INTERIM REMEDIAL MEASURES WORK PLAN

Brownfield Cleanup Program

February 25, 2022

Submitted for:

Former El Puente Site
98, 100, and 104 South 4th Street
Brooklyn, NY
Block: 2443 Lot: 13
NYSDEC BCP Site Number C224260

Prepared for:

100 S 4th St LLC
P.O. Box 1606
New York, NY

Submitted to:

New York State Department of Environmental Conservation
Division of Environmental Remediation
47-40 21st Street
Long Island City, NY 11101

Project Number:
13817

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TABLE OF CONTENTS

PLATES

Plate 1: Site Location Map
Plate 2: Site Area Map
Plate 3: Site Topographic Map
Plate 4: Site Plan
Plate 5: SVI Sample Point Locations
Plate 6: SVI Sample Analysis NYSDOH Exceedances
Plate 7: Soil Vapor Investigation Decision Matrices Results Map
Plate 8: Proposed SSDS Installation Plan
Plate 9: Example SSDS Suction Point/Blower Design
Plate 10: Post Installation/Pre-SSDS Startup Sampling Plan

TABLES

Table 1: Quality Control Sample Summary
Table 2: SVI Summary Table (All Results)
Table 3: SVI Indoor Air Guidance Values Summary Table
Table 4.1: 98c South 4th Street - NYSDOH Decision Matrices Summary Table
Table 4.2: 98b South 4th Street - NYSDOH Decision Matrices Summary Table
Table 4.3: 98a South 4th Street - NYSDOH Decision Matrices Summary Table
Table 4.4: 100 South 4th Street - NYSDOH Decision Matrices Summary Table
Table 4.5: 104 South 4th Street - NYSDOH Decision Matrices Summary Table
Table 4.6: Outdoor Air Analysis Summary Table

APPENDICES

Appendix A: Agency Correspondence
Appendix B: OBAR Systems Inc., Diagnostics Report and Design Plan, April 2019
Appendix C: IMPACT, Soil Vapor Intrusion Remedial Investigation (SVI RI), August 2, 2021
Appendix D: Health and Safety Plan (HASP)
Appendix E: Community Air Monitoring Plan (CAMP)
Appendix F: Soil Management Plan (SMP)
Appendix G: Key Personnel Resumes
Appendix H: SSDS Component Specifications

LIST OF ACRONYMS

Acronym	Definition
AGV	Air Guidance Value
AOC	Area of Concern
ASTM	American Society for Testing and Materials
AST	Aboveground Storage Tank
AWQS	Ambient Water Quality Standards
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
fbg	feet below grade
CAMP	Community Air Monitoring Program
COC	Contaminant of Concern
CVOC	Chlorinated Volatile Organic Compound
DNAPL	Dense Non-Aqueous Phase Liquid
DO	Dissolved Oxygen
DUSR	Data Usability Summary Report
EDD	Electronic data deliverable
EDR	Environmental Data Resources
ELAP	Environmental Laboratory Approval Program
EM	Electromagnetic
EPA	United Stated Environmental Protection Agency
ESA	Environmental Site Assessment
ESI	Environmental Site Investigation
FINDS	Facility Index System/Facility Registry System
FWRIA	Fish and Wildlife Resources Impact Analysis
GPR	Ground Penetrating Radar
HASP	Health and Safety Plan
IDW	Investigation Derived Waste
LNAPL	Light Non-Aqueous Phase Liquid
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NYCRR	New York Codes, Rules, and Regulations
NYSDOH	New York State Department of Health
NYSDEC	New York State Department of Environmental Conservation
NYSDOT	Department of Transportation
NTU	Nephelometric Turbidity Units
ORP	Oxidation-Reduction Potential
PAH	Polycyclic Aromatic Hydrocarbon

Acronym	Definition
PBS	Petroleum Bulk Storage
PCB	Polychlorinated Biphenyls
PCE	Tetrachloroethene
PID	Photoionization Detector
PPE	Personal Protective Equipment
ppm	Parts per million
ppm_v	Parts per million by volume
PVC	Polyvinyl Chloride
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Conditions
RI	Remedial Investigation
RIR	Remedial Investigation Report
RIWP	Remedial Investigation Work Plan
RL	Reporting Limit
SCO	Soil Cleanup Objective
SSDS	Sub Slab Depressurization System
SMP	Soil Management Plan
SQG	Small Quantity Generator
SVOC	Semi Volatile Organic Compound
TAL	Target Analyte List
TCA	Trichloroethane
TCE	Trichloroethene
TCL	Target Compound List
TOGS	Technical and Operational Guidance Series
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compound

CERTIFICATION

I, Xin Yuan, of Impact Environmental Engineering & Geology, PLLC, certify that I am currently a Professional Engineer as defined in 6 NYCRR Part 375 and that this Interim Remedial Measures Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

2/25/22

Xin Yuan, Professional Engineer

1 INTRODUCTION

Impact Environmental Engineering & Geology, PLLC (IMPACT) was retained by 100 S 4th St LLC (the "Volunteer") to complete an Interim Remedial Measures (IRM) Work Plan for the property located at 98, 100, and 104 South 4th Street, Brooklyn, New York (the "Site"). A Site Location Map is provided as **Plate 1**. The Volunteer was accepted into the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) under a NYSDEC Brownfield Cleanup Agreement (BCA), dated June 23, 2020, for Site No. C 224260.

1.1 Purpose and Scope

This IRM Work Plan was prepared in accordance with the NYSDOH document "Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York" October 2006, and subsequent updates in May 2017. The objective of this IRM Work Plan is to design an active Sub-Slab Depressurization System (SSDS) for the Site (98, 100, and 104 South 4th Street, Brooklyn, NY), as required in email correspondence from the NYSDEC and NYSDOH on July 15, 2021 (see **Appendix A**). Per this email correspondence, following the completion and submission of the IMPACT Soil Vapor Intrusion Remedial Investigation Report (SVI RIR) on June 1, 2021 (and amended on August 2, 2021), due to the elevated concentrations of trichloroethene (TCE) in both indoor air and sub-slab soil vapor within Building #3 (98 South 4th Street) and Building #2 (100 South 4th Street), an IRM is required to address exposures in all three buildings.

The objective of the SSDS is to create and maintain a minimum negative pressure differential of -0.004 inches of water column (wci), below all concrete slabs which function as boundaries between sub-slab space and occupied interior space. Updated USEPA guidance for vapor intrusion assessment and mitigation was released on June 15, 2015. The USEPA has not issued a definite value for SSDS design; however, achieving a pressure differential of -0.004 wci (1 Pascal) across the slab is generally considered sufficient to mitigate vapor intrusion based on available industry guidance. Once an SSDS has been installed, testing will be performed to verify the extension of the pressure field. If and where necessary, additional measures will be furnished to ensure that performance objectives are met.

The investigative protocols used for this assessment were based, in part, upon the following document: 1) the New York State Department of Health (NYSDOH) Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006, and the subsequent updates.

2 SITE CHARACTERISTICS

2.1 Site Description

The Site is situated on the south side of South 4th Street between Bedford Avenue and Berry Street in the Greenpoint neighborhood of Brooklyn, New York. The Site consists of a single parcel of land assigned New York City Tax Map Designation: Section 2, Block 2443, and Lot 13, and is in an area primarily comprised of residential and commercial properties within a historically industrial area (refer to **Plate 2**). The Site is located in a mixed-use district with an M1-2/R6 and MX-8 zoning designation. Based on review of sixty-five (65) historical New York City Zoning Maps covering the Site area from December 1961 through December 2018, the Site has had an M1-2/R6 zoning designation without residential overlays since March 2006, prior to which it was historically zoned M1-1. The NYC department of City Planning describes the M1—2/R6 designation as developed in built-up medium density areas consisting of multi-story lofts in districts that typically include light industrial uses and the MX-8 designation as one of mixed-use.

2.1.1 Site Conditions

The Site is currently developed with three (3) adjoining buildings: a multi-story structure made up of a 6-story, primarily residential structure in the center with a partial sub-grade cellar (100 South 4th Street) flanked by two (2) smaller 1-story structures (98 South 4th Street and 104 South 4th Street), with 98 South 4th Street also containing a partial sub-grade cellar (see **Plate 4**). The three buildings have a combined footprint of approximately 21,500 square feet (SF). Aside from narrow concrete paved patios on the south side of 98 South 4th Street and 104 South 4th Street, and a narrow light and air easement on the south side of 100 South 4th Street, the surface area of the site is covered entirely by the footprint of the buildings.

The buildings currently receive electrical and natural gas service from Con Edison and National Grid respectively, potable water from the New York City (NYC) municipal water system, while sanitary waste is reportedly handled by the NYC municipal public sanitary sewer system. Storm water runoff for the Site is handled via the municipal storm water drainage system located along South 4th Street.

2.1.2 Description of Surrounding Properties

The surrounding land parcels have a combination of residential and commercial uses. The Site is bordered to the north by South 4th Street and several three and five story residential buildings, to the east by a four-story

residential apartment building with a commercial first floor, to the south by a multi-story residential apartment building and a multi-story office building, and to the west by a concrete paved driveway, one four-story residential apartment building and one three-story residential home.

2.2 Physical Setting of the Site

2.2.1 Topography

The Site is located within the Atlantic Coastal Plain Physiographic Provence. The elevation of the Site, as presented on the United States Geologic Survey (USGS), Brooklyn Quadrangle Map, is approximately 50 feet above mean sea level (amsl). The Site Topographic Map is included as **Plate 3** and indicates the Site area has relatively flat topography. The nearest surface water body to the Site is East River (which feeds into Upper Bay), located approximately 0.28 miles (or 1,410 feet) to the west-northwest.

2.2.2 Regional Geology and Hydrogeology

Brooklyn is located in the western portion of Long Island, New York. Long Island consists of a wedge-shaped mass of un-consolidated deposits that overlie ancient basement rock. The thickness of these deposits range from approximately 100 feet on the Island's north shore to approximately 2,000 feet in some portions of the south shore. These deposits contain groundwater that is a key source of drinking water for the Island's over 3.1 million residents. The major land-forms of Long Island of importance to the hydrologic system are the moraines and outwash plains, which originated from glacial activity. The moraines represent the farthest extent of the glacial advances. The moraines consist of till, which is a poorly sorted mixture of sand, silt, clay, gravel and boulders. The till is poor to moderately permeable in most areas. Outwash plains are located to the south of the moraines. The outwash plains were formed by the action of glacial melt water streams, which eroded the headland material of the moraines and laid down deposits of well-sorted sands, silts and gravels. These outwash deposits have a moderate to high permeability.

Based upon the topographic map (USGS – Brooklyn Quadrangle) and proximity to the East River, regional groundwater flow direction is presumed to be west to southwest. It should be noted that there may be localized variations in subsurface hydrology created by sewers, wells and other anthropogenic structures. Hydrologic conditions in the vicinity of the Site may be subject to variations in seasonal precipitation and geological conditions not evident during review of publicly available records. An accurate determination of groundwater depth and flow at the Site requires a site-specific ground-water study.

The topographic map indicates the Site elevation is approximately 50 feet above mean sea level (amsl). The "USGS Groundwater Conditions on Long Island" map indicates that groundwater below the Site is situated at less than 5 feet amsl. Thus, the estimated regional groundwater elevation at the Site is approximately 45-49 feet below grade surface (bgs).

2.2.3 Site Specific Geology and Hydrogeology

Based on NYSDEC records, obtained by IMPACT, soil borings conducted in 1996 at the Site identified fill materials to a depth of approximately 7 feet below grade from the first floor of 98 S. 4th St and to a depth of approximately 6 feet below the basement floor of 100 S. 4th St. Beneath the surface fill layer is sand and silt to a depth of at least 17 feet below grade. These previous borings also identified groundwater at approximately 17 feet bgs, contrary to information provided on the USGS Groundwater Conditions map.

3 SITE BACKGROUND

The Site buildings are currently occupied. The westernmost building, 98 South 4th Street is a one-story building comprised of three individual retail spaces (a, b, and c). 98a is occupied by a catering facility, 98b is occupied by a CrossFit gym, and 98c is currently vacant. 100 South 4th Street is a 7-story building currently utilized as a residential apartment building. Finally, 104 South 4th Street is a one story building currently occupied by a bar/restaurant (see **Plate 4 – Site Plan**). The following sections describe the historical Site use, the findings from previous environmental investigations completed by IMPACT and others for the Site, and a summary of the identified areas of concern (AOCs).

3.1 Historical Site Use

Through review of historical records, New York City records, NYC databases and environmental databases for the Site, the following is a summary of the information identified:

- The Site was originally developed with small residential structures from circa 1887 through to circa 1904, at which point a large portion of the Site was developed with a large multi-story building occupied by “Gretsch Musical Instruments”.
- Circa 1918, the large multi-story building was reportedly occupied by “Interstate Electric Novelty Co.”
- Circa 1935, the large building was reportedly occupied by “Celluloid Works”, with a smaller building on the east side of the property being occupied by “Dyeing”. At this time, the western portion of the Site was unoccupied.
- Circa 1945, the large building was reportedly occupied by “Slomowitz Upholstery Supply.”
- Circa 1947, the small building on the eastern portion of the Site was labelled as “Dyeing and Cleaning”.
- In 1949, a Certificate of Occupancy (CO) was issued for a new building on Block 2443, Lot 13, to be used as an “Adhesives Manufacturing” factory.
- Circa 1950, the three (3) onsite buildings were labelled as “Factories”.
- Circa 1976, the eastern smaller building was listed as being occupied by “Rainbow Pigment Co.”
- Between 1977 and 2007, the two western buildings were reportedly occupied by “Factories”, while the eastern building was occupied by a “warehouse”.
- In 2007, a CO was issued for the 7-story building, to be altered for use as a 74-unit residential apartment building.

3.2 Proposed Site Redevelopment Plan

100 S 4th St LLC is not proposing any alterations to the current building layout or usage. The building will remain as is.

3.3 Summary of Previous SSDS Diagnostics Report by OBAR Systems Inc., April 2019

The following is a summary of a Diagnostics Report and Design Plan for the Site, produced by OBAR Systems Inc., on April 9, 2019 (see **Appendix B**). Relevant information ascertained from said report is below:

- The method used for diagnostic measurement and system design involved coring 2 5/8" suction holes in the concrete floors and 3/8" test holes at various distances from the suction holes. A specialized Sub Slab Diagnostic Vacuum (SSDV), capable of up to 120 cfm and a vacuum of 120 inches of water column (wci) was used with a variable speed controller to define the flow and vacuum characteristics of the soil beneath the slab. The range of applied vacuum and flow rate used for each suction point was determined by evaluating the baseline data taken in the maximum flow and vacuum test performed at the beginning of each sampling series. The number of test point locations at each suction point was determined based on the results of the first sampling series at that location. The data collected at each suction point series includes; maximum vacuum and airflow at the suction point, vacuum 1 foot away from the suction point (SSP1), vacuum at each test point at multiple vacuum speeds or flow rates, the distance each test point is from the suction point, and the speeds that each series was run at.
- The information obtained from each suction point was examined independently to identify the associated area of influence (AOI) and estimated radius of influence (ROI) for that location during the applied test conditions. The test data from all the suction points was examined collectively to determine the number of full-scale SSD system suction points required to address the areas of concern within the buildings. The test data was then used to determine the type and number of blowers required to effectively operate all of the full-scale SSD system suction points.
- Nine (9) suction points were installed in both 98 South 4th Street and 100 South 4th Street, to determine the above-mentioned ROI.
    - **Suction Point 1 (SP1)** was located on the main slab of the Session (the gym at 98b South 4th Street) tenant space. The purpose of this suction point was to evaluate the ROI produced from full-scale suction points in this building area and to determine if communication was

present between Session and Sword Smith. The primary sub slab fill encountered was sandy soils with some debris mixed in. This suction point revealed an ROI of approximately 20 feet at 2 wci of applied vacuum and a 45cfm airflow yield. Vacuum was measured between Session and Sword Smith indicating there is no footing present between the spaces.

- **Suction Point 2 (SP2)** was located on the lower slab in the rear of the Session tenant space. The purpose of this suction point was to evaluate the ROI produced from full-scale suction points in this building area. The primary sub slab fill encountered was very loose sandy soils and cinders. This suction point revealed an ROI of approximately 20 feet at 10 wci of applied vacuum and an 8cfm airflow yield.
- **Suction Point 3 (SP3)** was located the lower slab in Sword Smith (formerly located at 98c South 4th Street). The purpose of this suction point was to evaluate the ROI produced from full-scale suction points in this building area. The primary sub slab fill encountered was compacted brown soils. This suction point revealed an ROI of approximately 20-25 feet at 10 "w.c. of applied vacuum and a 10 cfm airflow yield, very similar to the lower slab in Session.
- **Suction Point 4 (SP4)** was located outside the kitchen in the Lemons and Olives (98a South 4th Street) tenant space. The purpose of this suction point was to evaluate the ROI produced from full-scale suction points in this building area. The primary sub slab fill encountered was compacted sandy soils. With the kitchen exhaust fans off this suction point revealed an ROI of approximately 10 feet at 20 wci of applied vacuum and a 30cfm airflow yield. It was noted that this suction point was installed near a number of sub slab obstructions and as a result a second suction point (SP-9) was installed near the front of the space.
- **Suction Point 5 (SP5)** was located in the vacant space of the 6 story building. The purpose of this suction point was to evaluate the ROI produced from full-scale suction points in this building area. The primary sub slab fill encountered was loose sandy soils. During the cleanout of the suction hole a cast iron pipe was encountered below the slab so only limited cleanout could be performed. However a series of tests was run and an ROI of approximately 15 feet at an applied vacuum of 30 wci and a 30cfm airflow yield was measured.
- **Suction Points 6 and 7 (SP6, SP7)** were located in mechanical areas on the ground floor of the six story building. The purpose of these suction points was to evaluate the ROI produced from full-scale suction points in these building areas and to determine if the data obtained at SP-5 was altered by the presence of the sub slab obstruction encountered. The primary

sub slab fill encountered was loose sandy soils at both holes. An ROI of approximately 15-20 feet was measured at an applied vacuum of 10-12 wci and a 60cfm airflow yield.

- **Suction Point 8 (SP8)** was to be located in the mail room of the lobby however we could not penetrate the slab with a 3 foot long drill bit. We attempted to drill 2 other holes in the lobby area, one below the stairs and one in walkway, we could not penetrate the slab at either location.
- **Suction Point 9 (SP9)** was located near the front of the Lemons and Olives tenant space. The purpose of this suction point was to evaluate the ROI produced from full-scale suction points in this building area and to check the results of SP4. The primary sub slab fill encountered was loose sandy soils, more typically of the rest of the building. An ROI of 15 feet at an applied vacuum of 1 wci and a 60cfm airflow yield was measured.

- Except for minor anomalies these buildings presented relatively homogenous soils resulting in ROIs ranging from 15-20 feet, at moderately applied vacuums.

3.4 Results of the IMPACT Soil Vapor Intrusion Remedial Investigation (SVI RI), August 2, 2021

Please refer to **Plates 5, 6, and 7** for SVI RI sample locations and results.

The findings of the SVI RI (see **Appendix C**) are summarized as follows:

- A total of nine (9) sub-slab soil vapor points were sampled, along with 12 indoor air samples and one (1) outdoor ambient air sample.
- The concentrations of PCE in soil vapor ranged from 4.66 µg/m^3 at SV-4 (located in the stairwell, centrally located within 100 South 4th Street) up to 2,710 µg/m^3 at SV-2b (located in the south portion of 98b South 4th Street). The TCE concentrations in soil vapor ranged from 5.7 µg/m^3 at SV-5b (located on the south portion of 104 South 4th Street) up to 3,260 µg/m^3 at SV-2b (located in the south portion of 98b South 4th Street). In addition, concentrations of cis-1,2-DCE in soil vapor ranged from non-detect at SV-4, SV-5a, and SV-5b (located on the eastern portions of the property) up to 379 µg/m^3 at SV-2b (located in the south portion of 98b South 4th Street). The concentrations of PCE, TCE, and cis-1,2 in soil vapor are lower beneath the central and eastern portions of the property, with the highest concentrations located in the southwest portion of the property. Finally, an elevated

concentration of carbon tetrachloride was detected in one (1) of the nine (9) soil vapor samples at SV-5b. Based on the lack of evidence of this compound in the other soil vapor samples (or historic soil data), it appears that this detection is an anomaly, and not an indication of contamination present beneath the property in this area. The presence of this compound will be further investigated during the second phase of the Remedial Investigation, which will include soil sampling in this area.

- The concentrations of PCE in indoor air ranged from 0.292 µg/m^3 at IA-4e (located in ground floor apartment #E, located within 100 South 4th Street) up to 2.55 µg/m^3 at IA-4c (located in ground floor apartment #C, located within 100 South 4th Street). The TCE concentrations in indoor air ranged from non-detect at IA-4d and IA-4e (located in ground floor apartments #D and #E, located within 100 South 4th Street) up to 2.14 µg/m^3 at IA-3 (located in 98c South 4th Street). In addition, concentrations of carbon tetrachloride in indoor air ranged from 0.39 µg/m^3 at IA-4a (located in ground floor apartment #A, located within 100 South 4th Street) up to 0.591 µg/m^3 at IA-4c (located in ground floor apartment #C, located within 100 South 4th Street). The concentrations of PCE and TCE in indoor air across the Site vary only marginally.
- Ambient concentrations of PCE and carbon tetrachloride were detected in the outdoor air sample OA-1, at concentrations of 0.325 µg/m^3 and 0.491 µg/m^3 respectively. These detections in outdoor air may be contributing to the indoor air detections of PCE and carbon tetrachloride, although likely to a minimal extent.

Source Area: The most prevalent COCs identified at the Site requiring mitigation, based on the NYSDOH Decision Matrices are PCE, TCE, and cis-1,2, chlorinated VOCs associated with metal-cleaning and degreasing, which may have been utilized during the property's usage as a manufacturing facility, or may be migrating onto the site from documented off-site cVOC sources to the south. Based on the distribution of the cVOCs detected in soil vapor, the potential source area for the cVOC at the Site is the southwest portion of the Site, proximal to the south adjoining BCP Site.

3.5 Adjacent BCP Site Investigation

The south adjacent property, located at 337 Berry Street and 99-105 South 5th Street, is a NYSDEC Brownfield Cleanup Program (BCP) project (No. C224233). The historical use of the subject property has been for both residential and commercial/government use. Dating back to 1887, the northern portion of the Site has been used for a wagon and auto shed, owned, or operated by the Water Purveyors Bureau and Dept. City Works,

storage, and the City of N.Y. Dept. of Correction Garage, and the City of New York Landmark's Preservation Commission Salvage Warehouse. The southern portion of the Site has been used as residential, warehouse, and an auto body shop since 1887. The property is currently owned by the City of New York.

Information available for this property indicates that groundwater is located at approximately 45-feet below grade surface (bgs), and the regional groundwater flow beneath this property was to the west, towards the East River, based on the installation of four (4) monitoring wells in the area during a Remedial Investigation performed by Equity Environmental Engineering LLC in November 2016. Shallow (0-2' bgs) soil samples located along the northern portion of the property showed slightly elevated concentrations of the Chlorinated VOCs (cVOCs) 1,1,1-trichloroethane (1,1,1-TCA) and trichloroethene (TCE) at concentrations below their respective NYCRR Part 375 Unrestricted Use SCOs. No deeper soil samples were collected for VOC analysis. Concentrations of the cVOCs tetrachloroethylene (PCE) and trichloroethylene (TCE) were detected in groundwater samples collected in the northern portion of the property (MW-1) at a maximum concentration of 71.4 µg/kg and 27.2 µg/kg, respectively. Finally, elevated concentrations of the cVOCs TCE (max of 3,510 µg/m³), PCE (max of 2,870 µg/m³), and 1,1,1-TCA (max of 278 µg/m³) were detected in soil gas samples collected in the northern portion of the property.

The BCP volunteer has completed site remediation and construction at the site. The applicant currently operates a Soil Vapor Extraction (SVE) system along the northern portion of the property, which is now an open parking lot. Moreover, the newly developed 11-story mixed-use residential and commercial building, located on the southern side of the property, was constructed with a vapor barrier engineering control, along with an active Sub-Slab Depressurization System (SSDS).

A Periodic Review Report was prepared by Advanced Cleanup Technologies, Inc (ACT) in May 2019, per the approved site Management Plan (SMP). ACT was retained to perform operation, maintenance, and monitoring of the existing engineering controls at the site. The SVE system reportedly consists of four (4) PVC extraction points that extend 15-feet bgs, with 5-feet of screen. Horizontal piping is located approximately 4-feet bgs, and the piping is connected to a package treatment plant that consists of system controls, extraction monitor, and activated carbon canisters to remove VOCs from the extracted vapor. Per the report, influent and effluent samples were collected from the SVE system on March 11, 2019, and April 30, 2019. Influent concentrations of PCE were noted as 460 µg/m³ in March and 550 µg/m³ in April, while TCE was

detected at 320 and 450 µg/m³, 1,1,1-TCA at 18 and 17 µg/m³, and finally Cis-1,2-dichloroethene (cis-1,2) at 5.8 and 15 µg/m³, respectively. Based on this data, it appears that, while the SVE system is running effectively, elevated concentrations of several cVOCs are still present in the subsurface soil vapor at concentrations requiring ongoing remediation.

4 INTERMIM REMEDIAL MEASURES

This Interim Remedial Measures Work Plan has been designed based on IMPACTs Sub-Slab Soil Vapor Intrusion Remedial Investigation Report (SVI RIR) dated August 2, 2021, additional site reconnaissance by IMPACT, previous diagnostics data generated by OBAR Systems Inc. in April 2019, and in accordance with the NYSDOH "Final Guidance for Evaluating Soil Vapor Intrusion" document dated October 2006, NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation dated May 2010 (DER-10) and the subsequent updates. The IRM Work Plan consists of the installation of a retro fitted active SSDS with the intention of depressurizing the slab beneath all three (3) onsite buildings, to mitigate the potential for sub-slab soil vapor intrusion into the indoor air.

4.1 Organizational Structure

Impact Environmental Engineering & Geology, PLLC

IMPACT will coordinate all Site activities being implemented to achieve the interim remedial objectives defined in the IRM Work Plan. Impact will provide continual review of all quality control measures implemented by the contractors to ensure compliance with the Site's interim remedial objectives. As such, Impact will provide oversight services for the duration of the interim remedial activities.

Principal personnel from impact who will participate in the remedial action include:

1. Kevin Kleaka, a professional geologist licensed in the State of New York is principal-in-charge of this project and as such he is responsible for all project elements and will act to ensure the success of the project.
2. Xin Yuan a professional engineer licensed in the State of New York, will be act as the Remedial Engineer and be responsible for certifying that the interim remedial measures were completed in substantial conformance with the approved IRM Work Plan and/or any NYSDEC-approved field changes. The Remedial Engineer will certify in the IRM SSDS Construction Completion Report (CCR) that the remedial activities were observed by qualified environmental professionals under his supervision and that the remediation requirements set forth in the IRM Work Plan and any other relevant provisions of ECL 27-1419 have been achieved in full conformance with that Plan.
3. Christopher Connolly is the Qualified Environmental Professional (QEP) for this project and will act as the overall manager for implementation of interim remedial actions. In this capacity, Mr. Connolly will be responsible for the overall coordination associated with implementation of IRM Work Plan. He will coordinate and supervise IMPACT project and field engineers/scientists, as

well as subcontractors; ensure adherence to and successful completion of IRM tasks; interface with the data validator during development of Data Usability Summary Reports and subsequent reporting and documentation of the work performed.

4. Christopher Connolly will act as the Project Scientist, responsible for direction of the field program for implementation of the interim remedial action tasks. Responsibilities will include maintaining quality assurance policies related to various media sample collection, interface with the laboratory, directing subcontractor activities, and ensuring the successful completion of all IRM field activities.
5. Dan Fruhauf will act as the Site Superintendent, keeping detailed records of all interim remedial activities and health and safety monitoring
6. Alex Keenan will act as the health and safety coordinator for the project.
7. Juliana de la Fuente will be the Quality Assurance and Quality Control (QA/QC) officer and will be responsible for the overall quality assurance and review of the project deliverables. She will interface with the Project Manager to address technical issues and provide quality control for the entire project.

Resumes of key personnel involved in the Remedial Action are included in **Appendix G**.

100 S 4th LLC

As a managing member of the Volunteer, 100 S 4th LLC, Mr. Ryan Howard will coordinate communications with regulatory agencies, provide general oversight of all aspects of the remediation, review, and submission of all documents, publish community notifications, and address community concerns.

Alpha Analytical, Inc.

Alpha Analytical, Inc. (Alpha) will be utilized for all related analytical requirements. Alpha is a NYSDOH Environmental Laboratory Approval Program (ELAP)-certified laboratory. All results will be reported in electronic format deliverables prepared in accordance with NYSDEC requirements. Formal laboratory qualifications and Quality Assurance/Quality Control (QA/QC) information packages for Alpha and any other analytical laboratories proposed for the project will be submitted to the NYSDEC or disposal facilities, if requested.

4.2 Scope of Work

The installation of the proposed active SSDS will incorporate the following scope of work:

- Installation of four (4) SSDS "legs" connected to a total of 22 suction points throughout the three (3) Site buildings.
    - Leg #1 will consist of six (6) suction points;
    - Leg #2 will consist of five (5) suction points;
    - Leg #3 will consist of six (6) suction points, and;
    - Leg #4 will consist of five (5) suction points.
- Performance of transmission (pilot) testing of each suction point using existing permanent sub-slab soil vapor sampling points located throughout the Site (see **Plate 5** for existing permanent soil vapor [SV] sampling point locations), or by installing additional monitoring points, to determine the ROI of each suction point and the required power of the rooftop blowers.
- Installation of suction point vertical riser and overhead galvanized steel piping connecting the suction points together for each SSDS Leg.
- Installation of four (4) roof mounted SSDS blowers, one (1) for each leg of the system.
- Installation of failure alarms and in-line magnehelic vacuum gauges for each leg of the SSD system.
- Following installation, a start-up test will be performed to determine the efficacy of the system.
- Completion and submittal of Daily Reports to the Department during all IRM-related field activities, pilot testing, SSDS installation, and startup testing.
- Production of an IRM SSDS Construction Completion Report and Operation, Maintenance and Monitoring Plan (IRM SSDS CCR and OM&M) for submission and review by the NYSDEC and NYSDOH

Details of the specific work called out above is described in the following sections.

4.2.1 Site Preparation

4.2.1.1 Mobilization

Mobilization will be conducted as necessary for each phase of work at the site. These activities include:

a) Mobilization of equipment to the Site,
b) Field personnel orientation,
c) Installation of temporary perimeter fencing/barricades to delineate the work zones and act as a work site security measure,

d) Set up of decontamination facilities, which are expected to be limited due to the nature of the project, and,
e) Marking and staking of sampling/suction point locations and utility mark outs, if required.

4.2.1.2 Utility Markout

The presence of utilities on the Site will be fully investigated prior to the performance of invasive work such as excavation or drilling under this plan by using, at a minimum, the One-Call System (811). Underground utilities may pose an electrocution, explosion, or other hazard during excavation or drilling activities. All invasive activities will be performed incompliance with applicable laws and regulations including NYC Building Code to assure safety. Utility companies and other responsible authorities will be contacted to locate and mark the locations, and a copy of the Mark-Out Ticket will be retained by the contractor prior to the start of drilling, excavation or other invasive subsurface operations. Overhead utilities are not anticipated to be of concern, as all work will be performed on the interior of the site buildings.

The Volunteer and its contractors are solely responsible for the identification of utilities that might be affected by work under the IRM Work Plan and implementation of all required, appropriate, or necessary health and safety measures during performance of work under this IRM Work Plan. The Volunteer and its contractors are solely responsible for safe execution of all invasive and other work performed under this IRM Work Plan. The Volunteer and its contractors must obtain any local, State or Federal permits or approvals pertinent to such work that may be required to perform work under this IRM Work Plan. Approval of this IRM Work Plan by NYSDEC does not constitute satisfaction of these requirements.

4.2.1.3 Equipment and Material Staging

Equipment and materials for the on-Site interim remedial measures will be staged on-Site in a designated, secure area, and will be made safe for residential and commercial tenants/occupants.

4.2.1.4 Health and Safety Plan

Work performed in this IRM Work Plan will be done so in strict accordance with a site-specific Health and Safety Plan (HASP), which can be found in **Appendix D**.

4.2.1.5 Community Air Monitoring

As the building the IRM work will be performed within is currently occupied by a mixture of commercial and residential tenants, IMPACT will employ a community air monitoring plan (CAMP), in order to protect the tenants from potentially harmful odors and particulates generated by the work. The Site-specific CAMP can be found in **Appendix E**.

4.2.1.6 Soil Management Plan

Materials generated during the installation of the SSDS suction pits, including concrete and sub-grade soils will be managed in strict accordance with a site-specific Soil Management Plan (SMP), which can be found in **Appendix F**.

4.2.1.7 Demobilization

Demobilization will include:

- As necessary, restoration of temporary access areas and areas that may have been disturbed to accommodate support areas (e.g., staging areas, decontamination areas, and storage areas),
- Equipment decontamination, and,
- General refuse disposal.

Equipment will be decontaminated and demobilized at the completion of all field activities. In addition, all investigation and remediation derived waste will be appropriately disposed.

4.2.2 Pre-Installation Building Inspection

Prior to any ground intrusive activity or SSDS component installation, a thorough inspection of the site building interior, including building slab and sub-grade basement walls will be performed, to determine the presence of any cracks or fissures that may promote vapor migration into the building, and that would ultimately negatively affect the operation and efficiency of the SSDS. All observed cracks and fissures should be sealed with an air-tight product (e.g., bentonite, grout, or other similar product) and allowed to fully dry before SSDS installation begins.

4.2.3 SSDS Suction Point Installation

The locations of the 22 suction points, designated SP-1 through SP-22 (see **Plate 8** - **Proposed SSDS Installation Plan**) were determined based on an anticipated ROI of approximately 20-feet, based on the

Diagnostics Report and Design Plan by OBAR Systems Inc., dated April 2019. Each suction point will first be advanced with a 4-inch diameter core drill through the concrete slab, until the sub-slab soils are encountered. The soils from within the hole will then be removed using a decontaminated stainless-steel hand auger or shop-vacuum, to a depth of approximately 3-feet below grade surface. Removed soils will be transferred to a 55-gallon steel drum pending waste characterization analysis, facility approval, and offsite removal/disposal. None of the soil removed as part of the suction pit excavation will be reused. The suction point will then be backfilled to just below the base of the building slab with clean pea-gravel or crushed ¾-inch virgin quarry stone (material to be pre-approved by the NYSDEC/NYSDOH) with no fines based on sieve analysis.

4.2.4 Suction Point Transmission Testing

Following the installation of the suction points, each point will be tested to ensure sufficient ROI. A vacuum will be applied using a mobile blower with variable vacuum control, temporarily attached to the suction point. Sub-slab pressure differentials will be tested using a digital manometer at permanent monitoring points, either previously installed, or installed specifically for testing the suction point ROI.

4.2.5 Vertical Riser and Overhead Piping

Once the suction points are installed, 3-inch diameter steel mesh screen point with a 3" coupled galvanized steel riser pipe will be inserted vertically into the suction point holes and will extend up to the ceiling to connect via a "T" fitting with the overhead piping. Locations of overhead piping can be seen in **Plate 8**. The suction point will then be sealed with cement to ensure sub-slab soil vapor does not migrate into the indoor air. For each leg of the SSDS, suction points and riser piping will be connected to common overhead 4-inch galvanized steel piping that will run along the ceiling line. All overhead piping will be installed as high as possible (and above drop ceilings where applicable) within the building without the possibility of water traps. Overhead piping must also have pitch back to the suction points in order to drain condensation. Vertical riser piping will be secured to the adjacent wall(s) with strut, strut clamps, and metal pipe straps. Overhead piping will be secured with threaded rod and swivel hoop hangers. All exposed piping will be labelled with a sticker indicating that the system is a vapor intrusion mitigation system.

4.2.6 Roof Mounted SSDS Blower Installation

Based on the results of the transmission tests during the installation of each suction point, the SSDS blower power will be determined. Two (2) variable frequency blowers (such as the OBAR GBR 89HA) will be installed

on the roof of 98 South 4th Street (for Legs #1 and #2), and two (2) blowers will be installed on the roof of 104 South 4th Street (for Legs #3 and #4). Exterior piping leading from inside each building will be constructed of 4-inch diameter galvanized steel, as per FDNY regulations, and will connect to the SSDS blowers (see **Appendix H** for typical blower specifications). To avoid entry of extracted subsurface vapors into the building, or any nearby building, the vent pipes exhaust stacks should be:

a) Above the eave of the roof (preferably above the highest eave of the building, at least 12-inches above the surface of the roof)
b) At least 10-feet above ground level
c) At least 10-feet away from any opening that is less than 2-feet below the exhaust point, and
d) At least 10-feet away from any adjoining or adjacent buildings, HVAC intakes, or supply registers.

All electrical work will be performed by a licensed electrician in accordance with all local and state codes. The blowers will require 220 volts and must be on dedicated circuit breakers.

4.2.7 Failure Alarm and Vacuum Gauge Installation

Following the completion of each SSDS leg, failure alarms and magnehelic vacuum gauges will be installed in the galvanized steel piping within the buildings. The failure alarm will have a red light that will illuminate, and an alarm that will sound, should the system fail. Magnehelic vacuum gauges will provide visual indication of the systems ongoing operation or potential vacuum failure. The alarm system will be accompanied by a sticker/label showing contact information for the property management company, should the failure alarms sound. Prior to the startup of the SSDS, building occupants/tenants will be instructed on the failure alarms location, operation, and what to do and who to contact should the alarm sound.

4.2.8 SSDS Startup Testing

Prior to the initiation of the active SSDS, a start-up test will be performed to determine sub-slab pressure readings under static non-operational conditions, and to establish the efficacy of each individual leg of the SSDS. The following sections describe the scope of work of the startup test.

4.2.8.1 Pre-Operation Sub-Slab Pressure Readings

Prior to SSDS operation, pressure readings will be collected from existing sub-slab soil vapor points (installed as part of the SVI RI, see **Plate 5**) and potentially additional testing ports installed as part of the suction point

transmission testing (detailed in Section 4.1.2), using a digital manometer, to determine the pressure differentials beneath the building slab under static conditions.

4.2.8.2 System Efficacy Testing

Initially, the Leg #1 rooftop blower will be activated and left to run for approximately 60-minutes, after which pressure differential readings will be collected from associated test points in the building slab within 98c and 98b South 4th Street using a digital manometer, to ensure pressure readings of at least -0.004 wci are achieved. Blower suction rates may be adjusted if pressure readings are below the recommended levels. Once the recommended pressure readings are achieved, the Leg #1 blower will be deactivated for a minimum of 15-minutes.

The Leg #2 rooftop blower will next be activated and left to run for approximately 60-minutes, after which pressure differential readings will be collected from associated test points in the building slab within 98b and 98c South 4th Street, along with points located in the western portion of 100 South 4th Street, using a digital manometer, to ensure pressure readings of at least -0.004 wci are achieved. Blower suction rates may be adjusted if pressure readings are below the recommended levels. Once the recommended pressure readings are achieved, the Leg #2 blower will be deactivated for a minimum of 15-minutes.

The Leg #3 rooftop blower will next be activated and left to run for approximately 60-minutes, after which pressure differential readings will be collected from associated test points in the building slab within the central and eastern portions of 100 South 4th Street, using a digital manometer, to ensure pressure readings of at least -0.004 wci are achieved. Blower suction rates may be adjusted if pressure readings are below the required levels. Once the recommended pressure readings are achieved, the Leg #3 blower will be deactivated for a minimum of 15-minutes.

The Leg #4 rooftop blower will then be activated and left to run for approximately 60-minutes, after which pressure differential readings will be collected from associated test points in the building slab within the eastern portion of 100 South 4th Street and 104 South 4th Street, using a digital manometer, to ensure pressure readings of at least -0.004 wci are achieved. Blower suction rates may be adjusted if pressure readings are below the recommended levels. Once the recommended pressure readings are achieved, the Leg #4 blower will then be deactivated.

Once each blower has been confirmed to be running effectively, all four (4) blowers will be activated. Pressure readings from across the entire Site will be collected using a digital manometer, to ensure pressure readings of at least -0.004 wci are achieved in all test ports. The SSDS will then remain active. During full SSDS operation, pressure readings will be collected and recorded from test ports installed in the effluent portion of each Leg. Finally, effluent grab samples will be collected from each Legs test port using lab certified clean 2.75 or 6-liter summa canisters, to determine the effluent concentrations. The summa canisters will be fitted with a simple on/off (open/closed) valve, and once connected to the effluent sample port, will be opened, and remain open until the cannister has a pressure reading of less than -4 psi, at which time the sample is considered sufficient, and the valve closed. The four (4) effluent samples will be analyzed for full list VOCs by USEPA test method TO-15.

4.2.9 Post SSDS Startup Sampling

Following the activation of the SSDS, post-start up sampling of sub-slab soil vapor, indoor air, outdoor air, and effluent samples from the test ports will be performed. This sampling must take place within the designated heating season, as per NYSDOH guidance. The sampling event will mimic the sampling performed in the previous IMPACT Soil Vapor Intrusion Remedial Investigation (see **Plate 5** for sample locations), and will include nine (9) sub-slab soil vapor samples (designated SV-1a/b, SV-2a/b, SV-3a/b, SV-4, and SV-5a/b), 12 indoor air samples (designated IA-1, IA-2, IA-3, IA-4a through IA-4g, and IA-5), and one (1) outdoor ambient air sample (designated OA-1). Sub-slab soil vapor and indoor air samples collected from the commercial/retail spaces will be 8-hour samples, and those collected from residential spaces will be 24-hour samples. Effluent grab samples will also be collected from each of the four (4) SSDS leg testing ports, as detailed in Section 4.2.7.2. All samples will be submitted to a ELAP certified Laboratory for analysis using USEPA Method TO-15 for VOCs.

4.2.10 SSDS Operation, Maintenance, and Monitoring

Based on the results of the post installation monitoring, detailed above, the NYSDEC and NYSDOH will determine the frequency of operation, maintenance, and monitoring (OM&M) of the SSDS. Typically, OM&M is performed on an annual basis for a period of at least 3-5 years, or until such time that subsequent sub-slab soil vapor and indoor air sample results deem that active SSDS is no longer required by the NYSDEC/NYSDOH. IMAPCT will issue an OM&M Work Plan to the departments following the completion of the project. OM&M of the SSDS will include the following:

a) Inspection of the building slab and sub-grade basement walls to determine if any new or previously undetected cracks or fissures are present. Such structural deficiencies should be sealed as per section 4.2.2.
b) System efficacy testing, performed in accordance with the SSDS startup testing detailed in section 4.2.8.2, to ensure the system is promoting sufficient sub-slab depressurization.
c) A round of sub-slab soil vapor, indoor air, and outdoor air sampling will be performed, as per section 4.2.8.3, to determine the existing vapor and indoor air conditions at the site, and to ensure that indoor air conditions have improved with the operation of the SSDS. Effluent grab samples will also be collected from each leg of the SSDS to determine the concentrations of VOCs being removed from beneath the buildings.

4.2.11 IRM SSDS Construction Completion Report

Upon completion of the SSDS Startup Testing, and receipt of the four (4) effluent grab sample analysis, IMPACT will generate an IRM SSDS Construction Completion Report, detailing the installation methodology utilized in the installation of the active SSDS, photographic log of installation procedures, as-built drawings of the active SSDS, and providing a summary of the laboratory data received.

Based upon the NYSDEC and NYSDOH review of said report, the frequency of Operation, Maintenance and Monitoring (OM&M) events shall be determined by the departments. It is anticipated that annual OM&M of the active SSDS will be required to ensure ongoing system efficacy.

4.2.12 Project Schedule

A Schedule for performance of the Interim Remedial Measures associated with the SSDS installation and monitoring is as follows:

ACTIVITY DESCRIPTION	ESIMATED DATE
Pre-Installation Building Inspection	April-May 2022
SSDS Suction Point Installation	June-July 2022
Suction Point Transmission Testing	July-August 2022
Vertical Riser and Overhead Piping Installation	August 2022
Rood Mounted SSDS Blower Installation	September 2022
Failure Alarm and Vacuum Gauge Installation	September-October 2022
SSDS Startup Testing	November 2022
Post SSDS Startup Sampling	December 2022
IRM SSDS Construction Completion Report Submittal	February 2023
OM&M Work Plan Submittal	April 2023
Annual OM&M	November 2023

5 REFERENCES

1. IMPACT Soil Vapor Intrusion Remedial Investigation Report, August 2, 2021
2. OBAR Systems, Inc., Diagnostics Report and Design Plan, April 2019
3. New York State Department of Health (NYSDOH) Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006, and the subsequent updates.

IRM Work Plan

PLATES

98, 100, and 104 South 4th Street, Brooklyn, NY

NYSDEC BCP #C224260

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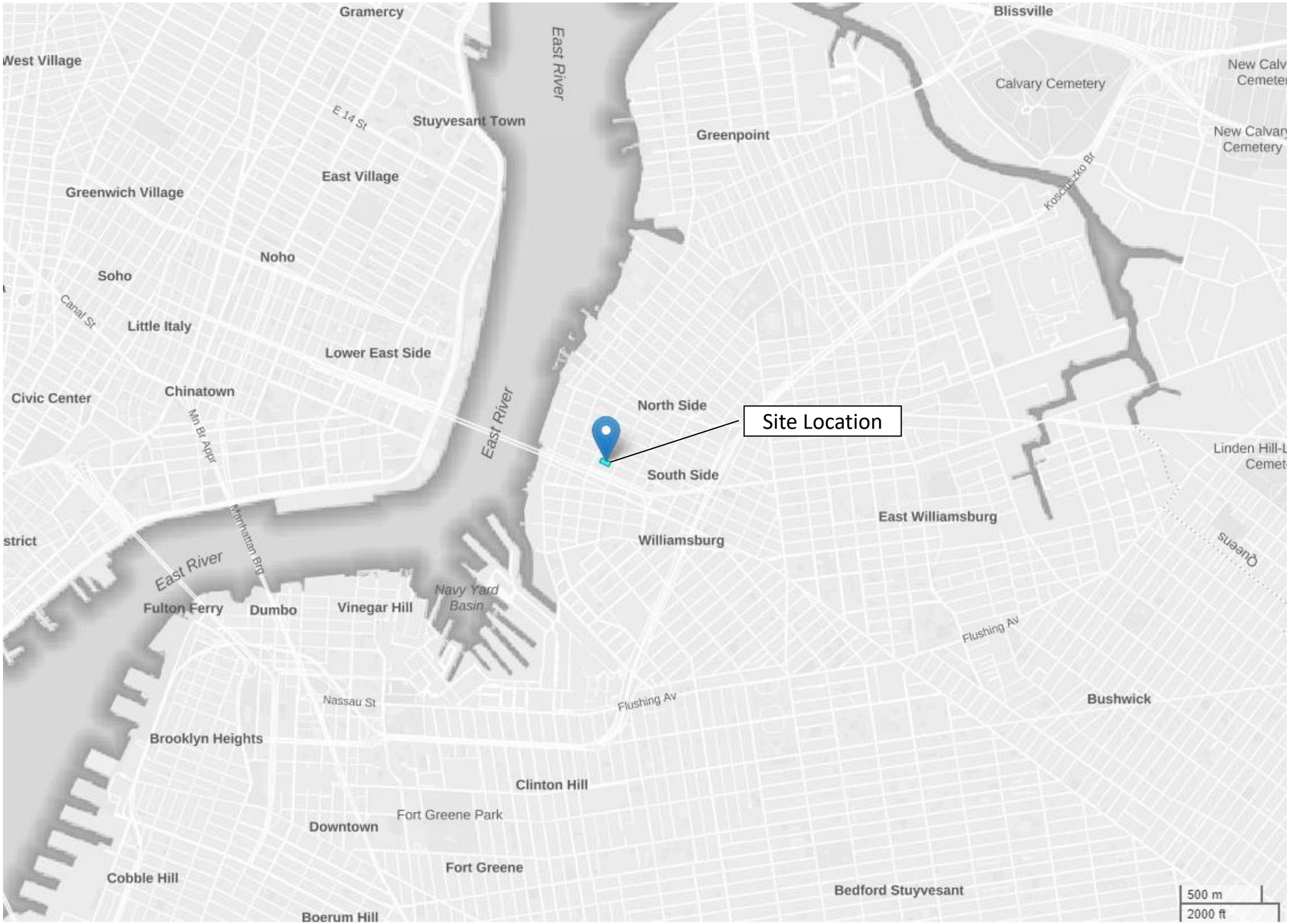

Legend

Notes:

Base map: NYCOER SPEED Map

SITE LOCATION MAP

100 South 4th Street, Brooklyn, NY

Plate 1

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Legend

Notes:

Base Map: NYC OASIS Map

SITE AREA MAP

100 South 4th Street, Brooklyn, NY

Plate 2

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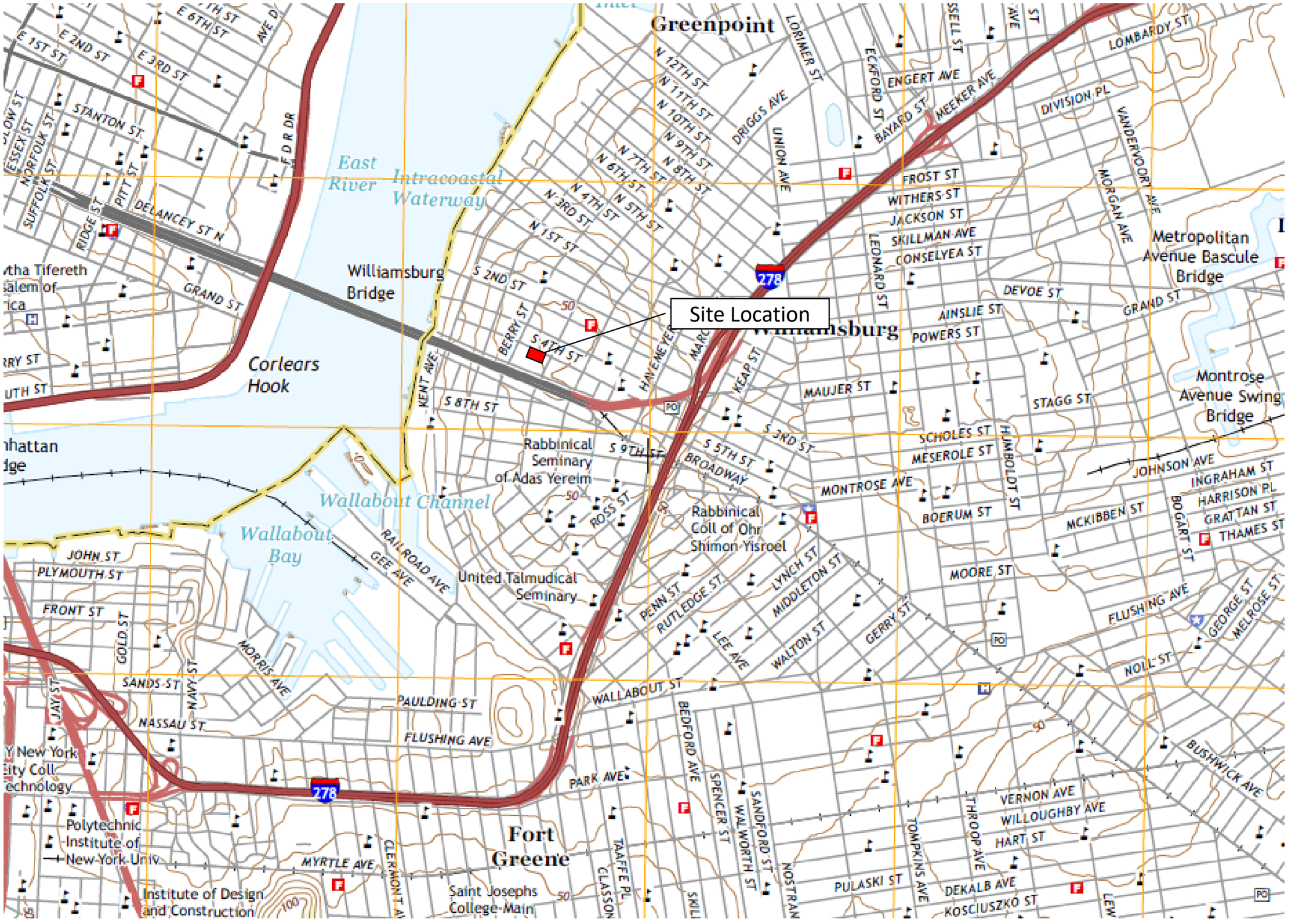

Legend

Notes:

Base Map: USGS Brooklyn Quadrangle Topographic Map

SITE TOPOGRAPHIC MAP

100 South 4th Street, Brooklyn, NY

Plate 3

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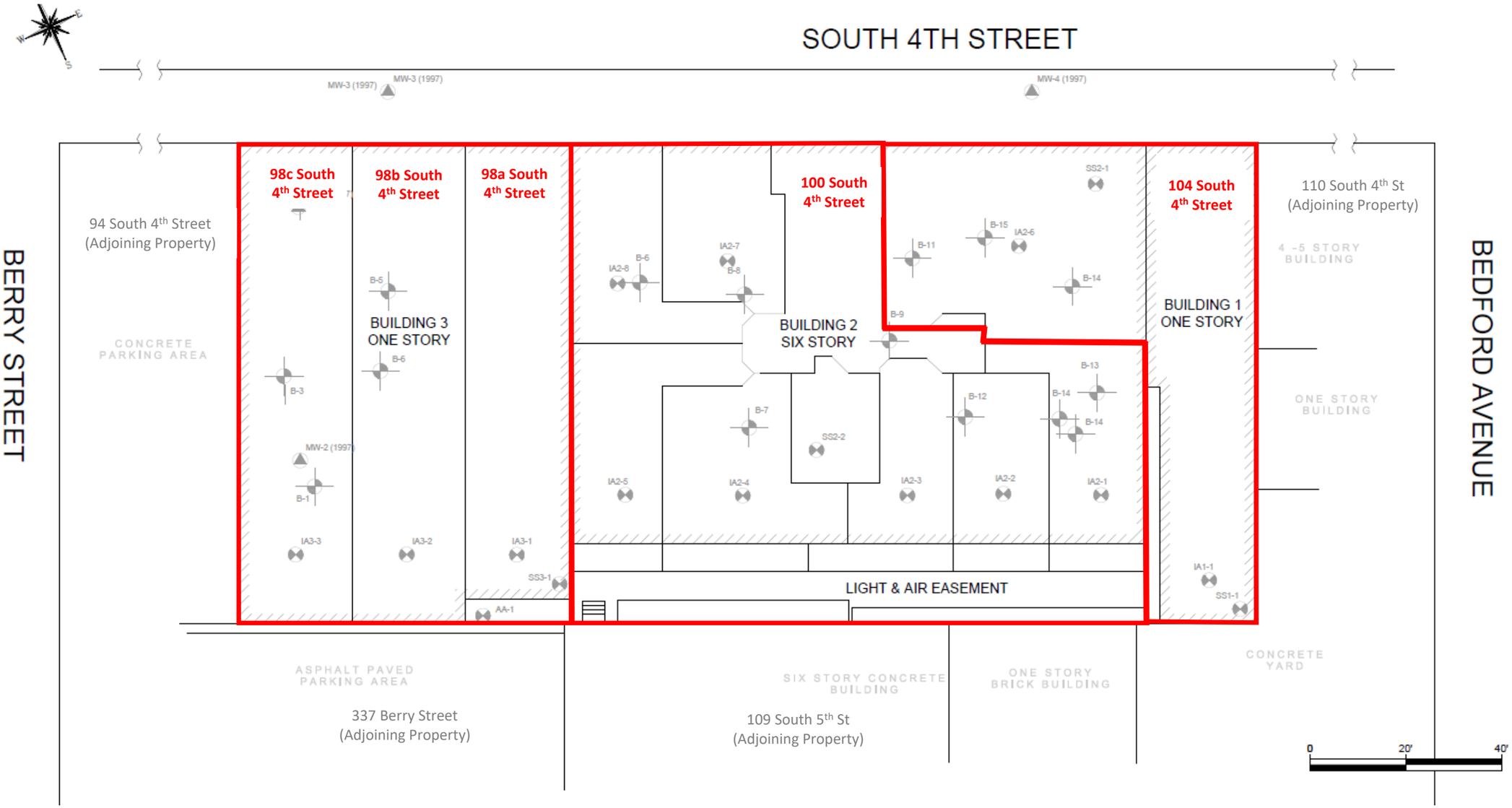

Legend

Property Boundaries

Notes:

SITE PLAN

100 South 4th Street, Brooklyn, NY

Plate 4

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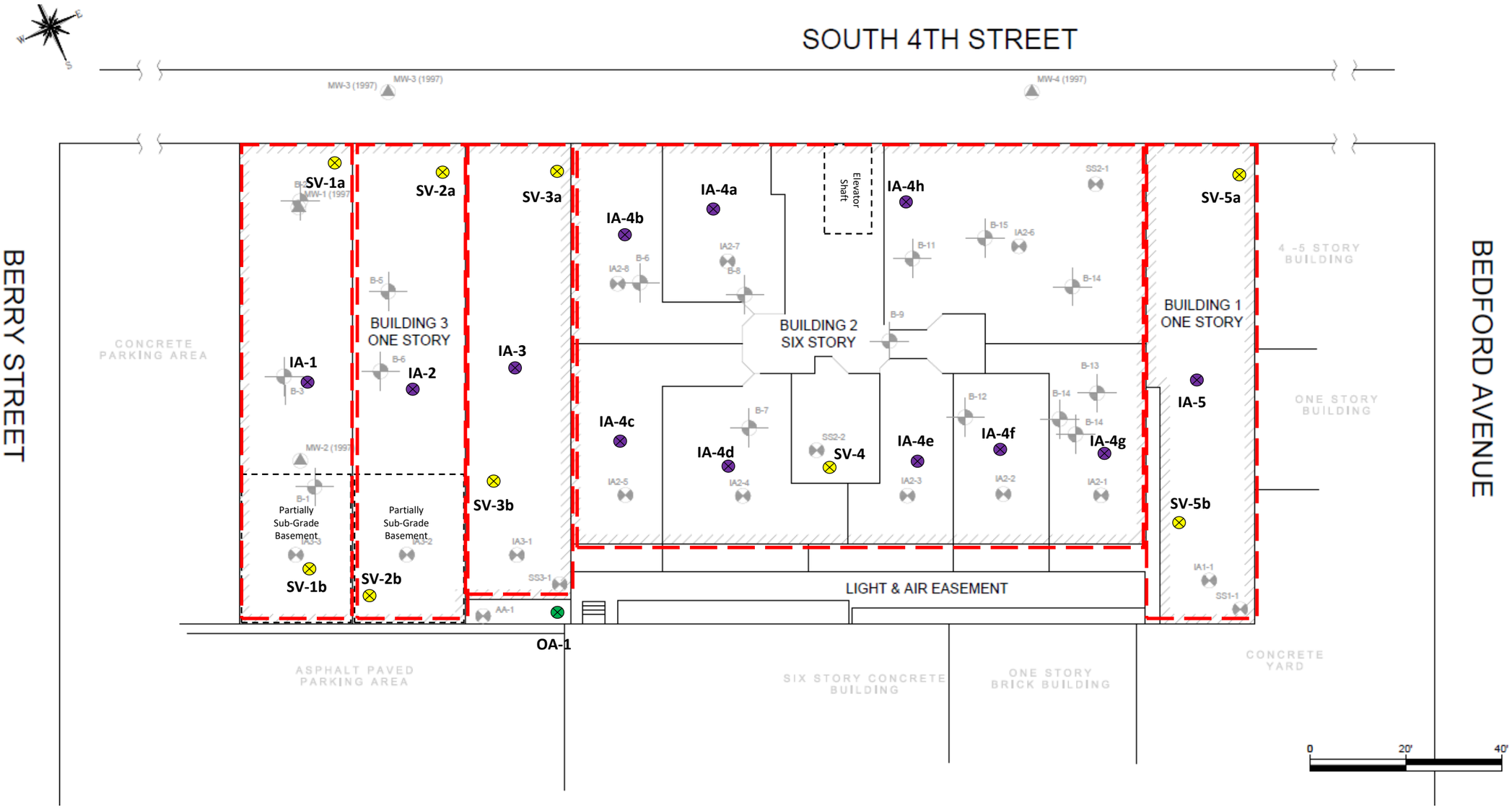

Legend

- Sub-Slab Soil Vapor Sample Locations
- Indoor Air Sample Locations
- Outdoor Ambient Air Sample Locations

Notes:

SVI Sample Point Locations

100 South 4th Street, Brooklyn, NY

Plate 5

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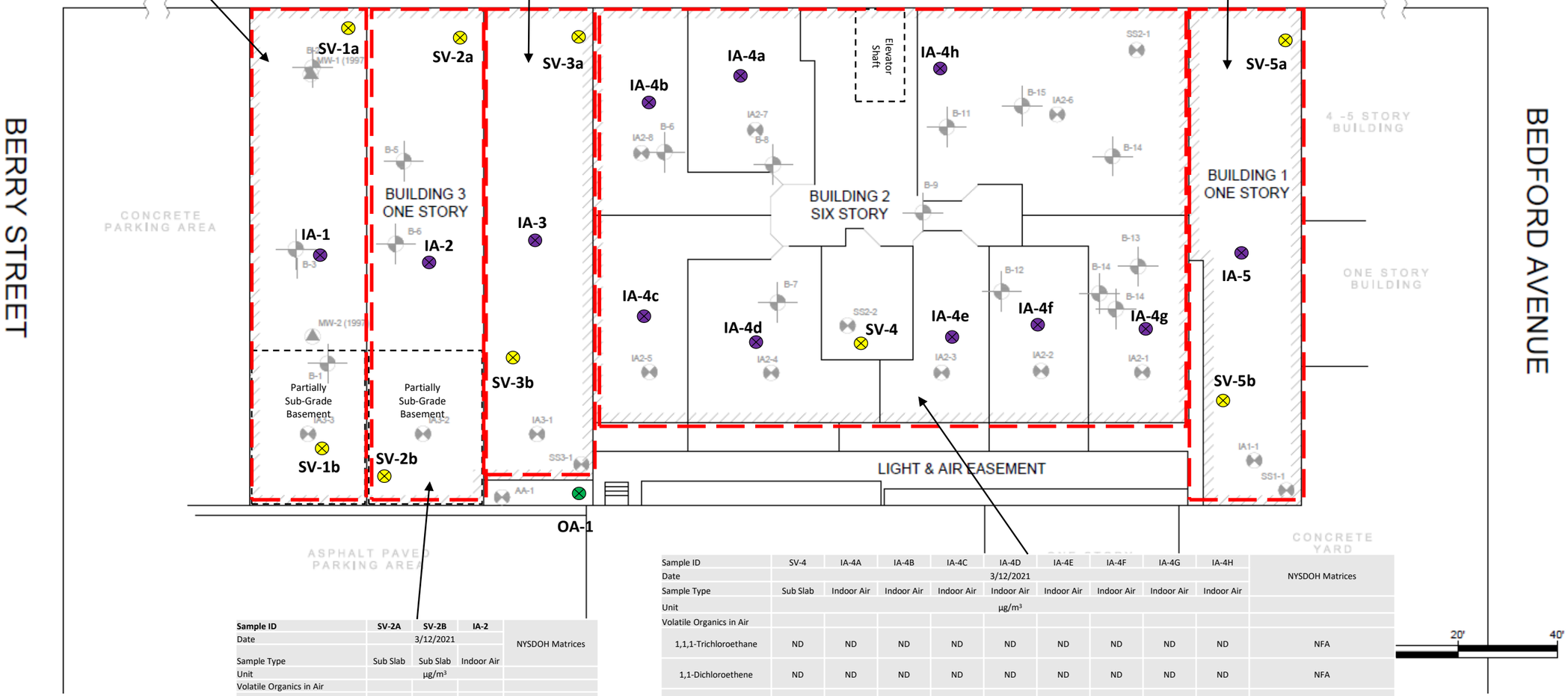
Sample ID	SV-1A	SV-1B	IA-1	NYSDOH Matrices Decision
Date	3/12/2021			
Sample Type	Sub Slab	Sub Slab	Indoor Air	
Unit	µg/m³			
Volatile Organics in Air				
1,1,1-Trichloroethane	7.09	ND	ND	NFA
1,1-Dichloroethene	ND	ND	ND	NFA
Carbon tetrachloride	ND	ND	0.396	NFA
cis-1,2-Dichloroethene	7.65	88	ND	NFA/MITIGATE
Methylene chloride	ND	ND	ND	NFA
Tetrachloroethene	46	1,240	1.11	NFA/MITIGATE
Trichloroethene	120	1000	0.435	MITIGATE/MITIGATE
Vinyl chloride	ND	ND	ND	NFA

Sample ID	SV-3A	SV-3B	IA-3	NYSDOH Matrices
Date	3/12/2021			
Sample Type	Sub Slab	Sub Slab	Indoor Air	
Unit	µg/m³			
Volatile Organics in Air				
1,1,1-Trichloroethane	3.79	1.58	ND	NFA
1,1-Dichloroethene	ND	ND	ND	NFA
Carbon tetrachloride	ND	ND	0.403	NFA
cis-1,2-Dichloroethene	20	24.1	ND	NFA
Methylene chloride	ND	ND	ND	NFA
Tetrachloroethene	460	138	2.09	NFA
Trichloroethene	967	321	2.14	MITIGATE/MITIGATE
Vinyl chloride	ND	ND	ND	NFA

Sample ID	SV-5A	SV-5B	IA-5	NYSDOH Matrices
Date	3/12/2021			
Sample Type	Sub Slab	Sub Slab	Indoor Air	
Unit	µg/m³			
Volatile Organics in Air				
1,1,1-Trichloroethane	ND	ND	ND	NFA
1,1-Dichloroethene	ND	ND	ND	NFA
Carbon tetrachloride	ND	2.68	0.585	NFA/IDENTIFY SOURCES and RESAMPLE or MITIGATE
cis-1,2-Dichloroethene	ND	ND	ND	NFA
Methylene chloride	ND	ND	ND	NFA
Tetrachloroethene	9.56	59.8	1.04	NFA
Trichloroethene	7.9	5.7	0.296	NFA/MONITOR
Vinyl chloride	ND	ND	ND	NFA



Sample ID	SV-2A	SV-2B	IA-2	NYSDOH Matrices
Date	3/12/2021			
Sample Type	Sub Slab	Sub Slab	Indoor Air	
Unit	µg/m³			
Volatile Organics in Air				
1,1,1-Trichloroethane	ND	ND	ND	NFA
1,1-Dichloroethene	ND	ND	ND	NFA
Carbon tetrachloride	ND	ND	0.421	NFA
cis-1,2-Dichloroethene	5.35	379	ND	NFA/MITIGATE
Methylene chloride	ND	ND	ND	NFA
Tetrachloroethene	5.2	2710	0.787	NFA/MITIGATE
Trichloroethene	16.5	3260	0.408	MONITOR/MITIGATE
Vinyl chloride	0.537	ND	ND	NFA

Sample ID	SV-4	IA-4A	IA-4B	IA-4C	IA-4D	IA-4E	IA-4F	IA-4G	IA-4H	NYSDOH Matrices
Date	3/12/2021									
Sample Type	Sub Slab	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	
Unit	µg/m³									
Volatile Organics in Air										
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NFA
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NFA
Carbon tetrachloride	ND	0.39	0.421	0.591	0.459	0.478	0.547	0.591	0.535	NFA
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NFA
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	NFA
Tetrachloroethene	4.66	1.04	1.02	2.55	0.387	0.292	0.448	0.57	0.502	NFA
Trichloroethene	21	0.344	0.908	1.23	ND	ND	0.516	0.333	0.253	NFA/MONITOR/MITIGATE
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	NFA

Legend

- Sub-Slab Soil Vapor Sample Locations
- Indoor Air Sample Locations
- Outdoor Ambient Air Sample Locations

Notes:

All results are in µg/m3: micrograms per cubic meter
ND – Not detected
NFA – No further action

SVI Sample Analysis NYSDOH Exceedances

100 South 4th Street, Brooklyn, NY

Plate 6

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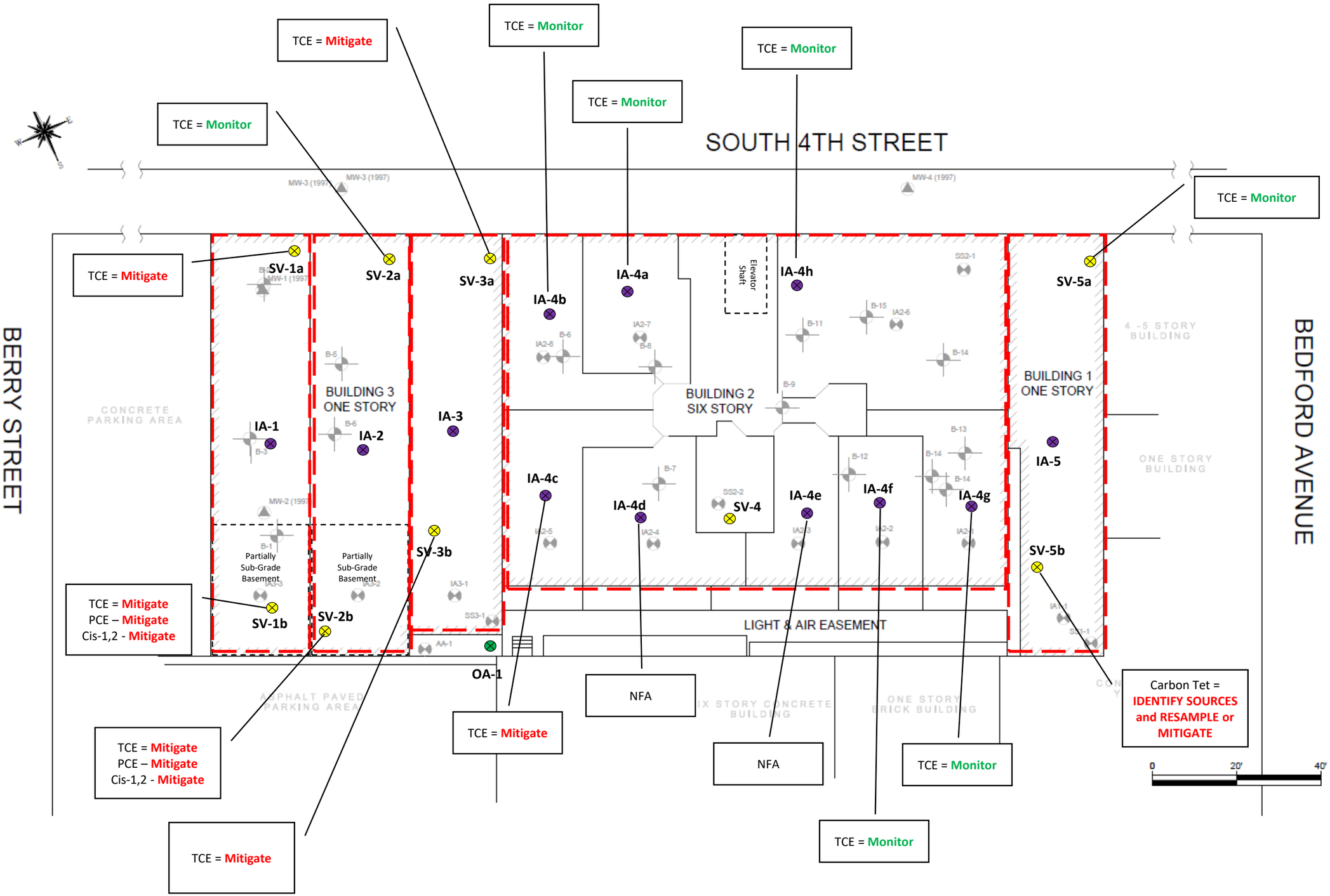

Legend

- Sub-Slab Soil Vapor Sample Locations
- Indoor Air Sample Locations
- Outdoor Ambient Air Sample Locations

Notes:

SVI Decision Matrices Results Map

100 South 4th Street, Brooklyn, NY

Plate 7

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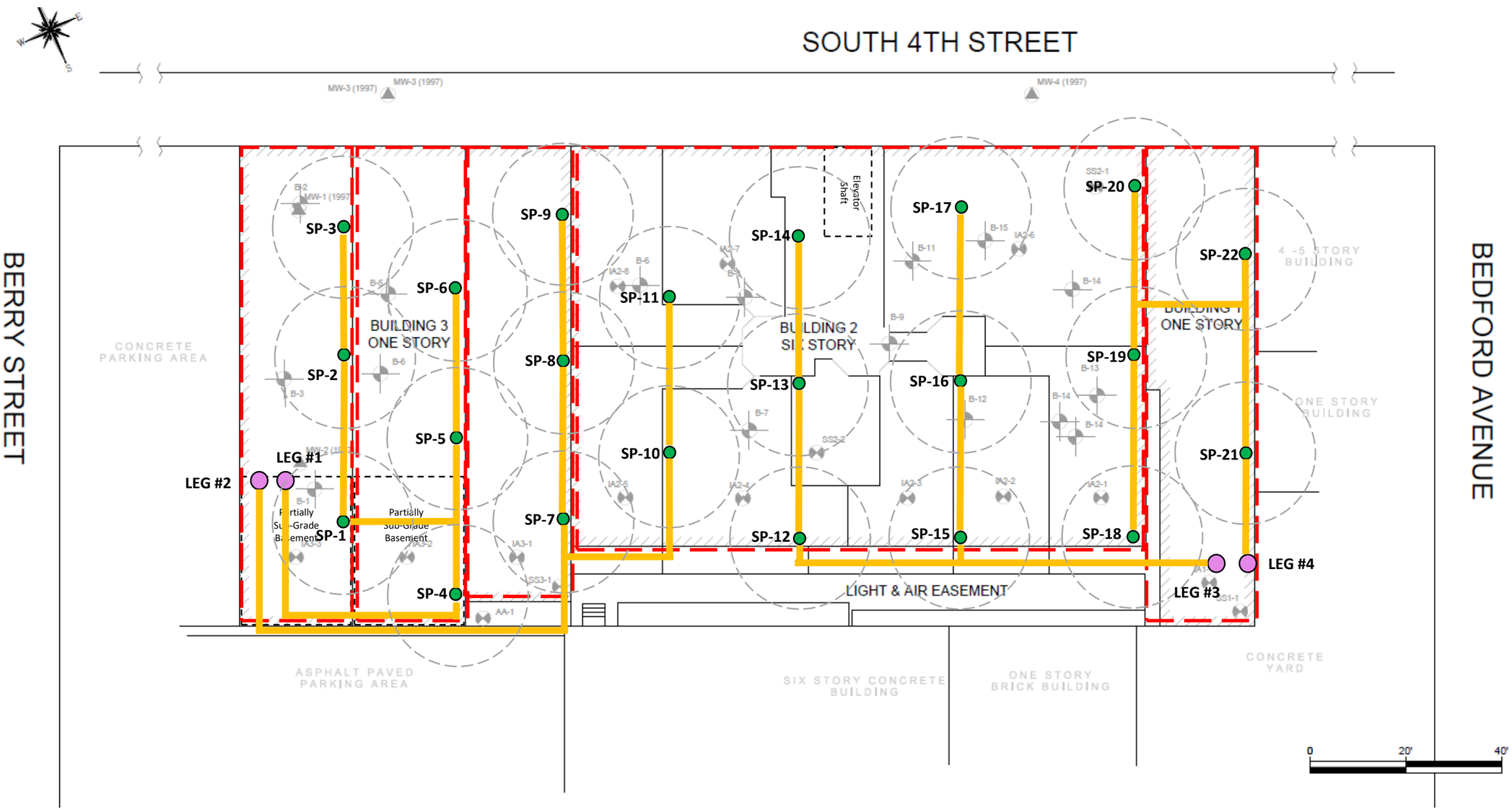

Legend

- Suction Point Location
- Roof mounted Blower
- Overhead SSDS Piping
- Anticipated Radius of Influence

Notes:

Proposed SSDS Installation Plan

100 South 4th Street, Brooklyn, NY

Plate 8

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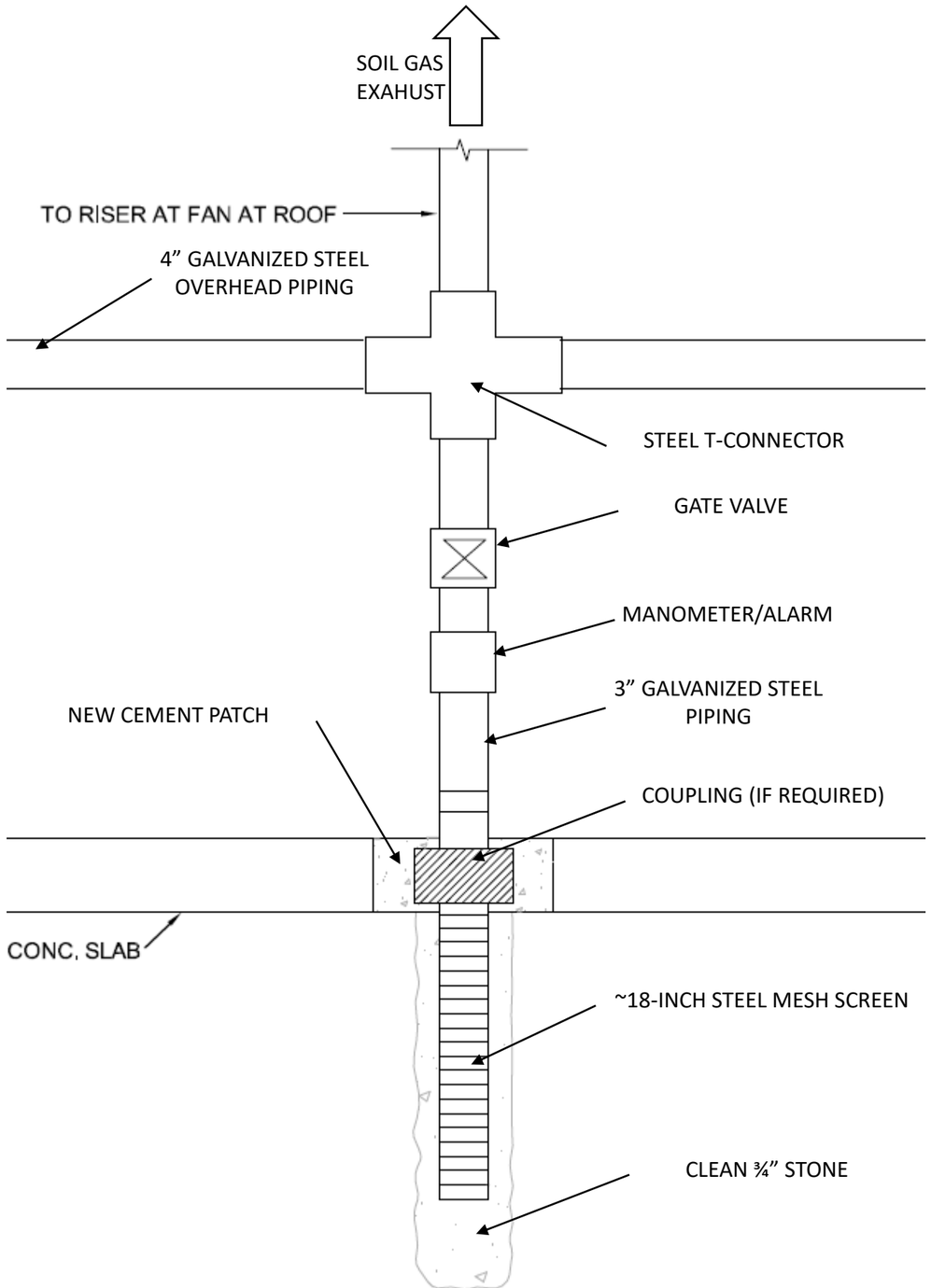
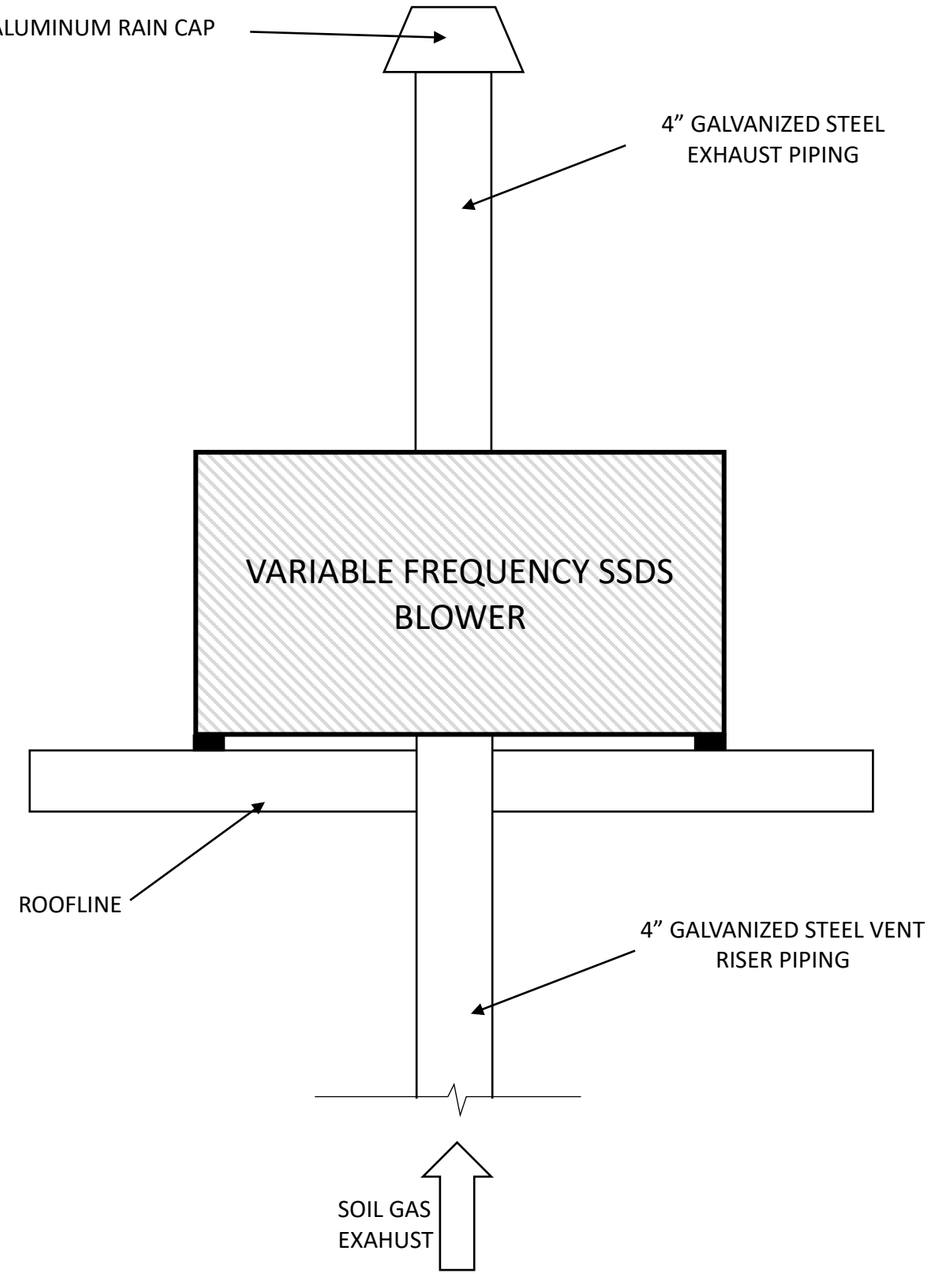


SUCTION POINT DETAIL (N.T.S)



SSDS BLOWER DETAIL (N.T.S)

Legend

Notes:

Example SSDS Suction Point/Blower Design

100 South 4th Street, Brooklyn, NY

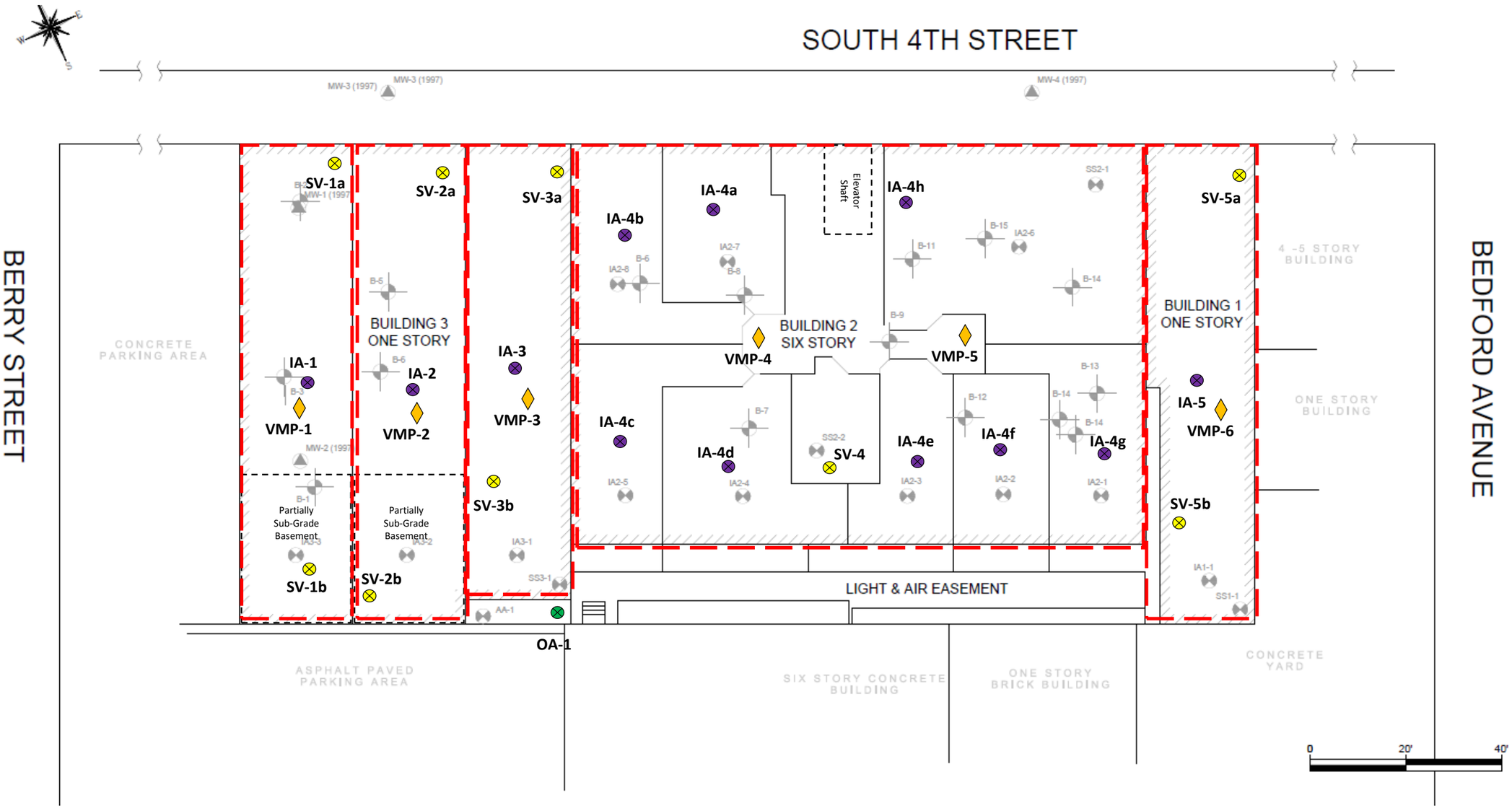
Plate 9

PROJECT #	13817
DRAWN BY	CJC
CHECKED BY	KK
DATE	3/25/21
Revisions	

Not to scale

IMPACT ENVIRONMENTAL CLOSURES, INC.

170 KEYLAND COURT
BOHEMIA, NEW YORK 11716
TEL (631) 269-8800
FAX (631) 269-1599



Legend

- Sub-Slab Soil Vapor Sample Locations
- Indoor Air Sample Locations
- Outdoor Ambient Air Sample Locations
- Vacuum Monitoring Point

Notes:

VMP pressure readings will be monitored using a digital manometer during the startup testing of the SSDS

Post Installation/Pre-SSDS Startup Sampling Plan

100 South 4th Street, Brooklyn, NY

Plate 10

PROJECT #	13817
DRAWN BY	CJC
CHECKED BY	KK
DATE	3/25/21
Revisions	

Not to scale

IMPACT ENVIRONMENTAL CLOSURES, INC.

170 KEYLAND COURT
BOHEMIA, NEW YORK 11716
TEL (631) 269-8800
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IRM Work Plan

TABLES

98, 100, and 104 South 4th Street, Brooklyn, NY

NYSDEC BCP #C224260

IMPACT ENVIRONMENTAL
170 Keyland Court
Bohemia, New York 11716
TEL: (631) 268-8800
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Table 1
Quality Control Sample Summary
100 south 4th Street, Brooklyn, NY

LOCATION			SV-1A		SV-DUP-1		SV-4		SV-DUP-2		IA-4A		IA-DUP-1		IA-5		IA-DUP-2	
SAMPLING DATE			3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
LAB SAMPLE ID			L2112425-01		L2112425-10		L2112425-07		L2112425-11		L2112425-15		L2112425-24		L2112425-23		L2112425-25	
SAMPLE TYPE			SOIL_VAPOR		SOIL_VAPOR		SOIL_VAPOR		SOIL_VAPOR		AIR		AIR		AIR		AIR	
	IA Guidance	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organics in Air																		
Dichlorodifluoromethane		ug/m3	**2.02**		**1.99**		**2.88**		**2.49**		**2.02**		**2.46**		**2.43**		**2.43**	
Chloromethane		ug/m3	0.413	U	0.413	U	0.413	U	**0.77**		**1.1**		**1.08**		**0.983**		**0.977**	
Freon-114		ug/m3	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Vinyl chloride		ug/m3	0.511	U	0.511	U	0.511	U	0.511	U	-	-	-	-	-	-	-	-
1,3-Butadiene		ug/m3	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U
Bromomethane		ug/m3	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U
Chloroethane		ug/m3	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U
Ethanol		ug/m3	**153**		**129**		**46**		**79.1**		**889**		**825**		**903**		**880**	
Vinyl bromide		ug/m3	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U
Acetone		ug/m3	**458**		**285**		**9.17**		**14.2**		**36.3**		**39**		**24.2**		**24**	
Trichlorofluoromethane		ug/m3	1.12	U	1.12	U	1.12	U	1.12	U	**1.27**		**1.89**		**6.24**		**5.96**	
Isopropanol		ug/m3	**15.5**		**15.5**		**10.3**		**24.2**		**230**		**256**		**117**		**114**	
1,1-Dichloroethene		ug/m3	0.793	U	0.793	U	0.793	U	0.793	U	-	-	-	-	-	-	-	-
Tertiary butyl Alcohol		ug/m3	**5.21**		**1.54**		**2.37**		**5.4**		1.52	U	1.52	U	1.52	U	1.52	U
Methylene chloride	60	ug/m3	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U
3-Chloropropene		ug/m3	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U
Carbon disulfide		ug/m3	0.623	U	**1.25**		0.623	U	0.623	U	0.623	U	0.623	U	0.623	U	0.623	U
Freon-113		ug/m3	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U
trans-1,2-Dichloroethene		ug/m3	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U
1,1-Dichloroethane		ug/m3	**3.27**		1.43		0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U
Methyl tert butyl ether		ug/m3	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U
2-Butanone		ug/m3	**8.23**		**4.1**		**3.66**		**5.13**		**1.54**		**1.53**		**2.35**		**2.47**	
cis-1,2-Dichloroethene		ug/m3	**7.65**		2.56		0.793	U	0.793	U	-	-	-	-	-	-	-	-
Ethyl Acetate		ug/m3	1.8	U	1.8	U	1.8	U	1.8	U	**2.64**		3.44		**8.9**		8.58	
Chloroform		ug/m3	**1.9**		**1.99**		**10.6**		**3.14**		0.977	U	0.977	U	**1.32**		**1.26**	
Tetrahydrofuran		ug/m3	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U
1,2-Dichloroethane		ug/m3	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U
n-Hexane		ug/m3	**0.782**		0.705	U	0.705	U	0.705	U	**0.871**		**0.853**		0.705	U	**0.747**	
1,1,1-Trichloroethane		ug/m3	**7.09**		**4.68**		1.09	U	1.09	U	-	-	-	-	-	-	-	-
Benzene		ug/m3	**0.837**		**0.677**		0.639	U	0.639	U	**1.09**		**1.07**		**1.05**		**1.06**	
Carbon tetrachloride		ug/m3	1.26	U	1.26	U	1.26	U	1.26	U	-	-	-	-	-	-	-	-
Cyclohexane		ug/m3	0.688	U	0.688	U	0.688	U	0.688	U	**1.94**		**1.83**		0.688	U	0.688	U
1,2-Dichloropropane		ug/m3	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U
Bromodichloromethane		ug/m3	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U
1,4-Dioxane		ug/m3	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U
Trichloroethene	2	ug/m3	**120**		**90.8**		**21**		**16.3**		-	-	-	-	-	-	-	-
2,2,4-Trimethylpentane		ug/m3	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U
Heptane		ug/m3	0.82	U	0.82	U	0.82	U	0.82	U	**35.1**		**34.6**		**0.828**		**0.836**	
cis-1,3-Dichloropropene		ug/m3	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U
4-Methyl-2-pentanone		ug/m3	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U
trans-1,3-Dichloropropene		ug/m3	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U
1,1,2-Trichloroethane		ug/m3	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U
Toluene		ug/m3	**2.08**		**1.99**		**2.22**		**3.84**		**5.31**		**5.16**		**2.8**		**2.78**	
2-Hexanone		ug/m3	**1.31**		0.82	U	**0.885**		**1.52**		0.82	U	0.82	U	0.82	U	0.82	U
Dibromochloromethane		ug/m3	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
1,2-Dibromoethane		ug/m3	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U
Tetrachloroethene	30	ug/m3	**46**		**38**		**4.66**		**5.66**		-	-	-	-	-	-	-	-
Chlorobenzene		ug/m3	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U
Ethylbenzene		ug/m3	0.869	U	0.869	U	**1.99**		**3.43**		0.869	U	0.869	U	0.869	U	0.869	U
p/m-Xylene		ug/m3	1.74	U	1.74	U	**3.53**		**6.21**		**1.92**		**2.09**		**1.98**		**1.87**	
Bromoform		ug/m3	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U
Styrene		ug/m3	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U
1,1,2,2-Tetrachloroethane		ug/m3	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U
o-Xylene		ug/m3	0.869	U	0.869	U	**1.87**		**2.91**		0.869	U	0.869	U	0.869	U	0.869	U
4-Ethyltoluene		ug/m3	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U
1,3,5-Trimethylbenzene		ug/m3	0.983	U	0.983	U	0.983	U	**1.71**		0.983	U	0.983	U	0.983	U	0.983	U
1,2,4-Trimethylbenzene		ug/m3	0.983	U	0.983	U	0.983	U	**1.68**		0.983	U	0.983	U	**1.39**		**1.21**	
Benzyl chloride		ug/m3	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U
1,3-Dichlorobenzene		ug/m3	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,4-Dichlorobenzene		ug/m3	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,2-Dichlorobenzene		ug/m3	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,2,4-Trichlorobenzene		ug/m3	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U
Hexachlorobutadiene		ug/m3	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U
Volatile Organics in Air by SIM																		
Vinyl chloride		ug/m3	-	-	-	-	-	-	-	-	0.051	U	0.051	U	0.051	U	0.051	U
1,1-Dichloroethene		ug/m3	-	-	-	-	-	-	-	-	0.079	U	0.079	U	0.079	U	0.079	U
cis-1,2-Dichloroethene		ug/m3	-	-	-	-	-	-	-	-	0.079	U	0.079	U	0.079	U	0.079	U
1,1,1-Trichloroethane		ug/m3	-	-	-	-	-	-	-	-	0.109	U	0.109	U	0.109	U	0.109	U
Carbon tetrachloride		ug/m3	-	-	-	-	-	-	-	-	**0.39**		**0.516**		**0.585**		**0.522**	
Trichloroethene	2	ug/m3	-	-	-	-	-	-	-	-	**0.344**		**0.371**		**0.296**		**0.29**	
Tetrachloroethene	30	ug/m3	-	-	-	-	-	-	-	-	**1.04**		**1.04**		**0.529**		**0.522**	

Notes:
IA Guidance - Ambient Air Guidance Values, NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion (Table 3.1)
Highlighted Value Above Table 3.1 Indoor Air Guidance Values
ug/m3 - micrograms per cubic meter
U - Not detected
BOLD - Analyte detected

Table 2
SVI Summary Table (All Results)
100 South 4th Street, Brooklyn, NY

LOCATION			SV-1A		SV-1B		IA-1		SV-2A		SV-2B		IA-2		SV-3A	
SAMPLING DATE			3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
LAB SAMPLE ID			L2112425-01		L2112425-02		L2112425-12		L2112425-03		L2112425-04		L2112425-13		L2112425-06	
SAMPLE TYPE			SOIL_VAPOR		SOIL_VAPOR		AIR		SOIL_VAPOR		SOIL_VAPOR		AIR		SOIL_VAPOR	
	IA Guidance	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organics in Air																
Dichlorodifluoromethane		ug/m3	**2.02**		3.09	U	**1.99**		**2.02**		9.89	U	**2.08**		2.91	U
Chloromethane		ug/m3	0.413	U	1.29	U	**0.888**		0.413	U	4.13	U	**0.964**		1.21	U
Freon-114		ug/m3	1.4	U	4.37	U	1.4	U	1.4	U	14	U	1.4	U	4.11	U
Vinyl chloride		ug/m3	0.511	U	1.6	U	-	-	**0.537**		5.11	U	-	-	1.5	U
1,3-Butadiene		ug/m3	0.442	U	1.38	U	0.442	U	0.442	U	4.42	U	0.442	U	1.3	U
Bromomethane		ug/m3	0.777	U	2.43	U	0.777	U	0.777	U	7.77	U	0.777	U	2.28	U
Chloroethane		ug/m3	0.528	U	1.65	U	0.528	U	0.528	U	5.28	U	0.528	U	1.55	U
Ethanol		ug/m3	**153**		**795**		**28.6**		**524**		**537**		447		**41.5**	
Vinyl bromide		ug/m3	0.874	U	2.73	U	0.874	U	0.874	U	8.74	U	0.874	U	2.57	U
Acetone		ug/m3	**458**		**21.1**		2.38	U	**19.9**		**304**		**47**		6.98	U
Trichlorofluoromethane		ug/m3	1.12	U	3.51	U	1.12	U	1.12	U	11.2	U	**1.26**		3.3	U
Isopropanol		ug/m3	**15.5**		**7.67**		**3.37**		**2.04**		12.3	U	**6.02**		3.61	U
1,1-Dichloroethene		ug/m3	0.793	U	2.48	U	-	-	0.793	U	7.93	U	-	-	2.33	U
Tertiary butyl Alcohol		ug/m3	**5.21**		4.73	U	1.52	U	**5.73**		15.2	U	1.52	U	**7.82**	
Methylene chloride	60	ug/m3	1.74	U	5.42	U	1.74	U	1.74	U	17.4	U	1.74	U	5.11	U
3-Chloropropene		ug/m3	0.626	U	1.96	U	0.626	U	0.626	U	6.26	U	0.626	U	1.84	U
Carbon disulfide		ug/m3	0.623	U	1.95	U	0.623	U	0.623	U	6.23	U	0.623	U	1.83	U
Freon-113		ug/m3	1.53	U	4.79	U	1.53	U	1.53	U	15.3	U	1.53	U	4.51	U
trans-1,2-Dichloroethene		ug/m3	0.793	U	2.48	U	0.793	U	0.793	U	**8.21**		0.793	U	2.33	U
1,1-Dichloroethane		ug/m3	**3.27**		2.53	U	0.809	U	0.809	U	8.09	U	0.809	U	2.38	U
Methyl tert butyl ether		ug/m3	0.721	U	2.25	U	0.721	U	0.721	U	7.21	U	0.721	U	2.12	U
2-Butanone		ug/m3	**8.23**		4.6	U	1.47	U	**1.8**		14.7	U	1.47	U	4.34	U
cis-1,2-Dichloroethene		ug/m3	**7.65**		**88**		-	-	**5.35**		**379**		-	-	**20**	
Ethyl Acetate		ug/m3	1.8	U	5.62	U	1.8	U	1.8	U	18	U	1.8	U	5.3	U
Chloroform		ug/m3	**1.9**		3.05	U	0.977	U	0.977	U	9.77	U	0.977	U	54.7	
Tetrahydrofuran		ug/m3	1.47	U	4.6	U	1.47	U	1.47	U	14.7	U	1.47	U	4.34	U
1,2-Dichloroethane		ug/m3	0.809	U	2.53	U	0.809	U	0.809	U	8.09	U	0.809	U	2.38	U
n-Hexane		ug/m3	**0.782**		2.2	U	0.705	U	0.705	U	7.05	U	**0.73**		2.07	U
1,1,1-Trichloroethane		ug/m3	**7.09**		3.41	U	-	-	1.09	U	10.9	U	-	-	**3.79**	
Benzene		ug/m3	**0.837**		2	U	**0.879**		0.639	U	6.39	U	**1.04**		1.88	U
Carbon tetrachloride		ug/m3	1.26	U	3.93	U	-	-	1.26	U	12.6	U	-	-	3.7	U
Cyclohexane		ug/m3	0.688	U	2.15	U	0.688	U	0.688	U	6.88	U	0.688	U	2.02	U
1,2-Dichloropropane		ug/m3	0.924	U	2.89	U	0.924	U	0.924	U	9.24	U	0.924	U	2.72	U
Bromodichloromethane		ug/m3	1.34	U	4.19	U	1.34	U	1.34	U	13.4	U	1.34	U	3.94	U
1,4-Dioxane		ug/m3	0.721	U	2.25	U	0.721	U	0.721	U	7.21	U	0.721	U	2.12	U
Trichloroethene	2	ug/m3	**120**		**1000**		-	-	**16.5**		**3260**		-	-	**967**	
2,2,4-Trimethylpentane		ug/m3	0.934	U	2.92	U	0.934	U	0.934	U	9.34	U	0.934	U	2.75	U
Heptane		ug/m3	0.82	U	2.56	U	0.82	U	0.82	U	8.2	U	0.82	U	2.41	U
cis-1,3-Dichloropropene		ug/m3	0.908	U	2.84	U	0.908	U	0.908	U	9.08	U	0.908	U	2.67	U
4-Methyl-2-pentanone		ug/m3	2.05	U	6.39	U	2.05	U	2.05	U	20.5	U	2.05	U	6.02	U
trans-1,3-Dichloropropene		ug/m3	0.908	U	2.84	U	0.908	U	0.908	U	9.08	U	0.908	U	2.67	U
1,1,2-Trichloroethane		ug/m3	1.09	U	3.41	U	1.09	U	1.09	U	10.9	U	1.09	U	3.21	U
Toluene		ug/m3	**2.08**		**4.94**		**2.09**		**15**		**7.88**		**2.36**		**12**	
2-Hexanone		ug/m3	**1.31**		2.56	U	0.82	U	**1.41**		8.2	U	0.82	U	2.41	U
Dibromochloromethane		ug/m3	1.7	U	5.32	U	1.7	U	1.7	U	17	U	1.7	U	5.01	U
1,2-Dibromoethane		ug/m3	1.54	U	4.8	U	1.54	U	1.54	U	15.4	U	1.54	U	4.52	U
Tetrachloroethene	30	ug/m3	**46**		**1240**		-	-	**5.2**		**2710**		-	-	**460**	
Chlorobenzene		ug/m3	0.921	U	2.88	U	0.921	U	0.921	U	9.21	U	0.921	U	2.71	U
Ethylbenzene		ug/m3	0.869	U	**4.04**		0.869	U	**15.3**		8.69	U	**1.23**		**11.9**	
p/m-Xylene		ug/m3	1.74	U	**7.43**		1.74	U	**25.4**		17.4	U	**4.6**		**19.8**	
Bromoform		ug/m3	2.07	U	6.46	U	2.07	U	2.07	U	20.7	U	2.07	U	6.08	U
Styrene		ug/m3	0.852	U	2.66	U	0.852	U	**1.28**		8.52	U	0.852	U	2.5	U
1,1,2,2-Tetrachloroethane		ug/m3	1.37	U	4.29	U	1.37	U	1.37	U	13.7	U	1.37	U	4.04	U
o-Xylene		ug/m3	0.869	U	**3.87**		0.869	U	**14.3**		8.69	U	**1.32**		**11.2**	
4-Ethyltoluene		ug/m3	0.983	U	3.07	U	0.983	U	0.983	U	9.83	U	0.983	U	2.89	U
1,3,5-Trimethylbenzene		ug/m3	0.983	U	3.07	U	0.983	U	0.983	U	9.83	U	0.983	U	2.89	U
1,2,4-Trimethylbenzene		ug/m3	0.983	U	3.07	U	0.983	U	0.983	U	9.83	U	**1.25**		2.89	U
Benzyl chloride		ug/m3	1.04	U	3.24	U	1.04	U	1.04	U	10.4	U	1.04	U	3.04	U
1,3-Dichlorobenzene		ug/m3	1.2	U	3.76	U	1.2	U	1.2	U	12	U	1.2	U	3.54	U
1,4-Dichlorobenzene		ug/m3	1.2	U	3.76	U	1.2	U	1.2	U	12	U	1.2	U	3.54	U
1,2-Dichlorobenzene		ug/m3	1.2	U	3.76	U	1.2	U	1.2	U	12	U	1.2	U	3.54	U
1,2,4-Trichlorobenzene		ug/m3	1.48	U	4.64	U	1.48	U	1.48	U	14.8	U	1.48	U	4.36	U
Hexachlorobutadiene		ug/m3	2.13	U	6.67	U	2.13	U	2.13	U	21.3	U	2.13	U	6.27	U
Volatile Organics in Air by SIM																
Vinyl chloride		ug/m3	-	-	-	-	0.051	U	-	-	-	-	0.051	U	-	-
1,1-Dichloroethene		ug/m3	-	-	-	-	0.079	U	-	-	-	-	0.079	U	-	-
cis-1,2-Dichloroethene		ug/m3	-	-	-	-	0.079	U	-	-	-	-	0.079	U	-	-
1,1,1-Trichloroethane		ug/m3	-	-	-	-	0.109	U	-	-	-	-	0.109	U	-	-
Carbon tetrachloride		ug/m3	-	-	-	-	**0.396**		-	-	-	-	**0.421**		-	-
Trichloroethene	2	ug/m3	-	-	-	-	**0.435**		-	-	-	-	**0.408**		-	-
Tetrachloroethene	30	ug/m3	-	-	-	-	**1.11**		-	-	-	-	**0.787**		-	-

LOCATION	SV-3B		IA-3		SV-4		IA-4A		IA-4B		IA-4C		IA-4D		IA-4E		IA-4F		IA-4G	
SAMPLING DATE	3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
LAB SAMPLE ID	L2112425-05		L2112425-14		L2112425-07		L2112425-15		L2112425-16		L2112425-17		L2112425-18		L2112425-19		L2112425-20		L2112425-21	
SAMPLE TYPE	SOIL_VAPOR		AIR		SOIL_VAPOR		AIR		AIR		AIR		AIR		AIR		AIR		AIR	
	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organics in Air																				
Dichlorodifluoromethane	**2.1**		**2.13**		**2.88**		**2.02**		**2.05**		**2.5**		**2.26**		**2.49**		**2.49**		**2.48**	
Chloromethane	0.413	U	**0.989**		0.413	U	**1.1**		**1**		**1.33**		**1.67**		**0.975**		**1.03**		**1.23**	
Freon-114	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Vinyl chloride	0.511	U	-	-	0.511	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Butadiene	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	**0.763**		0.442	U	0.442	U	0.442	U
Bromomethane	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U
Chloroethane	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U
Ethanol	**492**		**203**		**46**		**889**		**196**		**1810**		**433**		**105**		**205**		**784**	
Vinyl bromide	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U
Acetone	**53.7**		**18.2**		**9.17**		**36.3**		**15.6**		**67.5**		**31.4**		**11.5**		**44.2**		**62.7**	
Trichlorofluoromethane	**1.12**		**1.29**		1.12	U	**1.27**		**1.27**		**2.28**		**1.47**		**1.83**		**2.42**		**4.9**	
Isopropanol	**20.9**		**6.22**		**10.3**		**230**		**35.2**		**91.4**		**61.9**		**23.9**		**45.2**		**93.9**	
1,1-Dichloroethene	0.793	U	-	-	0.793	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tertiary butyl Alcohol	**4.67**		1.52	U	**2.37**		1.52	U	1.52	U	1.52	U	1.52	U	1.52	U	1.52	U	1.52	U
Methylene chloride	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U
3-Chloropropene	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U
Carbon disulfide	**9.09**		0.623	U	0.623	U	0.623	U	0.623	U	0.623	U	0.623	U	0.623	U	0.623	U	0.623	U
Freon-113	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U
trans-1,2-Dichloroethene	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U
1,1-Dichloroethane	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U
Methyl tert butyl ether	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U
2-Butanone	**5.9**		1.47	U	**3.66**		**1.54**		1.47	U	**2.12**		**2**		1.47	U	**2.23**		**3.51**	
cis-1,2-Dichloroethene	**24.1**		-	-	0.793	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl Acetate	1.8	U	1.8	U	1.8	U	**2.64**		1.8	U	**13.8**		**3.57**		1.8	U	**3.68**		**8.61**	
Chloroform	**78.6**		**2.08**		**10.6**		0.977	U	0.977	U	**4.68**		0.977	U	0.977	U	0.977	U	3.04	
Tetrahydrofuran	**2.22**		1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U
1,2-Dichloroethane	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	1.04		0.809	U	0.809	U	0.809	U	1.6	
n-Hexane	**1.56**		0.705	U	0.705	U	**0.871**		0.705	U	**0.765**		**0.885**		0.705	U	**0.737**		**0.712**	
1,1,1-Trichloroethane	**1.58**		-	-	1.09	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	**2.02**		**1.16**		0.639	U	**1.09**		**1.08**		**1.17**		**1.57**		**0.847**		**0.926**		**1.35**	
Carbon tetrachloride	1.26	U	-	-	1.26	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane	**2.34**		0.688	U	0.688	U	**1.94**		0.688	U	0.688	U	**0.723**		0.688	U	0.688	U	0.688	U
1,2-Dichloropropane	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U
Bromodichloromethane	**1.96**		1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U
1,4-Dioxane	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U
Trichloroethene	**321**		-	-	**21**		-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,2,4-Trimethylpentane	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U
Heptane	**0.84**		0.82	U	0.82	U	**35.1**		**1.75**		**2.73**		**8.57**		0.82	U	**1.45**		**1.08**	
cis-1,3-Dichloropropene	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U
4-Methyl-2-pentanone	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U
trans-1,3-Dichloropropene	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U
1,1,2-Trichloroethane	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U
Toluene	**8.03**		**2.08**		**2.22**		**5.31**		**2.58**		**3**		**3.73**		**1.62**		**3.84**		**3.04**	
2-Hexanone	**2.07**		0.82	U	**0.885**		0.82	U	0.82	U	0.82	U	0.82	U	0.82	U	0.82	U	0.82	U
Dibromochloromethane	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
1,2-Dibromoethane	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U
Tetrachloroethene	**138**		-	-	**4.66**		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U
Ethylbenzene	**6.39**		0.869	U	**1.99**		0.869	U	**1.13**		0.869	U	0.869	U	0.869	U	1.54		0.869	U
p/m-Xylene	**11.3**		**1.91**		**3.53**		**1.92**		**4.43**		**1.85**		**2.14**		1.74	U	**5.99**		**2.53**	
Bromoform	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U
Styrene	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U	1.01		0.852	U
1,1,2,2-Tetrachloroethane	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U
o-Xylene	**6.52**		0.869	U	**1.87**		0.869	U	**1.3**		0.869	U	0.869	U	0.869	U	**1.74**		**0.934**	
4-Ethyltoluene	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U
1,3,5-Trimethylbenzene	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U
1,2,4-Trimethylbenzene	0.983	U	**1.64**		0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	**1.19**		**1.06**	
Benzyl chloride	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U
1,3-Dichlorobenzene	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,4-Dichlorobenzene	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,2-Dichlorobenzene	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,2,4-Trichlorobenzene	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U
Hexachlorobutadiene	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U
Volatile Organics in Air by SIM																				
Vinyl chloride	-	-	0.051	U	-	-	0.051	U	0.051	U	0.051	U	0.051	U	0.051	U	0.051	U	0.051	U
1,1-Dichloroethene	-	-	0.079	U	-	-	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
cis-1,2-Dichloroethene	-	-	0.079	U	-	-	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
1,1,1-Trichloroethane	-	-	0.109	U	-	-	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U	0.109	U
Carbon tetrachloride	-	-	**0.403**		-	-	**0.39**		**0.421**		**0.591**		**0.459**		**0.478**		**0.547**		**0.591**	
Trichloroethene	-	-	**2.14**		-	-	**0.344**		**0.908**		**1.23**		0.107	U	0.107	U	**0.516**		**0.333**	
Tetrachloroethene	-	-	**2.09**		-	-	**1.04**		**1.02**		**2.55**		**0.387**		**0.292**		**0.448**		**0.57**	

LOCATION	IA-4H		SV-5A		SV-5B		IA-5		IA-DUP-1		IA-DUP-2		SV-DUP-1		SV-DUP-2		OA-1	
SAMPLING DATE	3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
LAB SAMPLE ID	L2112425-22		L2112425-08		L2112425-09		L2112425-23		L2112425-24		L2112425-25		L2112425-10		L2112425-11		L2112425-26	
SAMPLE TYPE	AIR		SOIL_VAPOR		SOIL_VAPOR		AIR		AIR		AIR		SOIL_VAPOR		SOIL_VAPOR		AIR	
	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organics in Air																		
Dichlorodifluoromethane	**2.46**		**1.95**		**2.05**		**2.43**		**2.46**		**2.43**		**1.99**		**2.49**		**2.41**	
Chloromethane	**1.08**		0.413	U	0.413	U	**0.983**		**1.08**		**0.977**		0.413	U	**0.77**		**0.892**	
Freon-114	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Vinyl chloride	-	-	0.511	U	0.511	U	-	-	-	-	-	-	0.511	U	0.511	U	-	-
1,3-Butadiene	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U
Bromomethane	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U
Chloroethane	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U
Ethanol	**288**		**746**		**28.6**		**903**		**825**		**880**		**129**		**79.1**		**19.4**	
Vinyl bromide	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U
Acetone	**24.7**		**55.8**		**12.6**		**24.2**		**39**		**24**		**285**		**14.2**		**6.39**	
Trichlorofluoromethane	**2.5**		**2.86**		**1.83**		**6.24**		**1.89**		**5.96**		1.12	U	1.12	U	**1.69**	
Isopropanol	**52.1**		**42.3**		**3.98**		**117**		**256**		**114**		**15.5**		**24.2**		**5.14**	
1,1-Dichloroethene	-	-	0.793	U	0.793	U	-	-	-	-	-	-	0.793	U	0.793	U	-	-
Tertiary butyl Alcohol	1.52	U	**11.7**		**17.6**		1.52	U	1.52	U	1.52	U	**1.54**		**5.4**		1.52	U
Methylene chloride	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U
3-Chloropropene	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U
Carbon disulfide	0.623	U	0.623	U	0.623	U	0.623	U	0.623	U	0.623	U	**1.25**		0.623	U	0.623	U
Freon-113	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U
trans-1,2-Dichloroethene	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U
1,1-Dichloroethane	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	1.43		0.809	U	0.809	U
Methyl tert butyl ether	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U
2-Butanone	**1.7**		**2.91**		**1.89**		**2.35**		**1.53**		**2.47**		**4.1**		**5.13**		1.47	U
cis-1,2-Dichloroethene	-	-	0.793	U	0.793	U	-	-	-	-	-	-	2.56		0.793	U	-	-
Ethyl Acetate	**2.52**		1.8	U	1.8	U	**8.9**		3.44		8.58		1.8	U	1.8	U	1.8	U
Chloroform	0.977	U	**2.13**		**38.7**		**1.32**		0.977	U	**1.26**		**1.99**		**3.14**		0.977	U
Tetrahydrofuran	1.47	U	**3.33**		1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U
1,2-Dichloroethane	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U
n-Hexane	0.705	U	0.705	U	0.705	U	0.705	U	**0.853**		**0.747**		0.705	U	0.705	U	0.705	U
1,1,1-Trichloroethane	-	-	1.09	U	1.09	U	-	-	-	-	-	-	**4.68**		1.09	U	-	-
Benzene	**1.02**		0.639	U	0.639	U	**1.05**		**1.07**		**1.06**		**0.677**		0.639	U	**0.748**	
Carbon tetrachloride	-	-	1.26	U	**2.68**		-	-	-	-	-	-	1.26	U	1.26	U	-	-
Cyclohexane	0.688	U	**0.747**		**0.826**		0.688	U	**1.83**		0.688	U	0.688	U	0.688	U	0.688	U
1,2-Dichloropropane	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U
Bromodichloromethane	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U
1,4-Dioxane	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U
Trichloroethene	-	-	**7.9**		**5.7**		-	-	-	-	-	-	**90.8**		**16.3**		-	-
2,2,4-Trimethylpentane	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U
Heptane	**1.88**		0.82	U	0.82	U	**0.828**		**34.6**		**0.836**		0.82	U	0.82	U	0.82	U
cis-1,3-Dichloropropene	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U
4-Methyl-2-pentanone	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U
trans-1,3-Dichloropropene	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U
1,1,2-Trichloroethane	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U
Toluene	**2.48**		**13.1**		**14.9**		**2.8**		**5.16**		**2.78**		**1.99**		**3.84**		**1.46**	
2-Hexanone	0.82	U	**1.62**		**4.75**		0.82	U	0.82	U	0.82	U	0.82	U	**1.52**		0.82	U
Dibromochloromethane	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
1,2-Dibromoethane	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U
Tetrachloroethene	-	-	**9.56**		**59.8**		-	-	-	-	-	-	**38**		**5.66**		-	-
Chlorobenzene	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U
Ethylbenzene	0.869	U	**13.1**		**15.8**		0.869	U	0.869	U	0.869	U	0.869	U	**3.43**		0.869	U
p/m-Xylene	**2.06**		**21.6**		**26.4**		**1.98**		**2.09**		**1.87**		1.74	U	**6.21**		1.74	U
Bromoform	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U
Styrene	0.852	U	**1.09**		**1.41**		0.852	U	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U
1,1,2,2-Tetrachloroethane	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U
o-Xylene	0.869	U	**12.5**		**14.9**		0.869	U	0.869	U	0.869	U	0.869	U	**2.91**		0.869	U
4-Ethyltoluene	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U
1,3,5-Trimethylbenzene	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	**1.71**		0.983	U
1,2,4-Trimethylbenzene	**0.998**		0.983	U	0.983	U	**1.39**		0.983	U	**1.21**		0.983	U	**1.68**		0.983	U
Benzyl chloride	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U
1,3-Dichlorobenzene	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,4-Dichlorobenzene	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,2-Dichlorobenzene	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,2,4-Trichlorobenzene	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U
Hexachlorobutadiene	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U
Volatile Organics in Air by SIM																		
Vinyl chloride	0.051	U	-	-	-	-	0.051	U	0.051	U	0.051	U	-	-	-	-	0.051	U
1,1-Dichloroethene	0.079	U	-	-	-	-	0.079	U	0.079	U	0.079	U	-	-	-	-	0.079	U
cis-1,2-Dichloroethene	0.079	U	-	-	-	-	0.079	U	0.079	U	0.079	U	-	-	-	-	0.079	U
1,1,1-Trichloroethane	0.109	U	-	-	-	-	0.109	U	0.109	U	0.109	U	-	-	-	-	0.109	U
Carbon tetrachloride	**0.535**		-	-	-	-	**0.585**		**0.516**		**0.522**		-	-	-	-	**0.491**	
Trichloroethene	**0.253**		-	-	-	-	**0.296**		**0.371**		**0.29**		-	-	-	-	0.107	U
Tetrachloroethene	**0.502**		-	-	-	-	**0.529**		**1.04**		**0.522**		-	-	-	-	**0.325**	

Notes:
IA Guidance - Ambient Air Guidance Values, NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion (Table 3.1)
Highlighted Value Above Table 3.1 Indoor Air Guidance Values
ug/m3 - micrograms per cubic meter
U - Not detected
BOLD - Analyte detected

Table 3
SVI Indoor Air Guidance Values Summary Table
100 South 4th Street, Brooklyn, NY

LOCATION			IA-1		IA-2		IA-3		IA-4A		IA-4B		IA-4C		IA-4D		IA-4E		IA-4F		IA-4G		IA-4H		IA-5	
SAMPLING DATE			3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
LAB SAMPLE ID			L2112425-12		L2112425-13		L2112425-14		L2112425-15		L2112425-16		L2112425-17		L2112425-18		L2112425-19		L2112425-20		L2112425-21		L2112425-22		L2112425-23	
SAMPLE TYPE			AIR		AIR		AIR		AIR		AIR		AIR		AIR		AIR		AIR		AIR		AIR		AIR	
	IA Guidance	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Methylene chloride	60	ug/m3	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U
Trichloroethene	2	ug/m3	**0.435**		**0.408**		**2.14**		**0.344**		**0.908**		**1.23**		0.107	U	0.107	U	**0.516**		**0.333**		**0.253**		**0.296**	
Tetrachloroethene	30	ug/m3	**1.11**		**0.787**		**2.09**		**1.04**		**1.02**		**2.55**		**0.387**		**0.292**		**0.448**		**0.57**		**0.502**		**0.529**	

Notes:
IA Guidance - Ambient Air Guidance Values, NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion (Table 3.1)
Highlighted Value Above Table 3.1 Indoor Air Guidance Values
ug/m3 - micrograms per cubic meter
U - Not detected
BOLD - Analyte detected

Table 4.1

98c South 4th Street - NYSDOH Decision Matrices Summary Table

100 South 4th Street, Brooklyn, NY

Sample ID	SV-1A	SV-1B	IA-1	NYSDOH Matrices Decision
Date	3/12/2021			
Sample Type	Sub Slab	Sub Slab	Indoor Air	
Unit	$\mu g/m^3$			
Volatile Organics in Air				
1,1,1-Trichloroethane	**7.09**	**ND**	ND	NFA
1,1-Dichloroethene	**ND**	**ND**	ND	NFA
Carbon tetrachloride	**ND**	**ND**	0.396	NFA
cis-1,2-Dichloroethene	**7.65**	**88**	ND	NFA/MITIGATE
Methylene chloride	**ND**	**ND**	ND	NFA
Tetrachloroethene	**46**	**1,240**	1.11	NFA/MITIGATE
Trichloroethene	**120**	**1000**	0.435	MITIGATE/MITIGATE
Vinyl chloride	**ND**	**ND**	ND	NFA

Notes:

µg/m3: mirogram per cubic meter

ND - not detected

NFA: No Further Actions recomended to address human exposures

IDENTIFY SOURCES, RESAMPLE, AND/OR MITIGATE: We recommend that reasonable and practical actions be taken to identify the source(s) affecting the indoor air quality and that actions be implemented to reduce indoor air concentrations to within background ranges. For example, if an indoor or outdoor air source is identified, we recommend the appropriate party implement actions to reduce the levels. In the event that indoor or outdoor sources are not readily identified or confirmed, resampling (which might include additional sub-slab vapor and indoor air sampling locations) is recommended to demonstrate that SVI mitigation actions are not needed. Based on the information available, mitigation might also be recommended when soil vapor intrusion cannot be ruled out.

MONITOR: We recommend monitoring (sampling on a recurring basis), including but not necessarily limited to sub-slab vapor, basement air and outdoor air sampling, to determine whether concentrations in the indoor air or sub-slab vapor have changed and/or to evaluate temporal influences. Monitoring might also be recommended to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air -conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitorin g is determined based on site-, building- and analyte-specific information, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MITIGATE: We recommend mitigation to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building -specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

Table 4.2

98b South 4th Street - NYSDOH Decision Matrices Summary Table

100 South 4th Street, Brooklyn, NY

Sample ID	SV-2A	SV-2B	IA-2	NYSDOH Matrices
Date	3/12/2021			
Sample Type	Sub Slab	Sub Slab	Indoor Air	
Unit	$\mu g/m^3$			
Volatile Organics in Air				
1,1,1-Trichloroethane	**ND**	**ND**	ND	NFA
1,1-Dichloroethene	**ND**	**ND**	ND	NFA
Carbon tetrachloride	**ND**	**ND**	0.421	NFA
cis-1,2-Dichloroethene	**5.35**	**379**	ND	NFA/MITIGATE
Methylene chloride	**ND**	**ND**	ND	NFA
Tetrachloroethene	**5.2**	**2710**	0.787	NFA/MITIGATE
Trichloroethene	**16.5**	**3260**	0.408	MONITOR/MITIGATE
Vinyl chloride	**0.537**	**ND**	ND	NFA

µg/m3: mirogram per cubic meter

ND - not detected

NFA: No Further Actions recomended to address human exposures

IDENTIFY SOURCES, RESAMPLE, AND/OR MITIGATE: We recommend that reasonable and practical actions be taken to identify the source(s) affecting the indoor air quality and that actions be implemented to reduce indoor air concentrations to within background ranges. For example, if an indoor or outdoor air source is identified, we recommend the appropriate party implement actions to reduce the levels. In the event that indoor or outdoor sources are not readily identified or confirmed, resampling (which might include additional sub-slab vapor and indoor air sampling locations) is recommended to demonstrate that SVI mitigation actions are not needed. Based on the information available, mitigation might also be recommended when soil vapor intrusion cannot be ruled out.

MONITOR: We recommend monitoring (sampling on a recurring basis), including but not necessarily limited to sub-slab vapor, basement air and outdoor air sampling, to determine whether concentrations in the indoor air or sub-slab vapor have changed and/or to evaluate temporal influences. Monitoring might also be recommended to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air -conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitorin g is determined based on site-, building- and analyte-specific information, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MITIGATE: We recommend mitigation to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building -specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

Table 4.3

98a South 4th Street - NYSDOH Decision Matrices Summary Table

100 South 4th Street, Brooklyn, NY

Sample ID	SV-3A	SV-3B	IA-3	NYSDOH Matrices
Date	3/12/2021			
Sample Type	Sub Slab	Sub Slab	Indoor Air	
Unit	$\mu g/m^3$			
Volatile Organics in Air				
1,1,1-Trichloroethane	**3.79**	**1.58**	ND	NFA
1,1-Dichloroethene	**ND**	**ND**	ND	NFA
Carbon tetrachloride	**ND**	**ND**	0.403	NFA
cis-1,2-Dichloroethene	**20**	**24.1**	ND	NFA
Methylene chloride	**ND**	**ND**	ND	NFA
Tetrachloroethene	**460**	**138**	2.09	NFA
Trichloroethene	**967**	**321**	2.14	MITIGATE/MITIGATE
Vinyl chloride	**ND**	**ND**	ND	NFA

µg/m3: mirogram per cubic meter

ND - not detected

NFA: No Further Actions recomended to address human exposures

IDENTIFY SOURCES, RESAMPLE, AND/OR MITIGATE: We recommend that reasonable and practical actions be taken to identify the source(s) affecting the indoor air quality and that actions be implemented to reduce indoor air concentrations to within background ranges. For example, if an indoor or outdoor air source is identified, we recommend the appropriate party implement actions to reduce the levels. In the event that indoor or outdoor sources are not readily identified or confirmed, resampling (which might include additional sub-slab vapor and indoor air sampling locations) is recommended to demonstrate that SVI mitigation actions are not needed. Based on the information available, mitigation might also be recommended when soil vapor intrusion cannot be ruled out.

MONITOR: We recommend monitoring (sampling on a recurring basis), including but not necessarily limited to sub-slab vapor, basement air and outdoor air sampling, to determine whether concentrations in the indoor air or sub-slab vapor have changed and/or to evaluate temporal influences. Monitoring might also be recommended to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air -conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitorin g is determined based on site-, building- and analyte-specific information, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MITIGATE: We recommend mitigation to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building -specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

Table 4.4
100 South 4th Street - NYSDOH Decision Matrices Summary Table
100 South 4th Street, Brooklyn, NY

Sample ID	SV-4	IA-4A	IA-4B	IA-4C	IA-4D	IA-4E	IA-4F	IA-4G	IA-4H	NYSDOH Matrices
Date	3/12/2021									
Sample Type	Sub Slab	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	
Unit	$\mu g/m^3$									
Volatile Organics in Air										
1,1,1-Trichloroethane	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	NFA
1,1-Dichloroethene	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	NFA
Carbon tetrachloride	**ND**	0.39	0.421	0.591	0.459	0.478	0.547	0.591	0.535	NFA
cis-1,2-Dichloroethene	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	NFA
Methylene chloride	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	NFA
Tetrachloroethene	**4.66**	1.04	1.02	2.55	0.387	0.292	0.448	0.57	0.502	NFA
Trichloroethene	**21**	0.344	0.908	1.23	ND	ND	0.516	0.333	0.253	NFA/MONITOR/MITIGATE
Vinyl chloride	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	NFA

µg/m3: mirogram per cubic meter

ND - not detected

NFA: No Further Actions recomended to address human exposures

IDENTIFY SOURCES, RESAMPLE, AND/OR MITIGATE: We recommend that reasonable and practical actions be taken to identify the source(s) affecting the indoor air quality and that actions be implemented to reduce indoor air concentrations to within background ranges. For example, if an indoor or outdoor air source is identified, we recommend the appropriate party implement actions to reduce the levels. In the event that indoor or outdoor sources are not readily identified or confirmed, resampling (which might include additional sub-slab vapor and indoor air sampling locations) is recommended to demonstrate that SVI mitigation actions are not needed. Based on the information available, mitigation might also be recommended when soil vapor intrusion cannot be ruled out.

MONITOR: We recommend monitoring (sampling on a recurring basis), including but not necessarily limited to sub-slab vapor, basement air and outdoor air sampling, to determine whether concentrations in the indoor air or sub-slab vapor have changed and/or to evaluate temporal influences. Monitoring might also be recommended to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air -conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitorin g is determined based on site-, building- and analyte-specific information, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

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Table 4.5

104 South 4th Street - NYSDOH Decision Matrices Summary Table

100 South 4th Street, Brooklyn, NY

Sample ID	SV-5A	SV-5B	IA-5	NYSDOH Matrices
Date	3/12/2021			
Sample Type	Sub Slab	Sub Slab	Indoor Air	
Unit	$\mu g/m^3$			
Volatile Organics in Air				
1,1,1-Trichloroethane	**ND**	**ND**	ND	NFA
1,1-Dichloroethene	**ND**	**ND**	ND	NFA
Carbon tetrachloride	**ND**	**2.68**	0.585	NFA/IDENTIFY SOURCES and RESAMPLE or MITIGATE
cis-1,2-Dichloroethene	**ND**	**ND**	ND	NFA
Methylene chloride	**ND**	**ND**	ND	NFA
Tetrachloroethene	**9.56**	**59.8**	1.04	NFA
Trichloroethene	**7.9**	**5.7**	0.296	NFA/MONITOR
Vinyl chloride	**ND**	**ND**	ND	NFA

µg/m3: mirogram per cubic meter

ND - not detected

NFA: No Further Actions recomended to address human exposures

IDENTIFY SOURCES, RESAMPLE, AND/OR MITIGATE: We recommend that reasonable and practical actions be taken to identify the source(s) affecting the indoor air quality and that actions be implemented to reduce indoor air concentrations to within background ranges. For example, if an indoor or outdoor air source is identified, we recommend the appropriate party implement actions to reduce the levels. In the event that indoor or outdoor sources are not readily identified or confirmed, resampling (which might include additional sub-slab vapor and indoor air sampling locations) is recommended to demonstrate that SVI mitigation actions are not needed. Based on the information available, mitigation might also be recommended when soil vapor intrusion cannot be ruled out.

MONITOR: We recommend monitoring (sampling on a recurring basis), including but not necessarily limited to sub-slab vapor, basement air and outdoor air sampling, to determine whether concentrations in the indoor air or sub-slab vapor have changed and/or to evaluate temporal influences. Monitoring might also be recommended to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air -conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitorin g is determined based on site-, building- and analyte-specific information, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MITIGATE: We recommend mitigation to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building -specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

Table 4.6
Outdoor Air Analysis Summary Table
100 South 4th Street, Brooklyn, NY

Sample ID	OA-1	NYSDOH Matrices
Date	3/12/2021	
Sample Type	OUTDOOR AIR	
Unit	$\mu g/m^3$	
Volatile Organics in Air		
1,1,1-Trichloroethane	**ND**	NA
1,1-Dichloroethene	**ND**	NA
Carbon tetrachloride	**0.491**	NA
cis-1,2-Dichloroethene	**ND**	NA
Methylene chloride	**ND**	NA
Tetrachloroethene	**0.325**	NA
Trichloroethene	**ND**	NA
Vinyl chloride	**ND**	NA

µg/m3: mirogram per cublic meter
NFA: No Further Actions warranted to address human exposures

IRM Work Plan

APPENDICES

98, 100, and 104 South 4th Street, Brooklyn, NY

NYSDEC BCP #C224260

IMPACT ENVIRONMENTAL
170 Keyland Court
Bohemia, New York 11716
TEL: (631) 268-8800
FAX: (631) 269-1599

IRM Work Plan

Appendix A

Agency Correspondence

IMPACT ENVIRONMENTAL
170 Keyland Court
Bohemia, New York 11716
TEL: (631) 268-8800
FAX: (631) 269-1599

Christopher Connolly

From: Zheng, Wendi Y (DEC) <Wendi.Zheng@dec.ny.gov>
Sent: Thursday, July 15, 2021 10:21 AM
To: Christopher Connolly
Cc: Kevin Kleaka, PG; O'Connell, Jane H (DEC); O'Neil, Eamonn M (HEALTH); McLaughlin, Scarlett E (HEALTH); heidi@holterbosch.net; ryan.howard@Prosit.nyc
Subject: RE: Site No. C224260- Former El Puente
Attachments: ConsultantHOL.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Chris,
Please see the comments provided on the 6/14 submittal of the draft SVI Report. The revised RIWP should be submitted within 30 days of this email. Please let me know if you have any questions.

- 5.1.2 Indoor/Outdoor Air Sample Results- Please include the quantitative data for chlorinated solvents.

- Appendices- Include any NYSDEC/NYSDOH correspondences, CAMP data, photologs, and waste disposal manifests if any as separate appendices.

- On September 4, 2008 Governor David A. Paterson signed legislation adding a new section to the Environmental Conservation Law (ECL 27-2405) to require property owners or owners' agents (such as landlords) to notify all of their tenants and occupants of any test results related to indoor air contamination associated with soil vapor intrusion that they receive from certain persons and entities. Plans should be made to disseminate results in accordance with this tenant notification law. Attached is a template of the tenant notification letter. Please fill out and send us to review within 15 days of this email before sending it out.

- A figure showing the location and concentrations of all exceedances for the 2021 soil vapor intrusion sampling results should be included in the report. Please include the NYSDOH matrices also on the figure.

- Trichloroethene (TCE) was detected at a concentration of 2.14 micrograms per cubic meter (ug/m3) in the indoor air and at 3260 ug/m3 in the sub-slab of Building No. 3. TCE was also detected in Building No. 2 at a concentration of 1.23 ug/m3 in the indoor air and at 21 ug/m3 in the sub-slab. Based on the sampling results and the presence of site-related contaminants at the concentrations detected, we agree with the recommendation that interim remedial measures (IRM) are needed to address exposures at the on-site buildings. The Department suggests the installation of sub-slab depressurization systems (SSDS) in all three buildings to address this exposure pathway. The IRM work plan should be submitted within 30 days of this email.

- Include a section of the schedule for Phase 2 of the remedial investigation for soil and groundwater.

Thanks,
Wendi

From: Christopher Connolly <cconnolly@impactenvironmental.com>
Sent: Monday, June 14, 2021 10:51 AM
To: Zheng, Wendi Y (DEC) <Wendi.Zheng@dec.ny.gov>
Cc: Kevin Kleaka, PG <kkleaka@impactenvironmental.com>; O'Connell, Jane H (DEC) <jane.oconnell@dec.ny.gov>; O'Neil, Eamonn M (HEALTH) <Eamonn.ONeil@health.ny.gov>; McLaughlin, Scarlett E (HEALTH) <scarlett.mclaughlin@health.ny.gov>; heidi@holterbosch.net; ryan.howard@Prosit.nyc
Subject: RE: Site No. C224260- Former El Puente

Good morning Wendi,
Please find attached the monthly progress report for May 2021.

In addition, the SVI Remedial Investigation Report has been uploaded via the NYSDEC FTS.

Kind regards,

Chris Connolly

CHRISTOPHER CONNOLLY | Project Manager
O: 631-269-8800 x152 C: 631-664-4425
170 Keyland Court, Bohemia, NY 11716
Our email policies

From: Zheng, Wendi Y (DEC) <Wendi.Zheng@dec.ny.gov>
Sent: Friday, June 11, 2021 12:56 PM
To: Christopher Connolly <cconnolly@impactenvironmental.com>
Cc: Kevin Kleaka, PG <kkleaka@impactenvironmental.com>; O'Connell, Jane H (DEC) <jane.oconnell@dec.ny.gov>; O'Neil, Eamonn M (HEALTH) <Eamonn.ONeil@health.ny.gov>; McLaughlin, Scarlett E (HEALTH) <scarlett.mclaughlin@health.ny.gov>
Subject: Site No. C224260- Former El Puente

Good Afternoon,
As a reminder, please submit the monthly progress report.

Wendi Zheng
Project Manager
New York State Department of Environmental Conservation
47-40 21st Street, Long Island City, NY 11101
P: (718) 482-7541 | wendi.zheng@dec.ny.gov
www.dec.ny.gov

IRM Work Plan

Appendix B

OBAR Systems Inc., Diagnostics
Report and Design Plan, April 2019

IMPACT ENVIRONMENTAL
170 Keyland Court
Bohemia, New York 11716
TEL: (631) 268-8800
FAX: (631) 269-1599

DIAGNOSTIC REPORT AND SYSTEM DESIGN

DRAFT

Site Address:

98-100 South 4th Street, Brooklyn, New York

Prepared for:

Peter J Andresen

Director of Development & Construction

Meadow Partners

130 East 59th St

Suite 1300

Prepared by:

Mr. Daniel Nuzzetti

Project Engineer

OBAR Systems, Inc.

2969 Route 23

Newfoundland, NJ 07435

April 9, 2019

Table of Contents

Tables

Drawings

Attachments / Cut Sheets

1. Background

Obar Systems was contacted to provide a proposal for building diagnostics and a sub slab depressurization system design for the building located at 98-100 South 4th Street in Brooklyn, New York. In accordance with the March 28, 2019 Obar Systems Diagnostic and Design Proposal, building diagnostics were performed on April 4th 2019.

2. General Building Information

This report and its appendices apply to the building located at 98-100 South 4th Street, Brooklyn, New York. The building is divided into two sections, a single story commercial strip mall, with 3 tenants measuring 6,600 square feet and a 6 story residential building measuring approximately 11,000 square feet.

3. Mitigation Concepts

Volatile Organic Compounds (VOCs) located in the soil are drawn into the building by the negative pressure of the building relative to the surrounding soil. As a gas, the VOCs enter the structure through cracks and openings and can migrate through the concrete floor and walls. A common remedy to reverse the intrusion process is Sub Slab Depressurization (SSD), which is a system that depressurizes the soil under the slab. The concept is that by creating a vacuum beneath the slab, the soil gases will be drawn into the system where they can be discharged to a safe location. During the commissioning sampling the environmental consultant should sample the systems' discharge to determine if treatment is required.

4. Diagnostic Method

The method used for diagnostic measurement and system design involved coring 2 5/8" suction holes in the concrete floors and 3/8" test holes at various distances from the suction holes. A specialized Sub Slab Diagnostic Vacuum (SSDV), capable of up to 120 cfm and a vacuum of 120 inches of water column ("w.c.) was used with a variable speed controller to define the flow and vacuum characteristics of the soil beneath the slab. The data obtained during the diagnostic investigation has been provided in the attached tables. The range of applied vacuum and flow rate used for each suction point was determined by evaluating the baseline data taken in the maximum flow and vacuum test performed at the beginning of each sampling series. The number of test point locations at each suction point was determined based on the results of the first sampling series at that location. The data collected at each suction point series includes; maximum vacuum and airflow at the suction point, vacuum 1 foot away from the suction point (SSP1), vacuum at each test point at multiple vacuum speeds or flow rates, the distance each test point is from the suction point, and the speeds that each series was run at.

5. Data Analysis and System Design

The information obtained from each suction point was examined independently to identify the associated area of influence (AOI) and estimated radius of influence (ROI) for that location during

the applied test conditions. The test data from all the suction points was examined collectively to determine the number of full-scale SSD system suction points required to address the areas of concern within the buildings. The test data was then used to determine the type and number of blowers required to effectively operate all of the full-scale SSD system suction points.

5.1. Analysis of data Series

For locations of all suction points and test points see the attached drawings, for full test results see the attached data tables.

5.1.1. Suction Point 1

Suction Point 1 (SP1) was located on the main slab of the Session tenant space. The purpose of this suction point was to evaluate the ROI produced from full-scale suction points in this building area and to determine if communication was present between Session and Sword Smith. The primary sub slab fill encountered was sandy soils with some debris mixed in. This suction point revealed an ROI of approximately 20 feet at 2 inches of water column ("w.c.) of applied vacuum and a 45cfm airflow yield. Vacuum was measured between Session and Sword Smith indicating there is no footing present between the spaces. For full results see Data Table 1.

5.1.2. Suction Point 2

Suction Point 2 (SP2) was located on the lower slab in the rear of the Session tenant space. The purpose of this suction point was to evaluate the ROI produced from full-scale suction points in this building area. The primary sub slab fill encountered was very loose sandy soils and cinders. This suction point revealed an ROI of approximately 20 feet at 10 inches of water column ("w.c.) of applied vacuum and an 8cfm airflow yield. For full results see Data Table 2.

5.1.3. Suction Point 3

Suction Point 3 (SP3) was located the lower slab in Sword Smith. The purpose of this suction point was to evaluate the ROI produced from full-scale suction points in this building area. The primary sub slab fill encountered was compacted brown soils. This suction point revealed an ROI of approximately 20-25 feet at 10 "w.c. of applied vacuum and a 10 cfm airflow yield, very similar to the lower slab in Session. For full results see Data Table 3.

5.1.4. Suction Point 4

Suction Point 4 (SP4) was located outside the kitchen in the Lemons and Olives tenant space. The purpose of this suction point was to evaluate the ROI produced from full-scale suction points in this building area. The primary sub slab fill encountered was compacted sandy soils. With the kitchen exhaust fans off this suction point revealed an ROI of approximately 10 feet at 20 "w.c. of applied vacuum and a 30cfm airflow yield. It was noted that this suction point was installed near a number of sub slab obstructions and as a result a second suction point (SP-9) was installed near the front of the space. For full results see Data Table 4.

5.1.5. Suction Point 5

Suction Point 5 (SP5) was located in the vacant space of the 6 story building. The purpose of this suction point was to evaluate the ROI produced from full-scale suction points in this building area. The primary sub slab fill encountered was loose sandy soils. During the cleanout of the suction hole a cast iron pipe was encountered below the slab so only limited cleanout could be performed. However a series of tests was run and an ROI of approximately 15 feet at an applied vacuum of 30 "w.c. and a 30cfm airflow yield was measured. For full results see Data Table 5.

5.1. . Suction Points and

Suction Points 6 and 7 (SP6, SP7) were located in mechanical areas on the ground floor of the six story building. The purpose of these suction points was to evaluate the ROI produced from full-scale suction points in these building areas and to determine if the data obtained at SP-5 was altered by the presence of the sub slab obstruction encountered. The primary sub slab fill encountered was loose sandy soils at both holes. An ROI of approximately 15-20 feet was measured at an applied vacuum of 10-12 "w.c. and a 60cfm airflow yield. For full results see Data Tables 6 and 7.

5.1. . Suction Point 8

Suction Point 8 (SP8) was to be located in the mail room of the lobby however we could not penetrate the slab with a 3 foot long drill bit. We attempted to drill 2 other holes in the lobby area, one below the stairs and one in walkway, we could not penetrate the slab at either location.

5.1.8. Suction Point 9

Suction Point 9 (SP9) was located near the front of the Lemons and Olives tenant space. The purpose of this suction point was to evaluate the ROI produced from full-scale suction points in this building area and to check the results of SP4. The primary sub slab fill encountered was loose sandy soils, more typically of the rest of the building. An ROI of 15 feet at an applied vacuum of 1 "w.c. and a 60cfm airflow yield was measured. For full results see Data Table 9.

5.2. Collective Analysis

The full-scale SSDS design was developed by using the diagnostic test results to produce a map that projects the estimated ROIs around suction points installed in locations that cover the areas of concern. The SSDS suction point ROI was estimated by examining the vacuum data measured during the diagnostic survey at nearby test points. The required system operating vacuums were determined by using values measured at the diagnostic head and the SSPs, along with performance tables for the Sub Slab Diagnostic Vacuum.

In general, when selecting the full-scale blowers, the vacuum measured at the SP is used as the system design target when it is more than 10 times greater than the SSP vacuum. The SSP vacuum is used as the target when the SP vacuum is less than 5 times the SSP vacuum. Professional judgment and experience is used to determine required system vacuum when diagnostic testing results are between the above two ranges. Except for minor anomalies these buildings presented relatively homogenous soils resulting in ROIs ranging from 15-20 feet, at moderately applied

vacuums.

5.3. Proposed Sub Slab Depressuri ation System Configurations

4 mitigation systems and 22 suction points are being proposed to depressurize the entire commercial area of the building, the residential common areas (except for the lobby) and the vacant space on the east end of the building. The proposed areas to be depressurized are shown on the attached drawings. The following blower configurations are being proposed. The blowers are fully tunable and will be tuned for optimal vacuum coverage and maximum efficiency during the commissioning.

System #	Fan Type	# of suction points
1	GBR89	6
2	GBR89	6
3	GBR89	5
4	GBR89	5

6. Mitigation System Components

.1. System Blowers

Blowers will be installed on the roof of the building. Blowers will be installed on Obar roof mounts with rubber roof blocks. Blower exhausts will terminate 10 feet from any intake or opening into the building they are not at least 2 feet above.

.2. Suction Points

Suction points will be installed by coring 3 ½ inch holes through the slab and excavating sub slab material. The soil will be containerized for testing and disposal, testing and disposal is to be handled by others, it is estimated that 3 55-gallon drums will be required. Suction points will be back filled with crushed stone following clean out.

.3. System Piping

All system piping and fittings within the building will be 2 and 3 cast iron pipe with no hub cast iron fittings. Overhead piping will be installed in the locations shown on the attached drawing. All overhead piping will be installed as high as possible (above drop ceilings where applicable) within the building and without the possibility of water traps. All overhead piping must have pitch back to suction points in order to drain condensation. Each suction point will have a vertical riser pipe that connects into the overhead piping. Vertical riser pipes will be secured to the wall and concreted into the slab. Cut sheets for the pipe and fittings are attached.

.4. Ball alves

Each suction point riser will be fitted with a ball valve for balancing system airflow. The cut sheet for the ball valve is attached.

.5. Pipe Hangers

All pipes will be supported according to local code requirements. Overhead pipe will be secured with threaded rod, and swivel loop hangers. Vertical pipe will be secured to the walls with strut, strut clamps, and metal pipe straps. Cut sheets for acceptable pipe hanging hardware are attached.

. . Test Ports

Sub Slab test ports will be installed within the system's radius of influence to confirm sub slab vacuum. Approximately 12 permanent sub slab test ports will be installed throughout the building. Riser test ports will be installed in each riser pipe for vacuum and airflow sampling.

. . Electrical

All electrical work will be performed by a licensed electrician in accordance with all state and local codes. The fans will required 220 volts and must be on dedicated breakers.

.8. Alarm Panel and Gauges

The system's alarm panel will feature Magnehelic vacuum gauges for each of the blower systems. The panel will also have a red light that will illuminate and an audible alarm that will sound in case of a system failure. If desired, remote monitoring can be installed that provides various levels of detail.

.9. Sealing

There are two pits measuring 4'x3' and 2'x2' in the gas meter room of the residential building that require sealing. The bottom of the pits will be capped with concrete to prevent vapor intrusion through the exposed soil.

.10. System Labels

All exposed system piping will be labeled with a sticker indicating that the system is a vapor intrusion mitigation system. A sticker with the contact information of the installer will be located on the alarm panel.

.11. Permits

Building and electrical permits will be filed for prior to installing the SSDS. The associated permit costs will be added to the final system cost.

7. Post Installation

.1. As Built Drawings

As-built drawings will be provided that show system locations, the monitoring and alarm location, and sub-slab vacuum monitoring test port locations.

.2. System Start Up and Commissioning

Upon system start up the mitigation fans will be tuned for optimal efficiency. The systems' applied vacuum and airflow will be measured and reported. The sub slab pressure differentials at the permanent test ports will be measured and reported. A commissioning report that includes; commissioning data, operations and maintenance procedures, and as built drawings will be prepared and submitted.

8. Logistics

Interior work to be done off hours in the commercial spaces. Sheetrock and finishing work for SPs# 1-1, 1-2, and 1-3 to be performed by others.

9. Costs

Installation of Systems #1 and #2 and sealing of open pits in the residential building: **64,700.00**

Installation of Systems #3 and #4 : **58,600.00**

Permit costs are excluded and will be added to the final cost.

10. Warranty

OBAR Systems guarantees that all systems designed and installed by OBAR Systems will meet a sub-slab pressure differential of -0.004 "w.c. (as initially indicated in the diagnostic proposal) for one year from the date of installation.

Suction Point # :	SP1				
Location / Description :	Sessions (main slab)				
Soil Description	Sandy soils with rubble				
Temperature :	47°F				
Weather :	Clear				
Background ΔP :	-0.0006				
	Distance (ft.)	**Series 1**	**Series 2**	**Series 3**	**Max**
Airflow Yield (cfm)		60	80	45	95
Applied Vacuum ("w.c.)		3.9	6	2.3	8
SSP 1 (1' from applied)		1.3	1.9	0.86	2.5
TP-1	10	Metal below slab			
TP-2	20	0.01	0.012	0.008	
TP-16	6	Not measured		1.06	

Test Point data is reported in inches of water column.
All pressure values negative unless indicated otherwise.
BG: Background
N/A: Could not penetrate slab

Suction Point # :	SP2			
Location / Description :	Sessions (lower slab)			
Soil Description	Loose sandy soils and cinders			
Temperature :	47°F			
Weather :	Clear			
Background ΔP :	+0.0017			
	Distance (ft.)	**Series 1**	**Series 2**	**Max**
Airflow Yield (cfm)		15	8	22
Applied Vacuum (''w.c.)		30	10	50
SSP 1 (1' from applied)		5	1.8	7.6
TP-3	14	0.053	0.013	
TP-4	17	0.04	0.01	

Test Point data is reported in inches of water column.
All pressure values negative unless indicated otherwise.
BG: Background
N/A: Could not penetrate slab

Suction Point # :	SP3			
Location / Description :	Sword Smith (lower slab)			
Soil Description	compacted brown dirt			
Temperature :	46°F			
Weather :	Clear			
Background ΔP :	+0.0009			
	Distance (ft.)	**Series 1**	**Series 2**	**Max**
Airflow Yield (cfm)		25	10	35
Applied Vacuum (''w.c.)		30	10	44
SSP 1 (1' from applied)		7	3	10
TP-5	10	0.3	0.1344	
TP-6	20	0.03	0.016	

Test Point data is reported in inches of water column.
All pressure values negative unless indicated otherwise.
BG: Background
N/A: Could not penetrate slab

Suction Point # :	SP4			
Location / Description :	Lemons and Olives (near kitchen)			
Soil Description	Tight sandy soils			
Temperature :	46°F			
Weather :	Clear			
Background ΔP :	+0.049			
	Distance (ft.)	**Series 1**	**Series 2**	**Max**
Airflow Yield (cfm)		30	30	45
Applied Vacuum (''w.c.)		20	20	40
SSP 1 (1' from applied)		2.6	2.6	3.6
TP-7	10	BG	0.003	
TP-8	20	BG	BG	
TP-9	20	BG	BG	
TP-10	5	BG	0.25	
TP-11	8	BG	0.009	
HVAC Status		On	Off	

Test Point data is reported in inches of water column.
All pressure values negative unless indicated otherwise.
BG: Background
N/A: Could not penetrate slab

Suction Point # :	SP5		
Location / Description :	Vacant Space		
Soil Description	Loose sandy soils		
Temperature :	46°F		
Weather :	Clear		
Background ΔP :	+0.001		
	Distance (ft.)	**Series 1**	**Max**
Airflow Yield (cfm)		30	45
Applied Vacuum (''w.c.)		30	42
SSP 1 (1' from applied)		2.5	3.5
TP-12	10	0.03	
TP-13	20	BG	
TP-14	10	0.2147	
TP-15	15	0.004	
TP-16	15	4	
TP-17	13	0.002	

Test Point data is reported in inches of water column.
All pressure values negative unless indicated otherwise.
BG: Background
N/A: Could not penetrate slab

Suction Point # :	SP6			
Location / Description :	Electric Meter Room			
Soil Description	Loose sandy soils			
Temperature :	46°F			
Weather :	Overcast			
Background ΔP :	+0.003			
	Distance (ft.)	**Series 1**	**Series 2**	**Max**
Airflow Yield (cfm)		90	60	100
Applied Vacuum (''w.c.)		24	1.1	3
SSP 1 (1' from applied)		0.02	0.01	0.02
TP-15	14	0.01	0.007	
TP-14	26	0.003	BG	
TP-18	20	0.008	0.006	

Test Point data is reported in inches of water column.
All pressure values negative unless indicated otherwise.
BG: Background
N/A: Could not penetrate slab

Suction Point # :	SP7		
Location / Description :	Central storage room		
Soil Description	Loose sandy soils		
Temperature :	50°F		
Weather :	Clear		
Background ΔP :	+0.0001		
	Distance (ft.)	**Series 1**	**Max**
Airflow Yield (cfm)		65	80
Applied Vacuum (''w.c.)		12	17
SSP 1 (1' from applied)		3	4
TP-19	15	0.015	
TP-20	8	0.052	
TP-21	15	0.012	
TP-22	15	0.0061	Apartment

Test Point data is reported in inches of water column.
All pressure values negative unless indicated otherwise.
BG: Background
N/A: Could not penetrate slab

Suction Point # :	SP8			
Location / Description :	Upper Lobby			
Soil Description	Can't penetrate slab 27"			
Temperature :	46°F			
Weather :	Overcast			
Background ΔP :	N/A			
	Distance (ft.)	**Series 1**	**Series 2**	**Max**
Airflow Yield (cfm)				
Applied Vacuum (''w.c.)				
SSP 1 (1' from applied)				
TP-23	Can't penetrate			

Test Point data is reported in inches of water column.
All pressure values negative unless indicated otherwise.
BG: Background
N/A: Could not penetrate slab

Suction Point # :	SP9			
Location / Description :	Lemon and olives (front)			
Soil Description	Loose sandy soils			
Temperature :	52°F			
Weather :	Clear			
Background ΔP :	-0.004			
	Distance (ft.)	**Series 1**	**Series 2**	**Max**
Airflow Yield (cfm)		80	60	110
Applied Vacuum (''w.c.)		1.08	0.86	2.8
SSP 1 (1' from applied)		0.04	0.035	0.05
TP-23	12	0.0085	0.0062	
TP-24	10	0.0071	0.0053	
TP-25	15	0.005	0.004	

Test Point data is reported in inches of water column.
All pressure values negative unless indicated otherwise.
BG: Background
N/A: Could not penetrate slab

DRAFT

LEGEND:

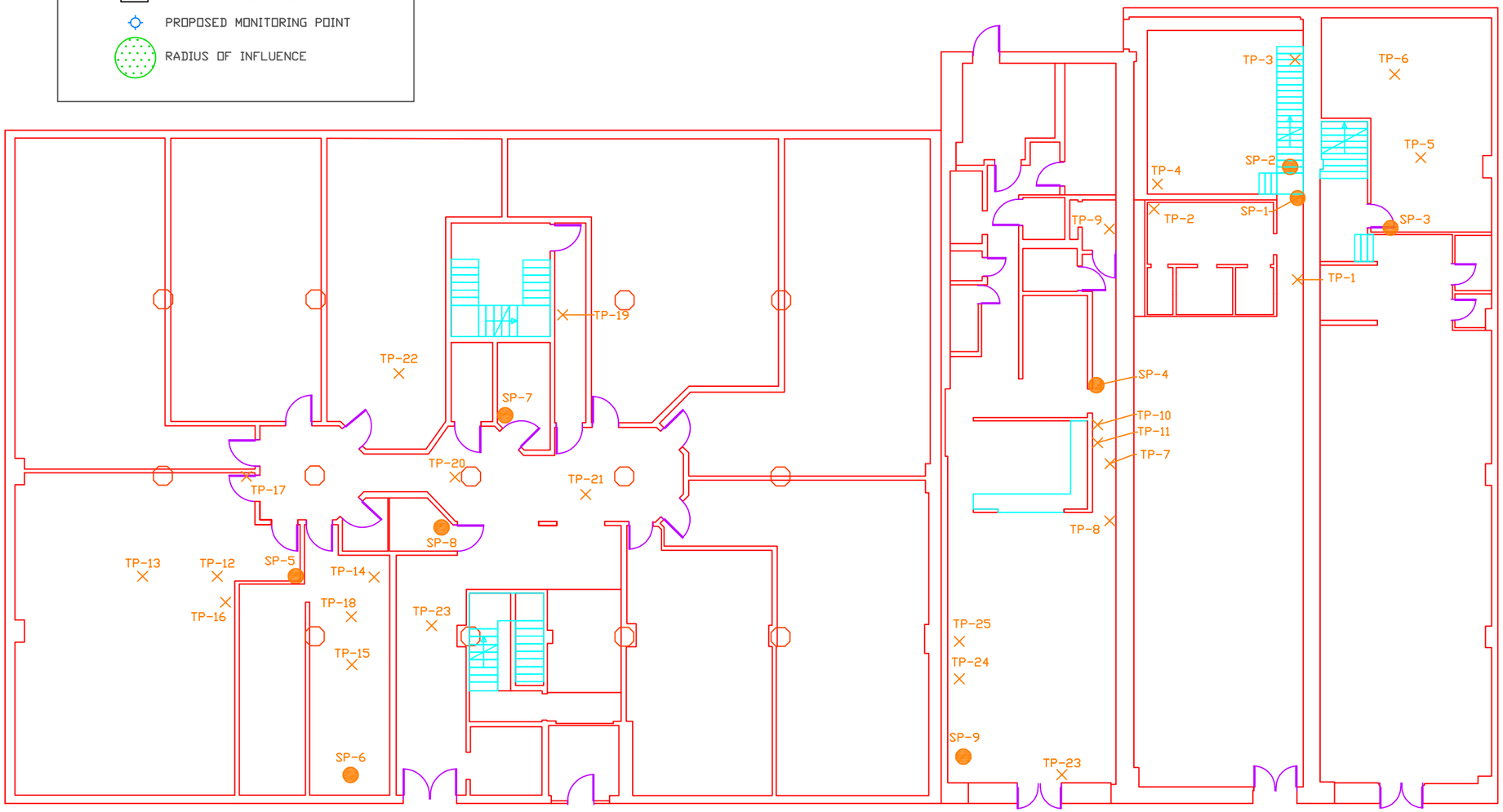
DIAGNOSTICS

- 2" DIAGNOSTIC SUCTION POINT
- TEST HOLE LOCATION

INSTALLATION

- 3" SUCTION POINT
- OVERHEAD CAST IRON PIPE
- ROOF MOUNTED MITIGATION FAN
- PROPOSED MONITORING POINT
- RADIUS OF INFLUENCE

Scale: 1" = 16'



General Notes

No.	Revision/Issue	Date
1	Original	

Firm Name and Address
OBAR SYSTEMS, INC.
2969 NJ 23, Newfoundland, NJ, 07435

Project Name and Address
98-100 South 4th Street,
Brooklyn, NY

Sheet Name	Sheet #
Diagnostic Data	SSD-1
Date: 4/9/2019	

DRAFT

LEGEND:

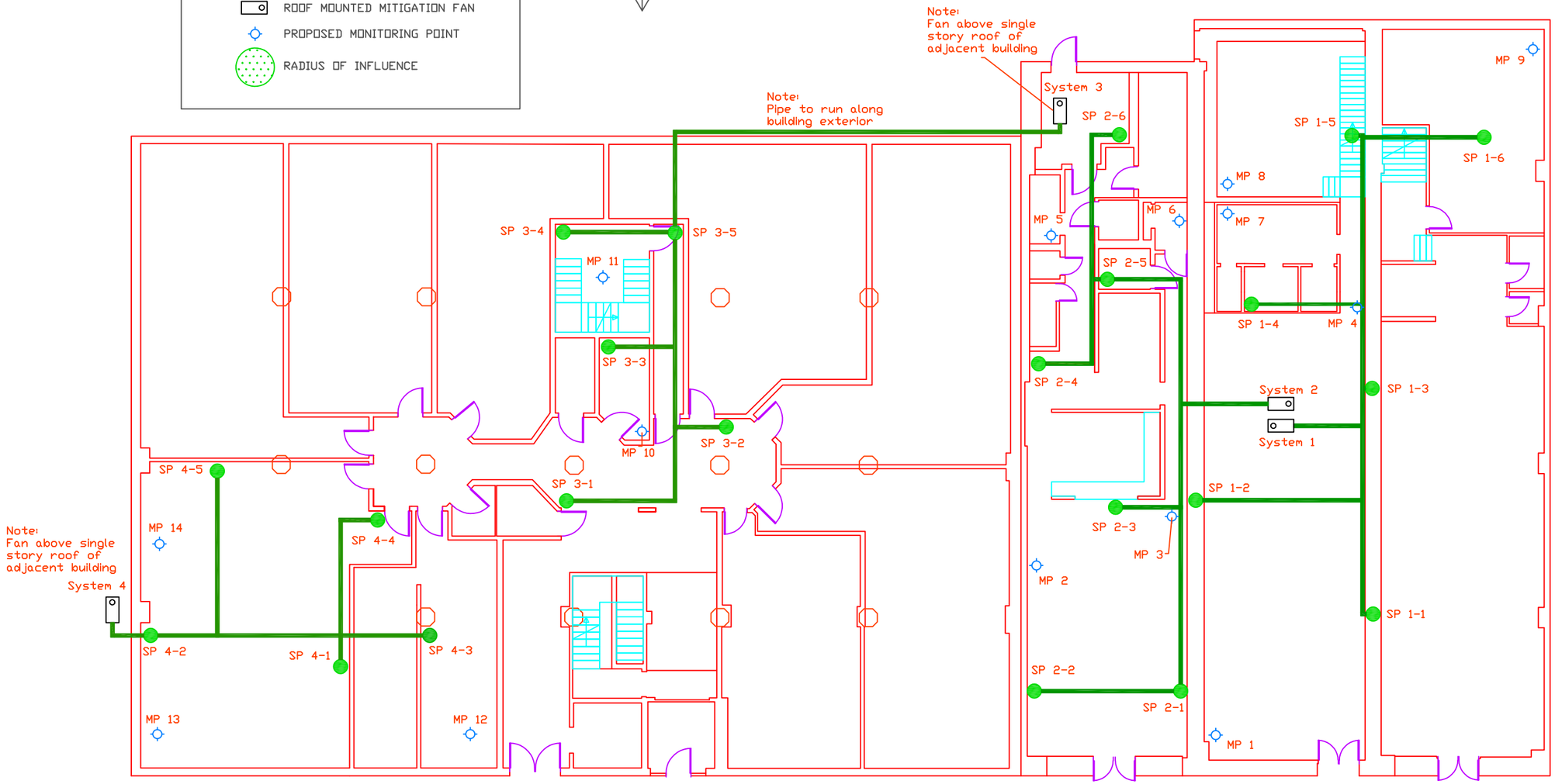
DIAGNOSTICS

- 2" DIAGNOSTIC SUCTION POINT
- TEST HOLE LOCATION

INSTALLATION

- 3" SUCTION POINT
- OVERHEAD CAST IRON PIPE
- ROOF MOUNTED MITIGATION FAN
- PROPOSED MONITORING POINT
- RADIUS OF INFLUENCE

Scale: 1" = 16'



General Notes

No.	Revision/Issue	Date
1	Original	

Firm Name and Address

OBAR SYSTEMS, INC.
2969 NJ 23, Newfoundland, NJ, 07435

Project Name and Address

98-100 South 4th Street, Brooklyn, NY

Sheet Name	Sheet #
System Layout	SSD-2
Date: 4/10/2019	

LEGEND:

DIAGNOSTICS

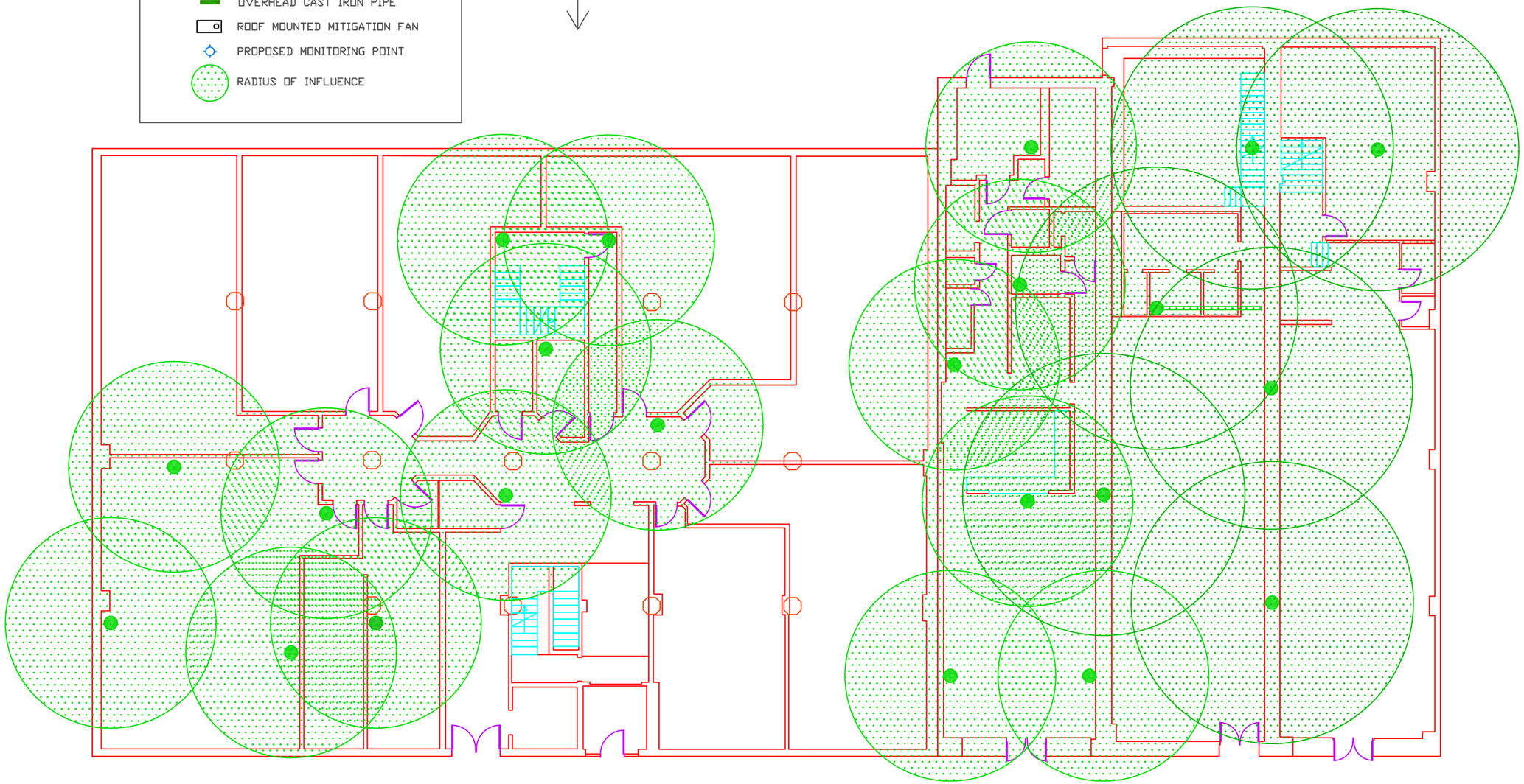
- 2" DIAGNOSTIC SUCTION POINT
- TEST HOLE LOCATION

INSTALLATION

- 3" SUCTION POINT
- OVERHEAD CAST IRON PIPE
- ROOF MOUNTED MITIGATION FAN
- PROPOSED MONITORING POINT
- RADIUS OF INFLUENCE

DRAFT

Scale: 1" = 16'



General Notes

No.	Revision/Issue	Date
1	Original	

Firm Name and Address

OBAR SYSTEMS, INC.
2969 NJ 23, Newfoundland, NJ, 07435

Project Name and Address

98-100 South 4th Street,
Brooklyn, NY

Sheet Name	Sheet #
Radius of Influence	SSD-3
Date: 4/10/2019	

IRM Work Plan

Appendix C

IMPACT, Soil Vapor Intrusion
Remedial Investigation (SVI RI),
August 2, 2021

IMPACT ENVIRONMENTAL
170 Keyland Court
Bohemia, New York 11716
TEL: (631) 268-8800
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SOIL VAPOR INTRUSION REMEDIAL INVESTIGATION REPORT

Brownfield Cleanup Program

August 2, 2021

Submitted for:

Former El Puente Site
98, 100, and 104 South 4th Street
Brooklyn, NY

Block: 2443 Lot: 13
NYSDEC BCP Site Number C224260

Prepared for:

100 S 4th ST LLC
P.O. Box 1606
New York, NY

Submitted to:

New York State Department of Environmental Protection
Division of Environmental Remediation
47-40 21st Street
Long Island City, NY 11101

Project Number:
13817

IMPACT ENVIRONMENTAL | 170 Keyland Court | Bohemia | New York | 11716 | 631.269.8800

TABLE OF CONTENTS

FIGURES

Figure 1: Site Conceptual Model

PLATES

Plate 1: Site Location Map

Plate 2: Site Area Map

Plate 3: Site Topographic Map

Plate 4: Site Plan

Plate 5: Soil Sample Location Plan, Collected 1997 & 1999

Plate 6: Groundwater Sample Plan, Collected 1997

Plate 7: Soil Vapor and Air Sample Location Plan, Collected 2019

Plate 8: Site Plan with AOCs

Plate 9: SVI Sample Point Locations

Plate 10: SVI Sample Analysis NYSDOH Exceedances

Plate 11: Soil Vapor Investigation Decision Matrices Results Map

TABLES

APPENDICES

LIST OF ACRONYMS

Acronym	Definition
AGV	Air Guidance Value
AOC	Area of Concern
ASTM	American Society for Testing and Materials
AST	Aboveground Storage Tank
AWQS	Ambient Water Quality Standards
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
fbg	feet below grade
CAMP	Community Air Monitoring Program
COC	Contaminant of Concern
CVOC	Chlorinated Volatile Organic Compound
DNAPL	Dense Non-Aqueous Phase Liquid
DO	Dissolved Oxygen
DUSR	Data Usability Summary Report
EDD	Electronic data deliverable
EDR	Environmental Data Resources
ELAP	Environmental Laboratory Approval Program
EM	Electromagnetic
EPA	United Stated Environmental Protection Agency
ESA	Environmental Site Assessment
ESI	Environmental Site Investigation
FINDS	Facility Index System/Facility Registry System
FWRIA	Fish and Wildlife Resources Impact Analysis
GPR	Ground Penetrating Radar
HASP	Health and Safety Plan
IDW	Investigation Derived Waste
LNAPL	Light Non-Aqueous Phase Liquid
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NYCRR	New York Codes, Rules, and Regulations
NYSDOH	New York State Department of Health
NYSDEC	New York State Department of Environmental Conservation
NYSDOT	Department of Transportation
NTU	Nephelometric Turbidity Units
ORP	Oxidation-Reduction Potential
PAH	Polycyclic Aromatic Hydrocarbon

Acronym	Definition
PBS	Petroleum Bulk Storage
PCB	Polychlorinated Biphenyls
PCE	Tetrachloroethene
PID	Photoionization Detector
PPE	Personal Protective Equipment
ppm	Parts per million
ppm_v	Parts per million by volume
PVC	Polyvinyl Chloride
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Conditions
RI	Remedial Investigation
RIR	Remedial Investigation Report
RIWP	Remedial Investigation Work Plan
RL	Reporting Limit
SCO	Soil Cleanup Objective
SSDS	Sub Slab Depressurization System
SMP	Soil Management Plan
SQG	Small Quantity Generator
SVOC	Semi Volatile Organic Compound
TAL	Target Analyte List
TCA	Trichloroethane
TCE	Trichloroethene
TCL	Target Compound List
TOGS	Technical and Operational Guidance Series
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compound

CERTIFICATION

I, Kevin Kleaka, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Soil Vapor Intrusion Remedial Investigation Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.

8/2/21

Kevin Kleaka, Qualified Environmental Professional

1 INTRODUCTION

Impact Environmental Closures, Inc. (IEC) was retained by 100 S 4th St LLC (the "Volunteer") to complete a Soil Vapor Intrusion (SVI) Remedial Investigation (RI) and prepare this SVI Remedial Investigation Report (RIR) for the property located at 98, 100, and 104 South 4th Street, Brooklyn, New York (the "Site"). A Site Location Map is provided as **Plate 1**. The Volunteer was accepted into the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) under a NYSDEC Brownfield Cleanup Agreement (BCA), dated June 23, 2020, for Site No. C 224260.

1.1 Purpose and Scope

This SVI RIR presents environmental data and findings from the SVI RI from March 10th through March 12th and in substantial accordance with the Remedial Investigation Work Plan (RIWP) approved by NYSDEC on January 19, 2021. Based on communications with the department, it was agreed that the Soil Vapor Intrusion (SVI) portion of the approved RIWP would be conducted initially, to conform to, and occur within the New York State Department of Health (NYSDOH) designated heating season. The objective of this SVI RI was to determine, to the extent possible, the nature and extent of contamination in soil vapor, indoor air, and ambient outdoor air. Information presented in this SVI RIR will be used, along with the remainder of the proposed RI, to evaluate appropriate remedial action alternatives.

The scope of work proposed for this SVI RI included the following: 1) installation of nine (9) permanent sub-slab soil vapor sampling points and collection of soil vapor samples; 2) collection of twelve (12) indoor air samples, and 3) the collection of one (1) ambient outdoor air sample.

The investigative protocols used for this assessment were based, in part, upon the following document: 1) the New York State Department of Health (NYSDOH) Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006, and the subsequent updates. Presented herein are the results of the SVI RI conducted by IEC on the Site.

2 SITE CHARACTERISTICS

2.1 Site Description

The Site is situated on the south side of South 4th Street between Bedford Avenue and Berry Street in the Greenpoint neighborhood of Brooklyn, New York. The Site consists of a single parcel of land assigned New York City Tax Map Designation: Section 2, Block 2443, and Lot 13, and is in an area primarily comprised of residential and commercial properties within a historically industrial area (refer to **Plate 2**). The Site is located in a mixed-use district with an M1-2/R6 and MX-8 zoning designation. Based on review of sixty-five (65) historical New York City Zoning Maps covering the Site area from December 1961 through December 2018, the Site has had an M1-2/R6 zoning designation without residential overlays since March 2006, prior to which it was historically zoned M1-1. The NYC department of City Planning describes the M1—2/R6 designation as developed in built-up medium density areas consisting of multi-story lofts in districts that typically include light industrial uses and the MX-8 designation as one of mixed-use.

2.1.1 Site Conditions

The Site is currently developed with three (3) adjoining buildings: a multi-story structure made up of a 6-story, primarily residential structure in the center with a partial sub-grade cellar (100 South 4th Street) flanked by two (2) smaller 1-story structures (98 South 4th Street and 104 South 4th Street), with 98 South 4th Street also containing a partial sub-grade cellar. The three buildings have a combined footprint of approximately 21,500 square feet (SF). Aside from narrow concrete paved patios on the south side of 98 South 4th Street and 104 South 4th Street, and a narrow light and air easement on the south side of 100 South 4th Street, the surface area of the site is covered entirely by the footprint of the buildings.

The buildings currently receive electrical and natural gas service from Con Edison and National Grid respectively, potable water from the New York City (NYC) municipal water system, while sanitary waste is reportedly handled by the NYC municipal public sanitary sewer system. Storm water runoff for the Site is handled via the municipal storm water drainage system located along South 4th Street.

2.1.2 Description of Surrounding Properties

The surrounding land parcels have a combination of residential and commercial uses. The Site is bordered to the north by South 4th Street and several three and five story residential buildings, to the east by a four-story residential apartment building with a commercial first floor, to the south by a multi-story residential

apartment building and a multi-story office building, and to the west by a concrete paved driveway, one four-story residential apartment building and one three-story residential home.

2.2 Physical Setting of the Site

2.2.1 Topography

The Site is located within the Atlantic Coastal Plain Physiographic Provence. The elevation of the Site, as presented on the United States Geologic Survey (USGS), Brooklyn Quadrangle Map, is approximately 50 feet above mean sea level (amsl). The Site Topographic Map is included as **Plate 3** and indicates the Site area has relatively flat topography. The nearest surface water body to the Site is East River (which feeds into Upper Bay), located approximately 0.28 miles (or 1,410 feet) to the west-northwest.

2.2.2 Regional Geology and Hydrogeology

Brooklyn is located in the western portion of Long Island, New York. Long Island consists of a wedge-shaped mass of un-consolidated deposits that overlie ancient basement rock. The thickness of these deposits range from approximately 100 feet on the Island's north shore to approximately 2,000 feet in some portions of the south shore. These deposits contain groundwater that is a key source of drinking water for the Island's over 3.1 million residents. The major land-forms of Long Island of importance to the hydrologic system are the moraines and outwash plains, which originated from glacial activity. The moraines represent the farthest extent of the glacial advances. The moraines consist of till, which is a poorly sorted mixture of sand, silt, clay, gravel and boulders. The till is poor to moderately permeable in most areas. Outwash plains are located to the south of the moraines. The outwash plains were formed by the action of glacial melt water streams, which eroded the headland material of the moraines and laid down deposits of well-sorted sands, silts and gravels. These outwash deposits have a moderate to high permeability.

Based upon the topographic map (USGS – Brooklyn Quadrangle) and proximity to the East River, regional groundwater flow direction is presumed to be west to southwest. It should be noted that there may be localized variations in subsurface hydrology created by sewers, wells and other anthropogenic structures. Hydrologic conditions in the vicinity of the Site may be subject to variations in seasonal precipitation and geological conditions not evident during review of publicly available records. An accurate determination of groundwater depth and flow at the Site requires a site-specific ground-water study.

The topographic map indicates the Site elevation is approximately 50 feet amsl (above mean sea level). The “USGS Groundwater Conditions on Long Island” map indicates that groundwater below the Site is

situated at less than 5 feet amsl. Thus, the estimated regional groundwater elevation at the Site is approximately 45-49 feet below grade surface (bgs).

2.2.3 Site Specific Geology and Hydrogeology

Based on NYSDEC records, obtained by IEC, soil borings conducted in 1996 at the Site identified fill materials to a depth of approximately 7 feet below grade from the first floor of 98 S. 4th St and to a depth of approximately 6 feet below the basement floor of 100 S. 4th St. Beneath the surface fill layer is sand and silt to a depth of at least 17 feet below grade. These previous borings also identified groundwater at approximately 17 feet bgs, contrary to information provided on the USGS Groundwater Conditions map.

3 SITE BACKGROUND

The Site buildings are currently occupied. The westernmost building, 98 South 4th Street is a one-story building comprised of three individual retail spaces (a, b, and c). 98a is occupied by a catering facility, 98b is occupied by a CrossFit gym, and 98c is currently vacant. 100 South 4th Street is a 7-story building currently utilized as a residential apartment building. Finally, 104 South 4th Street is a one story building currently occupied by a bar/restaurant (see **Plate 4 – Site Plan**). The following sections describe the historical Site use, the findings from previous environmental investigations completed by IEC and others for the Site, and a summary of the identified areas of concern (AOCs).

3.1 Historical Site Use

Through review of historical records, New York City records, NYC databases and environmental databases for the Site, the following is a summary of the information identified:

- The Site was originally developed with small residential structures from circa 1887 through to circa 1904, at which point a large portion of the Site was developed with a large multi-story building occupied by “Gretsch Musical Instruments”.
- Circa 1918, the large multi-story building was reportedly occupied by “Interstate Electric Novelty Co.”
- Circa 1935, the large building was reportedly occupied by “Celluloid Works”, with a smaller building on the east side of the property being occupied by “Dyeing”. At this time, the western portion of the Site was unoccupied.
- Circa 1945, the large building was reportedly occupied by “Slomowitz Upholstery Supply.”
- Circa 1947, the small building on the eastern portion of the Site was labelled as “Dyeing and Cleaning”.
- In 1949, a Certificate of Occupancy (CO) was issued for a new building on Block 2443, Lot 13, to be used as an “Adhesives Manufacturing” factory.
- Circa 1950, the three (3) onsite buildings were labelled as “Factories”.
- Circa 1976, the eastern smaller building was listed as being occupied by “Rainbow Pigment Co.”
- Between 1977 and 2007, the two western buildings were reportedly occupied by “Factories”, while the eastern building was occupied by a “warehouse”.
- In 2007, a CO was issued for the 7-story building, to be altered for use as a 74-unit residential apartment building.

3.2 Proposed Site Redevelopment Plan

100 S 4th St LLC is not proposing any alterations to the current building layout or usage. The building will remain as is.

3.3 Previous Investigations

Please refer to **Plates 5, 6, and 7** for Previous Investigation sample locations.

Ecosystems Strategies, Inc. Summary Report of Phase II Environmental Services Dated January 23, 1997

This report provides a summary of Phase II Environmental Services completed at the Site in December 1996 with some previous site investigation information.

- At least three environmental investigations were conducted at the Site since 1992 which include an Order of Compliance and a Technical Report issued by the New York City Department of Environmental Protection (NYCDEP) for the Gamin Laboratories, Inc. facility in 1991; an Environmental Site Assessment prepared on a portion of the subject property by Soil Mechanics Environmental Services in 1994; and a Phase I Environmental Audit prepared on the subject property by Ecosystems Strategies, Inc. in 1996.
- The Phase I Audit identified the one-story structure located on the western portion of the subject property (98-102 South 4th Street) as recently occupied by a glue and adhesives factory (Van-Man Adhesives) and the seven-story structure located on the central portion of the property (104-114 South 4th Street) was partially occupied by a former electroplating laboratory (Gamin Laboratories, Inc.).
- The Order of Compliance and a Technical Report issued by the NYCDEP Division of Hazardous Materials Management identified presence of "... a release or substantial threat of a release of hazardous substances (abandoned electroplating solutions) on the second floor of the seven-story structure previously occupied by Gamin Laboratories, Inc. An Order of Compliance was issued by the New York City Department of Environmental Protection (NYCDEP) in 1992 that included provisions for the clean-up, treatment and disposal of all abandoned hazardous materials present within the Gamin Laboratories, Inc. facility by February 14, 1992. Based on observations made during the November 1996 site inspection performed by Ecosystems Strategies, Inc. this work was never completed by Camin Laboratories, Inc. A preliminary survey of the abandoned Gamin facility including sampling of suspected hazardous substances was conducted by the NYCDEP as part of the 1992 Technical Re-port. This preliminary survey identified the presence of sixteen open chemical

vessels and numerous bottles and boxes of chemicals; sampling of liquids within the reaction vessels identified the liquids to be acidic. An inventory of all hazardous substances present within this facility was conducted by the NYCDEP; this inventory was not included in documents provided by the Pratt Institute. The NYCDEP concluded in 1992 that the subject property should be considered a potential environmental and human health hazard."

- The Environmental Site Assessment prepared on a portion of the Site by Soil Mechanics Environmental Services ("Soil Mechanics") in September 1994 identified the following conditions "with respect to the interior of the on-site seven-story building: miscellaneous debris (including household trash); an abandoned automobile and automobile parts; several unlabeled, empty 55 and 30 gallon drums and one cylinder of compressed gas; numerous 55 and 30 gallon metal and plastic drums, a one-gallon drum labeled "Sulfuric Acid"; large fiberglass and metal vats containing an unidentified liquid, and oil-like staining in the laboratory area; indications of major flooding; and evidence of peeling/flaking paint. Due to identified on-site environmental conditions which have the potential to represent a potential liability, Soil Mechanics recommended that additional investigative and remedial action be conducted on the subject property including the installation of two monitoring wells. Ac-cording to available information, no monitoring wells are known to have been installed on the subject property and none of the recommended investigative work is known to have been performed."
- Ecosystems Strategies supervised "the extension of two (2) borings within the former glue factory (Building #3) to determine the presence or absence of subgrade soil and/or groundwater contamination as a result of historic on-site operations and/or current conditions." Chlorinated solvents were identified within the 0-2-foot interval of B-1 where 170 micrograms per kilogram (µg/kg) of tetrachloroethane and 560 µg/kg of trichloroethane were detected which were below the NYSDEC standards applicable at the time. However, compared to the cur-rent Protection of Groundwater (PGW) SCOs, PCE was below the 1,300 µg/kg SCO, while TCE was above the 470 µg/kg SCO. No chlorinated Volatile Organic Compounds (cVOCs) were detected in the 15-17-foot interval. Laboratory analysis of the sample collected from the 0-2-foot interval in B-2 identified the presence of elevated levels of chlorinated solvents: tetrachloroethane 5,500 µg/kg and 3,700 µg/kg of trichloroethane which was above the standard applicable at the time, and above the current PGW SCOs. Elevated concentrations of PAHs were also detected. Other VOCs were also detected. No detectable concentrations of trichloroethane or tetrachloroethane were identified in samples collected from 5-7 feet below grade or from 12-14 feet below grade. Available laboratory data

generated to date suggest that the vertical extent of contamination extends along the surface soils beneath the concrete floor to a depth of approximately 2 feet below grade; however, contaminated soils may extend to depths of at least 4 feet below grade.

- Observations made during the site inspection indicate the presence two (2) 10,000-gallon vaulted tanks within a vaulted area located beneath Building #3 and two (2) 275-gallon aboveground storage tanks (ASTs) located within Building #3.

Other areas were investigated which included standing water in abandoned chemical vats, standing water in the boil room, asbestos and lead in paint. Additional investigation was recommended.

Ecosystems Strategies, Inc. Summary Report of Subsurface Investigation Dated April 7, 1997

- On March 31,1997 Ecosystems Strategies, Inc. personnel supervised the extension of three (3) borings within the former glue factory to determine the lateral and vertical extent of subgrade soil contamination. Laboratory analysis identified 1,100 parts per billion (ppb) of trichloroethene in B-4 at 6" to 2'6" below grade, above the current PGW SCOs of 470 µg/kg. Laboratory analysis of soil collected from the 4'6" to 6'6" interval and the 8'6" to 10'6" interval identified low levels of these two compounds at concentrations below NYSDEC-designated action levels. No detectable concentrations of these compounds were present in soil collected at depths greater than 12 feet below grade.
- "B-6, B-7, B-8 and B-9 were advanced in the basement of Building #2. Laboratory analysis of the samples collected from the 6" to 2'6" interval identified the presence of the low levels of tetrachloroethene in B-8 and low levels of trichloroethene in B-6 and B-8. Specifically, 3 ppb and 24 ppb of trichloroethene were detected in B-6 and B-8, respectively and 6 ppb of tetrachloroethene was detected in B-8. None of these detected levels are above NYSDEC applicable action levels." These concentrations are below the current PGW SCOs for PCE and TCE.
- "No BTEX compounds (benzene, toluene, ethylbenzene or xylene) were detected in the four (4) borings ex-tended in the basement of Building #2. Laboratory analysis identified the presence of poly aromatic hydrocar-bons (PAHs) in B-6 and B-8; however, only the levels in B-8 were present at concentrations exceeding NYSDEC-designated action levels." No polychlorinated biphenyls (PCBs) were detected.
- "The source of the identified chlorinated solvents and polycyclic aromatic hydrocarbons present in the sub-grade surface soils is unknown. Based on the generally low documented levels of PAHs and

VOCs, it is likely that the compounds present in the subgrade soils are fill related and are not due to any gross release of contaminants. Based on the non-detectable levels of PAHs documented in soils from between 15 and 17 feet below grade in B-1 (likely to be either at or below the invert of the two on-site USTs), it is unlikely that the elevated levels of PAHs identified in the soils are the result of a release of product from either of the two on-site USTs."

- "The documented levels of VOCs and PAHs indicate that remediation or special handling of subsurface soils, other than the surface soils directly beneath the floor of the former glue factory (6" to approximately 3'6" be-low grade), is not warranted. No groundwater sample could be collected from beneath the building; however, the soil data support the conclusion that groundwater has not been impacted by on-site operations and/or conditions."

Ecosystems Strategies, Inc. Final Work Plan for Site Closure Activities Date December 3, 1997

Information contained within this work plan indicated the following:

- Three groundwater monitoring wells installed on the Site were sampled in June and July 1997 to document groundwater quality on and near the Site. Samples collected in June 1997 for initial screening purposes only were not collected in accordance with NYSDEC protocol.
- Data document the presence of low levels of volatile organic compounds, including compounds previously identified in on-site soil. Levels do not indicate significant groundwater contamination and do not support the conclusion that on-site groundwater should be considered a source of off-site contamination at levels warranting remediation.
- Groundwater was determined from surveyed well elevation data and depth-to-water measurement, to be flowing in a northeasterly direction. Groundwater was present between 23 and 25 feet below surface elevation at the site, and groundwater elevations vary between 26.69 feet 27.07 feet.
- Two (2) 10,000-gallon vaulted tanks were located within a vaulted area beneath Building #3 and two (2) 275-gallon aboveground storage tanks (ASTs) are located on the main floor of Building #3. Observations indicate that the two 10,000-gallon tanks were no longer in use and may have been previously closed: the two 275-gallon ASTs are also not in use. Borings conducted on the Site do not document any evidence of petroleum re-leases from the two vaulted tanks.

- Ecosystems Strategies, Inc. Summary Report of Subsurface Investigative Services Date March 26, 1999

- This report provides documentation regarding the presence or absence of subsurface soil contamination on the subject property within the footprint of Building #2. Samples from the previous sampling round indicated no evidence of significant contamination at this Site. The data was considered insufficient by the user to fully characterize the entirety of Building #2, and additional borings and soil sampling was requested.
- Subsurface soil samples were collected from six soil borings designated as B-9 and B-11 to B-12. Trichloroethene was not detected in the shallow soil samples collected from B-11 and B-14 but was detected at low concentrations below the NYSDEC standard ranging from 3 µg/kg to 15 µg/kg (below the NYSDEC PGW SCOs) in shallow soil samples collected from borings B-9, B-12, B-15 and B-16. No VOCs were detected in the deep soil samples.

Nova Consulting Phase I ESA Report, Dated February 16, 2018 with Information from the Don Carlo Phase II Subsurface Investigation and Tank Closure Report Dated April 2006

The Nova Consulting Phase I ESA revealed the following Recognized Environmental Conditions (RECs) and Historic Recognized Environmental Conditions (HRECs) relating to the Property.

- The historical use of the Property for manufacturing purposes and a cleaner / dyer, with subsurface data con-firming release impacts which have not been remediated, and its E-Designation listing were identified as RECs.
- The Property is listed as a former Voluntary Cleanup Site (El Puente at 98-116 South 4th Street) under Site ID V00094. December 2003 correspondence indicates that the NYSDEC terminated the Voluntary Cleanup Agreement W2-0840-99-011 with El Puente de Williamsburg as El Puente de Williamsburg was not successful in acquiring title to the Property. Based on the levels of contamination identified during the investigatory work completed as part of the VCP, this listing is considered a REC in connection with the Property.
- Closed Spill Numbers 8602718 and 9611887 are considered HRECs in connection with the Property. Nova submitted Freedom of Information Request to the NYSDEC for information related to the case on February 1, 2018 and February 13, 2018 and was informed that any information related to the incidents would be made available on or about March 2, 2018 and March 15, 2018, respectively.

Other pertinent information identified in this report indicate the following:

- “The Don Carlo report documented the removal of two (2) 275-gallon “aboveground USTs” and two (2) 10,000-gallon “aboveground USTs” from the western-most building. Elevated levels of SVOCs and

heavy metals were al-so identified by Don Carlo in on-site soils (presumably in the vicinity of the former tanks), with elevated levels of chlorinated solvents also identified in on-site groundwater."

- The Don Carol Report was not provided individually or attached as an appendix to the Nova Consulting Phase I Report, and as such, the exact locations of soil and groundwater sampling and levels of contamination found is not available.

Impact Environmental Closures, Inc. Phase I ESA Report, Dated May 23, 2019

A Phase I ESA Report, dated May 23, 2019, was prepared for the Site by Impact Environmental Closures, Inc. (IEC) to identify recognized environmental conditions associated with the Site. This Assessment revealed the following Recognized Environmental Conditions (RECs), Historical Recognized Environmental Conditions (HRECs), and Business Environ-mental Risks (BERs) relating to the Property.

- Operations at the Site dating back to circa 1997, had a variety of manufacturing uses including an adhesive factory (98 S. 4th St, formerly 98-102 S 4th St); an electroplating operation; a laboratory (Camin Industries); a Sawing, Painting and Varnishing factory (100 S. 4th St, formerly 104-114 S 4th St); and a dye factory (116 S 4th St). Previous environmental investigations in 1997 and 2019 have documented sources of volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs), including the chlorinated-VOCs trichloroethene (TCE) and tetrachloroethene (PCE), in soil and/or soil vapor. Previous data collected indicates VOCs have been detected in groundwater above the applicable regulatory standards. Furthermore, regional groundwater quality has been impacted with VOCs consistent with those detected on the Site. In addition, the southwestern, upgradient, adjacent Site, located at 150 South 5th Street is enrolled in the New York State Brownfields Cleanup Program (BCP site no. C224233) due to exceedances of several contaminants of concern discovered in past subsurface environmental investigations.
- According to the environmental database listing, SVOCs and mercury exceedances were detected in the on-site soils, and TCE and PCE were detected above regulatory standards in groundwater and soil vapor on-site. Volatile chemicals, primarily chlorinated VOCs (TCE and PCE), from this property have the potential to migrate into overlying buildings (and adjacent property buildings) via soil and groundwater. Estimated depth to water is 23 fbg and groundwater flow direction was calculated towards the north/northeast in prior investigations on and off-site. The confirmed soil and groundwater contamination at the Site, and confirmed soil vapor contamination at Site and/or southwest adjacent Site and associated soil vapor intrusion risks, are considered a Recognized Environmental Concern (REC).

- According to the NYSDEC Spill Incident Database, two (2) spill incidents were associated with the Site. Both incidents were mitigated to the satisfaction of the NYSDEC and closed, as discussed below:
    - Spill No. 8602718 – An unknown quantity of # 4 fuel oil was released to the Site soil on July 25, 1986. The cause of the spill is listed as "Abandoned Drums". The spill has a closed status as of July 25, 1986.
    - Spill No. 9611887 – An unknown quantity of #2 fuel oil was released to the Site soil on January 2, 1997. The cause of the spill is listed as "Unknown". The spill has a closed status of March 12, 2013.
- The Site is listed with an E-Designation for Hazardous Materials "E-138", with Phase I and Phase II testing protocols required under the City Environmental Quality Review (CEQR) program. Lots with E-Designations may not be issued a building permit allowing: 1) any development; 2) an enlargement, extension or change of use in-volving residential or community facility use; or 3) any enlargement that disturbs the soil on the lot until the NYC Building Department is provided with a report from NYC Office of Environmental Remediation (OER) or NYC Department of Environmental Protection (DEP) stating that the environmental E-Designation requirements for the lot have been met. This designation is considered a REC given the likely presence of hazardous substances or petroleum products at the Site.

<u>Excel Environmental Resources, Inc. Draft Vapor Intrusion Assessment Report Dated April 2019</u>

The vapor intrusion scope of work performed at the Site included: 1) collection of four (4) sub-slab soil gas samples (two of which were completed in Building No. 2, and one each for Buildings No.1 and No. 3); 2) collection of twelve (12) indoor air samples with eight 24- hour indoor samples in Building No. 2, one 8- hour indoor sample in Building No.1, and three 8 -hour indoor samples in Building No. 3; and 3) collection of one (1) 24- hour ambient air sample at Building No. 2.

- The results from soil vapor/indoor air sampling were compared against the New York State Department of Health (NYSDOH) Guidance for Evaluating Vapor Intrusion in the State of New York dated October 2006, and revealed elevated levels of the following halogenated solvents: Tetrachloroethene (PCE) was detected in one sub-soil gas sample (SS1-1) at 36.8 micrograms per cubic meter (µg/m3), and SS2-1 at 67.8 µg/m3, which are above the NYSDOH Indoor/Outdoor Air Guidance Value of 30 µg/m3 and Trichloroethene (TCE) was detected in soil vapor sample SS2-1 at 336 µg/m3, SS2-2 at 45.8 µg/m3, SS3-1 at 42.2 µg/m3 which is above the NYSDOH In-door/Outdoor

Air Guidance Value of 2 µg/m3. Additionally, Cis-1, 2-dichloroethene was detected in sub-slab soil vapor sample SS3-1 at 3.43 µg/m3, and 1,1,1-Trichloroethane was detected in SS3-1 at 1.81 µg/m3.

- Carbon Tetrachloride (CT), Trichloroethene (TCE), and Tetrachloroethene (PCE) was detected in one indoor air sample IA1-1 at 0.51 µg/m3 ,0.532 µg/m3, and 1.67 µg/m3 in Building No.1. Carbon Tetrachloride (CT) was detected in one indoor air sample IA2-1 at 0.547 µg/m3. In addition, Trichloroethene (TCE), Tetrachloroethene (PCE), and Cis-1, 2-dichloroethene (c-1,2-DCE) was detected in sample IA2-8 at 2.15 µg/m3 ,2.64 µg/m3, and 0.119 µg/m3 in Building No. 2. Carbon Tetrachloride (CT), Trichloroethene (TCE), Tetrachloroethene (PCE), Cis-1, 2-dichloroethene (c-1,2-DCE) and 1,1,1 Trichloroethane (1,1,1- TCA) was detected in IA3-1 at 0.428 µg/m3, 3.98 µg/m3, 4.43 µg/m3, 0.174 µg/m3, and 0.12 µg/m3 in Building No. 3. Carbon Tetrachloride (CT) was detected on one ambient air sample AA-1 at 0.371 µg/m3 behind Building No. 3.

Review of the NYSDOH Decision Matrices, as listed in the Guidance for Evaluating Soil Vapor Intrusion in the State of New York, indicates that based on the concentration of TCE reported in the indoor air and in the sub-slab, the property own-er shall perform mitigation at Buildings No. 2 and 3. Additional diagnostic testing was recommended to obtain information to design a sub-slab depressurization system (SSDS) for installation at the Site.

3.4 Adjacent BCP Site Investigation

The south adjacent property, located at 337 Berry Street and 99-105 South 5th Street, is a NYSDEC Brownfield Cleanup Program (BCP) project (No. C224233). The historical use of the subject property has been for both residential and commercial/government use. Dating back to 1887, the northern portion of the Site has been used for a wagon and auto shed, owned, or operated by the Water Purveyors Bureau and Dept. City Works, storage, and the City of N.Y. Dept. of Correction Garage, and the City of New York Landmark's Preservation Commission Salvage Warehouse. The southern portion of the Site has been used as residential, warehouse, and an auto body shop since 1887. The property is currently owned by the City of New York.

Information available for this property indicates that groundwater is located at approximately 45-feet below grade surface (bgs), and the regional groundwater flow beneath this property was to the west, towards the East River, based on the installation of four (4) monitoring wells in the area during a Remedial Investigation performed by Equity Environmental Engineering LLC in November 2016. Shallow (0-2' bgs) soil samples located along the northern portion of the property showed slightly elevated concentrations of the

Chlorinated VOCs (cVOCs) 1,1,1-trichloroethane (1,1,1-TCA) and trichloroethene (TCE) at concentrations below their respective NYCRR Part 375 Unrestricted Use SCOs. No deeper soil samples were collected for VOC analysis. Concentrations of the cVOCs tetrachloroethylene (PCE) and trichloroethylene (TCE) were detected in groundwater samples collected in the northern portion of the property (MW-1) at a maximum concentration of 71.4 µg/kg and 27.2 µg/kg, respectively. Finally, elevated concentrations of the cVOCs TCE (max of 3,510 µg/m³), PCE (max of 2,870 µg/m³), and 1,1,1-TCA (max of 278 µg/m³) were detected in soil gas samples collected in the northern portion of the property.

The BCP volunteer has completed site remediation and construction at the site. The applicant currently operates a Soil Vapor Extraction (SVE) system along the northern portion of the property, which is now an open parking lot. Moreover, the newly developed 11-story mixed-use residential and commercial building, located on the southern side of the property, was constructed with a vapor barrier engineering control, along with an active Sub-Slab Depressurization System (SSDS).

A Periodic Review Report was prepared by Advanced Cleanup Technologies, Inc (ACT) in May 2019, per the approved site Management Plan (SMP). ACT was retained to perform operation, maintenance, and monitoring of the existing engineering controls at the site. The SVE system reportedly consists of four (4) PVC extraction points that extend 15-feet bgs, with 5-feet of screen. Horizontal piping is located approximately 4-feet bgs, and the piping is connected to a package treatment plant that consists of system controls, extraction monitor, and activated carbon canisters to remove VOCs from the extracted vapor. Per the report, influent and effluent samples were collected from the SVE system on March 11, 2019, and April 30, 2019. Influent concentrations of PCE were noted as 460 µg/m³ in March and 550 µg/m³ in April, while TCE was detected at 320 and 450 µg/m³, 1,1,1-TCA at 18 and 17 µg/m³, and finally Cis-1,2-dichloroethene (cis-1,2) at 5.8 and 15 µg/m³, respectively. Based on this data, it appears that, while the SVE system is running effectively, elevated concentrations of several cVOCs are still present in the subsurface soil vapor at concentrations requiring ongoing remediation.

3.5 Recognized Areas of Concern

Based on the findings of the previous subsurface investigations completed for the Site, as detailed in the previous sections, IEC identified one (1) area of concern (AOC) in the northwest portion of the property, in which cVOCs (PCE and TCE) were detected in shallow soil samples at concentrations exceeding their respective NYCRR Part 375 Protection of Groundwater (PGW) soil cleanup objectives (SCOs). Furthermore,

cVOCs (PCE and TCE) were detected in two (2) offsite groundwater samples collected during previous investigations from the north of the property, and in one (1) onsite groundwater sample collected in from the western portion of the property, at concentrations in excess of their respective NYSDEC Groundwater Quality Standards (GQS). Finally, cVOCs (PCE and TCE) were detected in sub-slab soil vapor and indoor air samples collected during previous investigations, from across the Site, at concentrations requiring either further monitoring or mitigation in accordance with the NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion Decision Matrices. Due to the ability of soil vapors to migrate in any direction, following the path of least resistance, IEC cannot determine the existence or potential geographic extent of an AOC based on the soil vapor and indoor air data.

Refer to **Plate 8** for the **AOCs Site Plan**.

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4 SVI RI FIELD INVESTIGATION

The Soil Vapor Intrusion (SVI) Remedial Investigation scope of work was completed in accordance with the approved RIWP during the period from March 10th through March 12th, 2021. The SVI remedial investigation was completed in general accordance with NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York dated October 2006 and the subsequent updates; and ASTM D7663-12 Standard Practice for Active Soil Gas Sampling in the Vadose Zone for Vapor Intrusion Evaluations (2018).

The following work was completed to investigate and confirm the nature and extent of the soil vapor, indoor air, and ambient outdoor air contaminants detected within the Site boundaries during previous sub-surface investigations. The SVI remedial investigation included the following activities:

- Installation of nine (9) permanent sub-slab soil vapor sampling points; two (2) in each of the four (4) commercial spaces, and one (1) in the residential building.
- Installation of two (2) temporary duplicate sub-slab soil vapor sampling points, proximal to two (2) of the primary sample points, as required by the QA/QC section of the approved RIWP.
- Collection of one soil vapor sample from each soil vapor point for a total of nine (9) soil vapor samples, and two (2) QA/QC duplicate soil vapor samples.
- Collection of 12 indoor air samples; one (1) in each of the four (4) commercial spaces, one (1) in each of the seven (7) ground floor residential apartment units, and one (1) proximal to the elevator shaft.
- Collection of two (2) duplicate indoor air samples, proximal to two (2) of the primary indoor air samples, as required by the QA/QC section of the approved RIWP.
- Collection of one (1) outside ambient air sample.
- An inspection of the interior spaces to determine the presence of any preferential pathways for soil vapor and indoor air such as cracks/holes/fissures in the concrete floor or walls, along with a chemical inventory of each indoor space.
- Submission of 26 sub-slab/indoor air/outdoor air samples for certified laboratory analysis using USEPA Test Method TO-15 for VOCs.

The field activities completed as part of this remedial investigation are described in the following sections.

4.1 Site Inspection and Chemical Inventory

Prior to the completion of the soil vapor intrusion investigation, IEC staff conducted an inspection of each interior space, to the extent practicable, in order to identify potential structural deficiencies (cracks, fissures, holes etc.), preferential pathways, or stored or utilized chemicals that may have the potential to interfere with the results of the investigation. Based on IECs inspection of the interior portions of the buildings, the following observations were noted (See **Appendix B** for a Photographic Log):

- **98c South 4th Street (vacant retail unit)**
    - The main floor of the unit is finished with a floating wooden floor, so a full inspection of the building slab was not possible.
    - The partially sub-grade basement maintained a painted concrete floor and did not exhibit any significant structural deficiencies.
    - No significant structural deficiencies were observed on the walls of the unit.
    - No floor drains or sumps were identified in this unit.
    - The HVAC for this unit was not active at the time of the inspection.
    - No chemicals were observed within this unit.

- **98b South 4th Street (Session's gym)**
    - The main floor and the partially sub-grade basement floor were painted concrete; however, a significant portion was covered with rubberized gym mats, and thus could not be fully inspected.
    - No significant structural deficiencies were observed in the visible concrete flooring and/or walls.
    - No floor drains or sumps were identified in this unit.
    - The HVAC for this unit was in operation at the time of the inspection.
    - Chemicals stored within this unit were limited to a 5-gallon container of generic hand sanitizer and 2-gallons of "Zogics" Broad Spectrum Healthcare Facility disinfectant.
    - The chemicals observed are not known to contain cVOCs or other COCs.

- **98a South 4th Street (Lemons and Olives catering)**
    - The floor in this unit was primarily unfinished concrete, with ceramic tiles located in the rear kitchen area.

- No significant structural deficiencies were observed in the concrete flooring or walls of this unit.
- Approximately five (5) small diameter (5-6") grated floor drains were observed throughout this unit.
- Chemicals stored within this unit were limited to 32-ounces of isopropyl-alcohol, -quart of mineral oil, various containers of hand sanitizer, 2.5-quart container of "Liquid Plumr", and 1-gallon of dish disinfectant.
- The chemicals observed are not known to contain cVOCs or other COCs.

- **100 South 4th Street (residential apartment building)**
  - The ground floor lobby and ground floor residential apartment unit floors are finished with ceramic tiles. The stairwell and utility rooms maintained painted concrete flooring.
  - No significant structural deficiencies were observed in the visible concrete flooring and/or walls.
  - No floor drains or sumps were identified in the lobby or ground floor apartment units.
  - Each residential apartment unit utilizes an individual heating unit. No HVAC or central air is available in the residential apartment building.
  - Chemicals stored within the occupied residential apartment units were limited to general household cleaners.
  - A storage cage was present in the stairwell of the apartment building. The cage maintained approximately 15 5-gallon containers of paint/primer.
  - Ground floor apartment F was being utilized as a building maintenance and storage space. Chemicals observed in this unit included two (2) 5-gallon containers of Pro-Polyurethane, numerous bottles of grain alcohol, various containers of spray paint, enamel paint, and paint stripper. No odors were observed in this area.
  - The chemicals observed are not known to contain cVOCs or other COCs.

- **104 South 4th Street (Randolph Beer restaurant)**
  - The floor in this unit was primarily painted and unfinished concrete, with ceramic tiles located in the rear kitchen area and a floating wooden floor on the western side of the unit that extends into the adjoining 100 South 4th Street.

- No significant structural deficiencies were observed in the visible concrete flooring or walls of this unit.
- Approximately two (2) small diameter (5-6”) grated floor drains were observed in this unit.
- Chemicals stored within this unit were limited to a container of Simple Green cleaner and a container of Zee Lerasept PAA (Peracetic Acid).
- The chemicals observed are not known to contain cVOCs or other COCs.

Based on the Site Inspection conducted by IEC, the chemicals stored within the commercial units and residential apartment building are not expected to negatively influence the results of the soil vapor intrusion investigation. No significant cracks, holes, or fissures were observed in the floors or walls of the buildings; however, several floor drains were identified.

4.2 Soil Vapor Intrusion Investigation

The NYSDEC and the NYSDOH require assessment of soil vapor at contaminated sites to collect data to evaluate health risk associated with potential exposure to VOCs through vapor intrusion into occupied spaces. The sub-slab soil vapor sampling points were installed by IEC on March 10, 2021, and the soil vapor, indoor air, and outdoor air samples were collected over a 24-hour period between March 11 and 12, 2021. The locations of the sub-slab soil vapor sampling points, indoor air and outdoor air samples, are shown on **Plate 9**. Prior to the installation of the soil vapor points, IEC conducted a preliminary walkthrough of the Site to select locations for the installation of the permanent sub-slab soil vapor points and collection of indoor air samples. The sample locations were selected to confirm the sub-slab vapor and indoor air conditions across the Site.

The permanent sub-slab soil vapor monitoring points were located at least 5 feet from exterior walls of the building to minimize the potential for infiltration of outdoor air into the vadose zone. The nine (9) permanent sub-slab soil vapor sampling points installed during the remedial investigation were designated SV-1a, SV-1b, SV-2a, SV-2b, SV-3a, SV-3b, SV-4, SV-5a, and SV-5b. The sample locations chosen were as follows:

- **SV-1a:** Located in the northern portion of the vacant retail space (98c South 4th Street).
- **SV-DUP-1**: Duplicated sample located proximal to SV-1a.
- **SV-1b:** Located in the southern portion of the vacant retail space (98c South 4th Street).
- **SV-2a:** Located in the northern portion of the retail space occupied by the gym (98b South 4th Street).
- **SV-2b:** Located in the southern portion of the retail space occupied by the gym (98b South 4th Street).
- **SV-3a:** Located in the northern portion of the retail space occupied by the catering facility (98a South 4th Street).
- **SV-3b:** Located in the southern portion of the retail space occupied by the catering facility (98a South 4th Street).
- **SV-4:** Located in the central stairwell of the residential building (100 South 4th Street).
- **SV-DUP-2**: Duplicated sample located proximal to SV-4.
- **SV-5a:** Located in the northern portion of the bar/restaurant (104 South 4th Street).
- **SV-5b:** Located in the southern portion of the bar/restaurant (104 South 4th Street).

The indoor air sampling locations were located at least 10 feet from exterior walls of the building to minimize the potential for infiltration of outdoor air into the beathing zone and were set at between 4-6-feet above

grade, to be representative of the breathing zone. The 12 indoor air samples collected during the remedial investigation were designated IA-1, IA-2, IA-3, IA-4a, IA-4b, IA-4c, IA-4d, IA-4e, IA-4g, IA-4h, and IA-5. The sample locations chosen were as follows:

- **IA-1:** Located in the central portion of the vacant retail space (98c South 4th Street).
- **IA-2**: Located in the central portion of the retail space occupied by the gym (98b South 4th Street).
- **IA-3**: Located in the central portion of the retail space occupied by the catering facility (98a South 4th Street).
- **IA-1a through IA-1g**: Located in ground floor apartments A-through-G within the residential building (100 South 4th Street)
- **IA-DUP-1**: Duplicated sample collected proximal to IA-4a.
- **IA-4h**: Located proximal to the elevator shaft within the residential building (100 South 4th Street).
- **IA-5**: Located in the central portion of the bar/restaurant (104 South 4th Street).
- **IA-DUP-2**: Duplicated sample collected proximal to IA-5.

Finally, the outdoor air sampling location was located in the building's year egress area, south of 98 South 4th Street, and was set at between 4-6-feet above grade, to be representative of the breathing zone. The outdoor air sample collected during the remedial investigation was designated OA-1.

See **Plate 9** for Soil Vapor Investigation Sample Location Map.

4.2.1 Installation of Permanent Soil Vapor Points

The permanent soil vapor implants were installed in accordance with the protocols and procedures cited in Section 2.7.2 within the New York State Department of Health (NYSDOH) October 2006, Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York document to address the identified AOCs and confirm soil vapor conditions. The soil vapor monitoring points were located at least 5 feet from exterior walls of the building to minimize the potential for infiltration of outdoor air into the vadose zone. A 1.5-inch diameter hole was drilled approximately 1.75-inches down into the slab. Then a 5/8-inch diameter hole was installed through the remainder of the slab. Once fully penetrated, the vapor pin and silicone sleeve were immediately installed using a vapor pin installation tool (impact protection) and dead-blow ham-mer. Once installed, the silicone sleeve created an airtight seal, and the vapor pin was fitted with a protective cap to eliminate the

potential for vapor migration into the building. Stainless-steel secure covers were then place over the vapor pins, which thread directly onto the vapor pin for a secure and flush mounted finish. A soil vapor sample point construction detail is presented in **Appendix A**. The soil vapor points were allowed to equilibrate for a minimum of 24 hours. See **Appendix B** for a Photo Log of the Soil Vapor Intrusion Remedial Investigation.

4.2.2 Soil Vapor Sampling Procedures

Prior to sampling, a tracer helium gas test was performed to confirm the integrity of the implant seals at each soil vapor point assembly as part of a quality assurance verification. The failure of a seal allows for atmospheric air to impact the soil vapor sample. A containment shroud (i.e., 5-gallon plastic bucket) was placed on top of the soil vapor point assembly and the soil vapor point tubing was extended through the shell of the shroud using an air-tight probe hole fitting installed through the container. The bucket is then sealed around the edges with hydrated bentonite to maintain the helium within the container. The sealed shroud is then enriched with helium using a second air-tight probe hole fitting installed through shell of the container. A real-time helium detection instrument was then connected to the tubing from the soil vapor sampling point. The soil vapor sampling train is then activated by using the helium detector to draw air (at less than 0.2 liters per minute). The detection of helium would indicate that a seal was compromised and require replacement. The tracer gas helium was not detected in the eight (8) soil vapor sampling locations indicating the implant seals were considered airtight.

After confirmation of the soil vapor point seal integrity, the vapor points were each purged to evacuate potential atmospheric air prior to sample collection to ensure the sample would be representative of subsurface soil vapor conditions. The evacuation process was completed by using a PID attached to the polyethylene tubing of the sampling point. A PID has a flow rate of approximately 0.2 liters per minute. A total of three tube volumes was purged during the evacuation and during the prior helium tracer gas test. A PID reading was also recorded once the evacuation with the PID was completed.

After purging was complete, a laboratory supplied clean 2.75-liter Summa canister with a laboratory pre-calibrated flow controller with a flow rate of no more than 0.2 liters per minute, was attached to the vapor sampling point polyethylene tubing. Sampling of the sub-slab soil vapor then proceeded by fully opening the flow control valve on each sample canister. Immediately after opening the flow control valve on each canister, the initial vacuum (inches of mercury) was recorded in the field log and on the sample tag. The

Summa canisters supplied by the analytical laboratory arrived with approximately 29.09 to 31.90 inches of mercury vacuum.

The samples were collected over a period of approximately 24-hours, with an estimated flow rate of 0.0020 liters per minute. When approximately 2.75 liters of sample had been collected or the canister pressure dropped to approximately 4 inches of mercury (approx. 24 hours), the samples were stopped by closing the flow controller valves. The final vacuum recorded in the field notebook and on the sample tag.

4.2.3 Indoor/Outdoor Air Sampling Procedures

The indoor and outdoor air samples were collected using laboratory supplied clean 2.75-litre Summa canisters with laboratory pre-calibrated flow controllers. The summa canisters were placed approximately 4-6-feet above grade, in the approximate breathing zone. Samples were collected over a period of approximately 24-hours, with an estimated flow rate of 0.0020 liters per minute. When approximately 2.75 liters of sample had been collected or the canister pressure dropped to approximately 4 inches of mercury (approx. 24 hours), the samples were stopped by closing the flow controller valves. The final vacuum recorded in the field notebook and on the sample tag.

4.2.4 Soil Vapor/Indoor/Outdoor Sample Laboratory Analysis

The soil vapor, indoor air, and outdoor air sample identification, date, start time, start vacuum, end time, and end vacuum for each Summa canister sample were recorded on a sample log sheet and the laboratory chain of custody. Nine (9) soil vapor samples, two (2) duplicate soil vapor samples, 12 indoor air samples, two (2) duplicated indoor air samples, and one (1) outdoor air sample were submitted to Analytical Laboratories of Mansfield, MA (Alpha) on March 12, 2021 via laboratory courier to Alpha Analytical of Westboro, MA, for laboratory analysis of VOCs via EPA Method TO-15.

4.3 Quality Control Sampling

During the SVI RI, duplicate samples were collected for QA/QC purposes in accordance with the QAPP. A summary of the QA/QC samples collected/analyzed during the RI is provided in **Table 1.**

4.3.1 Duplicate Samples

Duplicate sample collection will apply to soil vapor and indoor air samples collected at this Site. A duplicate (replicate) sample is collected to control the general sampling methodology that is being employed. This sample ensures that a representative sample is being collected. Duplicate samples may also be submitted to verify the precision of the analytical methods.

The duplicate samples were collected from the same material as the primary sample by splitting the volume of sample collected in the field into two sample containers. The duplicate samples are labelled in such a manner that the laboratory would not be able to determine that they are duplicate samples. This serves to minimize possible bias that could arise during analysis.

4.4 Data Usability Validation

The analytical data packages from the SVI RI were validated by Christina Rink with Laboratory Data Consultants, Inc., of Carlsbad, CA (LDC), an independent third-party data validator subcontractor in accordance with USEPA and NYSDEC validation protocols. The data validator's credentials are provided in **Appendix C.**

4.4.1 Data Usability Summary Report Preparation

A DUSR was prepared for each sampling matrix and analytes. The DUSR presents the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method. The independent data validator reviews and considers the following as part of their evaluation for the of the soil vapor samples:

- Holding times
- Canister certification
- Laboratory blanks
- Laboratory control samples
- System monitoring compounds
- Target compound identification and qualification
- Field duplicate sample results

4.4.2 Data Usability and Qualifiers

The Category B analytical laboratory reports for the soil vapor samples, indoor air, and outdoor air samples collected during the SVI RI were provided by Alpha Analytical Laboratory and were forwarded to LDC for evaluation and preparation of DUSRs. The analytical results were reviewed by LDC for overall usability issues.

Based on the results of the data validation, the following qualifiers may be assigned to the data in accordance with USEPA's guidelines and best professional judgment:

- U Data qualified with this qualifier are usable at the reporting limit (RL).
- UJ Data qualified with this qualifier are to be used cautiously as they are estimated data with some quality control issues.
- J Data qualified with this qualifier are to be used cautiously as they are estimated data with some quality control issues.
- R Data qualified with this data qualifier are not usable due to server quality control issues.

A summary of the findings of the DUSR is as follows:

Overall Evaluation of Data and Potential Usability Issues

All results are usable as reported or usable with minor qualification due to laboratory quality control outliers with the exception listed below.

Samples IA-4C and IA-4G were diluted for ethanol due to original analyses exceeding the calibration range. For ethanol results in samples IA-4C and IA-4G, the diluted results should be considered the most usable. The IA-4C and IA-4G results should not be considered usable for ethanol.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP category B laboratory deliverables.

Holding Times and Sample Preservation

All criteria were met.

Gas Chromatography/Mass Spectrometry (GC/MS) Tunes

All criteria were met.

Initial and Continuing Calibration

Initial Calibration: All criteria were met.

Compounds that did not meet criteria are summarized in the following table:

Date	Instrument ID	Compound	ICV %D	Associated Samples		Validation Action
12/21/20	ICV-AIRLAB17	1,2,4-Trichlorobenzene	34.1	IA-4C	SS	UJ nondetects
		Hexachlorobutadiene	35.4	IA-4D	SS	UJ nondetects
				IA-4E		
				IA-4F		
				IA-4G		
				IA-4H		
				IA-5		
				IA-DUP-1		
				IA-DUP-2		
				OA-1		

X = Initial calibration (IC) relative standard deviation (%RSD) > 30; estimate (J/UJ) positive and nondetect results.
XX = Continuing calibration (CC) percent difference (%D) > 30; estimate (J/UJ) positive and nondetect results.
SS = Second source verification percent difference (%D) > 30; estimate (J/UJ) positive and nondetect results.
+ = Response factor (RRF) < validation criteria; estimate (J/UJ) positive and nondetect results.

The 1,2,4-trichlorobenzene and hexachlorobutadiene results were estimated due to second source verification exceedances. The bias cannot be determined. The results can be used for project objectives as non-detects with estimated quantitation limits (UJ) which may have a minor impact on the data usability.

Continuing calibration: All criteria were met.

Blanks

Contamination was not detected in the method blanks.

A field blank was not associated with this sample set. Validation action was not required on this basis.

Laboratory Duplicate Results

Laboratory duplicates were performed on samples IA-2 and IA-4D for VOC analyses. All criteria were met.

Laboratory Control Sample (LCS) Results

All criteria were met.

Internal Standards

All criteria were met.

Field Duplicate Results

Samples SV -1A and SV -DUP-1, samples SV -4 and SV -DUP-2, samples IA-4A and IA-DUP-1, and samples IA-5 and IA-DUP-2 were submitted as the field duplicate pairs with this sample group. The following tables summarize the concentrations and validation actions taken (RPD = Relative Percentage Difference).

Compound	Concentration (ppbv)		RPD
	SV-1A	SV-DUP-1	
Dichlorodifluoromethane	0.409	0.403	1
Ethanol	81.2	68.2	17
Acetone	193	120	47
Isopropanol	6.29	6.29	0
tert-Butyl alcohol	1.72	0.508	109
Carbon disulfide	0.200U	0.403	Not comparable
1,1-Dichloroethane	0.809	0.353	78
2-Butanone	2.79	1.39	67
cis-1,2-Dichloroethene	1.93	0.645	100
Chloroform	0.390	0.408	5
n-Hexane	0.222	0.200U	Not comparable
1,1,1-Trichloroethane	1.30	0.857	41
Benzene	0.262	0.212	21
Trichloroethene	22.4	16.9	28
Toluene	0.552	0.527	5
2-Hexanone	0.319	0.200U	Not comparable
Tetrachloroethene	6.78	5.60	19

Compound	Concentration (ppbv)		RPD
	SV-4	SV-DUP-2	
Dichlorodifluoromethane	0.582	0.503	15
Chloromethane	0.200U	0.373	Not comparable
Ethanol	24.4	42.0	53
Acetone	3.86	5.98	43
Isopropanol	4.20	9.86	81
tert-Butyl alcohol	0.782	1.78	78
2-Butanone	1.24	1.74	34
Chloroform	2.18	0.643	109
Trichloroethene	3.90	3.03	25
Toluene	0.589	1.02	54
2-Hexanone	0.216	0.371	53
Tetrachloroethene	0.687	0.835	19
Ethylbenzene	0.459	0.790	53
m,p-Xylene	0.812	1.43	55
o-Xylene	0.430	0.670	44
1,3,5-Trimethylbenzene	0.200U	0.347	Not comparable
1,2,4-Trimethylbenzene	0.200U	0.341	Not comparable

Compound	Concentration (ppbv)		RPD
	IA-4A	IA-DUP-1	
Dichlorodifluoromethane	0.408	0.497	20
Chloromethane	0.532	0.524	2
Ethanol	472	438	7
Acetone	15.3	16.4	7
Trichlorofluoromethane	0.226	0.336	39
Isopropanol	93.4	104	11
2-Butanone	0.521	0.519	0
Ethyl acetate	0.733	0.955	26
n-Hexane	0.247	0.242	2
Benzene	0.341	0.336	1
Cyclohexane	0.565	0.533	6
n-Heptane	8.56	8.44	1
Toluene	1.41	1.37	3
m,p-Xylene	0.442	0.481	8
Carbon tetrachloride	0.062	0.082	28
Trichloroethene	0.064	0.069	8
Tetrachloroethene	0.153	0.153	0

Compound	Concentration (ppbv)		RPD
	IA-5	IA-DUP-2	
Dichlorodifluoromethane	0.492	0.491	0
Chloromethane	0.476	0.473	1
Ethanol	479	467	3
Acetone	10.2	10.1	1
Trichlorofluoromethane	1.11	1.06	5
Isopropanol	47.4	46.4	2
2-Butanone	0.797	0.838	5
Ethyl acetate	2.47	2.37	4
Chloroform	0.271	0.257	5
n-Hexane	0.200U	0.212	Not comparable
Benzene	0.329	0.331	1
n-Heptane	0.202	0.204	1
Toluene	0.742	0.739	0
m,p-Xylene	0.456	0.431	6
1,2,4-Trimethylbenzene	0.283	0.246	14
Carbon tetrachloride	0.093	0.083	11
Trichloroethene	0.055	0.054	2
Tetrachloroethene	0.078	0.077	1

Quantitation Limits and Data Assessment

No results were reported below the reporting limit (RL) and above the method detection limit (MDL) in the VOC analyses.

Due to high target compound levels or difficult sample matrix, select samples were analyzed at dilutions. The following table lists the sample dilutions which were performed, and the results reported. RLs were elevated accordingly.

Sample	VOC Analyses Reported
SV-1B	3.125-fold dilution due to nature of sample matrix
SV-2B	10-fold dilution due to nature of sample matrix
SV-3A	2.941-fold dilution due to nature of sample matrix
IA-4CDL	5-fold dilution due to high compound level for ethanol
IA-4GDL	2.5-fold dilution due to high compound level for ethanol

Sample Quantitation and Compound Identification

Calculations were spot checked; no discrepancies were noted.

Overall, the data reviewed by LDC is acceptable for the intended purpose of this SVI RI. The DUSR for the soil vapor, indoor, and outdoor air samples is provided in **Appendix D**.

5 RI FIELD OBSERVATIONS AND ANALYTICAL RESULTS

The following sections provide information regarding the field observations and a summary of the laboratory analytical results for the soil vapor, indoor air, and outdoor air samples collected during the SVI RI. Sub-slab soil vapor samples were collected from a total of nine (9) locations during the SVI RI. The SVI sample locations are shown on **Plate 9**. A summary of the sub-slab soil vapor, indoor air, and outdoor air samples with associated QA/QC samples collected and analysis performed is provided in **Table 1.** The laboratory analytical data reports for data generated during the SVI RI are provided in **Appendix E**.

5.1 Soil Vapor Investigation Analytical Results

5.1.1 Soil Vapor Sample Results

The soil vapor samples were collected from within the three (3) onsite buildings (98 South 4th Street, 100 South 4th Street, and 104 South 4th Street), and comprised of nine (9) soil vapor sampling points. The results of the sub-slab soil vapor analysis indicated that several VOCs were detected at elevated concentrations (See **Plate 10**). Of note, the chlorinated VOC (cVOC) tetrachloroethene (PCE) was detected at elevated concentrations in the nine (9) soil vapor samples collected, and the cVOC trichloroethene (TCE) was also detected at elevated concentrations in the nine (9) soil vapor samples. PCE and TCE are commonly identified as degreasing solvents. In addition, elevated concentrations of the following VOCs were detected: 1,1,1-trichloroethane was detected in three (3) of the nine (9) sub-slab samples, cis-1,2-dichloroethene was detected in six (6) of the nine (9) samples, and vinyl chloride was detected in one (1) of the nine (9) samples. The NYSDEC does not currently have standards, criteria or guidance values for concentrations of volatile chemicals in subsurface soil vapors.

The PCE and TCE were detected in soil vapor at elevated concentrations above the NYSDOH Air Guidance Values (AGV) of 30 micrograms per cubic meter (µg/m^3) and 2.0 µg/m^3, respectively. The concentrations of PCE ranged from 4.6µg/m^3 at SV-4 up to 2,710µg/m^3 at SV-2b. The TCE concentrations ranged from 5.7µg/m^3 at SV-5b up to 3,260µg/m^3 at SV-2b. The concentrations of PCE and TCE are lower beneath the east side portion of the property (samples collected from beneath 100 and 104 South 4th Street) with the highest concentrations located in the west and southwestern portion of the property (primarily beneath 98 South 4th Street). While the PCE and TCE concentrations are elevated in the northwest portion of the property, the AOC where cVOCs were detected in shallow soils during previous investigations, the highest concentrations were detected in the southwest corner of the property. A summary of the soil vapor, indoor air, and outdoor

air laboratory analytical results are provided in **Table 2**. The Category B laboratory report for the soil vapor analysis is included in **Appendix E**.

The elevated sub-slab soil vapor concentrations on the Site area likely the result of volatilized contamination from soil and groundwater. Migration of soil gas contaminated with VOCs is less predictable than groundwater migration due to subsurface heterogeneities. Soil and groundwater samples will be collected during the second Phase of the Remedial Investigation and will further determine the presence of and potential origins of the PCE and TCE contamination detected in the soil vapor samples. It is unknow whether the contamination is from an on-site or off-site source.

5.1.2 Indoor/Outdoor Air Sample Results

The indoor air samples were collected from within the three (3) onsite buildings (98 South 4th Street, 100 South 4th Street, and 104 South 4th Street), and comprised of 12 indoor air sample locations, while one (1) outdoor ambient air sample was collected from the year yard behind 98 South 4th Street. The results of the indoor air sample analysis indicated that several VOCs were detected at elevated concentrations. Of note, the cVOC TCE was detected at elevated concentrations in 10 of the 12 indoor air samples collected from non-detect in IA-4D and IA-4E, with a minimum concentration of 0.253 µg/m³ in IA-4H and a maximum concentration of 2.14 µg/m³ in IA-3. In addition, the cVOC PCE was detected at elevated concentrations in the 12 indoor air samples with a minimum concentration of 0.292 µg/m³ in IA-4E and a maximum concentration of 2.55 µg/m³ in IA-4C. PCE and TCE are commonly identified as degreasing solvents. In addition, elevated concentrations of the cVOC carbon tetrachloride were detected in the 12 indoor air samples with a minimum concentration of 0.39 µg/m³ in IA-4A and a maximum concentration of 0.591 µg/m³ in IA-4C and IA-4G. Finally, elevated concentrations of the cVOCs TCE (0.325 µg/m³) and carbon tetrachloride (0.491 µg/m³) were detected in the outside ambient air sample OA-1. Concentrations of carbon tetrachloride were similar in indoor samples to the results of the outdoor ambient sample, and thus these detections are considered reflective of ambient conditions.

TCE was detected in one (1) indoor air sample, IA-3, located within 98a South 4th Street (occupied by the catering facility) at a concentration (2.14 µg/m^3) marginally above the NYSDOH Air Guidance Value (AGV) of 2 µg/m^3. PCE and TCE were not detected in the other 11 samples at levels in excess of the NYSDOH AGV. A summary of indoor air laboratory analytical results is provided in **Table 3**.

5.1.3 Decision Matrix Results

Per the NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion, the soil vapor sample results were compared to those indoor air samples collected from the same space using three Decision Matrices, A, B, and C. The following compounds are evaluated using Soil Vapor/Indoor Air Matrix A: TCE, cis-1,2-dichlorethene,1,1-dichlroethene, and carbon tetrachloride. The following compounds are evaluated using Soil Vapor/Indoor Air Matrix B: PCE, 1,1,1-trichloroethane, and methylene chloride. Finally, the compound vinyl chloride is evaluated using Soil Vapor/Indoor Air Matrix C.

Each space within the property was assessed using a combination of soil vapor and indoor air samples.

- 98c South 4th Street was evaluated using two (2) soil vapor samples (SV-1a and SV-1b), and one (1) indoor air sample (IA-1).
- 98b South 4th Street was evaluated using two (2) soil vapor samples (SV-2a and SV-2b), and one (1) indoor air sample (IA-2).
- 98a South 4th Street was evaluated using two (2) soil vapor samples (SV-3a and SV-3b), and one (1) indoor air sample (IA-3).
- 100 South 4th Street was evaluated using one (1) soil vapor sample (SV-4), and eight (8) indoor air samples (IA-4a through IA-4h).
- 104 South 4th Street was evaluated using two (2) soil vapor samples (SV-5a and SV-5b), and one (1) indoor air sample (IA-5).

See **Plate 9** for Sample Locations. The following tables (also provided in **Tables 4.1 through 4.6** at the end of this report) provide the matrices decisions for each space sampled.

98c South 4th Street:

Sample ID	SV-1A	SV-1B	IA-1	NYSDOH Matrices Decision
Date	3/12/2021			
Sample Type	Sub Slab	Sub Slab	Indoor Air	
Unit	$\mu g/m^3$			
Volatile Organics in Air				
1,1,1-Trichloroethane	7.09	ND	ND	NFA
1,1-Dichloroethene	ND	ND	ND	NFA
Carbon tetrachloride	ND	ND	0.396	NFA
cis-1,2-Dichloroethene	7.65	88	ND	NFA/MITIGATE
Methylene chloride	ND	ND	ND	NFA
Tetrachloroethene	46	1,240	1.11	NFA/MITIGATE
Trichloroethene	120	1000	0.435	MITIGATE/MITIGATE
Vinyl chloride	ND	ND	ND	NFA

Based on the results of the decision matrices, the concentrations of TCE in SV-1a require mitigation, while concentrations of cis-1,2-dichloroethene, PCE, and TCE in SV-1b require mitigation.

98b South 4th Street:

Sample ID	SV-2A	SV-2B	IA-2	NYSDOH Matrices
Date	3/12/2021			
Sample Type	Sub Slab	Sub Slab	Indoor Air	
Unit	$\mu g/m^3$			
Volatile Organics in Air				
1,1,1-Trichloroethane	ND	ND	ND	NFA
1,1-Dichloroethene	ND	ND	ND	NFA
Carbon tetrachloride	ND	ND	0.421	NFA
cis-1,2-Dichloroethene	5.35	379	ND	NFA/MITIGATE
Methylene chloride	ND	ND	ND	NFA
Tetrachloroethene	5.2	2710	0.787	NFA/MITIGATE
Trichloroethene	16.5	3260	0.408	MONITOR/MITIGATE
Vinyl chloride	0.537	ND	ND	NFA

Based on the results of the decision matrices, the concentrations of TCE in SV-2a require monitoring, while concentrations of cis-1,2-dichloroethene, PCE and TCE in SV-2b require mitigation.

98a South 4th Street

Sample ID	SV-3A	SV-3B	IA-3	NYSDOH Matrices
Date	3/12/2021			
Sample Type	Sub Slab	Sub Slab	Indoor Air	
Unit	$\mu g/m^3$			
Volatile Organics in Air				
1,1,1-Trichloroethane	3.79	1.58	ND	NFA
1,1-Dichloroethene	ND	ND	ND	NFA
Carbon tetrachloride	ND	ND	0.403	NFA
cis-1,2-Dichloroethene	20	24.1	ND	NFA
Methylene chloride	ND	ND	ND	NFA
Tetrachloroethene	460	138	2.09	NFA
Trichloroethene	967	321	2.14	MITIGATE/MITIGATE
Vinyl chloride	ND	ND	ND	NFA

Based on the results of the decision matrices, the concentrations of TCE in SV-3a and SV-3b require mitigation.

100 South 4th Street

Sample ID	SV-4	IA-4A	IA-4B	IA-4C	IA-4D	IA-4E	IA-4F	IA-4G	IA-4H	NYSDOH Matrices
Date	3/12/2021									
Sample Type	Sub Slab	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	
Unit	$\mu g/m^3$									
Volatile Organics in Air										
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NFA
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NFA
Carbon tetrachloride	ND	0.39	0.421	0.591	0.459	0.478	0.547	0.591	0.535	NFA
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NFA
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	NFA
Tetrachloroethene	4.66	1.04	1.02	2.55	0.387	0.292	0.448	0.57	0.502	NFA
Trichloroethene	21	0.344	0.908	1.23	ND	ND	0.516	0.333	0.253	NFA/MONITOR/MITIGATE
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	NFA

Based on the results of the decision matrices, the concentrations of TCE in IA-4a, IA-4b, IA-4f, IA-4g, and IA-4h require further monitoring, while TCE concentrations in IA-4c require mitigation.

104 South 4th Street

Sample ID	SV-5A	SV-5B	IA-5	NYSDOH Matrices
Date	3/12/2021			
Sample Type	Sub Slab	Sub Slab	Indoor Air	
Unit	$\mu g/m^3$			
Volatile Organics in Air				
1,1,1-Trichloroethane	ND	ND	ND	NFA
1,1-Dichloroethene	ND	ND	ND	NFA
Carbon tetrachloride	ND	2.68	0.585	NFA/IDENTIFY SOURCES and RESAMPLE or MITIGATE
cis-1,2-Dichloroethene	ND	ND	ND	NFA
Methylene chloride	ND	ND	ND	NFA
Tetrachloroethene	9.56	59.8	1.04	NFA
Trichloroethene	7.9	5.7	0.296	NFA/MONITOR
Vinyl chloride	ND	ND	ND	NFA

Based on the results of the decision matrices, the concentrations of carbon tetrachloride in SV-5b require identification of potential sources, resampling and potential mitigation, while concentrations of TCE in SV-5a require monitoring.

See **Plate 11 - Soil Vapor Investigation Decision Matrices Results Map** for a map of sample locations, and required remedial measures, per the NYSDOH Decision Matrices.

5.2 QA/QC Duplicate Sample Results

During the RI, two (2) duplicated soil vapor samples (SV-DUP-1 and SV-DUP-2) and two (2) indoor air duplicated samples (IA-DUP-1 and IA-DUP-2) were collected. A summary of the results for these QA/QC samples is provided in **Table 1**. Samples were collected from in direct proximity to the primary sample location and were submitted to the laboratory for analysis of VOCs using USEPA Method TO-15.

5.3 Evaluation of Results

The nature and extent of contamination at the Site, based on field observation and the analytical results of the soil vapor, indoor air, and outdoor air samples collected as part of this SVI RI, are discussed in the following sections. The main contaminants of concern (COCs) identified at the Site requiring either monitoring or mitigation based on the NYSDOH Decision Matrices are TCE, PCE, and cis-1,2-dichloroethene.

5.3.1 COC Distribution

An accurate determination of COC distribution will be further defined once the soil and groundwater phase of the Remedial Investigation has been completed. However, below is a discussion of the COC distribution within soil vapor and indoor air samples alone.

The highest soil vapor TCE concentrations were 1,000 µg/m^3 at SV-1b and 3,260 µg/m^3 at SV-2b, both of which are located on the south west portion of the Site. The highest concentrations of PCE in soil vapor were 1,240 µg/m^3 in SV-1b, and 2,710 µg/m^3 in SV-2b, both of which are located on the south west portion of the Site. Finally, the highest concentrations of cis-1,2-dichloroethene were 88 µg/m^3 at SV-1b, and 379 µg/m^3 at SV-2b, also located on the south west portion of the Site. It should be noted that during previous subsurface investigations, the primary AOC was located in the north west portion of the site, in which slightly elevated concentrations of TCE and PCE were detected in shallow soil samples. Of note, soil vapor concentrations of TCE and PCE in the north west portion of the Site were significantly lower than those collected from the south west portion of the Site.

In summary, the distribution of the cVOCs in soil vapor indicate the source area for the TCE/PCE/cis-1,2-dichloroethene at the Site is potentially in the southwest portion of the Site, contrary to the results of previous investigations. The second Phase of the RI will include soil samples that will be collected at several sample intervals, both shallow, intermediate, and deep, across the Site, including the south west portion of

the Site. These samples will further define and confirm the presence of an AOC in the south west portion of the Site.

The sampling locations associated with the SVI RI is shown on **Plate 9**.

6 QUALATATIVE HUMAN EXPOSURE ASSESSMENT

A qualitative exposure assessment for both human health and fish and wildlife resources has been prepared to evaluate exposure to the identified contaminants of concern in accordance with the May 2010 NYSDEC Final DER-10 Technical Guidance for Site Investigation and Remediation. The following sections provide the details for both assessments.

6.1 Human Health Exposure Assessment

Human health exposure risk was evaluated for both the current and the proposed future use conditions associated with the Site. The assessment includes an evaluation of potential sources and migration pathways of site contamination, potential receptors, exposure media, and receptor intake routes and exposure pathways.

6.1.1 Current Site Condition

The Site is currently developed with three (3) adjoining buildings: a multi-story structure made up of a 6-story, primarily residential structure in the center with a partial sub-grade cellar (100 South 4th Street) flanked by two (2) smaller 1-story structures (98 South 4th Street and 104 South 4th Street), with 98 South 4th Street also containing a partial sub-grade cellar. The three buildings have a combined footprint of approximately 21,500 square feet (SF). Aside from narrow concrete paved patios on the south side of 98 South 4th Street and 104 South 4th Street, and a narrow light and air easement on the south side of 100 South 4th Street, the surface area of the site is covered entirely by the footprint of the buildings.

6.1.2 Proposed Future Use Conditions

The Site is planned to remain as is, with no renovations or redevelopments proposed.

6.1.3 Exposure Assessment

This exposure assessment discusses potential migration routes by which chemicals in the environment may be able to reach human receptors. This discussion is based on current and hypothetical future conditions at the Site and investigation area. A complete exposure pathway for the COCs identified for the Site includes an evaluation of the following:

- The contaminant source(s) and location of the release(s) to the environment, and the contaminated medium at the potential points of exposure;
- Description of the contaminant release and transport mechanisms to the exposed population;

- Identification of all points of potential human contact with the contaminated medium;
- Possible exposure route (i.e., ingestion, inhalation, dermal absorption); and
- Description of the receptor populations the who may be exposed to contaminants.

An exposure pathway is considered complete when these five elements are documented. A potential exposure pathway exists if one or more of the five elements is unknown. An exposure pathway can be eliminated from further evaluation when one of the five elements has not existed in the past, does not exist in the present and can reasonably be expected to never exist in the future. The following section identifies potential points of human contact with contaminated media and exposure pathways identified for the Site. A summary of exposure pathways relating to surface soil, sub-surface soil, and groundwater, will be discussed in the Soil and Groundwater Remedial Investigation Report that will be prepared following the second phase of the RI.

6.1.3.1 Inhalation of Air (e.g., soil vapor intrusion)

- Since the building is occupied by a mixture of commercial and residential tenants, and will remain as such for the foreseeable future, there exists the potential for human exposure to soil vapor intrusion on the Site.
- Inhalation of vapors from contaminated soil and contaminated groundwater beneath the Site creates a potential for exposure to building occupants when vapors accumulate beneath structures and possibly have impacted indoor air quality within a structure.

6.1.4 Conceptual Site Model

The Conceptual Site Model (CSM) is developed to provide an understanding of the fate and transport of COCs based on the physical and chemical characteristics of the Site and the interaction of the COCs with the Site environment (e.g. solubility, adsorption, persistence, volatilization and biological processes) which is necessary to understand the movement of the COCs in the various media and the risk posed to potential receptors. The CSM is a method to develop and compile information as obtained for the Site such as site history, site investigation findings and remedial actions. The conceptual site model presented in the RIWP has been updated for the Site to include the data generated from the SVI RI and to provide a succinct

description of the distribution of COCs in Site soil vapor, potential migration pathways, and potentially complete exposure pathways.

Depth to bedrock has not yet been identified during previous environmental investigations, and the unconsolidated overburden soil consist of granular soils (silty to medium poorly graded sand). The depth to groundwater beneath the Site has been encountered at between approximately 17 and 26 feet below grade (fbg) and is anticipated to flow in a north-northeasterly direction. The Site area has a relatively flat topography and the nearest surface water body to the Site is East River, located approximately 1,410 feet to the west. The potable water supply for the area of the Site is provided by the New York City Department of Environmental Protection (NYCDEP) Bureau of Water and Sewer Operations where the potable water supply is obtained from upstate within the Catskill/Delaware watersheds. The Catskill/Delaware watersheds consist of nineteen (19) reservoirs which use a series of tunnels and aqueducts to transfer water to municipalities. Groundwater in Kings County is not used for potable purposes in the area of the Site.

The Site is in an area which is residential mixed with commercial and office usage. The Sites two single story commercial and one 6-story residential apartment buildings are currently occupied .. The Site is bordered to the north by South 4th Street and several three and five story residential buildings, to the east by a four-story residential apartment building with a commercial first floor, to the south by a multi-story residential apartment building and a multi-story office building, and to the west by a concrete paved driveway, one four-story residential apartment building and one three-story residential home. The use of the Site is not planned to change in the future.

CVOCs are the predominant COC present at the Site, as confirmed by the soil vapor intrusion investigation performed. There have been some incidental detections of SVOCs above Unrestricted Use SCOs in shallow and intermediate soil. However, no distinctive historic fill layer has yet been identified at the Site.

The soil vapor analytical data shows the cVOCs PCE, TCE, and cis-1,2 were detected at elevated concentrations requiring mitigation, in accordance with the NYSDOH final Guidance for Evaluating Soil Vapor Intrusion Decision Matrices, primarily in the southwest corner of the property (samples SV-1b and SV-2b). The SVI RI soil vapor analytical data from SV-3b, SV-1a, and SV-3a indicate that cVOCs have potentially migrated in soil vapors to the northwestern portion of the Site. Due to the high TCE/PCE concentration detected in SV-1b and SV-2b, the source area is potentially the southwest portion of the Site. Due to the lack

of comprehensive soil and groundwater data at this time, it cannot be determined whether the source is onsite, or from an off-site source to the south.

The source area and distribution of contamination at the Site has been identified and discussed in greater detail in Sections 5.3 of the SVI RIR. The contaminated media includes soil vapor, soil and groundwater, indicating the Site may have been impacted by past Site operations as adhesives manufacturing (98 S. 4th St, formerly 98-102 S 4th St); an electroplating operation; a laboratory (Camin Industries); a Sawing, Painting and Varnishing factory (100 S. 4th St, formerly 104-114 S 4th St); and a dye factory (116 S 4th St).

The south adjoining property, located at 95-105 South 5th Street, is a NYSDEC Brownfield Cleanup Program (BCP) project (No. C224233). Developments at this site have included two-story residential units (on Lots 37 and 41) circa 1868 and an auto body shop (on Lot 41). Due to the auto body shop, both Lots have an E-Designation assigned in the Greenpoint-Williamsburg Rezoning Environmental Impact Statement (EIS). The site has been redeveloped into a 12-story apartment building with a commercial business located at the first floor. The nature and extent of contamination is as follows: The primary contaminants of concern were SVOCs and mercury in soil, and tetrachloroethene and trichloroethene in groundwater. Groundwater is noted to flow north towards the East River. Remedial actions have successfully achieved soil cleanup objectives for restricted residential use. However, it should be noted that the property is operating a continuous soil vapor extraction (SVE) system, located in the parking lot, directly adjoining 98 South 4th Street (the Site) to the south, and for which recent data from the Operations, Maintenance and Monitoring of said system seemed to report that cVOCs are still present in soil vapor in this area of the site.

This SVI RIR has included updating of the initial CSM to consider the relationship between contaminant sources and contaminants of concern, environmental media and receptors through consideration of migration and exposure pathways. This conceptual model is based on current Site conditions and surrounding land use as well as the planned future Site and the surrounding land uses. The remedy selected for the Site will address the complete exposure pathways in a Remedial Action Work Plan (RAWP).

An illustrative CSM, **Figure 1**, is a pictorial depiction of environmental hazards associated with contaminated soil vapor. Exposure pathways to human (e.g., incidental ingestion, dermal absorption, and inhalation) are also indicated based on the current information available for the Site. This CSM presents an understanding of the known Site conditions based on the SVI RI. The CSM will be maintained and updated as new

information is collected throughout the life cycle of the project, including the upcoming second phase of the RI, including extensive soil and groundwater sampling and analysis.

7 FINDINGS AND CONCLUSIONS

IEC has prepared this SVI RI for the Site and in substantial accordance with the Remedial Investigation Work Plan (RIWP) approved by NYSDEC on January 19, 2021. This SVI RI is intended to determine, to the extent possible, the nature and extent of contamination in soil vapor and will be used to evaluate appropriate remedial action alternatives for the Site.

The findings of the SVI RI are summarized as follows:

- A total of nine (9) sub-slab soil vapor points were sampled, along with 12 indoor air samples and one (1) outdoor ambient air sample.
- The concentrations of PCE in soil vapor ranged from 4.66 µg/m^3 at SV-4 (located in the stairwell, centrally located within 100 South 4th Street) up to 2,710 µg/m^3 at SV-2b (located in the south portion of 98b South 4th Street). The TCE concentrations in soil vapor ranged from 5.7 µg/m^3 at SV-5b (located on the south portion of 104 South 4th Street) up to 3,260 µg/m^3 at SV-2b (located in the south portion of 98b South 4th Street). In addition, concentrations of cis-1,2-DCE in soil vapor ranged from non-detect at SV-4, SV-5a, and SV-5b (located on the eastern portions of the property) up to 379 µg/m^3 at SV-2b (located in the south portion of 98b South 4th Street). The concentrations of PCE, TCE, and cis-1,2 in soil vapor are lower beneath the central and eastern portions of the property, with the highest concentrations located in the southwest portion of the property. Finally, an elevated concentration of carbon tetrachloride was detected in one (1) of the nine (9) soil vapor samples at SV-5b. Based on the lack of evidence of this compound in the other soil vapor samples (or historic soil data), it appears that this detection is an anomaly, and not an indication of contamination present beneath the property in this area. The presence of this compound will be further investigated during the second phase of the Remedial Investigation, which will include soil sampling in this area.
- The concentrations of PCE in indoor air ranged from 0.292 µg/m^3 at IA-4e (located in ground floor apartment #E, located within 100 South 4th Street) up to 2.55 µg/m^3 at IA-4c (located in ground floor apartment #C, located within 100 South 4th Street). The TCE concentrations in indoor air ranged from non-detect at IA-4d and IA-4e (located in ground floor apartments #D and #E, located within 100 South 4th Street) up to 2.14 µg/m^3 at IA-3 (located in 98c South 4th Street). In addition, concentrations of carbon tetrachloride in indoor air ranged from 0.39 µg/m^3 at IA-4a (located in ground floor apartment #A, located within 100 South 4th Street) up to 0.591 µg/m^3 at IA-4c (located in ground

floor apartment #C, located within 100 South 4th Street). The concentrations of PCE and TCE in indoor air across the Site vary only marginally.

- Ambient concentrations of PCE and carbon tetrachloride were detected in the outdoor air sample OA-1, at concentrations of 0.325 µg/m^3 and 0.491 µg/m^3 respectively. These detections in outdoor air may be contributing to the indoor air detections of PCE and carbon tetrachloride, although likely to a minimal extent.
- Source Area: The most prevalent COCs identified at the Site requiring mitigation, based on the NYSDOH Decision Matrices are PCE, TCE, and cis-1,2, chlorinated VOCs associated with metal-cleaning and degreasing, which may have been utilized during the property's usage as a manufacturing facility, or may be migrating onto the site from documented off-site cVOC sources to the south. Based on the distribution of the cVOCs detected in soil vapor, the potential source area for the cVOC at the Site is the southwest portion of the Site, proximal to the south adjoining BCP Site.

The conclusions are summarized as follows:

1. The SVI RI determined the degree and extent of on-site soil vapor contamination from past Site operations as a metal fabricating/manufacturing facility, or from off-site sources to the south.
2. Thus far, the analytical data gathered during the SVI RI is not sufficient to develop a remedy for the Site. The second phase of the RI, including additional soil and groundwater sampling will be performed. Once all components of the RIWP have been completed and reported, the proposed remedy will be described and evaluated in a Remedial Action Work Plan (RAWP) prepared in accordance with NYSDEC BCP guidelines.
3. IEC proposes that, based on the ongoing residential and commercial occupancy of the property, and confirmed presence of elevated concentrations of cVOCs in the soil vapor at the Site, an Interim Remedial Measure (IRM) be prepared. The IRM will propose measures to address the on-Site soil vapor contamination to ensure continued protection of human health and the environment.

7.1 Project Schedule

IEC anticipates that the second phase of the Remedial Investigation, comprising of comprehensive soil and groundwater sampling and analysis, will commence in August/September 2021.

8 REFERENCES

1. Ecosystems Strategies, Inc., Summary Report of Phase II Environmental Services, dated January 23, 1997.
2. Ecosystems Strategies, Inc., Summary Report of Subsurface Investigation, dated April 7, 1997.
3. Ecosystems Strategies, Inc., Final Work Plan for Site Closure Activities, dated December 3, 1997.
4. Ecosystems Strategies, Inc., Summary Report of Subsurface Investigative Services, dated March 26, 1999.
5. Nova Consulting, Phase I ESA Report, dated February 16, 2018 (with information from the Don Carlo Phase II Subsurface Investigation and Tank Closure Report, dated April 2006).
6. Impact Environmental Closures, Inc., Phase I ESA Report, dated May 23, 2019.
7. Excel Environmental Resources, Inc., Draft Vapor Intrusion Assessment Report, dated April 2019.
8. New York State Department of Environmental Conservation Department of Environmental Remediation DER-10 Technical Guidance for Site Investigation and Remediation dated May 3, 2010.
9. New York State Department of Health (NYSDOH) Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006, and the subsequent updates.

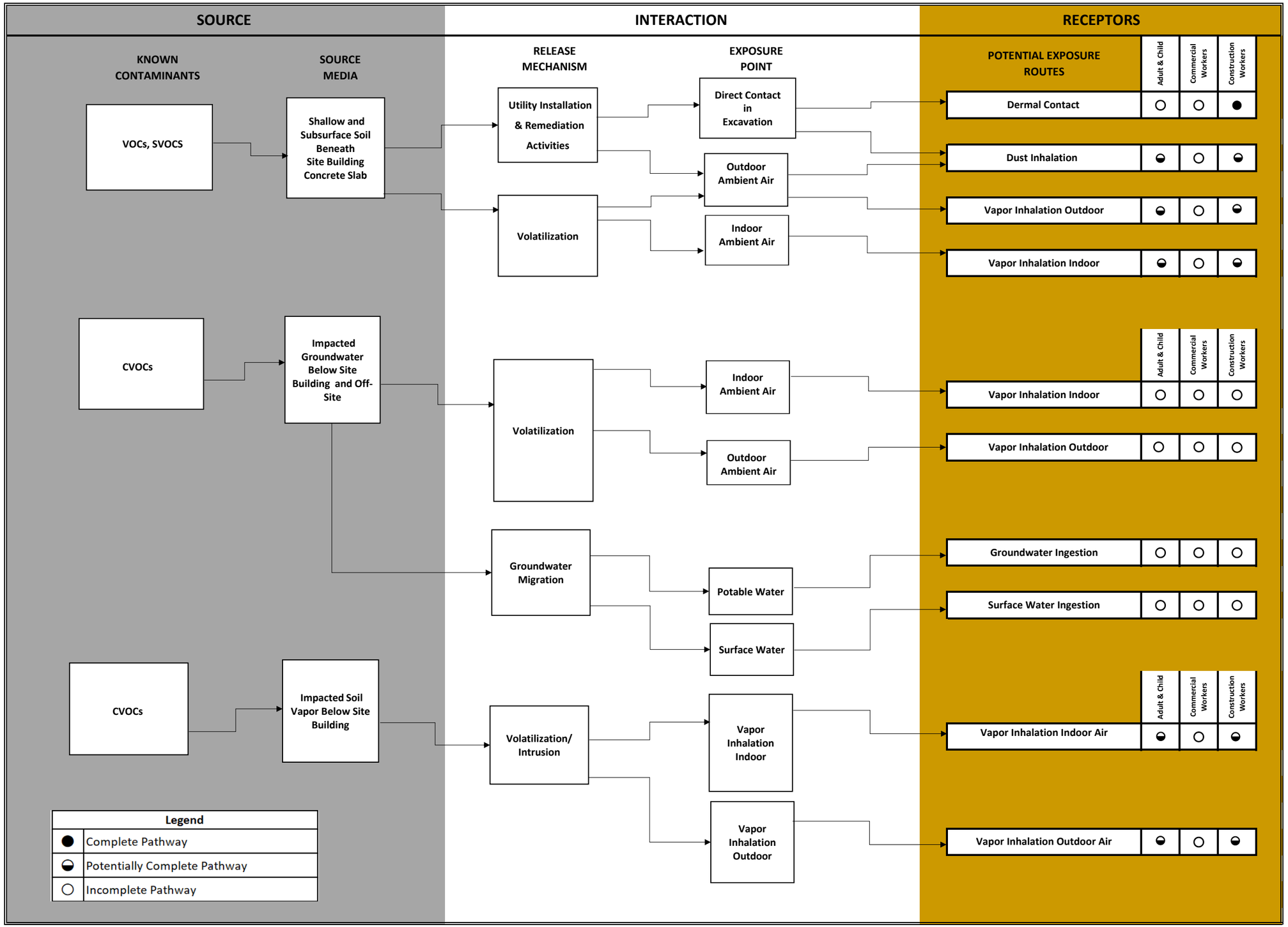
FIGURES

98, 100, and 104 South 4th Street, Brooklyn, NY

NYSDEC BCP #C224260

IMPACT ENVIRONMENTAL
170 Keyland Court
Bohemia, New York 11716
TEL: (631) 268-8800
FAX: (631) 269-1599

FIGURE 1: CONCEPTUAL SITE MODEL

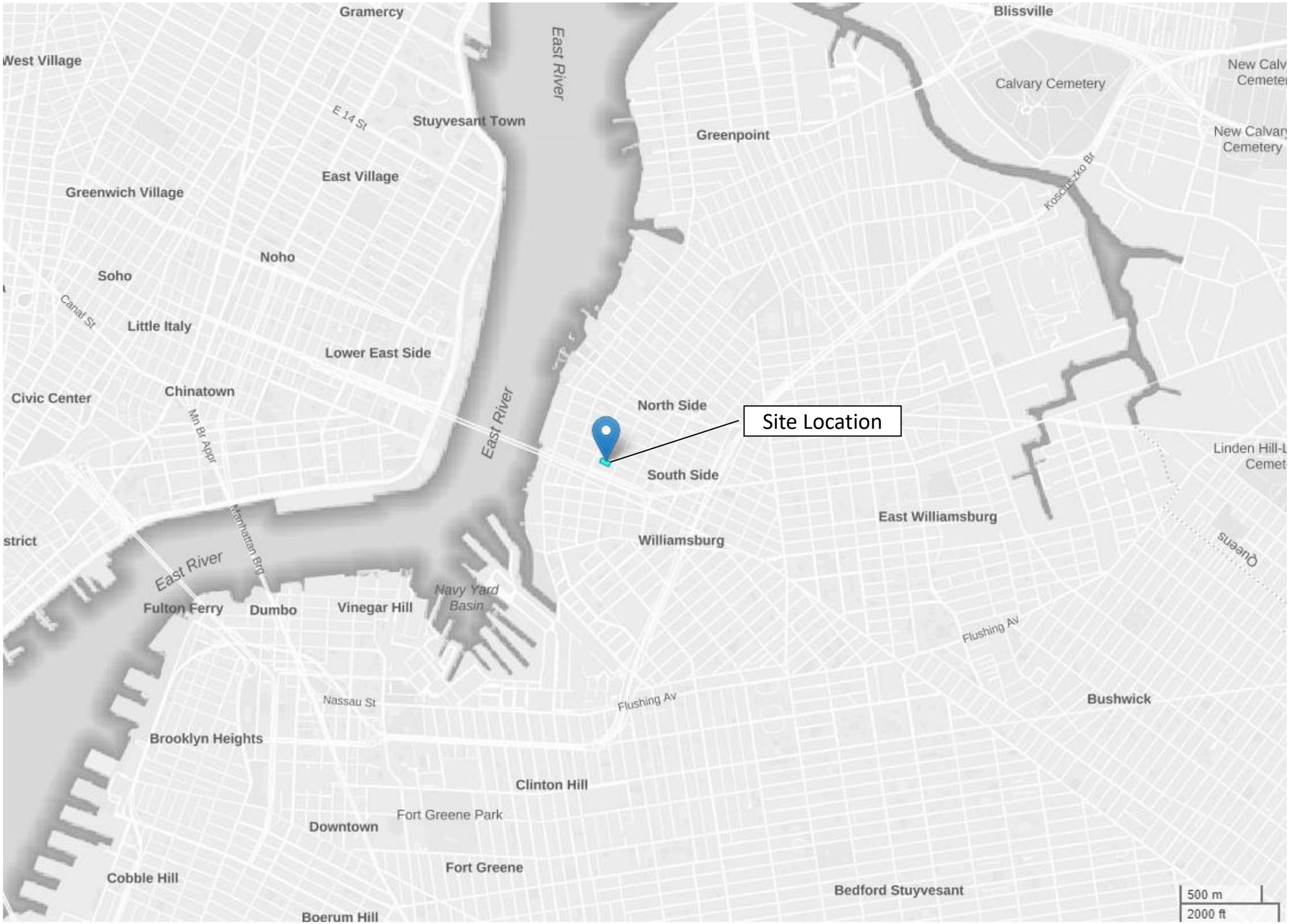


PLATES

98, 100, and 104 South 4th Street, Brooklyn, NY

NYSDEC BCP #C224260

IMPACT ENVIRONMENTAL
170 Keyland Court
Bohemia, New York 11716
TEL: (631) 268-8800
FAX: (631) 269-1599



Legend

Notes:

Base map: NYCOER SPEED Map

SITE LOCATION MAP

100 South 4th Street, Brooklyn, NY

Plate 1

PROJECT #	13817
DRAWN BY	CJC
CHECKED BY	KK
DATE	5/21/21
Revisions	

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Not to scale

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BOHEMIA, NEW YORK 11716
TEL (631) 269-8800
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Legend

Notes:

Base Map: NYC OASIS Map

SITE AREA MAP

100 South 4th Street, Brooklyn, NY

Plate 2

PROJECT #	13817
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CHECKED BY	KK
DATE	5/21/21
Revisions	

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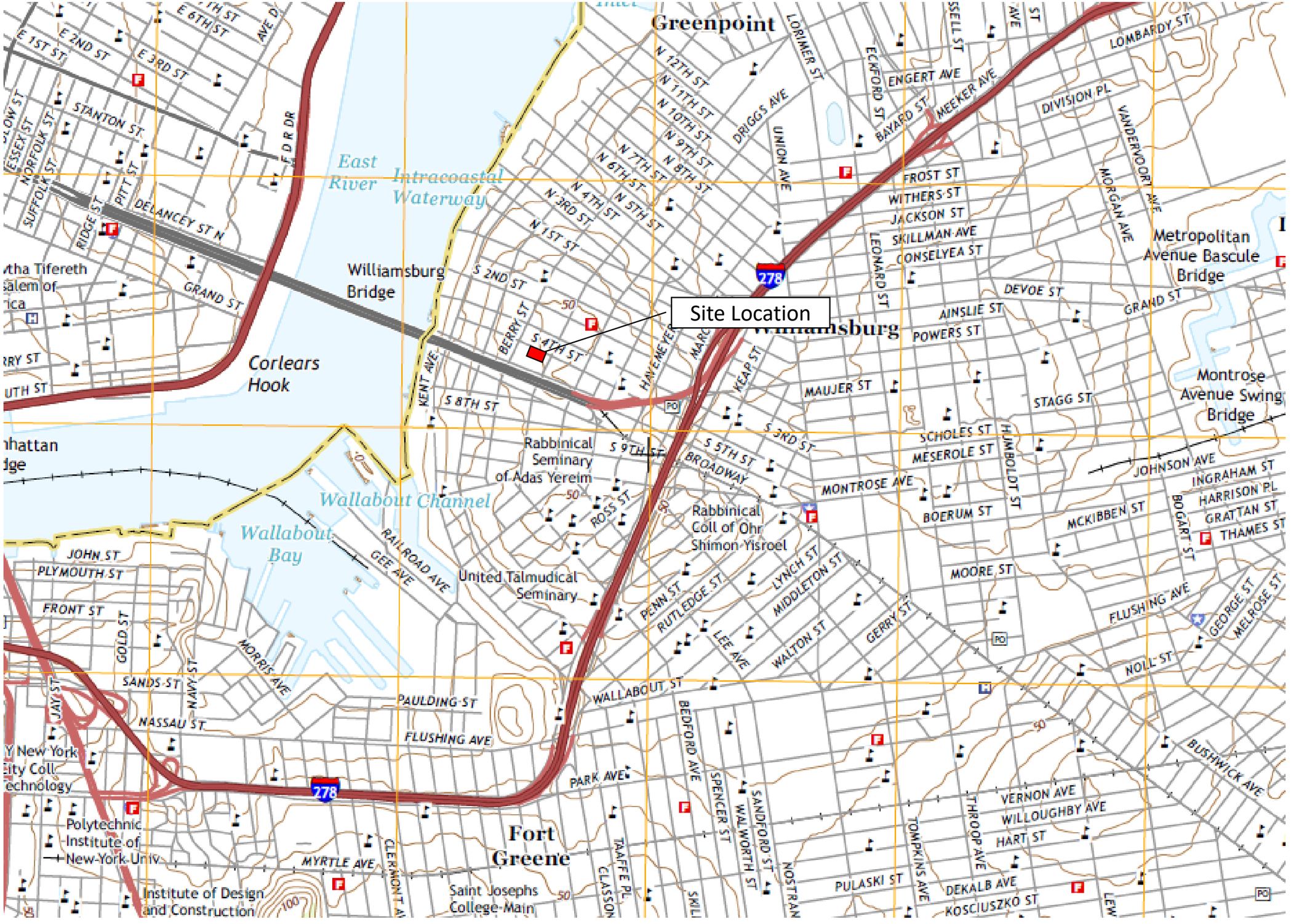

Legend

Notes:

Base Map: USGS Brooklyn Quadrangle Topographic Map

SITE TOPOGRAPHIC MAP

100 South 4th Street, Brooklyn, NY

Plate 3

PROJECT #	13817
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Revisions	

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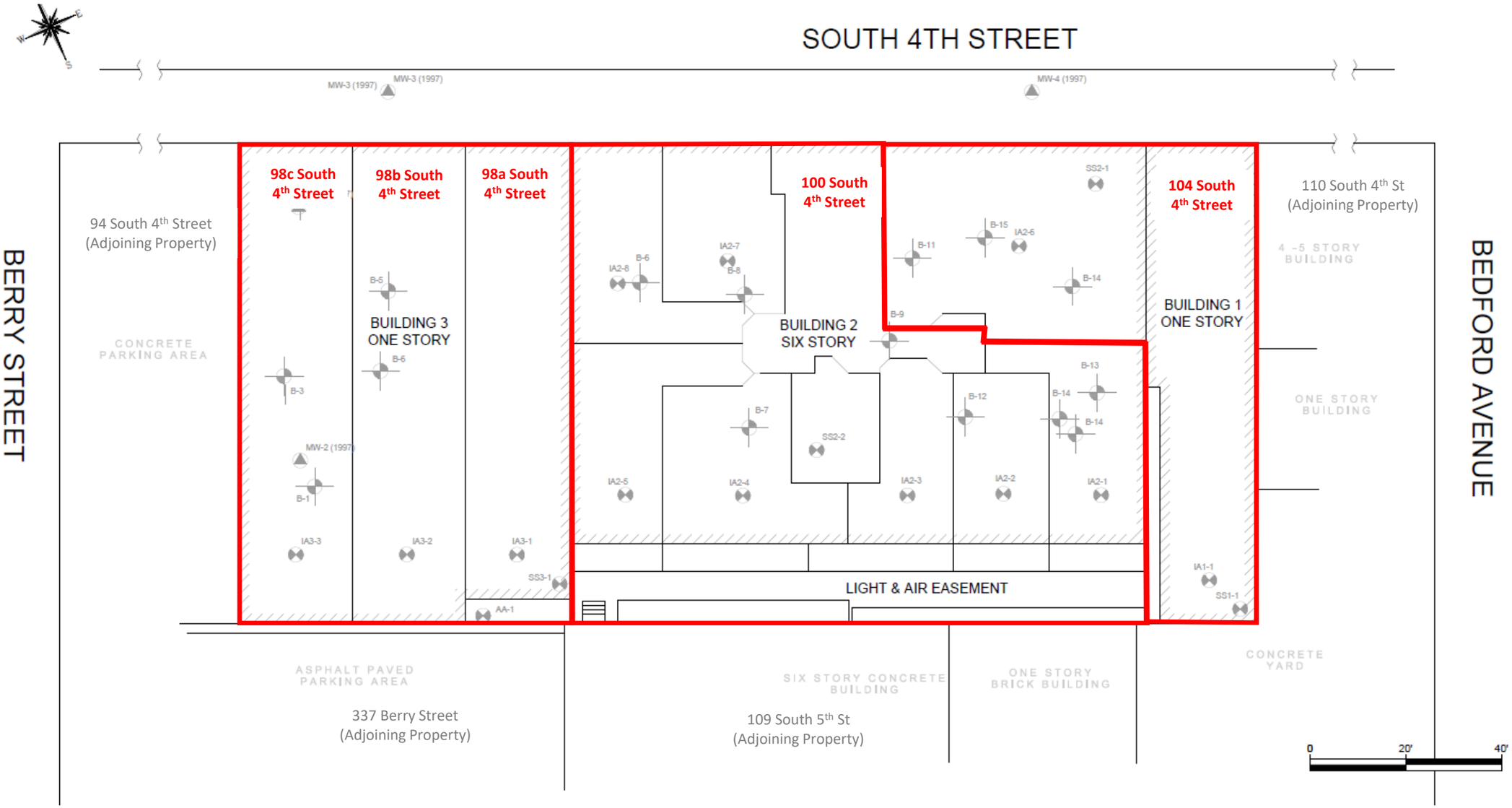

Legend

Property Boundaries

Notes:

SITE PLAN

100 South 4th Street, Brooklyn, NY

Plate 4

PROJECT #	13817
DRAWN BY	CJC
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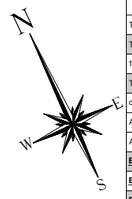

SOUTH 4TH STREET

BERRY STREET

BEDFORD AVENUE

B-2 (12/11/1996)	0' - 2'	5' - 7'	15' - 17'	PGW	RR
Toluene	ND	1.4	ND	*0.7*	*100*
Tetrachloroethene	5.5	ND	ND	*1.3*	*19*
1,1,1-Trichloroethane	ND	0.071	ND	*0.68*	*100*
Trichloroethene	3.7	ND	ND	*0.47*	*21*
cis-1,2-dichloroethene	ND	ND	ND	*0.25*	*100*
Acenaphthene	ND	NA	NA	*98*	*100*
Anthracene	1.2	NA	NA	*1000*	*100*
Benzo(a)anthracene	**3.3**	NA	NA	*1*	*1*
Benzo(a)pyrene	**2.9**	NA	NA	*22*	*1*
Benzo(b)fluoranthene	**4**	NA	NA	*1.7*	*1*
Benzo(k)fluoranthene	1.5	NA	NA	*1.7*	*3.9*
Benzo(g,h,i)perylene	1.5	NA	NA	*1000*	*100*
Chrysene	3.5	NA	NA	*1*	*3.9*
Fluoranthene	7.3	NA	NA	*1000*	*100*
Indeo(1,2,3-cd)pyrene	**1.3**	NA	NA	*8.82*	*0.5*
Napthalene	ND	NA	NA	*12*	*100*
Phenanthrene	6.1	NA	NA	*1000*	*100*
Pyrene	6.1	NA	NA	*1000*	*100*

B-5 (4/1/1997)	6" - 2'	4' - 6'	8' - 10'	PGW	RR
Acetone	*0.046*	ND	ND	*0.05*	*100*
Tetrachloroethene	*0.063*	0.002	0.004	*1.3*	*19*
Trichloroethene	*0.1*	0.005	0.007	*0.47*	*21*
Methylene Chloride	0.023	ND	ND	*0.05*	*100*
Acenaphthene	*1.1*	ND	ND	*98*	*100*
Anthracene	*1.6*	ND	ND	*1000*	*100*
Benzo(a)anthracene	***4.3***	0.078	ND	*1*	*1*
Benzo(a)pyrene	***3.8***	ND	ND	*22*	*1*
Benzo(b)fluoranthene	***6.7***	ND	ND	*1.7*	*1*
Benzo(k)fluoranthene	*1.8*	ND	ND	*1.7*	*3.9*
Benzo(g,h,i)perylene	*1.6*	ND	ND	*1000*	*100*
Chrysene	***4.5***	78J	ND	*1*	*3.9*
Fluorene	0.6	ND	ND	*386*	*100*
Fluoranthene	9.7	0.17	ND	*1000*	*100*
Indeo(1,2,3-cd)pyrene	**1.5**	ND	ND	*8.2*	*0.5*
Napthalene	*1*	ND	ND	*12*	*100*
Phenanthrene	*9*	0.13	ND	*1000*	*100*
Pyrene	8	0.14	ND	*1000*	*100*
Dibenzo(a,h)anthracene	**0.51**	ND	ND	*1000*	*0.33*

B-8 (4/1/1997)	6" - 2'	PGW	RR
Tetrachloroethene	0.003	*1.3*	*19*
Trichlorethene	0.014	*0.47*	*21*
Benzo(a)anthracene	0.13	*1*	*1*
Benzo(b)fluoranthene	0.14	*1.7*	*1*
Chrysene	0.13	*1*	*3.9*
Phenanthrene	0.11	*1000*	*100*
Pyrene	0.2	*1000*	*100*

B-15 (3/19/1999)	0' - 2'	12'	PGW	RR
Trichlorethene	0.007	ND	*0.47*	*21*

B-11 (3/19/1999)	0' - 2'	12'
Non-Detect or Not Analyzed		

B-14 (3/19/1999)	0' - 2'	12'
Non-Detect or Not Analyzed		

B-13 (3/19/1999)	-
Refusal	

B-10 (4/1/1997)	-
Refusal	

B-6 (4/1/1997)	6" - 2'	PGW	RR
Trichloroethene	0.003	*0.47*	*21*
Fluoranthene	0.056	*1000*	*100*
Pyrene	0.052	*1000*	*100*

B-7 (4/1/1997)	6" - 2'
Non-Detect or Not Analyzed	

B-9 (4/1/1997)	4' - 6'	PGW	RR
Trichloroethene (TCE)	0.003	*0.47*	*21*

B-16 (3/19/1999)	0' - 2'	8'	PGW	RR
Trichlorethene	0.005	ND	*0.47*	*21*

B-12 (3/19/1999)	0' - 2'	8'	PGW	RR
Trichlorethene	0.015	ND	*0.47*	*21*

B-3 (4/1/1997)	6" - 2'	4' - 6'	8' - 10'	PGW	RR
Tetrachloroethene	0.006	0.055	0.004	*1.3*	*19*
Trichloroethene	0.003	0.018	0.003	*0.47*	*21*
Acenaphthene	0.79	ND	ND	*98*	*100*
Anthracene	1.6	ND	0.082	*1000*	*100*
Benzo(a)anthracene	**3.1**	ND	0.2	*1*	*1*
Benzo(a)pyrene	**2.6**	ND	0.16	*22*	*1*
Benzo(b)fluoranthene	**3.3**	ND	0.21	*1.7*	*1*
Benzo(k)fluoranthene	1.2	ND	0.008	*1.7*	*3.9*
Benzo(g,h,i)perylene	1.2	ND	ND	*1000*	*100*
Chrysene	3	ND	0.2	*1*	*3.9*
Fluorene	0.830	ND	ND	*386*	*100*
Fluoranthene	6.9	0.095	0.48	*1000*	*100*
Indeo(1,2,3-cd)pyrene	**1.2**	ND	ND	*8.2*	*0.5*
Napthalene	0.56	ND	ND	*12*	*100*
Phenanthrene	7.1	0.099	0.4	*1000*	*100*
Pyrene	5.9	0.082	0.38	*1000*	*100*
Dibenzo(a,h)anthracene	0.32	ND	ND	*0.33*	*0.33*

B-1 (12/11/1996)	0' - 2'	15' - 17'	PGW	RR
Tetrachloroethene	0.17	ND	*1.3*	*19*
Trichloroethene	0.56	ND	*0.47*	*21*
cis-1,2-dichloroethene	0.12	ND	*0.25*	*100*
Acenaphthene	1.4	ND	*98*	*100*
Anthracene	3	ND	*1000*	*100*
Benzo(a)anthracene	**7.9**	ND	*1*	*1*
Benzo(a)pyrene	**6**	ND	*22*	*1*
Benzo(b)fluoranthene	**7.1**	ND	*1.7*	*1*
Benzo(k)fluoranthene	2.5	ND	*1.7*	*3.9*
Benzo(g,h,i)perylene	2.3	ND	*1000*	*100*
Chrysene	**9**	ND	*1*	*3.9*
Fluoranthene	14	ND	*1000*	*100*
Indeo(1,2,3-cd)pyrene	**1.9**	ND	*8.82*	*0.5*
Napthalene	3.4	ND	*12*	*100*
Phenanthrene	19	ND	*1000*	*100*
Pyrene	19	ND	*1000*	*100*

B-4 (4/1/1997)	6" - 2'	4' - 6'	8' - 10'	PGW	RR
Acetone	ND	0.056	0.037	*0.05*	*100*
Tetrachloroethene	0.37	0.059	0.032	*1.3*	*19*
Trichloroethene	1.1	0.15	0.066	*0.47*	*21*
Acenaphthene	0.12	0.48	0.1	*78*	*100*
Acenaphthylene	ND	0.1	0.068	*107*	*100*
Anthracene	0.38	0.89	0.38	*1000*	*100*
Benzo(a)anthracene	**1.2**	**2.4**	0.87	*1*	*1*
Benzo(a)pyrene	**1.1**	**2.1**	0.88	*22*	*1*
Benzo(b)fluoranthene	**1.4**	**2.7**	**1.2**	*1.7*	*1*
Benzo(k)fluoranthene	0.56	0.89	0.41	*1.7*	*3.9*
Benzo(g,h,i)perylene	0.35	0.86	0.34	*1000*	*100*
Chrysene	1.2	2.6	0.86	*1*	*3.9*
Fluorene	ND	0.43	ND	*386*	*100*
Fluoranthene	2.4	5.2	2	*1000*	*100*
Indeo(1,2,3-cd)pyrene	0.35	**0.82**	0.3	*8.2*	*0.5*
Napthalene	ND	0.55	0.13	*12*	*100*
Phenanthrene	1.7	6	1.7	*1000*	*100*
Pyrene	2.2	5.1	2.6	*1000*	*100*
Dibenzo(a,h)anthracene	0.11	0.27	0.077	*1000*	*0.33*

B-1 B-2 B-3 B-4 B-5 B-6 B-7 B-8 B-9 B-10 B-11 B-12 B-13 B-14 B-15 B-16

BUILDING 3
ONE STORY

BUILDING 2
SIX STORY

BUILDING 1
ONE STORY

4 -5 STORY
BUILDING

ONE STORY
BUILDING

CONCRETE
PARKING AREA

LIGHT & AIR EASEMENT

STORY CONCRETE
BUILDING

ONE STORY
BRICK BUILDING

CONCRETE
YARD

0 20' 40'

IMPACT ENVIRONMENTAL
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LYNDHURST, NEW JERSEY 07071

TITLE:

SOIL SAMPLE LOCATION PLAN COLLECTED 1997 & 1999

SITE:

100 SOUTH 4TH STREET
BROOKLYN NY
BLOCK: 2443 LOT: 13

SHEET NO. PLATE 5

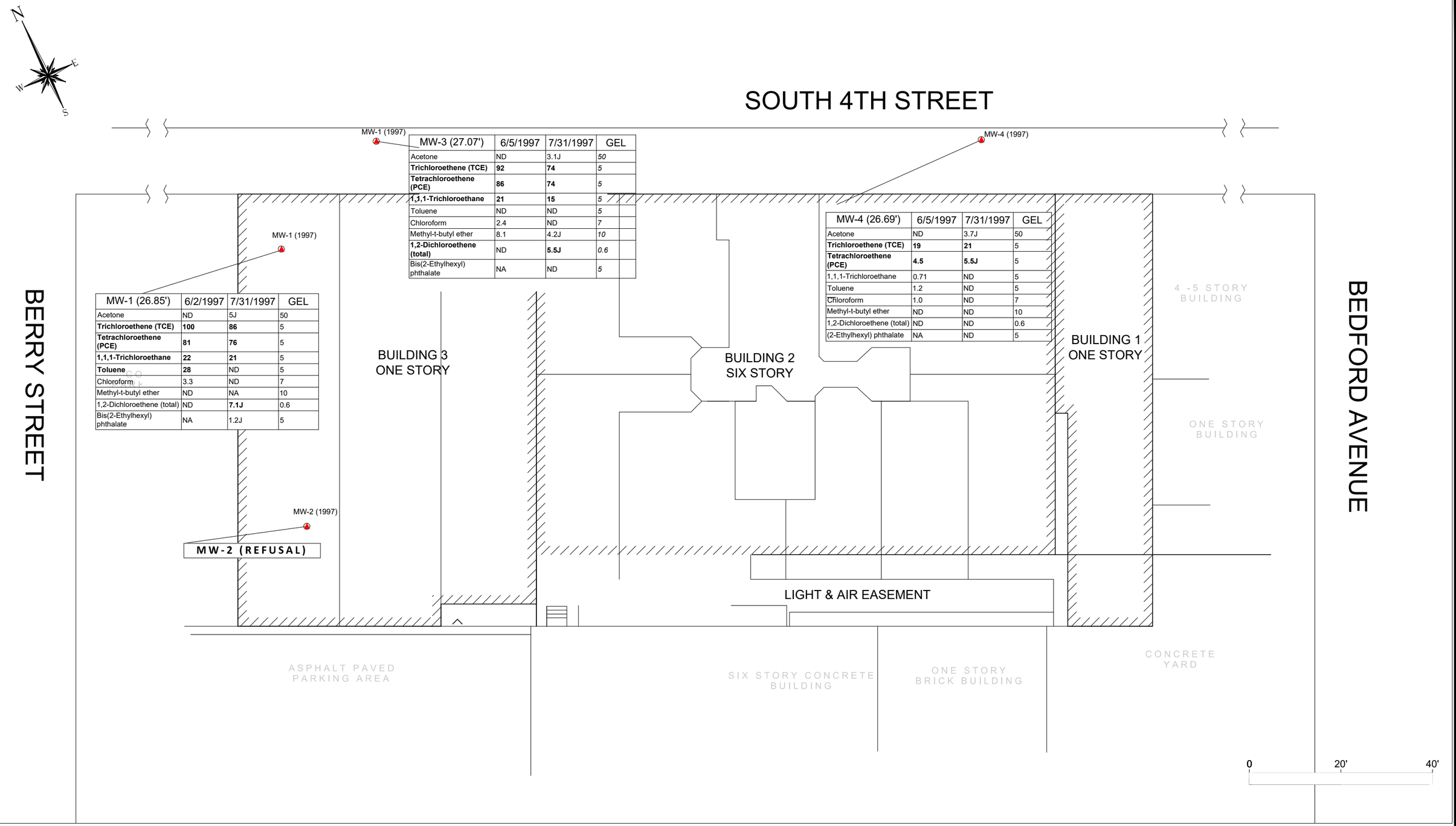
PROJECT NO.	13817
DESIGNED BY:	RD
DRAWN BY:	RD
CHECKED BY:	KK/JDF
DATE:	08/23/2019
SCALE:	1" = 20'

REVISIONS NO:	DATE:

NOTES:
1. BORINGS B-1 TO B-8: SAMPLE RESULTS TAKEN FROM THE FINAL WORK PLAN FOR SITE CLOSURE ACTIVITIES REPORT, PREPARED BY ECOSYSTEMS STRATEGIES, INC. DATED 3/12/1997.
2. BORINGS B-9 & B-11 TO B-16: SAMPLE RESULTS TAKEN FROM THE SUMMARY REPORT OF SUPPLEMENTAL SUBSURFACE INVESTIGATIVE SERVICES, PREPARED BY ESI DATED 26/03/1999.
3. SITE UNDERLAY AND PROPERTY LINES TAKEN FROM SURVEY PERFORMED BY BORO LAND SURVEYING, P.C. DATED APRIL 12, 2019.
4. CONTAMINANTS IDENTIFIED AS EXCEEDING THE PROTECTION OF GROUNDWATER-(PGW) SCOS LISTED IN 6NYCRR PART 375 ARE HIGHLIGHTED WITH A GRAY BACKGROUND.
5 CONTAMINANTS IDENTIFIED AS EXCEEDING THE RESTRICTED RESIDENTIAL SCOS- (RR) LISTED IN 6NYCRR PART 375 ARE HIGHLIGHTED IN **BOLD & UNDERLINE.**
6 "J" INDICATES RESULT BELOW LABORATORY'S DETECTION LIMIT.
7 CONCENTRATIONS ARE IN PARTS PER MILLION (PPM)

LEGEND:

SOIL BORING



MW-3 (27.07')	6/5/1997	7/31/1997	GEL
Acetone	ND	3.1J	*50*
Trichloroethene (TCE)	**92**	**74**	*5*
Tetrachloroethene (PCE)	**86**	**74**	*5*
1,1,1-Trichloroethane	**21**	**15**	*5*
Toluene	ND	ND	*5*
Chloroform	2.4	ND	*7*
Methyl-t-butyl ether	8.1	4.2J	*10*
1,2-Dichloroethene (total)	ND	**5.5J**	*0.6*
Bis(2-Ethylhexyl) phthalate	NA	ND	*5*

MW-1 (26.85')	6/2/1997	7/31/1997	GEL
Acetone	ND	5J	50
Trichloroethene (TCE)	**100**	**86**	5
Tetrachloroethene (PCE)	**81**	**76**	5
1,1,1-Trichloroethane	**22**	**21**	5
Toluene	**28**	ND	5
Chloroform	3.3	ND	7
Methyl-t-butyl ether	ND	NA	10
1,2-Dichloroethene (total)	ND	**7.1J**	0.6
Bis(2-Ethylhexyl) phthalate	NA	1.2J	5

MW-4 (26.69')	6/5/1997	7/31/1997	GEL
Acetone	ND	3.7J	50
Trichloroethene (TCE)	**19**	**21**	5
Tetrachloroethene (PCE)	**4.5**	**5.5J**	5
1,1,1-Trichloroethane	0.71	ND	5
Toluene	1.2	ND	5
Chloroform	1.0	ND	7
Methyl-t-butyl ether	ND	ND	10
1,2-Dichloroethene (total)	ND	ND	0.6
(2-Ethylhexyl) phthalate	NA	ND	5

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TITLE:

GROUNDWATER SAMPLE PLAN COLLECTED 1997

SITE:

100 SOUTH 4TH STREET
BROOKLYN NY
BLOCK: 2443 LOT: 13

SHEET NO. PLATE 6

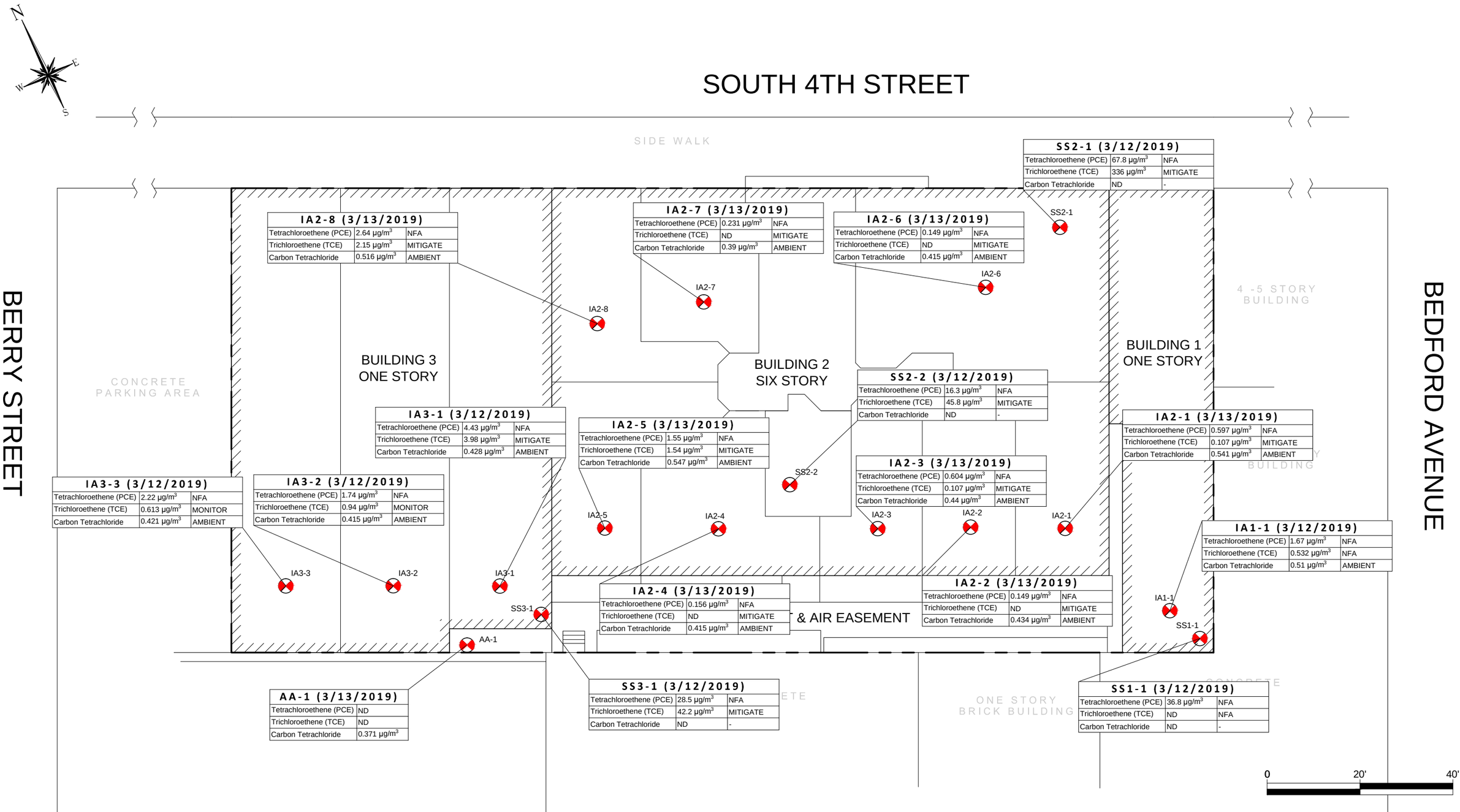
PROJECT NO.	13817
DESIGNED BY:	RD
DRAWN BY:	RD
CHECKED BY:	KK/JDF
DATE:	08/23/2019
SCALE:	1" = 20'

REVISIONS NO:	DATE:

NOTES:
1. SAMPLE LOCATIONS & RESULTS TAKEN FROM "FIGURE 2: FIELD WORK MAP" OF THE FINAL WORK PLAN FOR SITE CLOSURE ACTIVITIES REPORT, PREPARED BY ECOSYSTEMS STRATEGIES, INC. DATED 3/12/1997, PROJECT NUMBER PB96146.40.
2. SITE UNDERLAY AND PROPERTY LINES TAKEN FROM SURVEY PERFORMED BY BORO LAND SURVEYING, P.C. DATED APRIL 12, 2019.
3. CONTAMINANTS IDENTIFIED AS EXCEEDING THE 6NYCRR PART 703.5 GROUNDWATER EFFLUENT LIMITATIONS (GEL) CLASS GA STANDARDS HAVE BEEN HIGHLIGHTED IN **BOLD**.
4. "J" IDENTIFIER INDICATES RESULT BELOW LABORATORY'S DETECTION LIMIT.
5. CONCENTRATIONS ARE REPORTED IN PPB

LEGEND:

GROUNDWATER MONITORING WELL



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TITLE:

SOIL VAPOR & AIR SAMPLE LOCATION PLAN COLLECTED 2019

SITE:

100 SOUTH 4TH STREET
BROOKLYN NY
BLOCK: 2443 LOT: 13

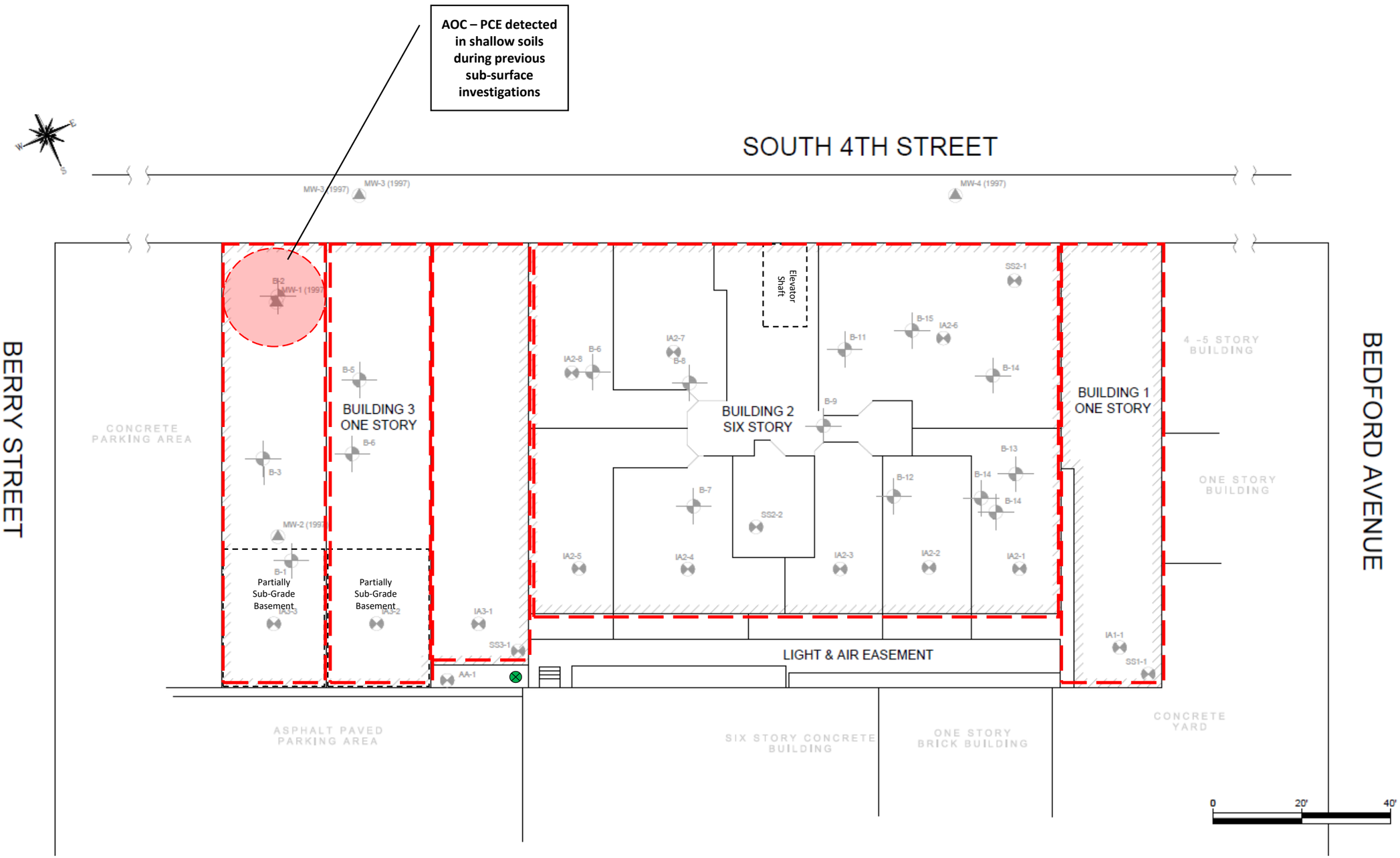
SHEET NO. PLATE 7

PROJECT NO.	13817
DESIGNED BY:	RD
DRAWN BY:	RD
CHECKED BY:	KK/JDF
DATE:	08/23/2019
SCALE:	1" = 20'

REVISIONS NO:	DATE:

NOTES:
1. SAMPLE LOCATIONS & RESULTS TAKEN FROM "FIGURE 2" OF THE VAPOR INTRUSION ASSESSMENT REPORT, PREPARED BY EXCEL ENVIRONMENTAL RESOURCES, DATED 4/10/19, PROJECT NUMBER 18597.
2. SITE UNDERLAY AND PROPERTY LINES TAKEN FROM SURVEY PERFORMED BY BORO LAND SURVEYING, P.C. DATED APRIL 12, 2019.
3. CONTAMINANTS & THEIR LOCATIONS, IDENTIFIED AS REQUIRING FURTHER ACTION BY THE NYSDOH DECISION MATRIX HAVE BEEN LISTED. ACTIONS ARE;
   - NFA; NO FURTHER ACTION.
   - AMBIENT; COMPOUND REPORTED IN AMBIENT AIR SAMPLE.
   - MITIGATE; NEEDED TO MINIMIZE EXPOSURES ASSOCIATED WITH SVI.
   - MONITOR; MONITOR TO DETERMINE APPLICABLE ACTION IF ANY.

LEGEND:
- GROUNDWATER MONITORING WELL
- SOIL BORING
- SOIL VAPOR/AIR SAMPLE POINT
- SS SUB-SLAB SAMPLE
- IA INDOOR AIR SAMPLE
- AA AMBIENT AIR SAMPLE



Legend

Notes:

SITE PLAN WITH AOCs

100 South 4th Street, Brooklyn, NY

Plate 8

PROJECT #	13817
DRAWN BY	CJC
CHECKED BY	KK
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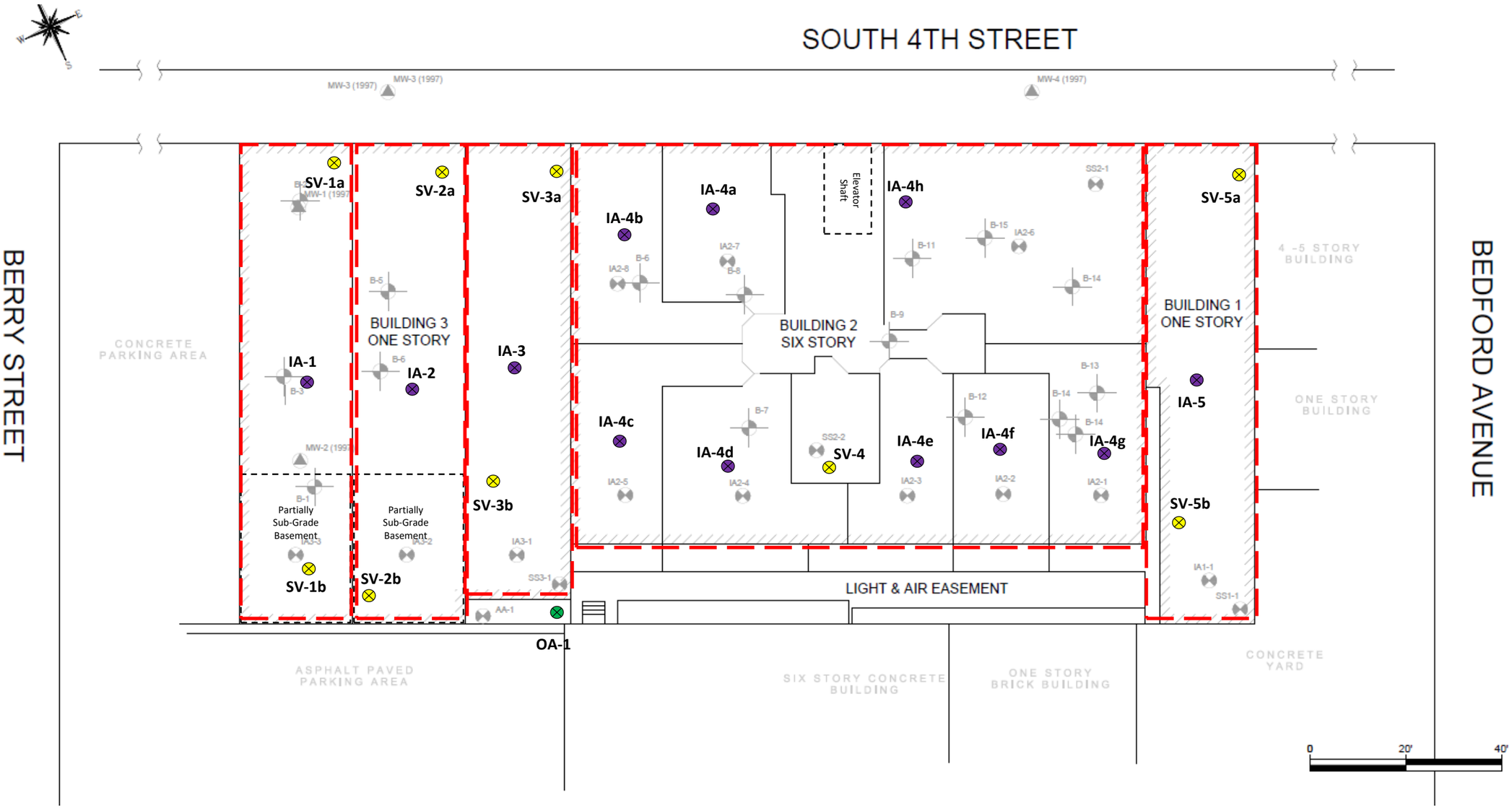

Legend

- Sub-Slab Soil Vapor Sample Locations
- Indoor Air Sample Locations
- Outdoor Ambient Air Sample Locations

Notes:

SVI Sample Point Locations

100 South 4th Street, Brooklyn, NY

Plate 9

PROJECT #	13817
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Revisions	

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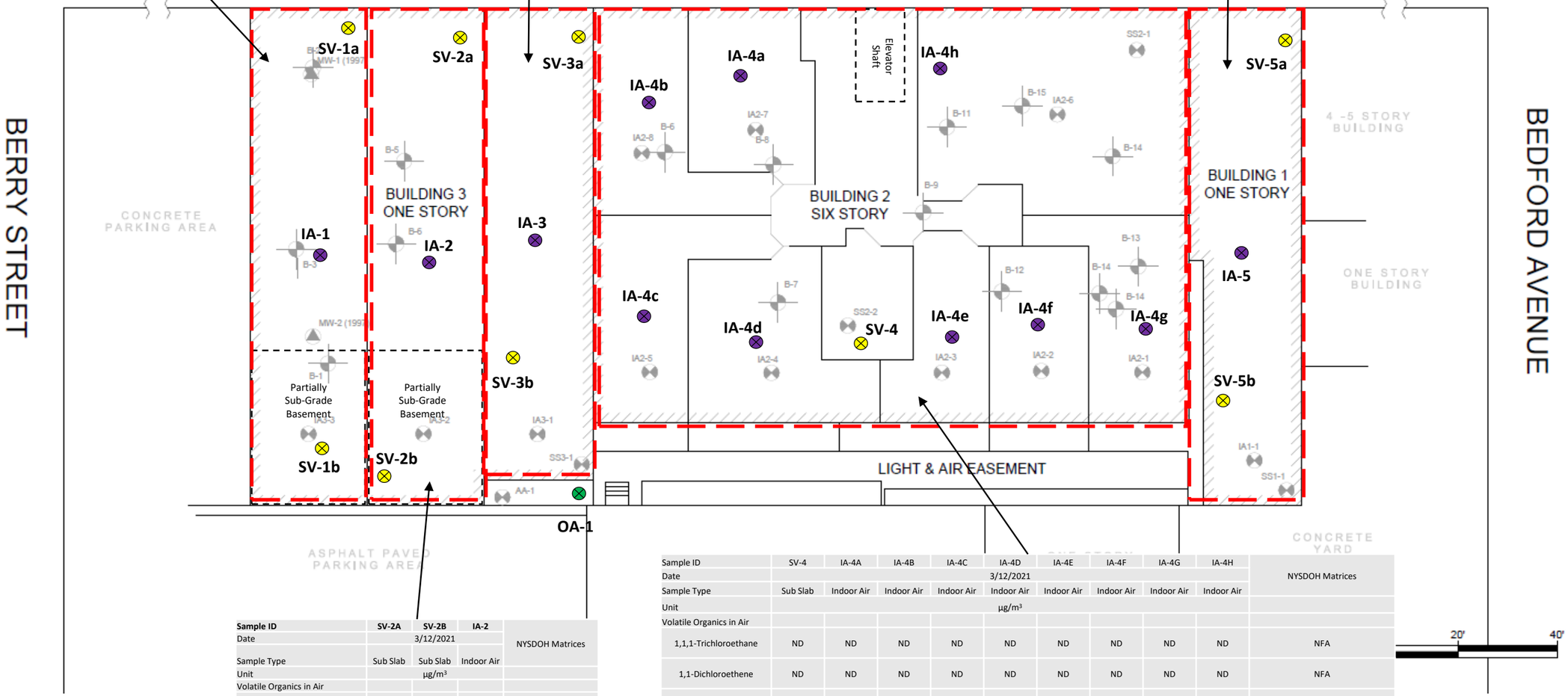
IMPACT ENVIRONMENTAL CLOSURES, INC.

170 KEYLAND COURT
BOHEMIA, NEW YORK 11716
TEL (631) 269-8800
FAX (631) 269-1599

Sample ID	SV-1A	SV-1B	IA-1	NYSDOH Matrices Decision
Date	3/12/2021			
Sample Type	Sub Slab	Sub Slab	Indoor Air	
Unit	µg/m³			
Volatile Organics in Air				
1,1,1-Trichloroethane	7.09	ND	ND	NFA
1,1-Dichloroethene	ND	ND	ND	NFA
Carbon tetrachloride	ND	ND	0.396	NFA
cis-1,2-Dichloroethene	7.65	88	ND	NFA/MITIGATE
Methylene chloride	ND	ND	ND	NFA
Tetrachloroethene	46	1,240	1.11	NFA/MITIGATE
Trichloroethene	120	1000	0.435	MITIGATE/MITIGATE
Vinyl chloride	ND	ND	ND	NFA

Sample ID	SV-3A	SV-3B	IA-3	NYSDOH Matrices
Date	3/12/2021			
Sample Type	Sub Slab	Sub Slab	Indoor Air	
Unit	µg/m³			
Volatile Organics in Air				
1,1,1-Trichloroethane	3.79	1.58	ND	NFA
1,1-Dichloroethene	ND	ND	ND	NFA
Carbon tetrachloride	ND	ND	0.403	NFA
cis-1,2-Dichloroethene	20	24.1	ND	NFA
Methylene chloride	ND	ND	ND	NFA
Tetrachloroethene	460	138	2.09	NFA
Trichloroethene	967	321	2.14	MITIGATE/MITIGATE
Vinyl chloride	ND	ND	ND	NFA

Sample ID	SV-5A	SV-5B	IA-5	NYSDOH Matrices
Date	3/12/2021			
Sample Type	Sub Slab	Sub Slab	Indoor Air	
Unit	µg/m³			
Volatile Organics in Air				
1,1,1-Trichloroethane	ND	ND	ND	NFA
1,1-Dichloroethene	ND	ND	ND	NFA
Carbon tetrachloride	ND	2.68	0.585	NFA/IDENTIFY SOURCES and RESAMPLE or MITIGATE
cis-1,2-Dichloroethene	ND	ND	ND	NFA
Methylene chloride	ND	ND	ND	NFA
Tetrachloroethene	9.56	59.8	1.04	NFA
Trichloroethene	7.9	5.7	0.296	NFA/MONITOR
Vinyl chloride	ND	ND	ND	NFA



Sample ID	SV-2A	SV-2B	IA-2	NYSDOH Matrices
Date	3/12/2021			
Sample Type	Sub Slab	Sub Slab	Indoor Air	
Unit	µg/m³			
Volatile Organics in Air				
1,1,1-Trichloroethane	ND	ND	ND	NFA
1,1-Dichloroethene	ND	ND	ND	NFA
Carbon tetrachloride	ND	ND	0.421	NFA
cis-1,2-Dichloroethene	5.35	379	ND	NFA/MITIGATE
Methylene chloride	ND	ND	ND	NFA
Tetrachloroethene	5.2	2710	0.787	NFA/MITIGATE
Trichloroethene	16.5	3260	0.408	MONITOR/MITIGATE
Vinyl chloride	0.537	ND	ND	NFA

Sample ID	SV-4	IA-4A	IA-4B	IA-4C	IA-4D	IA-4E	IA-4F	IA-4G	IA-4H	NYSDOH Matrices
Date	3/12/2021									
Sample Type	Sub Slab	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	
Unit	µg/m³									
Volatile Organics in Air										
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NFA
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NFA
Carbon tetrachloride	ND	0.39	0.421	0.591	0.459	0.478	0.547	0.591	0.535	NFA
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NFA
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	NFA
Tetrachloroethene	4.66	1.04	1.02	2.55	0.387	0.292	0.448	0.57	0.502	NFA
Trichloroethene	21	0.344	0.908	1.23	ND	ND	0.516	0.333	0.253	NFA/MONITOR/MITIGATE
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	NFA

Legend

- Sub-Slab Soil Vapor Sample Locations
- Indoor Air Sample Locations
- Outdoor Ambient Air Sample Locations

Notes:

All results are in µg/m3: micrograms per cubic meter
ND – Not detected
NFA – No further action

SVI Sample Analysis NYSDOH Exceedances

100 South 4th Street, Brooklyn, NY

Plate 10

PROJECT #	13817
DRAWN BY	CJC
CHECKED BY	KK
DATE	3/25/21
Revisions	

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IMPACT ENVIRONMENTAL CLOSURES, INC.

170 KEYLAND COURT
BOHEMIA, NEW YORK 11716
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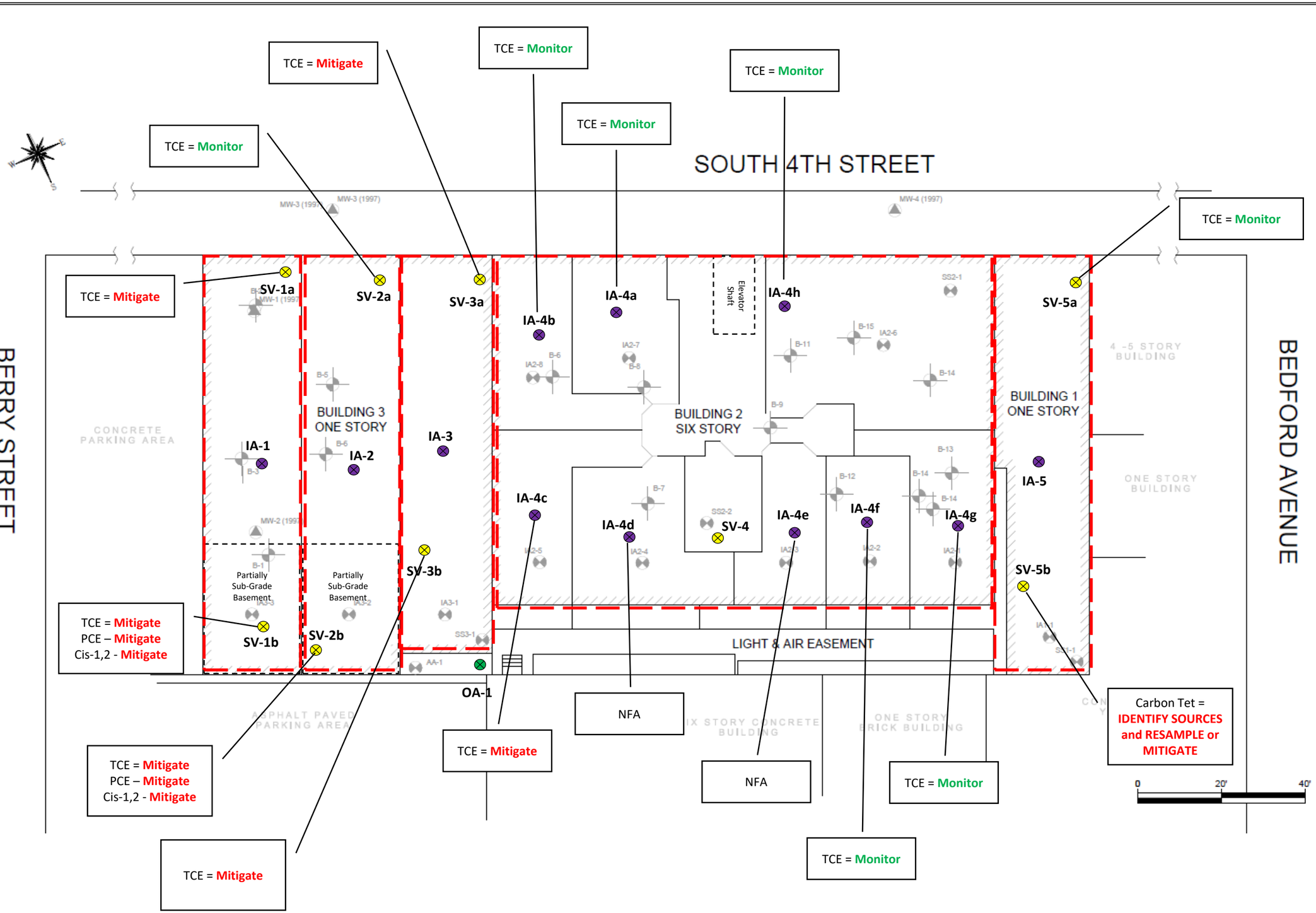

Legend

- Sub-Slab Soil Vapor Sample Locations
- Indoor Air Sample Locations
- Outdoor Ambient Air Sample Locations

Notes:

SVI Decision Matrices Results Map

100 South 4th Street, Brooklyn, NY

Plate 11

PROJECT #	13817
DRAWN BY	CJC
CHECKED BY	KK
DATE	3/25/21
Revisions	

Not to scale

IMPACT ENVIRONMENTAL CLOSURES, INC.

170 KEYLAND COURT
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TABLES

98, 100, and 104 South 4th Street, Brooklyn, NY

NYSDEC BCP #C224260

IMPACT ENVIRONMENTAL
170 Keyland Court
Bohemia, New York 11716
TEL: (631) 268-8800
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Table 1
Quality Control Sample Summary
100 south 4th Street, Brooklyn, NY

LOCATION			SV-1A		SV-DUP-1		SV-4		SV-DUP-2		IA-4A		IA-DUP-1		IA-5		IA-DUP-2	
SAMPLING DATE			3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
LAB SAMPLE ID			L2112425-01		L2112425-10		L2112425-07		L2112425-11		L2112425-15		L2112425-24		L2112425-23		L2112425-25	
SAMPLE TYPE			SOIL_VAPOR		SOIL_VAPOR		SOIL_VAPOR		SOIL_VAPOR		AIR		AIR		AIR		AIR	
	IA Guidance	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organics in Air																		
Dichlorodifluoromethane		ug/m3	**2.02**		**1.99**		**2.88**		**2.49**		**2.02**		**2.46**		**2.43**		**2.43**	
Chloromethane		ug/m3	0.413	U	0.413	U	0.413	U	**0.77**		**1.1**		**1.08**		**0.983**		**0.977**	
Freon-114		ug/m3	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Vinyl chloride		ug/m3	0.511	U	0.511	U	0.511	U	0.511	U	-	-	-	-	-	-	-	-
1,3-Butadiene		ug/m3	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U
Bromomethane		ug/m3	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U
Chloroethane		ug/m3	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U
Ethanol		ug/m3	**153**		**129**		**46**		**79.1**		**889**		**825**		**903**		**880**	
Vinyl bromide		ug/m3	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U
Acetone		ug/m3	**458**		**285**		**9.17**		**14.2**		**36.3**		**39**		**24.2**		**24**	
Trichlorofluoromethane		ug/m3	1.12	U	1.12	U	1.12	U	1.12	U	**1.27**		**1.89**		**6.24**		**5.96**	
Isopropanol		ug/m3	**15.5**		**15.5**		**10.3**		**24.2**		**230**		**256**		**117**		**114**	
1,1-Dichloroethene		ug/m3	0.793	U	0.793	U	0.793	U	0.793	U	-	-	-	-	-	-	-	-
Tertiary butyl Alcohol		ug/m3	**5.21**		**1.54**		**2.37**		**5.4**		1.52	U	1.52	U	1.52	U	1.52	U
Methylene chloride	60	ug/m3	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U
3-Chloropropene		ug/m3	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U
Carbon disulfide		ug/m3	0.623	U	**1.25**		0.623	U	0.623	U	0.623	U	0.623	U	0.623	U	0.623	U
Freon-113		ug/m3	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U
trans-1,2-Dichloroethene		ug/m3	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U
1,1-Dichloroethane		ug/m3	**3.27**		1.43		0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U
Methyl tert butyl ether		ug/m3	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U
2-Butanone		ug/m3	**8.23**		**4.1**		**3.66**		**5.13**		**1.54**		**1.53**		**2.35**		**2.47**	
cis-1,2-Dichloroethene		ug/m3	**7.65**		2.56		0.793	U	0.793	U	-	-	-	-	-	-	-	-
Ethyl Acetate		ug/m3	1.8	U	1.8	U	1.8	U	1.8	U	**2.64**		3.44		**8.9**		8.58	
Chloroform		ug/m3	**1.9**		**1.99**		**10.6**		**3.14**		0.977	U	0.977	U	**1.32**		**1.26**	
Tetrahydrofuran		ug/m3	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U
1,2-Dichloroethane		ug/m3	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U
n-Hexane		ug/m3	**0.782**		0.705	U	0.705	U	0.705	U	**0.871**		**0.853**		0.705	U	**0.747**	
1,1,1-Trichloroethane		ug/m3	**7.09**		**4.68**		1.09	U	1.09	U	-	-	-	-	-	-	-	-
Benzene		ug/m3	**0.837**		**0.677**		0.639	U	0.639	U	**1.09**		**1.07**		**1.05**		**1.06**	
Carbon tetrachloride		ug/m3	1.26	U	1.26	U	1.26	U	1.26	U	-	-	-	-	-	-	-	-
Cyclohexane		ug/m3	0.688	U	0.688	U	0.688	U	0.688	U	**1.94**		**1.83**		0.688	U	0.688	U
1,2-Dichloropropane		ug/m3	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U
Bromodichloromethane		ug/m3	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U
1,4-Dioxane		ug/m3	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U
Trichloroethene	2	ug/m3	**120**		**90.8**		**21**		**16.3**		-	-	-	-	-	-	-	-
2,2,4-Trimethylpentane		ug/m3	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U
Heptane		ug/m3	0.82	U	0.82	U	0.82	U	0.82	U	**35.1**		**34.6**		**0.828**		**0.836**	
cis-1,3-Dichloropropene		ug/m3	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U
4-Methyl-2-pentanone		ug/m3	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U
trans-1,3-Dichloropropene		ug/m3	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U
1,1,2-Trichloroethane		ug/m3	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U
Toluene		ug/m3	**2.08**		**1.99**		**2.22**		**3.84**		**5.31**		**5.16**		**2.8**		**2.78**	
2-Hexanone		ug/m3	**1.31**		0.82	U	**0.885**		**1.52**		0.82	U	0.82	U	0.82	U	0.82	U
Dibromochloromethane		ug/m3	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
1,2-Dibromoethane		ug/m3	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U
Tetrachloroethene	30	ug/m3	**46**		**38**		**4.66**		**5.66**		-	-	-	-	-	-	-	-
Chlorobenzene		ug/m3	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U
Ethylbenzene		ug/m3	0.869	U	0.869	U	**1.99**		**3.43**		0.869	U	0.869	U	0.869	U	0.869	U
p/m-Xylene		ug/m3	1.74	U	1.74	U	**3.53**		**6.21**		**1.92**		**2.09**		**1.98**		**1.87**	
Bromoform		ug/m3	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U
Styrene		ug/m3	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U
1,1,2,2-Tetrachloroethane		ug/m3	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U
o-Xylene		ug/m3	0.869	U	0.869	U	**1.87**		**2.91**		0.869	U	0.869	U	0.869	U	0.869	U
4-Ethyltoluene		ug/m3	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U
1,3,5-Trimethylbenzene		ug/m3	0.983	U	0.983	U	0.983	U	**1.71**		0.983	U	0.983	U	0.983	U	0.983	U
1,2,4-Trimethylbenzene		ug/m3	0.983	U	0.983	U	0.983	U	**1.68**		0.983	U	0.983	U	**1.39**		**1.21**	
Benzyl chloride		ug/m3	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U
1,3-Dichlorobenzene		ug/m3	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,4-Dichlorobenzene		ug/m3	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,2-Dichlorobenzene		ug/m3	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,2,4-Trichlorobenzene		ug/m3	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U
Hexachlorobutadiene		ug/m3	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U
Volatile Organics in Air by SIM																		
Vinyl chloride		ug/m3	-	-	-	-	-	-	-	-	0.051	U	0.051	U	0.051	U	0.051	U
1,1-Dichloroethene		ug/m3	-	-	-	-	-	-	-	-	0.079	U	0.079	U	0.079	U	0.079	U
cis-1,2-Dichloroethene		ug/m3	-	-	-	-	-	-	-	-	0.079	U	0.079	U	0.079	U	0.079	U
1,1,1-Trichloroethane		ug/m3	-	-	-	-	-	-	-	-	0.109	U	0.109	U	0.109	U	0.109	U
Carbon tetrachloride		ug/m3	-	-	-	-	-	-	-	-	**0.39**		**0.516**		**0.585**		**0.522**	
Trichloroethene	2	ug/m3	-	-	-	-	-	-	-	-	**0.344**		**0.371**		**0.296**		**0.29**	
Tetrachloroethene	30	ug/m3	-	-	-	-	-	-	-	-	**1.04**		**1.04**		**0.529**		**0.522**	

Notes:
IA Guidance - Ambient Air Guidance Values, NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion (Table 3.1)
Highlighted Value Above Table 3.1 Indoor Air Guidance Values
ug/m3 - micrograms per cubic meter
U - Not detected
BOLD - Analyte detected

Table 2
SVI Summary Table (All Results)
100 South 4th Street, Brooklyn, NY

LOCATION			SV-1A		SV-1B		IA-1		SV-2A		SV-2B		IA-2		SV-3A	
SAMPLING DATE			3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
LAB SAMPLE ID			L2112425-01		L2112425-02		L2112425-12		L2112425-03		L2112425-04		L2112425-13		L2112425-06	
SAMPLE TYPE			SOIL_VAPOR		SOIL_VAPOR		AIR		SOIL_VAPOR		SOIL_VAPOR		AIR		SOIL_VAPOR	
	IA Guidance	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organics in Air																
Dichlorodifluoromethane		ug/m3	**2.02**		3.09	U	**1.99**		**2.02**		9.89	U	**2.08**		2.91	U
Chloromethane		ug/m3	0.413	U	1.29	U	**0.888**		0.413	U	4.13	U	**0.964**		1.21	U
Freon-114		ug/m3	1.4	U	4.37	U	1.4	U	1.4	U	14	U	1.4	U	4.11	U
Vinyl chloride		ug/m3	0.511	U	1.6	U	-	-	**0.537**		5.11	U	-	-	1.5	U
1,3-Butadiene		ug/m3	0.442	U	1.38	U	0.442	U	0.442	U	4.42	U	0.442	U	1.3	U
Bromomethane		ug/m3	0.777	U	2.43	U	0.777	U	0.777	U	7.77	U	0.777	U	2.28	U
Chloroethane		ug/m3	0.528	U	1.65	U	0.528	U	0.528	U	5.28	U	0.528	U	1.55	U
Ethanol		ug/m3	**153**		**795**		**28.6**		**524**		**537**		447		**41.5**	
Vinyl bromide		ug/m3	0.874	U	2.73	U	0.874	U	0.874	U	8.74	U	0.874	U	2.57	U
Acetone		ug/m3	**458**		**21.1**		2.38	U	**19.9**		**304**		**47**		6.98	U
Trichlorofluoromethane		ug/m3	1.12	U	3.51	U	1.12	U	1.12	U	11.2	U	**1.26**		3.3	U
Isopropanol		ug/m3	**15.5**		**7.67**		**3.37**		**2.04**		12.3	U	**6.02**		3.61	U
1,1-Dichloroethene		ug/m3	0.793	U	2.48	U	-	-	0.793	U	7.93	U	-	-	2.33	U
Tertiary butyl Alcohol		ug/m3	**5.21**		4.73	U	1.52	U	**5.73**		15.2	U	1.52	U	**7.82**	
Methylene chloride	60	ug/m3	1.74	U	5.42	U	1.74	U	1.74	U	17.4	U	1.74	U	5.11	U
3-Chloropropene		ug/m3	0.626	U	1.96	U	0.626	U	0.626	U	6.26	U	0.626	U	1.84	U
Carbon disulfide		ug/m3	0.623	U	1.95	U	0.623	U	0.623	U	6.23	U	0.623	U	1.83	U
Freon-113		ug/m3	1.53	U	4.79	U	1.53	U	1.53	U	15.3	U	1.53	U	4.51	U
trans-1,2-Dichloroethene		ug/m3	0.793	U	2.48	U	0.793	U	0.793	U	**8.21**		0.793	U	2.33	U
1,1-Dichloroethane		ug/m3	**3.27**		2.53	U	0.809	U	0.809	U	8.09	U	0.809	U	2.38	U
Methyl tert butyl ether		ug/m3	0.721	U	2.25	U	0.721	U	0.721	U	7.21	U	0.721	U	2.12	U
2-Butanone		ug/m3	**8.23**		4.6	U	1.47	U	**1.8**		14.7	U	1.47	U	4.34	U
cis-1,2-Dichloroethene		ug/m3	**7.65**		**88**		-	-	**5.35**		**379**		-	-	**20**	
Ethyl Acetate		ug/m3	1.8	U	5.62	U	1.8	U	1.8	U	18	U	1.8	U	5.3	U
Chloroform		ug/m3	**1.9**		3.05	U	0.977	U	0.977	U	9.77	U	0.977	U	54.7	
Tetrahydrofuran		ug/m3	1.47	U	4.6	U	1.47	U	1.47	U	14.7	U	1.47	U	4.34	U
1,2-Dichloroethane		ug/m3	0.809	U	2.53	U	0.809	U	0.809	U	8.09	U	0.809	U	2.38	U
n-Hexane		ug/m3	**0.782**		2.2	U	0.705	U	0.705	U	7.05	U	**0.73**		2.07	U
1,1,1-Trichloroethane		ug/m3	**7.09**		3.41	U	-	-	1.09	U	10.9	U	-	-	**3.79**	
Benzene		ug/m3	**0.837**		2	U	**0.879**		0.639	U	6.39	U	**1.04**		1.88	U
Carbon tetrachloride		ug/m3	1.26	U	3.93	U	-	-	1.26	U	12.6	U	-	-	3.7	U
Cyclohexane		ug/m3	0.688	U	2.15	U	0.688	U	0.688	U	6.88	U	0.688	U	2.02	U
1,2-Dichloropropane		ug/m3	0.924	U	2.89	U	0.924	U	0.924	U	9.24	U	0.924	U	2.72	U
Bromodichloromethane		ug/m3	1.34	U	4.19	U	1.34	U	1.34	U	13.4	U	1.34	U	3.94	U
1,4-Dioxane		ug/m3	0.721	U	2.25	U	0.721	U	0.721	U	7.21	U	0.721	U	2.12	U
Trichloroethene	2	ug/m3	**120**		**1000**		-	-	**16.5**		**3260**		-	-	**967**	
2,2,4-Trimethylpentane		ug/m3	0.934	U	2.92	U	0.934	U	0.934	U	9.34	U	0.934	U	2.75	U
Heptane		ug/m3	0.82	U	2.56	U	0.82	U	0.82	U	8.2	U	0.82	U	2.41	U
cis-1,3-Dichloropropene		ug/m3	0.908	U	2.84	U	0.908	U	0.908	U	9.08	U	0.908	U	2.67	U
4-Methyl-2-pentanone		ug/m3	2.05	U	6.39	U	2.05	U	2.05	U	20.5	U	2.05	U	6.02	U
trans-1,3-Dichloropropene		ug/m3	0.908	U	2.84	U	0.908	U	0.908	U	9.08	U	0.908	U	2.67	U
1,1,2-Trichloroethane		ug/m3	1.09	U	3.41	U	1.09	U	1.09	U	10.9	U	1.09	U	3.21	U
Toluene		ug/m3	**2.08**		**4.94**		**2.09**		**15**		**7.88**		**2.36**		**12**	
2-Hexanone		ug/m3	**1.31**		2.56	U	0.82	U	**1.41**		8.2	U	0.82	U	2.41	U
Dibromochloromethane		ug/m3	1.7	U	5.32	U	1.7	U	1.7	U	17	U	1.7	U	5.01	U
1,2-Dibromoethane		ug/m3	1.54	U	4.8	U	1.54	U	1.54	U	15.4	U	1.54	U	4.52	U
Tetrachloroethene	30	ug/m3	**46**		**1240**		-	-	**5.2**		**2710**		-	-	**460**	
Chlorobenzene		ug/m3	0.921	U	2.88	U	0.921	U	0.921	U	9.21	U	0.921	U	2.71	U
Ethylbenzene		ug/m3	0.869	U	**4.04**		0.869	U	**15.3**		8.69	U	**1.23**		**11.9**	
p/m-Xylene		ug/m3	1.74	U	**7.43**		1.74	U	**25.4**		17.4	U	**4.6**		**19.8**	
Bromoform		ug/m3	2.07	U	6.46	U	2.07	U	2.07	U	20.7	U	2.07	U	6.08	U
Styrene		ug/m3	0.852	U	2.66	U	0.852	U	**1.28**		8.52	U	0.852	U	2.5	U
1,1,2,2-Tetrachloroethane		ug/m3	1.37	U	4.29	U	1.37	U	1.37	U	13.7	U	1.37	U	4.04	U
o-Xylene		ug/m3	0.869	U	**3.87**		0.869	U	**14.3**		8.69	U	**1.32**		**11.2**	
4-Ethyltoluene		ug/m3	0.983	U	3.07	U	0.983	U	0.983	U	9.83	U	0.983	U	2.89	U
1,3,5-Trimethylbenzene		ug/m3	0.983	U	3.07	U	0.983	U	0.983	U	9.83	U	0.983	U	2.89	U
1,2,4-Trimethylbenzene		ug/m3	0.983	U	3.07	U	0.983	U	0.983	U	9.83	U	**1.25**		2.89	U
Benzyl chloride		ug/m3	1.04	U	3.24	U	1.04	U	1.04	U	10.4	U	1.04	U	3.04	U
1,3-Dichlorobenzene		ug/m3	1.2	U	3.76	U	1.2	U	1.2	U	12	U	1.2	U	3.54	U
1,4-Dichlorobenzene		ug/m3	1.2	U	3.76	U	1.2	U	1.2	U	12	U	1.2	U	3.54	U
1,2-Dichlorobenzene		ug/m3	1.2	U	3.76	U	1.2	U	1.2	U	12	U	1.2	U	3.54	U
1,2,4-Trichlorobenzene		ug/m3	1.48	U	4.64	U	1.48	U	1.48	U	14.8	U	1.48	U	4.36	U
Hexachlorobutadiene		ug/m3	2.13	U	6.67	U	2.13	U	2.13	U	21.3	U	2.13	U	6.27	U
Volatile Organics in Air by SIM																
Vinyl chloride		ug/m3	-	-	-	-	0.051	U	-	-	-	-	0.051	U	-	-
1,1-Dichloroethene		ug/m3	-	-	-	-	0.079	U	-	-	-	-	0.079	U	-	-
cis-1,2-Dichloroethene		ug/m3	-	-	-	-	0.079	U	-	-	-	-	0.079	U	-	-
1,1,1-Trichloroethane		ug/m3	-	-	-	-	0.109	U	-	-	-	-	0.109	U	-	-
Carbon tetrachloride		ug/m3	-	-	-	-	**0.396**		-	-	-	-	**0.421**		-	-
Trichloroethene	2	ug/m3	-	-	-	-	**0.435**		-	-	-	-	**0.408**		-	-
Tetrachloroethene	30	ug/m3	-	-	-	-	**1.11**		-	-	-	-	**0.787**		-	-

LOCATION	SV-3B		IA-3		SV-4		IA-4A		IA-4B		IA-4C		IA-4D	
SAMPLING DATE	3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
LAB SAMPLE ID	L2112425-05		L2112425-14		L2112425-07		L2112425-15		L2112425-16		L2112425-17		L2112425-18	
SAMPLE TYPE	SOIL_VAPOR		AIR		SOIL_VAPOR		AIR		AIR		AIR		AIR	
	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organics in Air														
Dichlorodifluoromethane	**2.1**		**2.13**		**2.88**		**2.02**		**2.05**		**2.5**		**2.26**	
Chloromethane	0.413	U	**0.989**		0.413	U	**1.1**		**1**		**1.33**		**1.67**	
Freon-114	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Vinyl chloride	0.511	U	-	-	0.511	U	-	-	-	-	-	-	-	-
1,3-Butadiene	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	**0.763**	
Bromomethane	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U
Chloroethane	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U
Ethanol	**492**		**203**		**46**		**889**		**196**		**1810**		**433**	
Vinyl bromide	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U
Acetone	**53.7**		**18.2**		**9.17**		**36.3**		**15.6**		**67.5**		**31.4**	
Trichlorofluoromethane	**1.12**		**1.29**		1.12	U	**1.27**		**1.27**		**2.28**		**1.47**	
Isopropanol	**20.9**		**6.22**		**10.3**		**230**		**35.2**		**91.4**		**61.9**	
1,1-Dichloroethene	0.793	U	-	-	0.793	U	-	-	-	-	-	-	-	-
Tertiary butyl Alcohol	**4.67**		1.52	U	**2.37**		1.52	U	1.52	U	1.52	U	1.52	U
Methylene chloride	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U
3-Chloropropene	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U
Carbon disulfide	**9.09**		0.623	U	0.623	U	0.623	U	0.623	U	0.623	U	0.623	U
Freon-113	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U
trans-1,2-Dichloroethene	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U
1,1-Dichloroethane	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U
Methyl tert butyl ether	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U
2-Butanone	**5.9**		1.47	U	**3.66**		**1.54**		1.47	U	**2.12**		**2**	
cis-1,2-Dichloroethene	**24.1**		-	-	0.793	U	-	-	-	-	-	-	-	-
Ethyl Acetate	1.8	U	1.8	U	1.8	U	**2.64**		1.8	U	**13.8**		**3.57**	
Chloroform	**78.6**		**2.08**		**10.6**		0.977	U	0.977	U	**4.68**		0.977	U
Tetrahydrofuran	**2.22**		1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U
1,2-Dichloroethane	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	1.04		0.809	U
n-Hexane	**1.56**		0.705	U	0.705	U	**0.871**		0.705	U	**0.765**		**0.885**	
1,1,1-Trichloroethane	**1.58**		-	-	1.09	U	-	-	-	-	-	-	-	-
Benzene	**2.02**		**1.16**		0.639	U	**1.09**		**1.08**		**1.17**		**1.57**	
Carbon tetrachloride	1.26	U	-	-	1.26	U	-	-	-	-	-	-	-	-
Cyclohexane	**2.34**		0.688	U	0.688	U	**1.94**		0.688	U	0.688	U	**0.723**	
1,2-Dichloropropane	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U
Bromodichloromethane	**1.96**		1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U
1,4-Dioxane	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U
Trichloroethene	**321**		-	-	**21**		-	-	-	-	-	-	-	-
2,2,4-Trimethylpentane	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U
Heptane	**0.84**		0.82	U	0.82	U	**35.1**		**1.75**		**2.73**		**8.57**	
cis-1,3-Dichloropropene	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U
4-Methyl-2-pentanone	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U
trans-1,3-Dichloropropene	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U
1,1,2-Trichloroethane	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U
Toluene	**8.03**		**2.08**		**2.22**		**5.31**		**2.58**		**3**		**3.73**	
2-Hexanone	**2.07**		0.82	U	**0.885**		0.82	U	0.82	U	0.82	U	0.82	U
Dibromochloromethane	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
1,2-Dibromoethane	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U
Tetrachloroethene	**138**		-	-	**4.66**		-	-	-	-	-	-	-	-
Chlorobenzene	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U
Ethylbenzene	**6.39**		0.869	U	**1.99**		0.869	U	**1.13**		0.869	U	0.869	U
p/m-Xylene	**11.3**		**1.91**		**3.53**		**1.92**		**4.43**		**1.85**		**2.14**	
Bromoform	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U
Styrene	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U
1,1,2,2-Tetrachloroethane	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U
o-Xylene	**6.52**		0.869	U	**1.87**		0.869	U	**1.3**		0.869	U	0.869	U
4-Ethyltoluene	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U
1,3,5-Trimethylbenzene	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U
1,2,4-Trimethylbenzene	0.983	U	**1.64**		0.983	U	0.983	U	0.983	U	0.983	U	0.983	U
Benzyl chloride	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U
1,3-Dichlorobenzene	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,4-Dichlorobenzene	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,2-Dichlorobenzene	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,2,4-Trichlorobenzene	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U
Hexachlorobutadiene	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U
Volatile Organics in Air by SIM														
Vinyl chloride	-	-	0.051	U	-	-	0.051	U	0.051	U	0.051	U	0.051	U
1,1-Dichloroethene	-	-	0.079	U	-	-	0.079	U	0.079	U	0.079	U	0.079	U
cis-1,2-Dichloroethene	-	-	0.079	U	-	-	0.079	U	0.079	U	0.079	U	0.079	U
1,1,1-Trichloroethane	-	-	0.109	U	-	-	0.109	U	0.109	U	0.109	U	0.109	U
Carbon tetrachloride	-	-	**0.403**		-	-	**0.39**		**0.421**		**0.591**		**0.459**	
Trichloroethene	-	-	**2.14**		-	-	**0.344**		**0.908**		**1.23**		0.107	U
Tetrachloroethene	-	-	**2.09**		-	-	**1.04**		**1.02**		**2.55**		**0.387**	

LOCATION	IA-4E		IA-4F		IA-4G		IA-4H		SV-5A		SV-5B		IA-5	
SAMPLING DATE	3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
LAB SAMPLE ID	L2112425-19		L2112425-20		L2112425-21		L2112425-22		L2112425-08		L2112425-09		L2112425-23	
SAMPLE TYPE	AIR		AIR		AIR		AIR		SOIL_VAPOR		SOIL_VAPOR		AIR	
	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organics in Air														
Dichlorodifluoromethane	**2.49**		**2.49**		**2.48**		**2.46**		**1.95**		**2.05**		**2.43**	
Chloromethane	**0.975**		**1.03**		**1.23**		**1.08**		0.413	U	0.413	U	**0.983**	
Freon-114	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Vinyl chloride	-	-	-	-	-	-	-	-	0.511	U	0.511	U	-	-
1,3-Butadiene	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U
Bromomethane	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U
Chloroethane	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U
Ethanol	**105**		**205**		**784**		**288**		**746**		**28.6**		**903**	
Vinyl bromide	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U
Acetone	**11.5**		**44.2**		**62.7**		**24.7**		**55.8**		**12.6**		**24.2**	
Trichlorofluoromethane	**1.83**		**2.42**		**4.9**		**2.5**		**2.86**		**1.83**		**6.24**	
Isopropanol	**23.9**		**45.2**		**93.9**		**52.1**		**42.3**		**3.98**		**117**	
1,1-Dichloroethene	-	-	-	-	-	-	-	-	0.793	U	0.793	U	-	-
Tertiary butyl Alcohol	1.52	U	1.52	U	1.52	U	1.52	U	**11.7**		**17.6**		1.52	U
Methylene chloride	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U
3-Chloropropene	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U
Carbon disulfide	0.623	U	0.623	U	0.623	U	0.623	U	0.623	U	0.623	U	0.623	U
Freon-113	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U
trans-1,2-Dichloroethene	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U
1,1-Dichloroethane	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U
Methyl tert butyl ether	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U
2-Butanone	1.47	U	**2.23**		**3.51**		**1.7**		**2.91**		**1.89**		**2.35**	
cis-1,2-Dichloroethene	-	-	-	-	-	-	-	-	0.793	U	0.793	U	-	-
Ethyl Acetate	1.8	U	**3.68**		**8.61**		**2.52**		1.8	U	1.8	U	**8.9**	
Chloroform	0.977	U	0.977	U	3.04		0.977	U	**2.13**		**38.7**		**1.32**	
Tetrahydrofuran	1.47	U	1.47	U	1.47	U	1.47	U	**3.33**		1.47	U	1.47	U
1,2-Dichloroethane	0.809	U	0.809	U	1.6		0.809	U	0.809	U	0.809	U	0.809	U
n-Hexane	0.705	U	**0.737**		**0.712**		0.705	U	0.705	U	0.705	U	0.705	U
1,1,1-Trichloroethane	-	-	-	-	-	-	-	-	1.09	U	1.09	U	-	-
Benzene	**0.847**		**0.926**		**1.35**		**1.02**		0.639	U	0.639	U	**1.05**	
Carbon tetrachloride	-	-	-	-	-	-	-	-	1.26	U	**2.68**		-	-
Cyclohexane	0.688	U	0.688	U	0.688	U	0.688	U	**0.747**		**0.826**		0.688	U
1,2-Dichloropropane	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U
Bromodichloromethane	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U
1,4-Dioxane	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U
Trichloroethene	-	-	-	-	-	-	-	-	**7.9**		**5.7**		-	-
2,2,4-Trimethylpentane	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U
Heptane	0.82	U	**1.45**		**1.08**		**1.88**		0.82	U	0.82	U	**0.828**	
cis-1,3-Dichloropropene	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U
4-Methyl-2-pentanone	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U
trans-1,3-Dichloropropene	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U
1,1,2-Trichloroethane	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U
Toluene	**1.62**		**3.84**		**3.04**		**2.48**		**13.1**		**14.9**		**2.8**	
2-Hexanone	0.82	U	0.82	U	0.82	U	0.82	U	**1.62**		**4.75**		0.82	U
Dibromochloromethane	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
1,2-Dibromoethane	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U
Tetrachloroethene	-	-	-	-	-	-	-	-	**9.56**		**59.8**		-	-
Chlorobenzene	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U
Ethylbenzene	0.869	U	1.54		0.869	U	0.869	U	**13.1**		**15.8**		0.869	U
p/m-Xylene	1.74	U	**5.99**		**2.53**		**2.06**		**21.6**		**26.4**		**1.98**	
Bromoform	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U
Styrene	0.852	U	1.01		0.852	U	0.852	U	**1.09**		**1.41**		0.852	U
1,1,2,2-Tetrachloroethane	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U
o-Xylene	0.869	U	**1.74**		**0.934**		0.869	U	**12.5**		**14.9**		0.869	U
4-Ethyltoluene	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U
1,3,5-Trimethylbenzene	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U
1,2,4-Trimethylbenzene	0.983	U	**1.19**		**1.06**		**0.998**		0.983	U	0.983	U	**1.39**	
Benzyl chloride	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U
1,3-Dichlorobenzene	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,4-Dichlorobenzene	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,2-Dichlorobenzene	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,2,4-Trichlorobenzene	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U
Hexachlorobutadiene	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U
Volatile Organics in Air by SIM														
Vinyl chloride	0.051	U	0.051	U	0.051	U	0.051	U	-	-	-	-	0.051	U
1,1-Dichloroethene	0.079	U	0.079	U	0.079	U	0.079	U	-	-	-	-	0.079	U
cis-1,2-Dichloroethene	0.079	U	0.079	U	0.079	U	0.079	U	-	-	-	-	0.079	U
1,1,1-Trichloroethane	0.109	U	0.109	U	0.109	U	0.109	U	-	-	-	-	0.109	U
Carbon tetrachloride	**0.478**		**0.547**		**0.591**		**0.535**		-	-	-	-	**0.585**	
Trichloroethene	0.107	U	**0.516**		**0.333**		**0.253**		-	-	-	-	**0.296**	
Tetrachloroethene	**0.292**		**0.448**		**0.57**		**0.502**		-	-	-	-	**0.529**	

LOCATION	IA-DUP-1		IA-DUP-2		SV-DUP-1		SV-DUP-2		OA-1	
SAMPLING DATE	3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
LAB SAMPLE ID	L2112425-24		L2112425-25		L2112425-10		L2112425-11		L2112425-26	
SAMPLE TYPE	AIR		AIR		SOIL_VAPOR		SOIL_VAPOR		AIR	
	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organics in Air										
Dichlorodifluoromethane	**2.46**		**2.43**		**1.99**		**2.49**		**2.41**	
Chloromethane	**1.08**		**0.977**		0.413	U	**0.77**		**0.892**	
Freon-114	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Vinyl chloride	-	-	-	-	0.511	U	0.511	U	-	-
1,3-Butadiene	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U
Bromomethane	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U
Chloroethane	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U
Ethanol	**825**		**880**		**129**		**79.1**		**19.4**	
Vinyl bromide	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U
Acetone	**39**		**24**		**285**		**14.2**		**6.39**	
Trichlorofluoromethane	**1.89**		**5.96**		1.12	U	1.12	U	**1.69**	
Isopropanol	**256**		**114**		**15.5**		**24.2**		**5.14**	
1,1-Dichloroethene	-	-	-	-	0.793	U	0.793	U	-	-
Tertiary butyl Alcohol	1.52	U	1.52	U	**1.54**		**5.4**		1.52	U
Methylene chloride	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U
3-Chloropropene	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U
Carbon disulfide	0.623	U	0.623	U	**1.25**		0.623	U	0.623	U
Freon-113	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U
trans-1,2-Dichloroethene	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U
1,1-Dichloroethane	0.809	U	0.809	U	1.43		0.809	U	0.809	U
Methyl tert butyl ether	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U
2-Butanone	**1.53**		**2.47**		**4.1**		**5.13**		1.47	U
cis-1,2-Dichloroethene	-	-	-	-	2.56		0.793	U	-	-
Ethyl Acetate	3.44		8.58		1.8	U	1.8	U	1.8	U
Chloroform	0.977	U	**1.26**		**1.99**		**3.14**		0.977	U
Tetrahydrofuran	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U
1,2-Dichloroethane	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U
n-Hexane	**0.853**		**0.747**		0.705	U	0.705	U	0.705	U
1,1,1-Trichloroethane	-	-	-	-	**4.68**		1.09	U	-	-
Benzene	**1.07**		**1.06**		**0.677**		0.639	U	**0.748**	
Carbon tetrachloride	-	-	-	-	1.26	U	1.26	U	-	-
Cyclohexane	**1.83**		0.688	U	0.688	U	0.688	U	0.688	U
1,2-Dichloropropane	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U
Bromodichloromethane	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U
1,4-Dioxane	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U
Trichloroethene	-	-	-	-	**90.8**		**16.3**		-	-
2,2,4-Trimethylpentane	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U
Heptane	**34.6**		**0.836**		0.82	U	0.82	U	0.82	U
cis-1,3-Dichloropropene	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U
4-Methyl-2-pentanone	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U
trans-1,3-Dichloropropene	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U
1,1,2-Trichloroethane	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U
Toluene	**5.16**		**2.78**		**1.99**		**3.84**		**1.46**	
2-Hexanone	0.82	U	0.82	U	0.82	U	**1.52**		0.82	U
Dibromochloromethane	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
1,2-Dibromoethane	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U
Tetrachloroethene	-	-	-	-	**38**		**5.66**		-	-
Chlorobenzene	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U
Ethylbenzene	0.869	U	0.869	U	0.869	U	**3.43**		0.869	U
p/m-Xylene	**2.09**		**1.87**		1.74	U	**6.21**		1.74	U
Bromoform	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U
Styrene	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U
1,1,2,2-Tetrachloroethane	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U
o-Xylene	0.869	U	0.869	U	0.869	U	**2.91**		0.869	U
4-Ethyltoluene	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U
1,3,5-Trimethylbenzene	0.983	U	0.983	U	0.983	U	**1.71**		0.983	U
1,2,4-Trimethylbenzene	0.983	U	**1.21**		0.983	U	**1.68**		0.983	U
Benzyl chloride	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U
1,3-Dichlorobenzene	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,4-Dichlorobenzene	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,2-Dichlorobenzene	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,2,4-Trichlorobenzene	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U
Hexachlorobutadiene	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U
Volatile Organics in Air by SIM										
Vinyl chloride	0.051	U	0.051	U	-	-	-	-	0.051	U
1,1-Dichloroethene	0.079	U	0.079	U	-	-	-	-	0.079	U
cis-1,2-Dichloroethene	0.079	U	0.079	U	-	-	-	-	0.079	U
1,1,1-Trichloroethane	0.109	U	0.109	U	-	-	-	-	0.109	U
Carbon tetrachloride	**0.516**		**0.522**		-	-	-	-	**0.491**	
Trichloroethene	**0.371**		**0.29**		-	-	-	-	0.107	U
Tetrachloroethene	**1.04**		**0.522**		-	-	-	-	**0.325**	

Notes:
IA Guidance - Ambient Air Guidance Values, NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion (Table 3.1)
Highlighted Value Above Table 3.1 Indoor Air Guidance Values
ug/m3 - micrograms per cubic meter
U - Not detected
BOLD - Analyte detected

Table 3
SVI Indoor Air Guidance Values Summary Table
100 South 4th Street, Brooklyn, NY

LOCATION			IA-1		IA-2		IA-3		IA-4A		IA-4B		IA-4C		IA-4D		IA-4E		IA-4F		IA-4G		IA-4H		IA-5	
SAMPLING DATE			3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021		3/12/2021	
LAB SAMPLE ID			L2112425-12		L2112425-13		L2112425-14		L2112425-15		L2112425-16		L2112425-17		L2112425-18		L2112425-19		L2112425-20		L2112425-21		L2112425-22		L2112425-23	
SAMPLE TYPE			AIR		AIR		AIR		AIR		AIR		AIR		AIR		AIR		AIR		AIR		AIR		AIR	
	IA Guidance	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Methylene chloride	60	ug/m3	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U
Trichloroethene	2	ug/m3	**0.435**		**0.408**		**2.14**		**0.344**		**0.908**		**1.23**		0.107	U	0.107	U	**0.516**		**0.333**		**0.253**		**0.296**	
Tetrachloroethene	30	ug/m3	**1.11**		**0.787**		**2.09**		**1.04**		**1.02**		**2.55**		**0.387**		**0.292**		**0.448**		**0.57**		**0.502**		**0.529**	

Notes:
IA Guidance - Ambient Air Guidance Values, NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion (Table 3.1)
Highlighted Value Above Table 3.1 Indoor Air Guidance Values
ug/m3 - micrograms per cubic meter
U - Not detected
BOLD - Analyte detected

Table 4.1

98c South 4th Street - NYSDOH Decision Matrices Summary Table

100 South 4th Street, Brooklyn, NY

Sample ID	SV-1A	SV-1B	IA-1	NYSDOH Matrices Decision
Date	3/12/2021			
Sample Type	Sub Slab	Sub Slab	Indoor Air	
Unit	$\mu g/m^3$			
Volatile Organics in Air				
1,1,1-Trichloroethane	**7.09**	**ND**	ND	NFA
1,1-Dichloroethene	**ND**	**ND**	ND	NFA
Carbon tetrachloride	**ND**	**ND**	0.396	NFA
cis-1,2-Dichloroethene	**7.65**	**88**	ND	NFA/MITIGATE
Methylene chloride	**ND**	**ND**	ND	NFA
Tetrachloroethene	**46**	**1,240**	1.11	NFA/MITIGATE
Trichloroethene	**120**	**1000**	0.435	MITIGATE/MITIGATE
Vinyl chloride	**ND**	**ND**	ND	NFA

Notes:

µg/m3: mirogram per cubic meter

ND - not detected

NFA: No Further Actions recomended to address human exposures

IDENTIFY SOURCES, RESAMPLE, AND/OR MITIGATE: We recommend that reasonable and practical actions be taken to identify the source(s) affecting the indoor air quality and that actions be implemented to reduce indoor air concentrations to within background ranges. For example, if an indoor or outdoor air source is identified, we recommend the appropriate party implement actions to reduce the levels. In the event that indoor or outdoor sources are not readily identified or confirmed, resampling (which might include additional sub-slab vapor and indoor air sampling locations) is recommended to demonstrate that SVI mitigation actions are not needed. Based on the information available, mitigation might also be recommended when soil vapor intrusion cannot be ruled out.

MONITOR: We recommend monitoring (sampling on a recurring basis), including but not necessarily limited to sub-slab vapor, basement air and outdoor air sampling, to determine whether concentrations in the indoor air or sub-slab vapor have changed and/or to evaluate temporal influences. Monitoring might also be recommended to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air -conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitorin g is determined based on site-, building- and analyte-specific information, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MITIGATE: We recommend mitigation to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building -specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

Table 4.2

98b South 4th Street - NYSDOH Decision Matrices Summary Table

100 South 4th Street, Brooklyn, NY

Sample ID	SV-2A	SV-2B	IA-2	NYSDOH Matrices
Date	3/12/2021			
Sample Type	Sub Slab	Sub Slab	Indoor Air	
Unit	$\mu g/m^3$			
Volatile Organics in Air				
1,1,1-Trichloroethane	**ND**	**ND**	ND	NFA
1,1-Dichloroethene	**ND**	**ND**	ND	NFA
Carbon tetrachloride	**ND**	**ND**	0.421	NFA
cis-1,2-Dichloroethene	**5.35**	**379**	ND	NFA/MITIGATE
Methylene chloride	**ND**	**ND**	ND	NFA
Tetrachloroethene	**5.2**	**2710**	0.787	NFA/MITIGATE
Trichloroethene	**16.5**	**3260**	0.408	MONITOR/MITIGATE
Vinyl chloride	**0.537**	**ND**	ND	NFA

µg/m3: mirogram per cubic meter

ND - not detected

NFA: No Further Actions recomended to address human exposures

IDENTIFY SOURCES, RESAMPLE, AND/OR MITIGATE: We recommend that reasonable and practical actions be taken to identify the source(s) affecting the indoor air quality and that actions be implemented to reduce indoor air concentrations to within background ranges. For example, if an indoor or outdoor air source is identified, we recommend the appropriate party implement actions to reduce the levels. In the event that indoor or outdoor sources are not readily identified or confirmed, resampling (which might include additional sub-slab vapor and indoor air sampling locations) is recommended to demonstrate that SVI mitigation actions are not needed. Based on the information available, mitigation might also be recommended when soil vapor intrusion cannot be ruled out.

MONITOR: We recommend monitoring (sampling on a recurring basis), including but not necessarily limited to sub-slab vapor, basement air and outdoor air sampling, to determine whether concentrations in the indoor air or sub-slab vapor have changed and/or to evaluate temporal influences. Monitoring might also be recommended to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air -conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitorin g is determined based on site-, building- and analyte-specific information, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MITIGATE: We recommend mitigation to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building -specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

Table 4.3

98a South 4th Street - NYSDOH Decision Matrices Summary Table

100 South 4th Street, Brooklyn, NY

Sample ID	SV-3A	SV-3B	IA-3	NYSDOH Matrices
Date	3/12/2021			
Sample Type	Sub Slab	Sub Slab	Indoor Air	
Unit	$\mu g/m^3$			
Volatile Organics in Air				
1,1,1-Trichloroethane	**3.79**	**1.58**	ND	NFA
1,1-Dichloroethene	**ND**	**ND**	ND	NFA
Carbon tetrachloride	**ND**	**ND**	0.403	NFA
cis-1,2-Dichloroethene	**20**	**24.1**	ND	NFA
Methylene chloride	**ND**	**ND**	ND	NFA
Tetrachloroethene	**460**	**138**	2.09	NFA
Trichloroethene	**967**	**321**	2.14	MITIGATE/MITIGATE
Vinyl chloride	**ND**	**ND**	ND	NFA

µg/m3: mirogram per cubic meter

ND - not detected

NFA: No Further Actions recomended to address human exposures

IDENTIFY SOURCES, RESAMPLE, AND/OR MITIGATE: We recommend that reasonable and practical actions be taken to identify the source(s) affecting the indoor air quality and that actions be implemented to reduce indoor air concentrations to within background ranges. For example, if an indoor or outdoor air source is identified, we recommend the appropriate party implement actions to reduce the levels. In the event that indoor or outdoor sources are not readily identified or confirmed, resampling (which might include additional sub-slab vapor and indoor air sampling locations) is recommended to demonstrate that SVI mitigation actions are not needed. Based on the information available, mitigation might also be recommended when soil vapor intrusion cannot be ruled out.

MONITOR: We recommend monitoring (sampling on a recurring basis), including but not necessarily limited to sub-slab vapor, basement air and outdoor air sampling, to determine whether concentrations in the indoor air or sub-slab vapor have changed and/or to evaluate temporal influences. Monitoring might also be recommended to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air -conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitorin g is determined based on site-, building- and analyte-specific information, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MITIGATE: We recommend mitigation to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building -specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

Table 4.4
100 South 4th Street - NYSDOH Decision Matrices Summary Table
100 South 4th Street, Brooklyn, NY

Sample ID	SV-4	IA-4A	IA-4B	IA-4C	IA-4D	IA-4E	IA-4F	IA-4G	IA-4H	NYSDOH Matrices
Date	3/12/2021									
Sample Type	Sub Slab	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Indoor Air	
Unit	$\mu g/m^3$									
Volatile Organics in Air										
1,1,1-Trichloroethane	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	NFA
1,1-Dichloroethene	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	NFA
Carbon tetrachloride	**ND**	0.39	0.421	0.591	0.459	0.478	0.547	0.591	0.535	NFA
cis-1,2-Dichloroethene	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	NFA
Methylene chloride	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	NFA
Tetrachloroethene	**4.66**	1.04	1.02	2.55	0.387	0.292	0.448	0.57	0.502	NFA
Trichloroethene	**21**	0.344	0.908	1.23	ND	ND	0.516	0.333	0.253	NFA/MONITOR/MITIGATE
Vinyl chloride	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	NFA

µg/m3: mirogram per cubic meter

ND - not detected

NFA: No Further Actions recomended to address human exposures

IDENTIFY SOURCES, RESAMPLE, AND/OR MITIGATE: We recommend that reasonable and practical actions be taken to identify the source(s) affecting the indoor air quality and that actions be implemented to reduce indoor air concentrations to within background ranges. For example, if an indoor or outdoor air source is identified, we recommend the appropriate party implement actions to reduce the levels. In the event that indoor or outdoor sources are not readily identified or confirmed, resampling (which might include additional sub-slab vapor and indoor air sampling locations) is recommended to demonstrate that SVI mitigation actions are not needed. Based on the information available, mitigation might also be recommended when soil vapor intrusion cannot be ruled out.

MONITOR: We recommend monitoring (sampling on a recurring basis), including but not necessarily limited to sub-slab vapor, basement air and outdoor air sampling, to determine whether concentrations in the indoor air or sub-slab vapor have changed and/or to evaluate temporal influences. Monitoring might also be recommended to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air -conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitorin g is determined based on site-, building- and analyte-specific information, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MITIGATE: We recommend mitigation to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building -specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

Table 4.5

104 South 4th Street - NYSDOH Decision Matrices Summary Table

100 South 4th Street, Brooklyn, NY

Sample ID	SV-5A	SV-5B	IA-5	NYSDOH Matrices
Date	3/12/2021			
Sample Type	Sub Slab	Sub Slab	Indoor Air	
Unit	$\mu g/m^3$			
Volatile Organics in Air				
1,1,1-Trichloroethane	**ND**	**ND**	ND	NFA
1,1-Dichloroethene	**ND**	**ND**	ND	NFA
Carbon tetrachloride	**ND**	**2.68**	0.585	NFA/IDENTIFY SOURCES and RESAMPLE or MITIGATE
cis-1,2-Dichloroethene	**ND**	**ND**	ND	NFA
Methylene chloride	**ND**	**ND**	ND	NFA
Tetrachloroethene	**9.56**	**59.8**	1.04	NFA
Trichloroethene	**7.9**	**5.7**	0.296	NFA/MONITOR
Vinyl chloride	**ND**	**ND**	ND	NFA

µg/m3: mirogram per cubic meter

ND - not detected

NFA: No Further Actions recomended to address human exposures

IDENTIFY SOURCES, RESAMPLE, AND/OR MITIGATE: We recommend that reasonable and practical actions be taken to identify the source(s) affecting the indoor air quality and that actions be implemented to reduce indoor air concentrations to within background ranges. For example, if an indoor or outdoor air source is identified, we recommend the appropriate party implement actions to reduce the levels. In the event that indoor or outdoor sources are not readily identified or confirmed, resampling (which might include additional sub-slab vapor and indoor air sampling locations) is recommended to demonstrate that SVI mitigation actions are not needed. Based on the information available, mitigation might also be recommended when soil vapor intrusion cannot be ruled out.

MONITOR: We recommend monitoring (sampling on a recurring basis), including but not necessarily limited to sub-slab vapor, basement air and outdoor air sampling, to determine whether concentrations in the indoor air or sub-slab vapor have changed and/or to evaluate temporal influences. Monitoring might also be recommended to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air -conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitorin g is determined based on site-, building- and analyte-specific information, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MITIGATE: We recommend mitigation to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building -specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

Table 4.6
Outdoor Air Analysis Summary Table
100 South 4th Street, Brooklyn, NY

Sample ID	OA-1	NYSDOH Matrices
Date	3/12/2021	
Sample Type	OUTDOOR AIR	
Unit	$\mu g/m^3$	
Volatile Organics in Air		
1,1,1-Trichloroethane	**ND**	NA
1,1-Dichloroethene	**ND**	NA
Carbon tetrachloride	**0.491**	NA
cis-1,2-Dichloroethene	**ND**	NA
Methylene chloride	**ND**	NA
Tetrachloroethene	**0.325**	NA
Trichloroethene	**ND**	NA
Vinyl chloride	**ND**	NA

µg/m3: mirogram per cublic meter
NFA: No Further Actions warranted to address human exposures

APPENDICES

98, 100, and 104 South 4th Street, Brooklyn, NY

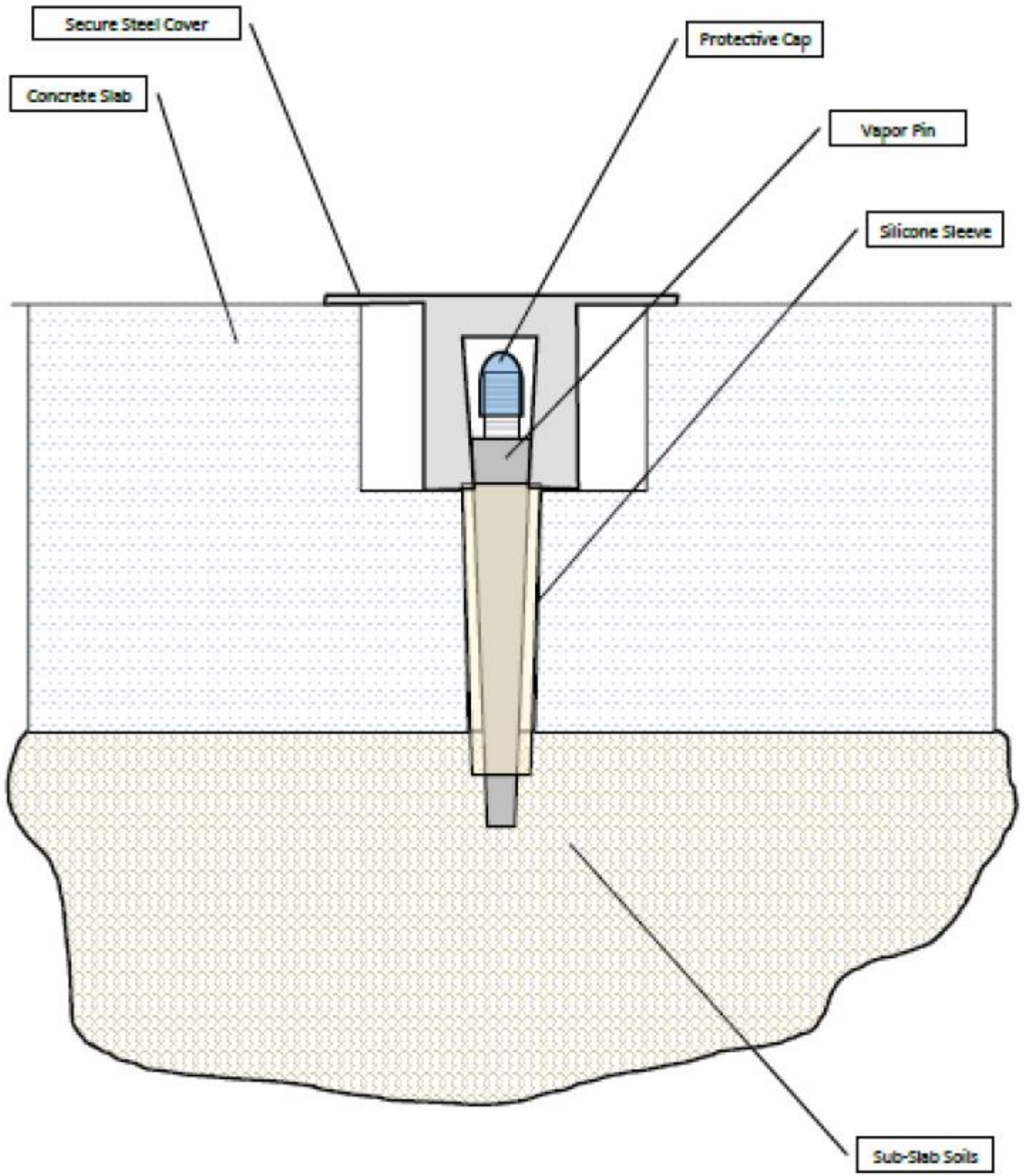
NYSDEC BCP #C224260

IMPACT ENVIRONMENTAL
170 Keyland Court
Bohemia, New York 11716
TEL: (631) 268-8800
FAX: (631) 269-1599

Appendix A

Soil Vapor Point Construction Detail

IMPACT ENVIRONMENTAL
170 Keyland Court
Bohemia, New York 11716
TEL: (631) 268-8800
FAX: (631) 269-1599



Sub-Slab Vapor Pin Installation

Legend

Notes:

Soil Vapor Point Construction Detail

100 South 4th Street, Brooklyn, NY

Appendix A

PROJECT #	13817
DRAWN BY	CJC
CHECKED BY	KK
DATE	5/21/21
Revisions	

N

Not to scale

IMPACT ENVIRONMENTAL CLOSURES, INC.

170 KEYLAND COURT
BOHEMIA, NEW YORK 11716
TEL (631) 269-8800
FAX (631) 269-1599

Appendix B

Photo Log

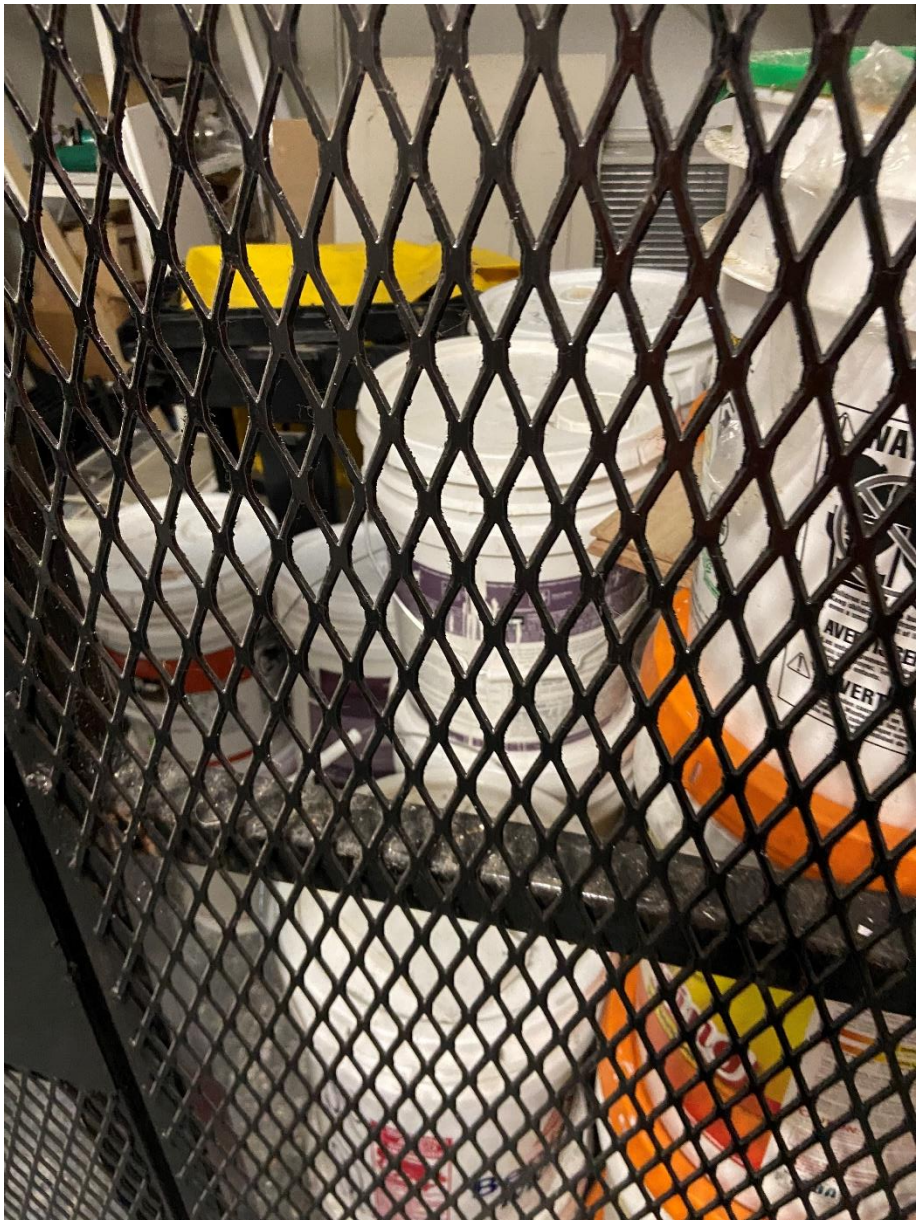
IMPACT ENVIRONMENTAL
170 Keyland Court
Bohemia, New York 11716
TEL: (631) 268-8800
FAX: (631) 269-1599

Photograph No. 1: View of typical sub-slab soil vapor monitoring point installation and duplicate sample location

Photograph No. 2: View of typical indoor air sampling location and duplicate indoor air sampling location.

Photograph No. 3: View of typical conversion of temporary to permanent soil vapor point.

Photograph No. 4: View of typical building maintenance chemical storage within ground floor nonresidential unit in 100 South 4th Street.



Photograph No. 5: View of typical building maintenance chemical storage in stairwell storage cage in 100 South 4th Street.

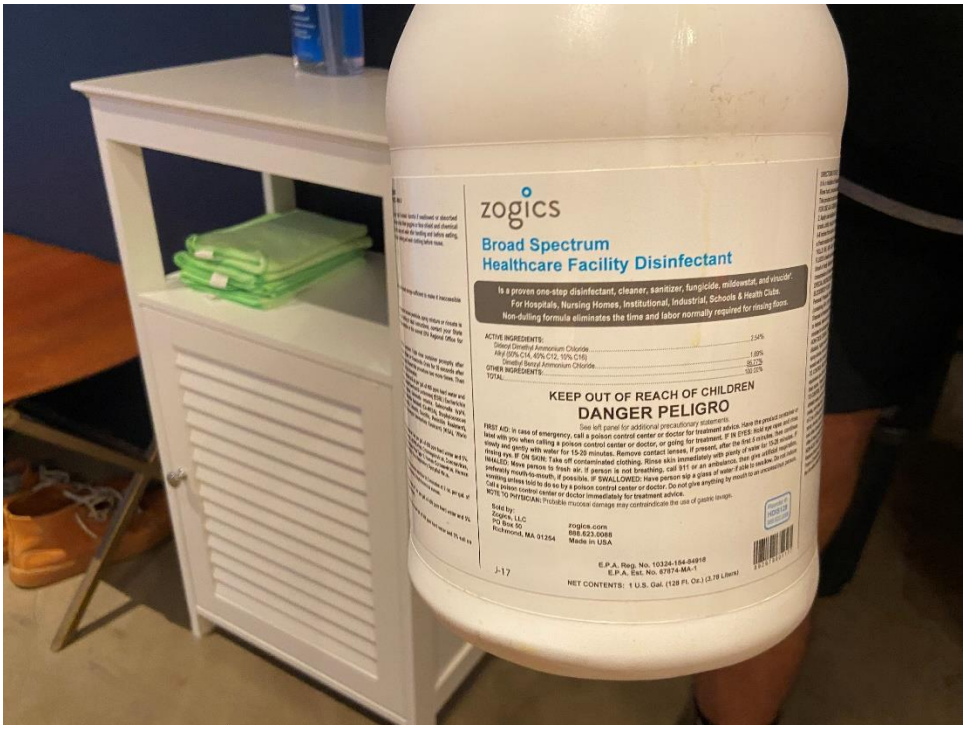
Photograph No. 6: View of typical chemical storage within 98c South 4th Street

Photograph No. 7: View of typical chemical storage within 98c South 4th Street

Photograph No. 8: View of typical chemical storage within 98c South 4th Street

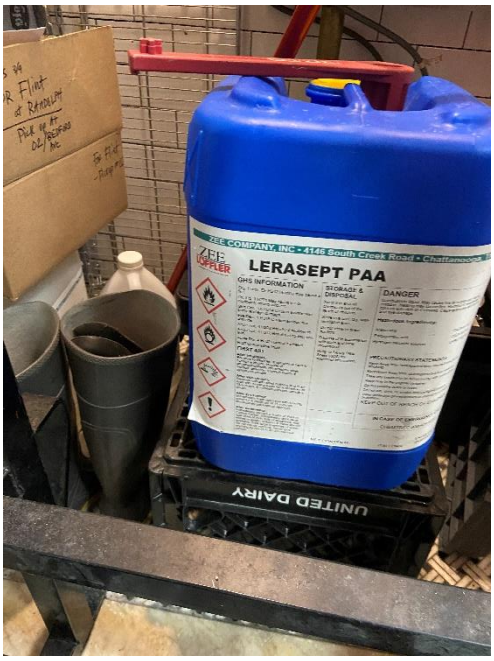
Photograph No. 9: View of typical chemical storage within 98c South 4th Street

Photograph No. 10: View of typical chemical storage within 98c South 4th Street



Photograph No. 11: View of typical chemical storage within 98b South 4th Street

Photograph No. 12: View of typical chemical storage within 98b South 4th Street



Photograph No. 13: View of typical chemical storage within 104 South 4th Street

Photograph No. 14: View of typical chemical storage within 104 South 4th Street

Photograph No. 15: View of typical chemical storage within 104 South 4th Street

Appendix C

Data Validator Credentials

IMPACT ENVIRONMENTAL
170 Keyland Court
Bohemia, New York 11716
TEL: (631) 268-8800
FAX: (631) 269-1599

LDC Corporate Resources

LDC personnel have experience and formal training in the areas of data validation, electronic data deliverables and laboratory QA/QC. LDC personnel have performed data validation in all analytical disciplines. These include, but are not limited to, GC/MS volatiles, GC volatiles, GC/MS semivolatiles, GC pesticides, ICP metals, ICP/MS metals, GFAA metals, GC petroleum hydrocarbons, GC/MS dioxins, explosives, radiochemistry, and wet chemistry. This versatility allows our organization to adapt to workload changes and allows for an excellent secondary review system. Our organization is structured to allow direct communication between project managers, data validators, and clerical staff which occurs on a daily basis.

With LDC's 25+ years as a national leader in the data validation industry and extensive experience supporting projects with multiple EPA regions, DoD and DOE facilities, LDC is confident our data validation services will successfully meet all project requirements. The validation group is managed by Ms. Stella Cuenco, principal chemist, who has over 25 years of experience, the software products and services group is managed by Mr. Scott Denzer, who has over 35 years of experience, and the overall operations are directed by Mr. Michael Takaki, president.

The validation group is divided into chemists by discipline, organics (GC/MS, GC and HPLC) and inorganics (wet chemistry, IC, ICP, ICP/MS). All chemists report to senior group leads. A separate group performs data package log-in to the LDC tracking system. Another group performs the EDD population and verification. Shauna McKellar, Chemist and Project Manager, leads this group and has over 6 years of experience in EDD population, preparation, and uploading to various databases.

The majority of the data validation staff at LDC have been employed for over 10 years with some senior staff over 15 years as noted in the attached resumes. This level of stability and experience will ensure project stability and consistency.

In addressing LDC's financial status, LDC has an excellent Dun & Bradstreet report and has been profitable for the past 15 years. LDC has grown at approximately 10% in each of the past 5 years and continues to be a leader in our environmental sector of the data quality business. References are available from our vendors and clients to confirm our business success. Our annual revenue of approximately $6,000,000 per year in data validation work makes LDC one of the largest independent data validation firms in the nation. In 2001, Mr. Richard Amano was the San Diego SBA Small Businessman of the Year through our sponsor Earth Tech.

LDC will commit the resources and materials to successfully complete this project with the required time period and with a high level of quality.

Project Team Summary

LDC personnel have hands-on experience in the areas of data validation, laboratory QA/QC, CLP SOWs, and environmental laboratory analyses. As documented in the resumes of our staff, the project team has significant experience with USACE and DoD protocols, current technology, SW-846, and all methods stated in the SOW.

LDC is presenting the following staff to perform key roles for this contract. The key staff of the project team and their experience are as follows:

- **Stella Cuenco, Principal Chemist/Operations Manager**
  Project Role: Principal Chemist/Program Manager
  Data Validation Experience: 22 years
  Overall Laboratory and Data Validation Experience: 27 years
  B.S. Chemistry, University of the Philippines, 1991

  Ms. Cuenco has over 27 years of environmental laboratory and data validation experience under DoD and EPA guidelines. Her experience includes performance of data validation in gas chromatography/mass spectrometry for volatile and semivolatile organics and extensive Navy and EPA data review and data verification for all organic and inorganic analyses. Her laboratory experience includes hands-on CLP and SW-846 GC/MS methods.

- **Pei Geng, Senior Chemist/Project Manager**
  Project Role: Senior Organic Data Validator
  Data Validation Experience: 21 years
  Overall Laboratory and Data Validation Experience: 28 years
  M.S. Chemistry, Sam Houston University, 1989

  Ms. Geng will perform the role of organic data validator for this project. She will perform data validation for GC/MS and gas chromatography analyses and serve as a peer reviewer in the initial validation review process.

  Ms. Geng has over 28 years of environmental laboratory and data validation experience. Her experience includes performance of data validation in the gas chromatography area for volatile and semivolatile organics and extensive DoD data review and data verification for all organic analyses. Her laboratory experience includes hands-on CLP and SW-846 GC/MS methods.

- **Richard M. Amano, Principal Chemist**
  Project Role: Senior Technical Reviewer/Director
  Data Validation Experience: 26 years
  Overall Laboratory and Data Validation Experience: 38 years
  B.S. Biochemistry, UCLA, 1979

  Mr. Amano has over 38 years of environmental laboratory, QA/QC, and data validation experience. He has managed data validation projects using the DoD QSM data validation guidelines for the past twenty years. Prior to founding LDC in 1991, he directed two major laboratories, Analytical Technologies, Inc. and Brown and Caldwell, from 1983 to 1991. His data validation experience includes oversight and direction of major efforts for Superfund sites, DoE sites, Navy RI/FS projects, Army Corps of

Engineers investigations, and AFCEE/AFCEC projects. He also has overseen several laboratory audits for major analytical testing programs for the Navy, Texaco, and Hewlett-Packard. His laboratory experience includes hands-on CLP and SW-846 GC/MS analysis, direction of GC/MS (including TO-14 air analyses) and radiochemistry groups, dioxins method development, and complex GC data interpretation of Aroclors. He has performed expert witness support for litigation purposes.

- **Erlinda T. Rauto, Principal Chemist**
  Project Role: Technical Reviewer
  Data Validation Experience: 25 years
  Overall Laboratory and Data Validation Experience: 38 years
  B.S Chemical Engineering, Feati University, Manila, 1967

  Ms. Rauto will perform the role of Technical Reviewer for this project. She will monitor schedules, compliance of the validation to the applicable documents, perform routine surveillance activities such as generation of nonconformance reports, validator training, and QA reports to management.

  Ms. Rauto has over 38 years of environmental laboratory and data validation experience. She has worked under the DoD QSM data validation guidelines for the past 10 years. Her experience includes performance of data validation in the GC, trace metals, and wet chemistry areas for major Federal projects. Her laboratory experience includes hands-on CLP and SW-846 ICP/GFAA analysis, pesticide/PCBs and wet chemistry analysis.

- **Christina Rink-Ashdown, Inorganic Chemist**
  Project Role: Inorganic Data Validator/Project Manager
  Data Validation Experience: 9 years
  Overall Laboratory and Data Validation Experience: 11 years
  B.S. Biology, University of California, San Diego 2006

  Ms. Rink-Ashdown will perform the role of day to day Project Manager for this project. She will monitor schedules, compliance of validation to the Required Guidelines, perform routine surveillance activities such as generation of non-conformance reports, validator training and QA reports to management.

  Ms. Rink-Ashdown has over 11 years combined environmental laboratory and data validation experience. Her experience includes performance of data validation in the trace metals, radiochemistry, and wet chemistry areas for major Federal and commercial projects. Her laboratory experience includes hands-on CLP and SW-846 ICP/CVAA analysis and overall technical review of data deliverables.

  Ms. Rink-Ashdown specializes in the data validation of radiochemistry, trace metals, wet chemistry, and methyl mercury and analyses under MARLAP and USEPA functional guidelines or equivalent protocol. Over the past two years, she has worked under various DoD, CERCLA and EPA data validation guidelines for the various CERCLA, Navy, Army Corps, AFCEE/AFCEC and commercial projects. She is also certified as a “Radiometric Data Validation Specialist” through course work and testing by the Radiochemistry Society.

- **Shauna McKellar, Chemist / Project Manager**
  Project Role: Chemist
  Data Validation Experience: 8 years
  Overall Laboratory and Data Validation Experience: 14 years
  B.S. Environmental Toxicology, UC Davis, 2006

  Ms. McKellar has over 14 years of environmental consulting and data validation experience. She has worked under EPA data validation guidelines for the past 6 years and has inorganic and organic data validation experience using USEPA functional guidelines, Navy procedures, project QAPPs, ADEC checklists, and other applicable documents for EPA, DoD and commercial projects.

  Ms. McKellar specializes in the data validation and contract compliance screening using LDC's Automated Data Review (ADR) software, and is familiar with a variety of different Electronic Data Deliverable formats, including SEDD and NEDD. She has supervised large data validation projects under the USACE and Navy Southwest Division RAC contracts

- **Linda Ta, Chemist / Project Manager**
  Project Role: Chemist
  Data Validation Experience: 1 year
  Overall Laboratory and Data Validation Experience: 5 years
  B.S. Geology, CSU Long Beach, 2012

  Although Ms. Ta has less than one year of experience at LDC, she is proficient in data validation for GC and GCMS methods for Level II and III.

  Ms. Ta has so far become responsible for writing project data quality assessment reports (DQAR), has learned to use ADR for validation, and is in training to perform ERPIMS database tasks.

- **Tony Rommelfanger, Data Control Manager**
  Project Role: Data Custodian

  Mr. Rommelfanger will perform the role of data custodian for this project. He will perform the log-in of all data packages into the LDC tracking system. This system will generate spreadsheets for identifying all samples, their collection date, analysis performed, matrix, and report due date. Upon the completion of each delivery order, he will archive and catalog all reports and data in a secured storage area.

  Mr. Rommelfanger has over 26 years of experience in laboratory and data management experience. He has experience in organizing, logging in, and tracking data packages for technical staff.

Resumes of Key Staff

- Stella Cuenco, Senior Chemist
- Pei Geng, Senior Chemist
- Richard Amano, Principal Chemist
- Linda Rauto, Principal Chemist
- Christina Rink-Ashdown, Inorganic Chemist
- Shauna McKellar, Chemist/EDD Specialist
- Linda Ta, Chemist

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760/827-1100 Fax: 760/827-1099

RESUME
STELLA S. CUENCO

EDUCATION

B.S. Chemistry, 1991
University of the Philippines (UP)

PROFESSIONAL HISTORY

Laboratory Data Consultants, Inc.
Senior Chemist
1996 to present

Ceimic Corporation
GC/MS Chemist
1996

Analytical Technologies, Inc.
GC/MS VOA Group Leader
1992 to 1996

Analytical Technologies, Inc.
GC/MS Chemist
1991 to 1992

Natural Products Research, UP
Research Assistant
1990 to 1991

REPRESENTATIVE EXPERIENCE

Ms. Cuenco has over 27 years combined environmental laboratory and data validation experience. Her experience includes performance of data validation in the GC and GC/MS areas for major Federal projects. She has performed large validation projects under Boeing, Navy Southwest, Northwest and Pacific Division, EPA Region IX ESAT, USACE and AFCEE/AFCEC programs. Her laboratory experience includes hands-on CLP and EPA analysis of GC and GC/MS volatile organic compounds.

Specifically, Ms. Cuenco has over 22 years organic data validation experience using USEPA (including Region III) functional guidelines and other applicable documents.

- As senior chemist with LDC, Ms. Cuenco specializes in the data validation and contract compliance screening of gas chromatography-mass spectrometry analyses as well as gas chromatography analyses. She has a thorough knowledge and understanding of gas chromatography and gas chromatography-mass spectrometry (GCMS) and high resolution GCMS methods referenced in EPA CLP, SW-846, EPA 500, 600 and 1600 series documents. She has performed large data validation under Boeing, Navy Southwest and Pacific Divisions and EPA Region IX ESAT, USACE and AFCEE/AFCEC projects.

Ms. Cuenco has over 5 years experience in an environmental laboratory performing the analysis of organic parameters.

- As GC/MS chemist at Ceimic Corporation, a full service environmental analytical chemistry facility, Ms. Cuenco performed GC and GC/MS volatile analyses. She was responsible for the final reporting of analytical data for this section.

- As GC/MS VOA Group Leader at Analytical Technologies Inc., a full service environmental analytical chemistry facility, Ms. Cuenco was responsible for all GC/MS functions which included overseeing daily operations, training staff, final reporting of analytical data, and compliance with method requirements.

- As research assistant at Natural Products Research, UP, Ms. Cuenco researched chemical literature for plants with known medicinal properties as well as performed microbiological and pharmacological tests on plant extracts.

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2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760/827-1100 Fax: 760/827-1099

RESUME
PEI GENG

EDUCATION

M.S. Organic Chemistry, 1989
Sam Houston State University

B.S. Environmental Chemistry, 1983
Nankai University

PROFESSIONAL HISTORY

Laboratory Data Consultants, Inc.
Senior Chemist
1997 to present

Ceimic Corporation
GC/MS and GC Chemist
1996 to 1997

PACE Analytical Service Inc.
GC/MS and GC Chemist
1990 to 1996

REPRESENTATIVE EXPERIENCE

Ms. Geng has over 28 years combined environmental laboratory and data validation experience. Her experience includes performance of data validation in the GC and GC/MS areas for major Federal projects. She has performed large validation projects under Boeing, Navy Southwest, Northwest and Pacific Division, EPA Region IX ESAT, USACE and AFCEE/AFCEC programs. Her laboratory experience includes hands-on CLP and EPA analysis of GC and GC/MS volatile organic compounds.

Specifically, Ms. Geng has over 21 years organic data validation experience using USEPA CLP (including Region III) functional guidelines and other applicable documents.

- As chemist with LDC, Ms. Geng specializes in the data validation and contract compliance screening of gas chromatography-mass spectrometry analyses as well as gas chromatography analyses. She has a thorough knowledge and understanding of gas chromatography and gas chromatography-mass spectrometry (GCMS) and high resolution GCMS methods referenced in EPA CLP, SW-846, EPA 500, 600 and 1600 series documents. She has performed large data validation under Boeing, Navy Southwest and Pacific Divisions and EPA Region IX ESAT, USACE and AFCEE/AFCEC projects.

Ms. Geng has over 7 years of experience in an environmental laboratory performing the analysis of organic parameters.

- As both a GC and GC/MS chemist at Ceimic Corporation, a full service environmental analytical chemistry facility, Ms. Geng performed GC and GC/MS volatile and semivolatile analyses.

- As both a GC and GC/MS chemist at PACE Analytical Service Inc., a full service environmental analytical chemistry facility, Ms. Geng performed GC and GC/MS volatile and semivolatile analyses as well as overseeing the final reporting of analytical data, and compliance with method requirements.

LABORATORY DATA CONSULTANTS, INC.
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RESUME
RICHARD M. AMANO

EDUCATION

B.S. Biochemistry
University of California, Los Angeles, 1979

A.A. Chemistry
El Camino College, 1977

PROFESSIONAL HISTORY

Laboratory Data Consultants, Inc.
Program Manager/Principal Scientist
2011-present
President/Principal Chemist,
1991 to 2011

Analytical Technologies, Inc
Laboratory Director
1986 to 1991

Brown & Caldwell
Laboratory Supervisor
1983 to 1986

West Coast Technical Service
Senior Chemist
1980 to 1983

University of California, Los Angeles
Laboratory Technician
1979 to 1980

REPRESENTATIVE EXPERIENCE

Mr. Amano has over 38 years of combined environmental laboratory, QA/QC, laboratory auditing, data management, environmental software development, and data validation experience. Prior to founding LDC in 1991, he directed to two major laboratories, Analytical Technologies, Inc. (San Diego) and Brown and Caldwell. His experience includes oversight and direction of major QA/QC and data validation efforts for confidential petroleum spill projects, Boeing sites, Superfund sites, DoE sites, Navy RI/FS projects, Army Corps of Engineers investigations, and AFCEE/AFCEC projects. He has also overseen several laboratory audits for major analytical testing programs and large scale environmental software development for the US Army Corps of Engineers (USACE).

Specifically, Mr. Amano has over 26 years of experience with validation of organic, inorganic, and radiochemical analyses using USEPA, Navy, USACE, DoD, AFCEE/AFCEC, and other applicable guidance documents.

- As program manager/principal scientist with LDC, Mr. Amano provides management and technical support to the data validation, data quality, and software group. He oversees and directs all environmental software projects developed for the USACE. Additionally, he acts as the primary LDC/USACE contract manager for software development projects. He is the primary author of the nationally distributed Automated Data Review (ADR) software used by the USACE, Navy, DTSC, and commercial clients.

- As President/principal chemist with LDC, Mr. Amano provided management and technical support to the data validation, data quality, and software group. He provided technical support in the organic, inorganic, and radiochemical areas. Under several major QA/QC and data validation programs, he provided, as needed, a final review of data validation and assessment reports. Mr. Amano specializes in the evaluation, validation, and interpretation of environmental testing data. Additional responsibilities include laboratory QA/QC and NELAC audits, implementation and support of QA/QC programs and data management support for engineering firms, environmental lab training, consultation on LIMS data base designs for environmental laboratories, and expert witness litigation support. Mr. Amano has managed and directed several major data validation and QA/QC projects for Army Corps, Navy, Air Force, and commercial contracts. Industrial projects include major petroleum oil spill related data validation and assessment of hydrocarbon analyses. The DoD projects include Southwest Division CLEAN 1 (Jacobs Engineering/IT Corporation/CH2M Hill), Southwest Division CLEAN 2 (Bechtel National), Pacific Northwest Division CLEAN (URS Greiner), Southern Division CLEAN (ABB Environmental), Atlantic Division CLEAN (EA Engineering), Southwest Division RAC (OHM Remediation), Pacific Division CLEAN (Earth Tech), AFCEE/AFCEC Mather AFB (Montgomery Watson), AFCEE/AFCEC Pease AFB (Bechtel Environmental), AFCEE/AFCEC England AFB (Law Environmental), Army Corps Travis AFB (CH2M Hill), Army Corps Hawthorne Army Depot (Tetra Tech), Nevada Test Site (IT Corp), and Army Corps Fort Ord (Harding Lawson). He provided oversight and direction for major USACE environmental software development including Automated Data Review (ADR), FUDSFORUM, MRSPP, and FUDSCHEM. He has a thorough knowledge and understanding of EPA CLP, SW-846, EPA 500, EPA 900, and EPA 600 series methods. He additionally has supported attorneys as an expert witness and has taught data integrity and lab ethics courses for several organizations.

Mr. Amano has over 12 years environmental laboratory experience in commercial laboratories supervising or performing the analyses of organic, inorganic, and radiochemical parameters.

- As laboratory director and technical director of Analytical Technologies, Inc, a full service environmental analytical chemistry facility, Mr. Amano was responsible for all facets of operations. These responsibilities include direct technical input for GC, GC/MS, and inorganic operations, personnel selection, assisting in method development, and selection of non-routine analysis. In addition, Mr. Amano was responsible for supervision of the 80 scientists employed at ATI's San Diego laboratory with all group supervisors, quality assurance and safety coordinators reporting directly to him. Mr. Amano has managed numerous analytical testing programs including the North Island Navy Confirmation Study, Miramar Air Force Base Confirmation Study, and investigations at several of the EPA Superfund sites. His environmental expertise focuses on the chemical testing related to hazardous waste investigations, site remediation, and groundwater monitoring programs.

- While at Brown & Caldwell, Mr. Amano's responsibilities encompassed supervision of daily operations of the laboratory, personnel staffing, technical advisor for operation of the gas chromatograph/mass spectrometer (GC/MS) section, maintenance of QA/QC programs, and coordination between engineers, clients, and laboratory analysts. Additionally, he supervised the daily operation of all radiochemistry activities which included alpha, beta, and radium analyses.

- At West Coast Technical Service, Mr. Amano was responsible for daily operation and quality control of the GC/MS group. Mr. Amano was highly involved with the USEPA hazardous waste contracts. Some special projects included dioxin selected ion monitoring analysis, EPA method 624 and 625 validation studies, and low level drinking water evaluations.

TECHNICAL PRESENTATIONS

"Understanding the Workings of an Environmental Laboratory"
Southern California Department of Health Services, 1984
Hargis & Associates, Inc, La Jolla, CA, 1987
Hargis & Associates, Inc, Tucson, AZ, 1987
Westec Services, San Diego, CA, 1987
Applied Hydrogeologic, Inc, San Diego, CA 1989

"Data Validation, QA/QC, and Environmental Analysis"
Van, Waters, and Rogers, Seattle, WA, 1990
ERC Environmental, Honolulu, HI, 1991
Harding Lawson Associates, Honolulu, HI, 1991
Pacific Division Naval Engineering Group, Honolulu, HI, 1991
OHM, Irvine, CA, 1996
Southwest Division Naval Engineering Group, San Diego, CA, 1996
Navy Public Works Center, San Diego, CA 1996

"GC versus GC/MS"
J.H. Kleinfelder & Associates, Artesia, CA 1986
Hargis & Associates, Inc, La Jolla, CA 1987

"Analytical Methods and QA/QC Procedures for Environmental Analysis"
County of San Diego Department of Health Services, San Diego, CA 1989
Regional Water Quality Control Board, San Diego, CA 1990
ERC Environmental, San Diego, CA 1990
Mittlehauser Corporation, Laguna Hills, CA 1991

"Hydrocarbon Testing Related to Underground Storage Tanks (UST)"
San Diego County DOHS, San Diego, CA, 1986
J.H. Kleinfelder & Associates, Artesia, CA 1986
Woodward Clyde Consultants, San Diego, CA 1987

Engineering Enterprises, Long Beach, CA 1987

"Quality Control/Quality Assurance in Laboratories"
Assoc of Hazardous Materials Professionals, Anaheim, CA 1986
R.L. Stollar & Associates, Santa Ana, CA 1989

"The Influence of Sample Matrix on Environmental Analysis"
Assoc of Hazardous Materials Professionals, San Diego, CA 1990

"Comparison of Air Sampling Media"
Assoc of Hazardous Materials Professionals, Anaheim, CA 1991

"Building a Second Generation LIMS for Commercial Laboratory Operations"
Pittsburgh Conference, New York, NY, 1990 (Invited Speaker)

"Employment Outlook in Environmental Laboratories"
Southern California American Chemical Society, 1985

"Opportunities in the Environmental Lab in the 1990's"
American Chemical Society, 1990

"Data Validation of Radiochemical Analyses"
Hargis + Associates, La Jolla, CA 1991

"Detection Limits - MDL, PQL, RDL, LOD ?"
Analytical Technologies, Inc., 1991

"Poor QA/QC or Laboratory Fraud: Have labs crossed the fine line?"
Environmental Professionals Organization, Newport Beach, CA 1996

"Electronic Data Deliverables and Automated Data Review/Validation"
Army Corps of Engineers, Sacramento District, Sacramento, CA 1996

"Navy Environmental Data Transfer Standards"
Kleinfelder, San Diego, CA 1997

"Laboratory QA/QC Update for DoD Programs"
ACTLabs, Long Beach, CA 1997

LECTURING AND TEACHING

"Instrumental Analysis of Hazardous Materials"
University of California, San Diego 1988 - 1995

"Field Monitoring & Laboratory Analysis of Hazardous Materials"

University of California, San Diego 1995 - 1998

California State Fullerton, Guest Lecturer, 1985 & 1990

San Diego State University, Hydrology Department, Guest Lecturer, 1988

"EPA Level 4 Data Validation" Workshop
Applied Geotechnology, Inc., Bellevue, WA, 1993

"Environmental Analyses in the 90's"

National University, Guest Lecturer, 1993

"Data Quality Objectives for Federal Environmental Programs"
University of California, San Diego 1993

"Data Integrity and Data Management for Federal Environmental Programs"
University of California, San Diego 1994

"Laboratory QA/QC and Electronic Data Requirements for DoD Programs"
University of California, San Diego 1995

"Application and Utilization of Department of Defense (DoD) Guidance Documents"
University of California, San Diego 1996

"Laboratory Quality Assurance for Department of Defense Programs"
University of California, San Diego 1997

PUBLICATIONS

"Managing an Environmental Chemistry Laboratory for Profit",
John H. Taylor, Jr and Richard M. Amano,
Journal of Chromatographic Science, 1987

MEMBERSHIPS AND AFFILIATIONS

American Chemical Society
Association of Hazardous Materials Professionals, (Steering Committee 1988-1994)
Association of California Testing Laboratories, (Board Member 1989-1991)
County of San Diego, Site Assessment and Mitigation Technical Forum (Steering Committee 1990-2000)
American Society Quality Control (1992-2005)

FOUNDATIONS

Golf for Autistic Children in America (GACA), Founder/President (2011)

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RESUME
ERLINDA T. RAUTO

EDUCATION

B.S. Chemical Engineering 1967
Feati University - Manila, Philippines

PROFESSIONAL HISTORY

Laboratory Data Consultants, Inc.
Senior Chemist/Validation Group Manager
1993 to present

Appropriate Technologies, Inc.
Chemist II
1992 to 1993

AECOS Inc.
Laboratory Supervisor
1989 to 1992

PWCSA #4 County Complex
Laboratory Analyst
1986 to 1989

Kalama Specialty Chemical
Chemist
1980 to 1982

REPRESENTATIVE EXPERIENCE

Ms. Rauto has over 38 years combined environmental laboratory, QA/QC, and data validation experience. Her experience includes performance of data validation in the GC, trace metals, and wet chemistry areas for major Federal projects. Her laboratory experience includes hands-on CLP and EPA ICP/GFAA analysis, pesticide/PCBs and wet chemistry analysis.

Specifically, Ms. Rauto has over 25 years of experience with organic data validation and assessment using USEPA (including Region III) functional guidelines and other applicable documents.

- As a Principal chemist with LDC, Ms. Rauto provides management and technical support to the data validation group. She specializes in the data validation and compliance screening of gas chromatography organic analyses. This validation includes EPA CLP, SW-846, and EPA Water and Wastewater methods. Over the past 16 years, Ms. Rauto has performed USEPA Level 3 and Level 4 (including NFESC Level C and D) validation for projects including Boeing SSFL, Southwest Division CLEAN 1 (Jacobs Engineering/IT Corporation/CH2M Hill), Southwest Division CLEAN 2 (Bechtel National), Pacific Northwest Division CLEAN (URS Greiner), Southern Division CLEAN (ABB Environmental), Atlantic Division CLEAN (EA Engineering), Southwest Division RAC (OHM Remediation), Pacific Division CLEAN (Earth Tech), DoE Atomic City (Jacobs

Engineering Group), Army Corps of Engineers, Travis AFB (CH2M Hill), Army Corps of Engineers, Camp Navajo (Tetra Tech), AFCEE/AFCEC Mather AFB (Montgomery Watson), AFCEE/AFCEC Pease AFB (Bechtel Environmental), AFCEE/AFCEC England AFB (Law Environmental), Army Corps of Engineers, Hawthorne Army Depot (Tetra Tech), Army Corps of Engineers, Fort Ord (Harding Lawson), Nevada Test Site (IT Corp), and AFCEE/AFCEC Beale AFB (Law/Crandall, Inc.).

Ms. Rauto has organic laboratory experience with over 13 years of experience in an environmental laboratory supervising or performing the analyses of organic parameters.

- As a chemist II at Appropriate Technologies, Inc., a hazardous waste disposal facility, Ms. Rauto was responsible for the operation of the gas chromatographs. Organochlorine pesticides and PCBs analysis was the primary method performed. In addition, Ms. Rauto performed ICP analyses for trace metals, as well as, supported engineers in developing waste treatment processes.

- As the laboratory supervisor at AECOS Inc., Ms. Rauto supervised and directed operation of gas chromatography, atomic absorption, and wet chemistry instrumentation. She interfaced with state and federal agencies to maintain certification and developed a written QA/QC plan for the laboratory.

- As chemist at Kalama Specialty Chemical, Ms. Rauto performed gas chromatography analysis on raw materials and finished products. She worked on the research and development of new chemicals.

Additionally, Ms. Rauto has 2 years inorganic/conventional analytical experience.

- While employed at the Prince William County laboratory, Ms. Rauto was involved in the analysis of water and wastewater for metals and wet chemistry parameters. This included BOD, COD, nitrate, nitrite, sulfate, chloride, fluoride, TDS, conductivity, pH, cyanide, and phenols analyses. She maintained the QA/QC program to assure compliance with EPA guidelines.

AFFILIATIONS
American Society for Quality Control

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RESUME
CHRISTINA RINK-ASHDOWN

EDUCATION

BS Biology, 2006
University of California, San Diego

PROFESSIONAL HISTORY

Laboratory Data Consultants, Inc.
Inorganic Chemist
2009 to present

Enviromatrix Analytical, Inc.
Metals Chemist
2007 to 2009

REPRESENTATIVE EXPERIENCE

Ms. Rink-Ashdown has over 11 years combined environmental laboratory and data validation experience. Her experience includes performance of data validation in the trace metals, radiochemistry, and wet chemistry areas for major Federal and commercial projects. Her laboratory experience includes hands-on CLP and SW-846 ICP/CVAA analysis and overall technical review of data deliverables. Specifically, Ms. Rink-Ashdown has over 6 years inorganic and radiochemistry data validation experience using USEPA (including Region III) functional guidelines and other applicable documents.

As chemist with LDC, Ms. Rink-Ashdown specializes in the data validation of trace metals, wet chemistry, methyl mercury and radiochemistry analyses using USEPA functional guidelines or equivalent protocol. She has worked under various CERCLA and EPA data validation guidelines for the various CERCLA, Navy, Army Corps, AFCEE/AFCEC and commercial projects. She is certified as a “Radiometric Data Validation Specialist” through course work and testing by the Radiochemistry Society. **Ms. Rink-Ashdown has validated over 2,000 samples for various isotopes in the last two years.**

Ms. Rink-Ashdown has over 2 years of environmental laboratory experience in a laboratory performing the analyses of inorganic parameters.

As lead inorganic chemist at Enviromatrix Analytical, Inc., Ms. Rink-Ashdown managed the inorganic chemistry section which performed techniques such as atomic absorption and inductively coupled argon plasma spectrometry. These analyses were performed from methods referenced in EPA CLP, SW-846, and Standard Methods documents.

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RESUME
SHAUNA McKELLAR

EDUCATION

B.S. Environmental Toxicology, 2006
University of California at Davis

PROFESSIONAL HISTORY

Laboratory Data Consultants, Inc.
Project Manager / Chemist
May 2010 to present

D-Max Engineering, Inc.
Assistant Project Scientist
January 2007 to May 2010

University of California at Davis
Undergraduate Researcher
March 2005 to June 2006

REPRESENTATIVE EXPERIENCE

Ms. McKellar has over 14 years combined consulting, field sampling, database management, data validation, and automated data review experience. Her experience includes performance of automated data validation for major Navy Southwest Division, US Army Corps of Engineers, and Alaska DEC projects as well as data management for commercial and litigation projects. Her field sampling experience includes surface water sampling in both wet and dry weather conditions, and her laboratory experience includes preparation and analysis of samples utilizing HPLC and UV-vis spectrometry, instrument maintenance, and data evaluation.

Specifically, Ms. McKellar has over 6 years of inorganic and organic data validation experience using USEPA functional guidelines, Navy procedures, QAPP, ADEC checklists, and other applicable documents, in addition to more than 3 years of experience working in the environmental compliance field, and over one year working in a research laboratory.

- As chemist with LDC, Ms. McKellar specializes in the data validation and contract compliance screening using LDC's Automated Data Review (ADR) software, and is familiar with a variety of different Electronic Data Deliverable formats, including SEDD and NEDD. She has supervised large data validation projects under the USACE and Navy Southwest Division RAC contracts.

- As an assistant project scientist with D-Max Engineering, Ms. McKellar performed wet and dry weather surface water sampling related to compliance with Regional Water Quality Control Board NPDES Permits. She also maintained large project databases related to stormwater inspection and monitoring programs for various municipalities.

- As an undergraduate researcher at the University of California at Davis, Ms. McKellar conducted an independent atmospheric chemistry research project utilizing HPLC and UV-Vis spectroscopy. She was responsible for the instrument calibration, verifying sample analyses, and routine instrument maintenance.

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RESUME
LINDA TA

EDUCATION

B.S. Geology, 2012
California State University Long Beach

PROFESSIONAL HISTORY

Laboratory Data Consultants, Inc.
Chemist and Project Manager
July 2018 to present

Eurofins Calscience
Project Manager Assistant
02/2014-07/2018

Eurofins Calscience
Chemist
10/2013-02/2014

REPRESENTATIVE EXPERIENCE

Although Ms. Ta has less than one year of experience at LDC, she is proficient in data validation for GC and GCMS methods for Level II and III.

- As a project manager with LDC, Ms. Ta assists the other project managers through project set-up, validation, report review, and writing project data quality assessment reports. Ms. Ta is also in training to perform ADR validation and ERPIMS database tasks. She is also the administrative support specialist for LDC Advantage secure data sharing portal where she assists with project and client set-up.

Ms. Ta has 5 years of experience in an environmental laboratory performing the analysis of organic parameters.

- As a GC/MS chemist at Eurofins Calscience, a full service environmental analytical chemistry facility, Ms. Ta performed GC/MS volatile analyses using various EPA Methods in accordance with standard operating procedures. Ms. Ta utilized Agilent Chemstation and Laboratory Information Management Systems (LIMS) to analyze and report data.

- As a Project Manager Assistant at Eurofins Calscience, Ms. Ta assisted multiple Project Managers to oversee all laboratory functions for various projects. In addition, she managed several minor projects for various Environmental consultants. She served as the secondary point of contact for clients, ensured that Chain of Custodies are accurate and analyses are logged in correctly, directed preparation of bottle orders, scheduled pickups and deliveries, coordinated subcontracted analyses, provided quality control review of project-related documents and compliance to project criteria, worked closely with lab group supervisors and executive managers in planning new projects and managed ongoing analytical work. Ms. Ta evaluated analytical data, prepared project

case narratives and summaries, compiled laboratory reports for external validation, and worked closely with chemists and lab group supervisors in resolving quality assurance and quality control issues. She prepared detailed project billing and generated multiple Electronic Data Deliverables. She was also responsible for training new Project Manager Assistants on various PM tasks, data review and compilation of laboratory Level III/IV QC Data Deliverables.

Below is a partial listing of clients and projects which Ms. Ta has assisted:

-Department of Defense Sites
- Edwards AFB
- George AFB
- Vandenberg AFB

-SSFL NASA
-BP/ARCO
-Aerospace Company

Below is a listing of various database management software which Ms. Ta has extensive training on:

-ERPIMS
-EQUIS
-Envirodata
-NEDD
-ADR
-Geotracker

Relevant Project Experience

LDC has performed data validation and Quality Assurance services for contaminated sites overseen by AFCEE/AFCEC, Navy Southwest Division, DoE, DoD, EPA Superfund projects overseen by EPA Regions II, III, IV, IX, X, USACE projects reviewed by the Alaska, Baltimore, Louisville, Albuquerque, Seattle, Philadelphia, and Sacramento Districts, and Navy projects reviewed by NFESC.

LDC is the software developer and expert in the use of the Automated Data Review (ADR) software. LDC has been using the ADR.NET version for over 2 years and has the current Version in full implementation. LDC has performed over 1000 ADR projects in the past 10 years' worth over $2,000,000 in revenue. ADR clients include, but are not limited to: Tetra Tech EC, Sealaska, AMEC, EPA, California DTSC, MWH, Trevet, Brown & Caldwell, AECOM, Shaw, ITSI, CDM, Weston Solutions and the San Gabriel Watermaster.

LDC has validated over 1,000,000 samples for analyses such as volatile organics (CLP, EPA Method 8240/8260), semivolatile organics (CLP, EPA Method 8270), organochlorine pesticides/PCBs (CLP, EPA Method 8081/8082), chlorinated herbicides (EPA Method 8151), purgeable halocarbons and aromatics (EPA Method 8021), trace metals (CLP, EPA Method 6010/6020/7000), PAHs by EPA 8310 and 8270,TOC analyses, hexavalent chromium, total petroleum hydrocarbons (EPA Method 8015/CDOHS LUFT), radiochemical constituents including gross alpha/beta, alpha spec, gamma spec, tritium, and uranium, and general minerals.

LDC has met their contractual turnaround time and quality requirements on over 99% of the projects completed.

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Project References/Experience

Name and Address, Contact Person, Telephone	Work Description and Location	Requested Deliverables	Number of samples/ Matrix	Value ($)	Start/Stop
Washington State Department of Transportation Environmental Services Office P.O. Box 47332 Olympia, WA 98504 ATTN: Mr. Brad Archbold ArchboB@wsdot.wa.gov 360-570-6636	WSDOT NPDES Stormwater Monitoring LDC performed Stage2A, 2B and 4 data validation for a full suite of analyses including GCMS, GC, Metals, and Wet Chemistry analyses.	Stage 2A, 2B, and 4 data validation reports. Work conducted under Washington State Department of Transportation Stormwater Monitoring	>3,800 Soil and Water	$48,332	04/2013-07/2016
Leighton Consulting, Inc. 17781 Cowan Irvine, CA 92614 ATTN: Mr. Mark Withrow mwithrow@leightongroup.com cell: 949-394-2194 office: 949-681-4211	San Onofre Nuclear Generating Station (SONGS) Mesa Facility LDC performed EPA Level III and IV equivalent data validation for a full suite of analyses. Analyses included GCMS, GC, Metals, and Wet Chemistry analyses.	EPA Level III and IV data validation reports. Work conducted under USEPA Contract Laboratory Program National Functional Guidelines (CLPNFG).	>3,600 Soil, Water, and Air	$66,225	09/2015-present
Leighton Consulting, Inc. 17781 Cowan Irvine, CA 92614 ATTN: Ms. Julie Harriman jharriman@leightongroup.com Direct : (949) 681-4264 Cell: (949) 572-8129	Aliso Canyon LDC performed EPA Level II equivalent data validation. Analyses included VOA, SVOA, Total Hydrocarbons, Isopropyl Alcohol, Total Dust, and Sulfur Compounds.	EPA Level II data validation reports and PARCC summary report. Work conducted under USEPA Contract Laboratory Program National Functional Guidelines (CLPNFG).	>1,200 Air, Wipe, and Disk	$15,749	07/2016-08/2016
Tetra Tech, EM Inc. 1999 Harrison Street, Suite 500 Oakland, CA 94612 ATTN: Ms. Sara Woolley Sara.Woolley@tetratech.com Direct: 510.302.6311 Main: 510.302.6300	Subcontract 161408 For Various project sites including: EAGLE NEST INVESTIGATION FORT IRWIN GOLD BEACH MILL HPNS MARE ISLAND MOTCO LITIGATION NAF EL CENTRO NWS CONCORD LDC performed Cursory and Full data validation for a full suite of analyses using specified EPA Guidelines, DoD QSM Version 4.2, and Tetra Tech EMI, Inc. validation documents.	TTEMI Format data validation reports and EDD using Tetra Tech's validate program.	>3000 Soil and Water	$39,785	10/2011 – 10/2013

Name and Address, Contact Person, Telephone	Work Description and Location	Requested Deliverables	Number of samples/ Matrix	Value ($)	Start/Stop
GEI Consultants, Inc. 455 Winding Brook Drive Glastonbury, CT 06033 (860) 368-5342 direct (860) 368-5300 main Jaimie Wargo JWargo@geiconsultants.com	Various NYSDEC sites LDC performed Category B equivalent data validation Analyses included: VOC, SVOC, Pesticide, PCB, Herbicide, Steroids, Metals, Wet Chemistry	Category B data validation and NYSDEC DUSR reports	>1,700 Soil and Water	$72,000	2010-present
TetraTech EC 17885 Von Karman Ave, Suite 500 Irvine, CA 92614 Attn: Lisa Bienkowski (949) 809-5028 Lisa.Bienkowski@tetratech.com	Tetra Tech Hunter's Point CA LDC performed EPA Level III and IV equivalent data validation for a full suite of analyses on more than 50,000 soil and water samples. Analyses included tritium, isotopic thorium, uranium and plutonium, and gross alpha/beta. Expedited turnaround times were included (5 day TAT)	EPA Level III and IV data validation reports. Work conducted under US Navy RAC program, Southwest Div.	>50,000 Soil and Water	$645,733	02/2001-present
AECOM (Earth Tech) 700 Bishop Street Honolulu, HI 96813 Contact: Scott Lewis (808) 523-8874 Scott.Lewis@aecom.com	Data validation per EPA level "3/C" and "4/D" guidelines for volatile organic, semivolatile organic, pesticides/PCBs, herbicides, phenols, phosphorus pesticides, dioxin, radiochemical, and trace metal analyses in soil, water, and tissue matrices. (Navy PACDIV CLEAN, Honolulu, HI)	LDC worksheets and validation reports	>10,000 samples Water/Soil/Air	$750,000	4/98-present
CBI (formerly Shaw E&I) 3347 Michelson Drive, Ste 200 Irvine, CA 92612 Contact: Mr. Dwayne Ishida Phone: (949) 660-7561 Dwayne.Ishida@CBIFederalServices.com	Data validation per EPA level "3" and "4" and AFCEE/AFCEC guidelines for volatile organic, semivolatile organic, pesticides/PCBs, herbicides, phenols, phosphorus pesticides, dioxin, radiochemical, and trace metal analyses in soil, water, and tissue matrices. (Navy Southwest Division RAC, San Diego, CA and various AFCEE/AFCEC projects)	LDC worksheets and validation reports	>5000 samples Water/Soil/Air	$350,000	6/06-present

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Name and Address, Contact Person, Telephone	Work Description and Location	Requested Deliverables	Number of samples/ Matrix	Value ($)	Start/Stop
Santa Clara Pueblo Office of Environmental Affairs 578 Kee Street Espanola, New Mexico, 87532 Ms. Ernestine Naranjo 505-692-6270 phone 505-747-2728 fax enaranjo@santaclarapueblo.org	Data validation per EPA level "III" SCP-OEA-DEPO, Data Validation using ADR For full suite of Organic, Inorganic, and Radiochemical analyses. Radiochemical analyses including Gross alpha & beta, Gamma Spectroscopy, Iodine, Radium-226/228, Strontium-90, Isotopic Pu, Th, and U, Tritium, and Americium by various EPA and GA methods.	Level III validation using ADR	>750 Soil, Water, and Air	$11,987.05	12/2015 - present
Anchor Environmental, LLC 720 Olive Way, Suite 1900 Seattle, WA 98101 Ms. Joy Dunay 206.287.9130, jdunay@anchorqea.com	Data validation per Level “C” Newtown Creek Phase 2: Third Party Data Validation of laboratory results, EDD population, and Data Quality Assessment Reports (DQAR) for various methods Subcontractor	LDC worksheets and validation reports	>63,000 Soil and Water	$743,793.88	6/14-1/16
Tradebe Environmental Services, LLC. 628 South Saratoga Street Cohoes, NY 12047 Attn: Accounts Payable Mr. Tom VanVranken (518) 235-0401 tom.vanvranken@tradebe.com	Norlite MACT Project LDC performed Category B equivalent data validation Analyses included: Metals, Mercury, Heat Content, Ash Content, Chlorine, Density, and Dioxins	Category B data validation and NYSDEC DUSR reports	11 Soil, Air and Water	$2,000.00	9/2013
P.W.Grosser Consulting2015 630 Johnson Ave, Suite 7 Bohemia, NY 11716 Attn: Mr. Derek Ersbak w. 631.589.6353 f. 631.589.8705 dereke@pwgrosser.com	Former Arkansas Chemical Co.Site and Former Ronkonkoma Wallpaper Site 203 Jay St. LDC performed Category B equivalent data validation Analyses included: VOC, SVOC, Pesticide, PCB, Metals, Wet Chemistry	Category B data validation and NYSDEC DUSR reports	>200 Soil and Water	$3,024.00	11/2014-present

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Name and Address, Contact Person, Telephone	Work Description and Location	Requested Deliverables	Number of samples/ Matrix	Value ($)	Start/Stop
Amec Foster Wheeler Environment and Infrastructure, Inc. 9210 Sky Park Court, Suite 200 San Diego, CA 92123 Attn: Mr. Rolf Schottle rolf.schottle@amecfw.com Tel +1 (858) 300 4300, Fax +1 (858) 300 4301, Direct +1 (858) 300 4323	Regional Harbor Monitoring Program (RHMP), San Diego, California Third party validation of LDC performed EPA Level III and IV equivalent data validation for a full suite of analyses.	LDC worksheets and validation reports	>200 Water	$9,011.40	3/15–6/16

Note: All above projects were 100% self-performed by LDC

Appendix D

Data Usability Summary Report

IMPACT ENVIRONMENTAL
170 Keyland Court
Bohemia, New York 11716
TEL: (631) 268-8800
FAX: (631) 269-1599

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2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Impact Environmental
170 Keyland Court
Bohemia, NY 11716
ATTN: Mr. Christopher Connolly
CConnolly@impactenvironmental.com

May 20, 2021

SUBJECT: 100 S 4th Street, Brooklyn, NY, Data Validation

Dear Mr. Connolly,

Enclosed is the final validation report for the fraction listed below. This SDG was received on April 23, 2021. Attachment 1 is a summary of the samples that were reviewed for analysis.

LDC Project #50968:

SDG #	Fraction
L2112425	Volatiles

The data validation was performed under Category B guidelines. The analyses were validated using the following documents, as applicable to each method:

- USEPA Region 2 Analysis of Volatile Organic Compounds in Air Contained Canisters, SOP HW-31, Revision 6; September 2016
- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, EPA-R-2017-002; January 2017

Please feel free to contact us if you have any questions.

Sincerely,

Christina Rink

Christina Rink
crink@lab-data.com
Project Manager/Senior Chemist

Attachment 1

Category B EDD DUSR **LDC #50968 (Impact Enviromental, Bohemia, NY / 100 S 4th Street, Brooklyn, NY)**

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (TO-15)																																	
Matrix:	Air/Water/Soil			A	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	L2112425	04/23/21	05/14/21	26	0																																
Total	T/CR			26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26

Shaded cells indicate Category B review (all other cells are Category A review). These sample counts do not include MS/MSD, DLs, FBs and DUPs L:\Impact Environmental\100 S 4th Street\50968ST.wpd

Site: 100 South 4th Street, Brooklyn, NY
Laboratory: Alpha Analytical, Inc.
Report No.: L2112425
Reviewer: Felomina Tanguilig and Christina Rink/Laboratory Data Consultants for Impact Environmental, Bohemia, NY
Date: May 13, 2021

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
SV-1A	L2112425-01	VOC
SV-1B	L2112425-02	VOC
SV-2A	L2112425-03	VOC
SV-2B	L2112425-04	VOC
SV-3B	L2112425-05	VOC
SV-3A	L2112425-06	VOC
SV-4	L2112425-07	VOC
SV-5A	L2112425-08	VOC
SV-5B	L2112425-09	VOC
SV-DUP-1	L2112425-10	VOC
SV-DUP-2	L2112425-11	VOC
IA-1	L2112425-12	VOC
IA-2	L2112425-13	VOC
IA-3	L2112425-14	VOC
IA-4A	L2112425-15	VOC
IA-4B	L2112425-16	VOC
IA-4C	L2112425-17	VOC
IA-4CDL	L2112425-17DL	VOC
IA-4D	L2112425-18	VOC
IA-4E	L2112425-19	VOC
IA-4F	L2112425-20	VOC
IA-4G	L2112425-21	VOC
IA-4GDL	L2112425-21DL	VOC
IA-4H	L2112425-22	VOC
IA-5	L2112425-23	VOC
IA-DUP-1	L2112425-24	VOC
IA-DUP-2	L2112425-25	VOC
OA-1	L2112425-26	VOC
IA-2DUP	L2112425-13DUP	VOC
IA-4DDUP	L2112425-18DUP	VOC

Associated QC Samples(s):

Field/Trip Blanks:	None Associated
Field Duplicate pair:	SV-1A and SV-DUP-1
	SV-4 and SV-DUP-2
	IA-4A and IA-DUP-1
	IA-5 and IA-DUP-2

The above-listed air samples were collected on March 12, 2021 and were analyzed for volatile organic compounds (VOCs) by methods TO-15 and TO-15 in selected ion monitoring (SIM) mode. The data validation was performed in accordance with the USEPA Region 2 *Analysis of Volatile Organic Compounds in Air Contained Canisters*, SOP HW-31, Revision 6 (September 2016) and the USEPA *Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review,* EPA 540-R-2017-002 (January 2017), modified as necessary to accommodate the non-CLP methodologies used.

The organic data were evaluated based on the following parameters:

- Data Completeness
- Holding Times and Sample Preservation
- Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
- Initial and Continuing Calibrations
- Blanks
- Laboratory Duplicate Results
- Laboratory Control Sample (LCS) Results
- Internal Standards
- Field Duplicate Results
- Quantitation Limits and Data Assessment
- Sample Quantitation and Compound Identification

Overall Evaluation of Data and Potential Usability Issues

All results are usable as reported or usable with minor qualification due to laboratory quality control outliers with the exception listed below.

Samples IA-4C and IA-4G were diluted for ethanol due to original analyses exceeding the calibration range. For ethanol results in samples IA-4C and IA-4G, the diluted results should be considered the most usable. The IA-4C and IA-4G results should not be considered usable for ethanol

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP category B laboratory deliverables.

Holding Times and Sample Preservation

All criteria were met.

GC/MS Tunes

All criteria were met.

Initial and Continuing Calibrations

Initial calibration:

All criteria were met.

Compounds that did not meet criteria are summarized in the following table.

Date	Instrument ID	Compound	ICV %D	Associated Samples		Validation Action
12/21/20	ICV-AIRLAB17	1,2,4-Trichlorobenzene	34.1	IA-4C	SS	UJ nondetects
		Hexachlorobutadiene	35.4	IA-4D	SS	UJ nondetects
				IA-4E		
				IA-4F		
				IA-4G		
				IA-4H		
				IA-5		
				IA-DUP-1		
				IA-DUP-2		
				OA-1		

X = Initial calibration (IC) relative standard deviation (%RSD) > 30; estimate (J/UJ) positive and nondetect results.
XX = Continuing calibration (CC) percent difference (%D) > 30; estimate (J/UJ) positive and nondetect results.
SS = Second source verification percent difference (%D) > 30; estimate (J/UJ) positive and nondetect results.
+ = Response factor (RRF) < validation criteria; estimate (J/UJ) positive and nondetect results.

The 1,2,4-trichlorobenzene and hexachlorobutadiene results were estimated due to second source verification exceedances. The bias cannot be determined. The results can be used for project objectives as nondetects with estimated quantitation limits (UJ) which may have a minor impact on the data usability.

Continuing calibration:

All criteria were met.

Blanks

Contamination was not detected in the method blanks.

A field blank was not associated with this sample set. Validation action was not required on this basis.

Laboratory Duplicate Results

Laboratory duplicates were performed on samples IA-2 and IA-4D for VOC analyses. All criteria were met.

LCS Results

All criteria were met.

Internal Standards

All criteria were met.

Field Duplicate Results

Samples SV-1A and SV-DUP-1, samples SV-4 and SV-DUP-2, samples IA-4A and IA-DUP-1, and samples IA-5 and IA-DUP-2 were submitted as the field duplicate pairs with this sample group. The following table summarizes the concentrations and validation actions taken.

Compound	Concentration (ppbv)		RPD
	SV-1A	SV-DUP-1	
Dichlorodifluoromethane	0.409	0.403	1
Ethanol	81.2	68.2	17
Acetone	193	120	47
Isopropanol	6.29	6.29	0
tert-Butyl alcohol	1.72	0.508	109
Carbon disulfide	0.200U	0.403	Not comparable
1,1-Dichloroethane	0.809	0.353	78
2-Butanone	2.79	1.39	67
cis-1,2-Dichloroethene	1.93	0.645	100
Chloroform	0.390	0.408	5
n-Hexane	0.222	0.200U	Not comparable
1,1,1-Trichloroethane	1.30	0.857	41
Benzene	0.262	0.212	21
Trichloroethene	22.4	16.9	28
Toluene	0.552	0.527	5
2-Hexanone	0.319	0.200U	Not comparable
Tetrachloroethene	6.78	5.60	19

Compound	Concentration (ppbv)		RPD
	SV-4	SV-DUP-2	
Dichlorodifluoromethane	0.582	0.503	15
Chloromethane	0.200U	0.373	Not comparable
Ethanol	24.4	42.0	53
Acetone	3.86	5.98	43
Isopropanol	4.20	9.86	81
tert-Butyl alcohol	0.782	1.78	78
2-Butanone	1.24	1.74	34
Chloroform	2.18	0.643	109
Trichloroethene	3.90	3.03	25
Toluene	0.589	1.02	54
2-Hexanone	0.216	0.371	53
Tetrachloroethene	0.687	0.835	19
Ethylbenzene	0.459	0.790	53
m,p-Xylene	0.812	1.43	55
o-Xylene	0.430	0.670	44
1,3,5-Trimethylbenzene	0.200U	0.347	Not comparable
1,2,4-Trimethylbenzene	0.200U	0.341	Not comparable

Compound	Concentration (ppbv)		RPD
	IA-4A	IA-DUP-1	
Dichlorodifluoromethane	0.408	0.497	20
Chloromethane	0.532	0.524	2
Ethanol	472	438	7
Acetone	15.3	16.4	7
Trichlorofluoromethane	0.226	0.336	39
Isopropanol	93.4	104	11
2-Butanone	0.521	0.519	0
Ethyl acetate	0.733	0.955	26
n-Hexane	0.247	0.242	2
Benzene	0.341	0.336	1
Cyclohexane	0.565	0.533	6
n-Heptane	8.56	8.44	1
Toluene	1.41	1.37	3
m,p-Xylene	0.442	0.481	8
Carbon tetrachloride	0.062	0.082	28
Trichloroethene	0.064	0.069	8
Tetrachloroethene	0.153	0.153	0

Compound	Concentration (ppbv)		RPD
	IA-5	IA-DUP-2	
Dichlorodifluoromethane	0.492	0.491	0
Chloromethane	0.476	0.473	1
Ethanol	479	467	3
Acetone	10.2	10.1	1
Trichlorofluoromethane	1.11	1.06	5
Isopropanol	47.4	46.4	2
2-Butanone	0.797	0.838	5
Ethyl acetate	2.47	2.37	4

Compound	Concentration (ppbv)		RPD
	IA-5	IA-DUP-2	
Chloroform	0.271	0.257	5
n-Hexane	0.200U	0.212	Not comparable
Benzene	0.329	0.331	1
n-Heptane	0.202	0.204	1
Toluene	0.742	0.739	0
m,p-Xylene	0.456	0.431	6
1,2,4-Trimethylbenzene	0.283	0.246	14
Carbon tetrachloride	0.093	0.083	11
Trichloroethene	0.055	0.054	2
Tetrachloroethene	0.078	0.077	1

Quantitation Limits and Data Assessment

No results were reported below the reporting limit (RL) and above the method detection limit (MDL) in the VOC analyses.

Due to high target compound levels or difficult sample matrix, select samples were analyzed at dilutions. The following table lists the sample dilutions which were performed and the results reported. RLs were elevated accordingly.

Sample	VOC Analyses Reported
SV-1B	3.125-fold dilution due to nature of sample matrix
SV-2B	10-fold dilution due to nature of sample matrix
SV-3A	2.941-fold dilution due to nature of sample matrix
IA-4CDL	5-fold dilution due to high compound level for ethanol
IA-4GDL	2.5-fold dilution due to high compound level for ethanol

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted.

DATA VALIDATION QUALIFIERS

U - The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.

J - Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified "J" data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The 'J' data may be biased high or low or the direction of the bias may be indeterminable.

UJ - The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified "UJ" data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The 'UJ' data may be biased low.

JN - The analysis indicates the presence of a compound that has been "tentatively identified" (N) and the associated numerical value represents its approximate (J) concentration.

R - Data rejected (R) on the basis of an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.

LDC #: 50968A48 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/10/21
SDG #: L2112425 Category B Page: 1 of 2
Laboratory: Alpha Analytical, Inc. Reviewer: CF
2nd Reviewer:

METHOD: GC/MS Volatiles (EPA Method TO-15) + TO-15 SIM

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/SW	%RSD/ICV ≤ 30
IV.	Continuing calibration	A	CCV ≤ 30
V.	Laboratory Blanks / canister check per batch	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates / DUP	N/A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	SW	D = 1, 10 7, 11, 15, 24 23, 25
XI.	Internal standards	A	
XII.	Target analyte quantitation	A	No Results < RL > MDL
XIII.	Target analyte identification	A	
XIV.	System performance	A	
XV.	Leak Check Compounds	N	
XVI.	Overall assessment of data	SW	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID		Lab ID	Matrix	Date
1	SV-1A	D	L2112425-01	Air	03/12/21
2	SV-1B	3.125 X	L2112425-02	Air	03/12/21
3	SV-2A		L2112425-03	Air	03/12/21
4	SV-2B	10X	L2112425-04	Air	03/12/21
5	SV-3B		L2112425-05	Air	03/12/21
6	SV-3A	2.941 X	L2112425-06	Air	03/12/21
7	SV-4	D_1	L2112425-07	Air	03/12/21
8	SV-5A		L2112425-08	Air	03/12/21
9	SV-5B		L2112425-09	Air	03/12/21
10	SV-DUP-1	D	L2112425-10	Air	03/12/21
11	SV-DUP-2	D_1	L2112425-11	Air	03/12/21
12	IA-1		L2112425-12	Air	03/12/21
13	IA-2		L2112425-13	Air	03/12/21

12 → 16 C_6H_6, QQQ, N, O, S, AA were analyzed as SIM

LDC #: 50968A48 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/10/21
SDG #: L2112425 Category B Page: 2 of 2
Laboratory: Alpha Analytical, Inc. Reviewer: PT
2nd Reviewer:

METHOD: GC/MS Volatiles (EPA Method TO-15)

	Client ID		Lab ID	Matrix	Date
14	3 IA-3		L2112425-14	Air	03/12/21
15 1	3 IA-4A	D_2	L2112425-15	Air	03/12/21
16 1	3 IA-4B		L2112425-16	Air	03/12/21
17 2	4 IA-4C	~~wwww = 5X all others = 1X~~	L2112425-17	Air	03/12/21
18 2	4 IA-4D		L2112425-18	Air	03/12/21
19 2	4 IA-4E		L2112425-19	Air	03/12/21
20 2	4 IA-4F		L2112425-20	Air	03/12/21
21 2	4 IA-4G		L2112425-21	Air	03/12/21
22 2	4 IA-4H		L2112425-22	Air	03/12/21
23 2	4 IA-5	D_3	L2112425-23	Air	03/12/21
24 2	4 IA-DUP-1	D_2	L2112425-24	Air	03/12/21
25 2	4 IA-DUP-2	D_3	L2112425-25	Air	03/12/21
26 2	4 OA-1		L2112425-26	Air	03/12/21
27 1	4 IA-2DUP		L2112425-13DUP	Air	03/12/21
28 2	4 IA-4DDUP		L2112425-18DUP	Air	03/12/21
29	#17 DL	wwww only 5X			
30	#21 DL	wwww only 2.5X			
31					

Notes:

1	WG1476560-4						
2	WG1476567-4						
3	WG1476562-4	(SIM)					
4	WG1476568-4	(SIM)					

LDC #: 50968A48

VALIDATION FINDINGS CHECKLIST

Method: Volatiles (EPA Method TO-15)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was canister pressure criteria met?	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 24 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 30%?	✓			
IIIb. Initial calibration verification				
Was an initial calibration verification standard analyzed after every ICAL for each instrument?	✓			
Were all percent differences (%D) ≤ 30%?		✓		
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 24 hours for each instrument?	✓			
Were all percent differences (%D) ≤ 30%?	✓			
V. Laboratory Blanks/Canister Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 24 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
Was a canister blank analyzed for every canister?	✓			
Was there contamination in the canister blanks?		✓		
VI. Field Blanks				
Were field blanks identified in this SDG?		✓		
Were target compounds detected in the field blanks?			✓	
VII. Surrogate spikes (Optional)				
Were all surrogate percent recoveries (%R) within QC limits?			✓	
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VIII. Laboratory Duplicate				
Was a laboratory duplicate analyzed for this SDG?	✓			
Were the relative percent differences (RPD) within the QC limits?	✓			

Validation Area	Yes	No	NA	Findings/Comments
IX. Laboratory control samples				
Was an LCS analyzed per analytical batch for this SDG?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?	✓			
XI. Internal standards				
Were internal standard area counts within ± 40% from the associated calibration standard?	✓			
Were retention times within ± 20.0 seconds from the associated calibration standard?	✓			
XII. Compound quantitation				
Did the laboratory LOQs/RLs meet the QAPP LOQs/RLs?	✓			
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Leak check compounds				
Was a leak check compound used to evaluate sample integrity and included in the laboratory analyte list?	✓		✓	
Was the leak check compound detected in the samples? If yes, please see leak check validation findings worksheet.			✓	
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methyl cyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 50968A48

VALIDATION FINDINGS WORKSHEET
Overall Assessment of Data

Reviewer: FT

METHOD: GC/MS VOA (EPA Method TO-15)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

Y N N/A Was the overall quality and usability of the data acceptable?

#	Date	Compound	Finding	Associated Samples	Qualifications
		~~FT~~ WWW	x'd cal Range	17, 21	NR/A

Comments: _____

_____

LDC #: 50968A14

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Page: 1 of 1
Reviewer: FT

METHOD: GC/MS VOA (EPA Method TO-15)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?
Y N N/A Were all percent differences (%D) ≤ 30%?

#	Date	Standard ID	Compound	Finding %D (Limit: <30.0%)	Associated Samples	Qualifications
2	12/21/20	ICV-AIRLAB17	KKK	34.1	17-D 26, 28,	J/UJ/P ND
	10:29		LLL	35.4	WG1471567-4	↓

LDC#:_50968A48 **VALIDATION FINDINGS WORKSHEET** Page:_1__of_1__
Field Duplicates Reviewer:__FT____

METHOD: GCMS VOA (EPA Method TO-15)

Compound	Concentration (ppbv		RPD
	1	10	
JJ	0.409	0.403	1
WWW	81.2	68.2	17
F	193	120	47
Isopropanol	6.29	6.29	0
ZZZ	1.72	0.508	109
G	0.200U	0.403	NC
I	0.809	0.353	78
M	2.79	1.39	67
QQQ	1.93	0.645	100
K	0.390	0.408	5
n-B1	0.222	0.200U	NC
N	1.30	0.857	41
V	0.262	0.212	21
S	22.4	16.9	28
CC	0.552	0.527	5
Z	0.319	0.200U	NC
AA	6.78	5.60	19

LDC#:_50968A48 **VALIDATION FINDINGS WORKSHEET** Page:_1__of_1__
Field Duplicates Reviewer:__FT_____

METHOD: GCMS VOA (EPA Method TO-15)

Compound	Concentration (ppbv		RPD
	7	11	
JJ	0.582	0.503	15
A	0.200U	0.373	NC
WWW	24.4	42.0	53
F	3.86	5.98	43
Isopropanol	4.20	9.86	81
ZZZ	0.782	1.78	78
M	1.24	1.74	34
K	2.18	0.643	109
S	3.90	3.03	25
CC	0.589	1.02	54
Z	0.216	0.371	53
AA	0.687	0.835	19
EE	0.459	0.790	53
RRR	0.812	1.43	55
SSS	0.430	0.670	44
AAA	0.200U	0.347	NC
DDD	0.200U	0.341	NC

LDC#:_50968A48 **VALIDATION FINDINGS WORKSHEET** Page:_1__of_1__
Field Duplicates Reviewer:__FT____

METHOD: GCMS VOA (EPA Method TO-15)

Compound	Concentration (ppbv)		RPD
	15	24	
JJ	0.408	0.497	20
A	0.532	0.524	2
WWW	472	438	7
F	15.3	16.4	7
KK	0.226	0.336	39
Isopropanol	93.4	104	11
M	0.521	0.519	0
RRRR	0.733	0.955	26
n-B1	0.247	0.242	2
V	0.341	0.336	1
SSSS	0.565	0.533	6
n-C1	8.56	8.44	1
CC	1.41	1.37	3
RRR	0.442	0.481	8
O	0.062	~~0~~ 0.082	~~200~~ 28
S	0.064	~~0~~ 0.069	~~200~~ 8
AA	0.153	? 0.153	~~200~~ 0

LDC#:_50968A48 **VALIDATION FINDINGS WORKSHEET** Page:_1__of_1__
Field Duplicates Reviewer:__FT____

METHOD: GCMS VOA (EPA Method TO-15)

Compound	Concentration (ppbv)		RPD
	23	25	
JJ	0.492	0.491	0
A	0.476	0.473	1
WWW	479	467	3
F	10.2	10.1	1
KK	1.11	1.06	5
Isopropanol	47.4	46.4	2
M	0.797	0.838	5
RRRR	2.47	2.37	4
K	0.271	0.257	5
n-B1	0.200U	0.212	NC
V	0.329	0.331	1
n-C1	0.202	0.204	1
CC	0.742	0.739	0
RRR	0.456	0.431	6
DDD	0.283	0.246	14
~~need to add sim analytes~~ when f/up ~~arrive~~			??
Θ	0.093	0.083	~~??~~ 11
S	0.055	0.054	~~??~~ 2
AD	0.078	0.077	~~??~~ 1
			??

V:\FIELD DUPLICATES\Field Duplicates\FD_Organics\2021\50968A48.wpd

LDC #: 50968A48

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC/MS VOA (EPA Method TO-15)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

RRF = $(A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs
X = Mean of the RRFs

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported	Recalculated	Reported	Recalculated	Reported	Recalculated
				RRF (std) 10 ppbv	RRF (std) 10 ppbv	Average RRF (initial)	Average RRF (initial)	%RSD	%RSD
1	ICAL AIRLAB17	12/20/20	QQQ	0.863	0.863	0.860	0.860	4.47	4.47
			V	0.658	0.658	0.678	0.678	9.93	9.93
			CC	5.257	5.257	5.482	5.482	10.72	10.72
2	ICAL AIRLAB16	3/18/21	QQQ	0.680	0.680	0.6663	0.6663	7.77	7.77
			V	0.758	0.758	0.7682	0.7682	11.85	11.85
			CC	5.199	5.199	5.3109	5.3109	15.79	15.79
3	ICAL AIRLAB16 TO15 SIM	3/18/21	C	0.494	0.494	0.5265	0.5265	7.54	7.54
			S	0.325	0.325	0.3375	0.3375	8.27	8.27
			AA	2.508	2.508	2.5844	2.5844	6.91	6.91

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 50968A48

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: ___ of ___
Reviewer: _____

METHOD: GC/MS VOA (EPA Method TO-15)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs
X = Mean of the RRFs

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (10 std)	Recalculated RRF (10 std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL AIRLAB17 SIM	12/20/20	C	0.681	0.681	0.6950	0.6950	4.24	4.24
			S	0.289	0.289	0.2998	0.2998	6.77	6.77
			AA	2.100	2.100	2.1773	2.1773	5.26	5.26
2									
3									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 50968A48

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT

METHOD: GC/MS VOA (EPA TO-15)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	3 CCV	3/19/21	QQQ	0.860	0.785	0.785	8.7	8.7
	AIRLAB 17		V	0.678	0.545	0.545	19.6	19.6
	~~1129~~ 1151		CC	5.482	4.402	4.402	19.7	19.7
2	CCV	3/19/21	QQQ	0.6663	0.661	0.661	0.8	0.8
	AIRLAB16		V	0.7682	0.739	0.739	3.8	3.8
	1129		CC	5.3109	5.017	5.017	5.5	5.5
3	CCV SIM	3/19/21	C	0.5265	0.486	0.486	7.6	7.6
	1208		S	0.3375	0.313	0.313	7.1	7.1
	AIRLAB16		AA	2.5844	2.472	2.472	4.3	4.3

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 50968A48

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT

METHOD: GC _____ HPLC ____ GCMS TOF

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF -CF)/ave.CF

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ICAL)/ CCV Conc.	Reported CF/ Conc. CCV	Recalculated CF/ Conc. CCV	Reported %D	Recalculated %D
1	CCV 1:14 AIRLAB FT	3/19/21	C	0.6950	0.585	0.585	15.8	15.8
			S	0.2998	0.273	0.273	9.0	9.0
			AA	2.1773	2.010	2.010	7.7	7.7
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 50968A48

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: FT

METHOD: GC/MS VOA (EPA Method TO-15)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCS - LCSD I * 2/(LCS + LCSD) LCS = Laboraotry control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS ID: WG1476560-3

Compound	Spike Added (ppbv)		Spiked Sample Concentration (ppbv)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
W	10	NA	9.91	NA	99	99				
A	↓	↓	9.12	↓	91	91				
C			9.67		97	97				
B			9.56		96	96				
D			9.32		93	93				
F	50		38.6		77	77	NA			

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 50968A48

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT

METHOD: GC/MS VOA (EPA Method TO-15)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. #1, QQQ:

Conc. = $\frac{(48432)(10.0)}{(377429)(0.6663)}$

= 1.9258 ppbv

#	Sample ID	Compound	Reported Concentration (ppbv)	Calculated Concentration (ppbv)	Qualification
	#1	QQQ	1.93	1.9258	
	#12	AA	0.164	0.164	
	#12 SIM	AA			
	$\frac{3890(10)}{(91750)(2.5844)}$ = 0.164				

100 S 4th Street, Brooklyn, NY - LDC# 50968

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-1A	L2112425-01	CARBON TETRACHLORIDE	3/19/2021		Y	N	U		U	1.26	0.314	ug/m3
SV-1A	L2112425-01	HEXACHLOROBUTADIENE	3/19/2021		Y	N	U		U	2.13	0.564	ug/m3
SV-1A	L2112425-01	1,2-DICHLOROPROPANE	3/19/2021		Y	N	U		U	0.924	0.282	ug/m3
SV-1A	L2112425-01	1,2-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.244	ug/m3
SV-1A	L2112425-01	1,2-DIBROMOETHANE	3/19/2021		Y	N	U		U	1.54	0.431	ug/m3
SV-1A	L2112425-01	1,2,4-TRICHLOROBENZENE	3/19/2021		Y	N	U		U	1.48	0.5	ug/m3
SV-1A	L2112425-01	1,1-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.793	0.255	ug/m3
SV-1A	L2112425-01	1,1,2-TRICHLOROETHANE	3/19/2021		Y	N	U		U	1.09	0.366	ug/m3
SV-1A	L2112425-01	BENZYL CHLORIDE	3/19/2021		Y	N	U		U	1.04	0.25	ug/m3
SV-1A	L2112425-01	BROMODICHLOROMETHANE	3/19/2021		Y	N	U		U	1.34	0.338	ug/m3
SV-1A	L2112425-01	BROMOFORM	3/19/2021		Y	N	U		U	2.07	0.663	ug/m3
SV-1A	L2112425-01	1,3-BUTADIENE	3/19/2021		Y	N	U		U	0.442	0.148	ug/m3
SV-1A	L2112425-01	CARBON DISULFIDE	3/19/2021		Y	N	U		U	0.623	0.174	ug/m3
SV-1A	L2112425-01	1,3-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.377	ug/m3
SV-1A	L2112425-01	CHLOROBENZENE	3/19/2021		Y	N	U		U	0.921	0.287	ug/m3
SV-1A	L2112425-01	CHLOROETHANE	3/19/2021		Y	N	U		U	0.528	0.212	ug/m3
SV-1A	L2112425-01	CHLOROMETHANE	3/19/2021		Y	N	U		U	0.413	0.142	ug/m3
SV-1A	L2112425-01	CYCLOHEXANE	3/19/2021		Y	N	U		U	0.688	0.127	ug/m3
SV-1A	L2112425-01	DIBROMOCHLOROMETHANE	3/19/2021		Y	N	U		U	1.7	0.523	ug/m3
SV-1A	L2112425-01	ETHYL ACETATE	3/19/2021		Y	N	U		U	1.8	0.44	ug/m3
SV-1A	L2112425-01	ETHYLBENZENE	3/19/2021		Y	N	U		U	0.869	0.188	ug/m3
SV-1A	L2112425-01	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/19/2021		Y	N	U		U	1.53	0.503	ug/m3
SV-1A	L2112425-01	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/19/2021		Y	N	U		U	1.4	0.413	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-1A	L2112425-01	HEPTANE	3/19/2021		Y	N	U		U	0.82	0.193	ug/m3
SV-1A	L2112425-01	BROMOMETHANE	3/19/2021		Y	N	U		U	0.777	0.3	ug/m3
SV-1A	L2112425-01	TETRACHLOROETHENE	3/19/2021	46	Y	Y				1.36	0.444	ug/m3
SV-1A	L2112425-01	1,1,2,2-TETRACHLOROETHANE	3/19/2021		Y	N	U		U	1.37	0.422	ug/m3
SV-1A	L2112425-01	1,1,1-TRICHLOROETHANE	3/19/2021	7.09	Y	Y				1.09	0.273	ug/m3
SV-1A	L2112425-01	1,1-DICHLOROETHANE	3/19/2021	3.27	Y	Y				0.809	0.254	ug/m3
SV-1A	L2112425-01	2-BUTANONE	3/19/2021	8.23	Y	Y				1.47	0.142	ug/m3
SV-1A	L2112425-01	2-HEXANONE	3/19/2021	1.31	Y	Y				0.82	0.266	ug/m3
SV-1A	L2112425-01	ACETONE	3/19/2021	458	Y	Y				2.38	1.64	ug/m3
SV-1A	L2112425-01	BENZENE	3/19/2021	0.837	Y	Y				0.639	0.156	ug/m3
SV-1A	L2112425-01	CHLOROFORM	3/19/2021	1.9	Y	Y				0.977	0.309	ug/m3
SV-1A	L2112425-01	DICHLORODIFLUOROMETHANE	3/19/2021	2.02	Y	Y				0.989	0.288	ug/m3
SV-1A	L2112425-01	ETHYL ALCOHOL	3/19/2021	153	Y	Y				9.42	1.38	ug/m3
SV-1A	L2112425-01	1,3,5-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.332	ug/m3
SV-1A	L2112425-01	TERT-BUTYL ALCOHOL	3/19/2021	5.21	Y	Y				1.52	0.141	ug/m3
SV-1A	L2112425-01	1,2,4-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.181	ug/m3
SV-1A	L2112425-01	TOLUENE	3/19/2021	2.08	Y	Y				0.754	0.196	ug/m3
SV-1A	L2112425-01	TRICHLOROETHENE	3/19/2021	120	Y	Y				1.07	0.271	ug/m3
SV-1A	L2112425-01	CIS-1,2-DICHLOROETHENE	3/19/2021	7.65	Y	Y				0.793	0.464	ug/m3
SV-1A	L2112425-01	N-HEXANE	3/19/2021	0.782	Y	Y				0.705	0.128	ug/m3
SV-1A	L2112425-01	4-METHYL-2-PENTANONE	3/19/2021		Y	N	U		U	2.05	0.173	ug/m3
SV-1A	L2112425-01	4-ETHYLTOLUENE	3/19/2021		Y	N	U		U	0.983	0.182	ug/m3
SV-1A	L2112425-01	3-CHLOROPROPENE	3/19/2021		Y	N	U		U	0.626	0.183	ug/m3
SV-1A	L2112425-01	2,2,4-TRIMETHYLPENTANE	3/19/2021		Y	N	U		U	0.934	0.169	ug/m3
SV-1A	L2112425-01	1,4-DIOXANE	3/19/2021		Y	N	U		U	0.721	0.29	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-1A	L2112425-01	1,4-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.382	ug/m3
SV-1A	L2112425-01	ISO-PROPYL ALCOHOL	3/19/2021	15.5	Y	Y				1.23	1.17	ug/m3
SV-1A	L2112425-01	METHYL TERT BUTYL ETHER	3/19/2021		Y	N	U		U	0.721	0.189	ug/m3
SV-1A	L2112425-01	1,2-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.378	ug/m3
SV-1A	L2112425-01	TRANS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.198	ug/m3
SV-1A	L2112425-01	TRANS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.793	0.255	ug/m3
SV-1A	L2112425-01	P/M-XYLENE	3/19/2021		Y	N	U		U	1.74	0.395	ug/m3
SV-1A	L2112425-01	O-XYLENE	3/19/2021		Y	N	U		U	0.869	0.197	ug/m3
SV-1A	L2112425-01	CIS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.186	ug/m3
SV-1A	L2112425-01	VINYL BROMIDE	3/19/2021		Y	N	U		U	0.874	0.313	ug/m3
SV-1A	L2112425-01	TRICHLOROFLUOROMETHANE	3/19/2021		Y	N	U		U	1.12	0.386	ug/m3
SV-1A	L2112425-01	TETRAHYDROFURAN	3/19/2021		Y	N	U		U	1.47	0.168	ug/m3
SV-1A	L2112425-01	STYRENE	3/19/2021		Y	N	U		U	0.852	0.185	ug/m3
SV-1A	L2112425-01	METHYLENE CHLORIDE	3/19/2021		Y	N	U		U	1.74	0.466	ug/m3
SV-1A	L2112425-01	VINYL CHLORIDE	3/19/2021		Y	N	U		U	0.511	0.16	ug/m3
SV-1B	L2112425-02	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/19/2021		Y	N	U		U	4.37	1.29	ug/m3
SV-1B	L2112425-02	ETHYL ALCOHOL	3/19/2021	795	Y	Y				29.4	4.31	ug/m3
SV-1B	L2112425-02	ETHYLBENZENE	3/19/2021	4.04	Y	Y				2.71	0.586	ug/m3
SV-1B	L2112425-02	ISO-PROPYL ALCOHOL	3/19/2021	7.67	Y	Y				3.83	3.66	ug/m3
SV-1B	L2112425-02	TETRACHLOROETHENE	3/19/2021	1240	Y	Y				4.24	1.39	ug/m3
SV-1B	L2112425-02	TOLUENE	3/19/2021	4.94	Y	Y				2.36	0.61	ug/m3
SV-1B	L2112425-02	TRICHLOROETHENE	3/19/2021	1000	Y	Y				3.36	0.849	ug/m3
SV-1B	L2112425-02	CIS-1,2-DICHLOROETHENE	3/19/2021	88	Y	Y				2.48	1.45	ug/m3
SV-1B	L2112425-02	HEXACHLOROBUTADIENE	3/19/2021		Y	N	U		U	6.67	1.76	ug/m3
SV-1B	L2112425-02	P/M-XYLENE	3/19/2021	7.43	Y	Y				5.43	1.23	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-1B	L2112425-02	HEPTANE	3/19/2021		Y	N	U		U	2.56	0.602	ug/m3
SV-1B	L2112425-02	ACETONE	3/19/2021	21.1	Y	Y				7.41	5.11	ug/m3
SV-1B	L2112425-02	CARBON DISULFIDE	3/19/2021		Y	N	U		U	1.95	0.545	ug/m3
SV-1B	L2112425-02	O-XYLENE	3/19/2021	3.87	Y	Y				2.71	0.617	ug/m3
SV-1B	L2112425-02	CARBON TETRACHLORIDE	3/19/2021		Y	N	U		U	3.93	0.981	ug/m3
SV-1B	L2112425-02	ETHYL ACETATE	3/19/2021		Y	N	U		U	5.62	1.37	ug/m3
SV-1B	L2112425-02	DICHLORODIFLUOROMETHANE	3/19/2021		Y	N	U		U	3.09	0.9	ug/m3
SV-1B	L2112425-02	DIBROMOCHLOROMETHANE	3/19/2021		Y	N	U		U	5.32	1.64	ug/m3
SV-1B	L2112425-02	CYCLOHEXANE	3/19/2021		Y	N	U		U	2.15	0.396	ug/m3
SV-1B	L2112425-02	CHLOROMETHANE	3/19/2021		Y	N	U		U	1.29	0.444	ug/m3
SV-1B	L2112425-02	CHLOROFORM	3/19/2021		Y	N	U		U	3.05	0.967	ug/m3
SV-1B	L2112425-02	BROMOFORM	3/19/2021		Y	N	U		U	6.46	2.07	ug/m3
SV-1B	L2112425-02	CHLOROBENZENE	3/19/2021		Y	N	U		U	2.88	0.898	ug/m3
SV-1B	L2112425-02	4-METHYL-2-PENTANONE	3/19/2021		Y	N	U		U	6.39	0.541	ug/m3
SV-1B	L2112425-02	VINYL CHLORIDE	3/19/2021		Y	N	U		U	1.6	0.501	ug/m3
SV-1B	L2112425-02	BROMOMETHANE	3/19/2021		Y	N	U		U	2.43	0.94	ug/m3
SV-1B	L2112425-02	METHYL TERT BUTYL ETHER	3/19/2021		Y	N	U		U	2.25	0.591	ug/m3
SV-1B	L2112425-02	BROMODICHLOROMETHANE	3/19/2021		Y	N	U		U	4.19	1.06	ug/m3
SV-1B	L2112425-02	BENZYL CHLORIDE	3/19/2021		Y	N	U		U	3.24	0.782	ug/m3
SV-1B	L2112425-02	BENZENE	3/19/2021		Y	N	U		U	2	0.486	ug/m3
SV-1B	L2112425-02	CHLOROETHANE	3/19/2021		Y	N	U		U	1.65	0.665	ug/m3
SV-1B	L2112425-02	1,2,4-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	3.07	0.565	ug/m3
SV-1B	L2112425-02	TRICHLOROFLUOROMETHANE	3/19/2021		Y	N	U		U	3.51	1.2	ug/m3
SV-1B	L2112425-02	1,3,5-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	3.07	1.04	ug/m3
SV-1B	L2112425-02	1,2-DICHLOROPROPANE	3/19/2021		Y	N	U		U	2.89	0.883	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-1B	L2112425-02	TRANS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	2.84	0.617	ug/m3
SV-1B	L2112425-02	1,2-DICHLOROETHANE	3/19/2021		Y	N	U		U	2.53	0.761	ug/m3
SV-1B	L2112425-02	1,3-DICHLOROBENZENE	3/19/2021		Y	N	U		U	3.76	1.18	ug/m3
SV-1B	L2112425-02	1,2-DIBROMOETHANE	3/19/2021		Y	N	U		U	4.8	1.34	ug/m3
SV-1B	L2112425-02	1,4-DICHLOROBENZENE	3/19/2021		Y	N	U		U	3.76	1.2	ug/m3
SV-1B	L2112425-02	1,2,4-TRICHLOROBENZENE	3/19/2021		Y	N	U		U	4.64	1.57	ug/m3
SV-1B	L2112425-02	1,1-DICHLOROETHENE	3/19/2021		Y	N	U		U	2.48	0.797	ug/m3
SV-1B	L2112425-02	1,1-DICHLOROETHANE	3/19/2021		Y	N	U		U	2.53	0.793	ug/m3
SV-1B	L2112425-02	1,1,2-TRICHLOROETHANE	3/19/2021		Y	N	U		U	3.41	1.14	ug/m3
SV-1B	L2112425-02	1,1,2,2-TETRACHLOROETHANE	3/19/2021		Y	N	U		U	4.29	1.32	ug/m3
SV-1B	L2112425-02	1,1,1-TRICHLOROETHANE	3/19/2021		Y	N	U		U	3.41	0.851	ug/m3
SV-1B	L2112425-02	1,2-DICHLOROBENZENE	3/19/2021		Y	N	U		U	3.76	1.18	ug/m3
SV-1B	L2112425-02	TRANS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	2.48	0.797	ug/m3
SV-1B	L2112425-02	STYRENE	3/19/2021		Y	N	U		U	2.66	0.579	ug/m3
SV-1B	L2112425-02	TERT-BUTYL ALCOHOL	3/19/2021		Y	N	U		U	4.73	0.443	ug/m3
SV-1B	L2112425-02	TETRAHYDROFURAN	3/19/2021		Y	N	U		U	4.6	0.525	ug/m3
SV-1B	L2112425-02	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/19/2021		Y	N	U		U	4.79	1.57	ug/m3
SV-1B	L2112425-02	VINYL BROMIDE	3/19/2021		Y	N	U		U	2.73	0.979	ug/m3
SV-1B	L2112425-02	1,3-BUTADIENE	3/19/2021		Y	N	U		U	1.38	0.462	ug/m3
SV-1B	L2112425-02	N-HEXANE	3/19/2021		Y	N	U		U	2.2	0.402	ug/m3
SV-1B	L2112425-02	METHYLENE CHLORIDE	3/19/2021		Y	N	U		U	5.42	1.46	ug/m3
SV-1B	L2112425-02	4-ETHYLTOLUENE	3/19/2021		Y	N	U		U	3.07	0.57	ug/m3
SV-1B	L2112425-02	3-CHLOROPROPENE	3/19/2021		Y	N	U		U	1.96	0.573	ug/m3
SV-1B	L2112425-02	2-HEXANONE	3/19/2021		Y	N	U		U	2.56	0.828	ug/m3
SV-1B	L2112425-02	2-BUTANONE	3/19/2021		Y	N	U		U	4.6	0.445	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-1B	L2112425-02	2,2,4-TRIMETHYLPENTANE	3/19/2021		Y	N	U		U	2.92	0.528	ug/m3
SV-1B	L2112425-02	1,4-DIOXANE	3/19/2021		Y	N	U		U	2.25	0.908	ug/m3
SV-1B	L2112425-02	CIS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	2.84	0.581	ug/m3
SV-2A	L2112425-03	1,1,1-TRICHLOROETHANE	3/19/2021		Y	N	U		U	1.09	0.273	ug/m3
SV-2A	L2112425-03	ETHYL ALCOHOL	3/19/2021	524	Y	Y				9.42	1.38	ug/m3
SV-2A	L2112425-03	TETRACHLOROETHENE	3/19/2021	5.2	Y	Y				1.36	0.444	ug/m3
SV-2A	L2112425-03	BROMODICHLOROMETHANE	3/19/2021		Y	N	U		U	1.34	0.338	ug/m3
SV-2A	L2112425-03	1,1,2,2-TETRACHLOROETHANE	3/19/2021		Y	N	U		U	1.37	0.422	ug/m3
SV-2A	L2112425-03	P/M-XYLENE	3/19/2021	25.4	Y	Y				1.74	0.395	ug/m3
SV-2A	L2112425-03	O-XYLENE	3/19/2021	14.3	Y	Y				0.869	0.197	ug/m3
SV-2A	L2112425-03	CIS-1,2-DICHLOROETHENE	3/19/2021	5.35	Y	Y				0.793	0.464	ug/m3
SV-2A	L2112425-03	VINYL CHLORIDE	3/19/2021	0.537	Y	Y				0.511	0.16	ug/m3
SV-2A	L2112425-03	ACETONE	3/19/2021	19.9	Y	Y				2.38	1.64	ug/m3
SV-2A	L2112425-03	TOLUENE	3/19/2021	15	Y	Y				0.754	0.196	ug/m3
SV-2A	L2112425-03	2-BUTANONE	3/19/2021	1.8	Y	Y				1.47	0.142	ug/m3
SV-2A	L2112425-03	TERT-BUTYL ALCOHOL	3/19/2021	5.73	Y	Y				1.52	0.141	ug/m3
SV-2A	L2112425-03	STYRENE	3/19/2021	1.28	Y	Y				0.852	0.185	ug/m3
SV-2A	L2112425-03	ISO-PROPYL ALCOHOL	3/19/2021	2.04	Y	Y				1.23	1.17	ug/m3
SV-2A	L2112425-03	ETHYLBENZENE	3/19/2021	15.3	Y	Y				0.869	0.188	ug/m3
SV-2A	L2112425-03	DICHLORODIFLUOROMETHANE	3/19/2021	2.02	Y	Y				0.989	0.288	ug/m3
SV-2A	L2112425-03	2-HEXANONE	3/19/2021	1.41	Y	Y				0.82	0.266	ug/m3
SV-2A	L2112425-03	TRICHLOROETHENE	3/19/2021	16.5	Y	Y				1.07	0.271	ug/m3
SV-2A	L2112425-03	CHLOROFORM	3/19/2021		Y	N	U		U	0.977	0.309	ug/m3
SV-2A	L2112425-03	BENZYL CHLORIDE	3/19/2021		Y	N	U		U	1.04	0.25	ug/m3
SV-2A	L2112425-03	CYCLOHEXANE	3/19/2021		Y	N	U		U	0.688	0.127	ug/m3

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-2A	L2112425-03	4-METHYL-2-PENTANONE	3/19/2021		Y	N	U		U	2.05	0.173	ug/m3
SV-2A	L2112425-03	DIBROMOCHLOROMETHANE	3/19/2021		Y	N	U		U	1.7	0.523	ug/m3
SV-2A	L2112425-03	BENZENE	3/19/2021		Y	N	U		U	0.639	0.156	ug/m3
SV-2A	L2112425-03	ETHYL ACETATE	3/19/2021		Y	N	U		U	1.8	0.44	ug/m3
SV-2A	L2112425-03	1,1,2-TRICHLOROETHANE	3/19/2021		Y	N	U		U	1.09	0.366	ug/m3
SV-2A	L2112425-03	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/19/2021		Y	N	U		U	1.53	0.503	ug/m3
SV-2A	L2112425-03	TRICHLOROFLUOROMETHANE	3/19/2021		Y	N	U		U	1.12	0.386	ug/m3
SV-2A	L2112425-03	HEPTANE	3/19/2021		Y	N	U		U	0.82	0.193	ug/m3
SV-2A	L2112425-03	BROMOMETHANE	3/19/2021		Y	N	U		U	0.777	0.3	ug/m3
SV-2A	L2112425-03	HEXACHLOROBUTADIENE	3/19/2021		Y	N	U		U	2.13	0.564	ug/m3
SV-2A	L2112425-03	METHYL TERT BUTYL ETHER	3/19/2021		Y	N	U		U	0.721	0.189	ug/m3
SV-2A	L2112425-03	METHYLENE CHLORIDE	3/19/2021		Y	N	U		U	1.74	0.466	ug/m3
SV-2A	L2112425-03	TETRAHYDROFURAN	3/19/2021		Y	N	U		U	1.47	0.168	ug/m3
SV-2A	L2112425-03	TRANS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.198	ug/m3
SV-2A	L2112425-03	TRANS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.793	0.255	ug/m3
SV-2A	L2112425-03	N-HEXANE	3/19/2021		Y	N	U		U	0.705	0.128	ug/m3
SV-2A	L2112425-03	CIS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.186	ug/m3
SV-2A	L2112425-03	VINYL BROMIDE	3/19/2021		Y	N	U		U	0.874	0.313	ug/m3
SV-2A	L2112425-03	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/19/2021		Y	N	U		U	1.4	0.413	ug/m3
SV-2A	L2112425-03	1,4-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.382	ug/m3
SV-2A	L2112425-03	1,1-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.254	ug/m3
SV-2A	L2112425-03	1,1-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.793	0.255	ug/m3
SV-2A	L2112425-03	1,2,4-TRICHLOROBENZENE	3/19/2021		Y	N	U		U	1.48	0.5	ug/m3
SV-2A	L2112425-03	1,2,4-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.181	ug/m3
SV-2A	L2112425-03	1,2-DIBROMOETHANE	3/19/2021		Y	N	U		U	1.54	0.431	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-2A	L2112425-03	1,2-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.378	ug/m3
SV-2A	L2112425-03	1,2-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.244	ug/m3
SV-2A	L2112425-03	1,2-DICHLOROPROPANE	3/19/2021		Y	N	U		U	0.924	0.282	ug/m3
SV-2A	L2112425-03	1,3,5-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.332	ug/m3
SV-2A	L2112425-03	CHLOROMETHANE	3/19/2021		Y	N	U		U	0.413	0.142	ug/m3
SV-2A	L2112425-03	1,3-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.377	ug/m3
SV-2A	L2112425-03	BROMOFORM	3/19/2021		Y	N	U		U	2.07	0.663	ug/m3
SV-2A	L2112425-03	1,4-DIOXANE	3/19/2021		Y	N	U		U	0.721	0.29	ug/m3
SV-2A	L2112425-03	2,2,4-TRIMETHYLPENTANE	3/19/2021		Y	N	U		U	0.934	0.169	ug/m3
SV-2A	L2112425-03	3-CHLOROPROPENE	3/19/2021		Y	N	U		U	0.626	0.183	ug/m3
SV-2A	L2112425-03	4-ETHYLTOLUENE	3/19/2021		Y	N	U		U	0.983	0.182	ug/m3
SV-2A	L2112425-03	CHLOROETHANE	3/19/2021		Y	N	U		U	0.528	0.212	ug/m3
SV-2A	L2112425-03	CHLOROBENZENE	3/19/2021		Y	N	U		U	0.921	0.287	ug/m3
SV-2A	L2112425-03	CARBON TETRACHLORIDE	3/19/2021		Y	N	U		U	1.26	0.314	ug/m3
SV-2A	L2112425-03	CARBON DISULFIDE	3/19/2021		Y	N	U		U	0.623	0.174	ug/m3
SV-2A	L2112425-03	1,3-BUTADIENE	3/19/2021		Y	N	U		U	0.442	0.148	ug/m3
SV-2B	L2112425-04	1,2,4-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	9.83	1.81	ug/m3
SV-2B	L2112425-04	1,3,5-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	9.83	3.32	ug/m3
SV-2B	L2112425-04	2,2,4-TRIMETHYLPENTANE	3/19/2021		Y	N	U		U	9.34	1.69	ug/m3
SV-2B	L2112425-04	TRICHLOROETHENE	3/19/2021	3260	Y	Y				10.7	2.71	ug/m3
SV-2B	L2112425-04	TOLUENE	3/19/2021	7.88	Y	Y				7.54	1.96	ug/m3
SV-2B	L2112425-04	TETRACHLOROETHENE	3/19/2021	2710	Y	Y				13.6	4.44	ug/m3
SV-2B	L2112425-04	ETHYL ALCOHOL	3/19/2021	537	Y	Y				94.2	13.8	ug/m3
SV-2B	L2112425-04	ACETONE	3/19/2021	304	Y	Y				23.8	16.4	ug/m3
SV-2B	L2112425-04	1,4-DIOXANE	3/19/2021		Y	N	U		U	7.21	2.9	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-2B	L2112425-04	1,4-DICHLOROBENZENE	3/19/2021		Y	N	U		U	12	3.82	ug/m3
SV-2B	L2112425-04	1,1-DICHLOROETHENE	3/19/2021		Y	N	U		U	7.93	2.55	ug/m3
SV-2B	L2112425-04	1,3-BUTADIENE	3/19/2021		Y	N	U		U	4.42	1.48	ug/m3
SV-2B	L2112425-04	1,1,1-TRICHLOROETHANE	3/19/2021		Y	N	U		U	10.9	2.73	ug/m3
SV-2B	L2112425-04	1,2-DICHLOROPROPANE	3/19/2021		Y	N	U		U	9.24	2.82	ug/m3
SV-2B	L2112425-04	1,2-DICHLOROETHANE	3/19/2021		Y	N	U		U	8.09	2.44	ug/m3
SV-2B	L2112425-04	1,2-DICHLOROBENZENE	3/19/2021		Y	N	U		U	12	3.78	ug/m3
SV-2B	L2112425-04	1,2-DIBROMOETHANE	3/19/2021		Y	N	U		U	15.4	4.31	ug/m3
SV-2B	L2112425-04	N-HEXANE	3/19/2021		Y	N	U		U	7.05	1.28	ug/m3
SV-2B	L2112425-04	1,2,4-TRICHLOROBENZENE	3/19/2021		Y	N	U		U	14.8	5	ug/m3
SV-2B	L2112425-04	1,1-DICHLOROETHANE	3/19/2021		Y	N	U		U	8.09	2.54	ug/m3
SV-2B	L2112425-04	1,1,2-TRICHLOROETHANE	3/19/2021		Y	N	U		U	10.9	3.66	ug/m3
SV-2B	L2112425-04	1,1,2,2-TETRACHLOROETHANE	3/19/2021		Y	N	U		U	13.7	4.22	ug/m3
SV-2B	L2112425-04	1,3-DICHLOROBENZENE	3/19/2021		Y	N	U		U	12	3.77	ug/m3
SV-2B	L2112425-04	BROMOFORM	3/19/2021		Y	N	U		U	20.7	6.63	ug/m3
SV-2B	L2112425-04	P/M-XYLENE	3/19/2021		Y	N	U		U	17.4	3.95	ug/m3
SV-2B	L2112425-04	CYCLOHEXANE	3/19/2021		Y	N	U		U	6.88	1.27	ug/m3
SV-2B	L2112425-04	CHLOROMETHANE	3/19/2021		Y	N	U		U	4.13	1.42	ug/m3
SV-2B	L2112425-04	CHLOROFORM	3/19/2021		Y	N	U		U	9.77	3.09	ug/m3
SV-2B	L2112425-04	CHLOROETHANE	3/19/2021		Y	N	U		U	5.28	2.12	ug/m3
SV-2B	L2112425-04	CHLOROBENZENE	3/19/2021		Y	N	U		U	9.21	2.87	ug/m3
SV-2B	L2112425-04	CARBON TETRACHLORIDE	3/19/2021		Y	N	U		U	12.6	3.14	ug/m3
SV-2B	L2112425-04	DICHLORODIFLUOROMETHANE	3/19/2021		Y	N	U		U	9.89	2.88	ug/m3
SV-2B	L2112425-04	BROMOMETHANE	3/19/2021		Y	N	U		U	7.77	3	ug/m3
SV-2B	L2112425-04	ETHYL ACETATE	3/19/2021		Y	N	U		U	18	4.4	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-2B	L2112425-04	BROMODICHLOROMETHANE	3/19/2021		Y	N	U		U	13.4	3.38	ug/m3
SV-2B	L2112425-04	BENZYL CHLORIDE	3/19/2021		Y	N	U		U	10.4	2.5	ug/m3
SV-2B	L2112425-04	BENZENE	3/19/2021		Y	N	U		U	6.39	1.56	ug/m3
SV-2B	L2112425-04	4-METHYL-2-PENTANONE	3/19/2021		Y	N	U		U	20.5	1.73	ug/m3
SV-2B	L2112425-04	4-ETHYLTOLUENE	3/19/2021		Y	N	U		U	9.83	1.82	ug/m3
SV-2B	L2112425-04	3-CHLOROPROPENE	3/19/2021		Y	N	U		U	6.26	1.83	ug/m3
SV-2B	L2112425-04	2-HEXANONE	3/19/2021		Y	N	U		U	8.2	2.66	ug/m3
SV-2B	L2112425-04	2-BUTANONE	3/19/2021		Y	N	U		U	14.7	1.42	ug/m3
SV-2B	L2112425-04	CARBON DISULFIDE	3/19/2021		Y	N	U		U	6.23	1.74	ug/m3
SV-2B	L2112425-04	STYRENE	3/19/2021		Y	N	U		U	8.52	1.85	ug/m3
SV-2B	L2112425-04	CIS-1,2-DICHLOROETHENE	3/19/2021	379	Y	Y				7.93	4.64	ug/m3
SV-2B	L2112425-04	TRANS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	9.08	1.98	ug/m3
SV-2B	L2112425-04	O-XYLENE	3/19/2021		Y	N	U		U	8.69	1.97	ug/m3
SV-2B	L2112425-04	CIS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	9.08	1.86	ug/m3
SV-2B	L2112425-04	VINYL CHLORIDE	3/19/2021		Y	N	U		U	5.11	1.6	ug/m3
SV-2B	L2112425-04	VINYL BROMIDE	3/19/2021		Y	N	U		U	8.74	3.13	ug/m3
SV-2B	L2112425-04	TRICHLOROFLUOROMETHANE	3/19/2021		Y	N	U		U	11.2	3.86	ug/m3
SV-2B	L2112425-04	DIBROMOCHLOROMETHANE	3/19/2021		Y	N	U		U	17	5.23	ug/m3
SV-2B	L2112425-04	TERT-BUTYL ALCOHOL	3/19/2021		Y	N	U		U	15.2	1.41	ug/m3
SV-2B	L2112425-04	TRANS-1,2-DICHLOROETHENE	3/19/2021	8.21	Y	Y				7.93	2.55	ug/m3
SV-2B	L2112425-04	METHYLENE CHLORIDE	3/19/2021		Y	N	U		U	17.4	4.66	ug/m3
SV-2B	L2112425-04	METHYL TERT BUTYL ETHER	3/19/2021		Y	N	U		U	7.21	1.89	ug/m3
SV-2B	L2112425-04	ISO-PROPYL ALCOHOL	3/19/2021		Y	N	U		U	12.3	11.7	ug/m3
SV-2B	L2112425-04	HEXACHLOROBUTADIENE	3/19/2021		Y	N	U		U	21.3	5.64	ug/m3
SV-2B	L2112425-04	HEPTANE	3/19/2021		Y	N	U		U	8.2	1.93	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-2B	L2112425-04	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/19/2021		Y	N	U		U	14	4.13	ug/m3
SV-2B	L2112425-04	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/19/2021		Y	N	U		U	15.3	5.03	ug/m3
SV-2B	L2112425-04	ETHYLBENZENE	3/19/2021		Y	N	U		U	8.69	1.88	ug/m3
SV-2B	L2112425-04	TETRAHYDROFURAN	3/19/2021		Y	N	U		U	14.7	1.68	ug/m3
SV-3B	L2112425-05	DICHLORODIFLUOROMETHANE	3/19/2021	2.1	Y	Y				0.989	0.288	ug/m3
SV-3B	L2112425-05	P/M-XYLENE	3/19/2021	11.3	Y	Y				1.74	0.395	ug/m3
SV-3B	L2112425-05	2,2,4-TRIMETHYLPENTANE	3/19/2021		Y	N	U		U	0.934	0.169	ug/m3
SV-3B	L2112425-05	3-CHLOROPROPENE	3/19/2021		Y	N	U		U	0.626	0.183	ug/m3
SV-3B	L2112425-05	4-ETHYLTOLUENE	3/19/2021		Y	N	U		U	0.983	0.182	ug/m3
SV-3B	L2112425-05	4-METHYL-2-PENTANONE	3/19/2021		Y	N	U		U	2.05	0.173	ug/m3
SV-3B	L2112425-05	BENZYL CHLORIDE	3/19/2021		Y	N	U		U	1.04	0.25	ug/m3
SV-3B	L2112425-05	BROMOFORM	3/19/2021		Y	N	U		U	2.07	0.663	ug/m3
SV-3B	L2112425-05	2-BUTANONE	3/19/2021	5.9	Y	Y				1.47	0.142	ug/m3
SV-3B	L2112425-05	2-HEXANONE	3/19/2021	2.07	Y	Y				0.82	0.266	ug/m3
SV-3B	L2112425-05	ACETONE	3/19/2021	53.7	Y	Y				2.38	1.64	ug/m3
SV-3B	L2112425-05	BENZENE	3/19/2021	2.02	Y	Y				0.639	0.156	ug/m3
SV-3B	L2112425-05	BROMODICHLOROMETHANE	3/19/2021	1.96	Y	Y				1.34	0.338	ug/m3
SV-3B	L2112425-05	CARBON DISULFIDE	3/19/2021	9.09	Y	Y				0.623	0.174	ug/m3
SV-3B	L2112425-05	1,4-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.382	ug/m3
SV-3B	L2112425-05	TETRACHLOROETHENE	3/19/2021	138	Y	Y				1.36	0.444	ug/m3
SV-3B	L2112425-05	O-XYLENE	3/19/2021	6.52	Y	Y				0.869	0.197	ug/m3
SV-3B	L2112425-05	N-HEXANE	3/19/2021	1.56	Y	Y				0.705	0.128	ug/m3
SV-3B	L2112425-05	CIS-1,2-DICHLOROETHENE	3/19/2021	24.1	Y	Y				0.793	0.464	ug/m3
SV-3B	L2112425-05	TRICHLOROFLUOROMETHANE	3/19/2021	1.12	Y	Y				1.12	0.386	ug/m3
SV-3B	L2112425-05	TRICHLOROETHENE	3/19/2021	321	Y	Y				1.07	0.271	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-3B	L2112425-05	CHLOROFORM	3/19/2021	78.6	Y	Y				0.977	0.309	ug/m3
SV-3B	L2112425-05	TETRAHYDROFURAN	3/19/2021	2.22	Y	Y				1.47	0.168	ug/m3
SV-3B	L2112425-05	CYCLOHEXANE	3/19/2021	2.34	Y	Y				0.688	0.127	ug/m3
SV-3B	L2112425-05	TERT-BUTYL ALCOHOL	3/19/2021	4.67	Y	Y				1.52	0.141	ug/m3
SV-3B	L2112425-05	ISO-PROPYL ALCOHOL	3/19/2021	20.9	Y	Y				1.23	1.17	ug/m3
SV-3B	L2112425-05	HEPTANE	3/19/2021	0.84	Y	Y				0.82	0.193	ug/m3
SV-3B	L2112425-05	ETHYLBENZENE	3/19/2021	6.39	Y	Y				0.869	0.188	ug/m3
SV-3B	L2112425-05	ETHYL ALCOHOL	3/19/2021	492	Y	Y				9.42	1.38	ug/m3
SV-3B	L2112425-05	1,3-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.377	ug/m3
SV-3B	L2112425-05	TOLUENE	3/19/2021	8.03	Y	Y				0.754	0.196	ug/m3
SV-3B	L2112425-05	CIS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.186	ug/m3
SV-3B	L2112425-05	CARBON TETRACHLORIDE	3/19/2021		Y	N	U		U	1.26	0.314	ug/m3
SV-3B	L2112425-05	CHLOROBENZENE	3/19/2021		Y	N	U		U	0.921	0.287	ug/m3
SV-3B	L2112425-05	CHLOROETHANE	3/19/2021		Y	N	U		U	0.528	0.212	ug/m3
SV-3B	L2112425-05	BROMOMETHANE	3/19/2021		Y	N	U		U	0.777	0.3	ug/m3
SV-3B	L2112425-05	CHLOROMETHANE	3/19/2021		Y	N	U		U	0.413	0.142	ug/m3
SV-3B	L2112425-05	DIBROMOCHLOROMETHANE	3/19/2021		Y	N	U		U	1.7	0.523	ug/m3
SV-3B	L2112425-05	ETHYL ACETATE	3/19/2021		Y	N	U		U	1.8	0.44	ug/m3
SV-3B	L2112425-05	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/19/2021		Y	N	U		U	1.53	0.503	ug/m3
SV-3B	L2112425-05	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/19/2021		Y	N	U		U	1.4	0.413	ug/m3
SV-3B	L2112425-05	HEXACHLOROBUTADIENE	3/19/2021		Y	N	U		U	2.13	0.564	ug/m3
SV-3B	L2112425-05	METHYL TERT BUTYL ETHER	3/19/2021		Y	N	U		U	0.721	0.189	ug/m3
SV-3B	L2112425-05	METHYLENE CHLORIDE	3/19/2021		Y	N	U		U	1.74	0.466	ug/m3
SV-3B	L2112425-05	STYRENE	3/19/2021		Y	N	U		U	0.852	0.185	ug/m3
SV-3B	L2112425-05	1,4-DIOXANE	3/19/2021		Y	N	U		U	0.721	0.29	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-3B	L2112425-05	1,1-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.793	0.255	ug/m3
SV-3B	L2112425-05	1,3-BUTADIENE	3/19/2021		Y	N	U		U	0.442	0.148	ug/m3
SV-3B	L2112425-05	1,3,5-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.332	ug/m3
SV-3B	L2112425-05	1,2-DICHLOROPROPANE	3/19/2021		Y	N	U		U	0.924	0.282	ug/m3
SV-3B	L2112425-05	1,2-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.378	ug/m3
SV-3B	L2112425-05	1,1,1-TRICHLOROETHANE	3/19/2021	1.58	Y	Y				1.09	0.273	ug/m3
SV-3B	L2112425-05	VINYL BROMIDE	3/19/2021		Y	N	U		U	0.874	0.313	ug/m3
SV-3B	L2112425-05	1,2,4-TRICHLOROBENZENE	3/19/2021		Y	N	U		U	1.48	0.5	ug/m3
SV-3B	L2112425-05	VINYL CHLORIDE	3/19/2021		Y	N	U		U	0.511	0.16	ug/m3
SV-3B	L2112425-05	1,1-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.254	ug/m3
SV-3B	L2112425-05	1,1,2-TRICHLOROETHANE	3/19/2021		Y	N	U		U	1.09	0.366	ug/m3
SV-3B	L2112425-05	1,1,2,2-TETRACHLOROETHANE	3/19/2021		Y	N	U		U	1.37	0.422	ug/m3
SV-3B	L2112425-05	TRANS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.198	ug/m3
SV-3B	L2112425-05	TRANS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.793	0.255	ug/m3
SV-3B	L2112425-05	1,2-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.244	ug/m3
SV-3B	L2112425-05	1,2,4-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.181	ug/m3
SV-3B	L2112425-05	1,2-DIBROMOETHANE	3/19/2021		Y	N	U		U	1.54	0.431	ug/m3
SV-3A	L2112425-06	CHLOROFORM	3/19/2021	54.7	Y	Y				2.87	0.908	ug/m3
SV-3A	L2112425-06	CIS-1,2-DICHLOROETHENE	3/19/2021	20	Y	Y				2.33	1.36	ug/m3
SV-3A	L2112425-06	VINYL CHLORIDE	3/19/2021		Y	N	U		U	1.5	0.47	ug/m3
SV-3A	L2112425-06	VINYL BROMIDE	3/19/2021		Y	N	U		U	2.57	0.923	ug/m3
SV-3A	L2112425-06	TRICHLOROFLUOROMETHANE	3/19/2021		Y	N	U		U	3.3	1.14	ug/m3
SV-3A	L2112425-06	N-HEXANE	3/19/2021		Y	N	U		U	2.07	0.377	ug/m3
SV-3A	L2112425-06	1,1,1-TRICHLOROETHANE	3/19/2021	3.79	Y	Y				3.21	0.802	ug/m3
SV-3A	L2112425-06	CHLOROETHANE	3/19/2021		Y	N	U		U	1.55	0.625	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-3A	L2112425-06	ETHYL ALCOHOL	3/19/2021	41.5	Y	Y				27.7	4.07	ug/m3
SV-3A	L2112425-06	ETHYLBENZENE	3/19/2021	11.9	Y	Y				2.55	0.552	ug/m3
SV-3A	L2112425-06	TERT-BUTYL ALCOHOL	3/19/2021	7.82	Y	Y				4.46	0.415	ug/m3
SV-3A	L2112425-06	TETRACHLOROETHENE	3/19/2021	460	Y	Y				3.99	1.31	ug/m3
SV-3A	L2112425-06	TOLUENE	3/19/2021	12	Y	Y				2.22	0.577	ug/m3
SV-3A	L2112425-06	TRICHLOROETHENE	3/19/2021	967	Y	Y				3.16	0.795	ug/m3
SV-3A	L2112425-06	TETRAHYDROFURAN	3/19/2021		Y	N	U		U	4.34	0.493	ug/m3
SV-3A	L2112425-06	1,2-DIBROMOETHANE	3/19/2021		Y	N	U		U	4.52	1.27	ug/m3
SV-3A	L2112425-06	BENZYL CHLORIDE	3/19/2021		Y	N	U		U	3.04	0.735	ug/m3
SV-3A	L2112425-06	CHLOROBENZENE	3/19/2021		Y	N	U		U	2.71	0.847	ug/m3
SV-3A	L2112425-06	1,3,5-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	2.89	0.973	ug/m3
SV-3A	L2112425-06	1,3-BUTADIENE	3/19/2021		Y	N	U		U	1.3	0.436	ug/m3
SV-3A	L2112425-06	1,2-DICHLOROPROPANE	3/19/2021		Y	N	U		U	2.72	0.827	ug/m3
SV-3A	L2112425-06	CIS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	2.67	0.545	ug/m3
SV-3A	L2112425-06	1,2-DICHLOROBENZENE	3/19/2021		Y	N	U		U	3.54	1.11	ug/m3
SV-3A	L2112425-06	DIBROMOCHLOROMETHANE	3/19/2021		Y	N	U		U	5.01	1.53	ug/m3
SV-3A	L2112425-06	1,2,4-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	2.89	0.531	ug/m3
SV-3A	L2112425-06	1,2,4-TRICHLOROBENZENE	3/19/2021		Y	N	U		U	4.36	1.47	ug/m3
SV-3A	L2112425-06	1,1-DICHLOROETHENE	3/19/2021		Y	N	U		U	2.33	0.749	ug/m3
SV-3A	L2112425-06	TRANS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	2.33	0.749	ug/m3
SV-3A	L2112425-06	CYCLOHEXANE	3/19/2021		Y	N	U		U	2.02	0.372	ug/m3
SV-3A	L2112425-06	CHLOROMETHANE	3/19/2021		Y	N	U		U	1.21	0.419	ug/m3
SV-3A	L2112425-06	1,2-DICHLOROETHANE	3/19/2021		Y	N	U		U	2.38	0.716	ug/m3
SV-3A	L2112425-06	4-METHYL-2-PENTANONE	3/19/2021		Y	N	U		U	6.02	0.508	ug/m3
SV-3A	L2112425-06	1,4-DIOXANE	3/19/2021		Y	N	U		U	2.12	0.854	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-3A	L2112425-06	BROMODICHLOROMETHANE	3/19/2021		Y	N	U		U	3.94	0.992	ug/m3
SV-3A	L2112425-06	2,2,4-TRIMETHYLPENTANE	3/19/2021		Y	N	U		U	2.75	0.495	ug/m3
SV-3A	L2112425-06	BROMOFORM	3/19/2021		Y	N	U		U	6.08	1.94	ug/m3
SV-3A	L2112425-06	CARBON DISULFIDE	3/19/2021		Y	N	U		U	1.83	0.511	ug/m3
SV-3A	L2112425-06	1,4-DICHLOROBENZENE	3/19/2021		Y	N	U		U	3.54	1.12	ug/m3
SV-3A	L2112425-06	ACETONE	3/19/2021		Y	N	U		U	6.98	4.82	ug/m3
SV-3A	L2112425-06	BROMOMETHANE	3/19/2021		Y	N	U		U	2.28	0.881	ug/m3
SV-3A	L2112425-06	2-BUTANONE	3/19/2021		Y	N	U		U	4.34	0.419	ug/m3
SV-3A	L2112425-06	O-XYLENE	3/19/2021	11.2	Y	Y				2.55	0.578	ug/m3
SV-3A	L2112425-06	TRANS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	2.67	0.581	ug/m3
SV-3A	L2112425-06	2-HEXANONE	3/19/2021		Y	N	U		U	2.41	0.779	ug/m3
SV-3A	L2112425-06	3-CHLOROPROPENE	3/19/2021		Y	N	U		U	1.84	0.538	ug/m3
SV-3A	L2112425-06	4-ETHYLTOLUENE	3/19/2021		Y	N	U		U	2.89	0.536	ug/m3
SV-3A	L2112425-06	BENZENE	3/19/2021		Y	N	U		U	1.88	0.457	ug/m3
SV-3A	L2112425-06	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/19/2021		Y	N	U		U	4.11	1.22	ug/m3
SV-3A	L2112425-06	P/M-XYLENE	3/19/2021	19.8	Y	Y				5.13	1.16	ug/m3
SV-3A	L2112425-06	STYRENE	3/19/2021		Y	N	U		U	2.5	0.545	ug/m3
SV-3A	L2112425-06	METHYLENE CHLORIDE	3/19/2021		Y	N	U		U	5.11	1.37	ug/m3
SV-3A	L2112425-06	METHYL TERT BUTYL ETHER	3/19/2021		Y	N	U		U	2.12	0.555	ug/m3
SV-3A	L2112425-06	ISO-PROPYL ALCOHOL	3/19/2021		Y	N	U		U	3.61	3.44	ug/m3
SV-3A	L2112425-06	HEPTANE	3/19/2021		Y	N	U		U	2.41	0.566	ug/m3
SV-3A	L2112425-06	1,3-DICHLOROBENZENE	3/19/2021		Y	N	U		U	3.54	1.11	ug/m3
SV-3A	L2112425-06	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/19/2021		Y	N	U		U	4.51	1.48	ug/m3
SV-3A	L2112425-06	CARBON TETRACHLORIDE	3/19/2021		Y	N	U		U	3.7	0.925	ug/m3
SV-3A	L2112425-06	1,1-DICHLOROETHANE	3/19/2021		Y	N	U		U	2.38	0.749	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-3A	L2112425-06	1,1,2-TRICHLOROETHANE	3/19/2021		Y	N	U		U	3.21	1.07	ug/m3
SV-3A	L2112425-06	1,1,2,2-TETRACHLOROETHANE	3/19/2021		Y	N	U		U	4.04	1.24	ug/m3
SV-3A	L2112425-06	ETHYL ACETATE	3/19/2021		Y	N	U		U	5.3	1.29	ug/m3
SV-3A	L2112425-06	DICHLORODIFLUOROMETHANE	3/19/2021		Y	N	U		U	2.91	0.846	ug/m3
SV-3A	L2112425-06	HEXACHLOROBUTADIENE	3/19/2021		Y	N	U		U	6.27	1.66	ug/m3
SV-4	L2112425-07	BROMOMETHANE	3/20/2021		Y	N	U		U	0.777	0.3	ug/m3
SV-4	L2112425-07	CARBON DISULFIDE	3/20/2021		Y	N	U		U	0.623	0.174	ug/m3
SV-4	L2112425-07	CARBON TETRACHLORIDE	3/20/2021		Y	N	U		U	1.26	0.314	ug/m3
SV-4	L2112425-07	CHLOROBENZENE	3/20/2021		Y	N	U		U	0.921	0.287	ug/m3
SV-4	L2112425-07	CHLOROETHANE	3/20/2021		Y	N	U		U	0.528	0.212	ug/m3
SV-4	L2112425-07	CHLOROMETHANE	3/20/2021		Y	N	U		U	0.413	0.142	ug/m3
SV-4	L2112425-07	DIBROMOCHLOROMETHANE	3/20/2021		Y	N	U		U	1.7	0.523	ug/m3
SV-4	L2112425-07	BROMOFORM	3/20/2021		Y	N	U		U	2.07	0.663	ug/m3
SV-4	L2112425-07	METHYLENE CHLORIDE	3/20/2021		Y	N	U		U	1.74	0.466	ug/m3
SV-4	L2112425-07	ETHYL ACETATE	3/20/2021		Y	N	U		U	1.8	0.44	ug/m3
SV-4	L2112425-07	METHYL TERT BUTYL ETHER	3/20/2021		Y	N	U		U	0.721	0.189	ug/m3
SV-4	L2112425-07	1,3-BUTADIENE	3/20/2021		Y	N	U		U	0.442	0.148	ug/m3
SV-4	L2112425-07	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/20/2021		Y	N	U		U	1.53	0.503	ug/m3
SV-4	L2112425-07	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/20/2021		Y	N	U		U	1.4	0.413	ug/m3
SV-4	L2112425-07	HEPTANE	3/20/2021		Y	N	U		U	0.82	0.193	ug/m3
SV-4	L2112425-07	HEXACHLOROBUTADIENE	3/20/2021		Y	N	U		U	2.13	0.564	ug/m3
SV-4	L2112425-07	CYCLOHEXANE	3/20/2021		Y	N	U		U	0.688	0.127	ug/m3
SV-4	L2112425-07	1,2-DICHLOROETHANE	3/20/2021		Y	N	U		U	0.809	0.244	ug/m3
SV-4	L2112425-07	CIS-1,2-DICHLOROETHENE	3/20/2021		Y	N	U		U	0.793	0.464	ug/m3
SV-4	L2112425-07	STYRENE	3/20/2021		Y	N	U		U	0.852	0.185	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-4	L2112425-07	1,1,1-TRICHLOROETHANE	3/20/2021		Y	N	U		U	1.09	0.273	ug/m3
SV-4	L2112425-07	1,1,2,2-TETRACHLOROETHANE	3/20/2021		Y	N	U		U	1.37	0.422	ug/m3
SV-4	L2112425-07	1,1,2-TRICHLOROETHANE	3/20/2021		Y	N	U		U	1.09	0.366	ug/m3
SV-4	L2112425-07	1,1-DICHLOROETHANE	3/20/2021		Y	N	U		U	0.809	0.254	ug/m3
SV-4	L2112425-07	1,1-DICHLOROETHENE	3/20/2021		Y	N	U		U	0.793	0.255	ug/m3
SV-4	L2112425-07	1,2,4-TRICHLOROBENZENE	3/20/2021		Y	N	U		U	1.48	0.5	ug/m3
SV-4	L2112425-07	1,2,4-TRIMETHYLBENZENE	3/20/2021		Y	N	U		U	0.983	0.181	ug/m3
SV-4	L2112425-07	1,4-DICHLOROBENZENE	3/20/2021		Y	N	U		U	1.2	0.382	ug/m3
SV-4	L2112425-07	1,2-DICHLOROBENZENE	3/20/2021		Y	N	U		U	1.2	0.378	ug/m3
SV-4	L2112425-07	BROMODICHLOROMETHANE	3/20/2021		Y	N	U		U	1.34	0.338	ug/m3
SV-4	L2112425-07	1,2-DICHLOROPROPANE	3/20/2021		Y	N	U		U	0.924	0.282	ug/m3
SV-4	L2112425-07	1,3,5-TRIMETHYLBENZENE	3/20/2021		Y	N	U		U	0.983	0.332	ug/m3
SV-4	L2112425-07	1,3-DICHLOROBENZENE	3/20/2021		Y	N	U		U	1.2	0.377	ug/m3
SV-4	L2112425-07	1,4-DIOXANE	3/20/2021		Y	N	U		U	0.721	0.29	ug/m3
SV-4	L2112425-07	2,2,4-TRIMETHYLPENTANE	3/20/2021		Y	N	U		U	0.934	0.169	ug/m3
SV-4	L2112425-07	3-CHLOROPROPENE	3/20/2021		Y	N	U		U	0.626	0.183	ug/m3
SV-4	L2112425-07	4-ETHYLTOLUENE	3/20/2021		Y	N	U		U	0.983	0.182	ug/m3
SV-4	L2112425-07	4-METHYL-2-PENTANONE	3/20/2021		Y	N	U		U	2.05	0.173	ug/m3
SV-4	L2112425-07	BENZENE	3/20/2021		Y	N	U		U	0.639	0.156	ug/m3
SV-4	L2112425-07	BENZYL CHLORIDE	3/20/2021		Y	N	U		U	1.04	0.25	ug/m3
SV-4	L2112425-07	1,2-DIBROMOETHANE	3/20/2021		Y	N	U		U	1.54	0.431	ug/m3
SV-4	L2112425-07	2-BUTANONE	3/20/2021	3.66	Y	Y				1.47	0.142	ug/m3
SV-4	L2112425-07	O-XYLENE	3/20/2021	1.87	Y	Y				0.869	0.197	ug/m3
SV-4	L2112425-07	TOLUENE	3/20/2021	2.22	Y	Y				0.754	0.196	ug/m3
SV-4	L2112425-07	TETRACHLOROETHENE	3/20/2021	4.66	Y	Y				1.36	0.444	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-4	L2112425-07	TERT-BUTYL ALCOHOL	3/20/2021	2.37	Y	Y				1.52	0.141	ug/m3
SV-4	L2112425-07	ISO-PROPYL ALCOHOL	3/20/2021	10.3	Y	Y				1.23	1.17	ug/m3
SV-4	L2112425-07	ETHYLBENZENE	3/20/2021	1.99	Y	Y				0.869	0.188	ug/m3
SV-4	L2112425-07	ETHYL ALCOHOL	3/20/2021	46	Y	Y				9.42	1.38	ug/m3
SV-4	L2112425-07	DICHLORODIFLUOROMETHANE	3/20/2021	2.88	Y	Y				0.989	0.288	ug/m3
SV-4	L2112425-07	CHLOROFORM	3/20/2021	10.6	Y	Y				0.977	0.309	ug/m3
SV-4	L2112425-07	ACETONE	3/20/2021	9.17	Y	Y				2.38	1.64	ug/m3
SV-4	L2112425-07	TRICHLOROETHENE	3/20/2021	21	Y	Y				1.07	0.271	ug/m3
SV-4	L2112425-07	2-HEXANONE	3/20/2021	0.885	Y	Y				0.82	0.266	ug/m3
SV-4	L2112425-07	P/M-XYLENE	3/20/2021	3.53	Y	Y				1.74	0.395	ug/m3
SV-4	L2112425-07	VINYL BROMIDE	3/20/2021		Y	N	U		U	0.874	0.313	ug/m3
SV-4	L2112425-07	TETRAHYDROFURAN	3/20/2021		Y	N	U		U	1.47	0.168	ug/m3
SV-4	L2112425-07	TRANS-1,3-DICHLOROPROPENE	3/20/2021		Y	N	U		U	0.908	0.198	ug/m3
SV-4	L2112425-07	TRANS-1,2-DICHLOROETHENE	3/20/2021		Y	N	U		U	0.793	0.255	ug/m3
SV-4	L2112425-07	N-HEXANE	3/20/2021		Y	N	U		U	0.705	0.128	ug/m3
SV-4	L2112425-07	CIS-1,3-DICHLOROPROPENE	3/20/2021		Y	N	U		U	0.908	0.186	ug/m3
SV-4	L2112425-07	VINYL CHLORIDE	3/20/2021		Y	N	U		U	0.511	0.16	ug/m3
SV-4	L2112425-07	TRICHLOROFLUOROMETHANE	3/20/2021		Y	N	U		U	1.12	0.386	ug/m3
SV-5A	L2112425-08	TRANS-1,2-DICHLOROETHENE	3/20/2021		Y	N	U		U	0.793	0.255	ug/m3
SV-5A	L2112425-08	CIS-1,3-DICHLOROPROPENE	3/20/2021		Y	N	U		U	0.908	0.186	ug/m3
SV-5A	L2112425-08	CIS-1,2-DICHLOROETHENE	3/20/2021		Y	N	U		U	0.793	0.464	ug/m3
SV-5A	L2112425-08	P/M-XYLENE	3/20/2021	21.6	Y	Y				1.74	0.395	ug/m3
SV-5A	L2112425-08	ETHYL ALCOHOL	3/20/2021	746	Y	Y				9.42	1.38	ug/m3
SV-5A	L2112425-08	TRICHLOROFLUOROMETHANE	3/20/2021	2.86	Y	Y				1.12	0.386	ug/m3
SV-5A	L2112425-08	TRICHLOROETHENE	3/20/2021	7.9	Y	Y				1.07	0.271	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-5A	L2112425-08	TOLUENE	3/20/2021	13.1	Y	Y				0.754	0.196	ug/m3
SV-5A	L2112425-08	TETRAHYDROFURAN	3/20/2021	3.33	Y	Y				1.47	0.168	ug/m3
SV-5A	L2112425-08	TETRACHLOROETHENE	3/20/2021	9.56	Y	Y				1.36	0.444	ug/m3
SV-5A	L2112425-08	TERT-BUTYL ALCOHOL	3/20/2021	11.7	Y	Y				1.52	0.141	ug/m3
SV-5A	L2112425-08	STYRENE	3/20/2021	1.09	Y	Y				0.852	0.185	ug/m3
SV-5A	L2112425-08	2-BUTANONE	3/20/2021	2.91	Y	Y				1.47	0.142	ug/m3
SV-5A	L2112425-08	ETHYLBENZENE	3/20/2021	13.1	Y	Y				0.869	0.188	ug/m3
SV-5A	L2112425-08	O-XYLENE	3/20/2021	12.5	Y	Y				0.869	0.197	ug/m3
SV-5A	L2112425-08	DICHLORODIFLUOROMETHANE	3/20/2021	1.95	Y	Y				0.989	0.288	ug/m3
SV-5A	L2112425-08	CYCLOHEXANE	3/20/2021	0.747	Y	Y				0.688	0.127	ug/m3
SV-5A	L2112425-08	CHLOROFORM	3/20/2021	2.13	Y	Y				0.977	0.309	ug/m3
SV-5A	L2112425-08	ACETONE	3/20/2021	55.8	Y	Y				2.38	1.64	ug/m3
SV-5A	L2112425-08	N-HEXANE	3/20/2021		Y	N	U		U	0.705	0.128	ug/m3
SV-5A	L2112425-08	2-HEXANONE	3/20/2021	1.62	Y	Y				0.82	0.266	ug/m3
SV-5A	L2112425-08	VINYL CHLORIDE	3/20/2021		Y	N	U		U	0.511	0.16	ug/m3
SV-5A	L2112425-08	ISO-PROPYL ALCOHOL	3/20/2021	42.3	Y	Y				1.23	1.17	ug/m3
SV-5A	L2112425-08	1,2-DICHLOROPROPANE	3/20/2021		Y	N	U		U	0.924	0.282	ug/m3
SV-5A	L2112425-08	1,1-DICHLOROETHENE	3/20/2021		Y	N	U		U	0.793	0.255	ug/m3
SV-5A	L2112425-08	1,2,4-TRICHLOROBENZENE	3/20/2021		Y	N	U		U	1.48	0.5	ug/m3
SV-5A	L2112425-08	1,2,4-TRIMETHYLBENZENE	3/20/2021		Y	N	U		U	0.983	0.181	ug/m3
SV-5A	L2112425-08	1,2-DIBROMOETHANE	3/20/2021		Y	N	U		U	1.54	0.431	ug/m3
SV-5A	L2112425-08	VINYL BROMIDE	3/20/2021		Y	N	U		U	0.874	0.313	ug/m3
SV-5A	L2112425-08	1,2-DICHLOROBENZENE	3/20/2021		Y	N	U		U	1.2	0.378	ug/m3
SV-5A	L2112425-08	TRANS-1,3-DICHLOROPROPENE	3/20/2021		Y	N	U		U	0.908	0.198	ug/m3
SV-5A	L2112425-08	1,3-DICHLOROBENZENE	3/20/2021		Y	N	U		U	1.2	0.377	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-5A	L2112425-08	BENZENE	3/20/2021		Y	N	U		U	0.639	0.156	ug/m3
SV-5A	L2112425-08	BROMODICHLOROMETHANE	3/20/2021		Y	N	U		U	1.34	0.338	ug/m3
SV-5A	L2112425-08	1,3,5-TRIMETHYLBENZENE	3/20/2021		Y	N	U		U	0.983	0.332	ug/m3
SV-5A	L2112425-08	1,3-BUTADIENE	3/20/2021		Y	N	U		U	0.442	0.148	ug/m3
SV-5A	L2112425-08	4-METHYL-2-PENTANONE	3/20/2021		Y	N	U		U	2.05	0.173	ug/m3
SV-5A	L2112425-08	4-ETHYLTOLUENE	3/20/2021		Y	N	U		U	0.983	0.182	ug/m3
SV-5A	L2112425-08	3-CHLOROPROPENE	3/20/2021		Y	N	U		U	0.626	0.183	ug/m3
SV-5A	L2112425-08	2,2,4-TRIMETHYLPENTANE	3/20/2021		Y	N	U		U	0.934	0.169	ug/m3
SV-5A	L2112425-08	1,4-DIOXANE	3/20/2021		Y	N	U		U	0.721	0.29	ug/m3
SV-5A	L2112425-08	1,4-DICHLOROBENZENE	3/20/2021		Y	N	U		U	1.2	0.382	ug/m3
SV-5A	L2112425-08	1,2-DICHLOROETHANE	3/20/2021		Y	N	U		U	0.809	0.244	ug/m3
SV-5A	L2112425-08	CHLOROMETHANE	3/20/2021		Y	N	U		U	0.413	0.142	ug/m3
SV-5A	L2112425-08	METHYLENE CHLORIDE	3/20/2021		Y	N	U		U	1.74	0.466	ug/m3
SV-5A	L2112425-08	METHYL TERT BUTYL ETHER	3/20/2021		Y	N	U		U	0.721	0.189	ug/m3
SV-5A	L2112425-08	HEXACHLOROBUTADIENE	3/20/2021		Y	N	U		U	2.13	0.564	ug/m3
SV-5A	L2112425-08	HEPTANE	3/20/2021		Y	N	U		U	0.82	0.193	ug/m3
SV-5A	L2112425-08	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/20/2021		Y	N	U		U	1.4	0.413	ug/m3
SV-5A	L2112425-08	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/20/2021		Y	N	U		U	1.53	0.503	ug/m3
SV-5A	L2112425-08	1,1,1-TRICHLOROETHANE	3/20/2021		Y	N	U		U	1.09	0.273	ug/m3
SV-5A	L2112425-08	1,1,2,2-TETRACHLOROETHANE	3/20/2021		Y	N	U		U	1.37	0.422	ug/m3
SV-5A	L2112425-08	1,1-DICHLOROETHANE	3/20/2021		Y	N	U		U	0.809	0.254	ug/m3
SV-5A	L2112425-08	DIBROMOCHLOROMETHANE	3/20/2021		Y	N	U		U	1.7	0.523	ug/m3
SV-5A	L2112425-08	BENZYL CHLORIDE	3/20/2021		Y	N	U		U	1.04	0.25	ug/m3
SV-5A	L2112425-08	CHLOROETHANE	3/20/2021		Y	N	U		U	0.528	0.212	ug/m3
SV-5A	L2112425-08	CHLOROBENZENE	3/20/2021		Y	N	U		U	0.921	0.287	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-5A	L2112425-08	CARBON TETRACHLORIDE	3/20/2021		Y	N	U		U	1.26	0.314	ug/m3
SV-5A	L2112425-08	CARBON DISULFIDE	3/20/2021		Y	N	U		U	0.623	0.174	ug/m3
SV-5A	L2112425-08	BROMOMETHANE	3/20/2021		Y	N	U		U	0.777	0.3	ug/m3
SV-5A	L2112425-08	BROMOFORM	3/20/2021		Y	N	U		U	2.07	0.663	ug/m3
SV-5A	L2112425-08	1,1,2-TRICHLOROETHANE	3/20/2021		Y	N	U		U	1.09	0.366	ug/m3
SV-5A	L2112425-08	ETHYL ACETATE	3/20/2021		Y	N	U		U	1.8	0.44	ug/m3
SV-5B	L2112425-09	1,2-DICHLOROETHANE	3/20/2021		Y	N	U		U	0.809	0.244	ug/m3
SV-5B	L2112425-09	1,4-DIOXANE	3/20/2021		Y	N	U		U	0.721	0.29	ug/m3
SV-5B	L2112425-09	1,4-DICHLOROBENZENE	3/20/2021		Y	N	U		U	1.2	0.382	ug/m3
SV-5B	L2112425-09	1,3-DICHLOROBENZENE	3/20/2021		Y	N	U		U	1.2	0.377	ug/m3
SV-5B	L2112425-09	1,3-BUTADIENE	3/20/2021		Y	N	U		U	0.442	0.148	ug/m3
SV-5B	L2112425-09	1,2-DICHLOROPROPANE	3/20/2021		Y	N	U		U	0.924	0.282	ug/m3
SV-5B	L2112425-09	1,2-DICHLOROBENZENE	3/20/2021		Y	N	U		U	1.2	0.378	ug/m3
SV-5B	L2112425-09	1,2-DIBROMOETHANE	3/20/2021		Y	N	U		U	1.54	0.431	ug/m3
SV-5B	L2112425-09	1,2,4-TRIMETHYLBENZENE	3/20/2021		Y	N	U		U	0.983	0.181	ug/m3
SV-5B	L2112425-09	1,2,4-TRICHLOROBENZENE	3/20/2021		Y	N	U		U	1.48	0.5	ug/m3
SV-5B	L2112425-09	1,1-DICHLOROETHENE	3/20/2021		Y	N	U		U	0.793	0.255	ug/m3
SV-5B	L2112425-09	1,1-DICHLOROETHANE	3/20/2021		Y	N	U		U	0.809	0.254	ug/m3
SV-5B	L2112425-09	1,1,2,2-TETRACHLOROETHANE	3/20/2021		Y	N	U		U	1.37	0.422	ug/m3
SV-5B	L2112425-09	1,1,1-TRICHLOROETHANE	3/20/2021		Y	N	U		U	1.09	0.273	ug/m3
SV-5B	L2112425-09	1,3,5-TRIMETHYLBENZENE	3/20/2021		Y	N	U		U	0.983	0.332	ug/m3
SV-5B	L2112425-09	HEPTANE	3/20/2021		Y	N	U		U	0.82	0.193	ug/m3
SV-5B	L2112425-09	4-ETHYLTOLUENE	3/20/2021		Y	N	U		U	0.983	0.182	ug/m3
SV-5B	L2112425-09	4-METHYL-2-PENTANONE	3/20/2021		Y	N	U		U	2.05	0.173	ug/m3
SV-5B	L2112425-09	BENZENE	3/20/2021		Y	N	U		U	0.639	0.156	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-5B	L2112425-09	BENZYL CHLORIDE	3/20/2021		Y	N	U		U	1.04	0.25	ug/m3
SV-5B	L2112425-09	BROMODICHLOROMETHANE	3/20/2021		Y	N	U		U	1.34	0.338	ug/m3
SV-5B	L2112425-09	BROMOFORM	3/20/2021		Y	N	U		U	2.07	0.663	ug/m3
SV-5B	L2112425-09	BROMOMETHANE	3/20/2021		Y	N	U		U	0.777	0.3	ug/m3
SV-5B	L2112425-09	CARBON DISULFIDE	3/20/2021		Y	N	U		U	0.623	0.174	ug/m3
SV-5B	L2112425-09	CHLOROBENZENE	3/20/2021		Y	N	U		U	0.921	0.287	ug/m3
SV-5B	L2112425-09	CHLOROETHANE	3/20/2021		Y	N	U		U	0.528	0.212	ug/m3
SV-5B	L2112425-09	CHLOROMETHANE	3/20/2021		Y	N	U		U	0.413	0.142	ug/m3
SV-5B	L2112425-09	3-CHLOROPROPENE	3/20/2021		Y	N	U		U	0.626	0.183	ug/m3
SV-5B	L2112425-09	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/20/2021		Y	N	U		U	1.4	0.413	ug/m3
SV-5B	L2112425-09	DIBROMOCHLOROMETHANE	3/20/2021		Y	N	U		U	1.7	0.523	ug/m3
SV-5B	L2112425-09	HEXACHLOROBUTADIENE	3/20/2021		Y	N	U		U	2.13	0.564	ug/m3
SV-5B	L2112425-09	METHYL TERT BUTYL ETHER	3/20/2021		Y	N	U		U	0.721	0.189	ug/m3
SV-5B	L2112425-09	METHYLENE CHLORIDE	3/20/2021		Y	N	U		U	1.74	0.466	ug/m3
SV-5B	L2112425-09	TRANS-1,3-DICHLOROPROPENE	3/20/2021		Y	N	U		U	0.908	0.198	ug/m3
SV-5B	L2112425-09	TRANS-1,2-DICHLOROETHENE	3/20/2021		Y	N	U		U	0.793	0.255	ug/m3
SV-5B	L2112425-09	N-HEXANE	3/20/2021		Y	N	U		U	0.705	0.128	ug/m3
SV-5B	L2112425-09	CIS-1,3-DICHLOROPROPENE	3/20/2021		Y	N	U		U	0.908	0.186	ug/m3
SV-5B	L2112425-09	CIS-1,2-DICHLOROETHENE	3/20/2021		Y	N	U		U	0.793	0.464	ug/m3
SV-5B	L2112425-09	VINYL CHLORIDE	3/20/2021		Y	N	U		U	0.511	0.16	ug/m3
SV-5B	L2112425-09	VINYL BROMIDE	3/20/2021		Y	N	U		U	0.874	0.313	ug/m3
SV-5B	L2112425-09	TETRAHYDROFURAN	3/20/2021		Y	N	U		U	1.47	0.168	ug/m3
SV-5B	L2112425-09	ETHYL ACETATE	3/20/2021		Y	N	U		U	1.8	0.44	ug/m3
SV-5B	L2112425-09	ETHYL ALCOHOL	3/20/2021	28.6	Y	Y				9.42	1.38	ug/m3
SV-5B	L2112425-09	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/20/2021		Y	N	U		U	1.53	0.503	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-5B	L2112425-09	2,2,4-TRIMETHYLPENTANE	3/20/2021		Y	N	U		U	0.934	0.169	ug/m3
SV-5B	L2112425-09	ISO-PROPYL ALCOHOL	3/20/2021	3.98	Y	Y				1.23	1.17	ug/m3
SV-5B	L2112425-09	STYRENE	3/20/2021	1.41	Y	Y				0.852	0.185	ug/m3
SV-5B	L2112425-09	TETRACHLOROETHENE	3/20/2021	59.8	Y	Y				1.36	0.444	ug/m3
SV-5B	L2112425-09	ETHYLBENZENE	3/20/2021	15.8	Y	Y				0.869	0.188	ug/m3
SV-5B	L2112425-09	TOLUENE	3/20/2021	14.9	Y	Y				0.754	0.196	ug/m3
SV-5B	L2112425-09	DICHLORODIFLUOROMETHANE	3/20/2021	2.05	Y	Y				0.989	0.288	ug/m3
SV-5B	L2112425-09	TRICHLOROETHENE	3/20/2021	5.7	Y	Y				1.07	0.271	ug/m3
SV-5B	L2112425-09	TRICHLOROFLUOROMETHANE	3/20/2021	1.83	Y	Y				1.12	0.386	ug/m3
SV-5B	L2112425-09	2-BUTANONE	3/20/2021	1.89	Y	Y				1.47	0.142	ug/m3
SV-5B	L2112425-09	P/M-XYLENE	3/20/2021	26.4	Y	Y				1.74	0.395	ug/m3
SV-5B	L2112425-09	CYCLOHEXANE	3/20/2021	0.826	Y	Y				0.688	0.127	ug/m3
SV-5B	L2112425-09	CHLOROFORM	3/20/2021	38.7	Y	Y				0.977	0.309	ug/m3
SV-5B	L2112425-09	CARBON TETRACHLORIDE	3/20/2021	2.68	Y	Y				1.26	0.314	ug/m3
SV-5B	L2112425-09	ACETONE	3/20/2021	12.6	Y	Y				2.38	1.64	ug/m3
SV-5B	L2112425-09	2-HEXANONE	3/20/2021	4.75	Y	Y				0.82	0.266	ug/m3
SV-5B	L2112425-09	1,1,2-TRICHLOROETHANE	3/20/2021		Y	N	U		U	1.09	0.366	ug/m3
SV-5B	L2112425-09	O-XYLENE	3/20/2021	14.9	Y	Y				0.869	0.197	ug/m3
SV-5B	L2112425-09	TERT-BUTYL ALCOHOL	3/20/2021	17.6	Y	Y				1.52	0.141	ug/m3
SV-DUP-	L2112425-10	1,2-DICHLOROBENZENE	3/20/2021		Y	N	U		U	1.2	0.378	ug/m3
SV-DUP-	L2112425-10	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/20/2021		Y	N	U		U	1.53	0.503	ug/m3
SV-DUP-	L2112425-10	1,2-DICHLOROETHANE	3/20/2021		Y	N	U		U	0.809	0.244	ug/m3
SV-DUP-	L2112425-10	1,3,5-TRIMETHYLBENZENE	3/20/2021		Y	N	U		U	0.983	0.332	ug/m3
SV-DUP-	L2112425-10	1,1,2,2-TETRACHLOROETHANE	3/20/2021		Y	N	U		U	1.37	0.422	ug/m3
SV-DUP-	L2112425-10	1,2-DICHLOROPROPANE	3/20/2021		Y	N	U		U	0.924	0.282	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-DUP-	L2112425-10	1,2-DIBROMOETHANE	3/20/2021		Y	N	U		U	1.54	0.431	ug/m3
SV-DUP-	L2112425-10	1,2,4-TRIMETHYLBENZENE	3/20/2021		Y	N	U		U	0.983	0.181	ug/m3
SV-DUP-	L2112425-10	1,2,4-TRICHLOROBENZENE	3/20/2021		Y	N	U		U	1.48	0.5	ug/m3
SV-DUP-	L2112425-10	1,1,2-TRICHLOROETHANE	3/20/2021		Y	N	U		U	1.09	0.366	ug/m3
SV-DUP-	L2112425-10	ETHYLBENZENE	3/20/2021		Y	N	U		U	0.869	0.188	ug/m3
SV-DUP-	L2112425-10	1,3-BUTADIENE	3/20/2021		Y	N	U		U	0.442	0.148	ug/m3
SV-DUP-	L2112425-10	1,1-DICHLOROETHENE	3/20/2021		Y	N	U		U	0.793	0.255	ug/m3
SV-DUP-	L2112425-10	BROMOMETHANE	3/20/2021		Y	N	U		U	0.777	0.3	ug/m3
SV-DUP-	L2112425-10	CHLOROBENZENE	3/20/2021		Y	N	U		U	0.921	0.287	ug/m3
SV-DUP-	L2112425-10	CHLOROETHANE	3/20/2021		Y	N	U		U	0.528	0.212	ug/m3
SV-DUP-	L2112425-10	CHLOROMETHANE	3/20/2021		Y	N	U		U	0.413	0.142	ug/m3
SV-DUP-	L2112425-10	CYCLOHEXANE	3/20/2021		Y	N	U		U	0.688	0.127	ug/m3
SV-DUP-	L2112425-10	ACETONE	3/20/2021	285	Y	Y				2.38	1.64	ug/m3
SV-DUP-	L2112425-10	2-BUTANONE	3/20/2021	4.1	Y	Y				1.47	0.142	ug/m3
SV-DUP-	L2112425-10	1,1-DICHLOROETHANE	3/20/2021	1.43	Y	Y				0.809	0.254	ug/m3
SV-DUP-	L2112425-10	1,1,1-TRICHLOROETHANE	3/20/2021	4.68	Y	Y				1.09	0.273	ug/m3
SV-DUP-	L2112425-10	N-HEXANE	3/20/2021		Y	N	U		U	0.705	0.128	ug/m3
SV-DUP-	L2112425-10	3-CHLOROPROPENE	3/20/2021		Y	N	U		U	0.626	0.183	ug/m3
SV-DUP-	L2112425-10	CARBON TETRACHLORIDE	3/20/2021		Y	N	U		U	1.26	0.314	ug/m3
SV-DUP-	L2112425-10	1,3-DICHLOROBENZENE	3/20/2021		Y	N	U		U	1.2	0.377	ug/m3
SV-DUP-	L2112425-10	BROMOFORM	3/20/2021		Y	N	U		U	2.07	0.663	ug/m3
SV-DUP-	L2112425-10	BROMODICHLOROMETHANE	3/20/2021		Y	N	U		U	1.34	0.338	ug/m3
SV-DUP-	L2112425-10	BENZYL CHLORIDE	3/20/2021		Y	N	U		U	1.04	0.25	ug/m3
SV-DUP-	L2112425-10	4-METHYL-2-PENTANONE	3/20/2021		Y	N	U		U	2.05	0.173	ug/m3
SV-DUP-	L2112425-10	4-ETHYLTOLUENE	3/20/2021		Y	N	U		U	0.983	0.182	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-DUP-	L2112425-10	2-HEXANONE	3/20/2021		Y	N	U		U	0.82	0.266	ug/m3
SV-DUP-	L2112425-10	2,2,4-TRIMETHYLPENTANE	3/20/2021		Y	N	U		U	0.934	0.169	ug/m3
SV-DUP-	L2112425-10	1,4-DIOXANE	3/20/2021		Y	N	U		U	0.721	0.29	ug/m3
SV-DUP-	L2112425-10	1,4-DICHLOROBENZENE	3/20/2021		Y	N	U		U	1.2	0.382	ug/m3
SV-DUP-	L2112425-10	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/20/2021		Y	N	U		U	1.4	0.413	ug/m3
SV-DUP-	L2112425-10	O-XYLENE	3/20/2021		Y	N	U		U	0.869	0.197	ug/m3
SV-DUP-	L2112425-10	TOLUENE	3/20/2021	1.99	Y	Y				0.754	0.196	ug/m3
SV-DUP-	L2112425-10	TRICHLOROETHENE	3/20/2021	90.8	Y	Y				1.07	0.271	ug/m3
SV-DUP-	L2112425-10	CIS-1,2-DICHLOROETHENE	3/20/2021	2.56	Y	Y				0.793	0.464	ug/m3
SV-DUP-	L2112425-10	TERT-BUTYL ALCOHOL	3/20/2021	1.54	Y	Y				1.52	0.141	ug/m3
SV-DUP-	L2112425-10	DIBROMOCHLOROMETHANE	3/20/2021		Y	N	U		U	1.7	0.523	ug/m3
SV-DUP-	L2112425-10	HEPTANE	3/20/2021		Y	N	U		U	0.82	0.193	ug/m3
SV-DUP-	L2112425-10	CARBON DISULFIDE	3/20/2021	1.25	Y	Y				0.623	0.174	ug/m3
SV-DUP-	L2112425-10	ISO-PROPYL ALCOHOL	3/20/2021	15.5	Y	Y				1.23	1.17	ug/m3
SV-DUP-	L2112425-10	VINYL CHLORIDE	3/20/2021		Y	N	U		U	0.511	0.16	ug/m3
SV-DUP-	L2112425-10	TRANS-1,3-DICHLOROPROPENE	3/20/2021		Y	N	U		U	0.908	0.198	ug/m3
SV-DUP-	L2112425-10	TETRACHLOROETHENE	3/20/2021	38	Y	Y				1.36	0.444	ug/m3
SV-DUP-	L2112425-10	P/M-XYLENE	3/20/2021		Y	N	U		U	1.74	0.395	ug/m3
SV-DUP-	L2112425-10	TETRAHYDROFURAN	3/20/2021		Y	N	U		U	1.47	0.168	ug/m3
SV-DUP-	L2112425-10	HEXACHLOROBUTADIENE	3/20/2021		Y	N	U		U	2.13	0.564	ug/m3
SV-DUP-	L2112425-10	METHYL TERT BUTYL ETHER	3/20/2021		Y	N	U		U	0.721	0.189	ug/m3
SV-DUP-	L2112425-10	METHYLENE CHLORIDE	3/20/2021		Y	N	U		U	1.74	0.466	ug/m3
SV-DUP-	L2112425-10	CHLOROFORM	3/20/2021	1.99	Y	Y				0.977	0.309	ug/m3
SV-DUP-	L2112425-10	DICHLORODIFLUOROMETHANE	3/20/2021	1.99	Y	Y				0.989	0.288	ug/m3
SV-DUP-	L2112425-10	TRANS-1,2-DICHLOROETHENE	3/20/2021		Y	N	U		U	0.793	0.255	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-DUP-	L2112425-10	STYRENE	3/20/2021		Y	N	U		U	0.852	0.185	ug/m3
SV-DUP-	L2112425-10	ETHYL ACETATE	3/20/2021		Y	N	U		U	1.8	0.44	ug/m3
SV-DUP-	L2112425-10	TRICHLOROFLUOROMETHANE	3/20/2021		Y	N	U		U	1.12	0.386	ug/m3
SV-DUP-	L2112425-10	VINYL BROMIDE	3/20/2021		Y	N	U		U	0.874	0.313	ug/m3
SV-DUP-	L2112425-10	BENZENE	3/20/2021	0.677	Y	Y				0.639	0.156	ug/m3
SV-DUP-	L2112425-10	CIS-1,3-DICHLOROPROPENE	3/20/2021		Y	N	U		U	0.908	0.186	ug/m3
SV-DUP-	L2112425-10	ETHYL ALCOHOL	3/20/2021	129	Y	Y				9.42	1.38	ug/m3
SV-DUP-	L2112425-11	TRANS-1,2-DICHLOROETHENE	3/20/2021		Y	N	U		U	0.793	0.255	ug/m3
SV-DUP-	L2112425-11	TRANS-1,3-DICHLOROPROPENE	3/20/2021		Y	N	U		U	0.908	0.198	ug/m3
SV-DUP-	L2112425-11	TETRAHYDROFURAN	3/20/2021		Y	N	U		U	1.47	0.168	ug/m3
SV-DUP-	L2112425-11	HEPTANE	3/20/2021		Y	N	U		U	0.82	0.193	ug/m3
SV-DUP-	L2112425-11	HEXACHLOROBUTADIENE	3/20/2021		Y	N	U		U	2.13	0.564	ug/m3
SV-DUP-	L2112425-11	METHYL TERT BUTYL ETHER	3/20/2021		Y	N	U		U	0.721	0.189	ug/m3
SV-DUP-	L2112425-11	STYRENE	3/20/2021		Y	N	U		U	0.852	0.185	ug/m3
SV-DUP-	L2112425-11	CHLOROBENZENE	3/20/2021		Y	N	U		U	0.921	0.287	ug/m3
SV-DUP-	L2112425-11	TRICHLOROFLUOROMETHANE	3/20/2021		Y	N	U		U	1.12	0.386	ug/m3
SV-DUP-	L2112425-11	VINYL BROMIDE	3/20/2021		Y	N	U		U	0.874	0.313	ug/m3
SV-DUP-	L2112425-11	N-HEXANE	3/20/2021		Y	N	U		U	0.705	0.128	ug/m3
SV-DUP-	L2112425-11	CIS-1,3-DICHLOROPROPENE	3/20/2021		Y	N	U		U	0.908	0.186	ug/m3
SV-DUP-	L2112425-11	CIS-1,2-DICHLOROETHENE	3/20/2021		Y	N	U		U	0.793	0.464	ug/m3
SV-DUP-	L2112425-11	METHYLENE CHLORIDE	3/20/2021		Y	N	U		U	1.74	0.466	ug/m3
SV-DUP-	L2112425-11	BENZYL CHLORIDE	3/20/2021		Y	N	U		U	1.04	0.25	ug/m3
SV-DUP-	L2112425-11	1,3-BUTADIENE	3/20/2021		Y	N	U		U	0.442	0.148	ug/m3
SV-DUP-	L2112425-11	1,2-DICHLOROPROPANE	3/20/2021		Y	N	U		U	0.924	0.282	ug/m3
SV-DUP-	L2112425-11	1,2-DICHLOROETHANE	3/20/2021		Y	N	U		U	0.809	0.244	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-DUP-	L2112425-11	VINYL CHLORIDE	3/20/2021		Y	N	U		U	0.511	0.16	ug/m3
SV-DUP-	L2112425-11	1,3-DICHLOROBENZENE	3/20/2021		Y	N	U		U	1.2	0.377	ug/m3
SV-DUP-	L2112425-11	1,4-DICHLOROBENZENE	3/20/2021		Y	N	U		U	1.2	0.382	ug/m3
SV-DUP-	L2112425-11	1,4-DIOXANE	3/20/2021		Y	N	U		U	0.721	0.29	ug/m3
SV-DUP-	L2112425-11	2,2,4-TRIMETHYLPENTANE	3/20/2021		Y	N	U		U	0.934	0.169	ug/m3
SV-DUP-	L2112425-11	3-CHLOROPROPENE	3/20/2021		Y	N	U		U	0.626	0.183	ug/m3
SV-DUP-	L2112425-11	4-ETHYLTOLUENE	3/20/2021		Y	N	U		U	0.983	0.182	ug/m3
SV-DUP-	L2112425-11	CYCLOHEXANE	3/20/2021		Y	N	U		U	0.688	0.127	ug/m3
SV-DUP-	L2112425-11	BENZENE	3/20/2021		Y	N	U		U	0.639	0.156	ug/m3
SV-DUP-	L2112425-11	ETHYLBENZENE	3/20/2021	3.43	Y	Y				0.869	0.188	ug/m3
SV-DUP-	L2112425-11	BROMODICHLOROMETHANE	3/20/2021		Y	N	U		U	1.34	0.338	ug/m3
SV-DUP-	L2112425-11	BROMOFORM	3/20/2021		Y	N	U		U	2.07	0.663	ug/m3
SV-DUP-	L2112425-11	BROMOMETHANE	3/20/2021		Y	N	U		U	0.777	0.3	ug/m3
SV-DUP-	L2112425-11	CARBON DISULFIDE	3/20/2021		Y	N	U		U	0.623	0.174	ug/m3
SV-DUP-	L2112425-11	CARBON TETRACHLORIDE	3/20/2021		Y	N	U		U	1.26	0.314	ug/m3
SV-DUP-	L2112425-11	CHLOROETHANE	3/20/2021		Y	N	U		U	0.528	0.212	ug/m3
SV-DUP-	L2112425-11	DIBROMOCHLOROMETHANE	3/20/2021		Y	N	U		U	1.7	0.523	ug/m3
SV-DUP-	L2112425-11	ETHYL ACETATE	3/20/2021		Y	N	U		U	1.8	0.44	ug/m3
SV-DUP-	L2112425-11	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/20/2021		Y	N	U		U	1.53	0.503	ug/m3
SV-DUP-	L2112425-11	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/20/2021		Y	N	U		U	1.4	0.413	ug/m3
SV-DUP-	L2112425-11	4-METHYL-2-PENTANONE	3/20/2021		Y	N	U		U	2.05	0.173	ug/m3
SV-DUP-	L2112425-11	2-BUTANONE	3/20/2021	5.13	Y	Y				1.47	0.142	ug/m3
SV-DUP-	L2112425-11	1,1,2,2-TETRACHLOROETHANE	3/20/2021		Y	N	U		U	1.37	0.422	ug/m3
SV-DUP-	L2112425-11	ISO-PROPYL ALCOHOL	3/20/2021	24.2	Y	Y				1.23	1.17	ug/m3
SV-DUP-	L2112425-11	1,1-DICHLOROETHANE	3/20/2021		Y	N	U		U	0.809	0.254	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
SV-DUP-	L2112425-11	1,2,4-TRICHLOROBENZENE	3/20/2021		Y	N	U		U	1.48	0.5	ug/m3
SV-DUP-	L2112425-11	1,2-DIBROMOETHANE	3/20/2021		Y	N	U		U	1.54	0.431	ug/m3
SV-DUP-	L2112425-11	1,2-DICHLOROBENZENE	3/20/2021		Y	N	U		U	1.2	0.378	ug/m3
SV-DUP-	L2112425-11	1,1,1-TRICHLOROETHANE	3/20/2021		Y	N	U		U	1.09	0.273	ug/m3
SV-DUP-	L2112425-11	1,3,5-TRIMETHYLBENZENE	3/20/2021	1.71	Y	Y				0.983	0.332	ug/m3
SV-DUP-	L2112425-11	1,1,2-TRICHLOROETHANE	3/20/2021		Y	N	U		U	1.09	0.366	ug/m3
SV-DUP-	L2112425-11	2-HEXANONE	3/20/2021	1.52	Y	Y				0.82	0.266	ug/m3
SV-DUP-	L2112425-11	ACETONE	3/20/2021	14.2	Y	Y				2.38	1.64	ug/m3
SV-DUP-	L2112425-11	CHLOROFORM	3/20/2021	3.14	Y	Y				0.977	0.309	ug/m3
SV-DUP-	L2112425-11	CHLOROMETHANE	3/20/2021	0.77	Y	Y				0.413	0.142	ug/m3
SV-DUP-	L2112425-11	DICHLORODIFLUOROMETHANE	3/20/2021	2.49	Y	Y				0.989	0.288	ug/m3
SV-DUP-	L2112425-11	ETHYL ALCOHOL	3/20/2021	79.1	Y	Y				9.42	1.38	ug/m3
SV-DUP-	L2112425-11	1,2,4-TRIMETHYLBENZENE	3/20/2021	1.68	Y	Y				0.983	0.181	ug/m3
SV-DUP-	L2112425-11	TRICHLOROETHENE	3/20/2021	16.3	Y	Y				1.07	0.271	ug/m3
SV-DUP-	L2112425-11	1,1-DICHLOROETHENE	3/20/2021		Y	N	U		U	0.793	0.255	ug/m3
SV-DUP-	L2112425-11	O-XYLENE	3/20/2021	2.91	Y	Y				0.869	0.197	ug/m3
SV-DUP-	L2112425-11	TOLUENE	3/20/2021	3.84	Y	Y				0.754	0.196	ug/m3
SV-DUP-	L2112425-11	TETRACHLOROETHENE	3/20/2021	5.66	Y	Y				1.36	0.444	ug/m3
SV-DUP-	L2112425-11	TERT-BUTYL ALCOHOL	3/20/2021	5.4	Y	Y				1.52	0.141	ug/m3
SV-DUP-	L2112425-11	P/M-XYLENE	3/20/2021	6.21	Y	Y				1.74	0.395	ug/m3
IA-1	L2112425-12	HEXACHLOROBUTADIENE	3/19/2021		Y	N	U		U	2.13	0.564	ug/m3
IA-1	L2112425-12	CIS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.186	ug/m3
IA-1	L2112425-12	DIBROMOCHLOROMETHANE	3/19/2021		Y	N	U		U	1.7	0.523	ug/m3
IA-1	L2112425-12	CYCLOHEXANE	3/19/2021		Y	N	U		U	0.688	0.127	ug/m3
IA-1	L2112425-12	ETHYLBENZENE	3/19/2021		Y	N	U		U	0.869	0.188	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-1	L2112425-12	TETRAHYDROFURAN	3/19/2021		Y	N	U		U	1.47	0.168	ug/m3
IA-1	L2112425-12	TERT-BUTYL ALCOHOL	3/19/2021		Y	N	U		U	1.52	0.141	ug/m3
IA-1	L2112425-12	STYRENE	3/19/2021		Y	N	U		U	0.852	0.185	ug/m3
IA-1	L2112425-12	METHYL TERT BUTYL ETHER	3/19/2021		Y	N	U		U	0.721	0.189	ug/m3
IA-1	L2112425-12	CHLOROFORM	3/19/2021		Y	N	U		U	0.977	0.309	ug/m3
IA-1	L2112425-12	TRANS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.793	0.255	ug/m3
IA-1	L2112425-12	P/M-XYLENE	3/19/2021		Y	N	U		U	1.74	0.395	ug/m3
IA-1	L2112425-12	TRANS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.198	ug/m3
IA-1	L2112425-12	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/19/2021		Y	N	U		U	1.53	0.503	ug/m3
IA-1	L2112425-12	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/19/2021		Y	N	U		U	1.4	0.413	ug/m3
IA-1	L2112425-12	HEPTANE	3/19/2021		Y	N	U		U	0.82	0.193	ug/m3
IA-1	L2112425-12	O-XYLENE	3/19/2021		Y	N	U		U	0.869	0.197	ug/m3
IA-1	L2112425-12	N-HEXANE	3/19/2021		Y	N	U		U	0.705	0.128	ug/m3
IA-1	L2112425-12	METHYLENE CHLORIDE	3/19/2021		Y	N	U		U	1.74	0.466	ug/m3
IA-1	L2112425-12	ACETONE	3/19/2021		Y	N	U		U	2.38	1.64	ug/m3
IA-1	L2112425-12	DICHLORODIFLUOROMETHANE	3/19/2021	1.99	Y	Y				0.989	0.288	ug/m3
IA-1	L2112425-12	CHLOROMETHANE	3/19/2021	0.888	Y	Y				0.413	0.142	ug/m3
IA-1	L2112425-12	1,1,2,2-TETRACHLOROETHANE	3/19/2021		Y	N	U		U	1.37	0.422	ug/m3
IA-1	L2112425-12	BENZENE	3/19/2021	0.879	Y	Y				0.639	0.156	ug/m3
IA-1	L2112425-12	ETHYL ACETATE	3/19/2021		Y	N	U		U	1.8	0.44	ug/m3
IA-1	L2112425-12	VINYL BROMIDE	3/19/2021		Y	N	U		U	0.874	0.313	ug/m3
IA-1	L2112425-12	3-CHLOROPROPENE	3/19/2021		Y	N	U		U	0.626	0.183	ug/m3
IA-1	L2112425-12	TRICHLOROFLUOROMETHANE	3/19/2021		Y	N	U		U	1.12	0.386	ug/m3
IA-1	L2112425-12	4-METHYL-2-PENTANONE	3/19/2021		Y	N	U		U	2.05	0.173	ug/m3
IA-1	L2112425-12	2-BUTANONE	3/19/2021		Y	N	U		U	1.47	0.142	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-1	L2112425-12	BENZYL CHLORIDE	3/19/2021		Y	N	U		U	1.04	0.25	ug/m3
IA-1	L2112425-12	BROMODICHLOROMETHANE	3/19/2021		Y	N	U		U	1.34	0.338	ug/m3
IA-1	L2112425-12	BROMOFORM	3/19/2021		Y	N	U		U	2.07	0.663	ug/m3
IA-1	L2112425-12	BROMOMETHANE	3/19/2021		Y	N	U		U	0.777	0.3	ug/m3
IA-1	L2112425-12	CARBON DISULFIDE	3/19/2021		Y	N	U		U	0.623	0.174	ug/m3
IA-1	L2112425-12	CHLOROBENZENE	3/19/2021		Y	N	U		U	0.921	0.287	ug/m3
IA-1	L2112425-12	CHLOROETHANE	3/19/2021		Y	N	U		U	0.528	0.212	ug/m3
IA-1	L2112425-12	4-ETHYLTOLUENE	3/19/2021		Y	N	U		U	0.983	0.182	ug/m3
IA-1	L2112425-12	1,3-BUTADIENE	3/19/2021		Y	N	U		U	0.442	0.148	ug/m3
IA-1	L2112425-12	1,1,2-TRICHLOROETHANE	3/19/2021		Y	N	U		U	1.09	0.366	ug/m3
IA-1	L2112425-12	1,1-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.254	ug/m3
IA-1	L2112425-12	1,2,4-TRICHLOROBENZENE	3/19/2021		Y	N	U		U	1.48	0.5	ug/m3
IA-1	L2112425-12	1,2,4-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.181	ug/m3
IA-1	L2112425-12	1,2-DIBROMOETHANE	3/19/2021		Y	N	U		U	1.54	0.431	ug/m3
IA-1	L2112425-12	1,2-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.378	ug/m3
IA-1	L2112425-12	1,2-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.244	ug/m3
IA-1	L2112425-12	ETHYL ALCOHOL	3/19/2021	28.6	Y	Y				9.42	1.38	ug/m3
IA-1	L2112425-12	1,3,5-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.332	ug/m3
IA-1	L2112425-12	2-HEXANONE	3/19/2021		Y	N	U		U	0.82	0.266	ug/m3
IA-1	L2112425-12	1,3-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.377	ug/m3
IA-1	L2112425-12	1,4-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.382	ug/m3
IA-1	L2112425-12	1,4-DIOXANE	3/19/2021		Y	N	U		U	0.721	0.29	ug/m3
IA-1	L2112425-12	TOLUENE	3/19/2021	2.09	Y	Y				0.754	0.196	ug/m3
IA-1	L2112425-12	ISO-PROPYL ALCOHOL	3/19/2021	3.37	Y	Y				1.23	1.17	ug/m3
IA-1	L2112425-12	2,2,4-TRIMETHYLPENTANE	3/19/2021		Y	N	U		U	0.934	0.169	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-1	L2112425-12	1,2-DICHLOROPROPANE	3/19/2021		Y	N	U		U	0.924	0.282	ug/m3
IA-2	L2112425-13	CIS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.186	ug/m3
IA-2	L2112425-13	BENZYL CHLORIDE	3/19/2021		Y	N	U		U	1.04	0.25	ug/m3
IA-2	L2112425-13	3-CHLOROPROPENE	3/19/2021		Y	N	U		U	0.626	0.183	ug/m3
IA-2	L2112425-13	4-METHYL-2-PENTANONE	3/19/2021		Y	N	U		U	2.05	0.173	ug/m3
IA-2	L2112425-13	BROMODICHLOROMETHANE	3/19/2021		Y	N	U		U	1.34	0.338	ug/m3
IA-2	L2112425-13	BROMOFORM	3/19/2021		Y	N	U		U	2.07	0.663	ug/m3
IA-2	L2112425-13	BROMOMETHANE	3/19/2021		Y	N	U		U	0.777	0.3	ug/m3
IA-2	L2112425-13	CARBON DISULFIDE	3/19/2021		Y	N	U		U	0.623	0.174	ug/m3
IA-2	L2112425-13	CHLOROBENZENE	3/19/2021		Y	N	U		U	0.921	0.287	ug/m3
IA-2	L2112425-13	CHLOROETHANE	3/19/2021		Y	N	U		U	0.528	0.212	ug/m3
IA-2	L2112425-13	4-ETHYLTOLUENE	3/19/2021		Y	N	U		U	0.983	0.182	ug/m3
IA-2	L2112425-13	ETHYL ACETATE	3/19/2021		Y	N	U		U	1.8	0.44	ug/m3
IA-2	L2112425-13	1,2-DIBROMOETHANE	3/19/2021		Y	N	U		U	1.54	0.431	ug/m3
IA-2	L2112425-13	1,2-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.378	ug/m3
IA-2	L2112425-13	1,2-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.244	ug/m3
IA-2	L2112425-13	1,2-DICHLOROPROPANE	3/19/2021		Y	N	U		U	0.924	0.282	ug/m3
IA-2	L2112425-13	1,3,5-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.332	ug/m3
IA-2	L2112425-13	1,3-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.377	ug/m3
IA-2	L2112425-13	1,4-DIOXANE	3/19/2021		Y	N	U		U	0.721	0.29	ug/m3
IA-2	L2112425-13	2,2,4-TRIMETHYLPENTANE	3/19/2021		Y	N	U		U	0.934	0.169	ug/m3
IA-2	L2112425-13	2-BUTANONE	3/19/2021		Y	N	U		U	1.47	0.142	ug/m3
IA-2	L2112425-13	2-HEXANONE	3/19/2021		Y	N	U		U	0.82	0.266	ug/m3
IA-2	L2112425-13	CHLOROFORM	3/19/2021		Y	N	U		U	0.977	0.309	ug/m3
IA-2	L2112425-13	1,2,4-TRICHLOROBENZENE	3/19/2021		Y	N	U		U	1.48	0.5	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-2	L2112425-13	DIBROMOCHLOROMETHANE	3/19/2021		Y	N	U		U	1.7	0.523	ug/m3
IA-2	L2112425-13	1,3-BUTADIENE	3/19/2021		Y	N	U		U	0.442	0.148	ug/m3
IA-2	L2112425-13	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/19/2021		Y	N	U		U	1.53	0.503	ug/m3
IA-2	L2112425-13	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/19/2021		Y	N	U		U	1.4	0.413	ug/m3
IA-2	L2112425-13	HEPTANE	3/19/2021		Y	N	U		U	0.82	0.193	ug/m3
IA-2	L2112425-13	HEXACHLOROBUTADIENE	3/19/2021		Y	N	U		U	2.13	0.564	ug/m3
IA-2	L2112425-13	METHYL TERT BUTYL ETHER	3/19/2021		Y	N	U		U	0.721	0.189	ug/m3
IA-2	L2112425-13	METHYLENE CHLORIDE	3/19/2021		Y	N	U		U	1.74	0.466	ug/m3
IA-2	L2112425-13	STYRENE	3/19/2021		Y	N	U		U	0.852	0.185	ug/m3
IA-2	L2112425-13	TERT-BUTYL ALCOHOL	3/19/2021		Y	N	U		U	1.52	0.141	ug/m3
IA-2	L2112425-13	TETRAHYDROFURAN	3/19/2021		Y	N	U		U	1.47	0.168	ug/m3
IA-2	L2112425-13	VINYL BROMIDE	3/19/2021		Y	N	U		U	0.874	0.313	ug/m3
IA-2	L2112425-13	TRANS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.793	0.255	ug/m3
IA-2	L2112425-13	TRANS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.198	ug/m3
IA-2	L2112425-13	CYCLOHEXANE	3/19/2021		Y	N	U		U	0.688	0.127	ug/m3
IA-2	L2112425-13	TOLUENE	3/19/2021	2.36	Y	Y				0.754	0.196	ug/m3
IA-2	L2112425-13	1,4-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.382	ug/m3
IA-2	L2112425-13	1,1-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.254	ug/m3
IA-2	L2112425-13	P/M-XYLENE	3/19/2021	4.6	Y	Y				1.74	0.395	ug/m3
IA-2	L2112425-13	O-XYLENE	3/19/2021	1.32	Y	Y				0.869	0.197	ug/m3
IA-2	L2112425-13	TRICHLOROFLUOROMETHANE	3/19/2021	1.26	Y	Y				1.12	0.386	ug/m3
IA-2	L2112425-13	ISO-PROPYL ALCOHOL	3/19/2021	6.02	Y	Y				1.23	1.17	ug/m3
IA-2	L2112425-13	ETHYLBENZENE	3/19/2021	1.23	Y	Y				0.869	0.188	ug/m3
IA-2	L2112425-13	ETHYL ALCOHOL	3/19/2021	447	Y	Y				9.42	1.38	ug/m3
IA-2	L2112425-13	1,1,2,2-TETRACHLOROETHANE	3/19/2021		Y	N	U		U	1.37	0.422	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-2	L2112425-13	CHLOROMETHANE	3/19/2021	0.964	Y	Y				0.413	0.142	ug/m3
IA-2	L2112425-13	BENZENE	3/19/2021	1.04	Y	Y				0.639	0.156	ug/m3
IA-2	L2112425-13	ACETONE	3/19/2021	47	Y	Y				2.38	1.64	ug/m3
IA-2	L2112425-13	1,2,4-TRIMETHYLBENZENE	3/19/2021	1.25	Y	Y				0.983	0.181	ug/m3
IA-2	L2112425-13	DICHLORODIFLUOROMETHANE	3/19/2021	2.08	Y	Y				0.989	0.288	ug/m3
IA-2	L2112425-13	N-HEXANE	3/19/2021	0.73	Y	Y				0.705	0.128	ug/m3
IA-2	L2112425-13	1,1,2-TRICHLOROETHANE	3/19/2021		Y	N	U		U	1.09	0.366	ug/m3
IA-3	L2112425-14	1,2,4-TRICHLOROBENZENE	3/19/2021		Y	N	U		U	1.48	0.5	ug/m3
IA-3	L2112425-14	1,2-DIBROMOETHANE	3/19/2021		Y	N	U		U	1.54	0.431	ug/m3
IA-3	L2112425-14	1,2-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.378	ug/m3
IA-3	L2112425-14	P/M-XYLENE	3/19/2021	1.91	Y	Y				1.74	0.395	ug/m3
IA-3	L2112425-14	1,2-DICHLOROPROPANE	3/19/2021		Y	N	U		U	0.924	0.282	ug/m3
IA-3	L2112425-14	1,3-BUTADIENE	3/19/2021		Y	N	U		U	0.442	0.148	ug/m3
IA-3	L2112425-14	1,4-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.382	ug/m3
IA-3	L2112425-14	1,1-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.254	ug/m3
IA-3	L2112425-14	BENZENE	3/19/2021	1.16	Y	Y				0.639	0.156	ug/m3
IA-3	L2112425-14	2,2,4-TRIMETHYLPENTANE	3/19/2021		Y	N	U		U	0.934	0.169	ug/m3
IA-3	L2112425-14	1,4-DIOXANE	3/19/2021		Y	N	U		U	0.721	0.29	ug/m3
IA-3	L2112425-14	1,3-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.377	ug/m3
IA-3	L2112425-14	1,1,2-TRICHLOROETHANE	3/19/2021		Y	N	U		U	1.09	0.366	ug/m3
IA-3	L2112425-14	1,1,2,2-TETRACHLOROETHANE	3/19/2021		Y	N	U		U	1.37	0.422	ug/m3
IA-3	L2112425-14	TRICHLOROFLUOROMETHANE	3/19/2021	1.29	Y	Y				1.12	0.386	ug/m3
IA-3	L2112425-14	TOLUENE	3/19/2021	2.08	Y	Y				0.754	0.196	ug/m3
IA-3	L2112425-14	ISO-PROPYL ALCOHOL	3/19/2021	6.22	Y	Y				1.23	1.17	ug/m3
IA-3	L2112425-14	ETHYL ALCOHOL	3/19/2021	203	Y	Y				9.42	1.38	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-3	L2112425-14	DICHLORODIFLUOROMETHANE	3/19/2021	2.13	Y	Y				0.989	0.288	ug/m3
IA-3	L2112425-14	CHLOROFORM	3/19/2021	2.08	Y	Y				0.977	0.309	ug/m3
IA-3	L2112425-14	ACETONE	3/19/2021	18.2	Y	Y				2.38	1.64	ug/m3
IA-3	L2112425-14	1,2,4-TRIMETHYLBENZENE	3/19/2021	1.64	Y	Y				0.983	0.181	ug/m3
IA-3	L2112425-14	2-BUTANONE	3/19/2021		Y	N	U		U	1.47	0.142	ug/m3
IA-3	L2112425-14	1,3,5-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.332	ug/m3
IA-3	L2112425-14	CHLOROMETHANE	3/19/2021	0.989	Y	Y				0.413	0.142	ug/m3
IA-3	L2112425-14	TETRAHYDROFURAN	3/19/2021		Y	N	U		U	1.47	0.168	ug/m3
IA-3	L2112425-14	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/19/2021		Y	N	U		U	1.4	0.413	ug/m3
IA-3	L2112425-14	HEPTANE	3/19/2021		Y	N	U		U	0.82	0.193	ug/m3
IA-3	L2112425-14	HEXACHLOROBUTADIENE	3/19/2021		Y	N	U		U	2.13	0.564	ug/m3
IA-3	L2112425-14	METHYL TERT BUTYL ETHER	3/19/2021		Y	N	U		U	0.721	0.189	ug/m3
IA-3	L2112425-14	METHYLENE CHLORIDE	3/19/2021		Y	N	U		U	1.74	0.466	ug/m3
IA-3	L2112425-14	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/19/2021		Y	N	U		U	1.53	0.503	ug/m3
IA-3	L2112425-14	TERT-BUTYL ALCOHOL	3/19/2021		Y	N	U		U	1.52	0.141	ug/m3
IA-3	L2112425-14	N-HEXANE	3/19/2021		Y	N	U		U	0.705	0.128	ug/m3
IA-3	L2112425-14	VINYL BROMIDE	3/19/2021		Y	N	U		U	0.874	0.313	ug/m3
IA-3	L2112425-14	CIS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.186	ug/m3
IA-3	L2112425-14	O-XYLENE	3/19/2021		Y	N	U		U	0.869	0.197	ug/m3
IA-3	L2112425-14	TRANS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.198	ug/m3
IA-3	L2112425-14	2-HEXANONE	3/19/2021		Y	N	U		U	0.82	0.266	ug/m3
IA-3	L2112425-14	1,2-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.244	ug/m3
IA-3	L2112425-14	STYRENE	3/19/2021		Y	N	U		U	0.852	0.185	ug/m3
IA-3	L2112425-14	BENZYL CHLORIDE	3/19/2021		Y	N	U		U	1.04	0.25	ug/m3
IA-3	L2112425-14	4-ETHYLTOLUENE	3/19/2021		Y	N	U		U	0.983	0.182	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-3	L2112425-14	TRANS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.793	0.255	ug/m3
IA-3	L2112425-14	ETHYLBENZENE	3/19/2021		Y	N	U		U	0.869	0.188	ug/m3
IA-3	L2112425-14	3-CHLOROPROPENE	3/19/2021		Y	N	U		U	0.626	0.183	ug/m3
IA-3	L2112425-14	4-METHYL-2-PENTANONE	3/19/2021		Y	N	U		U	2.05	0.173	ug/m3
IA-3	L2112425-14	BROMODICHLOROMETHANE	3/19/2021		Y	N	U		U	1.34	0.338	ug/m3
IA-3	L2112425-14	BROMOFORM	3/19/2021		Y	N	U		U	2.07	0.663	ug/m3
IA-3	L2112425-14	CARBON DISULFIDE	3/19/2021		Y	N	U		U	0.623	0.174	ug/m3
IA-3	L2112425-14	CHLOROBENZENE	3/19/2021		Y	N	U		U	0.921	0.287	ug/m3
IA-3	L2112425-14	CHLOROETHANE	3/19/2021		Y	N	U		U	0.528	0.212	ug/m3
IA-3	L2112425-14	CYCLOHEXANE	3/19/2021		Y	N	U		U	0.688	0.127	ug/m3
IA-3	L2112425-14	BROMOMETHANE	3/19/2021		Y	N	U		U	0.777	0.3	ug/m3
IA-3	L2112425-14	ETHYL ACETATE	3/19/2021		Y	N	U		U	1.8	0.44	ug/m3
IA-3	L2112425-14	DIBROMOCHLOROMETHANE	3/19/2021		Y	N	U		U	1.7	0.523	ug/m3
IA-4A	L2112425-15	METHYLENE CHLORIDE	3/19/2021		Y	N	U		U	1.74	0.466	ug/m3
IA-4A	L2112425-15	2-BUTANONE	3/19/2021	1.54	Y	Y				1.47	0.142	ug/m3
IA-4A	L2112425-15	ETHYLBENZENE	3/19/2021		Y	N	U		U	0.869	0.188	ug/m3
IA-4A	L2112425-15	O-XYLENE	3/19/2021		Y	N	U		U	0.869	0.197	ug/m3
IA-4A	L2112425-15	CIS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.186	ug/m3
IA-4A	L2112425-15	VINYL BROMIDE	3/19/2021		Y	N	U		U	0.874	0.313	ug/m3
IA-4A	L2112425-15	TETRAHYDROFURAN	3/19/2021		Y	N	U		U	1.47	0.168	ug/m3
IA-4A	L2112425-15	HEXACHLOROBUTADIENE	3/19/2021		Y	N	U		U	2.13	0.564	ug/m3
IA-4A	L2112425-15	STYRENE	3/19/2021		Y	N	U		U	0.852	0.185	ug/m3
IA-4A	L2112425-15	METHYL TERT BUTYL ETHER	3/19/2021		Y	N	U		U	0.721	0.189	ug/m3
IA-4A	L2112425-15	ETHYL ACETATE	3/19/2021	2.64	Y	Y				1.8	0.44	ug/m3
IA-4A	L2112425-15	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/19/2021		Y	N	U		U	1.4	0.413	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-4A	L2112425-15	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/19/2021		Y	N	U		U	1.53	0.503	ug/m3
IA-4A	L2112425-15	TERT-BUTYL ALCOHOL	3/19/2021		Y	N	U		U	1.52	0.141	ug/m3
IA-4A	L2112425-15	ACETONE	3/19/2021	36.3	Y	Y				2.38	1.64	ug/m3
IA-4A	L2112425-15	BENZENE	3/19/2021	1.09	Y	Y				0.639	0.156	ug/m3
IA-4A	L2112425-15	CHLOROMETHANE	3/19/2021	1.1	Y	Y				0.413	0.142	ug/m3
IA-4A	L2112425-15	CYCLOHEXANE	3/19/2021	1.94	Y	Y				0.688	0.127	ug/m3
IA-4A	L2112425-15	ETHYL ALCOHOL	3/19/2021	889	Y	Y				9.42	1.38	ug/m3
IA-4A	L2112425-15	HEPTANE	3/19/2021	35.1	Y	Y				0.82	0.193	ug/m3
IA-4A	L2112425-15	ISO-PROPYL ALCOHOL	3/19/2021	230	Y	Y				1.23	1.17	ug/m3
IA-4A	L2112425-15	TOLUENE	3/19/2021	5.31	Y	Y				0.754	0.196	ug/m3
IA-4A	L2112425-15	TRICHLOROFLUOROMETHANE	3/19/2021	1.27	Y	Y				1.12	0.386	ug/m3
IA-4A	L2112425-15	DIBROMOCHLOROMETHANE	3/19/2021		Y	N	U		U	1.7	0.523	ug/m3
IA-4A	L2112425-15	1,3-BUTADIENE	3/19/2021		Y	N	U		U	0.442	0.148	ug/m3
IA-4A	L2112425-15	P/M-XYLENE	3/19/2021	1.92	Y	Y				1.74	0.395	ug/m3
IA-4A	L2112425-15	N-HEXANE	3/19/2021	0.871	Y	Y				0.705	0.128	ug/m3
IA-4A	L2112425-15	DICHLORODIFLUOROMETHANE	3/19/2021	2.02	Y	Y				0.989	0.288	ug/m3
IA-4A	L2112425-15	1,4-DIOXANE	3/19/2021		Y	N	U		U	0.721	0.29	ug/m3
IA-4A	L2112425-15	TRANS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.793	0.255	ug/m3
IA-4A	L2112425-15	TRANS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.198	ug/m3
IA-4A	L2112425-15	1,1,2,2-TETRACHLOROETHANE	3/19/2021		Y	N	U		U	1.37	0.422	ug/m3
IA-4A	L2112425-15	1,1,2-TRICHLOROETHANE	3/19/2021		Y	N	U		U	1.09	0.366	ug/m3
IA-4A	L2112425-15	1,1-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.254	ug/m3
IA-4A	L2112425-15	1,2,4-TRICHLOROBENZENE	3/19/2021		Y	N	U		U	1.48	0.5	ug/m3
IA-4A	L2112425-15	1,2,4-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.181	ug/m3
IA-4A	L2112425-15	1,2-DIBROMOETHANE	3/19/2021		Y	N	U		U	1.54	0.431	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-4A	L2112425-15	1,2-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.378	ug/m3
IA-4A	L2112425-15	1,2-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.244	ug/m3
IA-4A	L2112425-15	1,2-DICHLOROPROPANE	3/19/2021		Y	N	U		U	0.924	0.282	ug/m3
IA-4A	L2112425-15	1,4-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.382	ug/m3
IA-4A	L2112425-15	1,3-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.377	ug/m3
IA-4A	L2112425-15	CHLOROFORM	3/19/2021		Y	N	U		U	0.977	0.309	ug/m3
IA-4A	L2112425-15	2,2,4-TRIMETHYLPENTANE	3/19/2021		Y	N	U		U	0.934	0.169	ug/m3
IA-4A	L2112425-15	2-HEXANONE	3/19/2021		Y	N	U		U	0.82	0.266	ug/m3
IA-4A	L2112425-15	3-CHLOROPROPENE	3/19/2021		Y	N	U		U	0.626	0.183	ug/m3
IA-4A	L2112425-15	4-ETHYLTOLUENE	3/19/2021		Y	N	U		U	0.983	0.182	ug/m3
IA-4A	L2112425-15	4-METHYL-2-PENTANONE	3/19/2021		Y	N	U		U	2.05	0.173	ug/m3
IA-4A	L2112425-15	BENZYL CHLORIDE	3/19/2021		Y	N	U		U	1.04	0.25	ug/m3
IA-4A	L2112425-15	BROMODICHLOROMETHANE	3/19/2021		Y	N	U		U	1.34	0.338	ug/m3
IA-4A	L2112425-15	BROMOFORM	3/19/2021		Y	N	U		U	2.07	0.663	ug/m3
IA-4A	L2112425-15	BROMOMETHANE	3/19/2021		Y	N	U		U	0.777	0.3	ug/m3
IA-4A	L2112425-15	CARBON DISULFIDE	3/19/2021		Y	N	U		U	0.623	0.174	ug/m3
IA-4A	L2112425-15	CHLOROBENZENE	3/19/2021		Y	N	U		U	0.921	0.287	ug/m3
IA-4A	L2112425-15	CHLOROETHANE	3/19/2021		Y	N	U		U	0.528	0.212	ug/m3
IA-4A	L2112425-15	1,3,5-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.332	ug/m3
IA-4B	L2112425-16	DICHLORODIFLUOROMETHANE	3/19/2021	2.05	Y	Y				0.989	0.288	ug/m3
IA-4B	L2112425-16	1,2-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.378	ug/m3
IA-4B	L2112425-16	1,2-DIBROMOETHANE	3/19/2021		Y	N	U		U	1.54	0.431	ug/m3
IA-4B	L2112425-16	1,1,2-TRICHLOROETHANE	3/19/2021		Y	N	U		U	1.09	0.366	ug/m3
IA-4B	L2112425-16	1,2,4-TRICHLOROBENZENE	3/19/2021		Y	N	U		U	1.48	0.5	ug/m3
IA-4B	L2112425-16	1,1,2,2-TETRACHLOROETHANE	3/19/2021		Y	N	U		U	1.37	0.422	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-4B	L2112425-16	ACETONE	3/19/2021	15.6	Y	Y				2.38	1.64	ug/m3
IA-4B	L2112425-16	O-XYLENE	3/19/2021	1.3	Y	Y				0.869	0.197	ug/m3
IA-4B	L2112425-16	CHLOROMETHANE	3/19/2021	1	Y	Y				0.413	0.142	ug/m3
IA-4B	L2112425-16	1,3,5-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.332	ug/m3
IA-4B	L2112425-16	ETHYL ALCOHOL	3/19/2021	196	Y	Y				9.42	1.38	ug/m3
IA-4B	L2112425-16	ETHYLBENZENE	3/19/2021	1.13	Y	Y				0.869	0.188	ug/m3
IA-4B	L2112425-16	HEPTANE	3/19/2021	1.75	Y	Y				0.82	0.193	ug/m3
IA-4B	L2112425-16	ISO-PROPYL ALCOHOL	3/19/2021	35.2	Y	Y				1.23	1.17	ug/m3
IA-4B	L2112425-16	TOLUENE	3/19/2021	2.58	Y	Y				0.754	0.196	ug/m3
IA-4B	L2112425-16	TRICHLOROFLUOROMETHANE	3/19/2021	1.27	Y	Y				1.12	0.386	ug/m3
IA-4B	L2112425-16	BENZENE	3/19/2021	1.08	Y	Y				0.639	0.156	ug/m3
IA-4B	L2112425-16	STYRENE	3/19/2021		Y	N	U		U	0.852	0.185	ug/m3
IA-4B	L2112425-16	1,4-DIOXANE	3/19/2021		Y	N	U		U	0.721	0.29	ug/m3
IA-4B	L2112425-16	TRANS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.198	ug/m3
IA-4B	L2112425-16	TRANS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.793	0.255	ug/m3
IA-4B	L2112425-16	N-HEXANE	3/19/2021		Y	N	U		U	0.705	0.128	ug/m3
IA-4B	L2112425-16	CIS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.186	ug/m3
IA-4B	L2112425-16	VINYL BROMIDE	3/19/2021		Y	N	U		U	0.874	0.313	ug/m3
IA-4B	L2112425-16	1,2-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.244	ug/m3
IA-4B	L2112425-16	TERT-BUTYL ALCOHOL	3/19/2021		Y	N	U		U	1.52	0.141	ug/m3
IA-4B	L2112425-16	1,2-DICHLOROPROPANE	3/19/2021		Y	N	U		U	0.924	0.282	ug/m3
IA-4B	L2112425-16	METHYLENE CHLORIDE	3/19/2021		Y	N	U		U	1.74	0.466	ug/m3
IA-4B	L2112425-16	METHYL TERT BUTYL ETHER	3/19/2021		Y	N	U		U	0.721	0.189	ug/m3
IA-4B	L2112425-16	HEXACHLOROBUTADIENE	3/19/2021		Y	N	U		U	2.13	0.564	ug/m3
IA-4B	L2112425-16	1,4-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.382	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-4B	L2112425-16	1,3-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.377	ug/m3
IA-4B	L2112425-16	1,3-BUTADIENE	3/19/2021		Y	N	U		U	0.442	0.148	ug/m3
IA-4B	L2112425-16	1,1-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.254	ug/m3
IA-4B	L2112425-16	TETRAHYDROFURAN	3/19/2021		Y	N	U		U	1.47	0.168	ug/m3
IA-4B	L2112425-16	BROMODICHLOROMETHANE	3/19/2021		Y	N	U		U	1.34	0.338	ug/m3
IA-4B	L2112425-16	DIBROMOCHLOROMETHANE	3/19/2021		Y	N	U		U	1.7	0.523	ug/m3
IA-4B	L2112425-16	CYCLOHEXANE	3/19/2021		Y	N	U		U	0.688	0.127	ug/m3
IA-4B	L2112425-16	CHLOROFORM	3/19/2021		Y	N	U		U	0.977	0.309	ug/m3
IA-4B	L2112425-16	CHLOROETHANE	3/19/2021		Y	N	U		U	0.528	0.212	ug/m3
IA-4B	L2112425-16	CHLOROBENZENE	3/19/2021		Y	N	U		U	0.921	0.287	ug/m3
IA-4B	L2112425-16	CARBON DISULFIDE	3/19/2021		Y	N	U		U	0.623	0.174	ug/m3
IA-4B	L2112425-16	ETHYL ACETATE	3/19/2021		Y	N	U		U	1.8	0.44	ug/m3
IA-4B	L2112425-16	BROMOFORM	3/19/2021		Y	N	U		U	2.07	0.663	ug/m3
IA-4B	L2112425-16	4-ETHYLTOLUENE	3/19/2021		Y	N	U		U	0.983	0.182	ug/m3
IA-4B	L2112425-16	BENZYL CHLORIDE	3/19/2021		Y	N	U		U	1.04	0.25	ug/m3
IA-4B	L2112425-16	4-METHYL-2-PENTANONE	3/19/2021		Y	N	U		U	2.05	0.173	ug/m3
IA-4B	L2112425-16	P/M-XYLENE	3/19/2021	4.43	Y	Y				1.74	0.395	ug/m3
IA-4B	L2112425-16	3-CHLOROPROPENE	3/19/2021		Y	N	U		U	0.626	0.183	ug/m3
IA-4B	L2112425-16	1,2,4-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.181	ug/m3
IA-4B	L2112425-16	2-BUTANONE	3/19/2021		Y	N	U		U	1.47	0.142	ug/m3
IA-4B	L2112425-16	2,2,4-TRIMETHYLPENTANE	3/19/2021		Y	N	U		U	0.934	0.169	ug/m3
IA-4B	L2112425-16	BROMOMETHANE	3/19/2021		Y	N	U		U	0.777	0.3	ug/m3
IA-4B	L2112425-16	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/19/2021		Y	N	U		U	1.4	0.413	ug/m3
IA-4B	L2112425-16	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/19/2021		Y	N	U		U	1.53	0.503	ug/m3
IA-4B	L2112425-16	2-HEXANONE	3/19/2021		Y	N	U		U	0.82	0.266	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-4C	L2112425-17	BENZYL CHLORIDE	3/19/2021		Y	N	U		U	1.04	0.25	ug/m3
IA-4C	L2112425-17	1,3,5-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.332	ug/m3
IA-4C	L2112425-17	1,3-BUTADIENE	3/19/2021		Y	N	U		U	0.442	0.148	ug/m3
IA-4C	L2112425-17	1,3-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.377	ug/m3
IA-4C	L2112425-17	1,4-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.382	ug/m3
IA-4C	L2112425-17	1,4-DIOXANE	3/19/2021		Y	N	U		U	0.721	0.29	ug/m3
IA-4C	L2112425-17	2,2,4-TRIMETHYLPENTANE	3/19/2021		Y	N	U		U	0.934	0.169	ug/m3
IA-4C	L2112425-17	2-HEXANONE	3/19/2021		Y	N	U		U	0.82	0.266	ug/m3
IA-4C	L2112425-17	3-CHLOROPROPENE	3/19/2021		Y	N	U		U	0.626	0.183	ug/m3
IA-4C	L2112425-17	4-METHYL-2-PENTANONE	3/19/2021		Y	N	U		U	2.05	0.173	ug/m3
IA-4C	L2112425-17	1,2-DIBROMOETHANE	3/19/2021		Y	N	U		U	1.54	0.431	ug/m3
IA-4C	L2112425-17	BROMODICHLOROMETHANE	3/19/2021		Y	N	U		U	1.34	0.338	ug/m3
IA-4C	L2112425-17	BROMOFORM	3/19/2021		Y	N	U		U	2.07	0.663	ug/m3
IA-4C	L2112425-17	BROMOMETHANE	3/19/2021		Y	N	U		U	0.777	0.3	ug/m3
IA-4C	L2112425-17	CARBON DISULFIDE	3/19/2021		Y	N	U		U	0.623	0.174	ug/m3
IA-4C	L2112425-17	CHLOROBENZENE	3/19/2021		Y	N	U		U	0.921	0.287	ug/m3
IA-4C	L2112425-17	CHLOROETHANE	3/19/2021		Y	N	U		U	0.528	0.212	ug/m3
IA-4C	L2112425-17	1,2-DICHLOROETHANE	3/19/2021	1.04	Y	Y				0.809	0.244	ug/m3
IA-4C	L2112425-17	CYCLOHEXANE	3/19/2021		Y	N	U		U	0.688	0.127	ug/m3
IA-4C	L2112425-17	4-ETHYLTOLUENE	3/19/2021		Y	N	U		U	0.983	0.182	ug/m3
IA-4C	L2112425-17	CHLOROFORM	3/19/2021	4.68	Y	Y				0.977	0.309	ug/m3
IA-4C	L2112425-17	P/M-XYLENE	3/19/2021	1.85	Y	Y				1.74	0.395	ug/m3
IA-4C	L2112425-17	N-HEXANE	3/19/2021	0.765	Y	Y				0.705	0.128	ug/m3
IA-4C	L2112425-17	TRICHLOROFLUOROMETHANE	3/19/2021	2.28	Y	Y				1.12	0.386	ug/m3
IA-4C	L2112425-17	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/19/2021		Y	N	U		U	1.4	0.413	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-4C	L2112425-17	TOLUENE	3/19/2021	3	Y	Y				0.754	0.196	ug/m3
IA-4C	L2112425-17	ISO-PROPYL ALCOHOL	3/19/2021	91.4	Y	Y				1.23	1.17	ug/m3
IA-4C	L2112425-17	HEPTANE	3/19/2021	2.73	Y	Y				0.82	0.193	ug/m3
IA-4C	L2112425-17	ETHYL ACETATE	3/19/2021	13.8	Y	Y				1.8	0.44	ug/m3
IA-4C	L2112425-17	1,2-DICHLOROPROPANE	3/19/2021		Y	N	U		U	0.924	0.282	ug/m3
IA-4C	L2112425-17	CHLOROMETHANE	3/19/2021	1.33	Y	Y				0.413	0.142	ug/m3
IA-4C	L2112425-17	1,2-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.378	ug/m3
IA-4C	L2112425-17	BENZENE	3/19/2021	1.17	Y	Y				0.639	0.156	ug/m3
IA-4C	L2112425-17	ACETONE	3/19/2021	67.5	Y	Y				2.38	1.64	ug/m3
IA-4C	L2112425-17	2-BUTANONE	3/19/2021	2.12	Y	Y				1.47	0.142	ug/m3
IA-4C	L2112425-17	1,1,2,2-TETRACHLOROETHANE	3/19/2021		Y	N	U		U	1.37	0.422	ug/m3
IA-4C	L2112425-17	1,1,2-TRICHLOROETHANE	3/19/2021		Y	N	U		U	1.09	0.366	ug/m3
IA-4C	L2112425-17	1,1-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.254	ug/m3
IA-4C	L2112425-17	1,2,4-TRICHLOROBENZENE	3/19/2021		Y	N	U	UJ	UJ	1.48	0.5	ug/m3
IA-4C	L2112425-17	1,2,4-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.181	ug/m3
IA-4C	L2112425-17	DICHLORODIFLUOROMETHANE	3/19/2021	2.5	Y	Y				0.989	0.288	ug/m3
IA-4C	L2112425-17	VINYL BROMIDE	3/19/2021		Y	N	U		U	0.874	0.313	ug/m3
IA-4C	L2112425-17	DIBROMOCHLOROMETHANE	3/19/2021		Y	N	U		U	1.7	0.523	ug/m3
IA-4C	L2112425-17	TRANS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.793	0.255	ug/m3
IA-4C	L2112425-17	ETHYLBENZENE	3/19/2021		Y	N	U		U	0.869	0.188	ug/m3
IA-4C	L2112425-17	CIS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.186	ug/m3
IA-4C	L2112425-17	TRANS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.198	ug/m3
IA-4C	L2112425-17	TETRAHYDROFURAN	3/19/2021		Y	N	U		U	1.47	0.168	ug/m3
IA-4C	L2112425-17	TERT-BUTYL ALCOHOL	3/19/2021		Y	N	U		U	1.52	0.141	ug/m3
IA-4C	L2112425-17	STYRENE	3/19/2021		Y	N	U		U	0.852	0.185	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-4C	L2112425-17	METHYLENE CHLORIDE	3/19/2021		Y	N	U		U	1.74	0.466	ug/m3
IA-4C	L2112425-17	METHYL TERT BUTYL ETHER	3/19/2021		Y	N	U		U	0.721	0.189	ug/m3
IA-4C	L2112425-17	HEXACHLOROBUTADIENE	3/19/2021		Y	N	U	UJ	UJ	2.13	0.564	ug/m3
IA-4C	L2112425-17	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/19/2021		Y	N	U		U	1.53	0.503	ug/m3
IA-4C	L2112425-17	O-XYLENE	3/19/2021		Y	N	U		U	0.869	0.197	ug/m3
IA-4C	L2112425-17	ETHYL ALCOHOL	3/20/2021	1810	Y	Y				47.1	6.9	ug/m3
IA-4D	L2112425-18	TRANS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.198	ug/m3
IA-4D	L2112425-18	TRANS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.793	0.255	ug/m3
IA-4D	L2112425-18	O-XYLENE	3/19/2021		Y	N	U		U	0.869	0.197	ug/m3
IA-4D	L2112425-18	CIS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.186	ug/m3
IA-4D	L2112425-18	VINYL BROMIDE	3/19/2021		Y	N	U		U	0.874	0.313	ug/m3
IA-4D	L2112425-18	TERT-BUTYL ALCOHOL	3/19/2021		Y	N	U		U	1.52	0.141	ug/m3
IA-4D	L2112425-18	METHYLENE CHLORIDE	3/19/2021		Y	N	U		U	1.74	0.466	ug/m3
IA-4D	L2112425-18	1,3-BUTADIENE	3/19/2021	0.763	Y	Y				0.442	0.148	ug/m3
IA-4D	L2112425-18	HEXACHLOROBUTADIENE	3/19/2021		Y	N	U	UJ	UJ	2.13	0.564	ug/m3
IA-4D	L2112425-18	ETHYL ACETATE	3/19/2021	3.57	Y	Y				1.8	0.44	ug/m3
IA-4D	L2112425-18	METHYL TERT BUTYL ETHER	3/19/2021		Y	N	U		U	0.721	0.189	ug/m3
IA-4D	L2112425-18	2-BUTANONE	3/19/2021	2	Y	Y				1.47	0.142	ug/m3
IA-4D	L2112425-18	ACETONE	3/19/2021	31.4	Y	Y				2.38	1.64	ug/m3
IA-4D	L2112425-18	BENZENE	3/19/2021	1.57	Y	Y				0.639	0.156	ug/m3
IA-4D	L2112425-18	CHLOROMETHANE	3/19/2021	1.67	Y	Y				0.413	0.142	ug/m3
IA-4D	L2112425-18	CYCLOHEXANE	3/19/2021	0.723	Y	Y				0.688	0.127	ug/m3
IA-4D	L2112425-18	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/19/2021		Y	N	U		U	1.4	0.413	ug/m3
IA-4D	L2112425-18	ETHYL ALCOHOL	3/19/2021	433	Y	Y				9.42	1.38	ug/m3
IA-4D	L2112425-18	STYRENE	3/19/2021		Y	N	U		U	0.852	0.185	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-4D	L2112425-18	HEPTANE	3/19/2021	8.57	Y	Y				0.82	0.193	ug/m3
IA-4D	L2112425-18	ISO-PROPYL ALCOHOL	3/19/2021	61.9	Y	Y				1.23	1.17	ug/m3
IA-4D	L2112425-18	TOLUENE	3/19/2021	3.73	Y	Y				0.754	0.196	ug/m3
IA-4D	L2112425-18	TRICHLOROFLUOROMETHANE	3/19/2021	1.47	Y	Y				1.12	0.386	ug/m3
IA-4D	L2112425-18	N-HEXANE	3/19/2021	0.885	Y	Y				0.705	0.128	ug/m3
IA-4D	L2112425-18	P/M-XYLENE	3/19/2021	2.14	Y	Y				1.74	0.395	ug/m3
IA-4D	L2112425-18	DICHLORODIFLUOROMETHANE	3/19/2021	2.26	Y	Y				0.989	0.288	ug/m3
IA-4D	L2112425-18	1,2,4-TRICHLOROBENZENE	3/19/2021		Y	N	U	UJ	UJ	1.48	0.5	ug/m3
IA-4D	L2112425-18	2-HEXANONE	3/19/2021		Y	N	U		U	0.82	0.266	ug/m3
IA-4D	L2112425-18	3-CHLOROPROPENE	3/19/2021		Y	N	U		U	0.626	0.183	ug/m3
IA-4D	L2112425-18	2,2,4-TRIMETHYLPENTANE	3/19/2021		Y	N	U		U	0.934	0.169	ug/m3
IA-4D	L2112425-18	TETRAHYDROFURAN	3/19/2021		Y	N	U		U	1.47	0.168	ug/m3
IA-4D	L2112425-18	1,4-DIOXANE	3/19/2021		Y	N	U		U	0.721	0.29	ug/m3
IA-4D	L2112425-18	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/19/2021		Y	N	U		U	1.53	0.503	ug/m3
IA-4D	L2112425-18	1,4-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.382	ug/m3
IA-4D	L2112425-18	1,3-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.377	ug/m3
IA-4D	L2112425-18	1,3,5-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.332	ug/m3
IA-4D	L2112425-18	1,2-DICHLOROPROPANE	3/19/2021		Y	N	U		U	0.924	0.282	ug/m3
IA-4D	L2112425-18	1,2-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.244	ug/m3
IA-4D	L2112425-18	1,2-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.378	ug/m3
IA-4D	L2112425-18	1,2,4-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.181	ug/m3
IA-4D	L2112425-18	1,1-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.254	ug/m3
IA-4D	L2112425-18	BROMOFORM	3/19/2021		Y	N	U		U	2.07	0.663	ug/m3
IA-4D	L2112425-18	ETHYLBENZENE	3/19/2021		Y	N	U		U	0.869	0.188	ug/m3
IA-4D	L2112425-18	DIBROMOCHLOROMETHANE	3/19/2021		Y	N	U		U	1.7	0.523	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-4D	L2112425-18	CHLOROFORM	3/19/2021		Y	N	U		U	0.977	0.309	ug/m3
IA-4D	L2112425-18	CHLOROETHANE	3/19/2021		Y	N	U		U	0.528	0.212	ug/m3
IA-4D	L2112425-18	CHLOROBENZENE	3/19/2021		Y	N	U		U	0.921	0.287	ug/m3
IA-4D	L2112425-18	1,2-DIBROMOETHANE	3/19/2021		Y	N	U		U	1.54	0.431	ug/m3
IA-4D	L2112425-18	BROMOMETHANE	3/19/2021		Y	N	U		U	0.777	0.3	ug/m3
IA-4D	L2112425-18	1,1,2-TRICHLOROETHANE	3/19/2021		Y	N	U		U	1.09	0.366	ug/m3
IA-4D	L2112425-18	1,1,2,2-TETRACHLOROETHANE	3/19/2021		Y	N	U		U	1.37	0.422	ug/m3
IA-4D	L2112425-18	BROMODICHLOROMETHANE	3/19/2021		Y	N	U		U	1.34	0.338	ug/m3
IA-4D	L2112425-18	BENZYL CHLORIDE	3/19/2021		Y	N	U		U	1.04	0.25	ug/m3
IA-4D	L2112425-18	4-METHYL-2-PENTANONE	3/19/2021		Y	N	U		U	2.05	0.173	ug/m3
IA-4D	L2112425-18	4-ETHYLTOLUENE	3/19/2021		Y	N	U		U	0.983	0.182	ug/m3
IA-4D	L2112425-18	CARBON DISULFIDE	3/19/2021		Y	N	U		U	0.623	0.174	ug/m3
IA-4E	L2112425-19	4-METHYL-2-PENTANONE	3/19/2021		Y	N	U		U	2.05	0.173	ug/m3
IA-4E	L2112425-19	1,3-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.377	ug/m3
IA-4E	L2112425-19	BROMODICHLOROMETHANE	3/19/2021		Y	N	U		U	1.34	0.338	ug/m3
IA-4E	L2112425-19	BENZYL CHLORIDE	3/19/2021		Y	N	U		U	1.04	0.25	ug/m3
IA-4E	L2112425-19	1,2-DICHLOROPROPANE	3/19/2021		Y	N	U		U	0.924	0.282	ug/m3
IA-4E	L2112425-19	CHLOROBENZENE	3/19/2021		Y	N	U		U	0.921	0.287	ug/m3
IA-4E	L2112425-19	1,1,2,2-TETRACHLOROETHANE	3/19/2021		Y	N	U		U	1.37	0.422	ug/m3
IA-4E	L2112425-19	1,1,2-TRICHLOROETHANE	3/19/2021		Y	N	U		U	1.09	0.366	ug/m3
IA-4E	L2112425-19	1,1-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.254	ug/m3
IA-4E	L2112425-19	1,2,4-TRICHLOROBENZENE	3/19/2021		Y	N	U	UJ	UJ	1.48	0.5	ug/m3
IA-4E	L2112425-19	1,2,4-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.181	ug/m3
IA-4E	L2112425-19	1,2-DIBROMOETHANE	3/19/2021		Y	N	U		U	1.54	0.431	ug/m3
IA-4E	L2112425-19	1,4-DIOXANE	3/19/2021		Y	N	U		U	0.721	0.29	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-4E	L2112425-19	1,2-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.244	ug/m3
IA-4E	L2112425-19	4-ETHYLTOLUENE	3/19/2021		Y	N	U		U	0.983	0.182	ug/m3
IA-4E	L2112425-19	1,3,5-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.332	ug/m3
IA-4E	L2112425-19	1,3-BUTADIENE	3/19/2021		Y	N	U		U	0.442	0.148	ug/m3
IA-4E	L2112425-19	1,4-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.382	ug/m3
IA-4E	L2112425-19	2,2,4-TRIMETHYLPENTANE	3/19/2021		Y	N	U		U	0.934	0.169	ug/m3
IA-4E	L2112425-19	2-BUTANONE	3/19/2021		Y	N	U		U	1.47	0.142	ug/m3
IA-4E	L2112425-19	2-HEXANONE	3/19/2021		Y	N	U		U	0.82	0.266	ug/m3
IA-4E	L2112425-19	3-CHLOROPROPENE	3/19/2021		Y	N	U		U	0.626	0.183	ug/m3
IA-4E	L2112425-19	1,2-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.378	ug/m3
IA-4E	L2112425-19	DICHLORODIFLUOROMETHANE	3/19/2021	2.49	Y	Y				0.989	0.288	ug/m3
IA-4E	L2112425-19	CIS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.186	ug/m3
IA-4E	L2112425-19	N-HEXANE	3/19/2021		Y	N	U		U	0.705	0.128	ug/m3
IA-4E	L2112425-19	O-XYLENE	3/19/2021		Y	N	U		U	0.869	0.197	ug/m3
IA-4E	L2112425-19	P/M-XYLENE	3/19/2021		Y	N	U		U	1.74	0.395	ug/m3
IA-4E	L2112425-19	TRANS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.793	0.255	ug/m3
IA-4E	L2112425-19	TRANS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.198	ug/m3
IA-4E	L2112425-19	VINYL BROMIDE	3/19/2021		Y	N	U		U	0.874	0.313	ug/m3
IA-4E	L2112425-19	CHLOROMETHANE	3/19/2021	0.975	Y	Y				0.413	0.142	ug/m3
IA-4E	L2112425-19	ACETONE	3/19/2021	11.5	Y	Y				2.38	1.64	ug/m3
IA-4E	L2112425-19	ETHYL ALCOHOL	3/19/2021	105	Y	Y				9.42	1.38	ug/m3
IA-4E	L2112425-19	ISO-PROPYL ALCOHOL	3/19/2021	23.9	Y	Y				1.23	1.17	ug/m3
IA-4E	L2112425-19	TOLUENE	3/19/2021	1.62	Y	Y				0.754	0.196	ug/m3
IA-4E	L2112425-19	TRICHLOROFLUOROMETHANE	3/19/2021	1.83	Y	Y				1.12	0.386	ug/m3
IA-4E	L2112425-19	BROMOFORM	3/19/2021		Y	N	U		U	2.07	0.663	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-4E	L2112425-19	BROMOMETHANE	3/19/2021		Y	N	U		U	0.777	0.3	ug/m3
IA-4E	L2112425-19	BENZENE	3/19/2021	0.847	Y	Y				0.639	0.156	ug/m3
IA-4E	L2112425-19	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/19/2021		Y	N	U		U	1.53	0.503	ug/m3
IA-4E	L2112425-19	CARBON DISULFIDE	3/19/2021		Y	N	U		U	0.623	0.174	ug/m3
IA-4E	L2112425-19	TETRAHYDROFURAN	3/19/2021		Y	N	U		U	1.47	0.168	ug/m3
IA-4E	L2112425-19	CHLOROFORM	3/19/2021		Y	N	U		U	0.977	0.309	ug/m3
IA-4E	L2112425-19	CYCLOHEXANE	3/19/2021		Y	N	U		U	0.688	0.127	ug/m3
IA-4E	L2112425-19	DIBROMOCHLOROMETHANE	3/19/2021		Y	N	U		U	1.7	0.523	ug/m3
IA-4E	L2112425-19	ETHYL ACETATE	3/19/2021		Y	N	U		U	1.8	0.44	ug/m3
IA-4E	L2112425-19	CHLOROETHANE	3/19/2021		Y	N	U		U	0.528	0.212	ug/m3
IA-4E	L2112425-19	ETHYLBENZENE	3/19/2021		Y	N	U		U	0.869	0.188	ug/m3
IA-4E	L2112425-19	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/19/2021		Y	N	U		U	1.4	0.413	ug/m3
IA-4E	L2112425-19	METHYL TERT BUTYL ETHER	3/19/2021		Y	N	U		U	0.721	0.189	ug/m3
IA-4E	L2112425-19	TERT-BUTYL ALCOHOL	3/19/2021		Y	N	U		U	1.52	0.141	ug/m3
IA-4E	L2112425-19	METHYLENE CHLORIDE	3/19/2021		Y	N	U		U	1.74	0.466	ug/m3
IA-4E	L2112425-19	HEXACHLOROBUTADIENE	3/19/2021		Y	N	U	UJ	UJ	2.13	0.564	ug/m3
IA-4E	L2112425-19	HEPTANE	3/19/2021		Y	N	U		U	0.82	0.193	ug/m3
IA-4E	L2112425-19	STYRENE	3/19/2021		Y	N	U		U	0.852	0.185	ug/m3
IA-4F	L2112425-20	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/19/2021		Y	N	U		U	1.4	0.413	ug/m3
IA-4F	L2112425-20	HEXACHLOROBUTADIENE	3/19/2021		Y	N	U	UJ	UJ	2.13	0.564	ug/m3
IA-4F	L2112425-20	METHYLENE CHLORIDE	3/19/2021		Y	N	U		U	1.74	0.466	ug/m3
IA-4F	L2112425-20	1,2,4-TRIMETHYLBENZENE	3/19/2021	1.19	Y	Y				0.983	0.181	ug/m3
IA-4F	L2112425-20	TERT-BUTYL ALCOHOL	3/19/2021		Y	N	U		U	1.52	0.141	ug/m3
IA-4F	L2112425-20	TETRAHYDROFURAN	3/19/2021		Y	N	U		U	1.47	0.168	ug/m3
IA-4F	L2112425-20	VINYL BROMIDE	3/19/2021		Y	N	U		U	0.874	0.313	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-4F	L2112425-20	CIS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.186	ug/m3
IA-4F	L2112425-20	TRANS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.793	0.255	ug/m3
IA-4F	L2112425-20	TRANS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.198	ug/m3
IA-4F	L2112425-20	METHYL TERT BUTYL ETHER	3/19/2021		Y	N	U		U	0.721	0.189	ug/m3
IA-4F	L2112425-20	STYRENE	3/19/2021	1.01	Y	Y				0.852	0.185	ug/m3
IA-4F	L2112425-20	TOLUENE	3/19/2021	3.84	Y	Y				0.754	0.196	ug/m3
IA-4F	L2112425-20	DICHLORODIFLUOROMETHANE	3/19/2021	2.49	Y	Y				0.989	0.288	ug/m3
IA-4F	L2112425-20	CHLOROMETHANE	3/19/2021	1.03	Y	Y				0.413	0.142	ug/m3
IA-4F	L2112425-20	BENZENE	3/19/2021	0.926	Y	Y				0.639	0.156	ug/m3
IA-4F	L2112425-20	P/M-XYLENE	3/19/2021	5.99	Y	Y				1.74	0.395	ug/m3
IA-4F	L2112425-20	2-BUTANONE	3/19/2021	2.23	Y	Y				1.47	0.142	ug/m3
IA-4F	L2112425-20	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/19/2021		Y	N	U		U	1.53	0.503	ug/m3
IA-4F	L2112425-20	CHLOROETHANE	3/19/2021		Y	N	U		U	0.528	0.212	ug/m3
IA-4F	L2112425-20	O-XYLENE	3/19/2021	1.74	Y	Y				0.869	0.197	ug/m3
IA-4F	L2112425-20	N-HEXANE	3/19/2021	0.737	Y	Y				0.705	0.128	ug/m3
IA-4F	L2112425-20	TRICHLOROFLUOROMETHANE	3/19/2021	2.42	Y	Y				1.12	0.386	ug/m3
IA-4F	L2112425-20	ACETONE	3/19/2021	44.2	Y	Y				2.38	1.64	ug/m3
IA-4F	L2112425-20	CYCLOHEXANE	3/19/2021		Y	N	U		U	0.688	0.127	ug/m3
IA-4F	L2112425-20	1,3-BUTADIENE	3/19/2021		Y	N	U		U	0.442	0.148	ug/m3
IA-4F	L2112425-20	1,3,5-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.332	ug/m3
IA-4F	L2112425-20	1,2-DICHLOROPROPANE	3/19/2021		Y	N	U		U	0.924	0.282	ug/m3
IA-4F	L2112425-20	1,2-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.244	ug/m3
IA-4F	L2112425-20	1,2-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.378	ug/m3
IA-4F	L2112425-20	1,2-DIBROMOETHANE	3/19/2021		Y	N	U		U	1.54	0.431	ug/m3
IA-4F	L2112425-20	1,3-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.377	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-4F	L2112425-20	1,1-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.254	ug/m3
IA-4F	L2112425-20	1,2,4-TRICHLOROBENZENE	3/19/2021		Y	N	U	UJ	UJ	1.48	0.5	ug/m3
IA-4F	L2112425-20	1,1,2,2-TETRACHLOROETHANE	3/19/2021		Y	N	U		U	1.37	0.422	ug/m3
IA-4F	L2112425-20	ISO-PROPYL ALCOHOL	3/19/2021	45.2	Y	Y				1.23	1.17	ug/m3
IA-4F	L2112425-20	HEPTANE	3/19/2021	1.45	Y	Y				0.82	0.193	ug/m3
IA-4F	L2112425-20	ETHYLBENZENE	3/19/2021	1.54	Y	Y				0.869	0.188	ug/m3
IA-4F	L2112425-20	ETHYL ACETATE	3/19/2021	3.68	Y	Y				1.8	0.44	ug/m3
IA-4F	L2112425-20	ETHYL ALCOHOL	3/19/2021	205	Y	Y				9.42	1.38	ug/m3
IA-4F	L2112425-20	DIBROMOCHLOROMETHANE	3/19/2021		Y	N	U		U	1.7	0.523	ug/m3
IA-4F	L2112425-20	BROMOMETHANE	3/19/2021		Y	N	U		U	0.777	0.3	ug/m3
IA-4F	L2112425-20	1,1,2-TRICHLOROETHANE	3/19/2021		Y	N	U		U	1.09	0.366	ug/m3
IA-4F	L2112425-20	CHLOROBENZENE	3/19/2021		Y	N	U		U	0.921	0.287	ug/m3
IA-4F	L2112425-20	1,4-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.382	ug/m3
IA-4F	L2112425-20	CHLOROFORM	3/19/2021		Y	N	U		U	0.977	0.309	ug/m3
IA-4F	L2112425-20	CARBON DISULFIDE	3/19/2021		Y	N	U		U	0.623	0.174	ug/m3
IA-4F	L2112425-20	BROMOFORM	3/19/2021		Y	N	U		U	2.07	0.663	ug/m3
IA-4F	L2112425-20	BROMODICHLOROMETHANE	3/19/2021		Y	N	U		U	1.34	0.338	ug/m3
IA-4F	L2112425-20	BENZYL CHLORIDE	3/19/2021		Y	N	U		U	1.04	0.25	ug/m3
IA-4F	L2112425-20	4-METHYL-2-PENTANONE	3/19/2021		Y	N	U		U	2.05	0.173	ug/m3
IA-4F	L2112425-20	4-ETHYLTOLUENE	3/19/2021		Y	N	U		U	0.983	0.182	ug/m3
IA-4F	L2112425-20	3-CHLOROPROPENE	3/19/2021		Y	N	U		U	0.626	0.183	ug/m3
IA-4F	L2112425-20	2-HEXANONE	3/19/2021		Y	N	U		U	0.82	0.266	ug/m3
IA-4F	L2112425-20	2,2,4-TRIMETHYLPENTANE	3/19/2021		Y	N	U		U	0.934	0.169	ug/m3
IA-4F	L2112425-20	1,4-DIOXANE	3/19/2021		Y	N	U		U	0.721	0.29	ug/m3
IA-4G	L2112425-21	TOLUENE	3/19/2021	3.04	Y	Y				0.754	0.196	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-4G	L2112425-21	ACETONE	3/19/2021	62.7	Y	Y				2.38	1.64	ug/m3
IA-4G	L2112425-21	TRANS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.793	0.255	ug/m3
IA-4G	L2112425-21	1,4-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.382	ug/m3
IA-4G	L2112425-21	1,2,4-TRIMETHYLBENZENE	3/19/2021	1.06	Y	Y				0.983	0.181	ug/m3
IA-4G	L2112425-21	1,2-DICHLOROETHANE	3/19/2021	1.6	Y	Y				0.809	0.244	ug/m3
IA-4G	L2112425-21	2-BUTANONE	3/19/2021	3.51	Y	Y				1.47	0.142	ug/m3
IA-4G	L2112425-21	TRANS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.198	ug/m3
IA-4G	L2112425-21	BENZENE	3/19/2021	1.35	Y	Y				0.639	0.156	ug/m3
IA-4G	L2112425-21	CHLOROFORM	3/19/2021	3.04	Y	Y				0.977	0.309	ug/m3
IA-4G	L2112425-21	CHLOROMETHANE	3/19/2021	1.23	Y	Y				0.413	0.142	ug/m3
IA-4G	L2112425-21	DICHLORODIFLUOROMETHANE	3/19/2021	2.48	Y	Y				0.989	0.288	ug/m3
IA-4G	L2112425-21	ETHYL ACETATE	3/19/2021	8.61	Y	Y				1.8	0.44	ug/m3
IA-4G	L2112425-21	ISO-PROPYL ALCOHOL	3/19/2021	93.9	Y	Y				1.23	1.17	ug/m3
IA-4G	L2112425-21	TRICHLOROFLUOROMETHANE	3/19/2021	4.9	Y	Y				1.12	0.386	ug/m3
IA-4G	L2112425-21	N-HEXANE	3/19/2021	0.712	Y	Y				0.705	0.128	ug/m3
IA-4G	L2112425-21	O-XYLENE	3/19/2021	0.934	Y	Y				0.869	0.197	ug/m3
IA-4G	L2112425-21	P/M-XYLENE	3/19/2021	2.53	Y	Y				1.74	0.395	ug/m3
IA-4G	L2112425-21	HEPTANE	3/19/2021	1.08	Y	Y				0.82	0.193	ug/m3
IA-4G	L2112425-21	1,3,5-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.332	ug/m3
IA-4G	L2112425-21	BENZYL CHLORIDE	3/19/2021		Y	N	U		U	1.04	0.25	ug/m3
IA-4G	L2112425-21	4-METHYL-2-PENTANONE	3/19/2021		Y	N	U		U	2.05	0.173	ug/m3
IA-4G	L2112425-21	2-HEXANONE	3/19/2021		Y	N	U		U	0.82	0.266	ug/m3
IA-4G	L2112425-21	3-CHLOROPROPENE	3/19/2021		Y	N	U		U	0.626	0.183	ug/m3
IA-4G	L2112425-21	CIS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.186	ug/m3
IA-4G	L2112425-21	2,2,4-TRIMETHYLPENTANE	3/19/2021		Y	N	U		U	0.934	0.169	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-4G	L2112425-21	1,4-DIOXANE	3/19/2021		Y	N	U		U	0.721	0.29	ug/m3
IA-4G	L2112425-21	BROMODICHLOROMETHANE	3/19/2021		Y	N	U		U	1.34	0.338	ug/m3
IA-4G	L2112425-21	1,3-BUTADIENE	3/19/2021		Y	N	U		U	0.442	0.148	ug/m3
IA-4G	L2112425-21	4-ETHYLTOLUENE	3/19/2021		Y	N	U		U	0.983	0.182	ug/m3
IA-4G	L2112425-21	1,2-DICHLOROPROPANE	3/19/2021		Y	N	U		U	0.924	0.282	ug/m3
IA-4G	L2112425-21	1,2-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.378	ug/m3
IA-4G	L2112425-21	1,2-DIBROMOETHANE	3/19/2021		Y	N	U		U	1.54	0.431	ug/m3
IA-4G	L2112425-21	1,2,4-TRICHLOROBENZENE	3/19/2021		Y	N	U	UJ	UJ	1.48	0.5	ug/m3
IA-4G	L2112425-21	1,1-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.254	ug/m3
IA-4G	L2112425-21	1,1,2-TRICHLOROETHANE	3/19/2021		Y	N	U		U	1.09	0.366	ug/m3
IA-4G	L2112425-21	1,1,2,2-TETRACHLOROETHANE	3/19/2021		Y	N	U		U	1.37	0.422	ug/m3
IA-4G	L2112425-21	1,3-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.377	ug/m3
IA-4G	L2112425-21	ETHYLBENZENE	3/19/2021		Y	N	U		U	0.869	0.188	ug/m3
IA-4G	L2112425-21	VINYL BROMIDE	3/19/2021		Y	N	U		U	0.874	0.313	ug/m3
IA-4G	L2112425-21	TETRAHYDROFURAN	3/19/2021		Y	N	U		U	1.47	0.168	ug/m3
IA-4G	L2112425-21	TERT-BUTYL ALCOHOL	3/19/2021		Y	N	U		U	1.52	0.141	ug/m3
IA-4G	L2112425-21	STYRENE	3/19/2021		Y	N	U		U	0.852	0.185	ug/m3
IA-4G	L2112425-21	METHYLENE CHLORIDE	3/19/2021		Y	N	U		U	1.74	0.466	ug/m3
IA-4G	L2112425-21	METHYL TERT BUTYL ETHER	3/19/2021		Y	N	U		U	0.721	0.189	ug/m3
IA-4G	L2112425-21	HEXACHLOROBUTADIENE	3/19/2021		Y	N	U	UJ	UJ	2.13	0.564	ug/m3
IA-4G	L2112425-21	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/19/2021		Y	N	U		U	1.4	0.413	ug/m3
IA-4G	L2112425-21	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/19/2021		Y	N	U		U	1.53	0.503	ug/m3
IA-4G	L2112425-21	BROMOFORM	3/19/2021		Y	N	U		U	2.07	0.663	ug/m3
IA-4G	L2112425-21	DIBROMOCHLOROMETHANE	3/19/2021		Y	N	U		U	1.7	0.523	ug/m3
IA-4G	L2112425-21	CHLOROBENZENE	3/19/2021		Y	N	U		U	0.921	0.287	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-4G	L2112425-21	BROMOMETHANE	3/19/2021		Y	N	U		U	0.777	0.3	ug/m3
IA-4G	L2112425-21	CHLOROETHANE	3/19/2021		Y	N	U		U	0.528	0.212	ug/m3
IA-4G	L2112425-21	CARBON DISULFIDE	3/19/2021		Y	N	U		U	0.623	0.174	ug/m3
IA-4G	L2112425-21	CYCLOHEXANE	3/19/2021		Y	N	U		U	0.688	0.127	ug/m3
IA-4G	L2112425-21	ETHYL ALCOHOL	3/20/2021	784	Y	Y				23.6	3.45	ug/m3
IA-4H	L2112425-22	CIS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.186	ug/m3
IA-4H	L2112425-22	N-HEXANE	3/19/2021		Y	N	U		U	0.705	0.128	ug/m3
IA-4H	L2112425-22	O-XYLENE	3/19/2021		Y	N	U		U	0.869	0.197	ug/m3
IA-4H	L2112425-22	TRANS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.198	ug/m3
IA-4H	L2112425-22	VINYL BROMIDE	3/19/2021		Y	N	U		U	0.874	0.313	ug/m3
IA-4H	L2112425-22	TRANS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.793	0.255	ug/m3
IA-4H	L2112425-22	P/M-XYLENE	3/19/2021	2.06	Y	Y				1.74	0.395	ug/m3
IA-4H	L2112425-22	TRICHLOROFLUOROMETHANE	3/19/2021	2.5	Y	Y				1.12	0.386	ug/m3
IA-4H	L2112425-22	TOLUENE	3/19/2021	2.48	Y	Y				0.754	0.196	ug/m3
IA-4H	L2112425-22	ISO-PROPYL ALCOHOL	3/19/2021	52.1	Y	Y				1.23	1.17	ug/m3
IA-4H	L2112425-22	HEPTANE	3/19/2021	1.88	Y	Y				0.82	0.193	ug/m3
IA-4H	L2112425-22	ETHYL ACETATE	3/19/2021	2.52	Y	Y				1.8	0.44	ug/m3
IA-4H	L2112425-22	ETHYL ALCOHOL	3/19/2021	288	Y	Y				9.42	1.38	ug/m3
IA-4H	L2112425-22	DICHLORODIFLUOROMETHANE	3/19/2021	2.46	Y	Y				0.989	0.288	ug/m3
IA-4H	L2112425-22	1,4-DIOXANE	3/19/2021		Y	N	U		U	0.721	0.29	ug/m3
IA-4H	L2112425-22	CHLOROMETHANE	3/19/2021	1.08	Y	Y				0.413	0.142	ug/m3
IA-4H	L2112425-22	BENZENE	3/19/2021	1.02	Y	Y				0.639	0.156	ug/m3
IA-4H	L2112425-22	ACETONE	3/19/2021	24.7	Y	Y				2.38	1.64	ug/m3
IA-4H	L2112425-22	2-BUTANONE	3/19/2021	1.7	Y	Y				1.47	0.142	ug/m3
IA-4H	L2112425-22	1,2,4-TRIMETHYLBENZENE	3/19/2021	0.998	Y	Y				0.983	0.181	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-4H	L2112425-22	TETRAHYDROFURAN	3/19/2021		Y	N	U		U	1.47	0.168	ug/m3
IA-4H	L2112425-22	1,3-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.377	ug/m3
IA-4H	L2112425-22	BROMOFORM	3/19/2021		Y	N	U		U	2.07	0.663	ug/m3
IA-4H	L2112425-22	1,1,2,2-TETRACHLOROETHANE	3/19/2021		Y	N	U		U	1.37	0.422	ug/m3
IA-4H	L2112425-22	1,1-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.254	ug/m3
IA-4H	L2112425-22	TERT-BUTYL ALCOHOL	3/19/2021		Y	N	U		U	1.52	0.141	ug/m3
IA-4H	L2112425-22	1,2-DIBROMOETHANE	3/19/2021		Y	N	U		U	1.54	0.431	ug/m3
IA-4H	L2112425-22	1,2-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.378	ug/m3
IA-4H	L2112425-22	1,2-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.244	ug/m3
IA-4H	L2112425-22	1,2-DICHLOROPROPANE	3/19/2021		Y	N	U		U	0.924	0.282	ug/m3
IA-4H	L2112425-22	BROMOMETHANE	3/19/2021		Y	N	U		U	0.777	0.3	ug/m3
IA-4H	L2112425-22	1,3-BUTADIENE	3/19/2021		Y	N	U		U	0.442	0.148	ug/m3
IA-4H	L2112425-22	1,1,2-TRICHLOROETHANE	3/19/2021		Y	N	U		U	1.09	0.366	ug/m3
IA-4H	L2112425-22	1,4-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.382	ug/m3
IA-4H	L2112425-22	2,2,4-TRIMETHYLPENTANE	3/19/2021		Y	N	U		U	0.934	0.169	ug/m3
IA-4H	L2112425-22	3-CHLOROPROPENE	3/19/2021		Y	N	U		U	0.626	0.183	ug/m3
IA-4H	L2112425-22	BROMODICHLOROMETHANE	3/19/2021		Y	N	U		U	1.34	0.338	ug/m3
IA-4H	L2112425-22	BENZYL CHLORIDE	3/19/2021		Y	N	U		U	1.04	0.25	ug/m3
IA-4H	L2112425-22	4-METHYL-2-PENTANONE	3/19/2021		Y	N	U		U	2.05	0.173	ug/m3
IA-4H	L2112425-22	4-ETHYLTOLUENE	3/19/2021		Y	N	U		U	0.983	0.182	ug/m3
IA-4H	L2112425-22	2-HEXANONE	3/19/2021		Y	N	U		U	0.82	0.266	ug/m3
IA-4H	L2112425-22	1,3,5-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.332	ug/m3
IA-4H	L2112425-22	METHYLENE CHLORIDE	3/19/2021		Y	N	U		U	1.74	0.466	ug/m3
IA-4H	L2112425-22	1,2,4-TRICHLOROBENZENE	3/19/2021		Y	N	U	UJ	UJ	1.48	0.5	ug/m3
IA-4H	L2112425-22	STYRENE	3/19/2021		Y	N	U		U	0.852	0.185	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-4H	L2112425-22	CARBON DISULFIDE	3/19/2021		Y	N	U		U	0.623	0.174	ug/m3
IA-4H	L2112425-22	METHYL TERT BUTYL ETHER	3/19/2021		Y	N	U		U	0.721	0.189	ug/m3
IA-4H	L2112425-22	HEXACHLOROBUTADIENE	3/19/2021		Y	N	U	UJ	UJ	2.13	0.564	ug/m3
IA-4H	L2112425-22	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/19/2021		Y	N	U		U	1.4	0.413	ug/m3
IA-4H	L2112425-22	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/19/2021		Y	N	U		U	1.53	0.503	ug/m3
IA-4H	L2112425-22	CHLOROFORM	3/19/2021		Y	N	U		U	0.977	0.309	ug/m3
IA-4H	L2112425-22	ETHYLBENZENE	3/19/2021		Y	N	U		U	0.869	0.188	ug/m3
IA-4H	L2112425-22	CHLOROBENZENE	3/19/2021		Y	N	U		U	0.921	0.287	ug/m3
IA-4H	L2112425-22	CHLOROETHANE	3/19/2021		Y	N	U		U	0.528	0.212	ug/m3
IA-4H	L2112425-22	CYCLOHEXANE	3/19/2021		Y	N	U		U	0.688	0.127	ug/m3
IA-4H	L2112425-22	DIBROMOCHLOROMETHANE	3/19/2021		Y	N	U		U	1.7	0.523	ug/m3
IA-5	L2112425-23	STYRENE	3/19/2021		Y	N	U		U	0.852	0.185	ug/m3
IA-5	L2112425-23	TERT-BUTYL ALCOHOL	3/19/2021		Y	N	U		U	1.52	0.141	ug/m3
IA-5	L2112425-23	ISO-PROPYL ALCOHOL	3/19/2021	117	Y	Y				1.23	1.17	ug/m3
IA-5	L2112425-23	METHYLENE CHLORIDE	3/19/2021		Y	N	U		U	1.74	0.466	ug/m3
IA-5	L2112425-23	O-XYLENE	3/19/2021		Y	N	U		U	0.869	0.197	ug/m3
IA-5	L2112425-23	P/M-XYLENE	3/19/2021	1.98	Y	Y				1.74	0.395	ug/m3
IA-5	L2112425-23	VINYL BROMIDE	3/19/2021		Y	N	U		U	0.874	0.313	ug/m3
IA-5	L2112425-23	CIS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.186	ug/m3
IA-5	L2112425-23	N-HEXANE	3/19/2021		Y	N	U		U	0.705	0.128	ug/m3
IA-5	L2112425-23	TETRAHYDROFURAN	3/19/2021		Y	N	U		U	1.47	0.168	ug/m3
IA-5	L2112425-23	TRANS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.793	0.255	ug/m3
IA-5	L2112425-23	TRANS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.198	ug/m3
IA-5	L2112425-23	TOLUENE	3/19/2021	2.8	Y	Y				0.754	0.196	ug/m3
IA-5	L2112425-23	HEPTANE	3/19/2021	0.828	Y	Y				0.82	0.193	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-5	L2112425-23	CHLOROMETHANE	3/19/2021	0.983	Y	Y				0.413	0.142	ug/m3
IA-5	L2112425-23	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/19/2021		Y	N	U		U	1.4	0.413	ug/m3
IA-5	L2112425-23	ETHYL ACETATE	3/19/2021	8.9	Y	Y				1.8	0.44	ug/m3
IA-5	L2112425-23	ETHYL ALCOHOL	3/19/2021	903	Y	Y				9.42	1.38	ug/m3
IA-5	L2112425-23	DICHLORODIFLUOROMETHANE	3/19/2021	2.43	Y	Y				0.989	0.288	ug/m3
IA-5	L2112425-23	TRICHLOROFLUOROMETHANE	3/19/2021	6.24	Y	Y				1.12	0.386	ug/m3
IA-5	L2112425-23	METHYL TERT BUTYL ETHER	3/19/2021		Y	N	U		U	0.721	0.189	ug/m3
IA-5	L2112425-23	1,4-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.382	ug/m3
IA-5	L2112425-23	1,3-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.377	ug/m3
IA-5	L2112425-23	1,3-BUTADIENE	3/19/2021		Y	N	U		U	0.442	0.148	ug/m3
IA-5	L2112425-23	1,3,5-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.332	ug/m3
IA-5	L2112425-23	1,2-DICHLOROPROPANE	3/19/2021		Y	N	U		U	0.924	0.282	ug/m3
IA-5	L2112425-23	1,2-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.244	ug/m3
IA-5	L2112425-23	1,2-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.378	ug/m3
IA-5	L2112425-23	1,4-DIOXANE	3/19/2021		Y	N	U		U	0.721	0.29	ug/m3
IA-5	L2112425-23	1,2,4-TRICHLOROBENZENE	3/19/2021		Y	N	U	UJ	UJ	1.48	0.5	ug/m3
IA-5	L2112425-23	1,2-DIBROMOETHANE	3/19/2021		Y	N	U		U	1.54	0.431	ug/m3
IA-5	L2112425-23	1,1,2-TRICHLOROETHANE	3/19/2021		Y	N	U		U	1.09	0.366	ug/m3
IA-5	L2112425-23	1,1,2,2-TETRACHLOROETHANE	3/19/2021		Y	N	U		U	1.37	0.422	ug/m3
IA-5	L2112425-23	CHLOROFORM	3/19/2021	1.32	Y	Y				0.977	0.309	ug/m3
IA-5	L2112425-23	BENZENE	3/19/2021	1.05	Y	Y				0.639	0.156	ug/m3
IA-5	L2112425-23	ACETONE	3/19/2021	24.2	Y	Y				2.38	1.64	ug/m3
IA-5	L2112425-23	2-BUTANONE	3/19/2021	2.35	Y	Y				1.47	0.142	ug/m3
IA-5	L2112425-23	1,2,4-TRIMETHYLBENZENE	3/19/2021	1.39	Y	Y				0.983	0.181	ug/m3
IA-5	L2112425-23	HEXACHLOROBUTADIENE	3/19/2021		Y	N	U	UJ	UJ	2.13	0.564	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-5	L2112425-23	CHLOROBENZENE	3/19/2021		Y	N	U		U	0.921	0.287	ug/m3
IA-5	L2112425-23	1,1-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.254	ug/m3
IA-5	L2112425-23	2,2,4-TRIMETHYLPENTANE	3/19/2021		Y	N	U		U	0.934	0.169	ug/m3
IA-5	L2112425-23	ETHYLBENZENE	3/19/2021		Y	N	U		U	0.869	0.188	ug/m3
IA-5	L2112425-23	DIBROMOCHLOROMETHANE	3/19/2021		Y	N	U		U	1.7	0.523	ug/m3
IA-5	L2112425-23	CHLOROETHANE	3/19/2021		Y	N	U		U	0.528	0.212	ug/m3
IA-5	L2112425-23	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/19/2021		Y	N	U		U	1.53	0.503	ug/m3
IA-5	L2112425-23	CARBON DISULFIDE	3/19/2021		Y	N	U		U	0.623	0.174	ug/m3
IA-5	L2112425-23	BROMOMETHANE	3/19/2021		Y	N	U		U	0.777	0.3	ug/m3
IA-5	L2112425-23	3-CHLOROPROPENE	3/19/2021		Y	N	U		U	0.626	0.183	ug/m3
IA-5	L2112425-23	BROMODICHLOROMETHANE	3/19/2021		Y	N	U		U	1.34	0.338	ug/m3
IA-5	L2112425-23	BENZYL CHLORIDE	3/19/2021		Y	N	U		U	1.04	0.25	ug/m3
IA-5	L2112425-23	4-METHYL-2-PENTANONE	3/19/2021		Y	N	U		U	2.05	0.173	ug/m3
IA-5	L2112425-23	4-ETHYLTOLUENE	3/19/2021		Y	N	U		U	0.983	0.182	ug/m3
IA-5	L2112425-23	BROMOFORM	3/19/2021		Y	N	U		U	2.07	0.663	ug/m3
IA-5	L2112425-23	CYCLOHEXANE	3/19/2021		Y	N	U		U	0.688	0.127	ug/m3
IA-5	L2112425-23	2-HEXANONE	3/19/2021		Y	N	U		U	0.82	0.266	ug/m3
IA-DUP-1	L2112425-24	TOLUENE	3/19/2021	5.16	Y	Y				0.754	0.196	ug/m3
IA-DUP-1	L2112425-24	TRICHLOROFLUOROMETHANE	3/19/2021	1.89	Y	Y				1.12	0.386	ug/m3
IA-DUP-1	L2112425-24	N-HEXANE	3/19/2021	0.853	Y	Y				0.705	0.128	ug/m3
IA-DUP-1	L2112425-24	P/M-XYLENE	3/19/2021	2.09	Y	Y				1.74	0.395	ug/m3
IA-DUP-1	L2112425-24	TRANS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.198	ug/m3
IA-DUP-1	L2112425-24	CIS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.186	ug/m3
IA-DUP-1	L2112425-24	ISO-PROPYL ALCOHOL	3/19/2021	256	Y	Y				1.23	1.17	ug/m3
IA-DUP-1	L2112425-24	O-XYLENE	3/19/2021		Y	N	U		U	0.869	0.197	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-DUP-1	L2112425-24	TRANS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.793	0.255	ug/m3
IA-DUP-1	L2112425-24	HEPTANE	3/19/2021	34.6	Y	Y				0.82	0.193	ug/m3
IA-DUP-1	L2112425-24	ETHYL ACETATE	3/19/2021	3.44	Y	Y				1.8	0.44	ug/m3
IA-DUP-1	L2112425-24	ETHYL ALCOHOL	3/19/2021	825	Y	Y				9.42	1.38	ug/m3
IA-DUP-1	L2112425-24	DICHLORODIFLUOROMETHANE	3/19/2021	2.46	Y	Y				0.989	0.288	ug/m3
IA-DUP-1	L2112425-24	CYCLOHEXANE	3/19/2021	1.83	Y	Y				0.688	0.127	ug/m3
IA-DUP-1	L2112425-24	CHLOROMETHANE	3/19/2021	1.08	Y	Y				0.413	0.142	ug/m3
IA-DUP-1	L2112425-24	BENZENE	3/19/2021	1.07	Y	Y				0.639	0.156	ug/m3
IA-DUP-1	L2112425-24	2-BUTANONE	3/19/2021	1.53	Y	Y				1.47	0.142	ug/m3
IA-DUP-1	L2112425-24	VINYL BROMIDE	3/19/2021		Y	N	U		U	0.874	0.313	ug/m3
IA-DUP-1	L2112425-24	CARBON DISULFIDE	3/19/2021		Y	N	U		U	0.623	0.174	ug/m3
IA-DUP-1	L2112425-24	ACETONE	3/19/2021	39	Y	Y				2.38	1.64	ug/m3
IA-DUP-1	L2112425-24	1,4-DIOXANE	3/19/2021		Y	N	U		U	0.721	0.29	ug/m3
IA-DUP-1	L2112425-24	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/19/2021		Y	N	U		U	1.53	0.503	ug/m3
IA-DUP-1	L2112425-24	ETHYLBENZENE	3/19/2021		Y	N	U		U	0.869	0.188	ug/m3
IA-DUP-1	L2112425-24	DIBROMOCHLOROMETHANE	3/19/2021		Y	N	U		U	1.7	0.523	ug/m3
IA-DUP-1	L2112425-24	CHLOROFORM	3/19/2021		Y	N	U		U	0.977	0.309	ug/m3
IA-DUP-1	L2112425-24	CHLOROBENZENE	3/19/2021		Y	N	U		U	0.921	0.287	ug/m3
IA-DUP-1	L2112425-24	BROMOMETHANE	3/19/2021		Y	N	U		U	0.777	0.3	ug/m3
IA-DUP-1	L2112425-24	BROMOFORM	3/19/2021		Y	N	U		U	2.07	0.663	ug/m3
IA-DUP-1	L2112425-24	BROMODICHLOROMETHANE	3/19/2021		Y	N	U		U	1.34	0.338	ug/m3
IA-DUP-1	L2112425-24	BENZYL CHLORIDE	3/19/2021		Y	N	U		U	1.04	0.25	ug/m3
IA-DUP-1	L2112425-24	4-METHYL-2-PENTANONE	3/19/2021		Y	N	U		U	2.05	0.173	ug/m3
IA-DUP-1	L2112425-24	4-ETHYLTOLUENE	3/19/2021		Y	N	U		U	0.983	0.182	ug/m3
IA-DUP-1	L2112425-24	3-CHLOROPROPENE	3/19/2021		Y	N	U		U	0.626	0.183	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-DUP-1	L2112425-24	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/19/2021		Y	N	U		U	1.4	0.413	ug/m3
IA-DUP-1	L2112425-24	2,2,4-TRIMETHYLPENTANE	3/19/2021		Y	N	U		U	0.934	0.169	ug/m3
IA-DUP-1	L2112425-24	1,3-BUTADIENE	3/19/2021		Y	N	U		U	0.442	0.148	ug/m3
IA-DUP-1	L2112425-24	1,4-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.382	ug/m3
IA-DUP-1	L2112425-24	1,3-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.377	ug/m3
IA-DUP-1	L2112425-24	TETRAHYDROFURAN	3/19/2021		Y	N	U		U	1.47	0.168	ug/m3
IA-DUP-1	L2112425-24	1,3,5-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.332	ug/m3
IA-DUP-1	L2112425-24	CHLOROETHANE	3/19/2021		Y	N	U		U	0.528	0.212	ug/m3
IA-DUP-1	L2112425-24	1,2-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.244	ug/m3
IA-DUP-1	L2112425-24	1,2-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.378	ug/m3
IA-DUP-1	L2112425-24	1,2-DIBROMOETHANE	3/19/2021		Y	N	U		U	1.54	0.431	ug/m3
IA-DUP-1	L2112425-24	1,2,4-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.181	ug/m3
IA-DUP-1	L2112425-24	1,2,4-TRICHLOROBENZENE	3/19/2021		Y	N	U	UJ	UJ	1.48	0.5	ug/m3
IA-DUP-1	L2112425-24	1,1-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.254	ug/m3
IA-DUP-1	L2112425-24	1,1,2-TRICHLOROETHANE	3/19/2021		Y	N	U		U	1.09	0.366	ug/m3
IA-DUP-1	L2112425-24	1,1,2,2-TETRACHLOROETHANE	3/19/2021		Y	N	U		U	1.37	0.422	ug/m3
IA-DUP-1	L2112425-24	2-HEXANONE	3/19/2021		Y	N	U		U	0.82	0.266	ug/m3
IA-DUP-1	L2112425-24	TERT-BUTYL ALCOHOL	3/19/2021		Y	N	U		U	1.52	0.141	ug/m3
IA-DUP-1	L2112425-24	METHYL TERT BUTYL ETHER	3/19/2021		Y	N	U		U	0.721	0.189	ug/m3
IA-DUP-1	L2112425-24	1,2-DICHLOROPROPANE	3/19/2021		Y	N	U		U	0.924	0.282	ug/m3
IA-DUP-1	L2112425-24	METHYLENE CHLORIDE	3/19/2021		Y	N	U		U	1.74	0.466	ug/m3
IA-DUP-1	L2112425-24	STYRENE	3/19/2021		Y	N	U		U	0.852	0.185	ug/m3
IA-DUP-1	L2112425-24	HEXACHLOROBUTADIENE	3/19/2021		Y	N	U	UJ	UJ	2.13	0.564	ug/m3
IA-DUP-2	L2112425-25	1,4-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.382	ug/m3
IA-DUP-2	L2112425-25	ACETONE	3/19/2021	24	Y	Y				2.38	1.64	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-DUP-2	L2112425-25	1,3,5-TRIMETHYLBENZENE	3/19/2021		Y	N	U		U	0.983	0.332	ug/m3
IA-DUP-2	L2112425-25	1,2,4-TRIMETHYLBENZENE	3/19/2021	1.21	Y	Y				0.983	0.181	ug/m3
IA-DUP-2	L2112425-25	1,2-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.378	ug/m3
IA-DUP-2	L2112425-25	1,2-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.244	ug/m3
IA-DUP-2	L2112425-25	1,2-DICHLOROPROPANE	3/19/2021		Y	N	U		U	0.924	0.282	ug/m3
IA-DUP-2	L2112425-25	P/M-XYLENE	3/19/2021	1.87	Y	Y				1.74	0.395	ug/m3
IA-DUP-2	L2112425-25	N-HEXANE	3/19/2021	0.747	Y	Y				0.705	0.128	ug/m3
IA-DUP-2	L2112425-25	2-BUTANONE	3/19/2021	2.47	Y	Y				1.47	0.142	ug/m3
IA-DUP-2	L2112425-25	CHLOROFORM	3/19/2021	1.26	Y	Y				0.977	0.309	ug/m3
IA-DUP-2	L2112425-25	CHLOROMETHANE	3/19/2021	0.977	Y	Y				0.413	0.142	ug/m3
IA-DUP-2	L2112425-25	DICHLORODIFLUOROMETHANE	3/19/2021	2.43	Y	Y				0.989	0.288	ug/m3
IA-DUP-2	L2112425-25	1,1,2,2-TETRACHLOROETHANE	3/19/2021		Y	N	U		U	1.37	0.422	ug/m3
IA-DUP-2	L2112425-25	ETHYL ALCOHOL	3/19/2021	880	Y	Y				9.42	1.38	ug/m3
IA-DUP-2	L2112425-25	ETHYL ACETATE	3/19/2021	8.58	Y	Y				1.8	0.44	ug/m3
IA-DUP-2	L2112425-25	HEPTANE	3/19/2021	0.836	Y	Y				0.82	0.193	ug/m3
IA-DUP-2	L2112425-25	ISO-PROPYL ALCOHOL	3/19/2021	114	Y	Y				1.23	1.17	ug/m3
IA-DUP-2	L2112425-25	1,1,2-TRICHLOROETHANE	3/19/2021		Y	N	U		U	1.09	0.366	ug/m3
IA-DUP-2	L2112425-25	1,1-DICHLOROETHANE	3/19/2021		Y	N	U		U	0.809	0.254	ug/m3
IA-DUP-2	L2112425-25	1,2,4-TRICHLOROBENZENE	3/19/2021		Y	N	U	UJ	UJ	1.48	0.5	ug/m3
IA-DUP-2	L2112425-25	1,2-DIBROMOETHANE	3/19/2021		Y	N	U		U	1.54	0.431	ug/m3
IA-DUP-2	L2112425-25	TOLUENE	3/19/2021	2.78	Y	Y				0.754	0.196	ug/m3
IA-DUP-2	L2112425-25	TRICHLOROFLUOROMETHANE	3/19/2021	5.96	Y	Y				1.12	0.386	ug/m3
IA-DUP-2	L2112425-25	BENZENE	3/19/2021	1.06	Y	Y				0.639	0.156	ug/m3
IA-DUP-2	L2112425-25	METHYLENE CHLORIDE	3/19/2021		Y	N	U		U	1.74	0.466	ug/m3
IA-DUP-2	L2112425-25	4-METHYL-2-PENTANONE	3/19/2021		Y	N	U		U	2.05	0.173	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-DUP-2	L2112425-25	BENZYL CHLORIDE	3/19/2021		Y	N	U		U	1.04	0.25	ug/m3
IA-DUP-2	L2112425-25	BROMODICHLOROMETHANE	3/19/2021		Y	N	U		U	1.34	0.338	ug/m3
IA-DUP-2	L2112425-25	BROMOFORM	3/19/2021		Y	N	U		U	2.07	0.663	ug/m3
IA-DUP-2	L2112425-25	BROMOMETHANE	3/19/2021		Y	N	U		U	0.777	0.3	ug/m3
IA-DUP-2	L2112425-25	CARBON DISULFIDE	3/19/2021		Y	N	U		U	0.623	0.174	ug/m3
IA-DUP-2	L2112425-25	CHLOROBENZENE	3/19/2021		Y	N	U		U	0.921	0.287	ug/m3
IA-DUP-2	L2112425-25	CHLOROETHANE	3/19/2021		Y	N	U		U	0.528	0.212	ug/m3
IA-DUP-2	L2112425-25	CYCLOHEXANE	3/19/2021		Y	N	U		U	0.688	0.127	ug/m3
IA-DUP-2	L2112425-25	DIBROMOCHLOROMETHANE	3/19/2021		Y	N	U		U	1.7	0.523	ug/m3
IA-DUP-2	L2112425-25	ETHYLBENZENE	3/19/2021		Y	N	U		U	0.869	0.188	ug/m3
IA-DUP-2	L2112425-25	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/19/2021		Y	N	U		U	1.53	0.503	ug/m3
IA-DUP-2	L2112425-25	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/19/2021		Y	N	U		U	1.4	0.413	ug/m3
IA-DUP-2	L2112425-25	3-CHLOROPROPENE	3/19/2021		Y	N	U		U	0.626	0.183	ug/m3
IA-DUP-2	L2112425-25	TERT-BUTYL ALCOHOL	3/19/2021		Y	N	U		U	1.52	0.141	ug/m3
IA-DUP-2	L2112425-25	1,3-BUTADIENE	3/19/2021		Y	N	U		U	0.442	0.148	ug/m3
IA-DUP-2	L2112425-25	TRANS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.198	ug/m3
IA-DUP-2	L2112425-25	TRANS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.793	0.255	ug/m3
IA-DUP-2	L2112425-25	O-XYLENE	3/19/2021		Y	N	U		U	0.869	0.197	ug/m3
IA-DUP-2	L2112425-25	CIS-1,3-DICHLOROPROPENE	3/19/2021		Y	N	U		U	0.908	0.186	ug/m3
IA-DUP-2	L2112425-25	HEXACHLOROBUTADIENE	3/19/2021		Y	N	U	UJ	UJ	2.13	0.564	ug/m3
IA-DUP-2	L2112425-25	TETRAHYDROFURAN	3/19/2021		Y	N	U		U	1.47	0.168	ug/m3
IA-DUP-2	L2112425-25	METHYL TERT BUTYL ETHER	3/19/2021		Y	N	U		U	0.721	0.189	ug/m3
IA-DUP-2	L2112425-25	1,3-DICHLOROBENZENE	3/19/2021		Y	N	U		U	1.2	0.377	ug/m3
IA-DUP-2	L2112425-25	2-HEXANONE	3/19/2021		Y	N	U		U	0.82	0.266	ug/m3
IA-DUP-2	L2112425-25	2,2,4-TRIMETHYLPENTANE	3/19/2021		Y	N	U		U	0.934	0.169	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-DUP-2	L2112425-25	1,4-DIOXANE	3/19/2021		Y	N	U		U	0.721	0.29	ug/m3
IA-DUP-2	L2112425-25	STYRENE	3/19/2021		Y	N	U		U	0.852	0.185	ug/m3
IA-DUP-2	L2112425-25	4-ETHYLTOLUENE	3/19/2021		Y	N	U		U	0.983	0.182	ug/m3
IA-DUP-2	L2112425-25	VINYL BROMIDE	3/19/2021		Y	N	U		U	0.874	0.313	ug/m3
OA-1	L2112425-26	1,1,2-TRICHLOROETHANE	3/20/2021		Y	N	U		U	1.09	0.366	ug/m3
OA-1	L2112425-26	CHLOROMETHANE	3/20/2021	0.892	Y	Y				0.413	0.142	ug/m3
OA-1	L2112425-26	1,1-DICHLOROETHANE	3/20/2021		Y	N	U		U	0.809	0.254	ug/m3
OA-1	L2112425-26	BROMOFORM	3/20/2021		Y	N	U		U	2.07	0.663	ug/m3
OA-1	L2112425-26	BROMODICHLOROMETHANE	3/20/2021		Y	N	U		U	1.34	0.338	ug/m3
OA-1	L2112425-26	BENZYL CHLORIDE	3/20/2021		Y	N	U		U	1.04	0.25	ug/m3
OA-1	L2112425-26	1,3,5-TRIMETHYLBENZENE	3/20/2021		Y	N	U		U	0.983	0.332	ug/m3
OA-1	L2112425-26	1,2-DICHLOROPROPANE	3/20/2021		Y	N	U		U	0.924	0.282	ug/m3
OA-1	L2112425-26	1,2-DICHLOROETHANE	3/20/2021		Y	N	U		U	0.809	0.244	ug/m3
OA-1	L2112425-26	1,2,4-TRICHLOROBENZENE	3/20/2021		Y	N	U	UJ	UJ	1.48	0.5	ug/m3
OA-1	L2112425-26	1,2,4-TRIMETHYLBENZENE	3/20/2021		Y	N	U		U	0.983	0.181	ug/m3
OA-1	L2112425-26	1,2-DIBROMOETHANE	3/20/2021		Y	N	U		U	1.54	0.431	ug/m3
OA-1	L2112425-26	1,1,2,2-TETRACHLOROETHANE	3/20/2021		Y	N	U		U	1.37	0.422	ug/m3
OA-1	L2112425-26	1,3-DICHLOROBENZENE	3/20/2021		Y	N	U		U	1.2	0.377	ug/m3
OA-1	L2112425-26	ETHYLBENZENE	3/20/2021		Y	N	U		U	0.869	0.188	ug/m3
OA-1	L2112425-26	DIBROMOCHLOROMETHANE	3/20/2021		Y	N	U		U	1.7	0.523	ug/m3
OA-1	L2112425-26	4-METHYL-2-PENTANONE	3/20/2021		Y	N	U		U	2.05	0.173	ug/m3
OA-1	L2112425-26	ACETONE	3/20/2021	6.39	Y	Y				2.38	1.64	ug/m3
OA-1	L2112425-26	3-CHLOROPROPENE	3/20/2021		Y	N	U		U	0.626	0.183	ug/m3
OA-1	L2112425-26	2-HEXANONE	3/20/2021		Y	N	U		U	0.82	0.266	ug/m3
OA-1	L2112425-26	2-BUTANONE	3/20/2021		Y	N	U		U	1.47	0.142	ug/m3

SDG: L2112425

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
OA-1	L2112425-26	2,2,4-TRIMETHYLPENTANE	3/20/2021		Y	N	U		U	0.934	0.169	ug/m3
OA-1	L2112425-26	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	3/20/2021		Y	N	U		U	1.53	0.503	ug/m3
OA-1	L2112425-26	1,4-DICHLOROBENZENE	3/20/2021		Y	N	U		U	1.2	0.382	ug/m3
OA-1	L2112425-26	ETHYL ACETATE	3/20/2021		Y	N	U		U	1.8	0.44	ug/m3
OA-1	L2112425-26	1,3-BUTADIENE	3/20/2021		Y	N	U		U	0.442	0.148	ug/m3
OA-1	L2112425-26	ETHYL ALCOHOL	3/20/2021	19.4	Y	Y				9.42	1.38	ug/m3
OA-1	L2112425-26	ISO-PROPYL ALCOHOL	3/20/2021	5.14	Y	Y				1.23	1.17	ug/m3
OA-1	L2112425-26	TOLUENE	3/20/2021	1.46	Y	Y				0.754	0.196	ug/m3
OA-1	L2112425-26	TRICHLOROFLUOROMETHANE	3/20/2021	1.69	Y	Y				1.12	0.386	ug/m3
OA-1	L2112425-26	CHLOROBENZENE	3/20/2021		Y	N	U		U	0.921	0.287	ug/m3
OA-1	L2112425-26	CHLOROETHANE	3/20/2021		Y	N	U		U	0.528	0.212	ug/m3
OA-1	L2112425-26	CHLOROFORM	3/20/2021		Y	N	U		U	0.977	0.309	ug/m3
OA-1	L2112425-26	CYCLOHEXANE	3/20/2021		Y	N	U		U	0.688	0.127	ug/m3
OA-1	L2112425-26	1,4-DIOXANE	3/20/2021		Y	N	U		U	0.721	0.29	ug/m3
OA-1	L2112425-26	CIS-1,3-DICHLOROPROPENE	3/20/2021		Y	N	U		U	0.908	0.186	ug/m3
OA-1	L2112425-26	BROMOMETHANE	3/20/2021		Y	N	U		U	0.777	0.3	ug/m3
OA-1	L2112425-26	CARBON DISULFIDE	3/20/2021		Y	N	U		U	0.623	0.174	ug/m3
OA-1	L2112425-26	1,2-DICHLOROBENZENE	3/20/2021		Y	N	U		U	1.2	0.378	ug/m3
OA-1	L2112425-26	BENZENE	3/20/2021	0.748	Y	Y				0.639	0.156	ug/m3
OA-1	L2112425-26	DICHLORODIFLUOROMETHANE	3/20/2021	2.41	Y	Y				0.989	0.288	ug/m3
OA-1	L2112425-26	TRANS-1,3-DICHLOROPROPENE	3/20/2021		Y	N	U		U	0.908	0.198	ug/m3
OA-1	L2112425-26	TRANS-1,2-DICHLOROETHENE	3/20/2021		Y	N	U		U	0.793	0.255	ug/m3
OA-1	L2112425-26	P/M-XYLENE	3/20/2021		Y	N	U		U	1.74	0.395	ug/m3
OA-1	L2112425-26	4-ETHYLTOLUENE	3/20/2021		Y	N	U		U	0.983	0.182	ug/m3
OA-1	L2112425-26	N-HEXANE	3/20/2021		Y	N	U		U	0.705	0.128	ug/m3

Analytical Method TO15

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
OA-1	L2112425-26	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	3/20/2021		Y	N	U		U	1.4	0.413	ug/m3
OA-1	L2112425-26	TERT-BUTYL ALCOHOL	3/20/2021		Y	N	U		U	1.52	0.141	ug/m3
OA-1	L2112425-26	TETRAHYDROFURAN	3/20/2021		Y	N	U		U	1.47	0.168	ug/m3
OA-1	L2112425-26	HEPTANE	3/20/2021		Y	N	U		U	0.82	0.193	ug/m3
OA-1	L2112425-26	HEXACHLOROBUTADIENE	3/20/2021		Y	N	U	UJ	UJ	2.13	0.564	ug/m3
OA-1	L2112425-26	METHYL TERT BUTYL ETHER	3/20/2021		Y	N	U		U	0.721	0.189	ug/m3
OA-1	L2112425-26	METHYLENE CHLORIDE	3/20/2021		Y	N	U		U	1.74	0.466	ug/m3
OA-1	L2112425-26	STYRENE	3/20/2021		Y	N	U		U	0.852	0.185	ug/m3
OA-1	L2112425-26	VINYL BROMIDE	3/20/2021		Y	N	U		U	0.874	0.313	ug/m3
OA-1	L2112425-26	O-XYLENE	3/20/2021		Y	N	U		U	0.869	0.197	ug/m3

Analytical Method TO15 SIM

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-1	L2112425-12	VINYL CHLORIDE	3/19/2021		Y	N	U		U	0.051	0.018	ug/m3
IA-1	L2112425-12	TRICHLOROETHENE	3/19/2021	0.435	Y	Y				0.107	0.033	ug/m3
IA-1	L2112425-12	TETRACHLOROETHENE	3/19/2021	1.11	Y	Y				0.136	0.053	ug/m3
IA-1	L2112425-12	CARBON TETRACHLORIDE	3/19/2021	0.396	Y	Y				0.126	0.063	ug/m3
IA-1	L2112425-12	1,1-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.033	ug/m3
IA-1	L2112425-12	1,1,1-TRICHLOROETHANE	3/19/2021		Y	N	U		U	0.109	0.045	ug/m3
IA-1	L2112425-12	CIS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.038	ug/m3
IA-2	L2112425-13	VINYL CHLORIDE	3/19/2021		Y	N	U		U	0.051	0.018	ug/m3
IA-2	L2112425-13	TRICHLOROETHENE	3/19/2021	0.408	Y	Y				0.107	0.033	ug/m3
IA-2	L2112425-13	TETRACHLOROETHENE	3/19/2021	0.787	Y	Y				0.136	0.053	ug/m3
IA-2	L2112425-13	CARBON TETRACHLORIDE	3/19/2021	0.421	Y	Y				0.126	0.063	ug/m3
IA-2	L2112425-13	1,1-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.033	ug/m3

SDG: L2112425

Analytical Method TO15 SIM

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-2	L2112425-13	CIS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.038	ug/m3
IA-2	L2112425-13	1,1,1-TRICHLOROETHANE	3/19/2021		Y	N	U		U	0.109	0.045	ug/m3
IA-3	L2112425-14	TRICHLOROETHENE	3/19/2021	2.14	Y	Y				0.107	0.033	ug/m3
IA-3	L2112425-14	TETRACHLOROETHENE	3/19/2021	2.09	Y	Y				0.136	0.053	ug/m3
IA-3	L2112425-14	CARBON TETRACHLORIDE	3/19/2021	0.403	Y	Y				0.126	0.063	ug/m3
IA-3	L2112425-14	1,1,1-TRICHLOROETHANE	3/19/2021		Y	N	U		U	0.109	0.045	ug/m3
IA-3	L2112425-14	1,1-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.033	ug/m3
IA-3	L2112425-14	VINYL CHLORIDE	3/19/2021		Y	N	U		U	0.051	0.018	ug/m3
IA-3	L2112425-14	CIS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.038	ug/m3
IA-4A	L2112425-15	TETRACHLOROETHENE	3/19/2021	1.04	Y	Y				0.136	0.053	ug/m3
IA-4A	L2112425-15	CIS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.038	ug/m3
IA-4A	L2112425-15	1,1,1-TRICHLOROETHANE	3/19/2021		Y	N	U		U	0.109	0.045	ug/m3
IA-4A	L2112425-15	1,1-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.033	ug/m3
IA-4A	L2112425-15	VINYL CHLORIDE	3/19/2021		Y	N	U		U	0.051	0.018	ug/m3
IA-4A	L2112425-15	CARBON TETRACHLORIDE	3/19/2021	0.39	Y	Y				0.126	0.063	ug/m3
IA-4A	L2112425-15	TRICHLOROETHENE	3/19/2021	0.344	Y	Y				0.107	0.033	ug/m3
IA-4B	L2112425-16	TRICHLOROETHENE	3/19/2021	0.908	Y	Y				0.107	0.033	ug/m3
IA-4B	L2112425-16	TETRACHLOROETHENE	3/19/2021	1.02	Y	Y				0.136	0.053	ug/m3
IA-4B	L2112425-16	CARBON TETRACHLORIDE	3/19/2021	0.421	Y	Y				0.126	0.063	ug/m3
IA-4B	L2112425-16	1,1,1-TRICHLOROETHANE	3/19/2021		Y	N	U		U	0.109	0.045	ug/m3
IA-4B	L2112425-16	CIS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.038	ug/m3
IA-4B	L2112425-16	VINYL CHLORIDE	3/19/2021		Y	N	U		U	0.051	0.018	ug/m3
IA-4B	L2112425-16	1,1-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.033	ug/m3
IA-4C	L2112425-17	CARBON TETRACHLORIDE	3/19/2021	0.591	Y	Y				0.126	0.063	ug/m3
IA-4C	L2112425-17	TRICHLOROETHENE	3/19/2021	1.23	Y	Y				0.107	0.033	ug/m3

SDG: L2112425

Analytical Method TO15 SIM

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-4C	L2112425-17	1,1,1-TRICHLOROETHANE	3/19/2021		Y	N	U		U	0.109	0.045	ug/m3
IA-4C	L2112425-17	1,1-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.033	ug/m3
IA-4C	L2112425-17	VINYL CHLORIDE	3/19/2021		Y	N	U		U	0.051	0.018	ug/m3
IA-4C	L2112425-17	CIS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.038	ug/m3
IA-4C	L2112425-17	TETRACHLOROETHENE	3/19/2021	2.55	Y	Y				0.136	0.053	ug/m3
IA-4D	L2112425-18	VINYL CHLORIDE	3/19/2021		Y	N	U		U	0.051	0.018	ug/m3
IA-4D	L2112425-18	1,1,1-TRICHLOROETHANE	3/19/2021		Y	N	U		U	0.109	0.045	ug/m3
IA-4D	L2112425-18	CIS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.038	ug/m3
IA-4D	L2112425-18	1,1-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.033	ug/m3
IA-4D	L2112425-18	CARBON TETRACHLORIDE	3/19/2021	0.459	Y	Y				0.126	0.063	ug/m3
IA-4D	L2112425-18	TETRACHLOROETHENE	3/19/2021	0.387	Y	Y				0.136	0.053	ug/m3
IA-4D	L2112425-18	TRICHLOROETHENE	3/19/2021		Y	N	U		U	0.107	0.033	ug/m3
IA-4E	L2112425-19	1,1-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.033	ug/m3
IA-4E	L2112425-19	CARBON TETRACHLORIDE	3/19/2021	0.478	Y	Y				0.126	0.063	ug/m3
IA-4E	L2112425-19	1,1,1-TRICHLOROETHANE	3/19/2021		Y	N	U		U	0.109	0.045	ug/m3
IA-4E	L2112425-19	TETRACHLOROETHENE	3/19/2021	0.292	Y	Y				0.136	0.053	ug/m3
IA-4E	L2112425-19	CIS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.038	ug/m3
IA-4E	L2112425-19	TRICHLOROETHENE	3/19/2021		Y	N	U		U	0.107	0.033	ug/m3
IA-4E	L2112425-19	VINYL CHLORIDE	3/19/2021		Y	N	U		U	0.051	0.018	ug/m3
IA-4F	L2112425-20	1,1-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.033	ug/m3
IA-4F	L2112425-20	1,1,1-TRICHLOROETHANE	3/19/2021		Y	N	U		U	0.109	0.045	ug/m3
IA-4F	L2112425-20	CARBON TETRACHLORIDE	3/19/2021	0.547	Y	Y				0.126	0.063	ug/m3
IA-4F	L2112425-20	TRICHLOROETHENE	3/19/2021	0.516	Y	Y				0.107	0.033	ug/m3
IA-4F	L2112425-20	VINYL CHLORIDE	3/19/2021		Y	N	U		U	0.051	0.018	ug/m3
IA-4F	L2112425-20	CIS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.038	ug/m3

SDG: L2112425

Analytical Method TO15 SIM

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-4F	L2112425-20	TETRACHLOROETHENE	3/19/2021	0.448	Y	Y				0.136	0.053	ug/m3
IA-4G	L2112425-21	CARBON TETRACHLORIDE	3/19/2021	0.591	Y	Y				0.126	0.063	ug/m3
IA-4G	L2112425-21	TETRACHLOROETHENE	3/19/2021	0.57	Y	Y				0.136	0.053	ug/m3
IA-4G	L2112425-21	TRICHLOROETHENE	3/19/2021	0.333	Y	Y				0.107	0.033	ug/m3
IA-4G	L2112425-21	VINYL CHLORIDE	3/19/2021		Y	N	U		U	0.051	0.018	ug/m3
IA-4G	L2112425-21	CIS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.038	ug/m3
IA-4G	L2112425-21	1,1,1-TRICHLOROETHANE	3/19/2021		Y	N	U		U	0.109	0.045	ug/m3
IA-4G	L2112425-21	1,1-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.033	ug/m3
IA-4H	L2112425-22	VINYL CHLORIDE	3/19/2021		Y	N	U		U	0.051	0.018	ug/m3
IA-4H	L2112425-22	CIS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.038	ug/m3
IA-4H	L2112425-22	1,1-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.033	ug/m3
IA-4H	L2112425-22	1,1,1-TRICHLOROETHANE	3/19/2021		Y	N	U		U	0.109	0.045	ug/m3
IA-4H	L2112425-22	CARBON TETRACHLORIDE	3/19/2021	0.535	Y	Y				0.126	0.063	ug/m3
IA-4H	L2112425-22	TETRACHLOROETHENE	3/19/2021	0.502	Y	Y				0.136	0.053	ug/m3
IA-4H	L2112425-22	TRICHLOROETHENE	3/19/2021	0.253	Y	Y				0.107	0.033	ug/m3
IA-5	L2112425-23	CARBON TETRACHLORIDE	3/19/2021	0.585	Y	Y				0.126	0.063	ug/m3
IA-5	L2112425-23	CIS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.038	ug/m3
IA-5	L2112425-23	1,1-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.033	ug/m3
IA-5	L2112425-23	VINYL CHLORIDE	3/19/2021		Y	N	U		U	0.051	0.018	ug/m3
IA-5	L2112425-23	TETRACHLOROETHENE	3/19/2021	0.529	Y	Y				0.136	0.053	ug/m3
IA-5	L2112425-23	1,1,1-TRICHLOROETHANE	3/19/2021		Y	N	U		U	0.109	0.045	ug/m3
IA-5	L2112425-23	TRICHLOROETHENE	3/19/2021	0.296	Y	Y				0.107	0.033	ug/m3
IA-DUP-1	L2112425-24	CIS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.038	ug/m3
IA-DUP-1	L2112425-24	VINYL CHLORIDE	3/19/2021		Y	N	U		U	0.051	0.018	ug/m3
IA-DUP-1	L2112425-24	1,1-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.033	ug/m3

SDG: L2112425

Analytical Method TO15 SIM

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
IA-DUP-1	L2112425-24	1,1,1-TRICHLOROETHANE	3/19/2021		Y	N	U		U	0.109	0.045	ug/m3
IA-DUP-1	L2112425-24	CARBON TETRACHLORIDE	3/19/2021	0.516	Y	Y				0.126	0.063	ug/m3
IA-DUP-1	L2112425-24	TRICHLOROETHENE	3/19/2021	0.371	Y	Y				0.107	0.033	ug/m3
IA-DUP-1	L2112425-24	TETRACHLOROETHENE	3/19/2021	1.04	Y	Y				0.136	0.053	ug/m3
IA-DUP-2	L2112425-25	CIS-1,2-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.038	ug/m3
IA-DUP-2	L2112425-25	1,1,1-TRICHLOROETHANE	3/19/2021		Y	N	U		U	0.109	0.045	ug/m3
IA-DUP-2	L2112425-25	1,1-DICHLOROETHENE	3/19/2021		Y	N	U		U	0.079	0.033	ug/m3
IA-DUP-2	L2112425-25	VINYL CHLORIDE	3/19/2021		Y	N	U		U	0.051	0.018	ug/m3
IA-DUP-2	L2112425-25	TRICHLOROETHENE	3/19/2021	0.29	Y	Y				0.107	0.033	ug/m3
IA-DUP-2	L2112425-25	TETRACHLOROETHENE	3/19/2021	0.522	Y	Y				0.136	0.053	ug/m3
IA-DUP-2	L2112425-25	CARBON TETRACHLORIDE	3/19/2021	0.522	Y	Y				0.126	0.063	ug/m3
OA-1	L2112425-26	TRICHLOROETHENE	3/20/2021		Y	N	U		U	0.107	0.033	ug/m3
OA-1	L2112425-26	1,1-DICHLOROETHENE	3/20/2021		Y	N	U		U	0.079	0.033	ug/m3
OA-1	L2112425-26	1,1,1-TRICHLOROETHANE	3/20/2021		Y	N	U		U	0.109	0.045	ug/m3
OA-1	L2112425-26	VINYL CHLORIDE	3/20/2021		Y	N	U		U	0.051	0.018	ug/m3
OA-1	L2112425-26	CARBON TETRACHLORIDE	3/20/2021	0.491	Y	Y				0.126	0.063	ug/m3
OA-1	L2112425-26	TETRACHLOROETHENE	3/20/2021	0.325	Y	Y				0.136	0.053	ug/m3
OA-1	L2112425-26	CIS-1,2-DICHLOROETHENE	3/20/2021		Y	N	U		U	0.079	0.038	ug/m3

Appendix E

Laboratory Analytical Report

IMPACT ENVIRONMENTAL
170 Keyland Court
Bohemia, New York 11716
TEL: (631) 268-8800
FAX: (631) 269-1599

ANALYTICAL REPORT

Lab Number:	L2112425
Client:	Impact Environmental 170 Keyland Ct Bohemia, NY 11716
ATTN:	Christopher Connolly
Phone:	(631) 269-8800
Project Name:	100 SOUTH 4TH ST.
Project Number:	13817
Report Date:	03/22/21

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2112425-01	SV-1A	SOIL_VAPOR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 08:29	03/12/21
L2112425-02	SV-1B	SOIL_VAPOR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 08:25	03/12/21
L2112425-03	SV-2A	SOIL_VAPOR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 08:40	03/12/21
L2112425-04	SV-2B	SOIL_VAPOR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 08:48	03/12/21
L2112425-05	SV-3B	SOIL_VAPOR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 09:00	03/12/21
L2112425-06	SV-3A	SOIL_VAPOR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 09:10	03/12/21
L2112425-07	SV-4	SOIL_VAPOR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 09:19	03/12/21
L2112425-08	SV-5A	SOIL_VAPOR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 09:50	03/12/21
L2112425-09	SV-5B	SOIL_VAPOR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 10:01	03/12/21
L2112425-10	SV-DUP-1	SOIL_VAPOR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 00:00	03/12/21
L2112425-11	SV-DUP-2	SOIL_VAPOR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 00:00	03/12/21
L2112425-12	IA-1	AIR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 08:20	03/12/21
L2112425-13	IA-2	AIR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 08:40	03/12/21
L2112425-14	IA-3	AIR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 09:09	03/12/21
L2112425-15	IA-4A	AIR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 09:42	03/12/21
L2112425-16	IA-4B	AIR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 08:02	03/12/21
L2112425-17	IA-4C	AIR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 08:15	03/12/21
L2112425-18	IA-4D	AIR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 08:17	03/12/21
L2112425-19	IA-4E	AIR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 09:12	03/12/21
L2112425-20	IA-4F	AIR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 09:11	03/12/21
L2112425-21	IA-4G	AIR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 09:14	03/12/21
L2112425-22	IA-4H	AIR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 09:00	03/12/21
L2112425-23	IA-5	AIR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 10:07	03/12/21
L2112425-24	IA-DUP-1	AIR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 00:00	03/12/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2112425-25	IA-DUP-2	AIR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 00:00	03/12/21
L2112425-26	OA-1	AIR	100 SOUTH 4TH ST, BROOKLYN	03/12/21 08:59	03/12/21

Project Name:	100 SOUTH 4TH ST.	**Lab Number:**	L2112425
Project Number:	13817	**Report Date:**	03/22/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	100 SOUTH 4TH ST.	**Lab Number:**	L2112425
Project Number:	13817	**Report Date:**	03/22/21

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on March 10, 2021. The canister certification results are provided as an addendum.

L2112425-02D,04D,06D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

L2112425-17,21: The sample was re-analyzed on dilution in order to quantiitate the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound(s) that exceeded the calibration range.

L2112425-17D,21D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 03/22/21

AIR

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-01
Client ID: SV-1A
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:29
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 03/19/21 20:33
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.409	0.200	--	2.02	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	81.2	5.00	--	153	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	193	1.00	--	458	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	6.29	0.500	--	15.5	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	1.72	0.500	--	5.21	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	0.809	0.200	--	3.27	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	2.79	0.500	--	8.23	1.47	--		1
cis-1,2-Dichloroethene	1.93	0.200	--	7.65	0.793	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-01
Client ID: SV-1A
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:29
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	0.390	0.200	--	1.90	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.222	0.200	--	0.782	0.705	--		1
1,1,1-Trichloroethane	1.30	0.200	--	7.09	1.09	--		1
Benzene	0.262	0.200	--	0.837	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	22.4	0.200	--	120	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.552	0.200	--	2.08	0.754	--		1
2-Hexanone	0.319	0.200	--	1.31	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	6.78	0.200	--	46.0	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-01
Client ID: SV-1A
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:29
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	99		60-140
Bromochloromethane	99		60-140
chlorobenzene-d5	95		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-02 D
Client ID: SV-1B
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:25
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 03/19/21 21:09
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	0.625	--	ND	3.09	--		3.125
Chloromethane	ND	0.625	--	ND	1.29	--		3.125
Freon-114	ND	0.625	--	ND	4.37	--		3.125
Vinyl chloride	ND	0.625	--	ND	1.60	--		3.125
1,3-Butadiene	ND	0.625	--	ND	1.38	--		3.125
Bromomethane	ND	0.625	--	ND	2.43	--		3.125
Chloroethane	ND	0.625	--	ND	1.65	--		3.125
Ethanol	422	15.6	--	795	29.4	--		3.125
Vinyl bromide	ND	0.625	--	ND	2.73	--		3.125
Acetone	8.90	3.12	--	21.1	7.41	--		3.125
Trichlorofluoromethane	ND	0.625	--	ND	3.51	--		3.125
Isopropanol	3.12	1.56	--	7.67	3.83	--		3.125
1,1-Dichloroethene	ND	0.625	--	ND	2.48	--		3.125
Tertiary butyl Alcohol	ND	1.56	--	ND	4.73	--		3.125
Methylene chloride	ND	1.56	--	ND	5.42	--		3.125
3-Chloropropene	ND	0.625	--	ND	1.96	--		3.125
Carbon disulfide	ND	0.625	--	ND	1.95	--		3.125
Freon-113	ND	0.625	--	ND	4.79	--		3.125
trans-1,2-Dichloroethene	ND	0.625	--	ND	2.48	--		3.125
1,1-Dichloroethane	ND	0.625	--	ND	2.53	--		3.125
Methyl tert butyl ether	ND	0.625	--	ND	2.25	--		3.125
2-Butanone	ND	1.56	--	ND	4.60	--		3.125
cis-1,2-Dichloroethene	22.2	0.625	--	88.0	2.48	--		3.125

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-02 D
Client ID: SV-1B
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:25
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	1.56	--	ND	5.62	--		3.125
Chloroform	ND	0.625	--	ND	3.05	--		3.125
Tetrahydrofuran	ND	1.56	--	ND	4.60	--		3.125
1,2-Dichloroethane	ND	0.625	--	ND	2.53	--		3.125
n-Hexane	ND	0.625	--	ND	2.20	--		3.125
1,1,1-Trichloroethane	ND	0.625	--	ND	3.41	--		3.125
Benzene	ND	0.625	--	ND	2.00	--		3.125
Carbon tetrachloride	ND	0.625	--	ND	3.93	--		3.125
Cyclohexane	ND	0.625	--	ND	2.15	--		3.125
1,2-Dichloropropane	ND	0.625	--	ND	2.89	--		3.125
Bromodichloromethane	ND	0.625	--	ND	4.19	--		3.125
1,4-Dioxane	ND	0.625	--	ND	2.25	--		3.125
Trichloroethene	186	0.625	--	1000	3.36	--		3.125
2,2,4-Trimethylpentane	ND	0.625	--	ND	2.92	--		3.125
Heptane	ND	0.625	--	ND	2.56	--		3.125
cis-1,3-Dichloropropene	ND	0.625	--	ND	2.84	--		3.125
4-Methyl-2-pentanone	ND	1.56	--	ND	6.39	--		3.125
trans-1,3-Dichloropropene	ND	0.625	--	ND	2.84	--		3.125
1,1,2-Trichloroethane	ND	0.625	--	ND	3.41	--		3.125
Toluene	1.31	0.625	--	4.94	2.36	--		3.125
2-Hexanone	ND	0.625	--	ND	2.56	--		3.125
Dibromochloromethane	ND	0.625	--	ND	5.32	--		3.125
1,2-Dibromoethane	ND	0.625	--	ND	4.80	--		3.125
Tetrachloroethene	183	0.625	--	1240	4.24	--		3.125
Chlorobenzene	ND	0.625	--	ND	2.88	--		3.125
Ethylbenzene	0.931	0.625	--	4.04	2.71	--		3.125

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-02 D
Client ID: SV-1B
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:25
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	1.71	1.25	--	7.43	5.43	--		3.125
Bromoform	ND	0.625	--	ND	6.46	--		3.125
Styrene	ND	0.625	--	ND	2.66	--		3.125
1,1,2,2-Tetrachloroethane	ND	0.625	--	ND	4.29	--		3.125
o-Xylene	0.891	0.625	--	3.87	2.71	--		3.125
4-Ethyltoluene	ND	0.625	--	ND	3.07	--		3.125
1,3,5-Trimethylbenzene	ND	0.625	--	ND	3.07	--		3.125
1,2,4-Trimethylbenzene	ND	0.625	--	ND	3.07	--		3.125
Benzyl chloride	ND	0.625	--	ND	3.24	--		3.125
1,3-Dichlorobenzene	ND	0.625	--	ND	3.76	--		3.125
1,4-Dichlorobenzene	ND	0.625	--	ND	3.76	--		3.125
1,2-Dichlorobenzene	ND	0.625	--	ND	3.76	--		3.125
1,2,4-Trichlorobenzene	ND	0.625	--	ND	4.64	--		3.125
Hexachlorobutadiene	ND	0.625	--	ND	6.67	--		3.125

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	99		60-140
Bromochloromethane	99		60-140
chlorobenzene-d5	97		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-03
Client ID: SV-2A
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:40
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 03/19/21 21:49
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.409	0.200	--	2.02	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	0.210	0.200	--	0.537	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	278	5.00	--	524	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	8.38	1.00	--	19.9	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	0.830	0.500	--	2.04	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	1.89	0.500	--	5.73	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	0.609	0.500	--	1.80	1.47	--		1
cis-1,2-Dichloroethene	1.35	0.200	--	5.35	0.793	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-03
Client ID: SV-2A
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:40
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	3.07	0.200	--	16.5	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	3.98	0.200	--	15.0	0.754	--		1
2-Hexanone	0.344	0.200	--	1.41	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	0.767	0.200	--	5.20	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	3.53	0.200	--	15.3	0.869	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-03
Client ID: SV-2A
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:40
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	5.84	0.400	--	25.4	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	0.301	0.200	--	1.28	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	3.30	0.200	--	14.3	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	98		60-140
Bromochloromethane	99		60-140
chlorobenzene-d5	96		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-04 D
Client ID: SV-2B
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:48
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 03/19/21 22:26
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	2.00	--	ND	9.89	--		10
Chloromethane	ND	2.00	--	ND	4.13	--		10
Freon-114	ND	2.00	--	ND	14.0	--		10
Vinyl chloride	ND	2.00	--	ND	5.11	--		10
1,3-Butadiene	ND	2.00	--	ND	4.42	--		10
Bromomethane	ND	2.00	--	ND	7.77	--		10
Chloroethane	ND	2.00	--	ND	5.28	--		10
Ethanol	285	50.0	--	537	94.2	--		10
Vinyl bromide	ND	2.00	--	ND	8.74	--		10
Acetone	128	10.0	--	304	23.8	--		10
Trichlorofluoromethane	ND	2.00	--	ND	11.2	--		10
Isopropanol	ND	5.00	--	ND	12.3	--		10
1,1-Dichloroethene	ND	2.00	--	ND	7.93	--		10
Tertiary butyl Alcohol	ND	5.00	--	ND	15.2	--		10
Methylene chloride	ND	5.00	--	ND	17.4	--		10
3-Chloropropene	ND	2.00	--	ND	6.26	--		10
Carbon disulfide	ND	2.00	--	ND	6.23	--		10
Freon-113	ND	2.00	--	ND	15.3	--		10
trans-1,2-Dichloroethene	2.07	2.00	--	8.21	7.93	--		10
1,1-Dichloroethane	ND	2.00	--	ND	8.09	--		10
Methyl tert butyl ether	ND	2.00	--	ND	7.21	--		10
2-Butanone	ND	5.00	--	ND	14.7	--		10
cis-1,2-Dichloroethene	95.6	2.00	--	379	7.93	--		10

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-04 D
Client ID: SV-2B
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:48
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	5.00	--	ND	18.0	--		10
Chloroform	ND	2.00	--	ND	9.77	--		10
Tetrahydrofuran	ND	5.00	--	ND	14.7	--		10
1,2-Dichloroethane	ND	2.00	--	ND	8.09	--		10
n-Hexane	ND	2.00	--	ND	7.05	--		10
1,1,1-Trichloroethane	ND	2.00	--	ND	10.9	--		10
Benzene	ND	2.00	--	ND	6.39	--		10
Carbon tetrachloride	ND	2.00	--	ND	12.6	--		10
Cyclohexane	ND	2.00	--	ND	6.88	--		10
1,2-Dichloropropane	ND	2.00	--	ND	9.24	--		10
Bromodichloromethane	ND	2.00	--	ND	13.4	--		10
1,4-Dioxane	ND	2.00	--	ND	7.21	--		10
Trichloroethene	606	2.00	--	3260	10.7	--		10
2,2,4-Trimethylpentane	ND	2.00	--	ND	9.34	--		10
Heptane	ND	2.00	--	ND	8.20	--		10
cis-1,3-Dichloropropene	ND	2.00	--	ND	9.08	--		10
4-Methyl-2-pentanone	ND	5.00	--	ND	20.5	--		10
trans-1,3-Dichloropropene	ND	2.00	--	ND	9.08	--		10
1,1,2-Trichloroethane	ND	2.00	--	ND	10.9	--		10
Toluene	2.09	2.00	--	7.88	7.54	--		10
2-Hexanone	ND	2.00	--	ND	8.20	--		10
Dibromochloromethane	ND	2.00	--	ND	17.0	--		10
1,2-Dibromoethane	ND	2.00	--	ND	15.4	--		10
Tetrachloroethene	399	2.00	--	2710	13.6	--		10
Chlorobenzene	ND	2.00	--	ND	9.21	--		10
Ethylbenzene	ND	2.00	--	ND	8.69	--		10

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-04 D
Client ID: SV-2B
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:48
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	ND	4.00	--	ND	17.4	--		10
Bromoform	ND	2.00	--	ND	20.7	--		10
Styrene	ND	2.00	--	ND	8.52	--		10
1,1,2,2-Tetrachloroethane	ND	2.00	--	ND	13.7	--		10
o-Xylene	ND	2.00	--	ND	8.69	--		10
4-Ethyltoluene	ND	2.00	--	ND	9.83	--		10
1,3,5-Trimethylbenzene	ND	2.00	--	ND	9.83	--		10
1,2,4-Trimethylbenzene	ND	2.00	--	ND	9.83	--		10
Benzyl chloride	ND	2.00	--	ND	10.4	--		10
1,3-Dichlorobenzene	ND	2.00	--	ND	12.0	--		10
1,4-Dichlorobenzene	ND	2.00	--	ND	12.0	--		10
1,2-Dichlorobenzene	ND	2.00	--	ND	12.0	--		10
1,2,4-Trichlorobenzene	ND	2.00	--	ND	14.8	--		10
Hexachlorobutadiene	ND	2.00	--	ND	21.3	--		10

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	94		60-140
Bromochloromethane	94		60-140
chlorobenzene-d5	92		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-05
Client ID: SV-3B
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:00
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 03/19/21 23:05
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.424	0.200	--	2.10	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	261	5.00	--	492	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	22.6	1.00	--	53.7	2.38	--		1
Trichlorofluoromethane	0.200	0.200	--	1.12	1.12	--		1
Isopropanol	8.50	0.500	--	20.9	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	1.54	0.500	--	4.67	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	2.92	0.200	--	9.09	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	2.00	0.500	--	5.90	1.47	--		1
cis-1,2-Dichloroethene	6.07	0.200	--	24.1	0.793	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-05
Client ID: SV-3B
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:00
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	16.1	0.200	--	78.6	0.977	--		1
Tetrahydrofuran	0.753	0.500	--	2.22	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.443	0.200	--	1.56	0.705	--		1
1,1,1-Trichloroethane	0.290	0.200	--	1.58	1.09	--		1
Benzene	0.633	0.200	--	2.02	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	0.681	0.200	--	2.34	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	0.293	0.200	--	1.96	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	59.8	0.200	--	321	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	0.205	0.200	--	0.840	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	2.13	0.200	--	8.03	0.754	--		1
2-Hexanone	0.504	0.200	--	2.07	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	20.4	0.200	--	138	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	1.47	0.200	--	6.39	0.869	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-05
Client ID: SV-3B
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:00
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	2.61	0.400	--	11.3	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	1.50	0.200	--	6.52	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	95		60-140
Bromochloromethane	95		60-140
chlorobenzene-d5	92		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-06 D
Client ID: SV-3A
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:10
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 03/19/21 23:41
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	0.588	--	ND	2.91	--		2.941
Chloromethane	ND	0.588	--	ND	1.21	--		2.941
Freon-114	ND	0.588	--	ND	4.11	--		2.941
Vinyl chloride	ND	0.588	--	ND	1.50	--		2.941
1,3-Butadiene	ND	0.588	--	ND	1.30	--		2.941
Bromomethane	ND	0.588	--	ND	2.28	--		2.941
Chloroethane	ND	0.588	--	ND	1.55	--		2.941
Ethanol	22.0	14.7	--	41.5	27.7	--		2.941
Vinyl bromide	ND	0.588	--	ND	2.57	--		2.941
Acetone	ND	2.94	--	ND	6.98	--		2.941
Trichlorofluoromethane	ND	0.588	--	ND	3.30	--		2.941
Isopropanol	ND	1.47	--	ND	3.61	--		2.941
1,1-Dichloroethene	ND	0.588	--	ND	2.33	--		2.941
Tertiary butyl Alcohol	2.58	1.47	--	7.82	4.46	--		2.941
Methylene chloride	ND	1.47	--	ND	5.11	--		2.941
3-Chloropropene	ND	0.588	--	ND	1.84	--		2.941
Carbon disulfide	ND	0.588	--	ND	1.83	--		2.941
Freon-113	ND	0.588	--	ND	4.51	--		2.941
trans-1,2-Dichloroethene	ND	0.588	--	ND	2.33	--		2.941
1,1-Dichloroethane	ND	0.588	--	ND	2.38	--		2.941
Methyl tert butyl ether	ND	0.588	--	ND	2.12	--		2.941
2-Butanone	ND	1.47	--	ND	4.34	--		2.941
cis-1,2-Dichloroethene	5.05	0.588	--	20.0	2.33	--		2.941

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-06 D
Client ID: SV-3A
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:10
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	1.47	--	ND	5.30	--		2.941
Chloroform	11.2	0.588	--	54.7	2.87	--		2.941
Tetrahydrofuran	ND	1.47	--	ND	4.34	--		2.941
1,2-Dichloroethane	ND	0.588	--	ND	2.38	--		2.941
n-Hexane	ND	0.588	--	ND	2.07	--		2.941
1,1,1-Trichloroethane	0.694	0.588	--	3.79	3.21	--		2.941
Benzene	ND	0.588	--	ND	1.88	--		2.941
Carbon tetrachloride	ND	0.588	--	ND	3.70	--		2.941
Cyclohexane	ND	0.588	--	ND	2.02	--		2.941
1,2-Dichloropropane	ND	0.588	--	ND	2.72	--		2.941
Bromodichloromethane	ND	0.588	--	ND	3.94	--		2.941
1,4-Dioxane	ND	0.588	--	ND	2.12	--		2.941
Trichloroethene	180	0.588	--	967	3.16	--		2.941
2,2,4-Trimethylpentane	ND	0.588	--	ND	2.75	--		2.941
Heptane	ND	0.588	--	ND	2.41	--		2.941
cis-1,3-Dichloropropene	ND	0.588	--	ND	2.67	--		2.941
4-Methyl-2-pentanone	ND	1.47	--	ND	6.02	--		2.941
trans-1,3-Dichloropropene	ND	0.588	--	ND	2.67	--		2.941
1,1,2-Trichloroethane	ND	0.588	--	ND	3.21	--		2.941
Toluene	3.18	0.588	--	12.0	2.22	--		2.941
2-Hexanone	ND	0.588	--	ND	2.41	--		2.941
Dibromochloromethane	ND	0.588	--	ND	5.01	--		2.941
1,2-Dibromoethane	ND	0.588	--	ND	4.52	--		2.941
Tetrachloroethene	67.9	0.588	--	460	3.99	--		2.941
Chlorobenzene	ND	0.588	--	ND	2.71	--		2.941
Ethylbenzene	2.74	0.588	--	11.9	2.55	--		2.941

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-06 D
Client ID: SV-3A
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:10
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	4.56	1.18	--	19.8	5.13	--		2.941
Bromoform	ND	0.588	--	ND	6.08	--		2.941
Styrene	ND	0.588	--	ND	2.50	--		2.941
1,1,2,2-Tetrachloroethane	ND	0.588	--	ND	4.04	--		2.941
o-Xylene	2.59	0.588	--	11.2	2.55	--		2.941
4-Ethyltoluene	ND	0.588	--	ND	2.89	--		2.941
1,3,5-Trimethylbenzene	ND	0.588	--	ND	2.89	--		2.941
1,2,4-Trimethylbenzene	ND	0.588	--	ND	2.89	--		2.941
Benzyl chloride	ND	0.588	--	ND	3.04	--		2.941
1,3-Dichlorobenzene	ND	0.588	--	ND	3.54	--		2.941
1,4-Dichlorobenzene	ND	0.588	--	ND	3.54	--		2.941
1,2-Dichlorobenzene	ND	0.588	--	ND	3.54	--		2.941
1,2,4-Trichlorobenzene	ND	0.588	--	ND	4.36	--		2.941
Hexachlorobutadiene	ND	0.588	--	ND	6.27	--		2.941

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	93		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	89		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-07
Client ID: SV-4
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:19
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 03/20/21 00:20
Analyst: TS

	ppbV			ug/m3				
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.582	0.200	--	2.88	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	24.4	5.00	--	46.0	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	3.86	1.00	--	9.17	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	4.20	0.500	--	10.3	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	0.782	0.500	--	2.37	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	1.24	0.500	--	3.66	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-07
Client ID: SV-4
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:19
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	2.18	0.200	--	10.6	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	3.90	0.200	--	21.0	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.589	0.200	--	2.22	0.754	--		1
2-Hexanone	0.216	0.200	--	0.885	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	0.687	0.200	--	4.66	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	0.459	0.200	--	1.99	0.869	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-07
Client ID: SV-4
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:19
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	0.812	0.400	--	3.53	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.430	0.200	--	1.87	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	93		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	89		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-08
Client ID: SV-5A
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:50
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 03/20/21 00:59
Analyst: TS

	ppbV			ug/m3				
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.395	0.200	--	1.95	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	396	5.00	--	746	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	23.5	1.00	--	55.8	2.38	--		1
Trichlorofluoromethane	0.509	0.200	--	2.86	1.12	--		1
Isopropanol	17.2	0.500	--	42.3	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	3.87	0.500	--	11.7	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	0.986	0.500	--	2.91	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-08
Client ID: SV-5A
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:50
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	0.437	0.200	--	2.13	0.977	--		1
Tetrahydrofuran	1.13	0.500	--	3.33	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	0.217	0.200	--	0.747	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	1.47	0.200	--	7.90	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	3.47	0.200	--	13.1	0.754	--		1
2-Hexanone	0.396	0.200	--	1.62	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	1.41	0.200	--	9.56	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	3.01	0.200	--	13.1	0.869	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-08
Client ID: SV-5A
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:50
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	4.97	0.400	--	21.6	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	0.255	0.200	--	1.09	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	2.88	0.200	--	12.5	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	94		60-140
Bromochloromethane	94		60-140
chlorobenzene-d5	92		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-09
Client ID: SV-5B
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 10:01
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 03/20/21 01:39
Analyst: TS

	ppbV			ug/m3				
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.414	0.200	--	2.05	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	15.2	5.00	--	28.6	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	5.30	1.00	--	12.6	2.38	--		1
Trichlorofluoromethane	0.326	0.200	--	1.83	1.12	--		1
Isopropanol	1.62	0.500	--	3.98	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	5.79	0.500	--	17.6	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	0.640	0.500	--	1.89	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-09
Client ID: SV-5B
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 10:01
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	7.93	0.200	--	38.7	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	0.426	0.200	--	2.68	1.26	--		1
Cyclohexane	0.240	0.200	--	0.826	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	1.06	0.200	--	5.70	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	3.96	0.200	--	14.9	0.754	--		1
2-Hexanone	1.16	0.200	--	4.75	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	8.82	0.200	--	59.8	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	3.63	0.200	--	15.8	0.869	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-09
Client ID: SV-5B
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 10:01
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	6.08	0.400	--	26.4	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	0.330	0.200	--	1.41	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	3.43	0.200	--	14.9	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	93		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	90		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-10
Client ID: SV-DUP-1
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 00:00
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 03/20/21 02:18
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.403	0.200	--	1.99	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	68.2	5.00	--	129	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	120	1.00	--	285	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	6.29	0.500	--	15.5	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	0.508	0.500	--	1.54	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	0.403	0.200	--	1.25	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	0.353	0.200	--	1.43	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	1.39	0.500	--	4.10	1.47	--		1
cis-1,2-Dichloroethene	0.645	0.200	--	2.56	0.793	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-10
Client ID: SV-DUP-1
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 00:00
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	0.408	0.200	--	1.99	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	0.857	0.200	--	4.68	1.09	--		1
Benzene	0.212	0.200	--	0.677	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	16.9	0.200	--	90.8	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.527	0.200	--	1.99	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	5.60	0.200	--	38.0	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-10
Client ID: SV-DUP-1
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 00:00
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	90		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	85		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-11
Client ID: SV-DUP-2
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 00:00
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 03/20/21 02:57
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.503	0.200	--	2.49	0.989	--		1
Chloromethane	0.373	0.200	--	0.770	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	42.0	5.00	--	79.1	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	5.98	1.00	--	14.2	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	9.86	0.500	--	24.2	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	1.78	0.500	--	5.40	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	1.74	0.500	--	5.13	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-11
Client ID: SV-DUP-2
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 00:00
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	0.643	0.200	--	3.14	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	3.03	0.200	--	16.3	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	1.02	0.200	--	3.84	0.754	--		1
2-Hexanone	0.371	0.200	--	1.52	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	0.835	0.200	--	5.66	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	0.790	0.200	--	3.43	0.869	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-11
Client ID: SV-DUP-2
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 00:00
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	1.43	0.400	--	6.21	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.670	0.200	--	2.91	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	0.347	0.200	--	1.71	0.983	--		1
1,2,4-Trimethylbenzene	0.341	0.200	--	1.68	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	91		60-140
Bromochloromethane	90		60-140
chlorobenzene-d5	87		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-12
Client ID: IA-1
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:20
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/19/21 16:37
Analyst: TS

	ppbV			ug/m3				
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.402	0.200	--	1.99	0.989	--		1
Chloromethane	0.430	0.200	--	0.888	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	15.2	5.00	--	28.6	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	1.37	0.500	--	3.37	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-12
Client ID: IA-1
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:20
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Benzene	0.275	0.200	--	0.879	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.554	0.200	--	2.09	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-12
Client ID: IA-1
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:20
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	100		60-140
Bromochloromethane	100		60-140
chlorobenzene-d5	97		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-12
Client ID: IA-1
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:20
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/19/21 16:37
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.063	0.020	--	0.396	0.126	--		1
Trichloroethene	0.081	0.020	--	0.435	0.107	--		1
Tetrachloroethene	0.164	0.020	--	1.11	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	99		60-140
bromochloromethane	100		60-140
chlorobenzene-d5	97		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-13
Client ID: IA-2
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:40
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/19/21 17:16
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.420	0.200	--	2.08	0.989	--		1
Chloromethane	0.467	0.200	--	0.964	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	237	5.00	--	447	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	19.8	1.00	--	47.0	2.38	--		1
Trichlorofluoromethane	0.224	0.200	--	1.26	1.12	--		1
Isopropanol	2.45	0.500	--	6.02	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-13
Client ID: IA-2
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:40
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.207	0.200	--	0.730	0.705	--		1
Benzene	0.324	0.200	--	1.04	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.627	0.200	--	2.36	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	0.284	0.200	--	1.23	0.869	--		1
p/m-Xylene	1.06	0.400	--	4.60	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.304	0.200	--	1.32	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-13
Client ID: IA-2
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:40
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	0.255	0.200	--	1.25	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	98		60-140
Bromochloromethane	98		60-140
chlorobenzene-d5	96		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-13
Client ID: IA-2
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:40
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/19/21 17:16
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.067	0.020	--	0.421	0.126	--		1
Trichloroethene	0.076	0.020	--	0.408	0.107	--		1
Tetrachloroethene	0.116	0.020	--	0.787	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	97		60-140
bromochloromethane	99		60-140
chlorobenzene-d5	96		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-14
Client ID: IA-3
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:09
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/19/21 18:34
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.431	0.200	--	2.13	0.989	--		1
Chloromethane	0.479	0.200	--	0.989	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	108	5.00	--	203	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	7.68	1.00	--	18.2	2.38	--		1
Trichlorofluoromethane	0.229	0.200	--	1.29	1.12	--		1
Isopropanol	2.53	0.500	--	6.22	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	0.426	0.200	--	2.08	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-14
Client ID: IA-3
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:09
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Benzene	0.364	0.200	--	1.16	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.552	0.200	--	2.08	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	0.439	0.400	--	1.91	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-14
Client ID: IA-3
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:09
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	0.334	0.200	--	1.64	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	97		60-140
Bromochloromethane	98		60-140
chlorobenzene-d5	95		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-14
Client ID: IA-3
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:09
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/19/21 18:34
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.064	0.020	--	0.403	0.126	--		1
Trichloroethene	0.398	0.020	--	2.14	0.107	--		1
Tetrachloroethene	0.308	0.020	--	2.09	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	97		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	94		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-15
Client ID: IA-4A
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:42
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/19/21 19:15
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.408	0.200	--	2.02	0.989	--		1
Chloromethane	0.532	0.200	--	1.10	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	472	5.00	--	889	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	15.3	1.00	--	36.3	2.38	--		1
Trichlorofluoromethane	0.226	0.200	--	1.27	1.12	--		1
Isopropanol	93.4	0.500	--	230	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	0.521	0.500	--	1.54	1.47	--		1
Ethyl Acetate	0.733	0.500	--	2.64	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-15
Client ID: IA-4A
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:42
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.247	0.200	--	0.871	0.705	--		1
Benzene	0.341	0.200	--	1.09	0.639	--		1
Cyclohexane	0.565	0.200	--	1.94	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	8.56	0.200	--	35.1	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	1.41	0.200	--	5.31	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	0.442	0.400	--	1.92	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-15
Client ID: IA-4A
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:42
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	99		60-140
Bromochloromethane	99		60-140
chlorobenzene-d5	98		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-15
Client ID: IA-4A
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:42
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/19/21 19:15
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.062	0.020	--	0.390	0.126	--		1
Trichloroethene	0.064	0.020	--	0.344	0.107	--		1
Tetrachloroethene	0.153	0.020	--	1.04	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	98		60-140
bromochloromethane	100		60-140
chlorobenzene-d5	98		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-16
Client ID: IA-4B
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:02
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/19/21 19:54
Analyst: TS

	ppbV			ug/m3				
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.415	0.200	--	2.05	0.989	--		1
Chloromethane	0.486	0.200	--	1.00	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	104	5.00	--	196	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	6.58	1.00	--	15.6	2.38	--		1
Trichlorofluoromethane	0.226	0.200	--	1.27	1.12	--		1
Isopropanol	14.3	0.500	--	35.2	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-16
Client ID: IA-4B
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:02
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Benzene	0.337	0.200	--	1.08	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	0.427	0.200	--	1.75	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.685	0.200	--	2.58	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	0.261	0.200	--	1.13	0.869	--		1
p/m-Xylene	1.02	0.400	--	4.43	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.300	0.200	--	1.30	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-16
Client ID: IA-4B
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:02
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	98		60-140
Bromochloromethane	99		60-140
chlorobenzene-d5	96		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-16
Client ID: IA-4B
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:02
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/19/21 19:54
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.067	0.020	--	0.421	0.126	--		1
Trichloroethene	0.169	0.020	--	0.908	0.107	--		1
Tetrachloroethene	0.150	0.020	--	1.02	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	98		60-140
bromochloromethane	99		60-140
chlorobenzene-d5	95		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-17
Client ID: IA-4C
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:15
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/19/21 17:51
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.505	0.200	--	2.50	0.989	--		1
Chloromethane	0.646	0.200	--	1.33	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	822	5.00	--	1550	9.42	--	E	1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	28.4	1.00	--	67.5	2.38	--		1
Trichlorofluoromethane	0.405	0.200	--	2.28	1.12	--		1
Isopropanol	37.2	0.500	--	91.4	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	0.720	0.500	--	2.12	1.47	--		1
Ethyl Acetate	3.84	0.500	--	13.8	1.80	--		1
Chloroform	0.958	0.200	--	4.68	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-17
Client ID: IA-4C
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:15
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	0.256	0.200	--	1.04	0.809	--		1
n-Hexane	0.217	0.200	--	0.765	0.705	--		1
Benzene	0.366	0.200	--	1.17	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	0.667	0.200	--	2.73	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.797	0.200	--	3.00	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	0.426	0.400	--	1.85	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-17
Client ID: IA-4C
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:15
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	92		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	96		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-17
Client ID: IA-4C
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:15
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/19/21 17:51
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.094	0.020	--	0.591	0.126	--		1
Trichloroethene	0.229	0.020	--	1.23	0.107	--		1
Tetrachloroethene	0.376	0.020	--	2.55	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	91		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	98		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-17 D
Client ID: IA-4C
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:15
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/20/21 08:50
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Ethanol	958	25.0	--	1810	47.1	--		5

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	90		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	95		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-18
Client ID: IA-4D
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:17
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/19/21 18:30
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.458	0.200	--	2.26	0.989	--		1
Chloromethane	0.807	0.200	--	1.67	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	0.345	0.200	--	0.763	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	230	5.00	--	433	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	13.2	1.00	--	31.4	2.38	--		1
Trichlorofluoromethane	0.261	0.200	--	1.47	1.12	--		1
Isopropanol	25.2	0.500	--	61.9	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	0.678	0.500	--	2.00	1.47	--		1
Ethyl Acetate	0.991	0.500	--	3.57	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-18
Client ID: IA-4D
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:17
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.251	0.200	--	0.885	0.705	--		1
Benzene	0.490	0.200	--	1.57	0.639	--		1
Cyclohexane	0.210	0.200	--	0.723	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	2.09	0.200	--	8.57	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.989	0.200	--	3.73	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	0.493	0.400	--	2.14	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-18
Client ID: IA-4D
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:17
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	97		60-140
Bromochloromethane	98		60-140
chlorobenzene-d5	100		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-18
Client ID: IA-4D
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:17
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/19/21 18:30
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.073	0.020	--	0.459	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	0.057	0.020	--	0.387	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	96		60-140
bromochloromethane	102		60-140
chlorobenzene-d5	103		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-19
Client ID: IA-4E
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:12
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/19/21 19:49
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.503	0.200	--	2.49	0.989	--		1
Chloromethane	0.472	0.200	--	0.975	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	55.8	5.00	--	105	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	4.85	1.00	--	11.5	2.38	--		1
Trichlorofluoromethane	0.325	0.200	--	1.83	1.12	--		1
Isopropanol	9.74	0.500	--	23.9	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-19
Client ID: IA-4E
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:12
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Benzene	0.265	0.200	--	0.847	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.429	0.200	--	1.62	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-19
Client ID: IA-4E
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:12
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	90		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	93		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-19
Client ID: IA-4E
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:12
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/19/21 19:49
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.076	0.020	--	0.478	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	0.043	0.020	--	0.292	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	88		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	96		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-20
Client ID: IA-4F
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:11
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/19/21 20:29
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.504	0.200	--	2.49	0.989	--		1
Chloromethane	0.501	0.200	--	1.03	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	109	5.00	--	205	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	18.6	1.00	--	44.2	2.38	--		1
Trichlorofluoromethane	0.430	0.200	--	2.42	1.12	--		1
Isopropanol	18.4	0.500	--	45.2	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	0.755	0.500	--	2.23	1.47	--		1
Ethyl Acetate	1.02	0.500	--	3.68	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-20
Client ID: IA-4F
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:11
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.209	0.200	--	0.737	0.705	--		1
Benzene	0.290	0.200	--	0.926	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	0.355	0.200	--	1.45	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	1.02	0.200	--	3.84	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	0.354	0.200	--	1.54	0.869	--		1
p/m-Xylene	1.38	0.400	--	5.99	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	0.238	0.200	--	1.01	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.401	0.200	--	1.74	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-20
Client ID: IA-4F
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:11
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	0.242	0.200	--	1.19	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	88		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	92		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-20
Client ID: IA-4F
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:11
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/19/21 20:29
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.087	0.020	--	0.547	0.126	--		1
Trichloroethene	0.096	0.020	--	0.516	0.107	--		1
Tetrachloroethene	0.066	0.020	--	0.448	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	88		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	95		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-21
Client ID: IA-4G
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:14
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/19/21 21:08
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.502	0.200	--	2.48	0.989	--		1
Chloromethane	0.594	0.200	--	1.23	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	514	5.00	--	969	9.42	--	E	1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	26.4	1.00	--	62.7	2.38	--		1
Trichlorofluoromethane	0.872	0.200	--	4.90	1.12	--		1
Isopropanol	38.2	0.500	--	93.9	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	1.19	0.500	--	3.51	1.47	--		1
Ethyl Acetate	2.39	0.500	--	8.61	1.80	--		1
Chloroform	0.623	0.200	--	3.04	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-21
Client ID: IA-4G
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:14
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	0.396	0.200	--	1.60	0.809	--		1
n-Hexane	0.202	0.200	--	0.712	0.705	--		1
Benzene	0.423	0.200	--	1.35	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	0.263	0.200	--	1.08	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.808	0.200	--	3.04	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	0.583	0.400	--	2.53	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.215	0.200	--	0.934	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-21
Client ID: IA-4G
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:14
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	0.216	0.200	--	1.06	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	88		60-140
Bromochloromethane	90		60-140
chlorobenzene-d5	89		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-21
Client ID: IA-4G
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:14
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/19/21 21:08
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.094	0.020	--	0.591	0.126	--		1
Trichloroethene	0.062	0.020	--	0.333	0.107	--		1
Tetrachloroethene	0.084	0.020	--	0.570	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	87		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	92		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-21 D
Client ID: IA-4G
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:14
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/20/21 09:28
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Ethanol	416	12.5	--	784	23.6	--		2.5

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	81		60-140
Bromochloromethane	88		60-140
chlorobenzene-d5	80		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-22
Client ID: IA-4H
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:00
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/19/21 21:48
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.497	0.200	--	2.46	0.989	--		1
Chloromethane	0.522	0.200	--	1.08	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	153	5.00	--	288	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	10.4	1.00	--	24.7	2.38	--		1
Trichlorofluoromethane	0.444	0.200	--	2.50	1.12	--		1
Isopropanol	21.2	0.500	--	52.1	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	0.575	0.500	--	1.70	1.47	--		1
Ethyl Acetate	0.699	0.500	--	2.52	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-22
Client ID: IA-4H
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:00
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Benzene	0.320	0.200	--	1.02	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	0.458	0.200	--	1.88	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.657	0.200	--	2.48	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	0.475	0.400	--	2.06	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-22
Client ID: IA-4H
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:00
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	0.203	0.200	--	0.998	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	90		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	95		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-22
Client ID: IA-4H
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 09:00
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/19/21 21:48
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.085	0.020	--	0.535	0.126	--		1
Trichloroethene	0.047	0.020	--	0.253	0.107	--		1
Tetrachloroethene	0.074	0.020	--	0.502	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	89		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	97		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-23
Client ID: IA-5
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 10:07
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/19/21 22:27
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.492	0.200	--	2.43	0.989	--		1
Chloromethane	0.476	0.200	--	0.983	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	479	5.00	--	903	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	10.2	1.00	--	24.2	2.38	--		1
Trichlorofluoromethane	1.11	0.200	--	6.24	1.12	--		1
Isopropanol	47.4	0.500	--	117	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	0.797	0.500	--	2.35	1.47	--		1
Ethyl Acetate	2.47	0.500	--	8.90	1.80	--		1
Chloroform	0.271	0.200	--	1.32	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-23
Client ID: IA-5
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 10:07
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Benzene	0.329	0.200	--	1.05	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	0.202	0.200	--	0.828	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.742	0.200	--	2.80	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	0.456	0.400	--	1.98	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-23
Client ID: IA-5
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 10:07
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	0.283	0.200	--	1.39	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	92		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	96		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-23
Client ID: IA-5
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 10:07
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/19/21 22:27
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.093	0.020	--	0.585	0.126	--		1
Trichloroethene	0.055	0.020	--	0.296	0.107	--		1
Tetrachloroethene	0.078	0.020	--	0.529	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	92		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	99		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-24
Client ID: IA-DUP-1
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 00:00
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/19/21 23:07
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.497	0.200	--	2.46	0.989	--		1
Chloromethane	0.524	0.200	--	1.08	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	438	5.00	--	825	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	16.4	1.00	--	39.0	2.38	--		1
Trichlorofluoromethane	0.336	0.200	--	1.89	1.12	--		1
Isopropanol	104	0.500	--	256	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	0.519	0.500	--	1.53	1.47	--		1
Ethyl Acetate	0.955	0.500	--	3.44	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-24
Client ID: IA-DUP-1
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 00:00
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.242	0.200	--	0.853	0.705	--		1
Benzene	0.336	0.200	--	1.07	0.639	--		1
Cyclohexane	0.533	0.200	--	1.83	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	8.44	0.200	--	34.6	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	1.37	0.200	--	5.16	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	0.481	0.400	--	2.09	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-24
Client ID: IA-DUP-1
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 00:00
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	93		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	97		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-24
Client ID: IA-DUP-1
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 00:00
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/19/21 23:07
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.082	0.020	--	0.516	0.126	--		1
Trichloroethene	0.069	0.020	--	0.371	0.107	--		1
Tetrachloroethene	0.153	0.020	--	1.04	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	92		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	101		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-25
Client ID: IA-DUP-2
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 00:00
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/19/21 23:46
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.491	0.200	--	2.43	0.989	--		1
Chloromethane	0.473	0.200	--	0.977	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	467	5.00	--	880	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	10.1	1.00	--	24.0	2.38	--		1
Trichlorofluoromethane	1.06	0.200	--	5.96	1.12	--		1
Isopropanol	46.4	0.500	--	114	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	0.838	0.500	--	2.47	1.47	--		1
Ethyl Acetate	2.38	0.500	--	8.58	1.80	--		1
Chloroform	0.257	0.200	--	1.26	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-25
Client ID: IA-DUP-2
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 00:00
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.212	0.200	--	0.747	0.705	--		1
Benzene	0.331	0.200	--	1.06	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	0.204	0.200	--	0.836	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.739	0.200	--	2.78	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	0.431	0.400	--	1.87	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-25
Client ID: IA-DUP-2
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 00:00
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	0.246	0.200	--	1.21	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	94		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	97		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-25
Client ID: IA-DUP-2
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 00:00
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/19/21 23:46
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.083	0.020	--	0.522	0.126	--		1
Trichloroethene	0.054	0.020	--	0.290	0.107	--		1
Tetrachloroethene	0.077	0.020	--	0.522	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	93		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	100		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-26
Client ID: OA-1
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:59
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/20/21 00:25
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.487	0.200	--	2.41	0.989	--		1
Chloromethane	0.432	0.200	--	0.892	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	10.3	5.00	--	19.4	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	2.69	1.00	--	6.39	2.38	--		1
Trichlorofluoromethane	0.301	0.200	--	1.69	1.12	--		1
Isopropanol	2.09	0.500	--	5.14	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-26
Client ID: OA-1
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:59
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Benzene	0.234	0.200	--	0.748	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.387	0.200	--	1.46	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-26
Client ID: OA-1
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:59
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	90		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	95		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

SAMPLE RESULTS

Lab ID: L2112425-26
Client ID: OA-1
Sample Location: 100 SOUTH 4TH ST, BROOKLYN

Date Collected: 03/12/21 08:59
Date Received: 03/12/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/20/21 00:25
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.078	0.020	--	0.491	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	0.048	0.020	--	0.325	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	89		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	98		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 03/19/21 13:36

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-16 Batch: WG1476560-4								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 03/19/21 13:36

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-16 Batch: WG1476560-4								
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 03/19/21 13:36

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-16 Batch: WG1476560-4								
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 03/19/21 13:36

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 12-16 Batch: WG1476562-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1

Project Name: 100 SOUTH 4TH ST. **Lab Number:** L2112425

Project Number: 13817 **Report Date:** 03/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 03/19/21 14:49

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 17-26 Batch: WG1476567-4								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 03/19/21 14:49

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 17-26 Batch: WG1476567-4								
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 03/19/21 14:49

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 17-26 Batch: WG1476567-4								
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 03/19/21 15:29

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 17-26 Batch: WG1476568-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: 100 SOUTH 4TH ST.

Project Number: 13817

Lab Number: L2112425

Report Date: 03/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-16 Batch: WG1476560-3								
Dichlorodifluoromethane	99		-		70-130	-		
Chloromethane	91		-		70-130	-		
Freon-114	97		-		70-130	-		
Vinyl chloride	97		-		70-130	-		
1,3-Butadiene	101		-		70-130	-		
Bromomethane	96		-		70-130	-		
Chloroethane	93		-		70-130	-		
Ethanol	90		-		40-160	-		
Vinyl bromide	92		-		70-130	-		
Acetone	77		-		40-160	-		
Trichlorofluoromethane	94		-		70-130	-		
Isopropanol	77		-		40-160	-		
1,1-Dichloroethene	98		-		70-130	-		
Tertiary butyl Alcohol	98		-		70-130	-		
Methylene chloride	99		-		70-130	-		
3-Chloropropene	99		-		70-130	-		
Carbon disulfide	92		-		70-130	-		
Freon-113	95		-		70-130	-		
trans-1,2-Dichloroethene	94		-		70-130	-		
1,1-Dichloroethane	94		-		70-130	-		
Methyl tert butyl ether	101		-		70-130	-		
2-Butanone	93		-		70-130	-		
cis-1,2-Dichloroethene	99		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-16 Batch: WG1476560-3								
Ethyl Acetate	86		-		70-130	-		
Chloroform	101		-		70-130	-		
Tetrahydrofuran	95		-		70-130	-		
1,2-Dichloroethane	96		-		70-130	-		
n-Hexane	101		-		70-130	-		
1,1,1-Trichloroethane	97		-		70-130	-		
Benzene	96		-		70-130	-		
Carbon tetrachloride	102		-		70-130	-		
Cyclohexane	104		-		70-130	-		
1,2-Dichloropropane	96		-		70-130	-		
Bromodichloromethane	103		-		70-130	-		
1,4-Dioxane	104		-		70-130	-		
Trichloroethene	99		-		70-130	-		
2,2,4-Trimethylpentane	104		-		70-130	-		
Heptane	96		-		70-130	-		
cis-1,3-Dichloropropene	110		-		70-130	-		
4-Methyl-2-pentanone	101		-		70-130	-		
trans-1,3-Dichloropropene	96		-		70-130	-		
1,1,2-Trichloroethane	100		-		70-130	-		
Toluene	94		-		70-130	-		
2-Hexanone	108		-		70-130	-		
Dibromochloromethane	103		-		70-130	-		
1,2-Dibromoethane	101		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-16 Batch: WG1476560-3								
Tetrachloroethene	98		-		70-130	-		
Chlorobenzene	100		-		70-130	-		
Ethylbenzene	102		-		70-130	-		
p/m-Xylene	101		-		70-130	-		
Bromoform	104		-		70-130	-		
Styrene	107		-		70-130	-		
1,1,2,2-Tetrachloroethane	105		-		70-130	-		
o-Xylene	103		-		70-130	-		
4-Ethyltoluene	100		-		70-130	-		
1,3,5-Trimethylbenzene	103		-		70-130	-		
1,2,4-Trimethylbenzene	108		-		70-130	-		
Benzyl chloride	98		-		70-130	-		
1,3-Dichlorobenzene	104		-		70-130	-		
1,4-Dichlorobenzene	103		-		70-130	-		
1,2-Dichlorobenzene	104		-		70-130	-		
1,2,4-Trichlorobenzene	108		-		70-130	-		
Hexachlorobutadiene	112		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 12-16 Batch: WG1476562-3								
Vinyl chloride	92		-		70-130	-		25
1,1-Dichloroethene	97		-		70-130	-		25
cis-1,2-Dichloroethene	99		-		70-130	-		25
1,1,1-Trichloroethane	93		-		70-130	-		25
Carbon tetrachloride	99		-		70-130	-		25
Trichloroethene	93		-		70-130	-		25
Tetrachloroethene	96		-		70-130	-		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 17-26 Batch: WG1476567-3								
Dichlorodifluoromethane	100		-		70-130	-		
Chloromethane	78		-		70-130	-		
Freon-114	90		-		70-130	-		
Vinyl chloride	84		-		70-130	-		
1,3-Butadiene	80		-		70-130	-		
Bromomethane	96		-		70-130	-		
Chloroethane	86		-		70-130	-		
Ethanol	64		-		40-160	-		
Vinyl bromide	95		-		70-130	-		
Acetone	82		-		40-160	-		
Trichlorofluoromethane	120		-		70-130	-		
Isopropanol	74		-		40-160	-		
1,1-Dichloroethene	102		-		70-130	-		
Tertiary butyl Alcohol	76		-		70-130	-		
Methylene chloride	92		-		70-130	-		
3-Chloropropene	94		-		70-130	-		
Carbon disulfide	88		-		70-130	-		
Freon-113	106		-		70-130	-		
trans-1,2-Dichloroethene	97		-		70-130	-		
1,1-Dichloroethane	100		-		70-130	-		
Methyl tert butyl ether	90		-		70-130	-		
2-Butanone	90		-		70-130	-		
cis-1,2-Dichloroethene	103		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 17-26 Batch: WG1476567-3								
Ethyl Acetate	96		-		70-130	-		
Chloroform	104		-		70-130	-		
Tetrahydrofuran	86		-		70-130	-		
1,2-Dichloroethane	107		-		70-130	-		
n-Hexane	88		-		70-130	-		
1,1,1-Trichloroethane	102		-		70-130	-		
Benzene	85		-		70-130	-		
Carbon tetrachloride	107		-		70-130	-		
Cyclohexane	88		-		70-130	-		
1,2-Dichloropropane	90		-		70-130	-		
Bromodichloromethane	98		-		70-130	-		
1,4-Dioxane	88		-		70-130	-		
Trichloroethene	96		-		70-130	-		
2,2,4-Trimethylpentane	91		-		70-130	-		
Heptane	86		-		70-130	-		
cis-1,3-Dichloropropene	92		-		70-130	-		
4-Methyl-2-pentanone	84		-		70-130	-		
trans-1,3-Dichloropropene	82		-		70-130	-		
1,1,2-Trichloroethane	99		-		70-130	-		
Toluene	89		-		70-130	-		
2-Hexanone	80		-		70-130	-		
Dibromochloromethane	109		-		70-130	-		
1,2-Dibromoethane	97		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 17-26 Batch: WG1476567-3								
Tetrachloroethene	97		-		70-130	-		
Chlorobenzene	95		-		70-130	-		
Ethylbenzene	99		-		70-130	-		
p/m-Xylene	102		-		70-130	-		
Bromoform	118		-		70-130	-		
Styrene	98		-		70-130	-		
1,1,2,2-Tetrachloroethane	102		-		70-130	-		
o-Xylene	105		-		70-130	-		
4-Ethyltoluene	103		-		70-130	-		
1,3,5-Trimethylbenzene	106		-		70-130	-		
1,2,4-Trimethylbenzene	110		-		70-130	-		
Benzyl chloride	101		-		70-130	-		
1,3-Dichlorobenzene	109		-		70-130	-		
1,4-Dichlorobenzene	113		-		70-130	-		
1,2-Dichlorobenzene	110		-		70-130	-		
1,2,4-Trichlorobenzene	120		-		70-130	-		
Hexachlorobutadiene	119		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817
Lab Number: L2112425
Report Date: 03/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 17-26 Batch: WG1476568-3								
Vinyl chloride	84		-		70-130	-		25
1,1-Dichloroethene	99		-		70-130	-		25
cis-1,2-Dichloroethene	99		-		70-130	-		25
1,1,1-Trichloroethane	97		-		70-130	-		25
Carbon tetrachloride	102		-		70-130	-		25
Trichloroethene	91		-		70-130	-		25
Tetrachloroethene	92		-		70-130	-		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-16 QC Batch ID: WG1476560-5 QC Sample: L2112425-13 Client ID: IA-2						
Dichlorodifluoromethane	0.420	0.419	ppbV	0		25
Chloromethane	0.467	0.459	ppbV	2		25
Freon-114	ND	ND	ppbV	NC		25
1,3-Butadiene	ND	ND	ppbV	NC		25
Bromomethane	ND	ND	ppbV	NC		25
Chloroethane	ND	ND	ppbV	NC		25
Ethanol	237	209	ppbV	13		25
Vinyl bromide	ND	ND	ppbV	NC		25
Acetone	19.8	19.7	ppbV	1		25
Trichlorofluoromethane	0.224	0.226	ppbV	1		25
Isopropanol	2.45	2.50	ppbV	2		25
Tertiary butyl Alcohol	ND	ND	ppbV	NC		25
Methylene chloride	ND	ND	ppbV	NC		25
3-Chloropropene	ND	ND	ppbV	NC		25
Carbon disulfide	ND	ND	ppbV	NC		25
Freon-113	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1-Dichloroethane	ND	ND	ppbV	NC		25
Methyl tert butyl ether	ND	ND	ppbV	NC		25
2-Butanone	ND	ND	ppbV	NC		25
Ethyl Acetate	ND	ND	ppbV	NC		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-16 QC Batch ID: WG1476560-5 QC Sample: L2112425-13 Client ID: IA-2						
Chloroform	ND	ND	ppbV	NC		25
Tetrahydrofuran	ND	ND	ppbV	NC		25
1,2-Dichloroethane	ND	ND	ppbV	NC		25
n-Hexane	0.207	0.203	ppbV	2		25
Benzene	0.324	0.325	ppbV	0		25
Cyclohexane	ND	ND	ppbV	NC		25
1,2-Dichloropropane	ND	ND	ppbV	NC		25
Bromodichloromethane	ND	ND	ppbV	NC		25
1,4-Dioxane	ND	ND	ppbV	NC		25
2,2,4-Trimethylpentane	ND	ND	ppbV	NC		25
Heptane	ND	ND	ppbV	NC		25
cis-1,3-Dichloropropene	ND	ND	ppbV	NC		25
4-Methyl-2-pentanone	ND	ND	ppbV	NC		25
trans-1,3-Dichloropropene	ND	ND	ppbV	NC		25
1,1,2-Trichloroethane	ND	ND	ppbV	NC		25
Toluene	0.627	0.623	ppbV	1		25
2-Hexanone	ND	ND	ppbV	NC		25
Dibromochloromethane	ND	ND	ppbV	NC		25
1,2-Dibromoethane	ND	ND	ppbV	NC		25
Chlorobenzene	ND	ND	ppbV	NC		25
Ethylbenzene	0.284	0.289	ppbV	2		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-16 QC Batch ID: WG1476560-5 QC Sample: L2112425-13 Client ID: IA-2						
p/m-Xylene	1.06	1.07	ppbV	1		25
Bromoform	ND	ND	ppbV	NC		25
Styrene	ND	ND	ppbV	NC		25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC		25
o-Xylene	0.304	0.310	ppbV	2		25
4-Ethyltoluene	ND	ND	ppbV	NC		25
1,3,5-Trimethylbenzene	ND	ND	ppbV	NC		25
1,2,4-Trimethylbenzene	0.255	0.253	ppbV	1		25
Benzyl chloride	ND	ND	ppbV	NC		25
1,3-Dichlorobenzene	ND	ND	ppbV	NC		25
1,4-Dichlorobenzene	ND	ND	ppbV	NC		25
1,2-Dichlorobenzene	ND	ND	ppbV	NC		25
1,2,4-Trichlorobenzene	ND	ND	ppbV	NC		25
Hexachlorobutadiene	ND	ND	ppbV	NC		25
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 12-16 QC Batch ID: WG1476562-5 QC Sample: L2112425-13 Client ID: IA-2						
Vinyl chloride	ND	ND	ppbV	NC		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1,1-Trichloroethane	ND	ND	ppbV	NC		25
Carbon tetrachloride	0.067	0.067	ppbV	0		25
Trichloroethene	0.076	0.075	ppbV	1		25
Tetrachloroethene	0.116	0.116	ppbV	0		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 17-26 QC Batch ID: WG1476567-5 QC Sample: L2112425-18 Client ID: IA-4D						
Dichlorodifluoromethane	0.458	0.471	ppbV	3		25
Chloromethane	0.807	0.829	ppbV	3		25
Freon-114	ND	ND	ppbV	NC		25
1,3-Butadiene	0.345	0.346	ppbV	0		25
Bromomethane	ND	ND	ppbV	NC		25
Chloroethane	ND	ND	ppbV	NC		25
Ethanol	230	232	ppbV	1		25
Vinyl bromide	ND	ND	ppbV	NC		25
Acetone	13.2	13.3	ppbV	1		25
Trichlorofluoromethane	0.261	0.266	ppbV	2		25
Isopropanol	25.2	25.3	ppbV	0		25
Tertiary butyl Alcohol	ND	ND	ppbV	NC		25
Methylene chloride	ND	ND	ppbV	NC		25
3-Chloropropene	ND	ND	ppbV	NC		25
Carbon disulfide	ND	ND	ppbV	NC		25
Freon-113	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1-Dichloroethane	ND	ND	ppbV	NC		25
Methyl tert butyl ether	ND	ND	ppbV	NC		25
2-Butanone	0.678	0.668	ppbV	1		25
Ethyl Acetate	0.991	1.03	ppbV	4		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 17-26 QC Batch ID: WG1476567-5 QC Sample: L2112425-18 Client ID: IA-4D						
Chloroform	ND	ND	ppbV	NC		25
Tetrahydrofuran	ND	ND	ppbV	NC		25
1,2-Dichloroethane	ND	ND	ppbV	NC		25
n-Hexane	0.251	0.254	ppbV	1		25
Benzene	0.490	0.484	ppbV	1		25
Cyclohexane	0.210	0.208	ppbV	1		25
1,2-Dichloropropane	ND	ND	ppbV	NC		25
Bromodichloromethane	ND	ND	ppbV	NC		25
1,4-Dioxane	ND	ND	ppbV	NC		25
2,2,4-Trimethylpentane	ND	ND	ppbV	NC		25
Heptane	2.09	2.07	ppbV	1		25
cis-1,3-Dichloropropene	ND	ND	ppbV	NC		25
4-Methyl-2-pentanone	ND	ND	ppbV	NC		25
trans-1,3-Dichloropropene	ND	ND	ppbV	NC		25
1,1,2-Trichloroethane	ND	ND	ppbV	NC		25
Toluene	0.989	0.977	ppbV	1		25
2-Hexanone	ND	ND	ppbV	NC		25
Dibromochloromethane	ND	ND	ppbV	NC		25
1,2-Dibromoethane	ND	ND	ppbV	NC		25
Chlorobenzene	ND	ND	ppbV	NC		25
Ethylbenzene	ND	ND	ppbV	NC		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 17-26 QC Batch ID: WG1476567-5 QC Sample: L2112425-18 Client ID: IA-4D						
p/m-Xylene	0.493	0.501	ppbV	2		25
Bromoform	ND	ND	ppbV	NC		25
Styrene	ND	ND	ppbV	NC		25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC		25
o-Xylene	ND	ND	ppbV	NC		25
4-Ethyltoluene	ND	ND	ppbV	NC		25
1,3,5-Trimethylbenzene	ND	ND	ppbV	NC		25
1,2,4-Trimethylbenzene	ND	ND	ppbV	NC		25
Benzyl chloride	ND	ND	ppbV	NC		25
1,3-Dichlorobenzene	ND	ND	ppbV	NC		25
1,4-Dichlorobenzene	ND	ND	ppbV	NC		25
1,2-Dichlorobenzene	ND	ND	ppbV	NC		25
1,2,4-Trichlorobenzene	ND	ND	ppbV	NC		25
Hexachlorobutadiene	ND	ND	ppbV	NC		25
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 17-26 QC Batch ID: WG1476568-5 QC Sample: L2112425-18 Client ID: IA-4D						
Vinyl chloride	ND	ND	ppbV	NC		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1,1-Trichloroethane	ND	ND	ppbV	NC		25
Carbon tetrachloride	0.073	0.078	ppbV	7		25
Trichloroethene	ND	ND	ppbV	NC		25
Tetrachloroethene	0.057	0.062	ppbV	8		25

Project Name: 100 SOUTH 4TH ST.

Lab Number: L2112425

Project Number: 13817

Report Date: 03/22/21

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2112425-01	SV-1A	0928	Flow 4	03/10/21	344971		-	-	-	Pass	3.0	3.2	6
L2112425-01	SV-1A	3378	6.0L Can	03/10/21	344971	L2110059-03	Pass	-29.4	-7.6	-	-	-	-
L2112425-02	SV-1B	01383	Flow 5	03/10/21	344971		-	-	-	Pass	3.0	2.9	3
L2112425-02	SV-1B	1889	6.0L Can	03/10/21	344971	L2110320-06	Pass	-29.6	-2.7	-	-	-	-
L2112425-03	SV-2A	01452	Flow 4	03/10/21	344971		-	-	-	Pass	3.0	3.0	0
L2112425-03	SV-2A	1556	6.0L Can	03/10/21	344971	L2110059-03	Pass	-29.5	-8.1	-	-	-	-
L2112425-04	SV-2B	0284	Flow 5	03/10/21	344971		-	-	-	Pass	3.0	2.8	7
L2112425-04	SV-2B	3078	6.0L Can	03/10/21	344971	L2110586-07	Pass	-29.3	-7.2	-	-	-	-
L2112425-05	SV-3B	01612	Flow 4	03/10/21	344971		-	-	-	Pass	3.0	3.2	6
L2112425-05	SV-3B	2914	6.0L Can	03/10/21	344971	L2110320-06	Pass	-29.0	0.0	-	-	-	-
L2112425-06	SV-3A	01178	Flow 5	03/10/21	344971		-	-	-	Pass	3.0	3.0	0
L2112425-06	SV-3A	2668	6.0L Can	03/10/21	344971	L2110320-06	Pass	-29.4	-6.6	-	-	-	-
L2112425-07	SV-4	01815	Flow 4	03/10/21	344971		-	-	-	Pass	3.0	3.0	0
L2112425-07	SV-4	950	6.0L Can	03/10/21	344971	L2110059-04	Pass	-29.6	-2.8	-	-	-	-
L2112425-08	SV-5A	0397	Flow 5	03/10/21	344971		-	-	-	Pass	3.0	3.0	0

Project Name: 100 SOUTH 4TH ST.

Lab Number: L2112425

Project Number: 13817

Report Date: 03/22/21

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2112425-08	SV-5A	2485	6.0L Can	03/10/21	344971	L2110059-04	Pass	-29.6	-7.5	-	-	-	-
L2112425-09	SV-5B	0072	Flow 5	03/10/21	344971		-	-	-	Pass	3.0	3.1	3
L2112425-09	SV-5B	2881	6.0L Can	03/10/21	344971	L2110928-04	Pass	-29.5	-10.2	-	-	-	-
L2112425-10	SV-DUP-1	01782	Flow 5	03/10/21	344971		-	-	-	Pass	3.0	3.2	6
L2112425-10	SV-DUP-1	3333	6.0L Can	03/10/21	344971	L2110059-03	Pass	-29.7	-5.9	-	-	-	-
L2112425-11	SV-DUP-2	0550	Flow 5	03/10/21	344971		-	-	-	Pass	3.0	3.2	6
L2112425-11	SV-DUP-2	3299	6.0L Can	03/10/21	344971	L2110059-04	Pass	-29.6	-6.2	-	-	-	-
L2112425-12	IA-1	0919	Flow 5	03/10/21	344971		-	-	-	Pass	3.0	2.7	11
L2112425-12	IA-1	2905	6.0L Can	03/10/21	344971	L2110320-06	Pass	-29.6	-8.7	-	-	-	-
L2112425-13	IA-2	01398	Flow 5	03/10/21	344971		-	-	-	Pass	3.0	4.6	42
L2112425-13	IA-2	1623	6.0L Can	03/10/21	344971	L2110320-06	Pass	-29.7	-5.6	-	-	-	-
L2112425-14	IA-3	01395	Flow 5	03/10/21	344971		-	-	-	Pass	3.0	3.0	0
L2112425-14	IA-3	3015	6.0L Can	03/10/21	344971	L2110320-06	Pass	-28.7	-7.1	-	-	-	-
L2112425-15	IA-4A	01405	Flow 5	03/10/21	344971		-	-	-	Pass	3.0	3.5	15
L2112425-15	IA-4A	2651	6.0L Can	03/10/21	344971	L2110320-06	Pass	-29.4	-10.9	-	-	-	-

Project Name: 100 SOUTH 4TH ST.

Lab Number: L2112425

Project Number: 13817

Report Date: 03/22/21

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2112425-16	IA-4B	0846	Flow 5	03/10/21	344971		-	-	-	Pass	3.0	3.8	24
L2112425-16	IA-4B	2098	6.0L Can	03/10/21	344971	L2110059-04	Pass	-29.6	-4.7	-	-	-	-
L2112425-17	IA-4C	0679	Flow 4	03/10/21	344971		-	-	-	Pass	3.0	3.1	3
L2112425-17	IA-4C	3261	6.0L Can	03/10/21	344971	L2110059-04	Pass	-29.7	-7.5	-	-	-	-
L2112425-18	IA-4D	01488	Flow 5	03/10/21	344971		-	-	-	Pass	3.0	5.4	57
L2112425-18	IA-4D	2958	6.0L Can	03/10/21	344971	L2110059-04	Pass	-29.5	0.0	-	-	-	-
L2112425-19	IA-4E	0158	Flow 5	03/10/21	344971		-	-	-	Pass	3.0	3.6	18
L2112425-19	IA-4E	2694	6.0L Can	03/10/21	344971	L2110059-03	Pass	-29.6	-6.2	-	-	-	-
L2112425-20	IA-4F	0027	Flow 5	03/10/21	344971		-	-	-	Pass	3.0	3.0	0
L2112425-20	IA-4F	3289	6.0L Can	03/10/21	344971	L2110059-03	Pass	-29.7	-8.3	-	-	-	-
L2112425-21	IA-4G	01301	Flow 5	03/10/21	344971		-	-	-	Pass	3.0	3.1	3
L2112425-21	IA-4G	762	6.0L Can	03/10/21	344971	L2110059-04	Pass	-29.5	-11.6	-	-	-	-
L2112425-22	IA-4H	02061	Flow 5	03/10/21	344971		-	-	-	Pass	3.0	2.7	11
L2112425-22	IA-4H	774	6.0L Can	03/10/21	344971	L2110059-03	Pass	-29.5	-8.4	-	-	-	-
L2112425-23	IA-5	01460	Flow 5	03/10/21	344971		-	-	-	Pass	3.0	3.3	10

Project Name: 100 SOUTH 4TH ST.

Lab Number: L2112425

Project Number: 13817

Report Date: 03/22/21

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2112425-23	IA-5	1866	6.0L Can	03/10/21	344971	L2110059-03	Pass	-29.6	-4.5	-	-	-	-
L2112425-24	IA-DUP-1	0124	Flow 5	03/10/21	344971		-	-	-	Pass	3.0	3.1	3
L2112425-24	IA-DUP-1	3346	6.0L Can	03/10/21	344971	L2110059-04	Pass	-29.5	-9.0	-	-	-	-
L2112425-25	IA-DUP-2	0482	Flow 5	03/10/21	344971		-	-	-	Pass	3.0	3.0	0
L2112425-25	IA-DUP-2	1812	6.0L Can	03/10/21	344971	L2110059-04	Pass	-29.5	-8.8	-	-	-	-
L2112425-26	OA-1	01038	Flow 5	03/10/21	344971		-	-	-	Pass	3.0	3.2	6
L2112425-26	OA-1	2568	6.0L Can	03/10/21	344971	L2110320-06	Pass	-29.4	-6.2	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110059
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110059-03
Client ID: CAN 3292 SHELF 45
Sample Location:

Date Collected: 03/01/21 16:00
Date Received: 03/02/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/02/21 18:43
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110059
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110059-03
Client ID: CAN 3292 SHELF 45
Sample Location:

Date Collected: 03/01/21 16:00
Date Received: 03/02/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110059
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110059-03
Client ID: CAN 3292 SHELF 45
Sample Location:

Date Collected: 03/01/21 16:00
Date Received: 03/02/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110059
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110059-03
Client ID: CAN 3292 SHELF 45
Sample Location:

Date Collected: 03/01/21 16:00
Date Received: 03/02/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110059
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110059-03
Client ID: CAN 3292 SHELF 45
Sample Location:

Date Collected: 03/01/21 16:00
Date Received: 03/02/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	87		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	86		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110059
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110059-03
Client ID: CAN 3292 SHELF 45
Sample Location:

Date Collected: 03/01/21 16:00
Date Received: 03/02/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/02/21 18:43
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2110059

Project Number: CANISTER QC BAT **Report Date:** 03/22/21

Air Canister Certification Results

Lab ID: L2110059-03
Client ID: CAN 3292 SHELF 45
Sample Location:

Date Collected: 03/01/21 16:00
Date Received: 03/02/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110059
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110059-03
Client ID: CAN 3292 SHELF 45
Sample Location:

Date Collected: 03/01/21 16:00
Date Received: 03/02/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	87		60-140
bromochloromethane	89		60-140
chlorobenzene-d5	85		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110059
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110059-04
Client ID: CAN 772 SHELF 46
Sample Location:

Date Collected: 03/01/21 16:00
Date Received: 03/02/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/02/21 19:24
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110059
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110059-04
Client ID: CAN 772 SHELF 46
Sample Location:

Date Collected: 03/01/21 16:00
Date Received: 03/02/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110059
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110059-04
Client ID: CAN 772 SHELF 46
Sample Location:

Date Collected: 03/01/21 16:00
Date Received: 03/02/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110059
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110059-04
Client ID: CAN 772 SHELF 46
Sample Location:

Date Collected: 03/01/21 16:00
Date Received: 03/02/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110059
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110059-04
Client ID: CAN 772 SHELF 46
Sample Location:

Date Collected: 03/01/21 16:00
Date Received: 03/02/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	86		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	85		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110059
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110059-04
Client ID: CAN 772 SHELF 46
Sample Location:

Date Collected: 03/01/21 16:00
Date Received: 03/02/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/02/21 19:24
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2110059
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110059-04
Client ID: CAN 772 SHELF 46
Sample Location:

Date Collected: 03/01/21 16:00
Date Received: 03/02/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110059
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110059-04
Client ID: CAN 772 SHELF 46
Sample Location:

Date Collected: 03/01/21 16:00
Date Received: 03/02/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	86		60-140
bromochloromethane	88		60-140
chlorobenzene-d5	85		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110320
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110320-06
Client ID: CAN 1969 SHELF 51
Sample Location:

Date Collected: 03/03/21 09:00
Date Received: 03/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/04/21 08:22
Analyst: EW

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2110320
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110320-06
Client ID: CAN 1969 SHELF 51
Sample Location:

Date Collected: 03/03/21 09:00
Date Received: 03/03/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110320
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110320-06
Client ID: CAN 1969 SHELF 51
Sample Location:

Date Collected: 03/03/21 09:00
Date Received: 03/03/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2110320
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110320-06
Client ID: CAN 1969 SHELF 51
Sample Location:

Date Collected: 03/03/21 09:00
Date Received: 03/03/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110320
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110320-06
Client ID: CAN 1969 SHELF 51
Sample Location:

Date Collected: 03/03/21 09:00
Date Received: 03/03/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	83		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	85		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110320
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110320-06
Client ID: CAN 1969 SHELF 51
Sample Location:

Date Collected: 03/03/21 09:00
Date Received: 03/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/04/21 08:22
Analyst: EW

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110320
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110320-06
Client ID: CAN 1969 SHELF 51
Sample Location:

Date Collected: 03/03/21 09:00
Date Received: 03/03/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110320
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110320-06
Client ID: CAN 1969 SHELF 51
Sample Location:

Date Collected: 03/03/21 09:00
Date Received: 03/03/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	83		60-140
bromochloromethane	88		60-140
chlorobenzene-d5	84		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110586
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110586-07
Client ID: CAN 790 SHELF 30
Sample Location:

Date Collected: 03/04/21 11:00
Date Received: 03/04/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/06/21 21:17
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2110586
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110586-07
Client ID: CAN 790 SHELF 30
Sample Location:

Date Collected: 03/04/21 11:00
Date Received: 03/04/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110586
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110586-07
Client ID: CAN 790 SHELF 30
Sample Location:

Date Collected: 03/04/21 11:00
Date Received: 03/04/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110586
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110586-07
Client ID: CAN 790 SHELF 30
Sample Location:

Date Collected: 03/04/21 11:00
Date Received: 03/04/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110586
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110586-07
Client ID: CAN 790 SHELF 30
Sample Location:

Date Collected: 03/04/21 11:00
Date Received: 03/04/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	94		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	96		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110586
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110586-07
Client ID: CAN 790 SHELF 30
Sample Location:

Date Collected: 03/04/21 11:00
Date Received: 03/04/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/06/21 21:17
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2110586
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110586-07
Client ID: CAN 790 SHELF 30
Sample Location:

Date Collected: 03/04/21 11:00
Date Received: 03/04/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2110586

Project Number: CANISTER QC BAT **Report Date:** 03/22/21

Air Canister Certification Results

Lab ID: L2110586-07
Client ID: CAN 790 SHELF 30
Sample Location:

Date Collected: 03/04/21 11:00
Date Received: 03/04/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	93		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	96		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110928
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110928-04
Client ID: CAN 1648 SHELF 57
Sample Location:

Date Collected: 03/04/21 16:00
Date Received: 03/05/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/07/21 01:09
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110928
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110928-04
Client ID: CAN 1648 SHELF 57
Sample Location:

Date Collected: 03/04/21 16:00
Date Received: 03/05/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110928
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110928-04
Client ID: CAN 1648 SHELF 57
Sample Location:

Date Collected: 03/04/21 16:00
Date Received: 03/05/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110928
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110928-04
Client ID: CAN 1648 SHELF 57
Sample Location:

Date Collected: 03/04/21 16:00
Date Received: 03/05/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110928
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110928-04
Client ID: CAN 1648 SHELF 57
Sample Location:

Date Collected: 03/04/21 16:00
Date Received: 03/05/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	96		60-140
Bromochloromethane	95		60-140
chlorobenzene-d5	96		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110928
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110928-04
Client ID: CAN 1648 SHELF 57
Sample Location:

Date Collected: 03/04/21 16:00
Date Received: 03/05/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/07/21 01:09
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2110928

Project Number: CANISTER QC BAT **Report Date:** 03/22/21

Air Canister Certification Results

Lab ID: L2110928-04
Client ID: CAN 1648 SHELF 57
Sample Location:

Date Collected: 03/04/21 16:00
Date Received: 03/05/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2110928
Report Date: 03/22/21

Air Canister Certification Results

Lab ID: L2110928-04
Client ID: CAN 1648 SHELF 57
Sample Location:

Date Collected: 03/04/21 16:00
Date Received: 03/05/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	96		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	95		60-140

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
NA	Present/Intact

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2112425-01A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2112425-02A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2112425-03A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2112425-04A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2112425-05A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2112425-06A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2112425-07A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2112425-08A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2112425-09A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2112425-10A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2112425-11A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2112425-12A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L2112425-13A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-SIM(30),TO15-LL(30)
L2112425-14A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-SIM(30),TO15-LL(30)
L2112425-15A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L2112425-16A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-SIM(30),TO15-LL(30)
L2112425-17A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-SIM(30),TO15-LL(30)
L2112425-18A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L2112425-19A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-SIM(30),TO15-LL(30)
L2112425-20A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-SIM(30),TO15-LL(30)
L2112425-21A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-SIM(30),TO15-LL(30)
L2112425-22A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L2112425-23A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name: 100 SOUTH 4TH ST.
Project Number: 13817

Lab Number: L2112425
Report Date: 03/22/21

Container Information

Container ID	*Container Type*	*Cooler*	*Initial pH*	*Final pH*	*Temp deg C*	*Pres*	*Seal*	*Frozen Date/Time*	*Analysis(*)*
L2112425-24A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L2112425-25A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L2112425-26A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	100 SOUTH 4TH ST.	**Lab Number:**	L2112425
Project Number:	13817	**Report Date:**	03/22/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	100 SOUTH 4TH ST.	**Lab Number:**	L2112425
Project Number:	13817	**Report Date:**	03/22/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report

Project Name:	100 SOUTH 4TH ST.	**Lab Number:**	L2112425
Project Number:	13817	**Report Date:**	03/22/21

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	100 SOUTH 4TH ST.	**Lab Number:**	L2112425
Project Number:	13817	**Report Date:**	03/22/21

REFERENCES

48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

PAGE 1 OF 3

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 3/13/21

ALPHA Job #: L2112425

Client Information

Client: Impact Environmental
Address: 170 Keyland Court
Phone: 631-265-8200
Fax:
Email:
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: 100 South 4th St.
Project Location: 100 South 4th St, Brooklyn
Project #: 13817
Project Manager: Chris C.
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☐ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☐ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

ANALYSIS

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	ID Can	ID - Flow Controller	TO-15	TO-15 SIM	APH Subject Non-petroleum HCs ☐	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
12425-01	SV-1A	3/12	9:15	8:29	-30.87	-9.27	SV	LR	6	3378	0728	Y					
02	SV-1B	3/12	9:17	8:25	-30.69	-6.91	SV	LR	6	1885	01383	Y					
03	SV-2A	3/12	9:12	8:40 ~~8:48~~	~~-30.68~~ -30.68	~~-9.48~~ -9.48	SV	LR	6	1556	01452	Y					
04	SV-2B	3/12	9:19	8:48	-30.64	-5.60	SV	LR	6	3078	0284	Y					
05	SV-3AB	3/12	9:11	9:00	-29.69	-6.87	SV	LR	6	2914	01612	Y					
06	SV-3BA	3/12	9:07	9:10	-30.54	-7.84	SV	LR	6	2668	01178	X					
07	SV-4	3/12	9:39	9:19	-29.61	-4.71	SV	LR	6	550	01815	Y					
08	SV-5A	3/12	9:25	9:50	-30.72	-8.62	SV	LR	6	2485	0357	X					
09	SV-5B	3/12	9:35	10:01	-30.62	-11.33	SV	LR	6	2881	0072	X					
10	SV-Dup-1	3/12	"		-30.88	-7.33	SV	LR	6	3333	01782	X					

*SAMPLE MATRIX CODES
AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Relinquished By:	Date/Time	Received By:	Date/Time:
	3/12/21 1245	AAL	3/12/21 1245
AAL	3/12/21 1925		3/12/21 2300
AAL	3/13/21 0500		3/13/21 0500

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

AIR ANALYSIS

PAGE 2 OF 3

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 3/13/21

ALPHA Job #: L2112425

Client Information

Client: Impact
Address: 170 keyland ct.
Phone: 631-269-8806
Fax:
Email:
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: 100 South 4th St.
Project Location: 100 South 4th St.
Project #: 13817
Project Manager: Chris C.
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☐ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☐ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

ANALYSIS

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH	Fixed Gases	Sulfides & Mercaptans by TO-15	☐ Subject Non-petroleum HCs	Sample Comments (i.e. PID)
11	SV-DUP-2	3/12	-	-	31.90	-7.10	~~IA~~ SV	LR	6	3299	0550	X						
12	IA-1	3/12	9:17	8:20	-31.07	-4.07	IA	LR	6	2905	0519	X						
13	IA-2	3/12	9:18	8:40	-30.60	-6.07	IA	LR	6	1623	01589	X						
14	IA-3	3/12	9:08	9:09	-25.50	-6.60	IA	LR	6	3015	01395	X						
15	IA-4A	3/12	9:36	9:42	-30.32	-7.82	IA	LR	6	2651	01405	X						
16	IA-4B	3/12	8:6	8:02	-31.05	-5.09	IA	LR	6	2078	0846	X						
17	IA-4C	3/12	8:12	8:15	-30.99	4.37	IA	LR	6	3261	0679	X						
18	IA-4D	3/12	8:14	8:17	-30.76	-0.09	IA	LR	6	2958	01488	X						
19	IA-4E	3/12	8:48	9:12	-30.55	-7.94	IA	LR	6	2694	0158	X						
20	IA-4F	3/12	8:50	9:11	-31.17	-0.09	IA	LR	6	3289	0027	X						

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

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Relinquished By:	Date/Time	Received By:	Date/Time:
AAL	3/12/21 1245	AAL	3/12/21 1245
	3/12/21 1925		3/12/21 2360
	3/13/21 0530		3/13/21 0800

Form No: 101-02 Rev: (25-Sep-15)

AIR ANALYSIS

PAGE 3 OF 3

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 3/13/21

ALPHA Job #: L2112423

Client Information

Client: 170 Iceyland Ct.
Address: Impact
Phone: 631-269-8800
Fax:
Email:
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: 100 South 4th
Project Location: 100 South 4th St.
Project #: 13817
Project Manager: Chris C.
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☐ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☐ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

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Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH (Subtract Non-petroleum HCs ☐)	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
21	IA-46	3/12	9:09	9:14	-30.74	9.17	IA	LR	6	762	01301	X					
22	IA-4H	3/12	8:56	9:00	-30.82	9.54	IA	LR	6	774	02061	X					
23	IA-5	3/12	9:30	10:07	-30.68	-5.40	IA	LR	6	1866	01460	X					
24	IA-DUP-1	3/12	[redacted]	[redacted]	-30.80	-9.76	IA	LR	6	3346	0129	X					
25	IA-DUP-2	3/12			-30.92	-9.64	IA	LR	6	1812	0482	X					
26	OA-1	3/12	9:10	8:59	-30.91	-7.22	OA	LR	6	2568	01038	X					

*SAMPLE MATRIX CODES
AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Relinquished By:	Date/Time	Received By:	Date/Time:
[signature] AAL	3/12/21 1245	[signature] AAL	3/12/21 1245
[signature] AAL	3/12/21 1925	[signature] AAL	3/12/21 2300
[signature] AAL	3/13/21 0530	[signature]	3/13/21 0800

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IRM Work Plan

Appendix D

Health and Safety Plan (HASP)

IMPACT ENVIRONMENTAL
170 Keyland Court
Bohemia, New York 11716
TEL: (631) 268-8800
FAX: (631) 269-1599

Health and Safety Plan

February 3, 2022

conducted at:

Former El Puente Site
100 South 4th Street
Brooklyn, New York
Block: 2443 Lot: 13
NYSDEC BCP Site Number C224260

prepared for:

100 S 4th ST LLC
P.O. Box 1606
New York, NY 10150

submitted to:

New York State Department of Environmental Protection
Division of Environmental Remediation
47-40 21st Street Long Island City,
NY 11101

IE Project # 13817

TABLE OF CONTENTS

1 Introduction

This Health and Safety Plan (HASP) describes the procedures to be followed in order to reduce employee exposure to potential health and safety hazards that may be present during Interim Remedial Measures activities being performed at the site. The emergency response procedures necessary to respond to such hazards are also described within this HASP. All activities performed under this HASP are targeted to comply with Occupational Safety and Health Administration (OSHA) Regulations 29 CFR Part 1910.1025.

This document is not, nor does it purport to be, a complete description of all safety and health requirements applicable to work performed at the site. Rather, the HASP is a general overview of the compliance policies and work practices applicable to the primary tasks and hazards associated with the environmental assessment portion of the development project, as well as a recitation of minimum safety and health compliance obligations for contractors, subcontractors and workers at the site. All subcontractors of any tier operating at the worksite are obligated to implement and maintain comprehensive safety and health plans for their own employees and to ensure that their employees comply with all applicable safety and health requirements. All subcontractors operating at the worksite should refer to the applicable specific OSHA Standards for detailed requirements.

1.1 Purpose

The purpose of this HASP is to provide the contractors' field personnel, as well as other site-occupants, with an understanding of the potential chemical and physical hazards that exist or may arise while portions of this project are being performed. To this end, this HASP also presents information on the progression of the environmental restoration activities and specific details regarding the handling of materials excavated from the site.

The primary objective is to ensure the well being of all field personnel and the community surrounding this site. In order to accomplish this, project staff and approved subcontractors of any tier shall acknowledge and adhere to the policies and procedures established herein. Accordingly, all personnel assigned to the remediation activities associated with this project (Remedial Personnel) shall read this HASP and sign the Agreement and Acknowledgment Statement (Appendix E) to certify that they have read, understood, and agree to abide by its provisions. A copy of this HASP will be available to anyone that requests it. Personnel involved in construction activities (Construction Personnel) and other Personnel (e.g. government officials, administrators, bank inspectors, assessors, etc.) that will have limited exposure to the site native soil/fill material during construction activities will be instructed on how to reduce the probability of exposure to site contaminants, but will not be required read the HASP.

2 Application of Health and Safety Plan

The procedures of this HASP apply for any person that will enter the boundaries of the site or a portion of the Site during environmental investigation activities. When the Project Manager has designated an area of the site as clear of any environmental issues, construction contractors and subcontractors of any tier will perform the balance of the work in accordance with their individual OSHA-compliant corporate HASP.

2.1 Restoration Personnel

Employees of contractors and subcontractors of any tier performing the following activities will be considered Restoration Personnel:

- Excavation of native soil/fill material
- Loading of native soil/fill onto vehicles
- Processing of native soil/fill into components
- Transporting of native soil/fill across the site
- Sampling of native soil/fill material for subsequent physical or chemical analysis
- Cleaning or decontaminating equipment or personnel
- Handling of ground waters

All subcontractors, of any tier, must submit a HASP to the Site Health and Safety Officer for review and approval prior to mobilizing to the site. Only HASPs that comply with this HASP will be approved. Where a subcontractors HASP is deficient, the Site Health and Safety Officer will provide written notification of any required changes. Approved HASPs will be submitted to the Project Manager and retained on-site for reference by the Site Health and Safety Officer.

2.1.1 Construction Personnel

For this document, “Construction Personnel” is the term given for those employees of contractors and subcontractors of any tier performing activities associated with site development other than those performed by the Remedial Personnel. This designation does not preclude that Construction Personnel will traverse or work upon native soil/fill material, rather, it infers that it will not involve performing tasks that will create a route of exposure to the contaminants contained therein. Construction Personnel will receive instruction to limit the potential for exposure to these contaminants. Construction Personnel will be prohibited from entering Environmental Remediation Areas (i.e., active excavation / handling / processing areas, loading areas, exclusion zones or support zones).

3 Key Personnel / Identification of Health & Safety Personnel

3.1 Key Personnel

A list of the pertinent personnel authorized to be present on site is as follows:

Title	Name	Telephone Number
Senior Project Manager *Impact Environmental*	Kevin Kleaka	(O) 631-269-8800 ext: 129 (C) 516-805-8892
Project Manager *Impact Environmental*	Christopher Connolly	(O) 631-269-8800 ext: 152 (C) 631-664-4425
Field Operations Leader *Impact Environmental*	Alex Keenan	(O) 631-269-8800
Site Health & Safety Officer *Impact Environmental*	Juliana de la Fuente	(O) 631-269-8800

3.2 Organizational Responsibility

3.2.1 Senior Project Manager

The Senior Project Manager will be responsible for implementing the project and obtaining any necessary personnel or resources for the completion of the project. Specific duties will include:

- Selecting a Site Health and Safety Officer and field personnel for the work to be undertaken on site;
- Providing authority and resources to ensure that the Site Health and Safety Officer is able to implement and manage safety procedures;
- Preparing reports and recommendations about the project to clients and affected personnel;

- Ensuring that all persons allowed to enter the site (e.g.., EPA, contractors, state officials, visitors) are made aware of the potential hazards associated with the substances known or suspected to be on site, and are knowledgeable as to the on-site copy of the specific HASP; and
- Ensuring that the Site Health and Safety Officer is aware of all of the provisions of this HASP and is instructing all personnel on site about the safety practices and emergency procedures defined in the plan.

3.2.2 Project Manager

The Project Manager will be responsible for implementing the Senior Project Manager' duties as well as oversee activities regarding the project both in the field and in the office as well as interact with environmental regulatory agencies, sub-contractors and internal company personnel.

- Coordinating the activities of all construction and Remedial Personnel, to include informing them of the required Personal Protective Equipment (PPE) and insuring their signature acknowledging this HASP;
- Ensuring that the tasks assigned are being completed as planned and on schedule; and
- Serving as liaison with public officials where there is no Public Affairs official designated.

3.2.3 Field Operations Leader

The Field Operations Leader will be responsible for field operations and safety. Specific duties will include, but are not limited to:

- Scheduling with the construction company and their subcontractors;
- Coordinating with the Site Health and Safety Officer in determining protection levels;
- Documenting field activities;
- Coordinate activities between environmental and construction personnel;
- Coordination with waste management contractors; and
- Review and approval of waste disposal facilities.

In the event that the Project Manager and the Site Health and Safety Officer are not on site, the Field Operations Leader will assume all responsibility of the Site Health and Safety Officer.

3.2.4 Site Health and Safety Officer

The Site Health and Safety Officer shall be responsible for the implementation of the HASP on site. Specific duties will include:

- Monitoring the compliance of construction and environmental remediation activities personnel (field personnel) for the routine and proper use of the PPE that has been designated for each task;
- Routinely inspecting PPE and clothing to ensure that it is in good condition and is being stored and maintained properly;
- Stopping work on the site or changing work assignments or procedures if any operation threatens the health and safety of workers or the public;
- Monitoring personnel who enter and exit the site and all controlled access points;
- Reporting any signs of fatigue, work-related stress, or chemical exposures to the Project Manager;
- Dismissing field personnel from the site if their actions or negligence endanger themselves, co-workers, or the public, and reporting the same to the Project Manager;
- Reporting any accidents or violations of the HASP plan to the Project Manager and documenting the same for the project in the records;
- Knowing emergency procedures, evacuation routes, and the telephone numbers of the ambulance, local hospital, poison control center, fire and police departments;
- Ensuring that all project-related personnel have signed the personnel agreement and acknowledgments form contained in this HASP; and
- Coordinate upgrading and downgrading PPE as necessary due to changes in exposure levels, monitoring results, weather, and other site conditions.

4 Chemical Hazard Analysis and Control Measures

Based on previous environmental investigations performed at the site, the contaminants of concern include the following:

- VOC's
- SVOCs

Volatile organic compounds (VOC's) and semi-volatile organic compounds (SVOCs) were found in soil, groundwater, and soil vapor. A summary of the health hazards associated with the contaminant of concerns are shown below.

4.1 VOC's

The previous environmental investigations performed at the site has identified the VOC's in soil, groundwater, and soil vapor. Soil vapor sampling results indicate that tetrachloroethene (PCE) and trichloroethene (TCE) were detected in all sampling points at concentrations above the respective New York State Department of Health (NYSDOH) Indoor/Outdoor Air Guidance Values. PCE and TCE were detected above the NYCRR Part 375

Unrestricted Use Soil Cleanup Objectives (SCO) in several shallow soil samples (0-2 fbg). PCE concentrations above the NYSDEC Unrestricted Use SCOs appear to be confined in the soil just below the concrete floor of the Site building. PCE and TCE were also detected at concentrations exceeding the NYSDEC Ambient Water Quality Standards (AWQS) in all groundwater samples. Possible routes of exposure include inhalation, ingestion, and absorption. Prolonged exposure to VOCs above their respective OSHA permissible exposure limits may result in irritation of the mucous membranes of the respiratory system, eyes, and mouth. Overexposure to VOCs may also result in the depression of the central nervous system. Symptoms may include drowsiness, headache, and fatigue.

4.2 SVOC's

The previous environmental investigations performed at the site have identified SVOCs in soil. Poly Aromatic Hydrocarbons (PAHs) were detected above the NYCRR Part 375 Unrestricted SCO in shallow and deep soil samples. Possible routes of exposure include inhalation and ingestion. Health effects now associated with specific SVOCs may include allergic symptoms, retarded reproductive development, and altered semen quality with phthalates, and lower birth weight with perfluorooctane sulfonate and perfluorooctanoate.

5 Health and Safety Risk Analysis

The field tasks covered by the HASP will include material excavation with hydraulic equipment and hand tools, the manual sorting of materials, and containerization of soil and groundwater samples. Additionally, standard job task hazards that are inherent to a construction project will exist.

5.1 Explosion and Fire

This Section is not, nor does it purport to be, a comprehensive recitation of safety and health requirements applicable to explosion and fire. Rather, contractors, subcontractors and workers at the site must refer to OSHA's Fire Protection and Prevention Standard, set forth at 29 C.F.R. § 1910 part 1926.35, as well as all supporting OSHA Compliance Directives and Letters of Interpretation, for complete information on safety and health compliance obligations. The following are possible fire and explosion hazards that may be encountered on the job site along with fire preventive measures to take.

5.1.1 Flammable Vapors

The presence of flammable vapors can pose a potential fire and health hazard. Hazard reduction procedures include monitoring the ambient air with an oxygen/LEL meter (combustible gas indicator). If the LEL reading exceeds 20%,

all work will stop and employees will leave the site immediately and contact the fire department. For OSHA-defined "confined space" activities, work will stop if the LEL reading exceeds 10%.

5.1.2 High Oxygen Levels

Atmospheres that contain a level of oxygen greater than 23% pose an extreme fire hazard (the usual ambient oxygen level is approximately 20.5%). All personnel encountering atmospheres that contain a level of oxygen greater than 23% must evacuate the site immediately and must notify the Fire Department. If the oxygen level is less than 19.5%, do not enter the space without level B PPE.

5.1.3 Fire Prevention

- During equipment operation, periodic vapor concentration measurements should be taken with an explosimeter or combustimeter. If at any time the vapor concentrations exceed 20% of the lower explosive limit (LEL), then the Site Health and Safety Officer or designated field worker should immediately shut down all operations.
- Only approved safety cans will be used to transport and store flammable liquids.
- All gasoline and diesel-driven engines requiring refueling must be shut down and allowed to cool prior to filling.
- Smoking is not allowed during any operations within the work area in which petroleum products or solvents in free-floating, dissolved, or vapor forms, or other flammable liquids may be present.
- No open flame or spark is allowed in any area containing petroleum products or other flammable liquids.

5.2 Operational Safety Hazards

This Section is not, nor does it purport to be, a comprehensive recitation of safety and health requirements applicable to earth moving equipment. Rather, contractors, subcontractors and workers at the site must refer to OSHA's Excavation Standard, set forth at 29 C.F.R. § 1910 Subpart P as well as all supporting OSHA Compliance Directives and Letters of Interpretation, for complete information on safety and health compliance obligations.

5.2.1 Heavy Machinery / Equipment

All site employees must remain aware of those site activities that involve the use of heavy equipment and machinery. Respiratory protection and protective eyewear may be worn frequently during site activities. This protective equipment significantly reduces peripheral vision of the wearer. Therefore, it is essential that all employees at the site exercise extreme caution during operation of equipment and machinery to avoid physical injury to themselves or others.

5.2.2 Vehicular Traffic

All employees will be required to wear a fluorescent safety vest at all times while on site. In addition, supplemental traffic safety equipment use can be exercised when warranted by specific task. Supplemental equipment can be items such as cones, flags, barricades, and/or caution tape. Drivers of waste transportation vehicles will only exit vehicles in designated areas within the Support Zone. During this time, drivers will only be allowed to inspect the placement of waste loads and cover their trailers.

5.3 Noise Hazards

This Section is not, nor does it purport to be, a comprehensive recitation of safety and health requirements applicable to noise hazards. Rather, contractors, subcontractors and workers at the site must refer to OSHA's Occupational Noise Exposure Standard, set forth at 29 C.F.R. § 1910 part 1926.52, as well as all supporting OSHA Compliance Directives and Letters of Interpretation, for complete information on safety and health compliance obligations.

Hearing protection shall be provided to the employees where sound pressure levels exceed 85 dB. Hearing protection shall be worn where sound pressure levels in areas and/or on equipment exceeds 90 dB. Typical heavy excavation operations have been monitored with a sound level meter and indicate that hearing protection is required for all personnel while engaged in this action.

5.4 Safe Material Handling

This Section is not, nor does it purport to be, a comprehensive recitation of safety and health requirements applicable to safe material (soil/fill) handling. Rather, contractors, subcontractors and workers at the site must refer to OSHA's Eye and Face, and Respiratory Safety Standards, set forth at 29 C.F.R. § 1910 Parts 1926.102 and 1926.103 as well as all supporting OSHA Compliance Directives and Letters of Interpretation, for complete information on safety and health compliance obligations.

Skin and eye contact with contaminated soil/fill or materials in contact with the soil/fill may occur during excavation, handling and decontamination activities. Nitrile gloves and approved safety glasses must be worn to prevent exposure to the associated contaminants. Employees working at or near (within ten feet of) excavation fronts could be required to wear respiratory protection. If necessary, all associated activities will be performed pursuant to 29 C.F.R. § 1910 Parts 1926.134 (a)(2) and 1926.55.

5.5 Temperature Hazards

This Section is not, nor does it purport to be, a comprehensive recitation of safety and health requirements applicable to temperature stresses. Rather, contractors, subcontractors and workers at the site must refer to OSHA's Technical Manual (TED 1-0.15A), Section III – Chapter 4 (1999) as well as all supporting OSHA Compliance Directives and Letters of Interpretation, for complete information on safety and health compliance obligations.

Since climatic changes cannot be avoided, work schedules will be adjusted to provide time intervals for intake of juices, juice products, and water in an area free from contamination and in quantities appropriate for fluid replacement to prevent heat stress conditions from occurring.

5.5.1 Types of Heat Stress

Heat stress may occur even in moderate temperature areas and may present any or all of the following:

5.5.1.1 Heat Rash

Result of continuous exposure to heat, humid air, and chafing clothes. Heat rash is uncomfortable and decreases the ability to tolerate heat.

5.5.1.2 Heat Cramps

Result of the inadequate replacement of body electrolytes lost through perspiration. Signs include severe spasms and pain in the extremities and abdomen.

5.5.1.3 Heat Exhaustion

Result of increased stress on the vital organs of the body in the effort to meet the body's cooling demands. Signs include shallow breathing; pale, cool, moist skin; profuse sweating; and dizziness.

5.5.1.4 Heat Stroke

Result of overworked cooling system. Heat stroke is the most serious form of heat stress. Body surfaces must be cooled and medical help must be obtained immediately to prevent severe injury and/or death. Signs include red,

hot, dry skin, absence of perspiration, nausea, dizziness and confusion, strong, rapid pulse that could lead to coma or death.

5.5.2 Heat Stress Prevention

A. Replace body fluids (water and electrolytes) lost through perspiration. Solutions may include a 0.1% salt and water solution or commercial mixes such as “Gatorade”. Employees must be encouraged to drink more than the amount required in order to satisfy thirst.
B. Use cooling devices to aid the natural body ventilation. Cooling occurs through evaporation of perspiration and limited body contact with heat-absorbing protective clothing. Utilize fans and air conditioners to assist in evaporation. Long, cotton underwear is suggested to absorb perspiration and limit any contact with heat-absorbing protective clothing (i.e., coated Tyvek suits).
C. Conduct non-emergency response activities in the early morning or evening during very hot weather.
D. Provide shelter against heat and direct sunlight to protect personnel. Take breaks in shaded areas.
E. Rotate workers utilizing protective clothing during hot weather.
F. Establish a work regime that will provide adequate rest periods, with personnel working in shifts.

5.6 Cold Exposure Hazards

Work schedules will be adjusted to provide sufficient rest periods in a heated area for warming up during operations conducted in cold weather. Also, thermal protective clothing such as wind and/or moisture resistant outerwear is recommended to be worn.

If work is performed continuously in the cold at or below -7 ºC (20 ºF), including wind chill factor, heated warming shelters (tents, cabins, company vehicles, rest rooms, etc.) shall be made available nearby and the worker should be encouraged to use these shelters at regular intervals, the frequency depending on the severity of the environmental exposure. The onset of heavy shivering, frostnip, the feeling of excessive fatigue, drowsiness, irritability, or euphoria, are indications for immediate return to the shelter. When entering the heated shelter, the outer layer of clothing shall be removed and the remainder of the clothing loosened to permit sweat evaporation. A change of dry work clothing shall be provided as necessary to prevent workers from returning to their work with wet clothing.

Dehydration, or the loss of body fluids, occurs in the cold environment and may increase the susceptibility of the worker to cold injury due to a significant change in blood flow to the extremities. Warm sweet drinks and soups should be provided at the work site to provide caloric intake and fluid volume. The intake of coffee should be limited because of a diuretic and circulatory effect (adapted from TLV's and Biological Exposure Indices 1988-1989, ACGIH).

5.7 Community Air Monitoring Program (CAMP)

Real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary during the Remedial Investigation as Per NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation.

- 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/m3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m3 above the upwind level and provided that no visible dust is migrating from the work area.

2 If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m3 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.

4 Personnel Training

4.1 Pre-assignment and OSHA Training

All Remedial Personnel that will be in direct contact (that is hand digging, sampling, processing) with the native soil/fill materials must complete an initial 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training course and, where necessary, a current eight hour refresher course (as required annually after initial 40-hour training completion). Restoration Personnel that will not be in direct contact with native soil/fill materials are only required to prove they have read and understood the procedures presented in this HASP.

On-site managers and supervisors of Restoration Personnel (Field Operations Leader, Site Health and Safety Officer) directly responsible for employees engaged in hazardous substance operations have received an initial 40-hour HAZWOPER training course and an additional (above the 40-hour HAZWOPER) eight hours of supervisory training. These training requirements comply with the OSHA Hazardous Waste Operations and Emergency Response Regulation, 29 CFR 1910.120. The Site Health and Safety Officer will be certified in First Aid and Cardiovascular Pulmonary Resuscitation.

The Site Health and Safety Officer will conduct an on-site training meeting for all Construction Personnel and observers that could potentially be exposed to the native soil/fill material during construction activities. Training meetings will be provided routinely for any new project personnel. This program will cover specific health and safety equipment and protocols and potential problems inherent to each project operation. The Site Health and Safety Officer will be present for any activities being performed by Construction Personnel that will involve the handling of soil/fill during construction activities to provide supervision on exposure reduction. This may include insuring the use of proper PPE and air quality monitoring.

4.2 Respirator Requirements

4.2.1 Respirator Requirements and Fit Testing

The OSHA respiratory protection standard, 29 CFR 1910.134, under paragraph (f)(2), requires fit testing for all employees using tight fitting respirators including filtering facepiece respirator. The fit test must be performed before the respirator is used and must be repeated at least annually and whenever a different respirator facepiece is used or a change in the employee's physical condition could affect the respirator fit.

The user seal check is a separate requirement under paragraph (g)(1)(iii) and must be performed each time the

employee dons the respirator. Employers must adhere to the recommendations of the respirator's manufacturer; different manufacturers recommend different procedures.

4.2.2 Medical Surveillance

OSHA requires a medical evaluation to determine whether each employee required to wear a respirator is physically able to wear a respirator and perform the work. This evaluation can be a medical examination or an evaluation of employee responses to the OSHA Respirator Medical Evaluation Questionnaire located in Appendix C of the Respiratory Protection Standard. Either method must be performed by a physician or other licensed healthcare professional. Appendix E has a copy of the forms to be completed.

A medical examination may be necessary whenever the employee gives a positive response to any of questions 1 through 8 in Appendix C, Part A, Section 2.

5 Personal Protective Equipment

This Section is not, nor does it purport to be, a comprehensive recitation of safety and health requirements applicable to personal protective equipment. Rather, contractors, subcontractors and workers at the site must refer to OSHA's Personal Protective Equipment Standard, set forth at 29 C.F.R. § 1910.Part 1926.28(a) as well as all supporting OSHA Compliance Directives and Letters of Interpretation, for complete information on safety and health compliance obligations.

The purpose of personal protective clothing and equipment (PPE) is to shield or isolate individuals from the chemical, physical, and biological hazards that may be encountered on-site when engineering and other controls are not feasible or cannot provide adequate protection. Careful selection and use of adequate PPE should protect the health of all on-site workers. No single combination of PPE is capable of protecting against all hazards. Therefore, PPE should be used in conjunction with, not in place of, other protective methods, such as engineering controls and safe work practices.

Site-specific chemicals of concern include semi-volatile organic compounds. These chemicals are of moderate to low hazard. Therefore, level D personal protective equipment will be required at all times when on site. The following is a breakdown of the types of protective clothing and equipment to be used during the site activities.

5.1.1 Levels of Protection

The Site Health and Safety Officer will determine whether a level of protection should be upgraded or downgraded. Changes in the level of protection will be recorded in the dedicated site logbook along with the rationale for the

changes (see Section 7.1.3 for additional information on PPE upgrades). Level D PPE will be the minimum requirement at all times during the environmental remediation portion of the project.

5.1.2 Level D Personal Protective Equipment

All initial site access and activities will be done in Level D attire. Level D protection is sufficient under conditions where no contaminants are present or those activities that do not pose a potential threat of unexpected inhalation of or contact with hazardous levels of any substances. Typical Level D activities may include sediment, logging and groundwater sampling, and as surficial site surveys.

- Hard hat
- Safety glasses (as appropriate)
- Steel toe and shank boots
- Fluorescent vest
- Hearing protection (as appropriate)

5.1.3 Modified Level D Personal Protective Equipment

- Hard hat
- Safety glasses
- Steel toe and shank boots
- Fluorescent vest
- Nitrile "N-Dex" inner gloves
- Latex outer boots (chemical resistant)
- Polyethylene coated Tyvek suit
- Hearing protection (as appropriate)

5.1.4 Level C Personal Protective Equipment

Level C protection, as described in this plan, will be available at a minimum for those activities that involve surface and subsurface soil (strata disturbance such as well installation, and all subsurface media sampling activities such as split-spoon sampling and borings). Level C protection equipment should be readily available at all times. Consistent with OSHA training, prior to donning Level C, oxygen percent must be continuously monitored.

- Buddy system required at all times
- Full face respirator with NIOSH approved OV/AG/HEPA combination cartridges (MSA GMC-H)
- Saranex coated Tyvek Suit
- Inner Nitrile "N-Dex" gloves

- Outer Nitrile (NBR) gloves
- Steel toe and shank boots
- Outer boots (chemical resistant)
- Hard hat
- Hearing protection (as appropriate)

5.1.5 Level B Personal Protective Equipment

Some activities may require Level B protection. In atmospheres potentially containing toluene and xylenes, the protective ensemble should include chemical resistant clothing since the two compounds have skin absorption potential.

Regional Health and Safety representatives must be on site upon start-up of any project requiring level B protection. This should be understood to include subcontractors conducting Level B activity.

- Buddy system required at all times
- Supplied air respirator or SCBA
- Saranex coated Tyvek Suit
- Inner Nitrile "N-Dex" gloves
- Outer Nitrile (NBR) gloves
- Steel toe and shank boots
- Outer boots (chemical resistant)
- Hard hat
- Hearing protection (as appropriate)

5.1.6 Personal Use Factors and Equipment Change Out Schedule

Prohibitive or precautionary measures should be taken as necessary to prevent workers from jeopardizing safety during equipment use.

If necessary, all respiratory protective equipment used will be approved by NIOSH/MSHA. Respirator cartridges will be changed once per eight-hour shift at a minimum. This can be accomplished at the end of the workday during respirator decontamination. Employees working within the excavation front should change the cartridge of their respirators once every four hours. If odor breakthrough is detected while wearing the respirator or if breathing becomes difficult, change cartridges immediately. A filter change out schedule is provided below.

Remedial Worker	Work Area	Filter Type	Replacement Rate
Site Screener	EZ – At Excavation Front	MSA GMC-H	Every 4 Hours
Laborer	EZ – At Excavation Front	MSA GMC-H	Every 2 Hours
	SZ, CRZ	MSA GMC-H	Every 8 Hours
Equipment Operator	EZ	MSA GMC-H	Every 4 Hours
	SZ, CRZ	MSA GMC-H	Every 8 Hours
Administrator	EZ	MSA GMC-H	Every 4 Hours
	SZ, CRZ	MSA GMC-H	Every 8 Hours

When utilizing protective garments such as Tyvek suits, gloves, and booties, all seams between protective items will be sealed with duct tape.

Contact with contaminated surfaces, or surfaces suspected of being contaminated, should be avoided. This includes walking through, kneeling in, or placing equipment in puddles, mud, discolored surfaces, or on drums and other containers.

Eating, smoking, drinking, and/or the application of cosmetics in the immediate work area is prohibited. Ingestion of contaminants or absorption of contaminants into the skin may occur.

The use of contact lenses on the job site is strongly advised against. Contact lenses may trap contaminants and/or particulate between the lens and eye, causing irritation. However, when glasses are not available, contact lenses are preferred over faulty vision. When contact lenses are worn, safety glasses and/or goggles must be worn at all times while on the job site. Wearing contact lenses with a respirator in a contaminated atmosphere is prohibited under 29 CFR ss1910.134 (e)(5)(iii).

6 Work Zones

6.1 Work Zone Definitions

Work and support areas shall be established based on ambient air data and proposed work sites. They shall be established in order to contain contamination within the smallest areas possible and shall ensure that each employee has the proper PPE for the area or zone in which work is to be performed.

6.1.1 Exclusion Zone (EZ)

It is within this zone that the excavation or environmental remediation activities such as tank abandonment operations (as described in 8.1.1.1) are performed. No one shall enter this zone unless the appropriate PPE is donned. The location of this zone will change as the construction-related excavation activities are performed.

6.1.2 Contaminant Reduction Zone (CRZ)

It is within this zone that the decontamination process is undertaken. Personnel and their equipment must be adequately decontaminated before leaving this zone for the support zone. This zone will be set up between the EZ (no less than 100 feet away) and the site boundary.

6.1.3 Support Zone (SZ)

The support zone is considered to be uncontaminated; as such, protective clothing and equipment are not required but should be available for use in emergencies. All equipment and materials are stored and maintained within this zone. Protective clothing is put on within the SZ before entering the EZ or the CRZ. The SZ will be established in a safe environment at least 50 feet away from the EZ.

7 General Safety and Health Provisions

This Section is not, nor does it purport to be, a comprehensive recitation of safety and health requirements applicable to general safety and health provisions. Rather, contractors, subcontractors and workers at the site must refer to OSHA's General Safety and Health Provision Standard, set forth at 29 C.F.R. § 1910 subparts C and G as well as all supporting OSHA Compliance Directives and Letters of Interpretation, for complete information on safety and health compliance obligations.

7.1 Safety Practices / Standing Orders

The following are important safety precautions that will be enforced during work activities.

1. Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited in any area designated as contaminated.
2. Hands and face must be thoroughly washed upon leaving the work area and before eating, drinking, or any other activity.
3. Whenever decontamination procedures for outer garments are in effect, the entire body should be thoroughly washed as soon as possible after the protective garments are removed.
4. No excessive facial hair that interferes with the effectiveness of a respirator will be permitted on personnel required to wear respiratory protection equipment. The respirator must seal against the face so that the

wearer receives air only through the air purifying cartridges attached to the respirator. Fit testing shall be performed prior to respirator use to ensure the wearer obtains a proper seal.

5. Contact with potentially contaminated surfaces should be avoided whenever possible. One should not walk through puddles; kneel on the ground; lean, sit, or place equipment on drums, containers, vehicles, or the ground.
6. Medicine and alcohol can potentate the effect from exposure to certain compounds. Prescribed drugs and alcoholic beverages should not be consumed by personnel involved in the project.
7. Personnel and equipment in the work areas should be minimized, consistent with effective site operations.
8. Work areas for various operational activities should be established.
9. Procedures for leaving the work area must be planned and implemented prior to going to the site. Work areas and decontamination procedures must be established on the basis of prevailing site conditions.
10. Respirators will be issued for the exclusive use of one worker and will be cleaned and disinfected after each use.
11. Safety gloves and boots shall be taped to the disposable, chemical-protective suits as necessary.
12. All unsafe equipment left unattended will be identified by a "DANGER, DO NOT OPERATE" tag.
13. Noise mufflers or earplugs may be required for all site personnel working around heavy equipment. This requirement will be at the discretion of the Site Health and Safety Officer. Disposable, form-fitting plugs are preferred.
14. Cartridges for air-purifying respirators in use will be changed daily at a minimum.

7.2 Buddy System

Site personnel will employ the buddy system when working under certain circumstances, such as enclosed spacing. Under the buddy system, each site worker is responsible for monitoring the well-being of another worker. No one will work alone when the buddy system is implemented. At no time will fewer than two employees be present at the site if activities are underway.

7.3 Site Communications Plan

Mobile telephone and/or two-way radios will be used to communicate between the work parties on the site. The following standard hand signals will be used in case of failure of radio communication:

- Hands on top of head = Need assistance
- Thumbs up = OK, I am alright, I understand
- Thumbs down = No, negative

Personnel in the Contaminated Zone should remain in constant radio communication or within sight of the project team leader. Any failure of radio communication will require the team leader to evaluate whether personnel should leave the zone.

7.4 Retention of Records

The following records will be maintained on-site and in corporate records for no less than three years.

- Fit test results
- OSHA Training Certification
- Medical Questionairre and/or Medical Clearance
- Medical Data Sheets
- Accident Report Forms

8 Decontamination Plan

8.1 General

Personnel involved in work activities at the site may be exposed to compounds in a number of ways, despite the most stringent protective procedures. Site personnel may come in contact with vapors, gases, mists, particulates in the air, or other site media while performing site duties. Use of monitoring instruments and site equipment can also result in exposure and transmittal of hazardous substances.

In general, decontamination involves scrubbing with a detergent water solution followed by clean water rinses. All disposable items shall be disposed of in a dry container. Certain parts of contaminated respirators, such as harness assemblies and leather or cloth components, are difficult to decontaminate. If grossly contaminated, they may have to be discarded. Rubber components can be soaked in detergent and water and scrubbed with a brush. In addition to being contaminated, all respirators, non-disposable protective clothing, and other personal articles must be sanitized or replaced before they can be used again if they become soiled from exhalation, body oils, and perspiration. The manufacturer's instructions should be followed in sanitizing the respirator masks.

The Site Health and Safety Officer will be responsible for the proper maintenance, decontamination, and sanitizing of any respirator equipment that may be used on-site.

The decontamination zone layout and procedures should match the prescribed levels of personal protection.

The following procedures have been established to provide site personnel with minimum guidelines for proper decontamination. Personnel leaving the point of operations designated as the EZ must follow these minimum procedures. The decontamination process shall take place within the contaminant reduction zone.

8.2 Minimum Decontamination Procedure

Personnel leaving the point of operations should remove or change outer gloves. At a minimum, boots shall be cleaned of all accumulated soil/fill. Outer boots must be properly washed where gross contamination is evident or disposed of. If Tyvek suits are being utilized, they should be removed or changed. Personnel should remove the Tyvek suits so that the inner clothing does not come in contact with any contaminated surfaces. After Tyvek removal, personnel shall remove and discard outer Nitrile gloves. Personnel shall then remove the respirator, where applicable. Respirators shall be disinfected between uses with towelettes or other sanitary methods. Potable water, at a minimum, will be present so that site personnel can thoroughly wash hands and face after leaving the point of operations.

The Site Health and Safety Officer will monitor decontamination procedures to ensure their effectiveness. Modifications of the decontamination procedure may be necessary as determined by the Site Health and Safety Officer's observations.

8.3 Standard Decontamination Procedure

The following decontamination procedures should be implemented during site operations for the appropriate level of protection.

8.3.1 Level B

Segregated equipment drop	Deposit equipment (tools, sampling devices, notes, monitoring instruments, radios, etc.) used on the site onto plastic drop cloths.
Boot covers and glove wash	Outer boots and outer gloves should be scrubbed with a decontamination solution of detergent and water or replaced.
Rinse off boot covers and gloves	Decontamination solution should be rinsed off boot covers and gloves using generous amounts of water. Repeat as many times as necessary.
Tape removal	Remove tape from around boots and gloves and place into container with plastic liner.
Boot cover removal	Remove disposable boot covers and place into container with plastic liner.
Outer glove removal	Remove outer gloves and deposit in container with plastic liner.
Suit / safety boot wash	Completely wash splash suit, SCBA, gloves, and safety boots. Care should be exercised that no water is allowed into the SCBA regulator. It is suggested that the SCBA regulator be wrapped in plastic.
Suit / safety boot rinse	Thoroughly rinse off all decontamination solution from protective clothing.
Tank or canister changes	This is the last step in the decontamination procedure for those workers wishing to change air tanks and return to the EZ. The worker's air tank or cartridge is exchanged, new outer glove and boot covers are donned, and joints taped.

Removal of safety boots	Remove safety boots and deposit in container with a plastic liner.
SCBA backpack removal	Without removing the face piece, the SCBA backpack should be removed and placed on a table. The face piece should then be disconnected from the remaining SCBA unit and then proceed to the next station.
Splash suit removal	With care, remove the splash suit. The exterior of the splash suit should not come in contact with any inner layers of clothing.
Inner glove wash	The inner gloves should be washed with a mild decontamination solution (detergent / water).
Inner glove rinse	Generously rinse the inner gloves with water.
Face piece removal	Without touching the face with gloves, remove the face piece. The face piece should be deposited into a container that has a plastic liner.
Inner glove removal	Remove the inner glove and deposit into a container that has a plastic liner.
Field wash	Wash hands and face thoroughly. If highly toxic, skin corrosive, or skin absorbent materials are known or suspected to be present, a shower should be taken.

8.3.2 Level C and Level D

The decontamination procedure for Level C and Level D will be satisfied with the Minimum procedures outlined in section 8.2.

8.4 Heavy Equipment and Handling Equipment Decontamination

Equipment traversing the site and exiting the site will be subjected to a decontamination protocol. At a minimum the protocol will consist of an inspection of the truck fenders, tires and mud flaps for accumulated soil/fill, and removal of all accumulations using hand tools (brush, broom and scrapers). If deemed necessary by the Health and Safety Officer, this inspection will be performed over a thirty by fifteen foot area that has been filled with ¾ inch crushed recycled concrete aggregate to facilitate the removal of soil/fill accumulations from the tires, and to immobilize soil/fill removed from the truck body. Additionally, all trucks hauling waste will be required to be covered prior to exiting the site.

At the conclusion of the use of each piece of excavation equipment on the site, it will be decontaminated with an Alconox / water solution followed by a clean water rinse within the Contaminant Reduction Zone. The rinsate will be allowed to charge into the site ground.

9 Emergency Response / Contingency Plan

9.1 Pre-Emergency Planning

In order to properly prepare for emergencies, Safety Data Sheets (SDS) will be maintained on-site for the type of contaminants to which workers may be exposed. Based upon the results of previous investigations, these

contaminants consist of a mixture of Chlorinated VOCs (cVOCs) and organic compounds consistent with those found within diesel and/or heating oil. The SDS for both products are presented in **Appendix E**.

In the event a suspected or known hazardous substance or substance container is encountered during site activities, a contingency plan will be triggered (see Section 11.3).

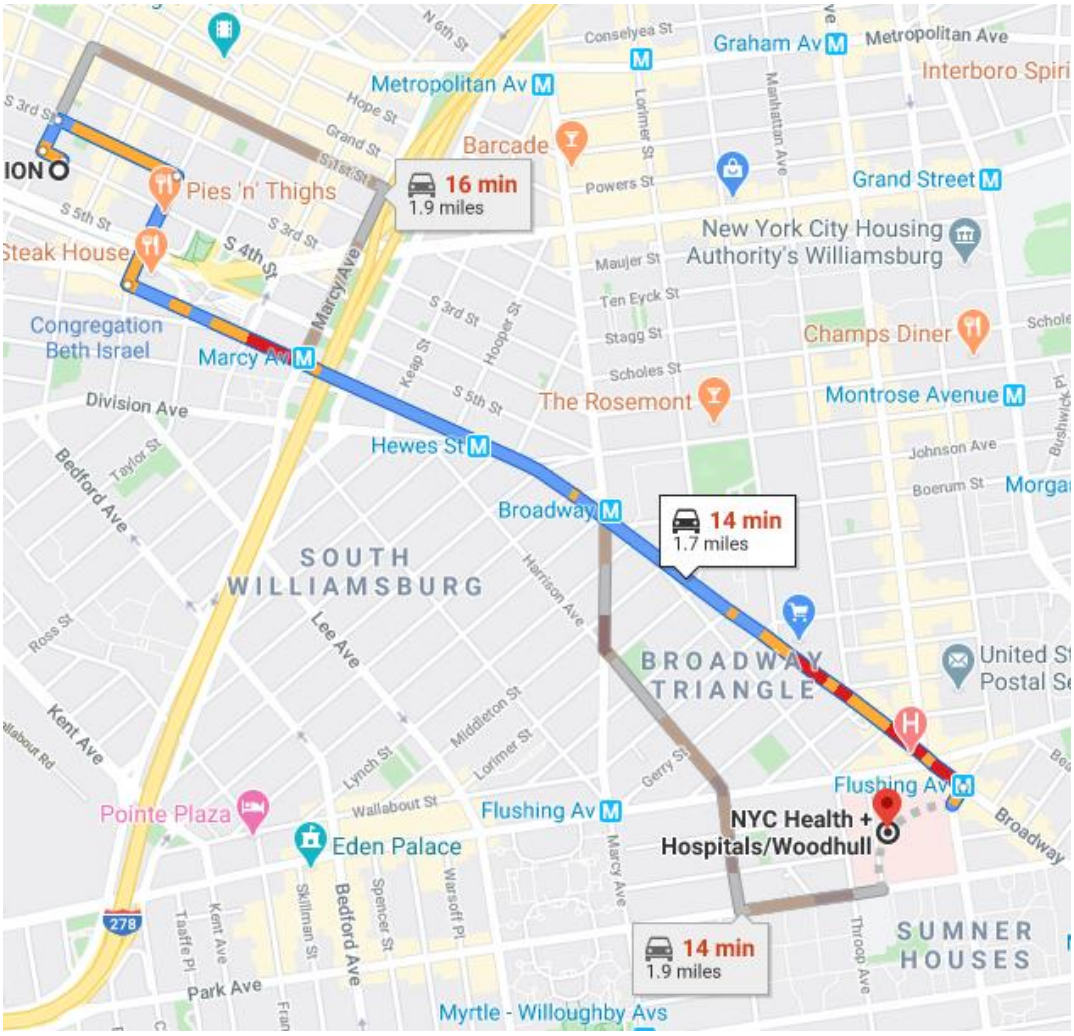
9.2 Emergency Contact Information

In the event of an accident or emergency situation, emergency procedures will be executed. Said procedures can and will be executed by the first person to observe an accident or emergency situation. The Project Field Manager will be notified about the situation immediately after emergency procedures are implemented.

9.2.1 Emergency Contacts

Emergency:	911	
Hospital:	(718) 963-8000	NYC Health + Hospitals/Woodhull
Police:	911	Police
Fire Department:	911	NYFD
Chemtrec:	800-424-9300	
Poison Control Center:	800-336-6997	
National Response Center:	800-424-8802	
US EPA (24-hour hotline):	800-424-9346	

Directions to the nearest hospital are shown on the following page.



100 South 4th Street, Brooklyn, NY 11249

Head northwest on S 4th St toward Berry St
154 ft

Use the right lane to turn right at the 1st cross street onto Berry St
243 ft

Turn right at the 1st cross street onto S 3rd St
0.2 mi

Turn right onto Driggs Ave
0.2 mi

Turn left at the 3rd cross street onto Broadway
Pass by McDonald's (on the right in 1.2 mi)
1.3 mi

Turn right onto Marcus Garvey Blvd
144 ft
NYC Health + Hospitals/Woodhull
760 Broadway, Brooklyn, NY 11206

9.2.2 Utility Emergencies / Initiating Subsurface Investigation Work

Where necessary, utility markouts will be called in via the one call center or to the individual entities listed below.

Mark Out One-Call Center (811)	1-800-272-4480	No-Cuts
Gas Company:	718-643-4050	Con Edison
Telephone Company:	516-661-6000	Verizon
Electric Company:	718-643-4050	Con Edison

9.3 Contingency / Evacuation Plan

This Section is not, nor does it purport to be, a comprehensive recitation of safety and health requirements applicable to emergency procedures. Rather, contractors, subcontractors and workers at the site must refer to OSHA's Employee Emergency Action Plan Standard, set forth at 29 C.F.R. § 1910 Part 1926.35(a), as well as all supporting OSHA Compliance Directives and Letters of Interpretation, for complete information on safety and health compliance obligations.

If an unknown substance or substance container is encountered during site activities, the following contingency plan will be triggered.

1. The Site Health and Safety Officer, Project Manager and Field Operations Leader will be notified and an Exclusion Zone (the aerial extent of which will be determined by the above safety staff) will be established.
2. All staff will be evacuated from the Exclusion Zone.
3. Air monitoring will be conducted down-wind of the Exclusion Zone.
4. The NYSDEC, as well as any other Government regulatory agency whose need may be prompted by the particular situation, will be notified.
5. Upon arrival of the NYSDEC or Government regulatory agency representative(s), site control will transfer to the appropriate Government personnel.

It may be possible that a situation could develop site emergency could necessitate the evacuation of all personnel from the site. If such a situation develops, an audible alarm shall be given for site evacuation (consisting of an air horn). Personnel shall evacuate the site in a calm and controlled fashion and regroup at a predetermined location. The route of evacuation will be dependent on wind direction, severity, type of incident, etc. The site must not be re-entered until back-up help, monitoring equipment, and/or personal protective equipment are on hand and the appropriate regulatory agencies have been notified.

9.4 Emergency Medical Treatment Procedures

This Section is not, nor does it purport to be, a comprehensive recitation of safety and health requirements applicable to medical treatment and first aid. Rather, contractors, subcontractors and workers at the site must refer to OSHA's Medical Services and First Aid Standard, set forth at 29 C.F.R. § 1910 Part 1926.23 and 1926.50, as well as all supporting OSHA Compliance Directives and Letters of Interpretation, for complete information on safety and health compliance obligations.

All injuries, no matter how slight, will be reported to the site safety supervisor immediately. The safety supervisor will complete an accident report for all incidents (Appendix B).

Some injuries, such as severe lacerations or burns, may require immediate treatment. Unless required due to immediate danger, seriously injured persons should not be moved without direction from attending medical personnel.

9.4.1 Standard Procedures for Injury

1. Notify the Site Health and Safety Officer, Project Manager, and the NYCDEP and NYCDHPD of all accidents, incidents, and near emergency situations.
2. If the injury is minor, trained personnel should proceed to administer appropriate first aid.
3. Telephone for ambulance/medical assistance if necessary. Whenever possible, notify the receiving hospital of the nature of physical injury or chemical overexposure. If no phone is available, transport the person to the nearest hospital. Refer to the map in section 11.2.1.
4. When transporting an injured person to a hospital, bring this Health and Safety Plan with the attached MSDS to assist medical personnel with diagnosis and treatment.

9.4.2 Chemical Overexposure

In all cases of chemical overexposure, follow standard procedures as outlined below for poison management, first aid, and, if applicable, cardiopulmonary resuscitation. Different routes of exposure and their respective first aid/poison management procedures are outlined below.

Ingestion	Do not induce vomiting unless prompted by a health professional. Transport person to nearest hospital immediately.
Inhalation / Confined Space	Do not enter a confined space to rescue someone who has been overcome unless properly equipped and a standby person present.

Inhalation / Other	Move the person from the contaminated environment. Initiate CPR if necessary. Call or have someone call for medical assistance. Refer to MSDS for additional specific information. If necessary, transport the victim to the nearest hospital as soon as possible.
Skin Contact / Non-Caustic Contaminant (Petroleum, Gasoline, etc.)	Wash off skin with a large amount of water immediately. Remove any affected clothing and rewash skin using soap, if available. Transport person to a medical facility if necessary.
Skin Contact / Corrosive Contaminant (Acids, Hydrogen Peroxide, etc.)	Wash off skin with a large amount of water immediately. Remove any affected clothing and rewash skin with water. Transport person to a medical facility if necessary.
Eyes	Hold eyelids open and rinse the eyes immediately with large amounts of water for 15 minutes. Never permit the eyes to be rubbed. Transport person to a medical facility as soon as possible.

9.4.3 First Aid for Injuries Incurred During Field Work

A first aid kit and an emergency eyewash will be available on-site. Field crews, when performing field operations, will carry portable first aid kits that include emergency eye wash stations.

9.4.4 First Aid Equipment List

The first aid kit(s) kept at the site will consist of a weatherproof container with individually sealed packages for each type of item.

The kit will include at least the following items:

- Gauze roller bandages, 1-inch and 2-inch
- Gauze compress bandages, 4-inch
- Gauze pads, 2-inch
- Adhesive tape, 1-inch
- Bandage, 1-inch
- Butterfly bandages
- Triangular bandages, 40-inch
- Ampules of ammonia inhalants
- Antiseptic applicators or swabs
- Burn dressing and sterilized towels

- Surgical scissors
- Eye dressing
- Portable emergency eye wash
- Emergency oxygen supply
- Alcohol
- Hydrogen peroxide
- Clinical grade thermometer
- Tourniquet

9.4.5 Other Emergency Equipment

One portable fire extinguisher with a rating (ratio) of 20 pound A/B/C and one portable fire extinguisher with a rating of 2A will be conspicuously and centrally located between the restricted and non-restricted zones. In addition, similar extinguishers of the same size and class will be located in the site office trailer so that maximum travel distance to the nearest unit shall not exceed 50 feet. Portable extinguishers will be properly tagged with inspection dates and maintained in accordance with standard maintenance procedures for portable fire extinguishers. Field personnel will be trained in fire extinguisher use before field operations begin.

An emergency at any part of the site, such as fire or chemical release, might require that some appropriately trained site workers direct traffic on or near the site.
The following safety equipment to be used for traffic should be kept readily available on site in the field office:

- reflective/fluorescent vests
- flares
- traffic cones (and flags, or the equivalent, as needed)
- hazard tape (barricades as needed)
- working flashlights

9.5 Record of Injuries Incurred On-Site

9.5.1 Occupational Injuries and Illnesses Form (OSHA 200)

All occupational injuries and illnesses that are required to be recorded under the Occupational Safety and Health Act will be registered on OSHA Form 200 (see Appendix C). The site safety supervisor will record occupational injuries and illnesses within 48 hours of occurrence, as required by statute.

9.5.2 Employer's First Report of Injury

The site safety supervisor for all accidents involving work injury at the site will complete this form (Appendix D). Follow-up procedures will include investigation of each accident or near-miss by the safety supervisor to assure that no similar accidents occur in the future.

Appendix A:
Accident Report Form

Employee Accident Report

EMPLOYEE

Name_____ SS#_____ Emp ID#_____

Home Address_____
Street city zip code phone

Sex: M F Birth Date_____ Age:_____ Employment Status: Full time _____ Part time _____%_____

Job Title _____ Time in Present Position _____ Yrs _____Months

Department _____ Work Address_____
building/room # phone

Supervisor_____
name building/room # phone

Accident Date_____ Time _____am/pm Location_____

What were you doing and using (tools, chemicals, equipment, etc.) when the accident occurred? Describe what happened.

_____

_____

_____

Was this part of your normal job duty? _____ Yes _____No

Parts of body affected or injured_____

Witnesses:_____/_____

name phone name phone

Report prepared by (if different from the injured employee)_____
name phone

I understand that it is my right to apply for Workers' Compensation benefits and that I have two years from the date of this accident to do so. For more information regarding workers' compensation, call the New York State Department of Labor. I also authorize release of medical information regarding this accident to the Prime Contractors claim administrators.

EMPLOYEE SIGNATURE:_____ DATE:_____

SUPERVISOR/CHARGE PERSON

This accident was reported to me on _____at_____ Cost Center/Dept # _____
(date) (time)

IS FURTHER INVESTIGATION REQUIRED? ___Yes ___No _____
Supervisor/Charge Person Signature Date

HEALTH CARE PROVIDER

Treated by:_____
print name signature

Address_____
name of facility street city state zip code phone

Hospitalized overnight as inpatient? _____yes _____no (if emergency room only mark no)

Diagnosis/Assessment_____

Parts of body affected_____

Reaggravation of previous work injury? _____yes _____no Date of initial injury_____

Appendix B:
OSHA Form 200 – Occupational Injuries and Illnesses

OMB DISCLOSURE STATEMENT

Public reporting burden for this collection of information is estimated to vary from 4 to 30 (time in minutes) per response with an average of 15 (time in minutes) per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments regarding this estimate or any other aspect of this information collection, including suggestions for reducing this burden, please send them to the OSHA Office of Statistics, Room N-3644, 200 Constitution Avenue, N.W. Washington, D.C. 20210

Instructions for OSHA No. 200

I. Log and Summary of Occupational Injuries and Illnesses

Each employer who is subject to the recordkeeping requirements of the Occupational Safety and Health Act of 1970 must maintain for each establishment, a log of all recordable occupational injuries and illnesses. This form (OSHA No. 200) may be used for that purpose. A substitute for the OSHA No. 200 is acceptable if it is as detailed, easily readable, and understandable as the OSHA No. 200.

Enter each recordable case on the log within six (6) workdays after learning of its occurrence. Although other records must be maintained at the establishment to which they refer, it is possible to prepare and maintain the log at another location, using data processing equipment if desired. If the log is prepared elsewhere, a copy updated to within 45 calendar days must be present at all times in the establishment.

Logs must be maintained and retained for five (5) years following the end of the calendar year to which they relate. Logs must be available (normally at the establishment) for inspection and copying by representatives of the Department of Labor, or the Department of Health and Human Services, or States accorded jurisdiction under the Act. Access to the log is also provided to employees, former employees and their representatives.

II. Changes in Extent of or Outcome of Injury or Illness

If, during the 5-year period the log must be retained, there is a change in an extent and outcome of an injury or illness which affects entries in columns 1, 2, 6, 8, 9, or 13, the first entry should be lined out and a new entry made. For example, if an injured employee at first required only medical treatment but later lost workdays away from work, the check in column 6 should be lined out and checks entered in columns 2 and 3 and the number of lost workdays entered in column 4.

In another example, if an employee with an occupational illness lost wordays, returned to work, and then died of the illness, any entries in columns 9 through 12 would be lined out and the date of death entered in column 8.

The entire entry for an injury or illness should be lined out if later found to be nonrecordable. For example, an injury which is later determined not to be work related, or which was initially thought to involve medical treatement but later was determined to have involved only first aid.

III. Posting Requirements

A copy of the totals and information following the total line of the last page for the year, must be posted at each establishment in the place or places where notices to employees are customarily posted. This copy must be posted no later than February 1 and must remain in place until March 1. Even though there were no injuries or illnessed during the year, zeros must be entered on the totals line, and the form posted.

The person responsible for the annual summary totals shall certify that the totals are true and complete by signing at the bottom of the form.

IV. Instructions for Completing Log and Summary of Occupational Injuries and Illnesses

Column A - CASE OR FILE NUMBER. Self Expanatory

Column B - DATE OF INJURY OR ONSET OF ILLNESS

For occupational injuries, enter the date of the work accident which resulted in the injury. For occupational illnesses, enter the date of initial diagnosis of illness, or, if absence from work occurred before diagnosis, enter the first day of the absence attributable to the illness which was later diagnosed or recognized.

Columns C through F - Self Explanatory

Columns 1 and 8 - INJURY OR ILLNESS-RELATED DEATHS - Self Explanatory

Columns 2 and 9 - INJURIES OR ILLNESSES WITH LOST WORKDAYS - Self Explanatory

Any injury which involves days away from work, or days of restricted work activitiy, or both, must be recorded since it always involves one or more of the criteria for recordability.

Columns 3 and 10 - INJURIES OR ILLNESSES INVOLVING DAYS AWAY FROM WORK - Self Explanatory

Columns 4 and 11 - LOST WORKDAYS -- DAYS AWAY FROM WORK.

Enter the number of workdays (consecutive or not) on which the employee would have worked but could not because of occupational injury or illness. The number of lost workdays should not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work. NOTE: For employees not having a regularly scheduled shift, such as certain truck drivers, construction workers, farm labor, casual labor, part-time employees, etc., it may be necessary to estimate the number of lost workdays. Estimates of lost workdays shall be based on prior work history of the employee AND days worked by employees, not ill or injured, working in the department and/or occupation of the ill or injured employee.

Columns 5 and 12 - LOST WORKDAYS -- DAYS OF RESTRICTED WORK ACTIVITY.

Enter the number of workdays (consecutive or not) on which because of injury or illness:

(1) the employee was assigned to another job on a temporary basis, or

(2) the employee worked at a permanent job less than full time, or

(3) the employee worked at a permanently assigned job but could not perform all duties normally connected with it.

The number of lost workdays should not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.

Columns 6 and 13 - INJURIES OR ILLNESSES WITHOUT LOST WORKDAYS - Self Explanatory

Columns 7a through 7g - TYPE OF ILLNESS. Enter a check in only *one* column for each illness.

TERMINATION OR PERMANENT TRANSFER - Place an asterisk to the right of the entry in columns 7a through 7g (type of illness) which represented a termination of employment or permanent transfer.

V. Totals

Add number of entries in columns 1 and 8.

Add number of checks in columns 2, 3, 6, 7, 9, 10 and 13.

Add number of days in columns 4, 5, 11 and 12.

Yearly totals for each column (1-13) are required for posting. Running or page totals may be generated at the discretion of the employer.

In an employee's loss of workdays is continuing at the time the totals are summarized, estimate the number of future workdays the employee will lose and add that estimate to the workdays already lost and include this figure in the annual totals. No further entries are to be made with respect to such cases in the next year's log.

VI. Definitions

OCCUPATIONAL INJURY is any injury such as a cut, fracture, sprain, amputation, etc. which results from a work accident or from an exposure involving a single incident in the work environment. NOTE: Conditions resulting from animal bites, such as insect or snake bites or from one-time exposure to chemicals, are considered to be injuries.

OCCUPATIONAL ILLNESS of an amployee is any abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or diseases which may be caused by inhalation, absorption, ingestion, or direct contact.

The following listing gives the categories of occupational illnesses and disorders that will be utilized for the purpose of classifying recordable illnesses. For porposes of information, examples of each category are given. These are typical examples, however, and are not to be considered the complete listing of the types of illnesses and disorders that are to be counted under each category.

7a. Occupational Skin Diseases or Disorders. Examples: Contact dermatitis, eczema, or rash caused by primary irritants and sensitizers or poisonous plants; oil acne; chrome ulcers; chemical burns or inflamation, etc.

7b. Dust Diseases of the Lungs (Pneumaconioses). Examples: Silicosis, asbestosis and other asbestos-related diseases, coal worker's pneumaconioses, byssinosis, siderosis, and other pneumaconioses.

7c. Respiratory Conditions Due to Toxic Agents. Examples: Pneumonitis, pharyngitis, rhinitis or acute congestion due to chemicals, dusts, gases, or fumes; farmer's lung; etc.

7d. Poisoning (Systemic Effects of Toxic Materials). Examples: Poisoning by lead, mercury, cadmium, arsenic, or other metals; poisoning by carbon monoxide, hydrogen sulfide, or other gases; poisoning by benzol, carbon tetrachloride, or other organic solvents; poisoning by insecticide sprays such as parathion, lead arsenate; poisoning by other chemicals such as formaldehyde, plastics, and resins; etc.

7e. Disorders Due to Physical Agents (Other than Toxic Materials). Examples: Heatstroke, sunstroke, heat exhaustion, and other effects of environmental heat, freezing, frostbite, and effects of exposure to low temperatures; caisson disease; effects of ionizing radiation (isotopes, X-rays, radium); effects of nonionizing radiation (welding flash, ultraviolet rays, microwaves, sunburn); etc.

7f. Disorders Associated with Repeated Trauma. Examples: Noise-induced hearing loss; synovitis, tenosynovitis, and bursitis. Raynaud's phenomena; and other conditions due to repeated motion, vibration, or pressure.

7g. All Other Occupational Illnesses. Examples: Anthrax, brucellosis, infectious hepatitis, malignant and benign tumors, food poisoning, histoplasmosis, coccidioidomycosis, etc.

MEDICAL TREATMENT includes treatment (other than first aid) administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does NOT include first aid treatment (one-time treatment and subsequent observation of minor scratches, cuts, burns, splinters, and so forth, which do not ordinarily require medical care) even though provided by a physician or registered professional personnel.

ESTABLISHMENT: A single physical location where business is conducted or where services or industrial operations are performed (for example: a factory, mill, store, hotel, resturant, movie theater, farm, ranch, bank, sales office, warehouse, or central administrative office). Where distinctly separate activities are performed at a single physicial location, such as construction activities operated from the same physical locations as a lumber yard, each activity shall be treated as a separate establishment.

For firms engaged in activities which may be physically dispersed, such as agriculture; construction; transportation; communications and electric, gas, and sanitary services, records may be maintained at a place to which employees report each day.

Records for personnel who do not primarily report or work at a single establishment, such as traveling salesmen, technicians, engineers, etc., shall be maintained at the location from which they are paid or the base from which personnel operate to carry out their activities.

WORK ENVIRONMENT is comprised of the physical location, equipment, materials processed or used, and the kinds of operations performed in the course of an employee's work, wether on or off the employer's premisis.

Appendix C:
Safety Meeting Sheet

DATE	EMPLOYEE NAME	SAFETY OFFICER/SUPERVISOR	ACKNOLEDGEMENT THAT YOU HAVE READ AND UNDERSTSAND THE HASP SUPPLEMENT – TARGET SAFETY TOPIC FOR CONSTRUCTION PERSONNEL

Appendix D:
Vapor Monitoring Sheet

Air Quality Chart Data						MAP
Event #	1	2	3	4	5	
Date/Time						
Location						
Tester						
Weather						
Instrument						
Calibration						
Ambient/Unit						
Reading/Unit						

NOTES FOR EVENTS:	

Ionization Detector Response

Photoionization Detector (PID)	
Concentrations (in ppm)	**Level of PPE Required**
0.0 to 5.0	Level D
5.0 to 250.0	Level C
250.0 to 750.0	Level B
Above 750.0	Immediately withdraw from the area

Combustible Gas Response

Combustible Gas Indicator (CGI)	
Results (% of LEL)	**Procedure**
0.0 to 20.0	Continue with normal activity
Above 20.0	Immediately withdraw from the area

Oxygen Detector Response

Combustible Gas Indicator (CGI)	
Results (% Oxygen)	**Procedure**
0.0 to 19.5	Level B PPE is required
19.5 to 23.0	Continue with normal activity
Above 23.0	Immediately withdraw from the area

Appendix E:
SDS

PCE
Material Safety Data Sheet

Manufacturer's Name:	Martin Asphalt Company	Date: January 15, 2014
Telephone Number:	800-662-0987	Address: 300 Christy Place South Houston, TX 77587
For Emergency Assistance Call: (713) 941-4410		

NFPA HAZARD IDENTIFICATION	DEGREE OF HAZARD	HAZARD RATINGS
	HEALTH: 0 FIRE: 0 REACTIVITY: 0	0= LEAST 1= SLIGHT 2= MODERATE 3= HIGH 4= EXTREME

SECTION 1 - COMPONENT DATA	
PRODUCT NAME:	PCE/LVOC-1
COMMON NAME	BLENDED PETROLEUM HYDROCARBON
CHEMICAL NAME	BLENDED PETROLEUM HYDROCARBON

SECTION 2 - PHYSICAL DATA				
C.A.S. NUMBER:	MIXTURE (SEE DATA BELOW)			
BOILING POINT (°F):	212			
SPECIFIC GRAVITY (H20=1):	0.93			
MELTING POINT (°F):	NA			
VAPOR PRESSURE:	17.535 (GAUGE)			
PERCENT VOLATILE:	0			
VAPOR DENSITY (AIR=1):	NA			
EVAPORATIVE RATE (EE=1):	NA			
SOLUBILITY IN WATER:	SOLUBLE			
APPEARANCE AND ODOR:	LIGHT BROWN LIQUID, FAINT PETROLEUM ODOR			
COMPONENT NAME/ CAS NO.	% MIN	% MAX	EXPOSURE LIMITS	UNITS
HEAVY PARAFFINIC DISTILLATE SOLVENT EXTRACT (HPDSE)/64742-04-7	50	70	OSHA PEL (OIL MIST) 8HR/TWA (OIL MIST)	5 mg/m3 0.2mg/m3
EMULSIFIER/ LISTED IN TSCA	0	10	ORAL LD50 (RATS)	<19g/kg

SECTION 3 - FIRE & EXPLOSION DATA	
FLASH POINT (^{O}F) & METHOD:	HPDSE: 410 / C.O.C.
FLAMMABILITY LIMITS:	LOWER: NA UPPER: NA
AUTO IGNITION TEMPERATURE (°F):	UNKNOWN
EXTINGUISHING MEDIA	USE DRY CHEMICAL, FOAM OR CARBON DIOXIDE.
SPECIAL FIRE FIGHTING PROCEDURES	WATER MAY BE INEFFECTIVE BUT CAN BE USED TO COOL CONTAINERS EXPOSED TO HEAT OR FLAME. CAUTION SHOULD BE EXERCISED WHEN USING WATER OR FOAM AS FROTHING MAY OCCUR, ESPECIALLY IF SPRAYED INTO CONTAINERS OF HOT, BURNING LIQUID.
UNUSUAL FIRE AND EXPLOSIVE CONDITIONS	DENSE SMOKE MAY BE GENERATED WHILE BURNING. CARBON MONOXIDE, CARBON DIOXIDE AND OTHER OXIDES MAY BE GENERATED AS PRODUCTS OF COMBUSTION.

*NA=NOT APPLICABLE **ND=NOT DETERMINED

SECTION 4 - REACTIVITY DATA	
STABILITY: STABLE	STABLE
CONDITIONS TO AVOID:	NONE
HAZARDOUS POLYMERIZATION:	WILL NOT OCCUR
INCOMPATIBILITY MATERIALS TO AVOID:	MAY REACT WITH STRONG OXIDIZING AGENTS
HAZARDOUS DECOMPOSITION PRODUCTS:	NONE

SECTION 5 - HEALTH HAZARD DATA	
SKIN CONTACT:	AVOID SKIN CONTACT, THIS PRODUCT MAY CAUSE SLIGHT SKIN IRRITATION UPON DIRECT CONTACT; BASED ON TESTING OF SIMILAR PRODUCTS AND/OR COMPONENTS. PROLONGED OR REPEATED CONTACT MAY RESULT IN CONTACT DERMATITIS WHICH MAY MAKE THE SKIN MORE SUSCEPTIBLE TO OTHER IRRITANTS, SENSITIZERS AND DISEASE. PROLONGED OR REPEATED CONTACT MAY RESULT IN OIL ACNE WHICH IS CHARACTERIZED BY BLACKHEADS WITH POSSIBLE SECONDARY INFECTION. CONSTITUENTS OF THIS PRODUCT HAVE BEEN ASSOCIATED WITH PHOTOSENSITIVITY AN ABNORMAL SENSITIVITY OF SKIN TO SUNLIGHT. SEE DATA HEALTH BELOW
EYE CONTACT:	THIS PRODUCT IS RELATIVELY NON-IRRITATING TO THE EYES UPON DIRECT CONTACT BASED ON TESTING OF SIMILAR PRODUCTS AND/OR COMPONENTS.
INHALATION:	THIS PRODUCT HAS A LOW VAPOR PRESSURE AND IS NOT EXPECTED TO PRESENT AN INHALATION HAZARD AT AMBIENT CONDITION. CAUTION SHOULD BE TAKEN TO PREVENT AEROSOLIZATION OR MISTING OF THIS PRODUCT. THE PERMISSIBLE EXPOSURE LIMIT (PEL) AND THRESHOLD LIMIT VALUE (TLV) FOR THIS PRODUCT AS OIL MIST IS 5 mg/m3 APPEAR TO BE WITHOUT SIGNIFICANT HEALTH RISK. THE SHORT-TERM EXPOSURE LIMIT FOR THIS PRODUCT AS AN OIL MIST IS 10 mg/m3.
INGESTION	DO NOT INGEST. THIS PRODUCT IS RELATIVELY NON- TOXIC BY INGESTION. THIS PRODUCT HAS LAXATIVE PROPERTIES AND MAY RESULT IN ABDOMINAL CRAMPS AND DIARRHEA. SEE HEALTH DATA BELOW.
HEALTH DATA	ON RARE OCCASIONS, PROLONGED AND REPEATED EXPOSURE TO OIL MIST POSES A RISK OF PULMONARY DISEASE SUCH AS CHRONIC LUNG INFLAMMATION. THIS CONDITION IS USUALLY ASYMPTOMATIC AS A RESULT OF REPEATED SMALL ASPIRATIONS. SHORTNESS OF BREATH AND COUGH ARE THE MOST COMMON SYMPTOMS. THE PETROLEUM OIL USED FOR THIS PRODUCT IS CLASSIFIED AS CARCINOGENIC BY THE INTERNATIONAL AGENCY FOR RESEARCH OF CANCER. TO MINIMIZE EXPOSURE, DO NOT SUBJECT EMULSION TO TEMPERATURES ABOVE 212ºF. TEMPERATURES IN THIS RANGE VOLATILIZE THE EMULSION.

SECTION 6 - EMERGENCY AND FIRST AID PROCEDURES	
EYE CONTACT	IMMEDIATELY FLUSH EYES WITH LARGE AMOUNTS OF WATER AND CONTINUE FLUSHING UNTIL IRRITATION SUBSIDES. IF MATERIAL IS HOT, TREAT FOR THERMAL BURNS AND TAKE VICTIM TO HOSPITAL IMMEDIATELY.
SKIN CONTACT	REMOVE CONTAMINATED CLOTHING. WASH CONTAMINATED AREA THOROUGHLY WITH SOAP AND WATER. IF REDNESS OR IRRITATION OCCURS, SEEK MEDICAL ATTENTION. IF MATERIAL IS HOT, SUBMERGE INJURED AREA IN COLD WATER. IF VICTIM IS SEVERLEY BURNED, REMOVE TO A HOSPITAL IMMEDIATELY.
INHALATION	THIS MATERIAL HAS A LOW VAPOR PRESSURE AND IS NOT EXPECTED TO PRESENT AN INHALATION EXPOSURE AT AMBIENT CONDITIONS.
INGESTION	DO NOT INDUCE VOMITING. SEEK MEDICAL ATTENTION.

*NA=NOT APPLICABLE **ND=NOT DETERMINED

SECTION 7 - PERSONAL HEALTH PROTECTION INFORMATION	
EYE PROTECTION	EYE PROTECTION IS NOT REQUIRED UNDER CONDITIONS OF NORMAL USE. IF MATERIAL IS HANDLED SUCH THAT IT COULD BE SPLASHED INTO EYES, WEAR PLASTIC FACE SHIELD OR SPLASH-PROOF SAFETY GOGGLES.
SKIN PROTECTION	NO SKIN PROTECTION IS REQUIRED FOR SINGLE SHORT DURATION EXPOSURES, USE IMPERVIOUS CLOTHING (BOOTS, GLOVES, APRONS, ETC.) OVER PARTS OF THE BODY SUBJECT TO EXPOSURE. IF HANDLING HOT MATERIAL, USE INSULATED PROTECTIVE CLOTHING (BOOTS, GLOVES, APRONS, ETC.) LAUNDER SOILED CLOTHES. PROPERLY DISPOSE OF CONTAMINATED LEATHER ARTICLES INCLUDING SHOES, WHICH CANNOT BE DECONTAMINATED.
RESPIRATORY PROTECTION	RESPIRATORY PROTECTION IS NOT REQUIRED UNDER CONDITIONS OF NORMAL USE. IF VAPOR OR MIST IS GENERATED WHEN THE MATERIAL IS HEATED OR HANDLED, USE AN ORGANIC VAPOR RESPIRATOR WITH A DUST AND MIST FILTER. ALL RESPIRATORS MUST BE NIOSH CERTIFIED. DO NOT USE COMPRESSED OXYGEN IN HYDROCARBON ATMOSPHERES.
VENTILATION	IF VAPOR OR MIST IS GENERATED WHEN THE MATERIAL IS HEATED OR HANDLED, ADEQUATE VENTILATION IN ACCORDANCE WITH GOOD ENGINEERING PRACTICE MUST BE PROVIDED TO MAINTAIN CONCENTRATIONS BELOW THE SPECIFIED EXPOSURE OR FLAMMABLE LIMITS.
OTHER	CONSUMPTION OF FOOD AND BEVERAGES SHOULD BE AVOIDED IN WORK AREAS WHERE HYDROCARBONS ARE PRESENT. ALWAYS WASH HANDS AND FACE WITH SOAP AND WATER BEFORE EATING, DRINKING, OR SMOKING.

SECTION 8 - SPILL, LEAK & DISPOSAL PROCEDURES	
STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	CONSULT HEALTH HAZARD DATA IN SECTION 5, PERSONAL HEALTH PROTECTION INFORMATION IN SECTION 7, FIRE & EXPLOSION DATA IN SECTION 3, AND REACTIVITY DATA IN SECTION 4. NOTIFY APPROPRIATE AUTHORITIES OF SPILL. CONTAIN SPILL IMMEDIATELY. DO NOT ALLOW SPILL TO ENTER SEWERS OR WATERCOURSES. REMOVE ALL SOURCES OF IGNITION. ABSORB WITH APPROPRIATE INERT MATERIAL SUCH AS SAND, CLAY, ETC. LARGE SPILLS MAY BE PICKED UP USING VACUUM PUMPS, SHOVELS, BUCKETS OR OTHER MEANS AND PLACED IN DRUMS OR OTHER SUITABLE CONTAINERS.
WASTE DISPOSAL METHOD	ALL DISPOSALS MUST COMPLY WITH FEDERAL, STATE, AND LOCAL REGULATIONS. THE MATERIAL, IF SPILLED OR DISCARDED, MAY BE A REGULATED WASTE. REFER TO STATE AND LOCAL REGULATIONS. CAUTION! IF REGULATED SOLVENTS ARE USED TO CLEAN UP SPILLED MATERIAL, THE RESULTING WASTE MIXTURE MAY BE REGULATED. DEPARTMENT OF TRANSPORTATION (DOT) REGULATIONS MAY APPLY FOR TRANSPORTING THIS MATERIAL WHEN SPILLED. WASTE MATERIAL MAY BE LANDFILLED OR INCINERATED AT AN APPROVED FACILITY. MATERIALS SHOULD BE RECYCLED IF POSSIBLE.

SECTION 9 - SPECIAL PRECAUTIONS/ADDITIONAL INFORMATION	
HANDLING AND STORAGE REQUIREMENTS	DO NOT TRANSFER TO UNMARKED CONTAINERS. STORE IN CLOSED CONTAINERS AWAY FROM HEAT, SPARKS, OPEN FLAME, OR OXIDIZING MATERIALS. THIS PRODUCT IS NOT CLASSIFIED AS HAZARDOUS UNDER DOT REGULATIONS. FIRE EXTINGUISHERS SHOULD BE KEPT READILY AVAILABLE. SEE NFPA 30 AND OSHA 1910.106 FLAMMABLE AND COMBUSTIBLE LIQUIDS.
ADDITIONAL INFORMATION	THIS PRODUCT IS NOT KNOWN TO CONTAIN ANY SARA TITLE III, SECTION 313 REPORTABLE CHEMICALS, AT OR GREATER THAN 1.0% (0.1% FOR CARCINOGENS) A COMPONENT OF THIS PRODUCT IS ON THE TOXIC SUBSTANCES CONTROL ACT (TSCA) INVENTORY.

*NA=NOT APPLICABLE **ND=NOT DETERMINED

Established in 1981 megaloid laboratories limited
2221 Ninth Line | Oakville, ON L6H 7G7
Phone: 905-337-7411 | Fax: 905-337-1686
megaloid.ca

Safety Data Sheet

1. PRODUCT IDENTIFICATION

Name **Trichloroethylene**
Synonyms **1,1,2-trichloroethylene, acetylene trichloride, TCE & trade names**
CAS# **79-01-6**
Europe EC# **201-167-4**
Product Uses **cleaning solvent for vapour degreasing**

EMERGENCY INFORMATION
Canada **Call CANUTEC (collect)** **(613) 996-6666**
U.S.A. **Call CHEMTREC** **(800) 424-9300**

2. HAZARDS

GHS Class (Category)	***skin irritant (2)***	***eye irritant (2)***	***STOT (3)***	***carcinogen (1B)***	***aquatic chronic (2)***
Signal Words	***WARNING***	***WARNING***	***WARNING***	***DANGER***	***no Signal Word***
Hazard Statements	*causes skin irritation (H315)*	*causes serious eye irritation (H319)*	*may cause drowsiness or dizziness (H336)*	*may cause cancer (H350)*	*toxic to aquatic life with long-lasting effects (H411)*

GHS Precautionary Statements for Labelling

P261 P271 **Avoid breathing vapour. Use only in a well ventilated area**
P262 P264 **Do not get in eyes, on skin or on clothing. Wash thoroughly after handling.**
P270 **Do not eat, drink or smoke when using this product.**
P280 **Wear eye protection, protective gloves and clothing of butyl or "Viton".**
P273 P391 **Avoid release to the environment. Collect spillage.**

Canada – WHMIS Key: **D 1B, D 2A, D 2B**
B 2 *– Flash Point <38°C,* ***B 3*** *– Flash Point >38°C & <93°C*
D 1 *– Immediately Toxic,* ***D 2*** *– Chronic Toxicity*
C *– Oxidising Substance,* ***E*** *– Corrosive,* ***F*** *– Reactive Substance*

3. COMPOSITION

	%	TWAEV / TLV ppm / mg/m^3	LD_{50} (mg/kg) ORAL	LD_{50} (mg/kg) SKIN	LC_{50} ppm INHALATION
1,1,2-trichloroethylene	100%	10 / 55	2400	29,280	7175

4. FIRST AID

SKIN: Wash with soap & plenty of water. Remove contaminated clothing and do not reuse until thoroughly laundered.
EYES: Wash eyes with plenty of water, holding eyelids open. Seek medical assistance promptly if irritation persists.
INHALATION: Remove from contaminated area promptly. ***CAUTION: Rescuer must not endanger himself!*** If breathing stops, administer artificial respiration and seek medical aid promptly.
INGESTION: Give plenty of water to dilute product. Do not induce vomiting (NOTE below). Keep victim quiet. If vomiting occurs, lower victimôs head below hips to prevent inhalation of vomited material. Seek medical help promptly.

Inadvertent inhalation of vomited material may seriously damage the lungs. The danger of this is greater than the risk of poisoning through absorption of this relatively low-toxicity substance. The stomach should only be emptied under medical supervision, and after the installation of an airway to protect the lungs.

Please ensure that this SDS is given to, and explained to people using this product.

5. FIRE FIGHTING & FLAMMABILITY

Flash Point	will not flash[1]
Autoignition Temperature	410°C / 770°F[1]
Flammable Limits	8% ï 50% ï *only burns in continuous contact with ignition source*
Combustion Products	hydrogen chloride & chlorine (*both corrosive*), plus phosgene (*highly toxic*)
Firefighting Precautions	as for substances sustaining fire; firefighters must wear SCBA
Static Discharge	will accumulate a static charge, but cannot be ignited by a spark

NOTE: *Trichloroethylene may ignite in the presence of a welding torch – and then produce highly hazardous vapours.*

6. ACCIDENTAL RELEASE MEASURES

Leak Precaution	dyke to control spillage; dyke must be able to contain the entire volume of a bulk storage tank
Handling Spill	ventilate contaminated area; recover free liquid with suitable pumps; absorb residue on an inert sorbent, sweep shovel & store in closed containers for recycling or disposal

7. HANDLING & STORAGE

Store in a cool environment, away from substances named in Part 10 (below).

Avoid breathing product vapour. Product should be used in equipment designed for the purpose (eg: vapour degreaser) Use with adequate ventilation. If dealing with a spill, and ventilation is impossible or impractical, wear a suitable respirator (see Part 8). ***Do not routinely wear a respirator for handling this product! Effective ventilation or engineering control of vapour is the ONLY acceptable way to protect people working with this product.***

When transferring product, if there is any danger of contact, wear appropriate protective clothing.

Never cut, drill, weld or grind on or near this container. Avoid contact with skin and wash work clothes frequently. An eye bath and safety shower must be available near the workplace.

NOTE: *Although trichloroethylene is hard to ignite, fire can convert vapours into highly toxic, corrosive gases – Part 5, above.*

8. EXPOSURE CONTROL & PERSONAL PROTECTION

Ontario TWAEV	10ppm / 55mg/m^3	Ontario STEV	25ppm / 135mg/m^3
ACGIH TLV	10ppm / 55mg/m^3	ACGIH STEL	25ppm / 135mg/m^3
OSHA PEL	50ppm / 270mg/m^3	OSHA STEL	200ppm / 1080mg/m^3

Ventilation	product should only be used in specially designed equipment (eg: vapour degreaser); mechanical ventilation should not be required so long as the equipment is working properly; ***using this product in open air and relying on mechanical ventilation is NOT ACCEPTABLE****;* a respirator with organic vapour cartridge should be available for escape purposes, should vapour containment fail (*always store respirators in airtight containers [eg: "Tupperware"] to maintain cartridge "freshness"*)
Hands	ñVitonò gloves ï *other types also protect, always confirm suitability with supplier*
Eyes	safety glasses with side shields or chemical goggles – *always protect eyes!*
Clothing	impermeable (hands, above) apron, boots, long sleeves, if splashing is anticipated

9. PHYSICAL PROPERTIES

Odour & Appearance	clear, colourless, liquid with mild, sweet, *pleasant* ether odour
Odour Threshold	80ppm ï 100ppm ï *well above the TLV; hazardous below odour threshold!*
Vapour Pressure	60mmHg / 8kPa (20°C/ 68°F); also 74.5mmHg / 9.9kPa (25°C / 77°F)[1]
Evaporation Rate (*Butyl Acetate = 1*)	4.5-4.9
Vapour Density (air = 1)	4.5
Boiling Point	87°C / 189°F
Freezing Point	-73°C / -99°F; also -85°C / -121°F[1]
Specific Gravity	1.46 (20/20°C)
Water Solubility	1.1 grams/litre (20°C / 68°F)
- in other solvents	most organic solvents
Log $P_{O/W}$ (Octanol/H_2O partition)	2.53[1]
Viscosity	0.58centipoise (20°C / 68°F)[1]
pH	none ï *does not yield hydrogen ions in solution*
Conversion Factor	1ppm = 5.36mg/m^3
Molecular Weight	131

10. REACTIVITY

Dangerously Reactive With	strong oxidising agents or reducing agents; reactive metals (eg: Na, K, Ca, Ba)
Also Reactive With	strong alkalies forming explosive dichloroacetylene gas; copper reacts with any dichloroethylene present to form explosive acetylides; reactive with epoxides; unstabilised trichloroethylene may corrode aluminium, copper, zinc in presence of moisture
Chemical Stability	stable; will not polymerize ï except under x-ray or other radiation source, or in the presence of aluminium chloride
Decomposes in Presence of	iron, copper, zinc or aluminium at 250-600°C cause decomposition to phosgene; reactive metals cause decomposition to dichloroacetylene
Decomposition Products	apart from Hazardous Combustion Products ï dichloroacetylene
Mechanical Impact	not sensitive

11. TOXICITY

Effects, Acute Exposure

Skin Contact	severely irritating if not removed promptly; chemical burns if contact is prolonged (*>5 minutes*)
Skin Absorption	slight ï no systemic toxic effects by this route
Eye Contact	liquid severely irritating, may damage eyes; vapour irritates some above 160ppm, others at 350ppm blurred vision & other disturbances have been reported following contact with eyes
Inhalation	headache, dizzyness, drowsiness, intoxication may occur at above 350ppm; irritating above 1000ppm; high concentrations can lead to unconsciousness & death, numbness & muscle weakness also reported
Ingestion	burning sensation in mouth & throat; headache, dizzyness, drowsiness, intoxication & vomiting, followed by muscle weakness, plus possible delayed heart, kidney & liver damage
LD_{50} (oral)	4920 & 5620mg/kg (rat), 2400mg/kg (mouse), >7330mg/kg (rabbit), >5865mg/kg (cat), 5680mg/kg (dog)
LD_{50} (skin)	29,280mg/kg (rabbit)
LC_{50} (inhalation)	7175, 7440, 8450, 40,920 & 48,730ppm (mouse), 7250 & 26,170ppm (rat)

Effects, Chronic Exposure

General	prolonged or repeated exposure may cause dermatitis; neurological damage (headache, sleeplessness, mood change), plus blurred or tunnel vision may be seen; loss of sensation in hands & feet may occur
Sensitising	not a sensitiser
Carcinogen/Tumorigen	probable carcinogen ï IARC ï Group 1, ACGIH ï A2; the NTP rates trichloroethylene a carcinogen
Reproductive Effect	no known effect on humans or animals
Mutagen	mutagen in a few animal tests, but not in others[1]; not known to be a mutagen or teratogen in humans
Synergistic With	alcohol ï prior exposure to trichloroethylene followed by alcohol consumption causes upper body flush ï called ñ*degreasers flush*ò

12. ECOLOGICAL INFORMATION

Bioaccumulation	trichloroethylene metabolised & excreted (½-life ~40hr) and will not bioaccumulate
Biodegradation	biodegrades in aerobic sewage treatment facilities, but only in the presence of other carbon sources; biodegradation is much slower under anaerobic conditions
Abiotic Degradation	reacts with atmospheric hydroxyl (OH) radicals; estimated ½-life in air 5-7 days
Mobility in soil, water	shown to have moderate mobility in soil and the water column
Marine Toxicity	
LC_{50} (96 hr) Fish	28 & 63mg/litre/96hr (Jordanella floridae), 41mg/litre/96hr (Pimephelas promelas), 16mg/litre Limada limada), 52 & 99mg/litre (Cyprinodon variegatus), 45mg/litre (Lepomis macrochirus)
LC_{50} (48hr) Shrimp	58mg/litre/ (Daphnia cucullata), 2.2, 8, 21 & 42-97mg/litre (Daphnia magna) & others
EC_{50} (Algae)	450mg/litre (Scenedesmus subspicatus), 175mg/litre (Selenastrum capricornutum), 95 & 150mg/litre (Skeletonema costatum)
EC_{50} (Bacteria)	235mg/litre (Bacillus subtilis), >400mg/litre (Chilomonas paramecium), 975mg/litre (Photobacterium phosphoreum) & others

13. DISPOSAL

Waste Disposal	**do not flush to sewer**, recycle solvent if possible, may be incinerated in approved facility ***with flue gas monitoring and scrubbing*** *after mixing with a suitable flammable waste solvent*
Containers	**Drums** should be reused. Recondition and pressure test by a licensed reconditioner prior to re-use. **Pails** must be vented and thoroughly dried prior to crushing and recycling. **IBCs** (intermediate bulk containers): polyethylene bottle must be pressure tested & recertified at 30 months. Replace at 60 months (5yrs). Steel containers must be inspected, pressure tested & recertified every 5 years. ***Never cut, drill, weld or grind on or near this container, even if empty***

14. TRANSPORT CLASSIFICATION

Canada TDG	**PIN**	**UN-1710**
AND	**Shipping Name**	**trichloroethylene**
U.S.A. 49 CFR	**Class**	**6.1**
	Packing Group	**III**
Marine Pollutant		not a marine pollutant
ERAP Required		**NO**

15. REGULATIONS

Canada DSL	**on inventory**
U.S.A. TSCA	**on inventory**
Europe EINECS	**on inventory**

U.S.A. Regulations:

Immediately Dangerous to Life or Health: 1000 ppm; NIOSH considers trichloroethylene to be a potential occupational carcinogen.

Allowable Tolerances: Tolerances are established for residues of trichloroethylene resulting from its use as a solvent in the manufacture of foods as follows:

Food	Parts per million
Decaffeinated ground coffee	25
Decaffeinated soluble (instant) coffee extract	10
Spice oleoresins	30 parts per million (*provided that if residues of other chlorinated solvents are also present, the total of all residues of such solvents in spice oleoresins shall not exceed 30 parts per million*).

OSHA Standards: Permissible Exposure Limit: Table Z-2 8-hr Time Weighted Avg: 100 ppm. Permissible Exposure Limit: Table Z-2 Acceptable Ceiling Concentration: 200 ppm. Permissible Exposure Limit: Table Z-2 Acceptable maximum peak above the acceptable ceiling concentration for an 8-hour shift. Concentration: 300 ppm. Maximum Duration: 5 minutes in any 2 hours. Vacated 1989 OSHA PEL TWA 50 ppm (270 mg/cu m); STEL 200 ppm (1080 mg/cu m) is still enforced in some states.

NIOSH Recommendations: NIOSH considers trichloroethylene to be a potential occupational carcinogen. NIOSH usually recommends that occupational exposures to carcinogens be limited to the lowest feasible concentration. Recommended Exposure Limit: 60 Minute Ceiling Value: 2 ppm. /During the usage of trichloroethylene as an anesthetic agent/ Recommended Exposure Limit: 10 Hour Time-Weighted Average: 25 ppm. /During exposures to trichloroethylene other than as an anesthetic agent/

15. REGULATIONS, cont'd

Threshold Limit Values: 8 hr Time Weighted Avg (TWA): 10 ppm; 15min Short Term Exposure Limit (STEL) 25 ppm, A2: Suspected human carcinogen.

Atmospheric Standards: This action promulgates standards of performance for equipment leaks of Volatile Organic Compounds (VOC) in the Synthetic Organic Chemical Manufacturing Industry (SOCMI). The intended effect of these standards is to require all newly constructed, modified, and reconstructed SOCMI process units to use the best demonstrated system of continuous emission reduction for equipment leaks of VOC, considering costs, non air quality health and environmental impact and energy requirements. Trichloroethylene is produced, as an intermediate or a final product, by process units covered under this subpart. Listed as a hazardous air pollutant (HAP) generally known or suspected to cause serious health problems. The Clean Air Act, as amended in 1990, directs EPA to set standards requiring major sources to sharply reduce routine emissions of toxic pollutants. EPA is required to establish and phase in specific performance based standards for all air emission sources that emit one or more of the listed pollutants. Trichloroethylene is included on this list.

Federal Drinking Water Standards: Maximum contaminant level goals for organic contaminants: Trichloroethylene, MCLG: zero. Maximum contaminant levels (MCL) for organic contaminants apply to community and non-transient, non-community water systems: Trichloroethylene, MCL 0.005 mg/L. EPA 5 ug/l

State Drinking Water Standards: Florida 3 ug/l, New Jersey 1 ug/l

State Drinking Water Guidelines: Arizona 3.2 ug/l, Connecticut 5 ug/l, Maine 32 ug/l, Minnesota 5 ug/L

Clean Water Act Requirements: Toxic pollutant designated pursuant to section 307(a)(1) of the Federal Water Pollution Control Act and is subject to effluent limitations. Trichloroethylene is designated as a hazardous substance under section 311(b)(2)(A) of the Federal Water Pollution Control Act and further regulated by the Clean Water Act Amendments of 1977 and 1978. These regulations apply to discharges of this substance. This designation includes any isomers and hydrates, as well as any solutions and mixtures containing this substance.

CERCLA Reportable Quantities: Persons in charge of vessels or facilities are required to notify the National Response Center (NRC) immediately, when there is a release of this designated hazardous substance, in an amount equal to or greater than its reportable quantity of 100 lb or 45.4 kg. The toll free number of the NRC is (800) 424-8802. The rule for determining when notification is required is stated in 40 CFR 302.4 (section IV. D.3.b).

RCRA Requirements: As stipulated in 40 CFR 261.33, when trichloroethylene, as a commercial chemical product or manufacturing chemical intermediate or an off-specification commercial chemical product or a manufacturing chemical intermediate, becomes a waste, it must be managed according to Federal and/or State hazardous waste regulations. Also defined as a hazardous waste is any residue, contaminated soil, water, or other debris resulting from the cleanup of a spill, into water or on dry land, of this waste. Generators of small quantities of this waste may qualify for partial exclusion from hazardous waste regulations (40 CFR 261.5). A solid waste containing trichloroethylene may or may not become characterized as a hazardous waste when subjected to the Toxicity Characteristic Leaching Procedure listed in 40 CFR 261.24, and if so characterized, must be managed as a hazardous waste. When trichloroethylene is a spent solvent, it is classified as a hazardous waste from a nonspecific source, as stated in 40 CFR 261.31, and must be managed according to state and/or federal hazardous waste regulations.

FDA Requirements: Trichloroethylene is an indirect food additive for use as a component of adhesives. Tolerances are established for residues of trichloroethylene resulting from its use as a solvent in the manufacture of foods as follows:

Food	Parts per million
Decaffeinated ground coffee	25
Decaffeinated soluble (instant) coffee extract	10
Spice oleoresins	30 parts per million (*provided that if residues of other chlorinated solvents are also present, the total of all residues of such solvents in spice oleoresins shall not exceed 30 parts per million*).

16. OTHER INFORMATION

Prepared for Megaloid Laboratories by Peter Bursztyn, (705) 734-1577
*Data from **RTECS**, **HSDB** (Haz. Substance Data Base), **Cheminfo** (CCOHS), **IUCLID** Datasheets (ESIS – European Chem. Substance Info. System), & others.*
*Preparation Date: **May 2005** Revision Date: **June 2008, June 2011, June 2014***

European Chemicals Agency (EChA) dossier for Trichloroethylene:
http://apps.echa.europa.eu/registered/data/dossiers/DISS-9c83a2d3-4a9f-1ff5-e044-00144f67d249/DISS-9c83a2d3-4a9f-1ff5-e044-00144f67d249_DISS-9c83a2d3-4a9f-1ff5-e044-00144f67d249.html

IRM Work Plan

Appendix E

Community Air Monitoring Plan (CAMP)

IMPACT ENVIRONMENTAL
170 Keyland Court
Bohemia, New York 11716
TEL: (631) 268-8800
FAX: (631) 269-1599

Appendix E

IRM WORK PLAN - COMMUNITY AIR MONITORING PLAN

98, 100, and 104 South 4th Street, Brooklyn, NY

Real-time air monitoring for volatile organic compounds (VOCs) and particulate levels at the perimeter of the exclusion zone or work area will be performed. Continuous monitoring will be performed for all ground intrusive activities and during the handling of contaminated or potentially contaminated media. Ground intrusive activities include, but are not limited to; concrete cutting/breaking, soil/waste excavation and handling, suction pit excavation or trenching, and the installation of soil borings or monitoring wells.

Exceedances of action levels observed during performance of the Community Air Monitoring Plan (CAMP) will be reported to the NYSDEC Project Manager and included in the Daily Report.

VOC Monitoring, Response Levels, and Actions

Prior to work commencing, ambient background readings will be collected in the work area. As work will take place indoors, volatile organic compounds (VOCs) will be monitored proximal to the immediate work area (i.e., the exclusion zone) on a continuous basis during invasive work. The monitoring work will be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment 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 proximal to the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.

If total organic vapor levels proximal to 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 vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities will resume provided that the total organic vapor level 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 must be recorded and be available for NYSDEC personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored continuously proximal to 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 should be visually assessed during all work activities.

If the PM-10 particulate level is 100 micrograms per cubic meter (mcg/m3) greater than background (pre-work conditions) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression techniques provided that PM-10 particulate levels do not exceed 150 mcg/m3 above the background level and provided that no visible dust is migrating from the work area.

If, after implementation of dust suppression techniques, PM-10 particulate levels are greater than 150 mcg/m3 above the background level, work will be stopped, and a re-evaluation of activities initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing the PM-10 particulate concentration to within 150 mcg/m3 of the background level and in preventing visible dust migration.

All readings will be recorded and be available for NYSDEC personnel to review.

Exceedances observed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers and included in the Daily Report.

IRM Work Plan

Appendix F

Soil Management Plan (SMP)

IMPACT ENVIRONMENTAL
170 Keyland Court
Bohemia, New York 11716
TEL: (631) 268-8800
FAX: (631) 269-1599

Appendix F

IRM WORK PLAN – SOIL MANAGEMENT PLAN

98, 100, and 104 South 4th Street, Brooklyn, NY

The following sections provide the SMMP, which will be implemented during the on-Site Remedial Action.

Soil Screening Methods

Visual, olfactory and PID soil screening and assessment will be performed by a qualified environmental professional or experienced field scientist under the direction of the Remedial Engineer during all remedial excavations into known or potentially contaminated material. Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during the remedy phase, such as suction pit excavations, prior to issuance of the Certificate of Completion.

Temporary Soil Staging Methods

Excavated soil will be stored in 55-gallon drums. Drums will be stored in non-residential and occupied commercial spaces (such as stairwells or utility rooms) pending waste characterization and subsequent removal. Drums will be sealed and tightened if stored overnight. Water will be available on-Site at suitable supply and pressure for use in dust control.

Materials Transport Off-Site

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

<u>Inbound from Brooklyn/Queens Expressway (BQE Route 278):</u>

- Head north on Route 278
- Take ramp on right, exit 32
- Turn right onto Ainslie Street.
- Turn right onto Union Avenue
- Turn right onto Grand Street which will turn into Boriquen Place
- At fork, take right onto South 4th Street
- 100 South 4th Street will be on the left after three blocks

Outbound from Site:

- Leave site and turn left onto South 4th Street
- Turn right onto Kent Avenue
- Turn Right onto Metropolitan Avenue
- Turn right onto Marcy Avenue, which will turn into onramp for Route 278 south

This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites to the extent practicable; (b) use of city mapped truck routes; (c) prohibiting off- Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport; [(g) community input [where necessary]].

The Site is not large enough to allow the queuing of trucks on-Site in order to minimize off-Site disturbance. Off-Site queuing will be prohibited and a solution will be established with transportation company. Trucks will be prohibited from stopping and idling in the neighborhood outside the project Site.

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

Material transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

Material Excavation and Load-Out, Transportation and Off-Site Disposal

The total estimated quantity of <2 tons of soil is expected to be removed and disposed from as part of the installation of the SSDS suction pits. The Remedial Engineer or a qualified environmental professional under his/her supervision will oversee all invasive work, including the excavation and load-out of all excavated material.

The Volunteer and its contractors are solely responsible for safe performance of all invasive work, the structural integrity of excavations, and the stability of structures that may be affected by the excavations (e.g., sidewalks, drainage structures, parking lot islands, electrical service, etc.).

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded. Trucks will be prohibited from stopping and idling in the neighborhood outside the project Site.

Off-Site queuing will be minimized to the extent practicable. Truck transport routes are as described above. All trucks loaded with Site materials will exit the vicinity of the Site using only these approved truck routes.

Locations where vehicles enter or exit the Site shall be inspected daily for evidence of tracking soil off the Site. Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site remediation and development. Due to the interior nature of the work, and drumming of all soils, trucks are not anticipated to need to be washed.

The disposal locations will be determined prior to implementation of the on-Site Remedial Action and will be reported to the NYSDEC Project Manager.

Unregulated off-Site management of materials from this Site is prohibited without formal NYSDEC approval. Material that does not meet Track 1 UU SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360 16 Registration Facility).

The following documentation will be obtained and reported by the Remedial Engineer for each disposal location used in this project to fully demonstrate and document that the disposal of material derived from the Site conforms with all applicable laws: (1) a completed disposal facility application for each receiving facility describing the material to be disposed and requesting formal written acceptance of the material. This application will state that material to be disposed is contaminated material generated at an environmental remediation Site in New York State. The application will provide the project identity. The application will include as an attachment a summary of all chemical data for the material being transported (including Site Characterization data); and (2) a letter from all receiving facilities stating it is in receipt of the correspondence (above) and is approved to accept the material. These documents will be included in the IRM SSDS Construction Completion Report.

The IRM SSDS CCR will include an accounting of the destination of all material removed from the Site during this on Site Remedial Action, including excavated soil, solid waste, hazardous waste (if any), non-regulated material, and fluids. Documentation associated with disposal of all material must also include records and approvals for receipt of the material. This information will also be presented in a tabular form in the IRM SSDS CCR.

Bill of Lading system or equivalent will be used for off-Site movement of non-hazardous wastes and contaminated soils. This information will be reported in the IRM SSDS CCR.

Hazardous wastes (if any), derived from on-Site will be stored, transported, and disposed of in full compliance with applicable local, State, and Federal regulations.

Materials Reuse On-Site

No material reuse is anticipated for this project.

Fluids Management

Dewatering is not anticipated. If any are generated, liquids to be removed from the Site will be handled, transported, and disposed in accordance with applicable local, State, and Federal regulations.

Demarcation

A demarcation layer is not required for this project.

Backfill from Off-Site Sources

Materials proposed for import onto the Site will be approved by the Remedial Engineer and NYSDEC and will be in compliance with provisions in the IRM Work Plan prior to receipt at the Site. Native material from a virgin quarry source, which is the only material anticipated to be imported, will not be sampled prior to use as backfill on the Site.

Contingency Plan

In the unlikely event that USTs or other previously unidentified contaminant sources are found during on-Site remedial excavation, sampling will be performed on surrounding soils. Chemical analytical work will be for full scan parameters (TAL metals, TCL VOCs and SVOCs, TCL pesticides, PCBs, and emerging contaminants). These analyses will not be limited to CP-51/Soil Cleanup Guidance parameters where tanks are identified without prior approval by NYSDEC.

Identification of unknown or unexpected contaminated media identified by screening during invasive Site work will be promptly communicated by phone to NYSDEC's Project Manager. These findings will be also included in daily reports.

IRM Work Plan

Appendix G

Key Personnel Resumes

IMPACT ENVIRONMENTAL
170 Keyland Court
Bohemia, New York 11716
TEL: (631) 268-8800
FAX: (631) 269-1599

KEVIN KLEAKA, P.G.

Executive Vice President/Senior Environmental Scientist

EDUCATION

State University of New York at Plattsburg,
Bachelor of Science in Environmental Science, 1995 Applied Environmental Science Program

EXPERIENCE

IMPACT ENVIRONMENTAL CLOSURES Inc., 1997-Present),
Executive Vice President, Senior Environmental Scientist

- Principally responsible for managing environmental assessment, investigation, construction and remediation projects in commercial and industrial markets for lenders, real estate investment/development firms, construction firms and government agencies.
- Manage Phase I and II Environmental Site Assessments, State Spill Investigation and Remediation, County and Federal Underground Injection Control Programs, State & City Voluntary/Brownfield Cleanup Programs, State & Federal Superfund Sites, Brownfield Environmental Restoration Programs, Federal RCRA Closure, City E-Designation Projects.
- Responsible for environmental compliance of construction projects for waste management.
- Quality control of work products and deliverables.
- Supervise staff of geologists, hydrogeologists, engineers, environmental scientists, and environmental technicians to develop and implement sampling and analysis plans, quality assurance programs, remedial action plans.
- Provide expert witness testimony/fact statements and support in litigation cases involving soil, air and/or groundwater pollution.

WYETH AYERST LABORATORIES, (1995-1997), Chemist worked in chromatographic separations division performing quality assurance analysis.

- Performed laboratory procedures and analyses in accordance with USFDA analytical test methods by liquid, gas, and thin layer chromatography.

KEY PROJECTS

- East Side Access MTA LIRR
- Melody Cleaners
- ExxonMobil Spill- Valley Stream, NY
- Spartan Petroleum
- JFK 1020, Runway 13R-31L
- Rheingold Brewery Redevelopment Project
- WTC Greenwich Street Corridor Reconstruction
- Yankee Stadium Macomb's Park

ORGANIZATIONS

- New York City Brownfield Partnership
- New Partners for Community Revitalization
- ASTM Committee
- National Groundwater Association
- Environmental Bankers Association
- Vapor Intrusion Network
- Long Island Geologist Association
- Environmental Consulting Professionals
- Environmental Insurance Professionals

CERTIFICATIONS/ ACHIEVEMENTS

- Licensed Profession Geologist (NYS# 000735)
- Gold Certified Brownfield Professional 2012
- Advanced Tools for In-Situ Remediation Workshop
- ASTM Technical & Professional Training for Assessment of Vapor Intrusion into Structures of Property & New York State Department of Health, Vapor Intrusion Training
- New York Precision Equipment Global Survey Positioning Training
- MTBE & TBA Comprehensive Site Assessment and Successful Groundwater Remediation
- Environmental Data Resources, Due Diligence Workshop
- Advanced Technologies for Accelerated Natural Attenuation
- Eophysical Survey Systems, Theory and Practice of Applying Subsurface Interface Radar in Engineering and Geophysical Investigation.
- 40-Hour Occupational Safety & Health Administration

CHRISTOPHER CONNOLLY

PROJECT MANAGER

EDUCATION

Bachelor of Science, Music Technology and Studio Systems Design - University of Derby, England (2008)

EXPERIENCE

IMPACT ENVIRONMENTAL-Project Manager, 2015-Present

- Conducts visual inspections and produces Phase I Environmental Site Assessments.
- Arranges, organizes, and oversees Phase II Environmental Site Assessments and Limited Subsurface Investigations.
- Arranges and oversees small, moderate and large-scale remediation projects, including communication with disposal facilities, subcontractors, Clients and regulatory agencies, as applicable.
- Produces Work Plans, Final Engineering Reports and other associated regulatory reports.
- Conducts various methods of soil and groundwater sampling, groundwater monitoring, well purging & sampling, and soil vapor sampling.

LAUREL ENVIRONMENTAL ASSOCIATES - Environmental Scientist, 2010-2015

- Conducts visual inspections of Phase I & II Environmental Site Assessments.
- Writes Transaction screen and Phase I, II, and III Environmental Site Assessments, Remedial Action Work Plans (RIWP), Environmental Assessment Statements (EAS) and Supplemental Studies reports, as well as New York City Office of Environmental Remediation Voluntary Cleanup Program Reports.
- Assists in Phase II site operations.
- Organizes, arranges logistics, and oversees small to large scale remediation projects, with accurate communication with disposal facility, trucking, developer and regulatory agency required. Conducts associated CAMP monitoring and writes Daily Reports.
- Conducts various methods of soil and groundwater sampling, groundwater monitoring, well purging & sampling, and soil vapor sampling.
- Experience operating and assisting with truck-mounted,track-mounted and portable Geoprobe® machines and tooling.
- Conducts ground penetrating radar, magnetic and utility surveys.
- Completed OSHA 24-Hour HAZWOPER Training program.
- Conducts Nuisance Noise and Excessive Vibration monitoring assessments.
- Project manages numerous NYC OER Voluntary Cleanup Projects, dealing with the remediation and continuing use of Brownfields sites.

KEY PROJECTS

- KENSINGTON ROAD, Bronxville, NY.
  1.63-acre New York State Department of Environmental Conservation Brownfields Cleanup Program (BCP) Remediation: Oversight, Reporting, Agency, client and developer coordination.
- RCRA Closure projects, activities and reports.
- CEQR EAS Reports, OER Work Plans, OER Final Engineering Reports.
- Gasoline Station Portfolio Phase I and II ESAs

CERTIFICATIONS/ ACHIEVEMENTS

- OSHA 40-hour HAZWOPER Training
- OSHA 8-hour Refresher (2007-to-present)
- OSHA 10-hour Construction Training (2016)

Alex Keenan

Project Geologist I

6 years EXPERIENCE

EDUCATION

Bachelor of Science, Geology, Virginia Polytechnic and State University (2014)

EXPERIENCE

IMPACT ENVIRONMENTAL, 2019-Present, ***Project Geologist***

- Prepare Phase I & II Environmental Assessments (ESAs) in general conformation with ASTM Practice E-1527-05 and USEPA ALL Appropriate Inquiries (AAI).
- Perform various aspects of Phase II scopes of work for commercial properties.
- Prepare RIR/RAR reports for various NYSDEC OER projects.

PREFERRED ENVIRONMENTAL SERVICES, 2017-2019, *Geologist II*

- Prepared Cause & Origin Investigation reports for insurance claim determinations.
- Performed various aspects of Phase II scopes of work for residential and commercial properties.
- Oversight of residential spill remediations with NYSDEC oversight.

ADVANCED CLEANUP TECHNOLOGIES, 2016-2017, *Env. Scientist*

- Prepared Phase I & II Environmental Assessments (ESAs) in general conformation with ASTM Practice E-1527-05 and USEPA ALL Appropriate Inquiries (AAI).
- Prepared RIR reports for various NYSDEC OER projects.
- Performed various aspects of Phase II scopes of work for commercial properties.

SUNBURST CONSULTING, 2014-2015, *Wellsite Geologist and Geosteering Consultant*

- ND/MT based wellsite geologist responsible for geosteering Middle Bakken and Three Forks (1st and 2nd Bench) wells using TerraVu and excel programs.
- Gas Chromatography

KEY PROJECTS

- LIRR/MTA 3rd Rail Project
- MTA Bus Depot Sludge Sampling – 5 boroughs

CERTIFICATIONS/ ACHIEVEMENTS

- OSHA 40-hour HAZWOPER Training
- OSHA 8-hour Refresher (2016-to-present)
- OSHA 30-hour Construction Training (2019)
- Staten Island & LIRR Roadway Safety Training (2019)

DANIEL FRUHAUF

Project Manager

8 years EXPERIENCE

EDUCATION

Bachelor of Arts, Ecosystems & Human Impact. SUNY at Stony Brook (2012)

EXPERIENCE

2014-Present **IMPACT ENVIRONMENTAL** *Associate Project Manager*

- Responsible for management and logistical coordination of investigative and remedial tasks, schedule and implementation quality on very large to small clean-up projects within NYC, Long Island, NY and East Chicago, Indiana
- Developed and prepared various environmental planning documents approved by regulators including, Remedial Action Work Plans, Corrective Measures Implementation Work Plan, Health and Safety Plans, Waste Characterization Work Plans, Community Air Monitoring Plans, Phase II ESA Work Plans, Underground Storage Tank Removal Work Plan, etc.
- Responsible for developing complex methods of tracking and incorporating innovative technology to measure remedial completion for adequate reporting purposes
- Assembled proposals, work orders, change orders and general contracts for multiple clients
- Performed complex Phase II Assessments and other Subsurface Investigations to detect and target specific contaminants for delineation purposes.
- Designed and constructed various remedial systems including sub-slab depressurization systems, soil vapor extraction systems.
- Conducted, presented and attended multiple regulator meetings with USEPA, NYSDEC, NYC OER.
- Provided a professional attitude of always learning, exploring new methods and teaching along the way

2013-2014 **SOVEREIGN CONSULTING Inc.** *Environmental Scientist*

- Collected field data, soil, groundwater samples from various NYSDEC regulated Spill Sites and other hazardous waste sites
- Assisted in construction and design of SVE, SSDS and product skim systems at multiple tri-state clean-up projects
- Prepared various reporting components specific to NYSDEC Quarterly Monitoring Reports, Phase I ESA, Phase II ESA and owner liability risk assessments
- Provided contractor oversight and split sampling with multiple environmental contractors on various clean-up and development projects
- Engaged in various meetings with regulators as to develop clean-up strategies for complex projects

KEY PROJECTS

- Former Du Pont East Chicago Facility – RCRA CA Clean-up Project, East Chicago, IN
- Independent Metal Strapping – NYSDEC/RCRA Closure, Roslyn, NY
- Multiple MTA/ LIRR Development Projects – NYC, LI NY
- Saint Barnabas Hospital Development Project – Bronx NY
- Multiple NYC OER regulated Commercial Development Projects - NYC

CERTIFICATIONS/ ACHIEVEMENTS

- HAZWOPER 40hr + 8hr Refreshers
- OSHA 10hr Construction Safety
- OSHA 30hr Construction Safety
- Transportation Worker Identification Card (TWIC)
- NYC Office of Environmental Remediation (OER) Trained
- MTA/Amtrak Track Safety
- MTA/NYC Transit Track Safety
- LIRR Safety Blue Card
- NYSDEC SWPPP Certified Inspector
- Certified NYSDOL Asbestos Inspector

JULIANA DE LA FUENTE, P.G.

SENIOR PROJECT MANAGER

EDUCATION

Bachelor of Science, Environmental Science- Geology Concentration Long Island University, Southampton College (1985)

EXPERIENCE

IMPACT ENVIRONMENTAL, 2013-Present, *Senior Project Manager*

- Manage a portfolio of remediation projects in the metropolitan New York City and Long Island regions.
- Responsible for managing Phase I and II Environmental Site Assessments, Site characterization and remedial investigations, soil vapor investigation, construction and remediation projects in commercial and industrial markets for financial intuitions, retail gasoline property owners, attorneys, real estate investment and development firms, and construction firms.
- Also, manage underground storage tanks removals, State Spill Investigation and Remediation Sites, County and Federal Underground Injection Control Program Sites, New York City Voluntary/Brownfield Cleanup Program Sites, NYSDEC Brownfield Environmental Restoration Program Sites, NYSDEC RCRA Closure Sites, New York City E-Designation Projects.
- Supervise staff of geologists, hydrogeologists, engineers, environmental scientists, and environmental technicians to develop and implement sampling and analysis plans, quality assurance programs, remedial action plans.

Kleinfelder East, Inc., 2006-2013, *Project Manager*

- Effectively execute environmental investigation and remediation work in support of a multi-million-dollar national contract with focus on risk management for activities such as drilling, construction associated with remediation system installation, demolition, trenching and excavation, underground storage tank removal, sheeting/shoring installation, dewatering systems, mobile crane work activities and waste management.
- Policy and procedure implementation in accordance with client's operation integrity management system and Loss Prevention System (LPS) requirements.
- Established strong and sustainable relationships with regulatory agency representatives and reached milestones negotiated on behalf of the client with the regulator that have resulted in no further action and site closures.
- Team leader with direct reports responsible for the implementation of health and safety/LPS and technical training, mentorship, goal setting and performance evaluations, and team building.

1991-2006 **Experience as a Project Manager within the South and Eastern US.**

KEY PROJECTS

- Bill Wolf Petroleum
- Spartan Petroleum
- Atlantis Management Group
- Gateway Development Group
- Extell Development Company
- Xenolith Partners
- Lab Corp
- AutoZone

ORGANIZATIONS

- National Groundwater Association
- Long Island Geologist Association

CERTIFICATIONS/ ACHIEVEMENTS

- New York City Office of Environmental Remediation – Certified Brownfield Professional (Gold Certification)
- ISO 14001:2004 8 Hour Training Certification
- Loss Prevention System™ Training
- 40-Hour Hazardous Waste Site Worker Course/Refresher
- CPR and First Aid certification
- RCRA and DOT Training
- The Ninth Annual Indoor Air Pollution Conference Seminars
- U.S. EPA and ASHRAE Orientation to Indoor Air Quality
- Licensed Profession Geologist (NYS# 000790)

IRM Work Plan

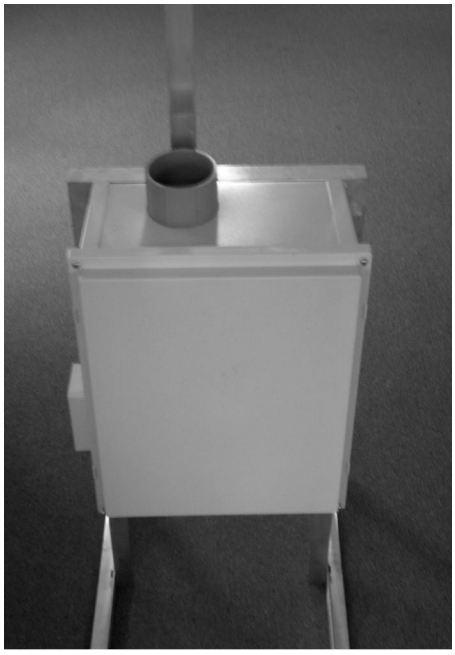
Appendix H

SSDS Component Specifications

IMPACT ENVIRONMENTAL
170 Keyland Court
Bohemia, New York 11716
TEL: (631) 268-8800
FAX: (631) 269-1599

THE OBAR GBR89
COMPACT RADIAL BLOWER

Based on 25 years of experience and 2 years of research and development, the patent pending GBR series of compact radial blowers provide the perfect combination of performance and design.



GBR89 WITH ROOF MOUNT

PERFORMANCE

- GBR89 HA 14" WC at 100CFM max flow 500 CFM.
- Built in speed control to customize performance.
- Condensate bypass built in.
- 12 month warranty 40,000 hr sealed bearings.

DESIGN

- Our modular design means the blower and manifold assembly can be removed and replaced as a unit. This makes repairs cost effective and easy and allows contractors to upgrade systems simply by swapping assemblies.
- The GBR series is based on a bypass blower designed to handle combustible materials.
- The housing is not required to be air tight so you can add gauges and alarms without compromising the system.
- Built in condensate bypass.
- Built in speed control.
- Quick disconnect electrical harness.
- All UL listed components including UL listed enclosure for outside use.
- Wall fastening lugs included.
- GBR series roof and wall mounts available to quickly configure the blowers for your installation while providing a custom built look.
- Compact design 18"x 16"x 10" weighing only 18 lbs.
- 4" schedule 40 inlet and 6" schedule 40 exhaust.

1. COST	GBR89 HA
COMPLETE UNIT	**$1,789.00**
3 YEAR WARRANTY	**$650.00**

Enclosure Specifications
Rating:

Ingress Protection (EN 60529): 66/67

Electrical insulation: Totally insulated

Halogen free (DIN/VDE 0472, Part 815): yes

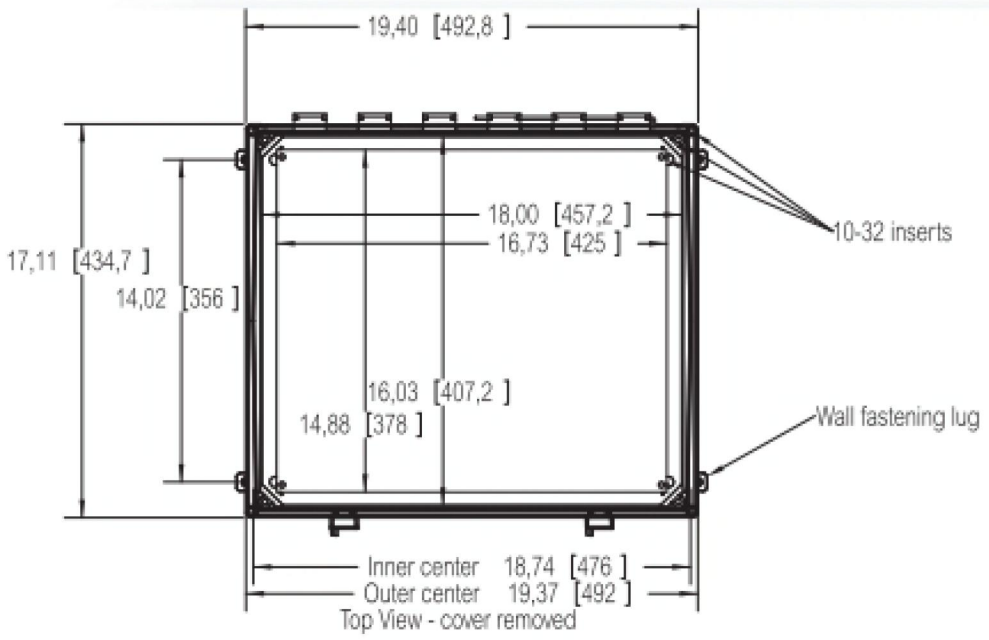
UV resistance: UL 508

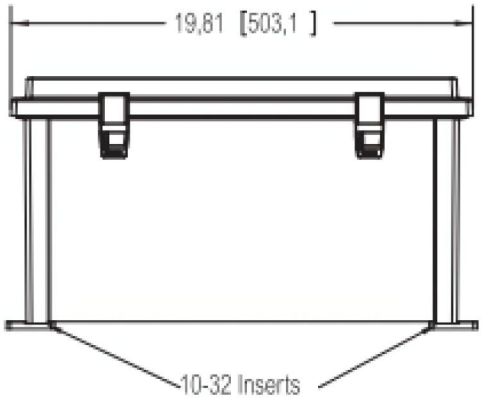
Flammability Rating (UL 746 C 5): complies with UL 508

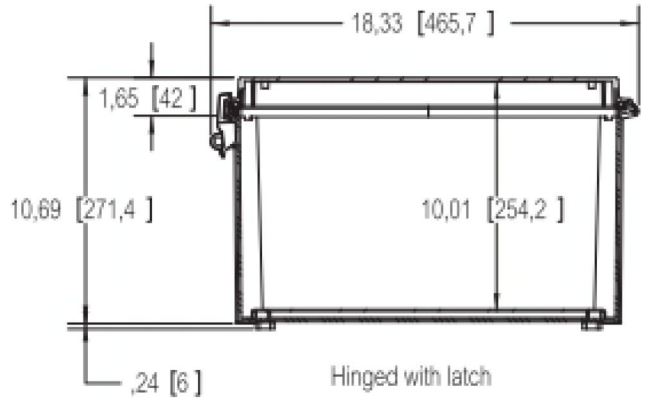
Glow Wire Test (IEC 695-2-1) °C: 960

NEMA Class: UL Type 4, 4X, 6, 6P, 12 and 13

Certificates: Underwriters Laboratories



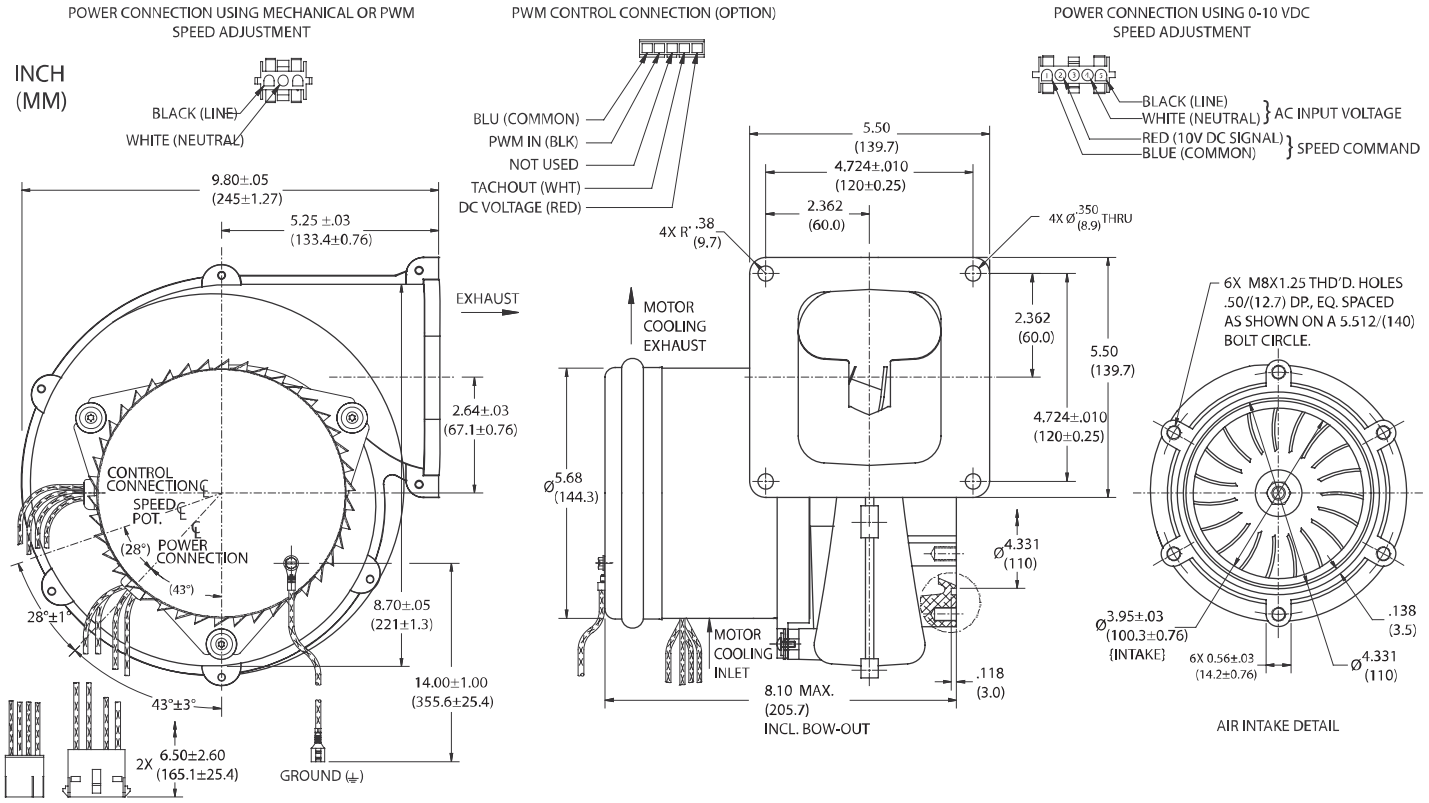




High Voltage Brushless DC Blowers

Nautilair (TM) 8.9" (226mm) Variable Speed Blower

240 Volt AC Input, Single Phase, High Output



		Part/ Model Number		
Specification	Units	150240	150241	150242
Speed Control	-	Mechanical	0-10 VDC	PWM

Notes:

- **Input Voltage Range:** 216 - 264 Volts AC RMS, 50/60 Hz, single phase.
- **Input Current:** 10 amps AC RMS
- **Operating Temperature (Ambient Air and Working Air):** 0°C to 50°C
- **Storage Temperature:** -40°C to 85°C
- **Dielectric Testing:** 1800 Volts AC RMS 60 Hz applied for one second between input pins and ground, 3mA leakage maximum.
- **Speed Control Methods:** PWM (Pulse Width Modulation). Speed control input signal of 15 - 45 VDC @ 500 Hz - 10 kHz, and tachometer output (2 Pulses / Revolution). Optional tachometer output (3 Pulses / Revolution).
  0 to 10 VDC with a speed control input current of 5 mA to 20 mA at 10 VDC Input with multi-turn potentiometer set to minimum resistance (fully clockwise).
  Mechanical: A potentiometer is available for speed control of the blower. The potentiometer can be preset for a specific speed. Access for speed adjustment located in motor housing.
  4-20mA speed control available.
- **Approximate Weight:** 9.3 Lbs. / 4.2 Kg.
- **Option Card available for Customization**
- **Regulatory Agency Certification:** Underwriters Laboratories Inc. UL507 Recognized under File E94403 and CSA C22.2#133 under File LR43448
- **Design Features:** Designed to provide variable airflow for low NOx & CO emission in high efficiency gas fired combustion systems. Built with non-sparking materials. Blower housing assembly constructed of die cast aluminum. Impeller constructed from hardened aluminum. Rubber isolation mounts built into blower construction to dampen vibration within the motor. Two piece blower housing assembly sealed with O-ring gasket for combustion applications. Customer is responsible to check for any leakage once the blower is installed into the final application.
- **Miscellaneous:** Blower inlet, discharge, and all motor cooling inlet and discharge vents must not be obstructed. Motor ventilation air to be free of oils and other foreign particles, (i.e. breathing quality air). Blower is to be mounted so ventilation air cannot be re-circulated.
  POWER CONNECTION (3 CAVITY): Blower connector, AMP Universal MATE-N-LOK, part no. 1-480701-0.
  POWER CONNECTION (5 CAVITY): Blower connector, AMP Universal MATE-N-LOK, part no. 350810-1.
  SPEED CONNECTION (5 CAVITY): Blower connector, Molex Mini-Fit Jr., part no. 39-01-4057.
  Mating harnesses available upon request.

AMETEK TECHNICAL & INDUSTRIAL PRODUCTS
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USA: +1 215-256-6601 - Europe: +44 (0) 845 366 9664 - Asia: +86 21 5763 1258
www.ametektip.com

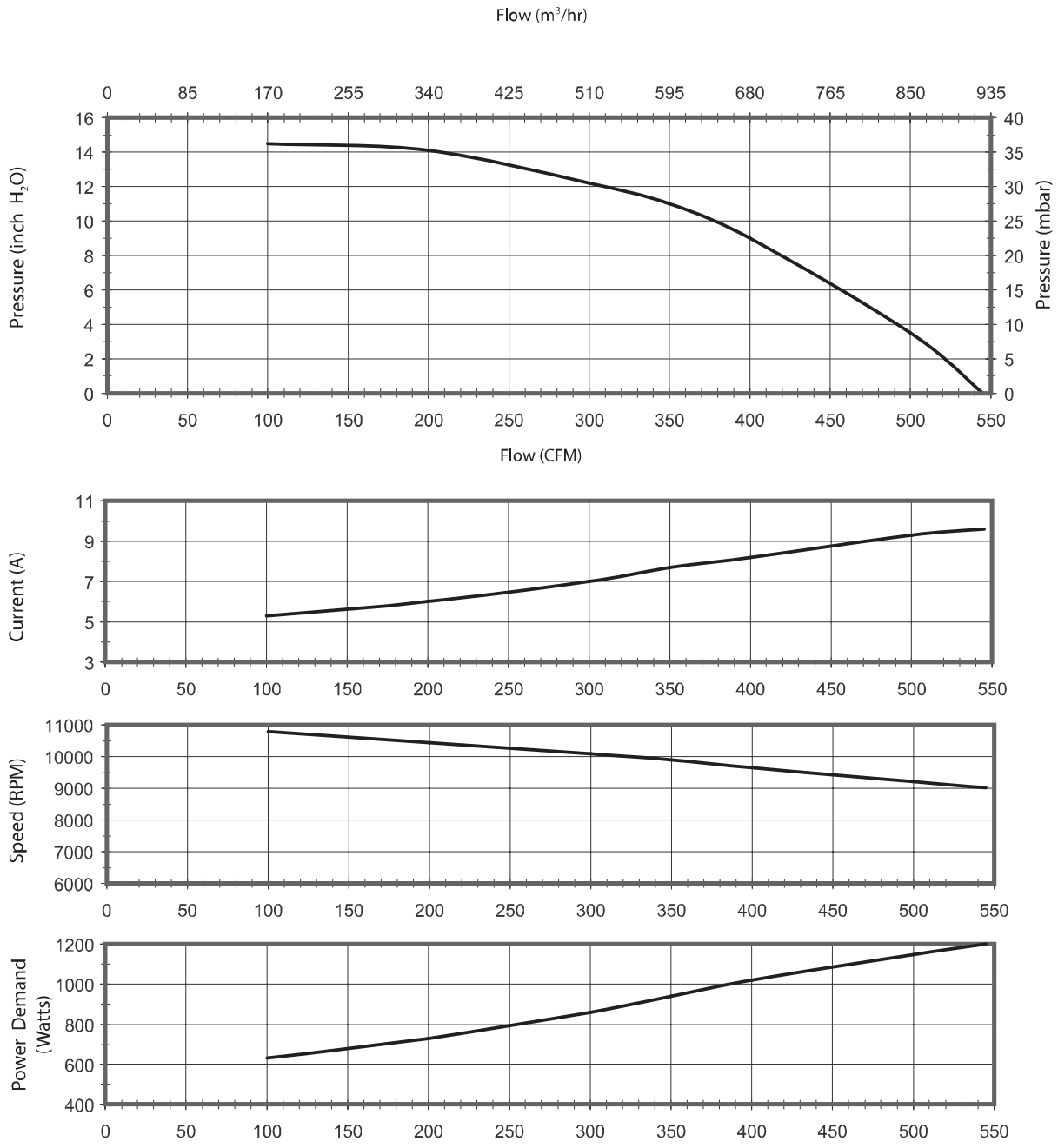
AMETEK
PRECISION MOTION CONTROL

Nautilair (TM) 8.9" (226mm) Variable Speed Blower

240 Volt AC Input, Single Phase, High Output

Nautilair

Typical Performance



Data presented represents blower performance at STANDARD AIR DENSITY, .075 lb/ft³ (29.92" Hg, Sea Level, 68° F)
Vacuum performance available upon request.

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AMETEK
PRECISION MOTION CONTROL

GBR89 HA tested at full voltage with 8 feet of 4" inlet (Blue Lines) and 6" Inlet (Green lines)

Maximum airflow with no exhaust piping and 8' of 6" piping is 529 CFM

GBR89 MA tested with speed control set to half the wattage consumption (Red Line)