	30
Carbon Tetrachloride	A	5.00	5.17	0.5037067	0.52114		3.5	30
Chlorobenzene	A	5.00	4.93	0.7622773	0.7509255		-1.5	30
Chloroethane	A	5.00	4.48	0.4202137	0.3761572		-10.5	30
Chloroform	A	5.00	5.16	1.577837	1.628893		3.2	30
Chloromethane	A	5.00	4.46	0.5966374	0.532308		-10.8	30
Cyclohexane	A	5.00	4.56	0.3246406	0.2961588		-8.8	30
Dibromochloromethane	A	5.00	5.66	0.5189836	0.5878123		13.3	30
1,2-Dibromoethane (EDB)	A	5.00	5.11	0.4960864	0.5070812		2.2	30
1,2-Dichlorobenzene	A	5.00	5.86	0.4911951	0.5761787		17.3	30
1,3-Dichlorobenzene	A	5.00	6.05	0.5456808	0.6607298		21.1	30
1,4-Dichlorobenzene	A	5.00	5.75	0.5309926	0.6105048		15.0	30
Dichlorodifluoromethane (Freon 12)	A	5.00	4.38	1.809285	1.584036		-12.4	30
1,1-Dichloroethane	A	5.00	4.92	1.317427	1.296981		-1.6	30
1,2-Dichloroethane	A	5.00	5.16	0.9730911	1.003988		3.2	30
1,1-Dichloroethylene	A	5.00	5.55	1.146845	1.273224		11.0	30
cis-1,2-Dichloroethylene	A	5.00	4.94	0.9524103	0.9400908		-1.3	30
trans-1,2-Dichloroethylene	A	5.00	4.77	1.02979	0.982723		-4.6	30
1,2-Dichloropropane	A	5.00	4.35	0.3033695	0.2641348		-12.9	30
cis-1,3-Dichloropropene	A	5.00	5.16	0.4042769	0.4170155		3.2	30
trans-1,3-Dichloropropene	A	5.00	4.90	0.3279415	0.3214407		-2.0	30
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	A	5.00	5.10	1.964888	2.005441		2.1	30
1,4-Dioxane	A	5.00	3.91	0.1624784	0.1269134		-21.9	30
Ethanol	A	5.00	4.01	0.1724202	0.1382919		-19.8	30
Ethyl Acetate	A	5.00	4.31	0.2040016	0.1759598		-13.7	30
Ethylbenzene	A	5.00	4.89	1.293794	1.265171		-2.2	30
4-Ethyltoluene	A	5.00	5.30	1.173601	1.244797		6.1	30
Heptane	A	5.00	4.73	0.2390228	0.2261952		-5.4	30
Hexachlorobutadiene	A	5.00	7.92	0.2261563	0.3581767		58.4	30 *
Hexane	L	5.00	4.94	0.6738496	0.6684233		-1.3	30

CONTINUING CALIBRATION CHECK

EPA TO-15

S096212-CCV1

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
2-Hexanone (MBK)	A	5.00	4.50	0.4320676	0.3887242		-10.0	30
Isopropanol	A	5.00	3.94	1.163166	0.9166084		-21.2	30
Methyl tert-Butyl Ether (MTBE)	A	5.00	4.73	1.752887	1.658218		-5.4	30
Methylene Chloride	A	5.00	5.04	0.8161184	0.8228713		0.8	30
4-Methyl-2-pentanone (MIBK)	A	5.00	4.76	0.1991676	0.1895525		-4.8	30
Naphthalene	A	5.00	7.13	0.4140914	0.5902451		42.5	30 *
Propene	A	5.00	4.20	0.3783566	0.3181242		-15.9	30
Styrene	A	5.00	5.47	0.6193387	0.6773454		9.4	30
1,1,2,2-Tetrachloroethane	A	5.00	4.99	0.7875453	0.7865043		-0.1	30
Tetrachloroethylene	A	5.00	5.00	0.4061033	0.4057799		-0.08	30
Tetrahydrofuran	A	5.00	4.59	0.5602263	0.5145452		-8.2	30
Toluene	A	5.00	4.89	0.9952737	0.9732522		-2.2	30
1,2,4-Trichlorobenzene	A	5.00	5.56	0.1951236	0.2169382		11.2	30
1,1,1-Trichloroethane	A	5.00	4.89	0.5148362	0.5037874		-2.1	30
1,1,2-Trichloroethane	A	5.00	5.04	0.3494055	0.3524751		0.9	30
Trichloroethylene	A	5.00	4.74	0.3469588	0.3292983		-5.1	30
Trichlorofluoromethane (Freon 11)	A	5.00	5.31	1.832227	1.946173		6.2	30
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	A	5.00	6.16	1.363757	1.678831		23.1	30
1,2,4-Trimethylbenzene	A	5.00	5.80	0.9035781	1.048815		16.1	30
1,3,5-Trimethylbenzene	A	5.00	5.97	0.9651619	1.15228		19.4	30
Vinyl Acetate	A	5.00	5.14	1.160867	1.194202		2.9	30
Vinyl Chloride	A	5.00	4.79	0.7330867	0.7026375		-4.2	30
m&p-Xylene	A	10.0	10.9	1.010218	1.102497		9.1	30
o-Xylene	A	5.00	5.51	0.9862305	1.086047		10.1	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
Acetone	NY,ME,NH
Benzene	FL,NJ,NY,ME,NH,VA
Benzyl chloride	FL,NJ,NY,ME,NH,VA
Bromodichloromethane	NJ,NY,ME,NH,VA
Bromoform	NJ,NY,ME,NH,VA
Bromomethane	FL,NJ,NY,ME,NH
1,3-Butadiene	NJ,NY,ME,NH,VA
2-Butanone (MEK)	FL,NJ,NY,ME,NH,VA
Carbon Disulfide	NJ,NY,ME,NH,VA
Carbon Tetrachloride	FL,NJ,NY,ME,NH,VA
Chlorobenzene	FL,NJ,NY,ME,NH,VA
Chloroethane	FL,NJ,NY,ME,NH,VA
Chloroform	FL,NJ,NY,ME,NH,VA
Chloromethane	FL,NJ,NY,ME,NH,VA
Cyclohexane	NJ,NY,ME,NH,VA
Dibromochloromethane	NY,ME,NH
1,2-Dibromoethane (EDB)	NJ,NY,ME,NH
1,2-Dichlorobenzene	FL,NJ,NY,ME,NH,VA
1,3-Dichlorobenzene	NJ,NY,ME,NH
1,4-Dichlorobenzene	FL,NJ,NY,ME,NH,VA
Dichlorodifluoromethane (Freon 12)	NY,ME,NH
1,1-Dichloroethane	FL,NJ,NY,ME,NH,VA
1,2-Dichloroethane	FL,NJ,NY,ME,NH,VA
1,1-Dichloroethylene	FL,NJ,NY,ME,NH,VA
cis-1,2-Dichloroethylene	FL,NY,ME,NH,VA
trans-1,2-Dichloroethylene	NJ,NY,ME,NH,VA
1,2-Dichloropropane	FL,NJ,NY,ME,NH,VA
cis-1,3-Dichloropropene	FL,NJ,NY,ME,NH,VA
trans-1,3-Dichloropropene	NY,ME,NH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	NJ,NY,ME,NH,VA
1,4-Dioxane	NJ,NY,ME,NH,VA
Ethylbenzene	FL,NJ,NY,ME,NH,VA
Heptane	NJ,NY,ME,NH,VA
Hexachlorobutadiene	NJ,NY,ME,NH,VA
Hexane	FL,NJ,NY,ME,NH,VA
Isopropanol	NY,ME,NH
Methyl tert-Butyl Ether (MTBE)	FL,NJ,NY,ME,NH,VA
Methylene Chloride	FL,NJ,NY,ME,NH,VA
4-Methyl-2-pentanone (MIBK)	FL,NJ,NY,ME,NH
Naphthalene	NY,ME,NH
Styrene	FL,NJ,NY,ME,NH,VA
1,1,2,2-Tetrachloroethane	FL,NJ,NY,ME,NH,VA
Tetrachloroethylene	FL,NJ,NY,ME,NH,VA
Toluene	FL,NJ,NY,ME,NH,VA
1,2,4-Trichlorobenzene	NJ,NY,ME,NH,VA
1,1,1-Trichloroethane	FL,NJ,NY,ME,NH,VA
1,1,2-Trichloroethane	FL,NJ,NY,ME,NH,VA

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
Trichloroethylene	FL,NJ,NY,ME,NH,VA
Trichlorofluoromethane (Freon 11)	NY,ME,NH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NJ,NY,ME,NH,VA
1,2,4-Trimethylbenzene	NJ,NY,ME,NH
1,3,5-Trimethylbenzene	NJ,NY,ME,NH
Vinyl Acetate	FL,NJ,NY,ME,NH,VA
Vinyl Chloride	FL,NJ,NY,ME,NH,VA
m&p-Xylene	FL,NJ,NY,ME,NH,VA
o-Xylene	FL,NJ,NY,ME,NH,VA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NJ	New Jersey DEP	MA007 NELAP	06/30/2024
FL	Florida Department of Health	E871027 NELAP	06/30/2024
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023



Phone: 413-525-2332
 Fax: 413-525-6405
 www.pacelabs.com

http://www.pacelabs.com

CHAIN OF CUSTODY RECORD (AIR)

DOC #378 REV3_11232021

39 Spruce Street
 East Longmeadow, MA 01028

Page 1 of 1

Company Name: HRP Associates
Address: 1 Fairchild Sq, Clinton Park, NY
Phone: 518-817-7111
Project Name: Ingersoll St Groundwater
Project Location: Ingersoll St, Brooklyn, NY
Project Number: DEC1038.P2 - Site No. 224142
Project Manager: Patrick Montuori
Pace Quote Name/Number:
Invoice Recipient: Javier Perez-Maldonado
Sampled By: PL

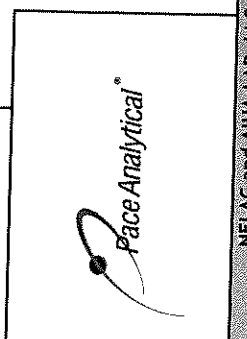
Requested Turnaround Time				ANALYSIS REQUESTED				Hg		Lab Receipt Pressure		Please fill out completely, sign, date and retain the yellow copy for your records	
Due Date:				7-Day <input checked="" type="checkbox"/> 10-Day <input type="checkbox"/>				Initial Pressure		Final Pressure		Summa canisters and flow controllers must be returned within 15 days of receipt or rental fees will apply	
1-Day <input type="checkbox"/> 3-Day <input type="checkbox"/> 4-Day <input type="checkbox"/>				Format: PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/>				Summa Can ID		Flow Controller ID		For summa canister and flow controller information please refer to Con-Test's Air Media Agreement	
Other: EQTS				CLP Like Data Pkg Required: <input checked="" type="checkbox"/>				Duration		Flow Rate		Summa Canister and flow controller information please refer to Con-Test's Air Media Agreement	
Email To: Patrick.Montuori@HRP Associates.com				Fax To #:				Beginning Date/Time		Ending Date/Time		Total Minutes Sampled	
Collection Data				Matrix				Code		Volume		Litters m ³	
Client Use				Client Sample ID / Description				SG		1		6	
01	SV-7-11.1.23	0845	1035	0902	1102	0902	1102	0918	1118	0925	1125	0930	1130
02	SV-6-11.1.23	0902	1102	0902	1102	0902	1102	0918	1118	0925	1125	0930	1130
03	SV-6-11.1.23 - DUP	0902	1102	0902	1102	0902	1102	0918	1118	0925	1125	0930	1130
04	SV-5-11.1.23	0918	1118	0925	1125	0930	1130	0943	1200	1015	1200	1015	1200
05	SV-1-11.1.23	0925	1125	0930	1130	0943	1200	1015	1200	1015	1200	1015	1200
06	SV-4-11.1.23	0943	1200	1015	1200	1015	1200	1015	1200	1015	1200	1015	1200
07	SV-4-11.1.23	1015	1200	1015	1200	1015	1200	1015	1200	1015	1200	1015	1200

Comments: Please send a copy of all data to Ted.vall@HRPAssociates.com

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
 H - High; M - Medium; L - Low; C - Clean; U - Unknown


Matrix Codes:
 SG = SOIL GAS
 IA = INDOOR AIR
 AMB = AMBIENT
 SS = SUB SLAB
 D = DUP
 BL = BLANK
 O = Other

Relinquished by: (signature) *[Signature]* Date/Time: 11/12/23 1930
Received by: (signature) *[Signature]* Date/Time: 11/23 0820
Relinquished by: (signature) *[Signature]* Date/Time: 11/23 0820
Received by: (signature) *[Signature]* Date/Time: 11/23 0820
Relinquished by: (signature) *[Signature]* Date/Time: 11/23 0820
Received by: (signature) *[Signature]* Date/Time: 11/23 0820



Project Entity
☐ Government ☐ Municipality ☐ MWRA ☐ WRTA ☐ Other
☐ Federal ☐ 21 J ☐ School ☐ Chromatogram
☐ City ☐ Brownfield ☐ MBTA ☐ AIHA-LAP, LLC

NEIAC and AIHA-LAP, LLC Accredited
☐ PCB ONLY ☐ Soxhlet ☐ Non Soxhlet

	DC#_Title: ENV-FRM-ELON-0009 v04_Air Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client DEC - HRP
 Project Ingram St Groundwater
 MCP/RCP Required _____
 Deliverable Package Requirement _____
 Location Ingram St, Brooklyn, NY
 PWSID# (When Applicable) _____
 Arrival Method Courier
 Received By / Date / Time KMC 11/2/23 0820
 Back-Sheet By / Date / Time KMC 11/2/23 1620
 Temperature Method _____ # _____
 Temp $\leq 6^{\circ}\text{C}$ ☐ Actual Temperature _____
 Rush Samples: Yes / ☒ No _____ Notify _____
 Short Hold: Yes / ☒ No _____ Notify _____

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy)
 Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Received in Cooler	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Custody Seal: DATE TIME	<input type="checkbox"/>	<input checked="" type="checkbox"/>
COC Relinquished	<input checked="" type="checkbox"/>	<input type="checkbox"/>
COC/Samples Labels Agree	<input checked="" type="checkbox"/>	<input type="checkbox"/>
All Samples in Good Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Samples Received within Holding Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is there enough Volume	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Proper Media/Container Used	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Individually Certified Cans	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Trip Blanks	<input type="checkbox"/>	<input checked="" type="checkbox"/>
COC Legible	<input checked="" type="checkbox"/>	<input type="checkbox"/>
COC Included: (Check all included)		
Client <input checked="" type="checkbox"/>	Analysis <input checked="" type="checkbox"/>	Sampler Name <input checked="" type="checkbox"/>
Project <input checked="" type="checkbox"/>	IDs <input checked="" type="checkbox"/>	Collection Date/Time <input checked="" type="checkbox"/>

Container	#	Size	Regulator	Duration	Accessories			
Summa Cans	9	6L	8	2hr	Nut/Ferrule	7	IC Train	
Tedlar Bags					Tubing			
TO-17 Tubes					T-Connector	1	Shipping Charges	
Radiello					Syringe			
Pufs/ TO-11					Tedlar			

Can #'s					Regs #'s				
1	1123	6	2131	11	1	4423	6	4407	11
2	1113	7	2040	12	2	4492	7	4403	12
3	1002	8		13	3	4492	8		13
4	2215	9		14	4	4405	9		14
Unused Media					Pufs/TO-17's				
1	1633	5		10	1		6		11
2	4429	6		11	2		7		12
3	2216	7		12	3		8		13
4	4417	8		13	4		9		14

Qualtrax ID: 127034

Page 1 of 1



Air Sampling Media Certificate of Analysis

Date Analyzed: 10/22/2023 Batch #: 23CC0828

Certification Type: Batch Certified ☒ Individual Certified ☐

Media Type: Summa Canister ☒ Flow Controllers ☐

Media IDs: BC2040

Note: Two ID's grouped together, for example BC2136/BC3145, represents matched pairs of certified summa canisters and flow controllers.

Units: PPBv

<0.80	Propene	<0.04	Vinyl acetate	<0.02	Dibromchloromethane
<0.02	Dichlorodifluoromethane	<0.20	Hexane	<0.02	1,2-Dibromomethane
<0.04	Chloromethane	<0.02	Ethyl acetate	<0.02	Tetrachloroethylene
<0.02	Freon 114	<0.02	Chloroform	<0.02	Chlorobenzene
<0.02	Vinyl chloride	<0.02	Tetrahydrofuran	<0.02	Ethylbenzene
<0.02	1,3-Butadiene	<0.02	1,2-Dichloroethane	<0.04	m,p-Xylenes
<0.02	Bromomethane	<0.02	1,1,1-Trichloroethane	<0.02	Bromoform
<0.02	Chloroethane	<0.02	Benzene	<0.02	Styrene
<0.08	Acrolein	<0.02	Carbon Tetrachloride	<0.02	o-Xylene
<0.80	Acetone	<0.02	Cyclohexane	<0.02	1,1,2,2-Tetrachloroethane
<0.20	Trichlorofluoromethane	<0.02	1,2-Dichloropropane	<0.02	4-Ethyltoluene
<0.80	Ethanol	<0.02	Bromodichloromethane	<0.02	1,3,5-Trimethylbenzene
<0.02	1,1-Dichloroethylene	<0.02	Trichloroethylene	<0.02	1,2,4-Trimethylbenzene
<0.20	Methylene chloride	<0.02	1,4-Dioxane	<0.02	1,3-Dichlorobenzene
<0.20	Freon 113	<0.02	Methylmethacrylate	<0.02	Benzyl chloride
<0.2	Carbon disulfide	<0.02	Heptane	<0.02	1,4-Dichlorobenzene
<0.02	t-1,2-Dichloroethylene	<0.02	MIBK	<0.02	1,2-Dichlorobenzene
<0.02	1,1-Dichloroethane	<0.02	c-1,3-Dichloropropylene	<0.04	1,2,4-Trichlorobenzene
<0.02	MTBE	<0.02	t-1,3-Dichloropropylene	<0.02	Naphthalene
<0.80	IPA	<0.02	1,1,2-Trichloroethylene	<0.02	Hexachlorobutadiene
<0.20	2-Butanone (MEK)	<0.02	Toluene		
<0.02	c-1,2-Dichloroethylene	<0.02	2-Hexanone (MBK)		

Special Notes:

Analyst Initials/Date: TPH 11/13/23



Air Sampling Media Certificate of Analysis

Date Analyzed: 10/23/2023 Batch #: 23CC0829

Certification Type: Batch Certified ☒ Individual Certified ☐

Media Type: Summa Canister ☒ Flow Controllers ☐

Media IDs:	BC1123	BC1113	BC1002
	BC2215	BC1506	BC2131

Note: Two ID's grouped together, for example BC2136/BC3145, represents matched pairs of certified summa canisters and flow controllers.

Units: PPBv

<0.80	Propene	<0.04	Vinyl acetate	<0.02	Dibromchloromethane
<0.02	Dichlorodifluoromethane	<0.20	Hexane	<0.02	1,2-Dibromomethane
<0.04	Chloromethane	<0.02	Ethyl acetate	<0.02	Tetrachloroethylene
<0.02	Freon 114	<0.02	Chloroform	<0.02	Chlorobenzene
<0.02	Vinyl chloride	<0.02	Tetrahydrofuran	<0.02	Ethylbenzene
<0.02	1,3-Butadiene	<0.02	1,2-Dichloroethane	<0.04	m,p-Xylenes
<0.02	Bromomethane	<0.02	1,1,1-Trichloroethane	<0.02	Bromoform
<0.02	Chloroethane	<0.02	Benzene	<0.02	Styrene
<0.08	Acrolein	<0.02	Carbon Tetrachloride	<0.02	o-Xylene
<0.80	Acetone	<0.02	Cyclohexane	<0.02	1,1,2,2-Tetrachloroethane
<0.20	Trichlorofluoromethane	<0.02	1,2-Dichloropropane	<0.02	4-Ethyltoluene
<0.80	Ethanol	<0.02	Bromodichloromethane	<0.02	1,3,5-Trimethylbenzene
<0.02	1,1-Dichloroethylene	<0.02	Trichloroethylene	<0.02	1,2,4-Trimethylbenzene
<0.20	Methylene chloride	<0.02	1,4-Dioxane	<0.02	1,3-Dichlorobenzene
<0.20	Freon 113	<0.02	Methylmethacrylate	<0.02	Benzyl chloride
<0.2	Carbon disulfide	<0.02	Heptane	<0.02	1,4-Dichlorobenzene
<0.02	t-1,2-Dichloroethylene	<0.02	MIBK	<0.02	1,2-Dichlorobenzene
<0.02	1,1-Dichloroethane	<0.02	c-1,3-Dichloropropylene	<0.04	1,2,4-Trichlorobenzene
<0.02	MTBE	<0.02	t-1,3-Dichloropropylene	<0.02	Naphthalene
<0.80	IPA	<0.02	1,1,2-Trichloroethylene	<0.02	Hexachlorobutadiene
<0.20	2-Butanone (MEK)	<0.02	Toluene		
<0.02	c-1,2-Dichloroethylene	<0.02	2-Hexanone (MBK)		

Special Notes:

Analyst Initials/Date: TPH 11/13/23

**DATA USABILITY SUMMARY REPORT
2 INGRAHAM STREET, BROOKLYN, NEW YORK**

Client: HRP Associates, In., Clifton Park, New York
SDG: 23K0462
Laboratory: Con-Test, East Longmeadow, Massachusetts
Site: 2 Ingraham Street, Brooklyn, New York
Date: December 23, 2023

EDS ID	Client ID	Laboratory ID	Matrix
1	SV-7_11.1.23	23K0462-01	Air
2	SV-6_11.1.23	23K0462-02	Air
3	SV-6_11.1.23-DUP	23K0462-03	Air
4	SV-5_11.1.23	23K0462-04	Air
5	SV-1_11.1.23	23K0462-05	Air
6	OA-1_11.1.23	23K0462-06	Air
7	SV-4_11.1.23	23K0462-07	Air

A Data Usability Summary Review was performed on the analytical data for seven air samples collected on November 1, 2023 by HRP at the 2 Ingraham Street site in Brooklyn, New York. The samples were analyzed under “Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition January 1999, EPA/625/R-96/010B”, Compendium Method TO-15, “Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)”.

Specific method references are as follows:

Analysis
VOCs

Method References
USEPA Method TO-15

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods and the USEPA Region II Data Review Standard Operating Procedures (SOPs) as follows:

- SOP Number HW-31, Revision 6, September 2016: Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15.

The following items/criteria were reviewed for this report:

Organics

- Data Completeness
- Cover letter, Narrative, and Data Reporting Forms

- Canister Certification Blanks
- Canister Certification Pressures Differences
- Chains-of-Custody and Traffic Reports
- Holding Times and sample preservation
- Laboratory Control Sample (LCS) recoveries
- GC/MS Tuning
- Method Blank Contamination
- Initial and Continuing Calibration Summaries
- Surrogate Recoveries
- Compound Quantitation
- Internal Standard (IS) Area Performance
- Field Duplicate Sample Precision

Data Usability Assessment

There were no rejections of data.

The data are acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedances of QC criteria.

Data Completeness

- The data is a complete Category B data package as defined under the requirements for the NYS Department of Environmental Conservation Analytical Services Protocol.

Cover letter, Narrative, and Data Reporting Forms

- All criteria were met.

Canister Certification Blanks

- The batch blank checks were non-detect or < RL.

Canister Certification Pressures Differences

- All criteria were met.

Chains-of-Custody and Traffic Reports

- All criteria were met.

Holding Times

- All samples were analyzed within 30 days for air samples.

Laboratory Control Samples

- The following table presents LCS percent recoveries (%R) outside the QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J). Results are valid and usable, however possibly biased.

LCS ID	Compound	%R	Qualifier	Affected Samples
	Benzyl Chloride	66.2%	UJ	All Samples
	Isopropanol	67.2%	J/UJ	

GC/MS Tuning

- All criteria were met.

Method Blank

- The method blanks were free of contamination.

Initial Calibration

- All %RSD and mean RRF criteria were met.

Continuing Calibration

- The following table presents compounds that exceeded percent difference (%D) and/or RRF values <0.05 (0.01 for poor performers) in the continuing calibration (CCAL). A low RRF indicates poor instrument sensitivity for these compounds. Positive results for these compounds in the affected samples are considered estimated and qualified (J). Non-detect results for these compounds in the affected samples are rejected (R) and are unusable for project objectives. A high %D may indicate a potential high or low bias. All results for these compounds in affected samples are considered estimated and qualified (J/UJ).

CCAL Date	Compound	%D/RRF	Qualifier	Affected Samples
11/06/23 (1034)	Hexachlorobutadiene	58.4%	UJ	All Samples
	Naphthalene	42.5%		

Surrogate Recoveries

- All samples exhibited acceptable surrogate percent recoveries (%R).

Compound Quantitation

- Several samples were analyzed at a dilution due to high concentrations of target compounds. The reporting limits were adjusted accordingly. No action was required.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

Compound	SV-6_11.1.23 ppbv	SV-6_11.1.23-DUP ppbv	RPD	Qualifier
Bromodichloromethane	1.8	0.41U	NC	None
Chloroform	2.0	1.8	11%	
cis-1,2-Dichloroethylene	3.4	3.2	6%	
trans-1,2-Dichloroethylene	1.5	1.4	7%	
1,1,1-Trichloroethane	0.90	0.72	22%	
Trichloroethylene	210	200	5%	
Trichlorofluoromethane	0.81	1.0	21%	
Tetrachloroethylene	2300	2600	12%	

Please contact the undersigned at (561) 475-2000 if you have any questions or need further information.

Signed: Nancy Weaver
Nancy Weaver
Senior Chemist

Dated: 12/23/23

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

1 - FORM I ANALYSIS DATA SHEET

37

SV-7_11.1.23

Laboratory:	Pace New England	Work Order:	23K0462
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk_AIR - CO 147890
Matrix:	Soil Gas	Laboratory ID:	23K0462-01
		File ID:	J23A310026.D
Sampled:	11/01/23 10:35	Prepared:	11/06/23 10:09
		Analyzed:	11/06/23 20:20
Solids:		Preparation:	TO-15 Prep
		Dilution:	30
Initial/Final:	400 mL / 400 mL		
Batch:	B357952	Sequence:	S096212
		Calibration:	2300406
		Instrument:	SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
67-64-1	Acetone		14	60	
71-43-2	Benzene	0.60	0.46	1.5	J
100-44-7	Benzyl chloride		0.81	6.0	uJ L-03
75-27-4	Bromodichloromethane		0.41	1.5	
75-25-2	Bromoform		0.53	1.5	
74-83-9	Bromomethane		0.80	1.5	
106-99-0	1,3-Butadiene		1.3	1.5	
78-93-3	2-Butanone (MEK)		17	60	
75-15-0	Carbon Disulfide		2.9	15	
56-23-5	Carbon Tetrachloride		0.43	1.5	
108-90-7	Chlorobenzene		0.38	1.5	
75-00-3	Chloroethane		0.95	1.5	
67-66-3	Chloroform	50	0.39	1.5	
74-87-3	Chloromethane		0.61	3.0	
110-82-7	Cyclohexane		0.66	1.5	
124-48-1	Dibromochloromethane		0.40	1.5	
106-93-4	1,2-Dibromoethane (EDB)		0.50	1.5	
95-50-1	1,2-Dichlorobenzene		0.52	1.5	
541-73-1	1,3-Dichlorobenzene		0.56	1.5	
106-46-7	1,4-Dichlorobenzene		0.55	1.5	
75-71-8	Dichlorodifluoromethane (Freon 12)		0.63	1.5	
75-34-3	1,1-Dichloroethane		0.48	1.5	
107-06-2	1,2-Dichloroethane		0.56	1.5	
75-35-4	1,1-Dichloroethylene		0.43	1.5	
156-59-2	cis-1,2-Dichloroethylene	53	0.46	1.5	
156-60-5	trans-1,2-Dichloroethylene	1.4	0.49	1.5	J
78-87-5	1,2-Dichloropropane		0.41	1.5	
10061-01-5	cis-1,3-Dichloropropene		0.67	1.5	
10061-02-6	trans-1,3-Dichloropropene		0.77	1.5	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon		0.60	1.5	

MW 12/23/23

1 - FORM I ANALYSIS DATA SHEET

38

SV-7_11.1.23

Laboratory:	Pace New England	Work Order:	23K0462
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk_AIR - CO 147890
Matrix:	Soil Gas	Laboratory ID:	23K0462-01
		File ID:	J23A310026.D
Sampled:	11/01/23 10:35	Prepared:	11/06/23 10:09
		Analyzed:	11/06/23 20:20
Solids:		Preparation:	TO-15 Prep
		Dilution:	30
Initial/Final:	400 mL / 400 mL		
Batch:	B357952	Sequence:	S096212
		Calibration:	2300406
		Instrument:	SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
123-91-1	1,4-Dioxane		7.4	15	
64-17-5	Ethanol		40	60	
141-78-6	Ethyl Acetate		4.3	15	
100-41-4	Ethylbenzene		0.44	1.5	
622-96-8	4-Ethyltoluene		0.65	1.5	
142-82-5	Heptane		0.95	1.5	
87-68-3	Hexachlorobutadiene		0.86	1.5	uJ
110-54-3	Hexane		20	60	
591-78-6	2-Hexanone (MBK)		0.65	6.0	
67-63-0	Isopropanol		19	60	uJ L-03
1634-04-4	Methyl tert-Butyl Ether (MTBE)		0.74	1.5	
75-09-2	Methylene Chloride		4.0	15	
108-10-1	4-Methyl-2-pentanone (MIBK)		0.79	1.5	
91-20-3	Naphthalene		1.0	1.5	uJ Z-01
115-07-1	Propene		16	60	
100-42-5	Styrene		0.80	1.5	
79-34-5	1,1,2,2-Tetrachloroethane		0.37	1.5	
109-99-9	Tetrahydrofuran		3.1	15	
108-88-3	Toluene		0.55	1.5	
120-82-1	1,2,4-Trichlorobenzene		0.81	1.5	
71-55-6	1,1,1-Trichloroethane	1.6	0.47	1.5	
79-00-5	1,1,2-Trichloroethane		0.38	1.5	
79-01-6	Trichloroethylene	380	0.61	1.5	
75-69-4	Trichlorofluoromethane (Freon 11)	0.87	0.61	6.0	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		0.33	6.0	
95-63-6	1,2,4-Trimethylbenzene		0.69	1.5	
108-67-8	1,3,5-Trimethylbenzene		0.77	1.5	
108-05-4	Vinyl Acetate		5.4	30	
75-01-4	Vinyl Chloride		0.68	1.5	
1330-20-7P/M	m&p-Xylene		1.1	3.0	

MW 12123123

1 - FORM I
ANALYSIS DATA SHEET

39

SV-7_11.1.23

Laboratory: Pace New England Work Order: 23K0462
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk_AIR - CO 147890
Matrix: Soil Gas Laboratory ID: 23K0462-01 File ID: J23A310026.D
Sampled: 11/01/23 10:35 Prepared: 11/06/23 10:09 Analyzed: 11/06/23 20:20
Solids: Preparation: TO-15 Prep Dilution: 30
Initial/Final: 400 mL / 400 mL
Batch: B357952 Sequence: S096212 Calibration: 2300406 Instrument: SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
95-47-6	o-Xylene		0.55	1.5	

12/23/23

1 - FORM I
ANALYSIS DATA SHEET

52

SV-7_11.1.23

Laboratory: Pace New England Work Order: 23K0462
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk_AIR - CO 147890
Matrix: Soil Gas Laboratory ID: 23K0462-01RE1 File ID: J23A310027.D
Sampled: 11/01/23 10:35 Prepared: 11/06/23 10:09 Analyzed: 11/06/23 20:47
Solids: Preparation: TO-15 Prep Dilution: 150
Initial/Final: 400 mL / 400 mL
Batch: B357952 Sequence: S096212 Calibration: 2300406 Instrument: SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
127-18-4	Tetrachloroethylene	1000	2.8	7.5	

MW 12/23/23

1 - FORM I ANALYSIS DATA SHEET

65

SV-6_11.1.23

2

Laboratory:	Pace New England	Work Order:	23K0462
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk_AIR - CO 147890
Matrix:	Soil Gas	Laboratory ID:	23K0462-02
		File ID:	J23A310032.D
Sampled:	11/01/23 11:02	Prepared:	11/06/23 10:09
		Analyzed:	11/06/23 22:51
Solids:		Preparation:	TO-15 Prep
		Dilution:	30
Initial/Final:	400 mL / 400 mL		
Batch:	B357952	Sequence:	S096212
		Calibration:	2300406
		Instrument:	SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
67-64-1	Acetone		14	60	
71-43-2	Benzene		0.46	1.5	
100-44-7	Benzyl chloride		0.81	6.0	47 L-03
75-27-4	Bromodichloromethane	1.8	0.41	1.5	
75-25-2	Bromoform		0.53	1.5	
74-83-9	Bromomethane		0.80	1.5	
106-99-0	1,3-Butadiene		1.3	1.5	
78-93-3	2-Butanone (MEK)		17	60	
75-15-0	Carbon Disulfide		2.9	15	
56-23-5	Carbon Tetrachloride		0.43	1.5	
108-90-7	Chlorobenzene		0.38	1.5	
75-00-3	Chloroethane		0.95	1.5	
67-66-3	Chloroform	2.0	0.39	1.5	
74-87-3	Chloromethane		0.61	3.0	
110-82-7	Cyclohexane		0.66	1.5	
124-48-1	Dibromochloromethane		0.40	1.5	
106-93-4	1,2-Dibromoethane (EDB)		0.50	1.5	
95-50-1	1,2-Dichlorobenzene		0.52	1.5	
541-73-1	1,3-Dichlorobenzene		0.56	1.5	
106-46-7	1,4-Dichlorobenzene		0.55	1.5	
75-71-8	Dichlorodifluoromethane (Freon 12)		0.63	1.5	
75-34-3	1,1-Dichloroethane		0.48	1.5	
107-06-2	1,2-Dichloroethane		0.56	1.5	
75-35-4	1,1-Dichloroethylene		0.43	1.5	
156-59-2	cis-1,2-Dichloroethylene	3.4	0.46	1.5	
156-60-5	trans-1,2-Dichloroethylene	1.5	0.49	1.5	
78-87-5	1,2-Dichloropropane		0.41	1.5	
10061-01-5	cis-1,3-Dichloropropene		0.67	1.5	
10061-02-6	trans-1,3-Dichloropropene		0.77	1.5	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon		0.60	1.5	

NW 1212 3123

1 - FORM I ANALYSIS DATA SHEET

66

SV-6_11.1.23

2

Laboratory:	Pace New England	Work Order:	23K0462
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk_AIR - CO 147890
Matrix:	Soil Gas	Laboratory ID:	23K0462-02
		File ID:	J23A310032.D
Sampled:	11/01/23 11:02	Prepared:	11/06/23 10:09
		Analyzed:	11/06/23 22:51
Solids:		Preparation:	TO-15 Prep
		Dilution:	30
Initial/Final:	400 mL / 400 mL		
Batch:	B357952	Sequence:	S096212
		Calibration:	2300406
		Instrument:	SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
123-91-1	1,4-Dioxane		7.4	15	
64-17-5	Ethanol		40	60	
141-78-6	Ethyl Acetate		4.3	15	
100-41-4	Ethylbenzene		0.44	1.5	
622-96-8	4-Ethyltoluene		0.65	1.5	
142-82-5	Heptane		0.95	1.5	
87-68-3	Hexachlorobutadiene		0.86	1.5	uJ
110-54-3	Hexane		20	60	
591-78-6	2-Hexanone (MBK)		0.65	6.0	
67-63-0	Isopropanol		19	60	uJ L-03
1634-04-4	Methyl tert-Butyl Ether (MTBE)		0.74	1.5	
75-09-2	Methylene Chloride		4.0	15	
108-10-1	4-Methyl-2-pentanone (MIBK)		0.79	1.5	
91-20-3	Naphthalene		1.0	1.5	uJ Z-01
115-07-1	Propene		16	60	
100-42-5	Styrene		0.80	1.5	
79-34-5	1,1,2,2-Tetrachloroethane		0.37	1.5	
109-99-9	Tetrahydrofuran		3.1	15	
108-88-3	Toluene		0.55	1.5	
120-82-1	1,2,4-Trichlorobenzene		0.81	1.5	
71-55-6	1,1,1-Trichloroethane	0.90	0.47	1.5	J
79-00-5	1,1,2-Trichloroethane		0.38	1.5	
79-01-6	Trichloroethylene	210	0.61	1.5	
75-69-4	Trichlorofluoromethane (Freon 11)	0.81	0.61	6.0	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		0.33	6.0	
95-63-6	1,2,4-Trimethylbenzene		0.69	1.5	
108-67-8	1,3,5-Trimethylbenzene		0.77	1.5	
108-05-4	Vinyl Acetate		5.4	30	
75-01-4	Vinyl Chloride		0.68	1.5	
1330-20-7P/M	m&p-Xylene		1.1	3.0	

NW 12/23/23

1 - FORM I
ANALYSIS DATA SHEET

67

SV-6_11.1.23

2

Laboratory: Pace New England Work Order: 23K0462
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk_AIR - CO 147890
Matrix: Soil Gas Laboratory ID: 23K0462-02 File ID: J23A310032.D
Sampled: 11/01/23 11:02 Prepared: 11/06/23 10:09 Analyzed: 11/06/23 22:51
Solids: Preparation: TO-15 Prep Dilution: 30
Initial/Final: 400 mL / 400 mL
Batch: B357952 Sequence: S096212 Calibration: 2300406 Instrument: SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
95-47-6	o-Xylene		0.55	1.5	

11/21/23/23

1 - FORM I
ANALYSIS DATA SHEET

80

SV-6_11.1.23

2

Laboratory: Pace New England Work Order: 23K0462
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk_AIR - CO 147890
Matrix: Soil Gas Laboratory ID: 23K0462-02RE1 File ID: J23A310033.D
Sampled: 11/01/23 11:02 Prepared: 11/06/23 10:09 Analyzed: 11/06/23 23:18
Solids: Preparation: TO-15 Prep Dilution: 300
Initial/Final: 400 mL / 400 mL
Batch: B357952 Sequence: S096212 Calibration: 2300406 Instrument: SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
127-18-4	Tetrachloroethylene	2300	5.6	15	

NW 12123123

1 - FORM I ANALYSIS DATA SHEET

90

SV-6_11.1.23_DUP

3

Laboratory:	Pace New England	Work Order:	23K0462
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk_AIR - CO 147890
Matrix:	Soil Gas	Laboratory ID:	23K0462-03
		File ID:	J23A310034.D
Sampled:	11/01/23 11:02	Prepared:	11/06/23 10:09
		Analyzed:	11/06/23 23:41
Solids:		Preparation:	TO-15 Prep
		Dilution:	30
Initial/Final:	400 mL / 400 mL		
Batch:	B357952	Sequence:	S096212
		Calibration:	2300406
		Instrument:	SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
67-64-1	Acetone		14	60	
71-43-2	Benzene		0.46	1.5	
100-44-7	Benzyl chloride		0.81	6.0	WJ L-03
75-27-4	Bromodichloromethane		0.41	1.5	
75-25-2	Bromoform		0.53	1.5	
74-83-9	Bromomethane		0.80	1.5	
106-99-0	1,3-Butadiene		1.3	1.5	
78-93-3	2-Butanone (MEK)		17	60	
75-15-0	Carbon Disulfide		2.9	15	
56-23-5	Carbon Tetrachloride		0.43	1.5	
108-90-7	Chlorobenzene		0.38	1.5	
75-00-3	Chloroethane		0.95	1.5	
67-66-3	Chloroform	1.8	0.39	1.5	
74-87-3	Chloromethane		0.61	3.0	
110-82-7	Cyclohexane		0.66	1.5	
124-48-1	Dibromochloromethane		0.40	1.5	
106-93-4	1,2-Dibromoethane (EDB)		0.50	1.5	
95-50-1	1,2-Dichlorobenzene		0.52	1.5	
541-73-1	1,3-Dichlorobenzene		0.56	1.5	
106-46-7	1,4-Dichlorobenzene		0.55	1.5	
75-71-8	Dichlorodifluoromethane (Freon 12)		0.63	1.5	
75-34-3	1,1-Dichloroethane		0.48	1.5	
107-06-2	1,2-Dichloroethane		0.56	1.5	
75-35-4	1,1-Dichloroethylene		0.43	1.5	
156-59-2	cis-1,2-Dichloroethylene	3.2	0.46	1.5	
156-60-5	trans-1,2-Dichloroethylene	1.4	0.49	1.5	J
78-87-5	1,2-Dichloropropane		0.41	1.5	
10061-01-5	cis-1,3-Dichloropropene		0.67	1.5	
10061-02-6	trans-1,3-Dichloropropene		0.77	1.5	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon		0.60	1.5	

mu 12123123

1 - FORM I ANALYSIS DATA SHEET

91

SV-6_11.1.23_DUP

3

Laboratory:	Pace New England	Work Order:	23K0462
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk_AIR - CO 147890
Matrix:	Soil Gas	Laboratory ID:	23K0462-03
		File ID:	J23A310034.D
Sampled:	11/01/23 11:02	Prepared:	11/06/23 10:09
		Analyzed:	11/06/23 23:41
Solids:		Preparation:	TO-15 Prep
		Dilution:	30
Initial/Final:	400 mL / 400 mL		
Batch:	B357952	Sequence:	S096212
		Calibration:	2300406
		Instrument:	SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
123-91-1	1,4-Dioxane		7.4	15	
64-17-5	Ethanol		40	60	
141-78-6	Ethyl Acetate		4.3	15	
100-41-4	Ethylbenzene		0.44	1.5	
622-96-8	4-Ethyltoluene		0.65	1.5	
142-82-5	Heptane		0.95	1.5	
87-68-3	Hexachlorobutadiene		0.86	1.5	uJ
110-54-3	Hexane		20	60	
591-78-6	2-Hexanone (MBK)		0.65	6.0	
67-63-0	Isopropanol		19	60	uJ L-03
1634-04-4	Methyl tert-Butyl Ether (MTBE)		0.74	1.5	
75-09-2	Methylene Chloride		4.0	15	
108-10-1	4-Methyl-2-pentanone (MIBK)		0.79	1.5	
91-20-3	Naphthalene		1.0	1.5	uJ Z-01
115-07-1	Propene		16	60	
100-42-5	Styrene		0.80	1.5	
79-34-5	1,1,2,2-Tetrachloroethane		0.37	1.5	
109-99-9	Tetrahydrofuran		3.1	15	
108-88-3	Toluene		0.55	1.5	
120-82-1	1,2,4-Trichlorobenzene		0.81	1.5	
71-55-6	1,1,1-Trichloroethane	0.72	0.47	1.5	J
79-00-5	1,1,2-Trichloroethane		0.38	1.5	
79-01-6	Trichloroethylene	200	0.61	1.5	
75-69-4	Trichlorofluoromethane (Freon 11)	1.0	0.61	6.0	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		0.33	6.0	
95-63-6	1,2,4-Trimethylbenzene		0.69	1.5	
108-67-8	1,3,5-Trimethylbenzene		0.77	1.5	
108-05-4	Vinyl Acetate		5.4	30	
75-01-4	Vinyl Chloride		0.68	1.5	
1330-20-7P/M	m&p-Xylene		1.1	3.0	

NW 12/23/23

1 - FORM I
ANALYSIS DATA SHEET

92

SV-6_11.1.23_DUP

3

Laboratory: Pace New England Work Order: 23K0462
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk_AIR - CO 147890
Matrix: Soil Gas Laboratory ID: 23K0462-03 File ID: J23A310034.D
Sampled: 11/01/23 11:02 Prepared: 11/06/23 10:09 Analyzed: 11/06/23 23:41
Solids: Preparation: TO-15 Prep Dilution: 30
Initial/Final: 400 mL / 400 mL
Batch: B357952 Sequence: S096212 Calibration: 2300406 Instrument: SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
95-47-6	o-Xylene		0.55	1.5	

11/21/23/23

1 - FORM I
ANALYSIS DATA SHEET

104

SV-6_11.1.23_DUP

3

Laboratory: Pace New England Work Order: 23K0462
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk_AIR - CO 147890
Matrix: Soil Gas Laboratory ID: 23K0462-03RE1 File ID: J23A310035.D
Sampled: 11/01/23 11:02 Prepared: 11/06/23 10:09 Analyzed: 11/07/23 00:07
Solids: Preparation: TO-15 Prep Dilution: 300
Initial/Final: 400 mL / 400 mL
Batch: B357952 Sequence: S096212 Calibration: 2300406 Instrument: SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
127-18-4	Tetrachloroethylene	2600	5.6	15	

12/23/23

1 - FORM I ANALYSIS DATA SHEET

117

SV-5_11.1.23

4

Laboratory: Pace New England Work Order: 23K0462
 Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk_AIR - CO 147890
 Matrix: Soil Gas Laboratory ID: 23K0462-04 File ID: J23A310028.D
 Sampled: 11/01/23 11:18 Prepared: 11/06/23 10:09 Analyzed: 11/06/23 21:10
 Solids: Preparation: TO-15 Prep Dilution: 30
 Initial/Final: 400 mL / 400 mL
 Batch: B357952 Sequence: S096212 Calibration: 2300406 Instrument: SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
67-64-1	Acetone		14	60	
71-43-2	Benzene	0.51	0.46	1.5	J
100-44-7	Benzyl chloride		0.81	6.0	u J L-03
75-27-4	Bromodichloromethane		0.41	1.5	
75-25-2	Bromoform		0.53	1.5	
74-83-9	Bromomethane		0.80	1.5	
106-99-0	1,3-Butadiene		1.3	1.5	
78-93-3	2-Butanone (MEK)		17	60	
75-15-0	Carbon Disulfide		2.9	15	
56-23-5	Carbon Tetrachloride		0.43	1.5	
108-90-7	Chlorobenzene		0.38	1.5	
75-00-3	Chloroethane		0.95	1.5	
67-66-3	Chloroform	2.8	0.39	1.5	
74-87-3	Chloromethane		0.61	3.0	
110-82-7	Cyclohexane		0.66	1.5	
124-48-1	Dibromochloromethane		0.40	1.5	
106-93-4	1,2-Dibromoethane (EDB)		0.50	1.5	
95-50-1	1,2-Dichlorobenzene		0.52	1.5	
541-73-1	1,3-Dichlorobenzene		0.56	1.5	
106-46-7	1,4-Dichlorobenzene		0.55	1.5	
75-71-8	Dichlorodifluoromethane (Freon 12)		0.63	1.5	
75-34-3	1,1-Dichloroethane		0.48	1.5	
107-06-2	1,2-Dichloroethane		0.56	1.5	
75-35-4	1,1-Dichloroethylene		0.43	1.5	
156-59-2	cis-1,2-Dichloroethylene		0.46	1.5	
156-60-5	trans-1,2-Dichloroethylene		0.49	1.5	
78-87-5	1,2-Dichloropropane		0.41	1.5	
10061-01-5	cis-1,3-Dichloropropene		0.67	1.5	
10061-02-6	trans-1,3-Dichloropropene		0.77	1.5	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon		0.60	1.5	

mw 121 & 3123

1 - FORM I ANALYSIS DATA SHEET

118

SV-5_11.1.23

4

Laboratory:	Pace New England	Work Order:	23K0462
Client:	NYDEC_HRP Associates - Clifton F	Project:	Ingraham St Sidewalk_AIR - CO 147890
Matrix:	Soil Gas	Laboratory ID:	23K0462-04
		File ID:	J23A310028.D
Sampled:	11/01/23 11:18	Prepared:	11/06/23 10:09
		Analyzed:	11/06/23 21:10
Solids:		Preparation:	TO-15 Prep
		Dilution:	30
Initial/Final:	400 mL / 400 mL		
Batch:	B357952	Sequence:	S096212
		Calibration:	2300406
		Instrument:	SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
123-91-1	1,4-Dioxane		7.4	15	
64-17-5	Ethanol		40	60	
141-78-6	Ethyl Acetate		4.3	15	
100-41-4	Ethylbenzene		0.44	1.5	
622-96-8	4-Ethyltoluene		0.65	1.5	
142-82-5	Heptane		0.95	1.5	
87-68-3	Hexachlorobutadiene		0.86	1.5	uJ
110-54-3	Hexane		20	60	
591-78-6	2-Hexanone (MBK)		0.65	6.0	
67-63-0	Isopropanol		19	60	uJ L-03
1634-04-4	Methyl tert-Butyl Ether (MTBE)		0.74	1.5	
75-09-2	Methylene Chloride		4.0	15	
108-10-1	4-Methyl-2-pentanone (MIBK)		0.79	1.5	
91-20-3	Naphthalene		1.0	1.5	uJ Z-01
115-07-1	Propene		16	60	
100-42-5	Styrene		0.80	1.5	
79-34-5	1,1,2,2-Tetrachloroethane		0.37	1.5	
127-18-4	Tetrachloroethylene	930	0.56	1.5	
109-99-9	Tetrahydrofuran		3.1	15	
108-88-3	Toluene		0.55	1.5	
120-82-1	1,2,4-Trichlorobenzene		0.81	1.5	
71-55-6	1,1,1-Trichloroethane		0.47	1.5	
79-00-5	1,1,2-Trichloroethane		0.38	1.5	
79-01-6	Trichloroethylene	40	0.61	1.5	
75-69-4	Trichlorofluoromethane (Freon 11)	0.63	0.61	6.0	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		0.33	6.0	
95-63-6	1,2,4-Trimethylbenzene		0.69	1.5	
108-67-8	1,3,5-Trimethylbenzene		0.77	1.5	
108-05-4	Vinyl Acetate		5.4	30	
75-01-4	Vinyl Chloride		0.68	1.5	

New 12/23/23

1 - FORM I
ANALYSIS DATA SHEET

119

SV-5_11.1.23

4

Laboratory: Pace New England Work Order: 23K0462
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk_AIR - CO 147890
Matrix: Soil Gas Laboratory ID: 23K0462-04 File ID: J23A310028.D
Sampled: 11/01/23 11:18 Prepared: 11/06/23 10:09 Analyzed: 11/06/23 21:10
Solids: Preparation: TO-15 Prep Dilution: 30
Initial/Final: 400 mL / 400 mL
Batch: B357952 Sequence: S096212 Calibration: 2300406 Instrument: SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
1330-20-7P/M	m&p-Xylene		1.1	3.0	
95-47-6	o-Xylene		0.55	1.5	

11/21/23/23

1 - FORM I ANALYSIS DATA SHEET

131

5

SV-1_11.1.23

Laboratory: Pace New England Work Order: 23K0462
 Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk_AIR - CO 147890
 Matrix: Soil Gas Laboratory ID: 23K0462-05 File ID: J23A310030.D
 Sampled: 11/01/23 11:25 Prepared: 11/06/23 10:09 Analyzed: 11/06/23 22:01
 Solids: Preparation: TO-15 Prep Dilution: 30
 Initial/Final: 400 mL / 400 mL
 Batch: B357952 Sequence: S096212 Calibration: 2300406 Instrument: SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
67-64-1	Acetone		14	60	
71-43-2	Benzene	0.60	0.46	1.5	J
100-44-7	Benzyl chloride		0.81	6.0	L-03
75-27-4	Bromodichloromethane	9.1	0.41	1.5	
75-25-2	Bromoform		0.53	1.5	
74-83-9	Bromomethane		0.80	1.5	
106-99-0	1,3-Butadiene		1.3	1.5	
78-93-3	2-Butanone (MEK)		17	60	
75-15-0	Carbon Disulfide		2.9	15	
56-23-5	Carbon Tetrachloride		0.43	1.5	
108-90-7	Chlorobenzene		0.38	1.5	
75-00-3	Chloroethane		0.95	1.5	
67-66-3	Chloroform	280	0.39	1.5	
74-87-3	Chloromethane		0.61	3.0	
110-82-7	Cyclohexane		0.66	1.5	
124-48-1	Dibromochloromethane		0.40	1.5	
106-93-4	1,2-Dibromoethane (EDB)		0.50	1.5	
95-50-1	1,2-Dichlorobenzene		0.52	1.5	
541-73-1	1,3-Dichlorobenzene		0.56	1.5	
106-46-7	1,4-Dichlorobenzene		0.55	1.5	
75-71-8	Dichlorodifluoromethane (Freon 12)		0.63	1.5	
75-34-3	1,1-Dichloroethane		0.48	1.5	
107-06-2	1,2-Dichloroethane		0.56	1.5	
75-35-4	1,1-Dichloroethylene		0.43	1.5	
156-59-2	cis-1,2-Dichloroethylene	20	0.46	1.5	
156-60-5	trans-1,2-Dichloroethylene	0.81	0.49	1.5	J
78-87-5	1,2-Dichloropropane		0.41	1.5	
10061-01-5	cis-1,3-Dichloropropene		0.67	1.5	
10061-02-6	trans-1,3-Dichloropropene		0.77	1.5	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon		0.60	1.5	

per 12/23/23

1 - FORM I ANALYSIS DATA SHEET

132

5

SV-1_11.1.23

Laboratory: Pace New England Work Order: 23K0462
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk_AIR - CO 147890
Matrix: Soil Gas Laboratory ID: 23K0462-05 File ID: J23A310030.D
Sampled: 11/01/23 11:25 Prepared: 11/06/23 10:09 Analyzed: 11/06/23 22:01
Solids: Preparation: TO-15 Prep Dilution: 30
Initial/Final: 400 mL / 400 mL
Batch: B357952 Sequence: S096212 Calibration: 2300406 Instrument: SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
123-91-1	1,4-Dioxane		7.4	15	
64-17-5	Ethanol		40	60	
141-78-6	Ethyl Acetate		4.3	15	
100-41-4	Ethylbenzene		0.44	1.5	
622-96-8	4-Ethyltoluene		0.65	1.5	
142-82-5	Heptane		0.95	1.5	
87-68-3	Hexachlorobutadiene		0.86	1.5	WJ
110-54-3	Hexane		20	60	
591-78-6	2-Hexanone (MBK)		0.65	6.0	
67-63-0	Isopropanol		19	60	WJ L-03
1634-04-4	Methyl tert-Butyl Ether (MTBE)		0.74	1.5	
75-09-2	Methylene Chloride		4.0	15	
108-10-1	4-Methyl-2-pentanone (MIBK)		0.79	1.5	
91-20-3	Naphthalene		1.0	1.5	WJ Z-01
115-07-1	Propene		16	60	
100-42-5	Styrene		0.80	1.5	
79-34-5	1,1,2,2-Tetrachloroethane		0.37	1.5	
127-18-4	Tetrachloroethylene	1500	0.56	1.5	
109-99-9	Tetrahydrofuran		3.1	15	
108-88-3	Toluene		0.55	1.5	
120-82-1	1,2,4-Trichlorobenzene		0.81	1.5	
71-55-6	1,1,1-Trichloroethane	1.4	0.47	1.5	J
79-00-5	1,1,2-Trichloroethane		0.38	1.5	
79-01-6	Trichloroethylene	210	0.61	1.5	
75-69-4	Trichlorofluoromethane (Freon 11)		0.61	6.0	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1		0.33	6.0	
95-63-6	1,2,4-Trimethylbenzene		0.69	1.5	
108-67-8	1,3,5-Trimethylbenzene		0.77	1.5	
108-05-4	Vinyl Acetate		5.4	30	
75-01-4	Vinyl Chloride		0.68	1.5	

NW 12/23/23

1 - FORM I
ANALYSIS DATA SHEET

133

5

SV-1_11.1.23

Laboratory: Pace New England Work Order: 23K0462
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk_AIR - CO 147890
Matrix: Soil Gas Laboratory ID: 23K0462-05 File ID: J23A310030.D
Sampled: 11/01/23 11:25 Prepared: 11/06/23 10:09 Analyzed: 11/06/23 22:01
Solids: Preparation: TO-15 Prep Dilution: 30
Initial/Final: 400 mL / 400 mL
Batch: B357952 Sequence: S096212 Calibration: 2300406 Instrument: SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
1330-20-7P/M	m&p-Xylene		1.1	3.0	
95-47-6	o-Xylene		0.55	1.5	

11/21/23/23

1 - FORM I ANALYSIS DATA SHEET

144

OA-1_11.1.23

Laboratory: Pace New England Work Order: 23K0462
 Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk_AIR - CO 147890
 Matrix: Ambient Air Laboratory ID: 23K0462-06 File ID: J23A310024.D
 Sampled: 11/01/23 12:00 Prepared: 11/06/23 10:09 Analyzed: 11/06/23 19:31
 Solids: Preparation: TO-15 Prep Dilution: 0.698
 Initial/Final: 400 mL / 400 mL
 Batch: B357952 Sequence: S096212 Calibration: 2300406 Instrument: SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
67-64-1	Acetone	12	0.33	1.4	
71-43-2	Benzene	0.33	0.011	0.035	
100-44-7	Benzyl chloride		0.019	0.14	L-03
75-27-4	Bromodichloromethane		0.0095	0.035	
75-25-2	Bromoform		0.012	0.035	
74-83-9	Bromomethane		0.019	0.035	
106-99-0	1,3-Butadiene		0.029	0.035	
78-93-3	2-Butanone (MEK)	0.59	0.39	1.4	J
75-15-0	Carbon Disulfide		0.067	0.35	
56-23-5	Carbon Tetrachloride	0.086	0.010	0.035	
108-90-7	Chlorobenzene		0.0088	0.035	
75-00-3	Chloroethane		0.022	0.035	
67-66-3	Chloroform	0.024	0.0091	0.035	J
74-87-3	Chloromethane	0.49	0.014	0.070	
110-82-7	Cyclohexane	0.13	0.015	0.035	
124-48-1	Dibromochloromethane		0.0094	0.035	
106-93-4	1,2-Dibromoethane (EDB)		0.012	0.035	
95-50-1	1,2-Dichlorobenzene		0.012	0.035	
541-73-1	1,3-Dichlorobenzene		0.013	0.035	
106-46-7	1,4-Dichlorobenzene	0.014	0.013	0.035	J
75-71-8	Dichlorodifluoromethane (Freon 12)	0.54	0.015	0.035	
75-34-3	1,1-Dichloroethane		0.011	0.035	
107-06-2	1,2-Dichloroethane	0.020	0.013	0.035	J
75-35-4	1,1-Dichloroethylene		0.010	0.035	
156-59-2	cis-1,2-Dichloroethylene		0.011	0.035	
156-60-5	trans-1,2-Dichloroethylene		0.011	0.035	
78-87-5	1,2-Dichloropropane		0.0096	0.035	
10061-01-5	cis-1,3-Dichloropropene		0.016	0.035	
10061-02-6	trans-1,3-Dichloropropene		0.018	0.035	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon	0.017	0.014	0.035	J

11/21/23/23

1 - FORM I ANALYSIS DATA SHEET

145

6

OA-1_11.1.23

Laboratory: Pace New England Work Order: 23K0462
 Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk_AIR - CO 147890
 Matrix: Ambient Air Laboratory ID: 23K0462-06 File ID: J23A310024.D
 Sampled: 11/01/23 12:00 Prepared: 11/06/23 10:09 Analyzed: 11/06/23 19:31
 Solids: Preparation: TO-15 Prep Dilution: 0.698
 Initial/Final: 400 mL / 400 mL
 Batch: B357952 Sequence: S096212 Calibration: 2300406 Instrument: SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
123-91-1	1,4-Dioxane		0.17	0.35	
64-17-5	Ethanol	15	0.93	1.4	
141-78-6	Ethyl Acetate		0.10	0.35	
100-41-4	Ethylbenzene	0.28	0.010	0.035	
622-96-8	4-Ethyltoluene	0.031	0.015	0.035	J
142-82-5	Heptane	0.18	0.022	0.035	
87-68-3	Hexachlorobutadiene		0.020	0.035	uJ
110-54-3	Hexane		0.46	1.4	
591-78-6	2-Hexanone (MBK)		0.015	0.14	
67-63-0	Isopropanol	3.9	0.44	1.4	J L-03
1634-04-4	Methyl tert-Butyl Ether (MTBE)		0.017	0.035	
75-09-2	Methylene Chloride	0.19	0.094	0.35	J
108-10-1	4-Methyl-2-pentanone (MIBK)		0.018	0.035	
91-20-3	Naphthalene		0.023	0.035	uJ Z-01
115-07-1	Propene		0.38	1.4	
100-42-5	Styrene	0.028	0.019	0.035	J
79-34-5	1,1,2,2-Tetrachloroethane		0.0086	0.035	
127-18-4	Tetrachloroethylene	0.29	0.013	0.035	
109-99-9	Tetrahydrofuran		0.072	0.35	
108-88-3	Toluene	7.6	0.013	0.035	
120-82-1	1,2,4-Trichlorobenzene		0.019	0.035	
71-55-6	1,1,1-Trichloroethane		0.011	0.035	
79-00-5	1,1,2-Trichloroethane		0.0089	0.035	
79-01-6	Trichloroethylene		0.014	0.035	
75-69-4	Trichlorofluoromethane (Freon 11)	0.31	0.014	0.14	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1	0.13	0.0077	0.14	J
95-63-6	1,2,4-Trimethylbenzene	0.12	0.016	0.035	
108-67-8	1,3,5-Trimethylbenzene	0.031	0.018	0.035	J
108-05-4	Vinyl Acetate		0.12	0.70	
75-01-4	Vinyl Chloride		0.016	0.035	

NW 12/23/23

1 - FORM I
ANALYSIS DATA SHEET

146

OA-1_11.1.23

6

Laboratory: Pace New England Work Order: 23K0462
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk_AIR - CO 147890
Matrix: Ambient Air Laboratory ID: 23K0462-06 File ID: J23A310024.D
Sampled: 11/01/23 12:00 Prepared: 11/06/23 10:09 Analyzed: 11/06/23 19:31
Solids: Preparation: TO-15 Prep Dilution: 0.698
Initial/Final: 400 mL / 400 mL
Batch: B357952 Sequence: S096212 Calibration: 2300406 Instrument: SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
1330-20-7P/M	m&p-Xylene	1.0	0.024	0.070	
95-47-6	o-Xylene	0.30	0.013	0.035	

MW 12/23/23

1 - FORM I ANALYSIS DATA SHEET

173

SV-4_11.1.23

7

Laboratory: Pace New England Work Order: 23K0462
 Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk_AIR - CO 147890
 Matrix: Soil Gas Laboratory ID: 23K0462-07 File ID: J23A310025.D
 Sampled: 11/01/23 12:00 Prepared: 11/06/23 10:09 Analyzed: 11/06/23 19:56
 Solids: Preparation: TO-15 Prep Dilution: 2
 Initial/Final: 400 mL / 400 mL
 Batch: B357952 Sequence: S096212 Calibration: 2300406 Instrument: SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
67-64-1	Acetone	3.4	0.94	4.0	J
71-43-2	Benzene	0.10	0.031	0.10	
100-44-7	Benzyl chloride		0.054	0.40	uJ L-03
75-27-4	Bromodichloromethane		0.027	0.10	
75-25-2	Bromoform		0.036	0.10	
74-83-9	Bromomethane		0.053	0.10	
106-99-0	1,3-Butadiene		0.084	0.10	
78-93-3	2-Butanone (MEK)		1.1	4.0	
75-15-0	Carbon Disulfide		0.19	1.0	
56-23-5	Carbon Tetrachloride		0.029	0.10	
108-90-7	Chlorobenzene		0.025	0.10	
75-00-3	Chloroethane		0.063	0.10	
67-66-3	Chloroform	1.2	0.026	0.10	
74-87-3	Chloromethane		0.041	0.20	
110-82-7	Cyclohexane		0.044	0.10	
124-48-1	Dibromochloromethane		0.027	0.10	
106-93-4	1,2-Dibromoethane (EDB)		0.033	0.10	
95-50-1	1,2-Dichlorobenzene		0.035	0.10	
541-73-1	1,3-Dichlorobenzene		0.037	0.10	
106-46-7	1,4-Dichlorobenzene		0.037	0.10	
75-71-8	Dichlorodifluoromethane (Freon 12)		0.042	0.10	
75-34-3	1,1-Dichloroethane	2.0	0.032	0.10	
107-06-2	1,2-Dichloroethane		0.038	0.10	
75-35-4	1,1-Dichloroethylene		0.029	0.10	
156-59-2	cis-1,2-Dichloroethylene	1.5	0.031	0.10	
156-60-5	trans-1,2-Dichloroethylene		0.033	0.10	
78-87-5	1,2-Dichloropropane		0.027	0.10	
10061-01-5	cis-1,3-Dichloropropene		0.045	0.10	
10061-02-6	trans-1,3-Dichloropropene		0.052	0.10	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon		0.040	0.10	

pu 12/23/23

1 - FORM I ANALYSIS DATA SHEET

174

SV-4_11.1.23

7

Laboratory: Pace New England Work Order: 23K0462
 Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk_AIR - CO 147890
 Matrix: Soil Gas Laboratory ID: 23K0462-07 File ID: J23A310025.D
 Sampled: 11/01/23 12:00 Prepared: 11/06/23 10:09 Analyzed: 11/06/23 19:56
 Solids: Preparation: TO-15 Prep Dilution: 2
 Initial/Final: 400 mL / 400 mL
 Batch: B357952 Sequence: S096212 Calibration: 2300406 Instrument: SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
123-91-1	1,4-Dioxane		0.49	1.0	
64-17-5	Ethanol	11	2.7	4.0	
141-78-6	Ethyl Acetate		0.29	1.0	
100-41-4	Ethylbenzene	0.084	0.029	0.10	J
622-96-8	4-Ethyltoluene		0.043	0.10	
142-82-5	Heptane		0.063	0.10	
87-68-3	Hexachlorobutadiene		0.058	0.10	UJ
110-54-3	Hexane		1.3	4.0	
591-78-6	2-Hexanone (MBK)		0.043	0.40	
67-63-0	Isopropanol	21	1.3	4.0	J L-03
1634-04-4	Methyl tert-Butyl Ether (MTBE)	1.9	0.049	0.10	
75-09-2	Methylene Chloride		0.27	1.0	
108-10-1	4-Methyl-2-pentanone (MIBK)		0.053	0.10	
91-20-3	Naphthalene		0.067	0.10	UJ Z-01
115-07-1	Propene		1.1	4.0	
100-42-5	Styrene	0.090	0.054	0.10	J
79-34-5	1,1,2,2-Tetrachloroethane		0.025	0.10	
127-18-4	Tetrachloroethylene	1.5	0.037	0.10	
109-99-9	Tetrahydrofuran		0.21	1.0	
108-88-3	Toluene	0.31	0.036	0.10	
120-82-1	1,2,4-Trichlorobenzene		0.054	0.10	
71-55-6	1,1,1-Trichloroethane		0.031	0.10	
79-00-5	1,1,2-Trichloroethane		0.026	0.10	
79-01-6	Trichloroethylene	0.20	0.041	0.10	
75-69-4	Trichlorofluoromethane (Freon 11)	0.37	0.041	0.40	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 1	0.12	0.022	0.40	J
95-63-6	1,2,4-Trimethylbenzene	0.062	0.046	0.10	J
108-67-8	1,3,5-Trimethylbenzene		0.052	0.10	
108-05-4	Vinyl Acetate		0.36	2.0	
75-01-4	Vinyl Chloride	66	0.046	0.10	

11/12/23/23

1 - FORM I
ANALYSIS DATA SHEET

175

7

SV-4_11.1.23

Laboratory: Pace New England Work Order: 23K0462
Client: NYDEC_HRP Associates - Clifton F Project: Ingraham St Sidewalk_AIR - CO 147890
Matrix: Soil Gas Laboratory ID: 23K0462-07 File ID: J23A310025.D
Sampled: 11/01/23 12:00 Prepared: 11/06/23 10:09 Analyzed: 11/06/23 19:56
Solids: Preparation: TO-15 Prep Dilution: 2
Initial/Final: 400 mL / 400 mL
Batch: B357952 Sequence: S096212 Calibration: 2300406 Instrument: SYSJ

CAS NO.	COMPOUND	CONC. (ppbv)	MDL	RL	Q
1330-20-7P/M	m&p-Xylene	0.26	0.070	0.20	
95-47-6	o-Xylene	0.12	0.037	0.10	

11/12/23/23

APPENDIX C

Site-specific Health and Safety Plan



MOVE YOUR ENVIRONMENT FORWARD

SITE-SPECIFIC HEALTH AND SAFETY PLAN (HASP)

Ingraham Street Sidewalk GW - Site #C224146

Ingraham Street, Brooklyn, New York, 11206

Prepared For:

Contract# D009808, Work Assignment No. 38
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233

Prepared By:

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

HRP #: DEC1038.P2

Issued On: September 25, 2023



Addendum Number	Date Issued	Reason For Modification

Disclaimer

HRP Associates 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.

CERTIFICATION

This Addendum to HRP's Generic Health and Safety Plan has been prepared under the supervision of, and has been reviewed by, an Associate Safety Professional (ASP) certified by the Board of Certified Safety Professionals.



Bryan Sherman, ASP
ASP # 31838

TABLE OF CONTENTS

CERTIFICATION	II
1.0 EMERGENCY CONTACTS/PLANNING.....	1
2.0 INTRODUCTION	2
Purpose and Scope	2
Site Information and Areas of Environmental Concern	2
Background and Project Description	2
3.0 AREAS OF ENVIRONMENTAL CONCERN	5
Scope of Work.....	5
Survey of Investigation Locations.....	7
4.0 HAZARD ANALYSIS	8
Hazard Analysis Summary/Minimization	9
Changes in Conditions or Scope	9
Monitoring Procedures	9
5.0 ENGINEERING CONTROL MEASURES/GENERAL SAFETY	11
Air Monitoring	11
Protective Zones.....	11
6.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)	12
Level of Protection	12
7.0 DECONTAMINATION	14
Decontamination Procedures	14
Emergency Decontamination	14
Personal Hygiene.....	14
8.0 EMERGENCY ACTION PLAN/SPILL RESPONSE.....	15
9.0 TRAINING/MEDICAL SURVEILLANCE	16
Training Requirements	16
Pre-Entry Briefing	16
Morning Safety (Tailgate) Meeting	16
Medical Surveillance.....	17
10.0 AUTHORIZATIONS	18
11.0 FIELD TEAM REVIEW	19
12.0 APPROVALS	20

Figures

Figure 1	Site Location Map
Figure 2	Site Plan Proposed Sampling Locations
Figure 3	Route and Map to Nearest Hospital and Medical Center

Tables

Table 1a	Chemical Hazards Known or Suspected On-Site
Table 1b	Physical Hazards Known or Suspected On-Site

Appendices

Appendix A	Safety and Logistics Planning Call Log
Appendix B	Personnel Log
Appendix C	Supervisor's Investigation Report
Appendix D	Daily Job Brief Record
Appendix E	Equipment Calibration Log
Appendix F	COVID-19 Health and Safety Guidelines
Appendix G	Safety Data Sheets (for chemicals brought to the site)

1.0 **EMERGENCY CONTACTS/PLANNING**

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

Emergency Phone Numbers Ingraham Street, Brooklyn, New York	
Emergency Contact	Phone Number
Fire, Ambulance, Police Emergency:	911
NYCPD Police Service Area 3 (routine calls):	718-386-4101
FDNY Engine 237- Fire Department (routine calls):	805-458-1207
NYC Health + Hospitals/Woodhull Emergency Room	718-963-8000
Poison Control Center:	1-800-222-1222
DEC spills hotline:	1-800-457-7362
NYCDEP	212-639-9675
National Response Center:	800-424-8802
Project Manager: Patrick Montuori	845-531-9490
Site Safety Officer: Leah Topping	717-461-0645
NYSDEC Project Manager: Javier Perez-Maldonado	518-402-8172

Map and directions to the following medical facilities are provided in **Figure 3**:

- **NYC Health + Hospitals/Woodhull Emergency Room** - located at 760 Broadway, Brooklyn, NY, 11206 (approximately 1.0 mile from the work site)

First Aid, Fire Protection, Emergency Response Equipment Storage Locations	
First Aid Kit:	In Vehicle
Fire Extinguisher:	In Vehicle
Eye Wash (Bottle):	In Vehicle

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 Call Log in **Appendix A**.

2.0 INTRODUCTION

Purpose and Scope

This Health and Safety Plan (HASP) addresses the health and safety practices that will be employed by HRP Associates, Inc. personnel and our subcontractors participating in the Site Characterization (SC) that will be performed at the site. The SC will be comprised of several tasks to evaluate the environmental condition of the Site and the surrounding area, including installation of soil borings, soil vapor points, and monitoring wells to collect soil and air samples.

This HASP has been developed in accordance with HRP's Generic Safety and Health Program as required under OSHA's Hazardous Waste Operations Standard (29 CFR 1910.120). This Plan has been developed to establish minimum standards necessary for onsite investigation activities to protect the health and safety of HRP personnel. HRP site personnel have received the required level of training and field experience as required under subpart (e) of the Standard and have received medical examinations in accordance with HRP's medical surveillance program as required under subpart (f) of the Standard. No other personnel will be permitted in the Exclusion Zone unless they have received training and medical surveillance under the Standard.

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

Site Information and Areas of Environmental Concern

2.1.1 Site Information and Description

Site Name: Ingraham Street Sidewalk GW
Site Address: 88-121 Ingraham Street, Brooklyn, NY
Site Contact: Javier Perez-Maldonado, NYSDEC
Phone Number: 518-402-8172

Background and Project Description

The Ingraham Street Sidewalk GW SC (referred to hereinafter as "the Site") will focus on the area surrounding the former Popular Hands Laundry and Former Cornish Knit/Cornish Mini Mall sites on Ingraham Street, Porter Avenue, and Johnson Avenue in Brooklyn, New York. According to the available historical records, the Former Popular Hands Laundry and Cornish Knit/Cornish Mini Mall sites were dry cleaning/textile manufacturing businesses throughout the mid to late 1900s.

The location of the Site is depicted on **Figure 1**.

Previous investigations identified the presence of CVOCs in the subsurface above applicable NYSDEC standards, criteria, and guidance (SCGs).

The purpose of the SC is to determine CVOC concentrations in the subsurface along with soil gas/vapor quality in this area to determine whether the Site conditions pose a risk to public health and the environment. In accordance with DER-10 *Technical Guidance for Site Investigation and Remediation (May 2010)*, the primary objectives of the SC scope of work are to:

- Investigate the identified areas of concern (AOCs) associated with the Site and determine if they have resulted in surface or subsurface contamination and evaluate the extent of the contamination, if any;
- Obtain geologic and hydrogeologic data from the Site. The specific information that should be collected and/or verified includes: soil types (or fill), depth to groundwater, groundwater flow direction, subsurface geology, bedrock characteristics, etc. Determine if applicable standards, criteria, and guidance contained in NYSDEC DER-10 and set forth for the Site are contravened;
- Preliminarily delineate the vertical and horizontal extent of contaminated groundwater, if any;
- Establish a baseline for any remedial work that will be necessary to address impacted media; and
- Determine if the site represents a threat to public health or the environment.

2.1.2 Personnel Designations

The following personnel 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.

The following personnel 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. All subcontractors must have received the required level of training and field experience as required under subpart (e) of OSHA 29 CFR 1910.120 and OSHA 29 CFR 1926.65 for Hazardous Waste Operations and Emergency Response (HAZWOPER).

Project Team Member	Responsibilities and Tasks
Leah Topping (or Qualified Alternate Safety Officer)	<p>HSO – HRP Associates, Inc.</p> <ul style="list-style-type: none"> - Ensuring all site work is being performed in accordance with HRP Associates, Inc. Safety Program, 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 Associates, Inc. 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. - Authorizing Stop Work Orders that shall be executed upon the determination of an imminent health and safety 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 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.
Patrick Montouri (Site Supervisor/ Project Manager)	<p>Site Supervisor/Project Manager – HRP Associates, Inc.</p> <ul style="list-style-type: none"> - Monitor and assist the site Health and Safety officer. - Maintain appropriate rules, regulations and codes at the job site. - Provide advance safety planning for all activities through the use of scheduling and administrative controls. - Obtain site-specific health and safety information and communicate that information with the appropriate personnel (i.e. contractors, client, etc.) - Report all injuries, illnesses and other incidents to the Director of Safety. - Ensure all HRP personnel are trained and qualified to perform site work.
Site Workers (Subcontractors)	<p>Site Workers</p> <ul style="list-style-type: none"> - Read and work in accordance with this HASP. - Report all unsafe work practices to the HSO. - Report all incidents, including near-misses to the HSO. - Work in a safe manner. - Provide Designated Competent Person
<p>A complete list of HRP employee and subcontractor responsibilities (as applicable) can be found in the HRP Generic Health and Safety Plan.</p> <p><u>1</u> A list of site workers will be maintained in the Personnel Log (Appendix B)</p> <p><u>2</u> Supervisors Investigation Report included as (Appendix C)</p>	

3.0 AREAS OF ENVIRONMENTAL CONCERN

Scope of Work

The scope of work for the Ingraham Street Sidewalk GW SC is summarized below.

Property Access, Underground Utility Clearance and Ground Penetrating Radar (GPR)

Prior to performing intrusive work, HRP will perform the following activities:

- Obtain all New York City Department of Transportation (NYCDOT) permits necessary to install soil borings, monitoring wells, and soil vapor points in the right-of-way (city sidewalks).
- Call in underground utility clearance through NYS Code Rule 753/Dig Safe System.
- Complete a GPR Survey within a 10-foot radius of each proposed boring location to ensure boring areas are clear of obstructions and identify any other potential AOCs.

Groundwater Characterization

In order to delineate the extent of CVOC contamination in groundwater beneath the Site, and obtain groundwater flow information, HRP proposes the following activities:

- Drill soil borings and install permanent overburden groundwater monitoring wells in the right-of-way. Collect soil data for all soil borings and monitoring wells.
- Each monitoring well will be installed to an estimated depth of 20 ft bg. For the purpose of determining depth to water, identifying potential impacts to groundwater quality and aquifer characteristics, soil samples will be collected continuously, logged, and screened using a calibrated PID during the installation of monitoring wells.
- The wells should be constructed of 2-inch PVC with PVC slotted screens, and screened across the water table with an appropriately sized sand pack. The wells should be installed using flush-mounted protective casings and locking covers or a locking protective steel stick-up as appropriate.
- Develop each of the monitoring wells a minimum of 24 hours after installation. Each well should be developed by pumping and surging until the field parameters stabilize for a minimum of three consecutive readings of 10 percent variability of less. Field parameters should include temperature, pH and specific conductance. In addition, the turbidity of the groundwater must achieve a reading of 50 nephelometric turbidity units (NTUs) or less during the field parameter readings. All groundwater obtained during well development and sampling should be disposed of in accordance with DER-10.
- Collect groundwater samples from the monitoring wells for laboratory analysis. Groundwater samples will be collected in general accordance with low-flow groundwater sampling procedures.

Soil Vapor Characterization

In order to delineate the extent of CVOC impacts to soil vapor beneath the off-site area, HRP proposes the following activities:

Soil Vapor Point Installation and Sampling

- Soil vapor points will be installed in the right-of-way. A direct push drill rig will be used to advance soil borings to a maximum depth of 10 fbg.
- For the purpose of determining depth to water and identifying potential sources of impacts to soil vapor quality, soil samples will be collected continuously, logged, and screened using a calibrated PID.
- Soil vapor points are to be constructed using 6-inch steel screens and nylon, Teflon, or Teflon-lined tubing. Soil vapor points will be backfilled with No. 0 filter sand and finished with a 2-foot bentonite seal and an 8-inch road box. Soil vapor points will be set at a depth of one foot above the water table or 10 fbg, whichever comes first.
- Collect soil vapor samples from soil vapor points for laboratory analysis. Air samples will be analyzed for VOCs via EPA Method TO-15 by an ELAP laboratory selected from the NYSDEC call-out contract. Soil vapor samples will be collected in 6-liter summa canisters equipped with two-hour regulators.

Soil Vapor Intrusion (SVI) Structure Sampling

- Completion of sub-slab SVI investigations will be conducted in surrounding structures.
- Sub-slab SVI investigations will be completed in accordance with NYSDOH's *Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006* and will include collection of sub-slab soil vapor samples and air samples and the completion of a NYSDOH Indoor Air Quality Questionnaire and Building Inventory.
- Sub-slab soil vapor points will be installed by advancing a 1/4-inch drill bit immediately below the slab (anticipated one foot or less) using a handheld electric hammer drill. Sub-slab soil vapor points will be installed, leak tested, and sampled in accordance with NYSDOH's *Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006*.
- SVI air and sub-slab soil vapor samples will be collected using 6-liter summa canisters fitted with 8-hour regulators (for commercial and industrial use buildings) or 24-hour regulators (for buildings which include residential use on any floor) and analyzed for VOCs via EPA Method TO-15.
- At least one set of SVI samples will be collected per structure. Each set of samples will include one sub-slab soil vapor sample and one indoor air sample of occupied areas.

- Air samples will be analyzed for VOCs via EPA Method TO-15. Duplicate soil vapor samples will be collected at a frequency of one per 20 samples. Ambient outdoor air samples will be collected at a minimum frequency of one sample per day.
- Paired sub-slab soil vapor/indoor air locations will be determined in the field at the time of the building inspection. Locations will be selected in accordance with Section 2.6.2 of the NYSDOH's *Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006*. Paired samples will be installed and collected in central locations away from building footing foundations and if possible, biased towards the Site/source of soil vapor impacts. Other factors which may impact SVI sample locations include presence of flooring (tile or wood flooring), building operations/traffic, and chemical storage locations.
- Draft results from the sub-slab SVI sampling events, including completed Indoor Air Quality Questionnaires and Building Inventories, and laboratory analytical data will be provided to NYSDEC and NYSDOH on receipt. Final results will be provided to NYSDEC and NYSDOH as part of the SC Report.

Survey of Investigation Locations

Monitoring well, soil vapor point, and soil boring locations and elevations will be surveyed according to a horizontal and vertical datum 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. Coordinates and elevations provided to HRP by the surveyor will be plotted on an aerial image base map of the Site.

Monitoring well top of casing elevations will be surveyed according to a vertical datum to within an accuracy of plus or minus 0.01 feet. A notch will be etched in all interior casings, or a permanent black mark, to provide a reference point for all future groundwater elevation measurements.

Locations of sub-slab soil vapor points will be surveyed at the Site using handheld global positioning system (GPS) equipment and by measuring off permanent structures and features (swing-ties). All location data collected by HRP will be included on site base maps and entered into the NYSDEC's EQuIS database.

4.0 HAZARD ANALYSIS

The project hazard analysis below identifies the hazards that are anticipated to be encountered by the project team.

Physical Hazards Present	<input type="checkbox"/> Electricity <input checked="" type="checkbox"/> Trips/Falls/Floor openings <input checked="" type="checkbox"/> Holes/Pits <input checked="" type="checkbox"/> Inclement weather <input checked="" type="checkbox"/> Heat <input checked="" type="checkbox"/> Cold <input type="checkbox"/> Vibration <input checked="" type="checkbox"/> Flying particles	<input type="checkbox"/> Ionizing radiation <input type="checkbox"/> Non-Ionizing radiation <input type="checkbox"/> Lasers <input checked="" type="checkbox"/> Overhead hazards <input checked="" type="checkbox"/> Noise <input checked="" type="checkbox"/> Visible dust <input checked="" type="checkbox"/> Falling objects <input type="checkbox"/> Other _____
Health/Chemical Hazards Present ¹	<input checked="" type="checkbox"/> Dust/Fumes/Particulates <input checked="" type="checkbox"/> Flammable/Combustible <input type="checkbox"/> Compressed gas <input type="checkbox"/> Explosive <input type="checkbox"/> Water reactive <input type="checkbox"/> Unstable <input checked="" type="checkbox"/> Contact with contaminated media	<input type="checkbox"/> Oxidizer <input type="checkbox"/> Corrosive <input type="checkbox"/> Toxic <input type="checkbox"/> Highly Toxic <input type="checkbox"/> Irritant <input type="checkbox"/> Sensitizer <input type="checkbox"/> Carcinogen/Mutagen <input type="checkbox"/> Other _____
Environmental/Equipment Hazards Present	<input checked="" type="checkbox"/> Heavy machinery <input checked="" type="checkbox"/> Drilling <input type="checkbox"/> Water operations <input checked="" type="checkbox"/> Mobile equipment <input checked="" type="checkbox"/> Road work <input type="checkbox"/> Railroad work <input type="checkbox"/> Forklifts <input checked="" type="checkbox"/> Power tools <input type="checkbox"/> Welding <input type="checkbox"/> Gas cylinders <input checked="" type="checkbox"/> Overhead/underground utilities	<input type="checkbox"/> Trenching/excavation <input type="checkbox"/> Elevated heights/man lifts <input type="checkbox"/> Scaffolding <input type="checkbox"/> Ladders <input type="checkbox"/> Confined spaces <input type="checkbox"/> Energized equipment <input checked="" type="checkbox"/> Overhead hazards <input checked="" type="checkbox"/> Drums/container handling <input checked="" type="checkbox"/> Insects/rodents/snakes <input type="checkbox"/> Biological hazards <input type="checkbox"/> Other _____
Personal Safety Considerations	<input checked="" type="checkbox"/> Security Issues <input type="checkbox"/> Remote setting <input checked="" type="checkbox"/> Employees working alone <input checked="" type="checkbox"/> Limited lighting	<input type="checkbox"/> Off hour shifts <input type="checkbox"/> Dangerous wildlife/animals <input type="checkbox"/> Limited cell phone service <input type="checkbox"/> Other _____

¹ **Table 1** (following the text of this HASP) provides a list of chemical substances for reference, along with odor threshold, permissible exposure limit (PEL), threshold limit value (TLV), OSHA ceiling, IDLH concentration, route of exposure and symptoms of acute exposure, if any.

Details of specific hazards associated with individual tasks will be discussed in the Daily Job Brief Record (**Appendix D**).

Hazard Analysis Summary/Minimization

HRP's Corporate Health & Safety Plan (in conjunction with this HASP) will be cross-referenced in order to obtain the safe work practice procedures for mitigating and preventing project site hazards identified in the table above. Job site hazard prevention and minimization information can be found in Section 3 of HRP's Generic Health & Safety Plan.

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. Confined space entry is not anticipated during the SC.

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 on-site activities.

Chemical Hazards

Hazardous chemicals known or suspected to be onsite are listed in **Table 1a** (follows text). **Table 1a** includes Chemical name, odor threshold OSHA PEL, ACGIH TLV, OSHA STEL, IDLH Concentrations, routes of exposure and symptoms of acute exposure. Chemicals likely to be encountered during site work are highlighted.

Changes in Conditions or Scope

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

Monitoring Procedures

Air monitoring will be used to determine the concentrations of various chemicals while working in the exclusion zone to evaluate worker exposure to contaminated media. In order to determine potential health hazards and to determine the level of personal protection needed during 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. Monitoring of atmospheres adjacent to on-going excavations and around the treatment area shall also be conducted with a PID.

The following environmental monitoring instruments/procedures shall be used on-site at the specified intervals.

Instrument/Procedure

Photoionization Detector (PID)
 in the breathing zone

Sampling Interval

Periodically as deemed by HSO

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.

The following *Action Levels* will be used:

Instrument	Action Level	Level of Protection or Action Required
PID	No reading above background	<ul style="list-style-type: none"> No action required. Continue PID monitoring. (Modified) Level D protection.
PID	Up to 5 ppm above background	<ul style="list-style-type: none"> Evacuate exclusion zone. Recheck levels after 15 minutes. If levels are sustained, reassess. Use engineering controls to lower breathing zone vapors. Level C protection (at the HSO direction).
PID	>5 ppm above background	<ul style="list-style-type: none"> Evacuate exclusion zone. Recheck levels after 15 minutes. Use engineering controls to lower breathing zone vapors. If levels are sustained, contact Safety Manager, and re-evaluate HASP.

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 HSO 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.

Calibration of all instruments will occur at least once per day, when in use. An equipment calibration log is included in **Appendix E**.

5.0 ENGINEERING CONTROL MEASURES/GENERAL SAFETY

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 PID will be periodically operated to monitor air quality for the purpose of ensuring minimal exposure to volatile organic compounds. Please refer to Section 4 of this plan for specific air monitoring procedures/action levels.

Protective Zones

Prior to commencement of work in area of suspected contamination, protective zones specific for each phase of the Plan will be established by the HSO if necessary, prior to the start of field work. 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.

Protective zones shall be delineated as follows:

- Exclusion Zone: This is the contaminated area in which intrusive activities are performed. The "Area of Environmental Concern" (AOEC) is located within this area. A single access point for entrance and exit should be established and maintained, if possible. This zone should be delineated from the Contaminant Reduction Zone via perimeter cones or caution tape, or other applicable method. The Exclusion Zone delineation and any necessary modifications will be based on site conditions.
- Contaminant Reduction Zone: This zone is a transition zone located between the Exclusion Zone and the Support Zone and is utilized to decontaminate personnel and equipment.
- Support Zone: This zone will be utilized by equipment and vehicle storage and will be kept free of contaminated material. The HSO will determine the location of this zone. In the event of a site evacuation, the rally point will be 88 Ingraham Street site #V00170 (Figure 2). 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.

6.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

Level of Protection

As identified in Section 4.0, the overall health and safety 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, and will generally consist of the PPE listed below:

- Steel toe/shank work boots
- Hard hat, as necessary
- Safety vest, as necessary
- Coveralls/tyvek, as necessary
- Safety glasses/goggles/face shield, as necessary
- Hearing protection, as necessary

If site conditions warrant, an upgrade to Level C PPE may be required (refer to Section 4.3 for the appropriate *Action Levels*) then the contractors will make Level C personal protective equipment (PPE) readily available. Level C PPE generally includes:

- Full face, air purifying respirator with organic vapor cartridges
- Same as Level D, but also includes tyvek taped pant/boot and glove/shirt

If it is determined protection beyond Level C is required, HRP will re-evaluate the HASP as well as the site conditions, and will revise the HASP as required. The following table provides a summary of the minimum level of PPE required on site:

Description	Level of Protection ¹	
	D	C
Body		
Work Clothes	R	R
Chemical Protective Suit (Tyvek)	O	R
Visibility Vest	O ²	O ²
Apron	O	O
Fall Protection	O ²	O ²
Head		
Hard Hat	R	R
Head Warmer	O	O
Eyes & Face		
Safety Glasses	R	R
Goggles (based on hazard)	O	R
Face Shield	O	O
Ears		
Plugs or Muffs	R ²	R ²
Hands & Arms		

Description	Level of Protection ¹	
	D	C
Work Gloves	R	O ²
Chemical Resistant Gloves (Nitrile)	O	R
Insulated Gloves	O	O
Foot		
Work Boots/Steel Toe Boots	R	R
Chemical Resistant Boots	O	O
Disposable Boot Covers	O	O
Respiratory Protection ³		
½ Mask Air Purifying Respirator (APR) or Full face APR	NA	R
Dust Protection	O	NA
Powered APR	NA	NA
SCBA/Supplied Air Respirator	NA	NA

R = Required, **O** = Optional, **NA** = Not Applicable
¹ The level of protection identified here does not include the necessary equipment for entering confined spaces. Refer to Moran Environmental Recovery's Safety Manual Confined Space Program for atmospheric sampling protocols and breathing and rescue equipment necessary for those operations.
² The use of this PPE may or may not be required depending on site conditions/location and will be addressed at the time of task assignment by the HSO.
³ Respiratory protection necessary to protect against VOC, dusts/particulates and not oxygen deficient atmospheres.

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 on site conditions and will be addressed at the time of task assignment by the HSO.

Task Description	Invasive (Y/N)	Protection Level
<u>Site Mobilization</u> - Surveying, fence and barrier installation, hay bale installation, decon and work zone set up, soil staging areas preparation	N	Level D
<u>Soil and Water Sampling</u> - 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
<u>Soil Excavation, Staging and Load-Out</u>	Y	Modified Level D – or Upgrade to Level C dependent on monitoring
<u>Decontamination</u> - Truck dry sweeping, decon pressure wash of equipment, PPE change out	Y	Modified Level D – or Upgrade to Level C dependent on monitoring
<u>Waste Management</u> - Soil load-out for off-site disposal, water removal for disposal, PPE disposal	Y	Modified Level D – or Upgrade to Level C dependent on monitoring
<u>Site Control (Exclusion, Decontamination, Support Zones)</u>	N	Modified Level D – or Upgrade to Level C dependent on monitoring
<u>Communications</u> - Use of hand signals, backup alarms, and voice	N	NA
<u>Site Restoration</u>	Y	Level D

7.0 DECONTAMINATION

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 HSO. 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.

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.

Personal Hygiene

All employees will be required to wash 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, etc.

Additional personal hygiene requirements, intended to prevent the spread of the novel corona virus to site workers will be in effect during site activities. These procedures include mobile handwashing stations and the requirement for site workers to wear face coverings. Additional details are included in **Appendix F**.

8.0 EMERGENCY ACTION PLAN/SPILL RESPONSE

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 HSO 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 HSO, who will determine the appropriate emergency response, up to and including evacuation. Only the HSO may initiate evacuation of the work area. The HSO 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 7.2. Accounting of all site personnel will be conducted by the HSO using the personnel log at a location determined by the HSO.
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 the NYSDEC will 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 HSO, 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 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 HSO will complete an 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.

9.0 TRAINING/MEDICAL SURVEILLANCE

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(e). If the 40-hour or 24-hour training of any person occurred more than 12 months prior to commencement of work, then that person must have attended an 8-hour refresher course within the 12 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 12 months. Training certificates and records for HRP employee(s) are on file at HRP. All other contractors will be required to supply written proof of training before being allowed into the Exclusion Zone.

Pre-Entry Briefing

Prior to commencement of work in an area of suspected contamination, HRP's Health and Safety Officer will conduct a pre-entry briefing with on-site contractors, which will include the following:

- Name of the HSO 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 personal protective equipment.
- Decontamination procedures.

The HSO should also, at this time, ensure that all on-site HRP and HRP subcontractor personnel have read the HASP and signed the last page of the original (Section 11.0). If additional information on the site becomes available, the HSO will call additional briefings as necessary.

Morning Safety (Tailgate) Meeting

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

Medical Surveillance

All HRP and HRP subcontractor personnel entering the Exclusion Zone must have had a physical within the 12 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 HSO. Any work limitations for site personnel, or relevant medical information (i.e. allergic reactions to medication) should be included in this Plan.

10.0 AUTHORIZATIONS

Personnel authorized to enter the Exclusion Zone include the personnel listed in Section 2.4. Persons not listed in Section 2.4 may enter the Exclusion Zone only if the appropriate training and medical fitness certifications have been supplied to either the HRP Project Manager or Health and Safety Manager and the HSO or his/her designee on site has approved site entry. All personnel entering or leaving the Exclusion Zone must sign in and sign out with the recordkeeper.

11.0 FIELD TEAM REVIEW

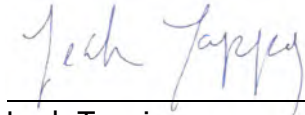
All HRP personnel shall sign below after reading this HASP and shall agree with the following statement:

"I have read and understand this site specific Health and Safety Plan. I will comply with the provisions set forth therein."

[illegible]

12.0 APPROVALS

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.



Leah Topping
On-Site Health and Safety Officer

9/25/2023

Date



Patrick Montouri, PG
Project Manager

9/25/2023

Date



Bryan Sherman, ASP
Office Health and Safety Manager

9/25/2023

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 Daily Job Brief Record (**Appendix D**).

[illegible]

FIGURES

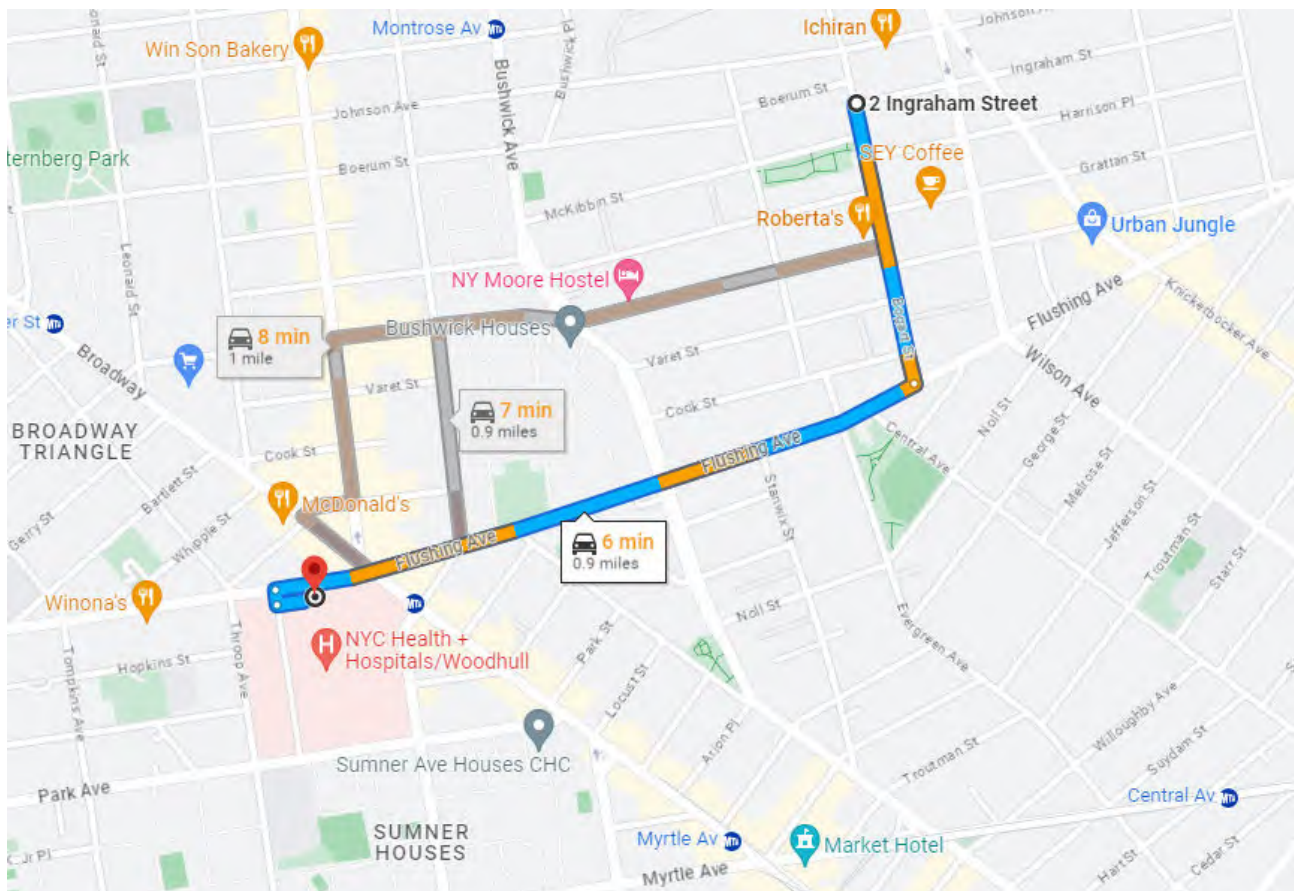
Figure 3: Route and Map to Nearest Hospital and Medical Center

Directions to HHC Community Hospital

Total Estimated Time: 6 minutes
Total Estimated Distance: 0.9 miles

Begin at 88 Ingraham Street, Brooklyn, NY

End at NYC Health + Hospitals/Woodhull Emergency Room
760 Broadway Brooklyn, NY 11206



TABLES

TABLE 1a
CHEMICAL HAZARDS KNOWN OR SUSPECTED ON-SITE

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

TABLE 1a
CHEMICAL HAZARDS KNOWN OR SUSPECTED ON-SITE

CONTAMINANT	ODOR THRESHOLD	OSHA PEL ¹	TLV (ACGIH)	OSHA CEILING ² /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE ³
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]
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)
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	
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
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 1a
CHEMICAL HAZARDS KNOWN OR SUSPECTED ON-SITE

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
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
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]
Phenanthrene (Coal Tar Pitch)		0.2 mg/m ³	0.2 mg/m ³		[80 mg/m ³]	Inh, Con	Derm, bron, (carc)
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

TABLE 1a
CHEMICAL HAZARDS KNOWN OR SUSPECTED ON-SITE

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

TABLE 1a
CHEMICAL HAZARDS KNOWN OR SUSPECTED ON-SITE

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

CONTAMINANT	ODOR THRESHOLD	OSHA PEL ¹	TLV (ACGIH)	OSHA CEILING ² /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE ³
<p>NOTES</p> <p>* = Constituent found in ETPH</p> <p>**=Constituent found in Acid/Base/Neutral Extractable Compounds</p> <p>***=Constituent found in Volatile Organic Compounds</p> <p>****=Constituent found in Leaching Lead</p> <p>¹PEL = Permissible Exposure Limit. If no PEL is available, then the NIOSH Threshold Limit Value (TLV) should be used, if available.</p> <p>²Ceiling limit or Short Term Exposure Limit (STEL), if available. Again, the NIOSH TLV may be used if no OSHA standard exists.</p> <p>³Abbreviations are contained on the next page</p> <p>[] = Potential Occupational Carcinogen</p> <p>ND = Not Been Determined</p>							

TABLE 1a
CHEMICAL HAZARDS KNOWN OR SUSPECTED ON-SITE

[illegible]

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

irrt = Irritability
lac = Lacrimination (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 = Myoclonic (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

TABLE 1b: Physical Hazards Known or Suspected On-Site

TABLE 1b
PHYSICAL HAZARDS KNOWN OR SUSPECTED ON-SITE

Description of Hazard	Methods to Identify and Minimize	Potential for Occurrence	Potentially Affected Tasks
1. Operating Heavy Equipment	<ul style="list-style-type: none"> Utilizing proper equipment operation methods Maintain safe clearance distances Wear appropriate eye/ear protection according to manufacturer's recommendations 	Moderate	Observation of Excavation/Sampling
2. Inclement weather	<ul style="list-style-type: none"> Determine probable weather conditions prior to arrival at site Avoid working during hurricanes, blizzards, persistent heavy rain or snow, close thunderstorms 	Moderate	Observation of Excavation/Sampling
3. Heat/cold Stress	<ul style="list-style-type: none"> Determine probable weather conditions prior to arrival at site Wear proper clothing Monitoring of yourself and team mates Drink plenty of fluids Utilize work breaks as often as necessary Avoid working in extreme cold conditions 	Moderate	Observation of Excavation/Sampling
4. Slip, trip, and fall hazards caused by irregular and loose rocky topography	<ul style="list-style-type: none"> Wear appropriate footwear to increase traction when possible Be aware of surroundings 	Low	Observation of Excavation/Sampling

TABLE 1b
PHYSICAL HAZARDS KNOWN OR SUSPECTED ON-SITE

Description of Hazard	Methods to Identify and Minimize	Potential for Occurrence	Potentially Affected Tasks
5. Utilities	<ul style="list-style-type: none"> • Complete a Call Before You Dig markout prior to the work start date • Obtain buried private lines information from and clear sampling locations with Site Contact • Avoid using heavy equipment or drill rig in close proximity to overhead utilities • Inspect sampling areas for Call Before You Dig markings; inspect catch basins and manholes to determine buried pipeline directions prior to sampling • Avoid sampling within area of pavement cuts that may be indicative of buried lines 	Moderate	Observation of Excavation/Sampling
6. Vehicle Traffic	<ul style="list-style-type: none"> • Wear appropriate high visibility clothing • Block off the work area to prevent vehicles from entering 	Moderate	High Traffic areas
7. Inhalation of Volatiles	<ul style="list-style-type: none"> • Implement and adhere to action levels stipulated in air monitoring program for volatile organics • Wear appropriate protective equipment • Report potential exposure symptoms immediately • Utilize engineering controls such as fans 	Low	Observation of Excavation/Sampling
8. Skin contact with volatile organic compounds, semi volatile organic compounds, metals, TPHs, PCBs, pesticides, cyanide	<ul style="list-style-type: none"> • Wear appropriate protective clothing • Follow proper decontamination procedures • Report potential exposure symptoms immediately 	Low	Observation of Excavation/Sampling

APPENDIX A

Safety and Logistics Planning Call Log

Safety and Logistics Call Log
DEC009808

Page 1 of 2



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

Names of Attendees (and phone #s):

HRP

HRP PM _____
HRP SSO _____
HRP Other _____
HRP Other _____
HRP Other _____

Subcontractors

Driller Contact _____
Utility Survey _____
Surveyor _____
Construction _____
Other _____

DEC DEC PM _____
DEC Other _____

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): _____

Notes below as needed:

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: 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: _____

Safety and Logistics Call Log
DEC009808

Page 2 of 2

Will there be any other parties entering the work zones? Describe control measures:

Lab and Equipment:

Equipment: Y / N PID IP Water Level Indicator CAMP Pumps controllers Survey Eq. GPS
Other: _____

Lab Analytical Required: Y / N VOCs SVOCs Metals PFAS 1,4D PCBs Pest/Herb
Other: _____

Media Tested: Soil Sediment Groundwater Surface Water Sub-slab[soil] Vapor Indoor Air
Notes of sample collection methods: _____

Bottle Order Received/ Checked? Y / N

How will samples be conveyed to lab? _____

Sample TAT? Standard 24 hr TAT 48 hr TAT Other: _____

Review Site - Specific Hazards (per Site-Specific HASP to be provided prior to all parties):

Site Constituents of Concern: VOCs SVOCs PFAS 1,4-Dioxane
(circle) HVOCs
AVOCs
metals pesticides herbicides
Asbestos PCBs
Lead Other: _____
Biologicals

Site Setting: Urban Suburban Unoccupied
Traffic Bystanders Crime Plants Animals Vectors
Overhead Utilities Underground Utilities Large Equipment
High Voltage Flood/Tidal Limited Access
Confined Spaces

Task-Specific Chemicals and Hazards (describe): _____

PPE Level (circle): D C B A Modifications: _____

Glove types: _____ Face covering needed? Y/ N

Other specialty PPE: _____

Safe to Work Alone: Y / N

Other Precautions: Y / N Describe: _____

COVID 19 Protocols to be Observed: Y / N

Waste Containment:

How/ where will materials be contained, labelled, stored, or disposed? _____

Miscellaneous:

APPENDIX B

Personnel Log

HRP Health and Safety Plan
Ingraham Street Sidewalk GW
NYSDEC Site No. 224142
Ingraham Street, Brooklyn, NY, 11237

[illegible]

APPENDIX C

Supervisor's Investigation Report



INCIDENT REPORT

Section 1.0: Complete By Employee and Project Manager (provide to Human Resources Manager)

Incident Case No. _____

Employee Name: Employee Title/Position:	Age: Sex: <input type="checkbox"/> Female <input type="checkbox"/> Male	Time employee began work: Date of Incident: Time of Incident:	Weather Conditions: Date of Report: Time Report Completed:
Department: Office Location: Supervisor:			
Employee Address: Street: City/Town: Zip Code: Phone Number:	Location of Incident: Address: City/Town: State:		
Type of Incident: <input type="checkbox"/> Motor Vehicle Accident or <input type="checkbox"/> Near Miss or <input type="checkbox"/> Injury occurred during routine work <input type="checkbox"/> Company or <input type="checkbox"/> Personal Vehicle? First-Aid performed on-site? Yes / No Other Medical Attention Provided? Yes / No Time lost from work? Yes / No Number of Hours: or Number of Days:			
If injuries occurred, list names and describe nature, degree, and body part injured: Number of injured: _____ 1. 2. 3. 4. Complete Section 3.0			
WITNESS STATEMENT: WHAT HAPPENED AND WHAT WAS THE EMPLOYEE DOING BEFORE THE INCIDENT OCCURRED? WHAT WAS THE EMPLOYEE DOING WHEN THE INCIDENT OCCURRED? WHAT WAS THE EMPLOYEE DOING AFTER THE INCIDENT OCCURRED?		Describe what took place? Who was at fault for vehicle accidents, citation? Was power equipment involved, if so, describe?	

WHAT WAS THE NATURE OF THE INJURY OR ILLNESS?		Tell us the body part that was affected and how it was affected – be specific Examples: strained lower back; chemical burn on hand
WHAT WAS THE ROOT CAUSE OF THE INCIDENT? List other individual involved in Section 3. COULD INCIDENT HAVE BEEN AVOIDED? HOW?		Get all the facts by studying the Job and situation involved. Question by use of WHY - WHAT – WHERE – WHEN – WHO – HOW Were there other factors (e.g., noise, ventilation, illumination, fatigue, age, medical conditions) that contributed to the accident?
WAS TRAINING FOR THE WORK ACTIVITY PROVIDED: TYPE: DATES:		WERE WARNING SIGNS OR LABELS POSTED:
WHAT SHOULD BE DONE? HOW CAN INCIDENT BE AVOIDED IN THE FUTURE?		WAS PERSONAL PROTECTIVE EQUIPMENT USED? NEEDED: AVAILABLE: CONTRIBUTED TO INJURY:
WHAT HAVE YOU DONE THUS FAR?		Take or recommend action, depending upon your authority. Follow up – was action effective?
HOW WILL THIS IMPROVE OPERATIONS?		OBJECTIVE Eliminate job hindrances
Completed by:	Reviewed by:	Date

Section 2.0: Complete By Supervisor or Human Resources Manager

Name: Role (witness, observer, injured, participant, etc.):	Address: Phone Number
Name: Role:	Address: Phone Number
Name: Role:	Address: Phone Number
Name: Role:	Address: Phone Number
Name: Role:	Address: Phone Number
Name: Role:	Address: Phone Number

Section 3.0: Corrective Actions (To be Completed by OHSM and CHSO)

Are corrective actions warranted? ☐ Yes ☐ No If so, proceed with corrective action list

Corrective Actions. List long term actions to be taken as a result of incident (use additional sheets if needed)	How was the corrective action implemented?	Target date of completion

OHSM Name:	CHSO Name:
OHSM Signature:	CHSO Signature:

End of incident report. Section 4.0 is to be completed and maintained by the Human Resources Department.

Section 4.0: Complete By Human Resources Manager

Incident Report Case No. _____

The information on this page is considered CONFIDENTIAL and must be treated as such. This page will only be available to Human Resources Department or the employee's supervisor.

Insured Name:	Employee Hire Dates: Start at Company: Current Position:
Policy Number:	Is employee a company: Owner, Officer, Neither.
Employee Soc. Sec. No.:	Marital Status: Spouse Name:
Was Employee Pay Interrupted, or paid in full for time:	Employee Pay Period: Weekly, Bi-Weekly, Monthly, Other (specify)
Employee Compensated by hourly or salary? Wage Information: (tips, bonuses, commission)	Typical No. of hours worked per day____, hours per week____. Typical Start of day time_____, end of day time_____.
Date of Stop Work: Date Returned to Work:	How often has employee visited doctor/hospital?
Doctor: Authorized by Co.: Y / N Street: City/Town: Zip Code: Phone Number: Authorized by Co.: Y / N	Hospital: Street: City/Town: Zip Code: Phone Number: Authorized by Co.: Y /N
Was the employee treated in an emergency room? <input type="checkbox"/> Yes <input type="checkbox"/> No	Was employee hospitalized overnight as an in-patient? <input type="checkbox"/> Yes <input type="checkbox"/> No If so, for how many days? _____

APPENDIX D

Daily Job Brief Record

JOB BRIEF RECORD

Ingraham Street Sidewalk Groundwater

DEC1038.P2

88 Ingraham Street, Brooklyn, NY

Site Name/Address

Person Conducting

Javier Perez-Maldonado

(518) 402-9767

Client Contact/Phone

HRP H&S Rep.

HRP Client Name/Job #

David Stoll (518) 877-7101 ext. 1407

HRP Supervisor

Date/Time

Number Attending

Weather

Designated Competent Person:

Description of Work:

Attendees (use additional sheets as needed):

Name	Company	Signature

Emergency Telephone Numbers

Hospital Name & Location:

NYSDEC Spill Line: 1-518-457-7362

Health & Safety Manager:

FIRE / POLICE / AMBULANCE: 911

Mount Sinai Queens, 25-10 30th Avenue, Queens, NY

National Response Center: 800-424-8802

CBYD: 800-922-4455

Jake Smith: 864.289.0311 1508

HAZARDS

- | | | | | |
|--------------------------------------|---|---|---|---|
| <input type="checkbox"/> Toxic | <input checked="" type="checkbox"/> Extreme Cold/Heat | <input type="checkbox"/> Soil Excavation | <input checked="" type="checkbox"/> Vehicle Traffic | <input type="checkbox"/> Powerwashing |
| <input type="checkbox"/> Corrosive | <input checked="" type="checkbox"/> Drains/Sumps | <input type="checkbox"/> Tank Excavation | <input type="checkbox"/> Hot Work | <input type="checkbox"/> Elevated Work Area |
| <input type="checkbox"/> Flammable | <input type="checkbox"/> Sharp Objects | <input type="checkbox"/> Trenching | <input type="checkbox"/> Vac Truck | <input type="checkbox"/> Live Electrical Circuits |
| <input type="checkbox"/> Combustible | <input checked="" type="checkbox"/> Drilling in Soil | <input checked="" type="checkbox"/> Floor Holes | <input type="checkbox"/> Ladders | <input type="checkbox"/> Pneumatic Tools |
| <input type="checkbox"/> Reactive | <input type="checkbox"/> Lighting | <input type="checkbox"/> Working on/near Water | <input checked="" type="checkbox"/> Noise | <input checked="" type="checkbox"/> Drum Handling |
| <input type="checkbox"/> Path Waste | <input checked="" type="checkbox"/> Slips/Trips/Falls | <input type="checkbox"/> Underground/Overhead Utilities | <input type="checkbox"/> Lifting | <input type="checkbox"/> Abrasive Blasting |
| <input type="checkbox"/> Asbestos | <input type="checkbox"/> Lead | | | |

PERSONAL SAFETY

- | | | | |
|--|--|---|--|
| <input type="checkbox"/> Supplied Air Respirator | <input type="checkbox"/> SAR w/Egress Bottle | <input type="checkbox"/> SCBA | <input type="checkbox"/> Air Purifying Respirator Cartridge: _____ |
| <input type="checkbox"/> Fully Encapsulating Suit | <input type="checkbox"/> Flash Suit | <input type="checkbox"/> NOMEX (flam resistant) | <input type="checkbox"/> Protected Coveralls, Type: _____ |
| <input type="checkbox"/> Overboots | <input type="checkbox"/> Lifebelt/Lanyard | <input checked="" type="checkbox"/> Hardhats | <input type="checkbox"/> Outer Gloves, Type: _____ |
| <input checked="" type="checkbox"/> Safety Glasses | <input type="checkbox"/> Chemical Goggles | <input type="checkbox"/> Face Shield | <input type="checkbox"/> Inner Gloves, Type: _____ |

- | | | | | |
|--|--|---|--|---|
| <input type="checkbox"/> Reflective Vests | <input type="checkbox"/> Eye Wash | <input type="checkbox"/> Safety Shower | <input type="checkbox"/> First Aid Kit | <input type="checkbox"/> PFD's |
| <input checked="" type="checkbox"/> Hearing Protection | <input type="checkbox"/> Evacuation Plan | <input type="checkbox"/> Communications | <input type="checkbox"/> Properly Sloped
Trench | <input type="checkbox"/> Excavation/
Ventilation |

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.

APPENDIX E

Equipment Calibration Log

HRP Health and Safety Plan
Ingraham Street Sidewalk GW
NYSDEC Site No. 224142
Ingraham Street, Brooklyn, NY, 11237

[illegible]

APPENDIX F

COVID-19 Health and Safety Guidelines

COVID19

SITE SPECIFIC HASP ADDENDUM

This addendum will remain in effect until what time the CDC, NIAID, and/or Surgeon General guidance is provided that removes the heightened awareness of social distancing, hand washing, and other protocols in response to COVID-19.

NECESSARY ADDITIONAL SUPPLIES

- Hand sanitizer (minimum 60% alcohol)
- Squeeze bottles of water (if no running water at job site)
- Soap
- Disinfectant (for tools, vehicles, common areas, etc.)
- Caution tape, cones or similar to set up social distancing boundaries as needed

EMPLOYEE HEALTH PROTECTION – ZERO TOLERANCE

The following applies to both HRP employees and contracted staff working on behalf of the HRP or the client.

- ZERO TOLERANCE FOR SICK WORKERS REPORTING TO WORK. IF YOU ARE SICK, STAY HOME! IF YOU FEEL SICK, GO HOME! IF YOU SEE SOMEONE SICK, SEND THEM HOME!
- If you are exhibiting any of the symptoms below, you are to report this to your supervisor (via phone, text or email) right away, and head home from the job site or stay home if already there.

If you notice a co-worker showing signs or complaining about such symptoms, he or she should be directed to their supervisor (via phone, text or email) and asked to leave the project site immediately.

COVID-19 Typical Symptoms:

- Fever
 - Cough
 - Shortness of Breath
 - Sore Throat
 - Loss of taste or smell
- Prior to starting a shift, each employee will verbally self-certify to their supervisor that they:
 - Have no signs of a fever or a measured temperature above 100.3 degrees or greater, a cough or trouble breathing within the past 24 hours.
 - Have not had "close contact" with an individual diagnosed with COVID-19. "Close contact" means living in the same household as a person who has tested positive for COVID-19, caring for a person who has tested positive for COVID-19, being within 6 feet of a person who has tested positive for COVID-19 for about 15 minutes, or coming in direct contact with secretions (e.g., sharing utensils, being coughed on) from a person who has tested positive for COVID-19, while that person was symptomatic.
 - Have not been asked to self-isolate or quarantine by their doctor or a public health official.
 - These self-certifications may be documented at the request of the site owner
- Workers that are working in a confined space or inside a closed building envelope will have to be temperature screened by a Medical Professional or designated individual. Such screening shall be performed out of public view to respect privacy and results are kept private.
- Employees exhibiting symptoms or unable to self-certify should be directed to leave the work

site and seek medical attention and applicable testing by their health care provider. They are not to return to the work site until cleared by a medical professional.

GENERAL ON-THE-JOB GUIDANCE TO PREVENT EXPOSURE & LIMIT THE TRANSMISSION OF THE VIRUS

All Job Sites

- No touching or direct contact with other individuals, including handshaking.
- Wash hands often with soap and water for at least 20 seconds or alternatively when soap and water are not available, use an alcohol-based hand sanitizer with at least 60% ethanol or 70% isopropanol
- A "No Congregation" policy is in effect, individuals must implement social distancing by maintaining a minimum distance of 6-feet from all other individuals
- Avoid face to face meetings – critical situations requiring in-person discussion must follow social distancing
- Conduct all meetings via conference calls, if possible. Do not convene meetings of more than 10 people. Recommend use of cell phones, texting, web meeting sites and conference calls for project discussion
- Be sure to use your own water bottle, and do not share
- To avoid external contamination, bring food from home
- Maintain Social Distancing separation during breaks and lunch.
- To avoid sharing germs, please clean up after yourself. DO NOT make others responsible for moving, unpacking and packing up your personal belongings
- If you or a family member is feeling ill, stay home!

Multi-person job sites (i.e. HRP and subcontractors, etc.)

- Contractor and Field Offices are to be locked down to all but authorized personnel
 - Each jobsite should develop cleaning and decontamination procedures that are posted and shared (if multi-person job site). These Procedures must cover all areas including trailers, gates, equipment, vehicles, etc. and shall be posted at all entry points to the sites, and throughout the project site.
 - All individual work crew meetings/tailgate talks should be held outside and follow social distancing
 - Please keep all crews a minimum of 6' apart at all times to eliminate the potential of cross contamination
 - At each job briefing/tool box talk, employees are asked if they are experiencing any symptoms, and are sent home if they are
 - Each jobsite should have laminated COVID-19 safety guidelines and handwashing instructions (last page of this addendum)
 - All restroom facilities/porta-potties should be cleaned and handwashing stations must be provided with soap, hand sanitizer and paper towels
 - All surfaces should be cleaned at least twice a day, including desk, work stations, door handles, laptops, etc.
 - All common areas and meeting areas are to be regularly cleaned and disinfected at least once a day but preferably twice a day
- Single person job sites (just one HRP employee, no subs, vendors, etc.)
 - It is that person's responsibility to clean and disinfect all tools and reusable supplies upon return to the office

- Cover coughing or sneezing with a tissue, then throw the tissue in the trash and wash hands, if no tissue is available then cough into your elbow
- Avoid touching eyes, nose, and mouth with your hands

WORK SITE RISK PREVENTION PRACTICES

- At the start of each shift, confirm with all employees that they are healthy.
- All employees will be required to wear gloves (either latex or cut resistant depending on the task at hand)
- Use of eye protection is required (Safety glasses or goggles at a minimum with or without face shields).
- In work conditions where required social distancing is impossible to achieve, affected employees shall be supplied PPE including as appropriate a standard face covering, gloves, and eye protection.
- All employees shall drive to work site/parking area in a single occupant vehicle. No one should ride together in the same vehicle
- When entering a machine or vehicle which you are not sure you were the last person to enter, make sure that you wipe down the interior and door handles with disinfectant prior to entry
- In instances where it is possible, workers should maintain separation of 6' from each other per CDC guidelines.
- Multi person activities will be limited where feasible (two person lifting activities)
- Large gathering places on the site such as shacks and break areas will be eliminated and instead small break areas will be used with seating limited to ensure social distancing.
- Contact the cleaning person for your office trailer or office space and ensure they have proper COVID- 19 sanitation processes. Increase their cleaning visits to daily
- Clean all high contact surfaces a minimum of twice a day in order to minimize the spread of germs in areas that people touch frequently. This includes but is not limited to desks, laptops and vehicles

Wash Stations: All sites without ready access to an indoor bathroom or running water MUST install Wash Stations or provide other means for handwashing

- Install hand wash stations with hot water, if possible, and soap at fire hydrants or other water sources to be used for frequent handwashing for all onsite employees.
- All onsite workers must help to maintain and keep stations clean
- If a worker notices soap or towels are running low or out, immediately notify supervisors
- Garbage barrels will be placed next to the hand wash station for disposal of tissues/towels
- If no other alternative exists, bring squeeze bottles with water and soap (only authorized for single employee job sites)

Please Note: This document is not intended to replace any formalized procedures currently in place within the site specific HASP or any job related contracts.

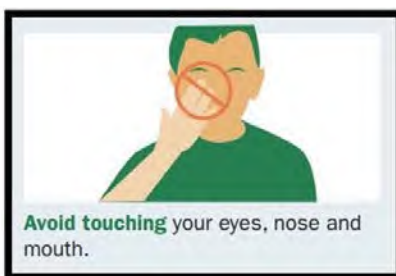
Where this guidance does not meet or exceed the standards put forth by the state, municipality, site owner, contractor or subcontractor, everyone shall abide by the most stringent procedure.

A site-specific COVID-19 Officer (also known as the Health and Safety Officer) shall be designated for every site.

Print and post at each job site

COVID-19/ Health and Safety Officer Name: _____

Phone Number: _____



Any issue of non-compliance with these guidelines shall be a basis for pausing the work. The Health and Safety Officer will address corrective actions with the subcontractor. Any additional issues of non-conformance may be subject to action against the subcontractor's prequalification and certification status.

APPENDIX G

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**Alconox, Inc.
30 Glenn Street
White Plains, NY 10603
1-914-948-4040**Supplier**

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
<hr/>	
US DOT Limited Quantity Exception:	None
Bulk: RQ (if applicable): None Proper shipping Name: None Hazard Class: None Packing Group: None Marine Pollutant (if applicable): No additional information.	Non Bulk: RQ (if applicable): None Proper shipping Name: None Hazard Class: None Packing Group: None 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: Danger code (Kemler): EMS number: Segregation groups:	None None None 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: Tunnel restriction code: UN "Model Regulation":	 None None 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 H₂O

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) Evaporation 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/cm ³ 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

Water

CAS-No.
7732-18-5

Revision Date

New Jersey Right To Know Components

Water

CAS-No.
7732-18-5

Revision Date

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

Copyright 2014 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.

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

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

Page 1 of 8

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

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

Page 2 of 8

Hydrochloric Acid,ACS

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



NFPA/HMIS



NFPA SCALE (0-4)

Health	3
Flammability	0
Physical Hazard	1
Personal Protection	X

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

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

Page 3 of 8

Hydrochloric Acid,ACS

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

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

Page 4 of 8

Hydrochloric Acid,ACS

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/m ³	Vapor density:	1.27 (Air=1)
pH-value:	< 1	Relative density:	1.0 - 1.2

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

Page 5 of 8

Hydrochloric Acid,ACS

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.

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

Page 6 of 8

Hydrochloric Acid,ACS

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.

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

Page 7 of 8

Hydrochloric Acid,ACS

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)

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

Page 8 of 8

Hydrochloric Acid,ACS

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

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.29.2014

Page 1 of 7

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

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.29.2014

Page 2 of 7

Nitric Acid, 3M

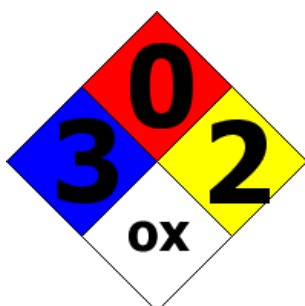
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated 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



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)

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.29.2014

Page 3 of 7

Nitric Acid, 3M

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 (NO_x)

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

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.29.2014

Page 4 of 7

Nitric Acid, 3M

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 acid	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/cm ³ 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

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.29.2014

Page 5 of 7

Nitric Acid, 3M

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.

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.29.2014

Page 6 of 7

Nitric Acid, 3M

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

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.29.2014

Page 7 of 7

Nitric Acid, 3M

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

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

Page 1 of 8

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

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

Page 2 of 8

Methanol, Lab Grade, 4L

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



NFPA/HMIS



NFPA SCALE (0-4)

Health	2
Flammability	3
Physical Hazard	0
Personal Protection	X

HMIS RATINGS (0-4)

SECTION 3 : Composition/information on ingredients

Ingredients:

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

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

Page 3 of 8

Methanol, Lab Grade, 4L

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 eyewear, 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

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

Page 4 of 8

Methanol, Lab Grade, 4L

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

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

Page 5 of 8

Methanol, Lab Grade, 4L

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.

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

Page 6 of 8

Methanol, Lab Grade, 4L

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 persistent.

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

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

Page 7 of 8

Methanol, Lab Grade, 4L

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)

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

Page 8 of 8

Methanol, Lab Grade, 4L

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

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.14.2014

Page 1 of 7

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

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.14.2014

Page 2 of 7

Sodium Hydroxide, 0.5M

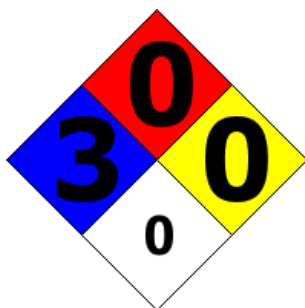
Immediately call a POISON CENTER or doctor/physician
Store in a corrosive resistant/... container with a resistant inner liner
Store locked up
Dispose of contents/container to ...

Other Non-GHS Classification:

WHMIS



NFPA/HMIS



NFPA SCALE (0-4)

Health	3
Flammability	0
Physical Hazard	0
Personal Protection	X

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 persists.

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:

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.14.2014

Page 3 of 7

Sodium Hydroxide, 0.5M

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



Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.14.2014

Page 4 of 7

Sodium Hydroxide, 0.5M

Control Parameters:	1310-73-2, Sodium Hydroxide, OSHA PEL TWA 2 mg/m ³ 1310-73-2, Sodium Hydroxide, ACGIH TLV TWA 2 mg/m ³
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

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.14.2014

Page 5 of 7

Sodium Hydroxide, 0.5M

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:

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.14.2014

Page 6 of 7

Sodium Hydroxide, 0.5M

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:

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.14.2014

Page 7 of 7

Sodium Hydroxide, 0.5M

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

☒ 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

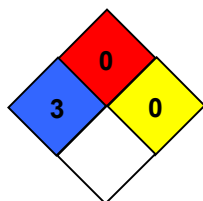
No ingredient regulated by RI Right-to-Know Law present.

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



Red	Flammability
Blue	Health
Yellow	Reactivity
White	Special hazard.

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.

APPENDIX D

Community Air Monitoring Plan

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, drilling, 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/m³ 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 $150 \text{ mcg}/\text{m}^3$ 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 $150 \text{ mcg}/\text{m}^3$ 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 $150 \text{ mcg}/\text{m}^3$ of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

Appendix 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° C (14 to 122° 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.