March 5, 2024

NYSDEC
Division of Environmental Remediation
47-40-21st Street
Long Island City, NY 11101

Attn: Steven Wu
Project Manager

Re: Resubmittal of
Site Characterization Investigation Report
Former Drycleaner at 469 Forest Avenue
Staten Island, New York
Site # 243042

Dear Mr. Wu:

CA RICH Geology Services D.P.C. (CA RICH) has received the comment letter from New York State Department of Environmental Conservation (NYSDEC) dated January 29, 2024. The comment letter lists NYSDEC and New York State Department of Health (NYSDOH) comments to the Site Characterization Investigation Report (SCIR) dated May 2023 and completed by CA Rich Geology Services, D.P.C. The following lists the comments in italics followed by CA RICH's response in non-italic font.

NYSDEC Comments:

1. *Section 4.1 – Per-and Polyfluoroalkyl Substances (PFAS) – Please report PFAS data in parts per trillion (ppt) or nanograms per liter (ng/l). Additionally, please use newly finalized Guidance Values for PFAS in groundwater which can be found at:*
https://www.dec.ny.gov/chemical/23853.html#standards_and_Criteria
The guidance values for PFAS should be updated throughout the document.

   PFAS data for groundwater samples have been updated throughout the report and are listed in parts per trillion. This has been completed within the text, figures, and tables.

2. *Section 4.2 – With the exception of PFAS, all other soil data exceedances should be reported in parts per million (ppm) or milligrams per kilogram (mg/kg). PFAS data should be compared to the Protection of Groundwater Guidance Values in NYSDEC's Sampling, Analysis and Assessment of Per- and Polyfluoroalkyl Substances guidance which can be found at*
https://dec.ny.gov/docs/remediation_hudson_pdf/pfassampanaly.pdf

   PFAS data for soil samples have been updated throughout the report and are listed in parts per billion and all other soil data is reported in parts per million. This has been completed within the text, figures, and tables.

3. *Figure – Soil Exceedance Map – The Protection of Groundwater Soil Cleanup Objectives (PGSCOs) are 1.3 ppm and 0.47 ppm for tetrachloroethene (PCE) and trichloroethene (TCE), respectively. Please revise figures to indicate VOC results in ppm or mg/kg, and PFAS results in ppb, or ug/kg to be consistent with standards and guidance.*

   The Soil Exceedance Map (Figure 5) has been revised accordingly.

4. *Section 5.7 – Exposure Assessment Conclusions and Recommendations – The preceding Section 5.6 states, "There is an existing potential exposure pathway from soil gas emanating from VOCs entering adjoining buildings". As such a vapor intrusion investigation of adjacent buildings is warranted.*

   Section 5.7 has been updated to indicate there is an existing potential exposure pathway from soil gas emanating from VOCs entering the adjoining buildings.

5. *Conclusions – The PCE and TCE contamination in soil, groundwater, soil vapor, and indoor air presented in the report support reclassifying the Site as a Class 2 Inactive Hazardous Waste Disposal Site, which will require a comprehensive on-site and off-site Remedial Investigation and remedial actions.*

   The conclusion section has been revised to include the above statement.

NYSDOH Comments:

6. *Section 1.0, Introduction. The second to last paragraph should be revised to state more accurately that the site characterization "was designed to sample and test soils, groundwater, soil vapor, sub-slab soil vapor, and indoor air, and identify contaminant sources…"*

   Revision has been completed.

7. *Section 3.7, Chemical Inventory:*
   - *It states that "a screening of the building did not identify any areas where VOCs were above 0.0 ppm." Presumably, "screening" was performed with a photoionization detector (PID) which is not introduced until Section 4.2. Revise accordingly.*

   The screening of the building was conducted using a PID. Section 3.7 now calls out the use of the PID during screening activities.

   - *It concludes that "a completed NYSDOH indoor air quality questionnaire and building inventory form is included in Appendix E." Please note that the form is incomplete. One should have been filled out for each tenant space, particularly if each unit has a separate entrance and they share no common space.*

   The report now states a NYSDOH indoor air quality questionnaire and building inventory form is included in Appendix E. In future reports a form will be filled out for each tenant space.

8. *Section 4.1, Groundwater, under PFAS. It states that "the October 2020 NYSDEC Sampling Analysis and Assessment of Per- and Polyfluoroalkyl Substances guidance values were used." From the SC work plan that was approved in June 2022 to the draft May 2023 SC report, the PFAS guidance most applicable to these dates would be the June 2021 version and not October 2020 (as referenced in the SC work plan). Please revise accordingly; see also Section 7.0.*

See comment number 1 above from NYSDEC. We will be using the 2023 guidance values.

9. *Section 4.2, Soil, under VOCs. It concludes that "soil boring SB-461 did not exceed Protection of Groundwater standards." Per Figure 5, SB-467 had no exceedances; revise text.*

Text has been revised accordingly.

10. *Section 4.3, Soil Vapor:*
    - *The duplicate sub-slab vapor sample collected from SSV-461 (SV-XX) should be presented on Figure 6.*
    - *The outdoor air (OA-1) should be presented on Figure 6.*
    - *Although "relatively lower levels of VOCs were detected in the soil vapor," those detections should be presented on Figure 6 to compare with the elevated VOC concentrations detected beneath the on-site building.*

Figure 6 has been revised accordingly.

11. *Section 5.2, Contaminants of Concern, under Sub-Slab Vapor, Soil Vapor and Indoor Air. As titled, this section should highlight the "contaminants of concern" which are primarily PCE, TCE, and cis-1,2-dichloroethene. The remaining VOC detections can be presented (and referred to) in Table 5.*

Section 5.2 has been revised and only mentioned the contaminants of concern and references Tables 1, 3, and 5 to see the other VOC detections.

12. *Section 5.3, Media of Concern, under Groundwater. Groundwater exceedances are presented in Figure 4; please revise.*

This statement has been revised to reference the correct Figure number.

13. *Section 6.1 Findings. The concluding statement is erroneous as the recommended action is to mitigate "all four units." Please revise.*

Text has been revised to say mitigate all four units.

14. *Section 6.3 Recommendations. Based on the elevated concentrations of PCE and TCE in sub-slab vapor and indoor air, the NYSDOH agrees with the recommendation presented to either repair the existing sub-slab depressurization system or install a new system.*

Noted.

15. *Figure 2, Site Plan with Sample Locations, under Legend:*
    - *Redefine the "pentagon with circle: symbol to include air.*
    - *Redefine the "triangle" symbol to include indoor air.*

Revisions to Figure 2 have been completed accordingly.

16. Figure 6, Sub-Slab Vapor, Soil Vapor, and Ambient Air Concentrations:

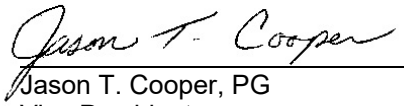
- *Revise the title by replacing "ambient" with indoor;*
- *Include the VOC detections in soil vapor at SV-W and SV-E;*
- *Include the VOC detections in the duplicate sub-slab vapor sample at SSV-461 (i.e., SV-XX);*
- *Redefine the "pentagon with circle: symbol to include indoor air;*
- *Redefine the "triangle: symbol to include indoor air; and*
- *Delete the text of "Sub-Slab Soil Vapor Samples collected with an adjacent ambient indoor air sample."*

Revisions to Figure 6 have been completed accordingly.

The above-referenced comments have been addressed and are reflected in the revised report. A copy of the comment letter is included in Appendix G. If there are any questions, please do not hesitate to call our office.

Respectfully,

CA RICH Geology Services, D.P.C.



Jason T. Cooper, PG
Vice President

ec: J. O'Connell, A. Obligado, A. Levine – NYSDEC
S. McLaughlin, H. Hood – NYSDOH
D. Cervino – Beattie Padovano LLC
T. Shaughnessy, P. Ha – Owner

Site Characterization Investigation Report
for

461, 463, 465, & 467 Forest Avenue
Staten Island, New York
Block 136; Lot 48
NYSDEC SITE ID NO. 243042
NYSDEC Spill No. 0411774

May 2023

Prepared for:

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

On Behalf of:

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March 5, 2024

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

Attention: Steven Wu
Environmental Engineer

Re: Site Characterization Investigation Report
461, 463, 465, & 467 Forest Avenue
Staten Island, New York
Block: 136 Lot: 48
NYSDEC Site No. 243042

Dear Mr. Wu,

CA RICH Geology Services D.P.C. (CA RICH) is pleased to provide you with this Site Characterization Investigation Report (SCIR) for the above-referenced project. The investigation was completed in accordance with the New York State Department of Environmental Conservation (NYSDEC)-approved Site Characterization Work Plan (SCWP) dated February 2022. Deviations to the SCWP occurred during the investigation, which were promptly discussed with the case manager. The deviations to the SCWP are discussed in the enclosed SCIR. This report has been revised in accordance with the NYSDEC Comment Letter dated January 29, 2024, which has been included in Appendix G of this report.

If you have questions or require any additional details, please do not hesitate to call our Office.

Respectfully submitted,

CA RICH CONSULTANTS

Thomas Brown, EP
Project Manager

Jason T. Cooper, PG, CPG, EP
Vice President

ecc: Daniel Cervino, Esq., Beattie Padovano, LLC
Paul Ha, property owner
Scarlett McLaughlin, Harolyn Hood, NYSDOH
Jane O'Connell, Andre Oblidgado, NYSDEC

CERTIFICATION

I, Jason Cooper, PG, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Site Characterization 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.

4/28/2023
Date

Jason T. Cooper
Signature



TABLE OF CONTENTS

Section		Page
1.0	INTRODUCTION	1
2.0	PHYSICAL SITE CHARACTERISTICS	3
	2.1 Site Description	
	2.2 Site History and Previous Investigation Summary	
	2.2.1 Site History	
	2.2.2 Previous Investigation Summary	
	2.3 Surrounding Land Use	
	2.4 Hydrogeologic Setting	
	2.5 Proposed Redevelopment/Project Description	
3.0	REMEDIAL INVESTIGATION	12
	3.1 Objectives	
	3.2 Utility Clearance	
	3.3 Groundwater Monitoring Wells Installation	
	3.4 Groundwater Monitoring Wells Development and Sampling	
	3.5 Soil Sampling	
	3.6 Sub-Slab Soil Vapor Point Installation and Sub-Slab and Indoor Air Sampling	
	3.7 Chemical Inventory	
4.0	NATURE AND EXTENT OF CONTAMINATION	18
	4.1 Groundwater	
	4.2 Soil	
	4.3 Soil Vapor	
5.0	QUALITATIVE HUMAN HEALTH EXPOSURE ASSESSMENT	23
	5.1 Introduction	
	5.2 Contaminants of Concern	
	5.3 Media of Concern	
	5.4 Potential Sensitive Receptors	
	5.5 Exposure Route	
	5.6 Exposure Pathways	
	5.7 Exposure Assessment Conclusions and Recommendations	
6.0	CONCLUSIONS AND RECOMMENDATIONS	28
	6.1 Findings	
	6.2 Conclusions	
	6.3 Recommendations	
7.0	REFERENCES	30

TABLE OF CONTENTS (continued)

FIGURES

1. Site Location Map
2. Site Plan with Sample Locations
3. Groundwater Flow Map December 1, 2022
4. Groundwater VOC Exceedance & PFAA Concentration Map
5. Soil VOC Exceedance and PFOA and PFOS Map
6. Sub-Slab Soil Vapor and Indoor Air Detections

TABLES

1. Validated Volatile Organic Compound Concentrations in Groundwater
2. Validated PFOA/PFAS Concentrations in Groundwater
3. Validated Volatile Organic Compound Concentrations in Soil
4. Validated PFOA/PFAS Concentrations in Soil
5. Validated Volatile Organic Compounds in Sub-Slab Soil Vapor and Indoor and Outdoor Air

APPENDICES

A. Vapor Point Construction Logs
B. Water Quality Measurement Logs
C. Laboratory Data
D. Data Usability Study Report
E. NYSDOH Indoor Air Quality Questionnaire and Building Inventory Form
F. Site Survey with Well Elevations
G. NYSDEC Comment Letter

Site Characterization Investigation Report

461, 463, 465, & 467 FOREST AVENUE
STATEN ISLAND, NEW YORK
BLOCK 136, LOT 48
NYSDEC SITE ID NO. 243042
NYSDEC SPILL NO. 0411774

1.0 INTRODUCTION

The following Site Characterization Investigation Report (SCIR) was prepared by CA RICH Geology Services D.P.C. (CA RICH) of Plainview, New York on behalf of 467 Forest Property Inc. c/o Daniel Cervino, Esq., Beattie Padovano, LLC for the Site located at 461, 463, 465, & 467 Forest Avenue, (NYSDEC Site ID No. 243042), Borough of Staten Island, City of New York, New York (hereinafter referred to as the 'Site' or the 'Property'). The subject Property is identified on the Richmond County Tax Map as Block 136, Lot 48. The Site is listed as a "P" site with the NYSDEC - Site No. 243042. The subject site is depicted on Figure 1 - Site Location Map.

This SCIR was performed in substantive conformance with the NYSDEC approved Site Characterization Work Plan (SCWP) prepared by CA RICH in February 2022. Deviations to the work plan occurred and included the additional installation of two groundwater monitoring wells (along with sampling). The SCWP included a Quality Assurance Project Plan (QAPP) and Health and Safety Plan (HASP) that were implemented throughout this investigation.

This investigation is predicated upon the findings of the following reports and letters provided to CA RICH from the property Owner:

1. Phase I Environmental Site Assessment (ESA) prepared by Middleton Environmental, Inc. dated November 22, 2004 for Independence Community Bank.

2. Phase II ESA prepared by PWGC dated February 3, 2005 for Mr. Sal Calcagno.

3. Phase II ESA prepared by PWGC dated June 3, 2005 for Independence Community Bank.

4. Letter prepared by PWGC dated October 19, 2005 for NYSDEC.

5. Fourth Quarter 2006 Groundwater Sampling Report prepared by PWGC on December 22, 2006 for NYSDEC.

6. Soil Vapor Sampling Report prepared by PWGC on June 18, 2007 for NYSDEC.

7. Soil Vapor Investigation letter prepared by NYSDEC on July 3, 2007 for Barjohn Realty Corp. and Sovereign Bank.

8. Sub-Slab Vapor and Indoor Air Sampling Plan prepared by PWGC on August 14, 2007 for NYSDEC.

9. Sub-Slab and Indoor Air Sampling Report prepared by PWGC on March 28, 2008 for NYSDEC.

10. Sub-Slab Depressurization System Design report prepared by PWGC on July 10, 2008 for NYSDEC.

11. Sub-Slab Depressurization System Operation, Monitoring, and Maintenance (OM&M) Plan prepared by PWGC on November 7, 2008 for NYSDEC.

12. Revised Sub-Slab Depressurization System Design prepared by PWGC on May 11, 2009 for NYSDEC.

13. Sub-Slab Depressurization System Communication Test letter prepared by PWGC on August 16, 2010 for NYSDEC.

14. Indoor Air Sampling report prepared by PWGC on March 3, 2011 for NYSDEC.

15. Site Characterization Work Plan prepared by CA RICH on February 2022 for 467 Forest Property Inc. c/o Benimovich, Currie & Ajasin LLC.

The SCWP was designed to sample and test soils, groundwater, sub-slab soil vapor, and indoor air to identify contaminant sources present on the subject Property. This SCIR summarizes the scope of work proposed to acquire additional information for design and implementation of an additional work plan to address volatile organic compounds (VOCs) in the groundwater, soil, and subsurface soil vapors at the subject Property. In addition, Emerging Contaminants (EC) were investigated in the soil and groundwater.

The SCIR is being prepared at the direction of the NYSDEC. The SCIR was conducted utilizing a site-specific Quality Assurance / Quality Control (QA/QC) and a Health and Safety Plan (HASP) outlined in the SCWP.

2.0 PHYSICAL SITE CHARACTERISTICS

2.1 Site Description

The Property is situated in Staten Island, New York with addresses of 461, 463, 465, & 467 Forest Avenue. The Property contains a parking lot entrance along Forest Avenue and the parking lot exit is located along Hoyt Avenue; the neighboring bank contains a parking lot and driveway that extends behind the subject Property. The Property is situated between Bard Avenue to the west and Hoyt Avenue to the east. The NYC tax map designation is Block 136; Lot 48. The subject site is currently improved with a one-story commercial building, with four active tenants. The tenants in the building are a dry cleaner (461), a Deli/Bagel mart (463), a card store (465), and a liquor store (467).

The Site is located in a long-standing well-developed, mixed use residential/commercial section of Staten Island, New York (R3X and C1-1 zone). The Site has a slight downward slope to the north and has no natural or artificial surface water bodies or impoundments. Water from rain events runs off into municipal storm drains. A Site Location Map is included as Figure 1.

2.2 Site History and Previous Investigation Summary

2.2.1 Site History

The subject Site is currently improved with a one-story retail building that is constructed slab-on-grade. The Property occupies an area of approximately 11,983 square feet and was constructed circa 1984 (According to the NYC OASIS database). The building is currently divided into four tenant spaces, which are all currently occupied. The current use includes the following:

461 Forest Avenue – Dry cleaner
463 Forest Avenue – Bagel store
465 Forest Avenue – Card store
467 Forest Avenue – Liquor store

The dry cleaner is currently a drop-shop and does not conduct on-site laundering. Previous tenants at the Property include a CVS, which was located in the present-day Liquor store.

Sanborn Historical Map Search

Fire Insurance Maps are produced by private fire insurance map companies and indicate the uses of properties and immediately surrounding properties at specific dates. These fire insurance maps are typically updated, so as to provide the fire insurance company with the historical view of development for a given area.

A Fire Insurance Map Search was conducted for the subject site, and the private agency contacted was Sanborn Mapping and Geographic Information Service. A full search for any existing fire insurance maps was conducted. The Sanborn Fire Insurance Map Search revealed the following historical use of the property:

SANBORN MAP SEARCH

YEAR	HISTORICAL USE
1917	The subject Property does not contain any structures. There is little development in the general area and no development is denoted adjacent to the Property.
1937	The subject Property appears similar to the 1917 map. Dwellings are denoted adjacent to the north and west of the Property. The general area has become developed primarily with dwellings and a few stores denoted on Forest Avenue.
1950	The subject Property and nearby areas appear similar to the 1937 map.
1962	The subject Property contains a building denoted as dry cleaning. This building does not resemble the size and configuration of the present-day building. The general area appears similar to the 1950 map; however, a parking lot and store are denoted to the south of the Property and across Forest Avenue.
1977 & 1983	The subject Property appears similar to the 1962 map. Nearby properties appear similar to 1962; however, a commercial building is denoted adjacent to the west of the Property.

YEAR	HISTORICAL USE
1987	The subject Property does not contain any structures. Adjacent and nearby areas appear similar to the 1983 map.
1988	The subject Property appears with a building that resembles the size and configuration of the present-day building and is denoted as commercial building that was constructed in 1987. Adjacent and nearby areas appear similar to the 1987 map.
1996	The subject Property, adjacent and nearby areas appear similar to the 1988 map.

Sanborn Fire Insurance Maps are included in the Phase I Report.

Site Utilities

- Water is supplied by the municipal City of New York.
- Sanitary discharges are directed to the municipal New York City sewer system.
- Electric service is provided by Consolidated Edison.
- Natural gas service is provided by Consolidated Edison.

2.2.2 Previous Investigation Summary

This SCWP is predicated upon the findings of the following reports prepared by others. The following summarizes these reports with key findings:

1. Phase I Environmental Site Assessment (ESA) prepared by Middleton Environmental, Inc. dated November 22, 2004 for Independence Community Bank. Notable findings from the Phase I ESA along with recommendations are listed below:

- The existing building was constructed in 1988 and has been utilized as a retail building that has been occupied by an insurance company, stationary store, drug store, bagel shop and drop-off dry cleaner.

- Prior to 1988 the Property was vacant for five years.
- A dry-cleaning establishment occupied the property from 1962 to 1983, which was located in a different location than the present-day location. The former dry cleaner was located in area near the present-day liquor store and parking lot (southwestern portion of the Site).
- Prior to 1962 the Property was vacant land.
- The building is connected to the municipal sewer system.
- The presumed groundwater flow is towards the southwesterly.
- A Phase II ESA was recommended due to the previous use of the Property as a dry-cleaning facility.

2. Phase II ESA prepared by PWGC dated February 3, 2005 for Mr. Sal Calcagno. This report documents work performed at the Site on January 18, 2005. Notable findings from the Phase II ESA along with recommendations are listed below:

- The former dry-cleaning building was demolished in 1983 and the existing structure was constructed in 1988.
- Six borings (GW-1 through GW-6) were drilled at the Site and one groundwater sample was collected from each boring except for GW-3. Groundwater samples were collected from approximately 24-feet below grade and analyzed for volatile organic compounds (VOCs) only.
- Elevated concentrations of tetrachloroethylene (PCE), trichloroethylene (TCE) and dichloroethylene (DCE) were detected in the groundwater at the Property.
- As a result of the elevated concentrations of PCE, TCE and DCE, the NYSDEC was notified, and Spill No. 0411774 was generated.
- The report did not identify a source of contamination and a more intensive subsurface investigation was recommended.

3. Phase II ESA prepared by PWGC on June 3, 2005 for Independence Community Bank. This report included the investigation of soil and groundwater. The only media sampled and submitted

for laboratory analysis were for groundwater. No sub-slab soil vapor, soil vapor, indoor air or soil samples were collected for laboratory analysis. Notable findings from the Phase II ESA along with recommendations are listed below:

- Regional groundwater at the Site is from southeast to northwest. Well survey data is included in this report.
- PCE was detected in each of the groundwater samples collected and were found above NYSDEC Groundwater Standards (except for MW-7).
- 1,2-DCE was detected in four groundwater monitoring wells.
- TCE was detected in six groundwater monitoring wells.
- PWGC recommends no further action and requests the NYSDEC spill number be formally closed.

4. Letter prepared by PWGC on October 19, 2005 to NYSDEC to document activities performed at the Site on September 2, 2005. The objective of the investigation was to address the NYSDEC letter dated July 8, 2005. PWGC concluded and recommended the following:

- On-site contamination appears to be isolated to the groundwater.
- No on-site source of soil contamination has been identified.
- A quarterly monitoring program using the existing on-site monitoring well network is recommended.

In addition, groundwater monitoring well construction logs were included in the letter. Groundwater monitoring wells, identified as MW-1 through MW-9, are constructed of 2-inch diameter PVC pipe and have screen length of approximately 10-feet. The depth to bottom of the wells ranges from 19 to 23 feet below grade.

5. Fourth Quarter 2006 Groundwater Sampling Report prepared by PWGC on December 22, 2006 for NYSDEC. This report summarizes groundwater sampling activities that occurred at the subject Property for the fourth quarter 2006. PWGC findings and recommendations are listed below:

- Six groundwater monitoring samples were collected and analyzed. Results indicated levels of PCE ranging from non-detect to 190 ug/L.

- PWGC recommended a meeting be setup with NYSDEC to determine the next steps in order close out the NYDEC spill number.

- Groundwater monitoring wells MW-3 and MW-8 were dry, and MW-5 could not be located. Groundwater monitoring well MW-9 is slow to recharge. The survey data from MW-8 cannot be used as the well was inadvertently moved out of the ground while trying to remove the cap.

It should be noted that the groundwater monitoring survey data is provided in the table section of this report.

6. Soil Vapor Sampling Report for 475 and 461-469 Forest Avenue prepared by PWGC on June 18, 2007 for NYSDEC. Six soil vapor points were installed (four installed on the subject Site and two along the northern property boundary), which included two samples from each location at different depths except for SG-6. Based upon the results PWGC recommended that an additional investigation be conducted at the shopping center building and in the adjacent residence located on Hoyt Avenue. In addition, PWGC does not recommend further investigation on the western half of the Site.

7. Soil Vapor Investigation letter prepared by NYSDEC on July 3, 2007 for Barjohn Realty Corp. and Sovereign Bank. This letter indicates that the Soil Vapor Sampling Report prepared by PWGC on June 18, 2007 revealed elevated levels of PCE, TCE and benzene in soil vapor. NYSDEC ordered a work plan to be completed for evaluating the indoor and sub-slab soil vapor.

8. Sub-Slab Vapor and Indoor Air Sampling Plan prepared by PWGC on August 14, 2007 for NYSDEC. This plan discusses the on-site and off-site air sampling proposed for the project.

9. Sub-slab Vapor and Indoor Air Sampling Report prepared by PWGC on March 28, 2008 for NYSDEC. Four sub-slab soil vapor samples, five indoor air samples and one outdoor air sample were collected during the investigation (on-site and off-site). The results indicate that no further action is required at the off-site bank building; however, mitigation is required for the Site building. The installation of an SSDS was recommended.

10. Sub-Slab Depressurization System Design Report prepared by PWGC on July 10, 2008 for NYSDEC. This report provides details for a proposed active SSDS in accordance with the recommendations provided in the NYSDEC approved Sub-Slab Vapor and Indoor Air Sampling

Report prepared by PWGC in March 2008. The proposed SSDS consists of three horizontal 4-inch diameter HDPE perforated pipe located beneath the slab of the building. The pipes exit the building and manifold to a common exhaust pipe, which contains an in-line Radonaway high flow fan.

11. Sub-Slab Depressurization System Operation, Monitoring, and Maintenance (OM&M) Plan prepared by PWGC on November 7, 2008 for NYSDEC. This OM&M plan is for the proposed SSDS and not for an existing system.

12. Letter prepared by NYSDEC on December 5, 2008 for John Cambio of Barjohn Realty Corp. The letter approves the Sub-Slab Depressurization System Design dated July 7, 2008 and the OM&M plan dated November 7, 2008.

13. Revised Sub-Slab Depressurization System Design prepared by PWGC on May 11, 2009 for NYSDEC. This letter summarizes the changes to the installation of the SSDS from the July 2008 approved system design. According to the letter, the original system design consisted of the installation of sub-slab pipe to 35-feet under the building; however, the installed system consists of pipe that is installed not more than 15-feet, but doubles the amount of sub-slab lengths from four lengths to eight lengths.

14. Sub-Slab Depressurization System Communication Test letter prepared by PWGC on August 16, 2010 for NYSDEC. Three vacuum points (locations unknown) were tested for vacuum and exhibited vacuum readings of -0.16 inches of water, -0.18 inches of water, and -0.05 inches of water. The letter states that the communication test proves that the SSDS is operating as intended.

15. Indoor Air Sampling report prepared by PWGC on March 3, 2011 for NYSDEC. Four indoor air samples and one outdoor air sample were collected on January 28, 2011. The following summarizes the indoor air PCE concentrations in 2008 (pre-mitigation) and 2011 (active mitigation):

- Dry cleaner (eastern most portion unit) 2011 PCE concentration was 379.96 ug/m^3 and the pre-mitigation concentration was 552 ug/m^3.

- Bagel store (located adjacent to the cleaners) 2011 PCE concentration was 74 ug/m^3 and the pre-mitigation concentration was 205 ug/m^3.

- Card store (located adjacent to the bagel store to the east and liquor store to the west) 2011 PCE concentration was non-detect and the pre-mitigation concentration was 59.3 ug/m^3.

- Liquor store (located adjacent to the card store) 2011 PCE concentration was non-detect and the pre-mitigation concentration was 496 ug/m^3.

Results from the above-mentioned reports reviewed indicate the following:

- Groundwater monitoring wells exist on-site and off-site. These wells have been sampled on numerous occasions in the past with quarterly sampling beginning in January 2006. CA RICH was provided reports that contain groundwater data for 2006 only. It is unknown if additional groundwater data exists.

- Site-specific groundwater flow beneath the Site is from southeast to northwest and is encountered at approximately 15 to 20 feet below grade. Figure 4.0 illustrates the groundwater flow at the Site on May 20, 2005. This figure was included in the June 3, 2005 Phase II Report prepared by PWGC.

- PCE has been found in the sub-slab soil vapor and indoor air at the Property at concentrations that require mitigation.

- An active SSDS was installed at the Site between 2008 and 2009. As-built drawings or a report detailing the system construction has not been provided.

- A communication test was conducted at the Site in 2010 and confirmed vacuum at three locations within the building.

- Post-SSDS installation indoor air samples were collected in 2011 and revealed PCE concentrations decreased since the installation of the system, but were still elevated enough to require mitigation activities at the dry cleaner and bagel store units.

- The duration of the operation of the SSDS is unknown. A recent Site inspection revealed that no mitigation fan was observed within the building or the side of the building. An inspection of the roof was not conducted during the Site inspection.

- A dry-cleaning facility operated at the Site prior to the existence of the present-day building. The dry-cleaner operated from approximately 1962 through 1983 near the

present-day liquor store (western most unit) and a portion of the present-day southwestern portion of the parking lot

2.3 Surrounding Land Use

Specific neighboring property usage is outlined below:

North: Driveway for Santander Bank followed by Residential Houses.

South: Forest Avenue followed by Key Food Marketplace and its parking lot.

East: Hoyt Avenue followed by Citi Bank and its parking lot.

West: Santander Bank and its parking lot.

2.4 Hydrogeologic Setting

Surface Water Characteristics

The subject Property is improved by the subject building and the pedestrian sidewalks. The surface topography at the subject site is nearly level throughout. Storm water runoff is directed to the curb side municipal storm water collection system and on-site dry wells. The up-gradient drainage area within 1,000 feet of the subject Site is improved with mixed use residential, retail and commercial buildings. No surface water bodies are located within 1,000-feet of the Site. The nearest surface water body is Silver Lake, located approximately 2,300 feet southeast of the Property.

Groundwater Characteristics

The elevation of the subject site is approximately 145 feet above mean sea level. A groundwater well survey was conducted on March 28, 2023 by Farrantello Engineering for MW-1, MW-N and MW-NW (Appendix F). According to data gathered from the survey shallow groundwater flow at the Site is towards the northwest. A groundwater flow map from data collected on December 1, 2022 is presented as Figure 3. The depth to groundwater at the subject site is approximately 20 feet below ground surface. Note that actual groundwater flow can be affected by many variables including underground utilities and other subsurface openings or obstructions such as basements, underground parking garages, subway lines, dry wells, bedrock geology, etc.

Groundwater is not used as a drinking water supply in the Borough of Staten Island. Potable (drinking) water is supplied to the subject Property by the New York City Department of Environmental Protection (NYCDEP).

Geological Characteristics

According to the United States Department of Agriculture, Soil Conservation Service - Soil Survey, New York is located in the Atlantic Coastal Plain physiographic province which is characterized by low hills of unconsolidated sands, gravel and silt.

Staten Island (Richmond County) is underlain by consolidated bedrock and unconsolidated glacial deposits. Bedrock beneath the Site is serpentine, which is located approximately 50 feet below grade. Unconsolidated deposits at the Site consist of poorly sorted glacial till, mainly reddish-brown clayey till with a thickness of approximately 50 feet (USGS Water-Resources Report 87-4048, 1988). Unconsolidated deposits at the Site were visually classified to depth of 15 feet below grade from soil samples collected from borings. The samples consisted of poorly sorted light brown sand and gravel with some silt and clay.

2.5 Proposed Redevelopment/Project Description

Upon completion of the investigation and remediation (if necessary) activities, the proposed use of the subject site will remain the same.

3.0 SITE CHARACTERIZATION INVESTIGATION

3.1 Objectives

The goal of the investigation phase of this project was to focus on the delineation of the elevated subsurface vapors, as well as to investigate the subsurface soils and groundwater, and will have the following objectives:

- To collect additional data to more completely determine the surface and sub-surface characteristics of the Site.
- To determine the nature and extent of the elevated VOCs present in the sub-surface vapors at the Site.
- To determine if the sub-surface soils and/or groundwater have been impacted by VOC contamination.
- To identify the potential routes of offsite migration from any onsite sources of elevated VOCs.

- To perform a human health exposure assessment to evaluate the pathways by which human receptors (either onsite or offsite) may be exposed to elevated VOCs in the soil vapor or other environmental media.

- To further develop the dataset necessary to allow preparation of an IRM work plan to eliminate the potential threat to public health or the environment posed by the Site.

3.2 Utility Clearance

PG Environmental Services, Inc. conducted a Ground-Penetrating Radar (GPR) survey prior to boring installation activities. All underground utility mark-outs, including a public utility mark out requested by the driller, were completed prior to commencement of drilling activities.

3.3 Groundwater Monitoring Wells Installation

Two monitoring wells (designated MW-NW and MW-N) were installed using mud-rotary from a Geoprobe® drill rig. The well locations are shown on Figure 2. Water was encountered at approximately 20 feet below grade. All monitoring wells were installed with 15-feet of screen above the groundwater table and 10-feet of screen within the groundwater. The terminal depth of the wells is 30 feet below grade. All wells were constructed using new, two-inch diameter Schedule 40 PVC pre-pack well with 0.01 slotted well screens. The wells were completed with #2 sand, a bentonite seal, and a locking, watertight J-plug. All wells were finished at the surface with a flush mounted well protection box.

After each monitoring well stabilized for at least 48 hours, they were developed using a whale pump and HDPE tubing or a bailer. Approximately 5-gallons of water were purged from each well. Purged groundwater was drummed, labeled, and properly stored onsite.

As per the NYSDEC-approved SCWP, the following groundwater monitoring wells were proposed for sampling:

- MW-1
- MW-NW
- MW-N

3.4 Groundwater Monitoring Wells Development and Sampling

On November 16, 2022 the newly installed groundwater monitoring wells (MW-N & MW-NW) and the existing MW-1 were developed using a whale pump and new HDPE tubing or bailer. Well MW-NW was developed solely utilizing the whale pump and HDPE tubing. Wells MW-N and MW-1 were developed using the whale pump but were unable to recharge fast enough for the pump and were bailed until the water cleared up. Each well was purged of approximately 5 gallons of water to reach the required turbidity levels. The purged groundwater was containerized on-site in a NYSDOT 55-gallon drum.

On December 1, 2022 groundwater samples were collected from the three groundwater monitoring wells (over two weeks after development). All monitoring wells were sampled in accordance with EPA's Low-Flow (minimal drawdown) Groundwater Sampling Procedures using a submersible Monsoon pump. Sampling procedures are outlined below:

1. Sampling materials consists of HDPE tubing, monsoon pump, and Horiba flow through cell. Water collected for analysis of VOCs was obtained directly from the well designated HDPE tubing after disconnecting the tubing from the Horiba flow through cell;

2. The sampling equipment components and sample containers did not come in contact with aluminum foil, low density polyethylene (LDPE) tubing, glass, or polytetrafluoroethylene (PTFE, Teflon) materials, which includes sample bottle cap liners with Teflon;

3. Decontamination (when necessary) was conducted using a two-step process that begins with using a detergent (such as Alconox) and finishes with a clean water rinse;

4. Field clothing that contains PTFE (including GORE-TEX) or that have been waterproofed with PFC material was avoided. All clothing worn by sampling personnel were laundered multiple times; and

5. Nitrile gloves were worn during the filling and sealing of the sample bottles;

Groundwater parameters (e.g, turbidity, pH, temperature, conductivity, etc.) were obtained during sampling. Field forms were used to record parameters and are included in Appendix B. Dedicated, new HDPE tubing was used to obtain groundwater samples. Groundwater samples were collected directly from the new dedicated HDPE tubing and into laboratory-issued bottleware. Depth to groundwater levels were collected prior to sampling on December 1, 2022

and the depths were recorded as follows: MW-1 = 20.50 feet below grade; MW-NW = 20.16 feet below grade; and MW-N = 20.70 feet below grade. Samples were designated according to well number, packaged in laboratory-issued sample containers by CA RICH personnel and stored on ice (blue ice or freezer packs were NOT used to keep the samples cool) pending same day or overnight shipment to Alpha Analytical Laboratories of Mansfield, Massachusetts, a New York State ELAP and Contract Laboratory Protocol (CLP)-Accredited laboratory (subcontracted to CA RICH). This laboratory holds an ELAP certification for PFOA and PFOS in drinking water via EPA Method 537. All samples were uniquely identified, and all information associated with the samples were recorded utilizing standard chain-of-custody sampling protocols.

Groundwater samples from each well were analyzed for VOCs using USEPA Method 8260, 1,4-dioxane analysis via USEPA Method 8270 SIM, and PFAS Method 537. All analysis were reported using NYSDEC ASP Category B deliverables. The following samples were collected for QA/QC purposes in accordance with the Quality Assurance Project Plan (QAPP): 1 trip blanks, 1 field blank, 1 duplicate sample, 1 matrix spike and 1 matrix spike duplicate, and 1 equipment blank. The groundwater laboratory data was reviewed by a qualified Data Validator and a Data Usability Summary Report (DUSR) was prepared. The data was submitted to NYSDEC electronically using Equis Data Processor. The laboratory analytical results of the samples were compared to NYSDEC TOGS groundwater standards and guidance values (Ref. 1). A complete copy of the validated groundwater data package is included in Appendix C and Data Usability Study is included as Appendix D.

3.5 Soil Sampling

On November 11, 2022 two soil borings (designated SB-461 and SB-467) were advanced to further characterize the soil. A portable direct push Geoprobe™ pneumatic drilling system was utilized to core the concrete floor and a hand auger was used to collect the soil borings. The soil sample from SB-461 was collected from beneath the slab in the dry-cleaning tenant space and the soil sample from SB-467 was collected from beneath the slab of the liquor store. Both soil samples were collected from 12 to 18 inches below the slab. The boring locations are shown on Figure 2. A CA RICH's Environmental Professional oversaw all soil boring activities and logged (characterized) the shallow fill lithology.

Soil samples were identified in the field by the tenant unit in which they were installed. All on-site sampling equipment was decontaminated between each use in the following manner: laboratory grade detergent and freshwater wash using a scrub brush, followed by two freshwater rinses and a final air dry. Gloves worn for sample handling were discarded between sample collections.

Each sample was placed in sterilized laboratory-supplied containers. The sampled earth material was settled and capped to ensure that little or no headspace is present within the sample. Sample containers were then placed on ice until delivered to the laboratory. All samples were uniquely identified, and all information associated with the samples were recorded utilizing standard chain-of-custody sampling protocols. Following the completion of each boring, the boreholes were converted into sub-slab vapor sampling points.

The soil samples were submitted to Alpha Analytical Laboratories of Mansfield, Massachusetts, a New York State ELAP and CLP-accredited laboratory, subcontracted to CA RICH, for analysis of TCL VOCs using USEPA Method 8260, Perfluorinated Compounds via USEPA Method 537 Modified with Isotope dilution analysis, and 1,4-Dioxane via USEPA Method 8270. All analysis were reported using NYSDEC ASP Category B deliverables. During the Site Characterization investigation sampling, the following samples were collected for QA/AC purposes in accordance with the approved QAPP, 1 trip blank, 1 field blank, 1 equipment blank, 1 duplicate sample, 1 matrix spike and 1 matrix spike duplicate. The data was submitted to NYSDEC electronically using the Equis Data Processor. A qualified third-party Data Validator reviewed the soil laboratory data and a DUSR was prepared. A complete copy of the validated soil data package is included in Appendix C and a Data Usability Study Report is included as Appendix D.

3.6 Sub-Slab Soil Vapor Point Installation and Sub-Slab and Indoor Air Sampling

On November 11, 2022 four sub-slab soil vapor points and two exterior soil vapor points were installed in accordance with the NYSDOH “Guidance for Evaluating Soil Vapor Intrusion in the State of New York” dated October 2006 (Ref. 3). The locations of air sampling points are illustrated on Figure 2 and vapor point construction logs are included as Appendix A.

As part of this investigation, CA RICH collected four sub-slab soil vapor, four companion indoor air, two soil vapor, and one outdoor air sample at the subject Property over an approximate 8-hour time period on November 16, 2022. All sub-slab soil vapor points were constructed of ¼ inch diameter nylon tubing that extended to approximately three-inches below the concrete slab. The concrete slab was discovered to be approximately six inches thick. The nylon tubing was connected to the Summa canister using a stainless-steel nut and nylon ferrule that was threaded and tightened onto the canister. The nylon tubing connections were given an air-tight seal using non-volatile organic compound clay.

The soil vapor points were constructed of ¼-inch diameter nylon tubing and were installed to a depth of 2-fet below the bottom of the concrete slab. The soil vapor points were backfilled with No. 2 sand up to approximately 6-inches below grade and a bentonite seal was placed from 6-inches below grade up to grade.

Prior to sampling, a bucket was placed over the sample assembly and helium gas was used to enrich the atmosphere around the sample location in combination with real-time air monitoring for helium to verify that ambient air was not infiltrating the sampling assembly during purging and sampling. A seal was utilized between the bucket and the ground floor surface to prevent short-circuiting. Helium was detected at less than 1% concentration, which is sufficient to prove a proper and competent seal.

Once confirmed that ambient air was not being drawn into the assembly, the soil vapor point was purged three volumes of air using a calibrated SKC air pump. After the sub-slab soil vapor point was purged, the tubing was connected to the SUMMA canister and sample collection began. The SUMMA canister regulator was set to restrict the sample collection to not exceed 0.2 liters per minute over an 8-hour time period. The canisters were submitted to Alpha Analytical of Mansfield, Massachusetts, a NYSDOH-certified laboratory for analysis of VOCs via EPA method TO-15 under chain-of-custody documentation.

3.7 Chemical Inventory

Prior to the sampling of the sub-slab soil vapor and indoor air samples, a walkthrough of the building was completed and a NYSDOH indoor air quality questionnaire and building inventory form was completed. The building was found to contain chemical storage, but these chemicals were found with secured caps or lids. A screening of the building was completed using a photoionization detector (PID), which did not identify any areas where VOCs were above 0.0 ppm. A NYSDOH indoor air quality questionnaire and building inventory form is included as Appendix E.

4.0 NATURE AND EXTENT OF CONTAMINATION

4.1 Groundwater

Three monitoring wells (MW-1, MW-N, and MW-NW) were sampled at the Site. The laboratory analytical results were compared to their applicable NYSDEC TOGS groundwater guidance (Ref. 1), and are summarized on Tables 1 and 2 and illustrated on Figure 4. The laboratory analytical results for VOCs are summarized on Table 1 and PFAS are summarized on Table 2. The laboratory analytical data is included in Appendix C. The analytical results indicate the following above TOGS Ambient Water Quality Standards:

VOCs

Well	Compound	Concentration	TOGS Standards
MW-1	Tetrachloroethene	80 ug/l	5 ug/l
MW-N	Tetrachloroethene	38 ug/l	5 ug/l
MW-NW	Tetrachloroethene	8.2 ug/l	5 ug/l

The VOCs 1,1,2-TCA, trans-1,3-Dichloropropene, cis-1,3-Dichloropropene, 1,2,3-Trichloropropane, 1,2-Dibromomethane, 1,2-Dibromo-3-chloropropane, and Hexachlorobutadiene were all non-detect; however, the laboratory reporting limit is slightly higher than TOGS values.

PFAS

The 2023 Addendum to June 1998 Division of Water Technical and Operation Guidance Series (TOGS) No. 1.1.1 for Class GA waters (Ref. 6) was used as a guidance value for comparison purposes. (Ref. 6) guidance values were used for comparison purposes. PFAs are listed on Table 2 and detections are illustrated on Figure 4. The following summarizes the findings in ng/l (parts per trillion)

Well	Compound	Concentration	Guidance
MW-1	PFOA	200 ng/l	6.7 ng/l
	PFOS	16.3 ng/l	2.7 ng/l
MW-N	PFOA	243 ng/l	6.7 ng/l
	PFOS	12.5 ng/l	2.7 ng/l

Well	Compound	Concentration	Guidance
MW-NW	PFOA	240 ng/l	6.7 ng/l
	PFOS	10.6 ng/l	2.7 ng/l

PFOA and PFOS were detected above guidance values at all three wells. There is no known source of PFOA/PFOS at the Site.

1,4-Dioxane

1,4-Dioxane was only detected in groundwater sample MW-NW. The level of 1,4-Dioxane detected in MW-NW is 0.0685 ug/l. There is no known source of 1,4-Dioxane at the Site.

4.2 Soil

Soils were sampled and logged at two locations (SB-461 and SB-467). Overall, the subsurface soil encountered during this SCIR generally consists of sands ranging from fine to coarse grained sand. The soil samples were collected from 12 to 18 inches below grade. No PID readings exceeded zero parts per million (ppm) in any of the screened soil samples. The laboratory analytical results are compared to their applicable New York TAGM Soil Cleanup Objectives for Protection of Groundwater (Ref. 2) for VOCs on Table 3. The laboratory analytical results for PFAS are compared to their applicable New York TAGM Soil Clean Objectives for Protection of Groundwater listed in the NYSDEC Sampling, Analysis, and Assessment of Per-and Polyfluoroalkyl Substances (PFAS) April 2023 (Ref. 5). PFAS are summarized on Table 4 and Figure 5. The laboratory analytical data is included in Appendix C. The results indicate the following:

VOCs

Tetrachloroethene and Trichloroethene were detected above New York TAGM Soil Cleanup Objectives for Protection of Groundwater (Ref. 2) in SB-461. Tetrachloroethene was detected at 18 ppm in SB-461 and 7.1 ppm in the SB-XX (duplicate sample of SB-461) and the Protection of Groundwater level is 1.4 ppm; Trichloroethene was detected at 0.92 ppm and the Protection of Groundwater level is 0.7 ppm. Soil boring SB-467 did not exceed Protection of Groundwater standards.

1,4-Dioxane

1,4-Dioxane was not detected in the samples.

PFOA and PFOS

There are currently no NYSDEC PFOA and PFOS soil cleanup objectives at this time so for comparison purposes Protection of Groundwater values (Ref. 5) will be used. All but six of the PFOA and PFOS were estimated values. The PFOA and PFOS concentrations did not exceed the Protection of Groundwater Values with the exception of PFOS detected in SB-467. The following lists the PFOA and PFOS sample values.

Boring	Compound	Concentration	PoGW[1]
SB-461	PFOA	0.229 J* ppb	0.8 ppb
	PFOS	0.969 ppb	1.0 ppb
SB-467	PFOA	0.59 ppb	0.8 ppb
	PFOS	3.7 ppb	1.0 ppb
MW-XX	PFOA	0.282 ppb	0.8 ppb
	PFOS	0.967 J* ppb	1.0 ppb

*J = Estimated value.

1 – Protection of Groundwater Guidance Values are referenced in NYSDEC's Sampling, Analysis and Assessment of Per- and Polyfluoroalkyl Substances guidance which is found at: https://dec.ny.gov/docs/remediation_hudson_pdf/pfassampanaly.pdf

4.3 Soil Vapor

Four sub-slab vapor points and two temporary soil vapor points were installed at the Site. The sub-slab soil vapor points were installed to approximately three inches below grade in each of the four building tenant spaces. Sub-slab soil vapor and companion indoor air samples were collected from each of the tenant spaces (dry cleaner (SSV-461/IA-461), Bagel Store (SSV-463/IA-463), Card Store (SSV-465/IA-465), and liquor store (SSV-467/IA-467). A duplicate sub-slab vapor sample (SV-XX) was collected from SSV-461. Two soil vapor points were also installed at the Site. The soil vapor points were installed approximately 2 feet above the groundwater table (approximately 18 feet below ground surface) and north of the subject Property building. Concurrently, one outdoor air (designated OA-1) was collected from the alley directly behind the subject Property building. The laboratory analytical results were compared to the NYSDOH Guidance for Evaluating Soil Vapor Intrusion Matrices and are summarized on Table 5 and are illustrated on Figure 6. The laboratory analytical data is included in Appendix C.

The following summarizes the laboratory results for soil vapor:

Sub-Slab Vapor – Elevated levels of VOCs were detected in the sub-slab vapor. The highest detection was 273,000 ug/m^3 of the compound Tetrachloroethene in SSV-463. Other notable compounds included cis-1,2-Dichloroethene 4,680 ug/m^3 in SSV-461, 16,500 ug/m^3 in SSV-463, 88.8 ug/m^3 in SSV-465, and 78.9 ug/m^3 in SSV-467; Trichloroethene 6,770 ug/m^3 in SSV-461, 9,400 ug/m^3 in SSV-463, 124 ug/m^3 in SSV-465, and 253 ug/m^3 in SSV-467; and Tetrachloroethene 147,000 ug/m^3 in SSV-461, 2,940 ug/m^3 in SSV-465, and 13,600 ug/m^3 in SSV-467. SSV-XX is a duplicate sample of SSV-461 also was found to contain elevated levels of cis-1,2-Dichloroethene 3,560 ug/m^3; Trichloroethene 5,180 ug/m^3; and Tetrachloroethene 109,000 ug/m^3.

Soil Vapor – Relatively lower levels of VOCs were detected in the soil vapor. The highest detection was 535 ug/m^3 of the compound Tetrachloroethene in SV-W. Other notable compounds included Vinyl chloride at a concentration of 1.32 ug/m^3 in SV-W, Methylene chloride at a concentration of 17.3 ug/m^3 in SV-W, cis-1,2-Dichloroethene at a concentration of 1.23 ug/m^3 in SV-E and 179 ug/m^3 in SV-W, Trichloroethene at a concentration of 150 ug/m^3 SV-E, and Tetrachloroethene at 5.11 ug/m^3 in SV-E.

Indoor Air – Elevated levels of VOCs were detected in the indoor air. The highest detection was 2,340 ug/m^3 of the compound ethanol in IA-465. Other notable compounds included cis-1,2-Dichloroethene at a concentration of 1.67 ug/m^3 in IA-463, 2.11 ug/m^3 in IA-465, and 0.27 ug/m^3 in IA-467; Trichloroethene at a concentration of 1.11 ug/m^3 in IA-461, 4.25 ug/m^3 in IA-463, 8.06 ug/m^3 in IA-465, 0.951 ug/m^3 in IA-467; and Tetrachloroethylene at a concentration of 166 ug/m^3 in IA-461, 119 ug/m^3 in IA-463, 104 ug/m^3 in IA-465, and 12.1 ug/m^3 in IA-467.

Outdoor Air – Low-levels of VOCs were detected in the outdoor air. There are no NYSDOH standards currently established for VOCs in outdoor air. For the purposes of interpreting the results, the outdoor air was used to identify background levels of VOCs in the ambient air.

The following table provides the eight compounds listed in the NYSDOH decision matrices for the sub-slab soil vapor sample along with its respective companion indoor air sample. The sub-slab soil vapor and indoor air sample concentrations are listed in ug/m^3. The appropriate recommended action to be taken is based upon the NYSDOH decision matrices for sub-slab soil vapor and the companion indoor air sample.

SSV-461/IA-461 (Dry Cleaner)

Compound	SSV-461	IA-461	Recommended Action
Tetrachloroethene	147,000	166	Mitigate
Trichloroethene	6,770	1.11	Mitigate
Carbon Tetrachloride	< 299	0.447	No Further Action
1,1,1-TCA	< 260	0.338	No Further Action
cis-1,2-DCE	4,680	0.163	Mitigate
1,1-DCE	< 189	< 0.079	No Further Action
Methylene Chloride	< 413	2.03	No Further Action
Vinyl Chloride	< 122	< 0.051	No Further Action

SSV-463/IA-463 (Bagel Deli)

Compound	SSV-463	IA-463	Recommended Action
Tetrachloroethene	273,000	119	Mitigate
Trichloroethene	9,400	4.25	Mitigate
Carbon Tetrachloride	< 605	0.453	No Further Action
1,1,1-TCA	< 525	< 0.109	No Further Action
cis-1,2-DCE	16,500	1.67	Mitigate
1,1-DCE	< 381	< 0.079	No Further Action
Methylene Chloride	< 834	< 1.74	No Further Action
Vinyl Chloride	< 246	< 0.051	No Further Action

SSV-465/IA-465 (Card Store)

Compound	SSV-465	IA-465	Recommended Action
Tetrachloroethene	2,940	104	Mitigate
Trichloroethene	124	8.06	Mitigate
Carbon Tetrachloride	< 5.52	0.547	No Further Action
1,1,1-TCA	< 4.79	< 0.109	No Further Action
cis-1,2-DCE	88.8	2.11	Mitigate
1,1-DCE	< 3.48	< 0.079	No Further Action
Methylene Chloride	< 7.61	< 1.74	No Further Action
Vinyl Chloride	< 2.24	< 0.051	No Further Action

SSV-467/IA-467 (Liquor Store)

Compound	SSV-467	IA-467	Recommended Action
Tetrachloroethene	13,600	12.1	Mitigate
Trichloroethene	253	0.951	Mitigate
Carbon Tetrachloride	< 29.4	0.572	No Further Action
1,1,1-TCA	< 25.5	< 0.109	No Further Action
cis-1,2-DCE	78.9	0.27	Mitigate
1,1-DCE	< 18.6	< 0.079	No Further Action
Methylene Chloride	< 40.6	< 1.74	No Further Action
Vinyl Chloride	< 12	< 0.051	No Further Action

5.0 QUALITATIVE HUMAN HEALTH EXPOSURE ASSESSMENT

5.1 Introduction

A Qualitative Human Health Exposure Assessment (QHHEA) was performed to determine whether the Site poses an existing or future health hazard to the Site's exposed or potentially exposed population. The sampling data from this SCIR performed at the Site were evaluated to determine whether there is any health risk by characterizing the exposure setting, identifying exposure pathways, and evaluating contaminant fate and transport. The QHHEA was prepared in accordance with Section 3.3(c)4 of the NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation (Ref. 4).

The five elements of an exposure pathway are: (1) a contaminant source; (2) contaminant release and transport mechanisms; (3) a point of exposure; (4) a route of exposure; and (5) a receptor population. An exposure pathway is considered complete when all five elements of an exposure pathway are documented. A potential exposure pathway exists when any one or more of the five elements comprising an exposure pathway cannot be documented. An exposure pathway may be eliminated from further evaluation when any one of the five elements comprising an exposure pathway has not existed in the past, currently does not exist, and will never exist in the future.

5.2 Contaminants of Concern

The contaminants of concern along with their media are listed below. VOC detections can be found in Tables 1, 3, and 5.

Soil - The VOCs tetrachloroethene and trichloroethene exceed their respective Restricted Residential Use SCOs and are considered contaminants of concern.

Groundwater - The tetrachloroethene exceeds its' respective TOGS Ambient Groundwater Quality Standards and is considered a contaminant of concern.

Sub-Slab Vapor, Soil Vapor, and Indoor Air - According to the NYSDOH decision matrices the sub-slab soil vapor and indoor air samples collected as part of the SCIR require Mitigation. The following compounds are considered contaminants of concern.

- Cis-1,2-Dichloroethene (Sub-slab vapor, soil vapor, and indoor air)
- Trichloroethene (Sub-slab vapor, soil vapor, and indoor air)
- Tetrachloroethene (Sub-slab vapor, soil vapor, and indoor air)

5.3 Media of Concern

Sub-Slab Soil Vapor and Indoor Air

Based upon the results from the most current investigation performed at the Site, sub-slab soil vapor and indoor air are a medium of concern. At this time an exposure pathway from the sub-slab soil vapor exists and requires Mitigation.

Groundwater

Groundwater is not a medium of concern at the Site. The groundwater in the area is not potable, and drinking water is obtained from an off-site source. The groundwater beneath the Site is unlikely to come in contact with people as it is located approximately 20 feet below grade. The exceedances summarized above indicate impacted groundwater with tetrachloroethene. An exposure pathway from the groundwater does not exist. These exceedances are summarized on Figure 4.

Soil

Based upon the results of the investigation, there are impacts to the soil by the VOCs Tetrachloroethene and Trichloroethene, which were found to exceed Protection of Groundwater SCOs. The impacted soils were encountered from 0-2 feet below grade beneath the dry-cleaning tenant space.

5.4 Potential Sensitive Receptors

Land Use of the Site and Neighboring Properties - Current and Future

The Site currently contains a one-story shopping center with a parking lot occupied for use by a Dry Cleaner (461), Bagel Store (463), Card Store (465), and a Liquor Store (467). The area immediately surrounding the Site is residential/commercial.

The proposed future use of the Site will remain the same. The land use in the surrounding area is anticipated to remain the same.

On-Site Receptors

Since the Site is currently occupied, there are on-site potential sensitive receptors to employees, customers, or tenants. There is a foundation slab in place for the on-site structure as well as a concrete sidewalk to reduce an exposure pathway to employees, customers, and tenants; however, evidence from sampling indicates exposures are occurring through the foundation slab.

Off-Site Receptors

Potential off-site receptors within a 0.25-mile radius of the Site include: adult and child residents, commercial and construction workers, pedestrians, trespassers, and cyclists, based on the following:

1. Commercial Businesses (up to 0.25 mile) – existing and future
2. Residential Buildings (up to 0.25 mile) – existing and future
4. Pedestrians, Trespassers, Cyclists (up to .25 mile) – existing and future
5. Day Care Centers (up to 0.25 mile) – existing and future
6. Church Building (up to 0.25 mile) – existing and future
7. Public Parks (up to 0.25 mile) – existing and future
8. Schools (up to 0.25 miles) – existing and future

5.5 Exposure Route

An exposure route is the mechanism by which a receptor comes into contact with a chemical. Three potential primary routes exist by which chemicals can enter the body:

- Ingestion of water, fill or soil;
- Inhalation of vapors and particulates; and
- Dermal contact with water, fill, soil, or building materials.

5.6 Exposure Pathways

This evaluation consists of the following components: contaminant source; contaminant release and transport mechanism; point of exposure; route of exposure; and receptor population.

On-Site (existing)
The Site currently contains a commercial multi-tenant type building currently used as a parking lot and shopping center with four storefronts. The four storefronts are occupied by a dry cleaner (461), a bagel deli (463), a card store (465), and a liquor store (467). There is a foundation slab in place for the on-site structure, which limits but doesn't fully prevent an exposure pathway. Ingestion or dermal contact with water, fill or soil is not expected at this time. As there are elevated levels of VOCs in the sub-slab air, inhalation exposure cannot be ruled out.

Off-Site (existing)
There are no existing potential exposure pathways for groundwater and soil.

There is an existing potential exposure pathway from soil gas emanating from VOCs entering adjoining buildings as a result of any sub-basement floor or lower wall openings/cracks. The indoor air quality at the adjoining properties may be susceptible to contamination from sub-surface vapor intrusion attributable to VOCs in the area. The potential receptors from such a migration pathway into the building would be to: off-site construction and commercial workers, adult and child residents, and visitors. The primary route of exposure would be inhalation. Vapor intrusion to nearby and adjacent buildings cannot be ruled out.

On-Site (future)
Potential exposure pathways from soil gas, soil, and groundwater are expected to exist. For any soil contamination left in place, it will be covered by the building's concrete slab, which will prevent dermal contact with the soil. However, should construction activities occur at the Site that could disturb the soil, then an exposure pathway for soil may exist (dermal contact and inhalation of dust). Groundwater contamination can off gas causing vapor to migrate up through cracks in the slab into the building, this could create an exposure pathway that would impact the tenants and customers at the Property. Soil vapor levels are elevated in the sub-slab, and although the vapor levels in the building are not currently at the same levels as the sub-slab the potential for the vapor to migrate into the building through floor cracks cannot be ruled out.

Off-Site (future)

There is no potential exposure pathway for off-site soils. Off-site groundwater exposure (dermal contact or ingestion) may be encountered during construction activities that reach groundwater. Off-site construction workers could potentially be exposed.

As there are elevated levels of VOCs in sub-slab soil vapor, soil, and groundwater, there appears to be an existing on-site source. There is an existing potential exposure pathway from soil gas emanating from VOCs entering adjoining buildings as a result of any sub-basement floor or lower wall openings/cracks. The indoor air quality at the adjoining properties may be susceptible to contamination from subsurface vapor intrusion attributable to VOCs in the area. The potential receptors from such a migration pathway into the building would be to: off-site construction and commercial workers, adult and child residents, and visitors. The primary route of exposure would be inhalation. There does appear to be an existing on-site source of VOC contamination from soil vapor, soil, and groundwater vapor intrusion to nearby and adjacent buildings in the future cannot be ruled out.

5.7 Exposure Assessment Conclusions and Recommendations

Based upon this analysis, there are currently on-site and off-site potential exposure pathways. Based on the results of the site characterization sampling, the impacted soil and groundwater do not need to be remediated. Sub-slab soil vapor and indoor air at the Site require further action. CA RICH recommends having the onsite sub-slab depressurization system repaired and turned back on or a new sub-slab depressurization system installed.

In addition, there is an existing potential exposure pathway from soil gas emanating from VOCs entering the adjoining buildings. As such, a vapor intrusion investigation of adjacent buildings is warranted.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Findings

The following is a summary of the findings from the SCIR conducted:

- The groundwater was measured on December 1, 2022. The measurements indicate the groundwater table was encountered from 20.16 feet below grade at MW-NW to 20.70 feet below grade at MW-N. Shallow groundwater flow was determined to be moving towards the northwest.

- The subsurface soil/fill materials encountered during this SCIR consists of sand, silts and clays.

- Two monitoring wells, MW-N and MW-NW were installed and sampled along with existing monitoring well MW-1 at the Site (excluding QA/QC samples). The VOC Tetrachloroethene was detected above TOGS Ambient Water Quality Standards in all three wells. The combined total of PFOA/PFOS exceeded the 0.01 ppb guidance in MW-1, MW-N, and MW-NW.

- Two soil samples were collected from the Site (excluding QA/QC samples). Tetrachloroethene and Trichloroethene were detected above Part 375 Protection of Groundwater Standards in SB-461. 1,4-Dioxane was not detected in either of the soil samples. PFOA and PFOS were not detected above Protection of Groundwater Standards.

- Four temporary sub-slab soil vapor points SSV-461, SSV-463, SSV-465, and SSV-467 as well as two temporary soil vapor points SV-E and SV-W were installed at the Site. Low-levels of several VOCs were detected in the soil vapor. Significantly elevated levels of Tetrachloroethene, Trichloroethene, and cis-1,2 Dichloroethene were detected in the sub-slab soil vapor. When sub-slab soil vapor concentrations and indoor air concentrations are compared to the NYSDOH Decision Matrices, the recommended action at all four units is mitigate.

6.2 Conclusions

Based on the analytical results obtained during this SCIR, the following has been concluded:

- The tetrachloroethene and trichloroethene contamination in soil, groundwater, soil vapor, and indoor air presented within this report support reclassifying the Site as a Class 2 Inactive Hazardous Waste Disposal Sie, which will require a comprehensive on-site and off-site Remedial Investigation and remedial actions.

6.3 Recommendations

Based upon the results of this SCIR, CA RICH recommends preparing a Remedial Investigation Work Plan.

In addition, CA RICH recommends repairing the existing sub-slab depressurization system or installing a new sub-slab depressurization system to prevent vapor intrusion into the building. The repair set forth in the January 30, 2024 workplan will be implemented in accordance with NYSDEC approval letter dated February 8, 2024 and the work will be reported in an SSDS Repair and Performance Assessment Work Plan.

7.0 REFERENCES

1. NYSDEC, October 22, 1993, Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values.

2. NYSDEC. 6 NYCRR Part 375 Environmental Remediation Programs, Environmental Remediation Programs, Subparts 375-1 to 375- 4 & 375-6. New York: Author, December 2006.

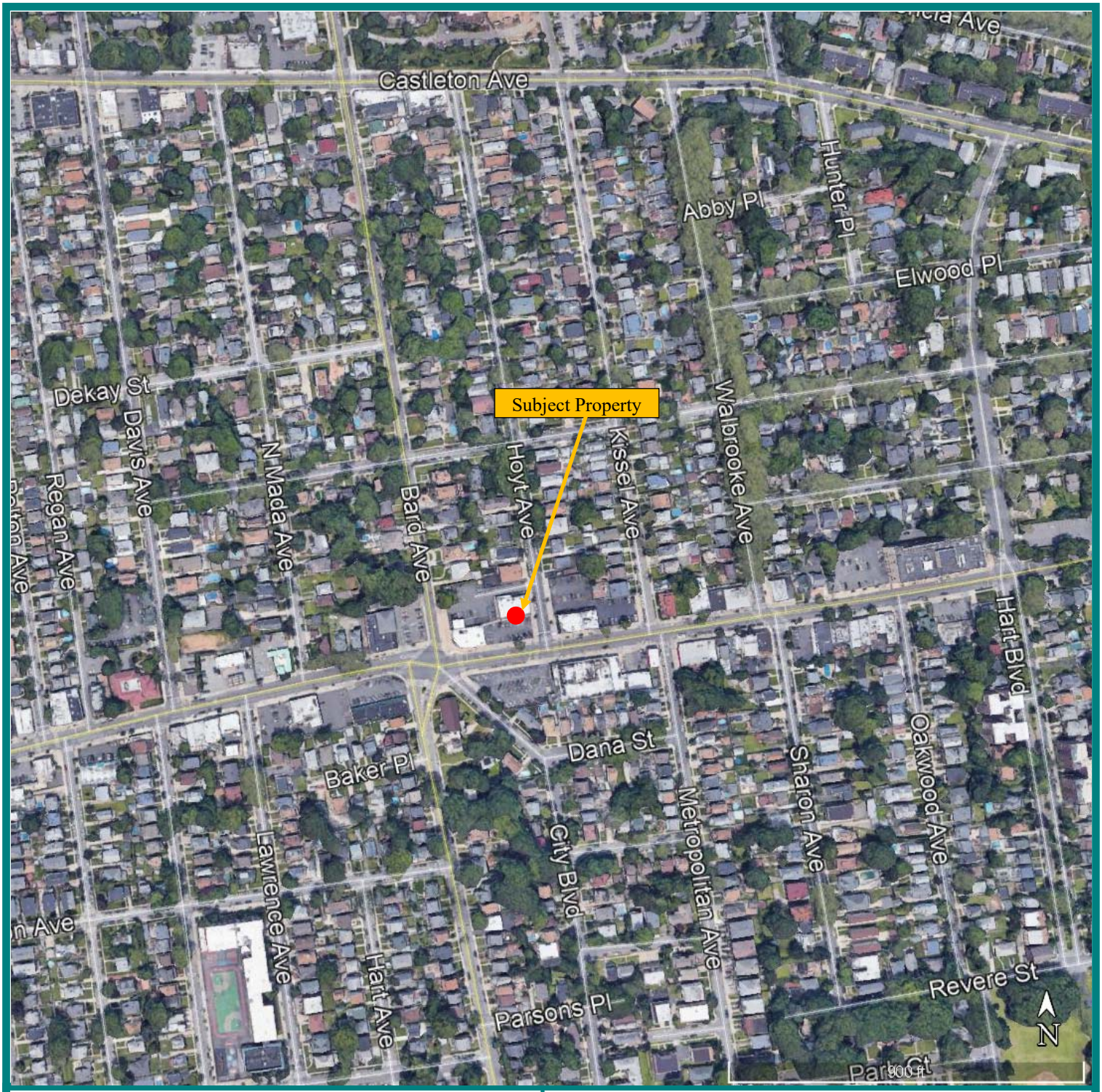
3. NYSDOH “Guidance for Evaluating Soil Vapor Intrusion in the State of New York” dated October 2006.

4. NYSDEC. DER-10 Technical Guidance for Site Investigation and Remediation. New York: Author, issued May 3, 2010, effective June 18, 2010.

5. NYSDEC Sampling, Analysis, and Assessment of Per- And Polyfluoroalkyl Substances (PFAS), April 2023.

6. 2023 Addendum to June 1998 Division of Water Technical and Operation Guidance Series (TOGS) No. 1.1.1

FIGURES

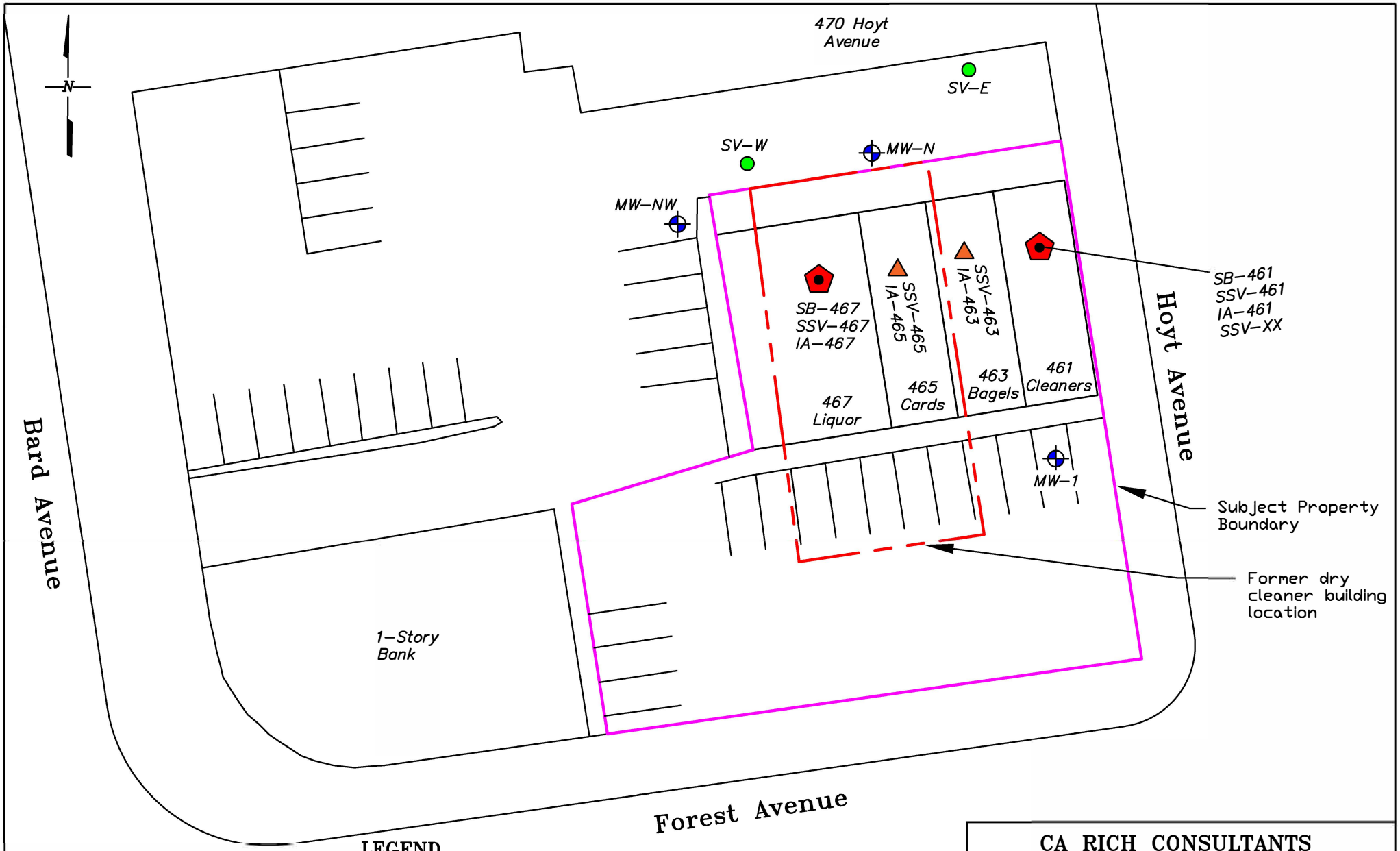


N

Adapted from Google Maps

CA RICH CONSULTANTS
17 Dupont Street,
Plainview, NY 11803

TITLE: **Site Location Map**	DATE: **7/29/2021**
	SCALE: **As SHOWN**
FIGURE: **1**	**461, 463, 465, 467 Forest Ave** **Staten Island, New York**
DRAWING:	DRAWN BY: **JTC**
	APPR. BY: **JEP**



LEGEND

- Groundwater monitoring well
- Combined Sub–Slab Soil Vapor, Indoor Air, and Sub–Slab Soil Sample Location
- Sub–Slab Soil Vapor and Indoor Air Sample Location
- Soil Vapor Sample Location

Graphic Scale in Feet

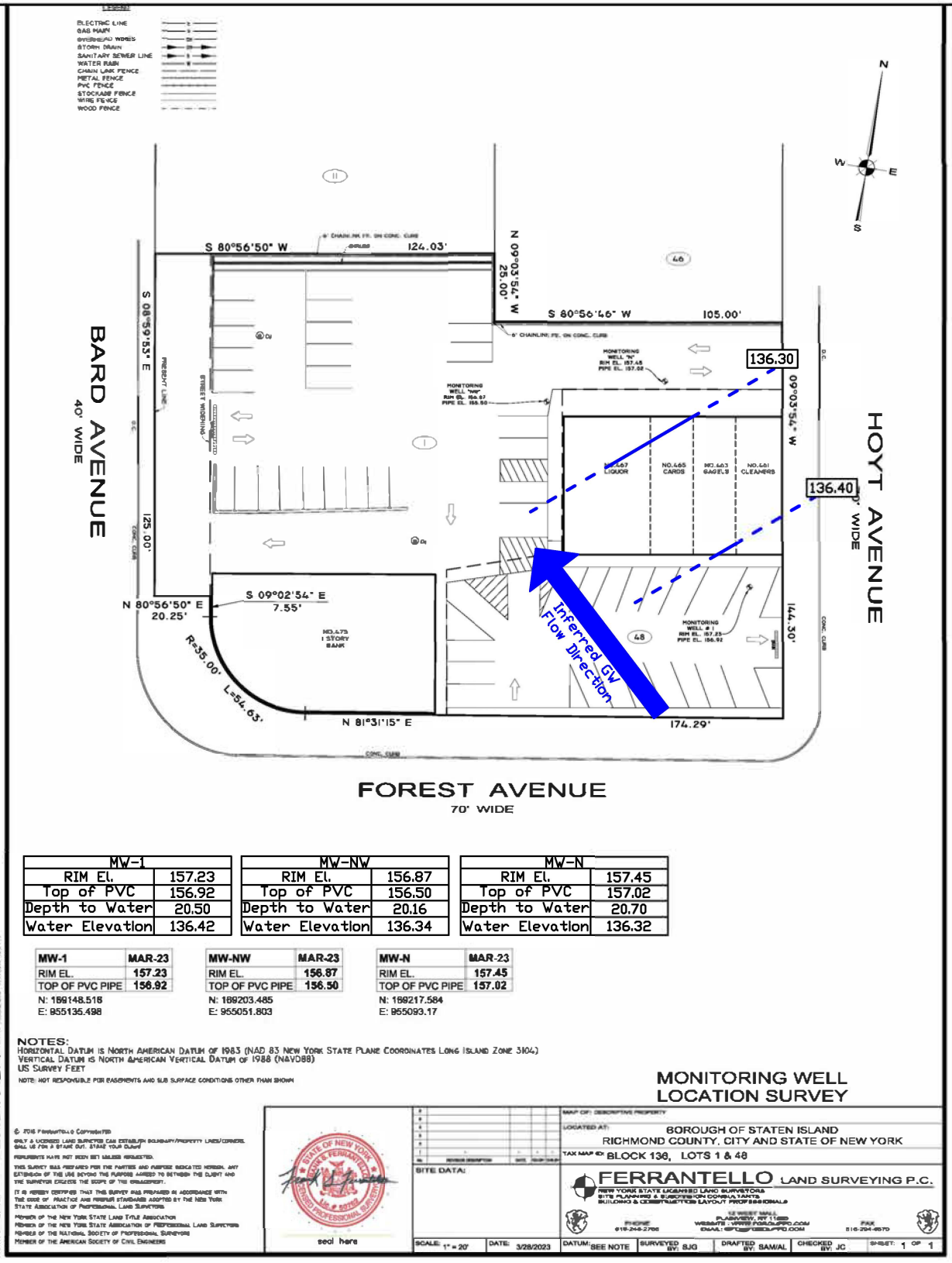
0 25 50

CA RICH CONSULTANTS

Certified Groundwater and Environmental Specialists
17 Dupont Street, Plainview, New York 11803

TITLE: Site Plan with Sample Locations	DATE: 4/5/2023
	SCALE: As Shown
FIGURE: 2	DRAWN BY: T.R.B.
DRAWING NO: 2022–1	APPR. BY: J.T.C.

461–469 Forest Avenue
Staten Island, New York



MW-1	
RIM El.	157.23
Top of PVC	156.92
Depth to Water	20.50
Water Elevation	136.42

MW-NW	
RIM El.	156.87
Top of PVC	156.50
Depth to Water	20.16
Water Elevation	136.34

MW-N	
RIM El.	157.45
Top of PVC	157.02
Depth to Water	20.70
Water Elevation	136.32

MW-1	MAR-23
RIM EL.	157.23
TOP OF PVC PIPE	156.92

N: 189148.516
E: 955135.498

MW-NW	MAR-23
RIM EL.	156.87
TOP OF PVC PIPE	156.50

N: 189203.485
E: 955051.803

MW-N	MAR-23
RIM EL.	157.45
TOP OF PVC PIPE	157.02

N: 189217.584
E: 955093.17

NOTES:
HORIZONTAL DATUM IS NORTH AMERICAN DATUM OF 1983 (NAD 83 NEW YORK STATE PLANE COORDINATES LONG ISLAND ZONE 3104)
VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
US SURVEY FEET
NOTE: NOT RESPONSIBLE FOR EASEMENTS AND SUB SURFACE CONDITIONS OTHER THAN SHOWN

MONITORING WELL LOCATION SURVEY

© 2016 FERRANTELLO CORPORATION
ONLY A LICENSED LAND SURVEYOR CAN ESTABLISH BOUNDARY/PROPERTY LINES/CORNERS. CALL US FOR A STAKE OUT. STAKE YOUR CLIENT
REFERENCE MAPS NOT SEEN SET UNLESS REFERENCED.
THIS SURVEY WAS PREPARED FOR THE PARTIES AND PURPOSE INDICATED HEREON. ANY EXTENSION OF THE USE BEYOND THE PURPOSE AGREED TO BETWEEN THE CLIENT AND THE SURVEYOR EXCEEDS THE SCOPE OF THE ENGAGEMENT.
IT IS HEREBY CERTIFIED THAT THIS SURVEY WAS PREPARED IN ACCORDANCE WITH THE CODE OF PRACTICE AND MINIMUM STANDARDS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS.
MEMBER OF THE NEW YORK STATE LAND TITLE ASSOCIATION
MEMBER OF THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS
MEMBER OF THE NATIONAL SOCIETY OF PROFESSIONAL SURVEYORS
MEMBER OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS

seal here

MAP OF: DESCRIPTIVE PROPERTY
LOCATED AT: BOROUGH OF STATEN ISLAND
RICHMOND COUNTY, CITY AND STATE OF NEW YORK
TAX MAP #: BLOCK 136, LOTS 1 & 48
SITE DATA:

FERRANTELLO LAND SURVEYING P.C.
NEW YORK STATE LICENSED LAND SURVEYORS
SITE PLANNING & SUBDIVISION CONSULTANTS
BUILDING & CEMETERY LOT LAYOUT PROFESSIONALS
12 WEST MALL, PLAINVIEW, NY 11803
PHONE 516-249-2766 FAX 516-294-4570
WEBSITE: WWW.FERRANTELLO.COM
EMAIL: OFFICE@FERRANTELLO.COM

SCALE: 1" = 20' | DATE: 3/28/2023 | DATUM: SEE NOTE | SURVEYED BY: SJG | DRAFTED BY: SAM/AL | CHECKED BY: JC | SHEET: 1 OF 1

F:\N.Y. CITY\STATEN ISLAND\136\LANDXD\SURVEY\136_L8 MONITORING WELLS.dwg 9/7/2016 1:54 PM

Legend:

Groundwater Contour
(Dashed where Inferred)

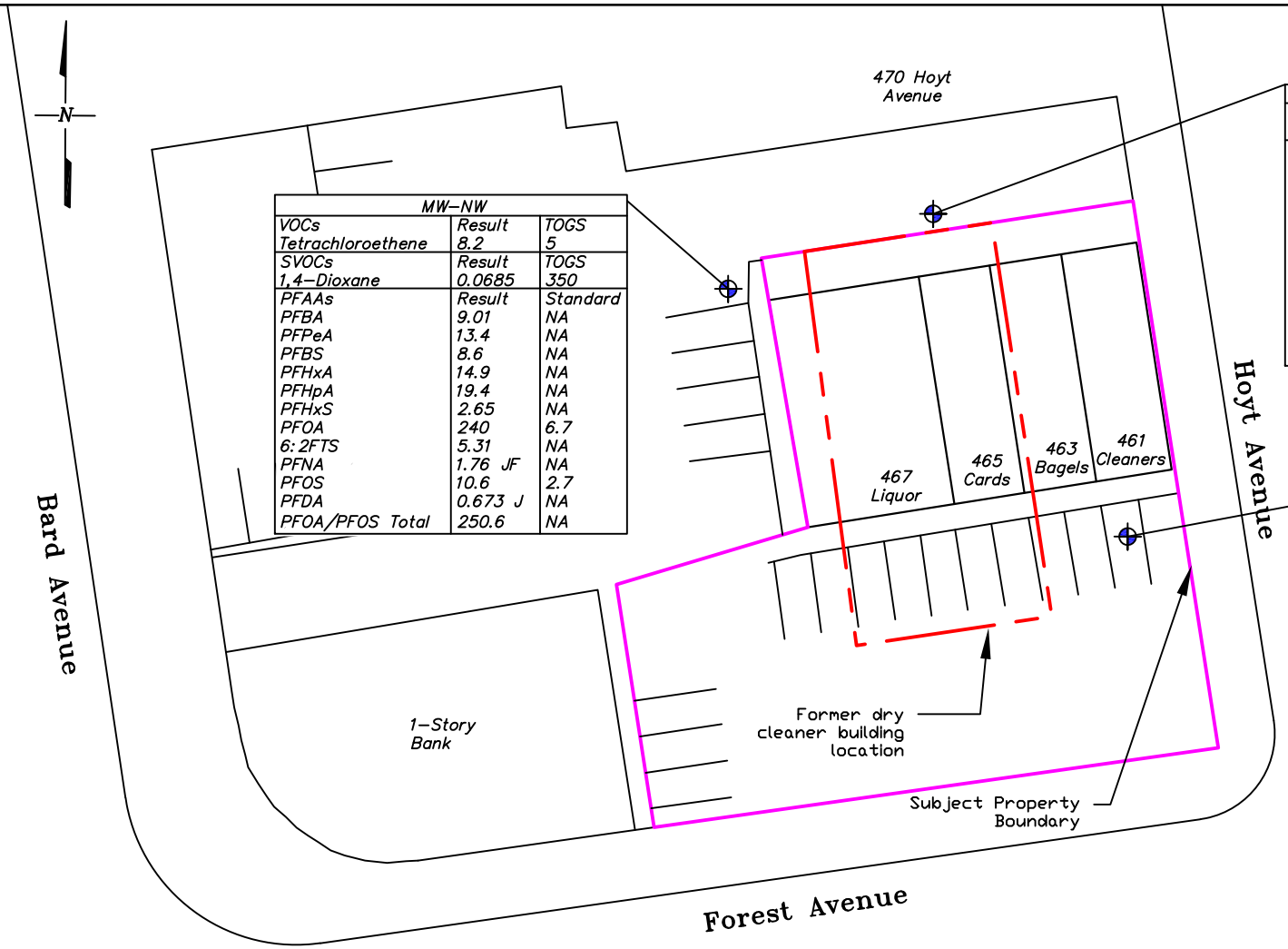
Approx. Scale (ft)
0 25 50

CA RICH CONSULTANTS

Environmental Specialists Since 1982
17 Dupont Street, Plainview, New York 11803

TITLE: Groundwater Flow Map December 1, 2022		DATE: 4/13/2023
		SCALE: As Shown
FIGURE: 3	461–467 Forest Avenue Staten Island, NY	DRAWN BY: T.R.B.
DRAWING NO: 2023–3		APPR. BY: J.T.C.

H:\Drawings\Forest Avenue\2023–3



MW-NW		
VOCs	Result	TOGS
Tetrachloroethene	8.2	5
SVOCs	Result	TOGS
1,4-Dioxane	0.0685	350
PFAAs	Result	Standard
PFBA	9.01	NA
PFPeA	13.4	NA
PFBS	8.6	NA
PFHxA	14.9	NA
PFHpA	19.4	NA
PFHxS	2.65	NA
PFOA	240	6.7
6:2FTS	5.31	NA
PFNA	1.76 JF	NA
PFOS	10.6	2.7
PFDA	0.673 J	NA
PFOA/PFOS Total	250.6	NA

MW-N		
VOCs	Result	TOGS
Tetrachloroethene	38	5
PFAAs	Result	Standard
PFBA	9.53	NA
PFPeA	15.2	NA
PFBS	10.2	NA
PFHxA	15.1	NA
PFHpA	19.2	NA
PFHxS	2.94	NA
PFOA	243	6.7
PFNA	1.74 J	NA
PFOS	12.5	2.7
PFDA	0.544 J	NA
PFOA/PFOS Total	255.6	NA

MW-1		
VOCs	Result	TOGS
Tetrachloroethene	80	5
PFAAs	Result	Standard
PFBA	8.2	NA
PFPeA	15.7	NA
PFBS	4.94	NA
PFHxA	15.7	NA
PFHpA	17.1	NA
PFHxS	2.78	NA
PFOA	200	6.7
PFHpS	0.789 J	NA
PFNA	1.65 JF	NA
PFOS	16.3	2.7
PFOA/PFOS Total	216.3	NA

MW-XX		
VOCs	Result	TOGS
Tetrachloroethene	40	5
PFAAs	Result	Standard
PFBA	8.79	NA
PFPeA	14.7	NA
PFBS	8.94	NA
PFHxA	14.5	NA
PFHpA	18.5	NA
PFHxS	2.77	NA
PFOA	243	6.7
PFHpS	1.85 U	NA
PFNA	1.85 U	NA
PFOS	11.8	2.7
PFOA/PFOS Total	254.8	NA

LEGEND

Groundwater monitoring well

1. VOC Results are shown in ug/L or parts per billion
2. PFAS Results are shown in ng/L or parts per trillion
3. MW-XX = MW-1
4. NA - Not applicable
5. J - Estimated value
6. F - Results are considered to be an estimated maximum concentration

Perfluorinated Alkyl Acids (PFAA) Abbreviations

PFBA - Perfluorobutanoic Acid
PFPeA - Perfluoropentanoic Acid
PFBS - Perfluorobutanesulfonic Acid
PFHxA - Perfluorohexanoic Acid
PFHpA - Perfluoroheptanoic Acid
PFHxS - Perfluorohexanesulfonic Acid
PFOA - Perfluorooctanoic Acid
6:2FTS - Perfluorooctanesulfonic Acid
PFHpS - Perfluoroheptanesulfonic Acid
PFNA - Perfluorononanoic Acid
PFOS - Perfluorooctanesulfonic Acid
PFDA - Perfluorodecanoic Acid

Graphic Scale in Feet
0 25 50

CA RICH CONSULTANTS
Certified Groundwater and Environmental Specialists
17 Dupont Street, Plainview, New York 11803

TITLE: Groundwater VOC Exceedances and PFAA Concentration Map

DATE: 2/23/2024

SCALE: As Shown

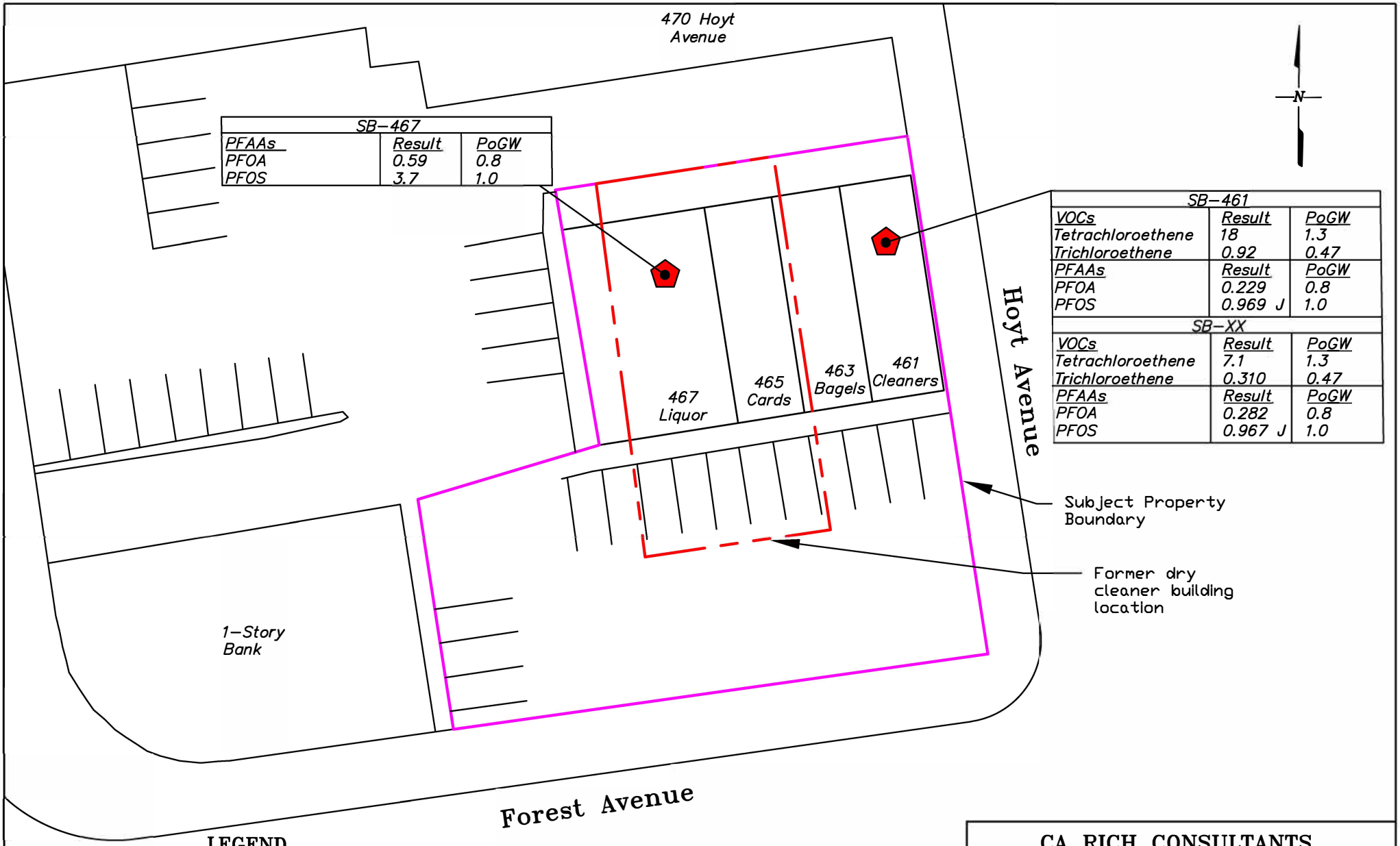
FIGURE: 4

461-469 Forest Avenue
Staten Island, New York

DRAWN BY: T.R.B.

DRAWING NO: 2022-2

APPR. BY: J.T.C.



LEGEND

Soil Sample Location

Notes:
VOC results are shown in mg/kg or parts per million/ppm.
PFAS results are shown in ug/kg or parts per billion/ppb.
Results are compared to Protection of Groundwater Cleanup Objectives.
VOCs were not detected above Protect of Groundwater Cleanup Objectives in SB–467

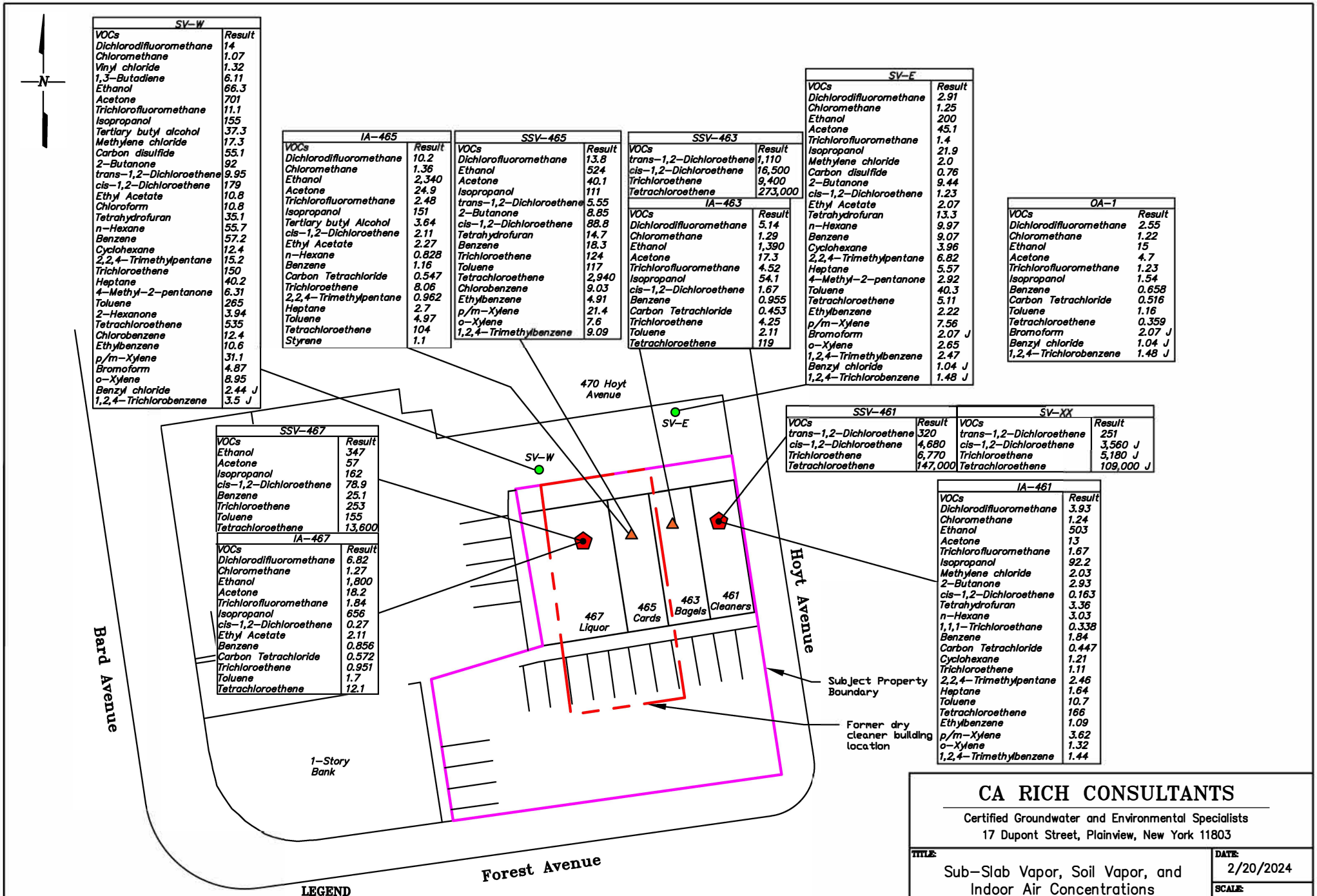
Perfluorinated Alkyl Acids (PFAA) Abbreviations
PFOA – Perfluorooctanoic Acid
PFOS – Perfluorooctanesulfonic Acid

Graphic Scale in Feet
0 25 50

CA RICH CONSULTANTS
Certified Groundwater and Environmental Specialists
17 Dupont Street, Plainview, New York 11803

TITLE: VOC Soil Exceedances and PFOA and PFOS Map	DATE: 2/13/2024
	SCALE: As Shown
FIGURE: 5	DRAWN BY: T.R.B.
DRAWING NO: 2022–3	APPR. BY: J.T.C.

461–469 Forest Avenue
Staten Island, New York



CA RICH CONSULTANTS

Certified Groundwater and Environmental Specialists
17 Dupont Street, Plainview, New York 11803

TITLE: Sub–Slab Vapor, Soil Vapor, and Indoor Air Concentrations	DATE: 2/20/2024
	SCALE: As Shown
FIGURE: 6	DRAWN BY: T.R.B.
DRAWING NO: 2022–4	APPR. BY: J.T.C.

461–467 Forest Avenue
Staten Island, New York

TABLES

Table 1
Validated Volatile Organic Compound Concentrations in Groundwater Samples
461-467 Forest Avenue
Staten Island, NY

LOCATION			MW-1		MW-N		MW-NW		MW-XX		EQUIPMENT BLANK		FIELD BLANK		TRIP BLANK	
SAMPLING DATE			12/1/2022		12/1/2022		12/1/2022		12/1/2022		12/1/2022		12/1/2022		12/1/2022	
	*NY TOGS	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organics by GC/MS																
Methylene chloride	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,1-Dichloroethane	5	ug/l	2.5	UJ	2.5	UJ	2.5	UJ	2.5	UJ	2.5	U	2.5	U	2.5	U
Chloroform	7	ug/l	1.1	J	1	J	1.1	J+	1.1	J	2.5	U	2.5	U	2.5	U
Carbon tetrachloride	5	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	1	ug/l	1	UJ	1	UJ	1	UJ	1	UJ	1	U	1	U	1	U
Dibromochloromethane	50	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	ug/l	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
Tetrachloroethene	5	ug/l	80		38		8.2		40		0.5	U	0.5	U	0.5	U
Chlorobenzene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Trichlorofluoromethane	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,2-Dichloroethane	0.6	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Bromodichloromethane	50	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.4	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.4	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropene, Total	NA	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Bromoform	50	ug/l	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1,2,2-Tetrachloroethane	5	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Ethylbenzene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Chloromethane	NA	ug/l	2.5	UJ	2.5	UJ	2.5	UJ	2.5	UJ	2.5	U	2.5	U	2.5	U
Bromomethane	5	ug/l	2.5	UJ	2.5	UJ	2.5	UJ	2.5	UJ	2.5	UJ	2.5	UJ	2.5	UJ
Vinyl chloride	2	ug/l	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Chloroethane	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,1-Dichloroethene	5	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	UJ	0.5	UJ
trans-1,2-Dichloroethene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Trichloroethene	5	ug/l	0.52		0.78		0.5	U	0.84		0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	3	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,3-Dichlorobenzene	3	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,4-Dichlorobenzene	3	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Methyl tert butyl ether	10	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
p/m-Xylene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
o-Xylene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Xylenes, Total	NA	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
cis-1,2-Dichloroethene	5	ug/l	2.5	U	1.2	J	2.5	U	1.3	J	2.5	U	2.5	U	2.5	U
1,2-Dichloroethene, Total	NA	ug/l	2.5	U	1.2	J	2.5	U	1.3	J	2.5	U	2.5	U	2.5	U
Dibromomethane	5	ug/l	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2,3-Trichloropropane	0.04	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Acrylonitrile	5	ug/l	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Styrene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Dichlorodifluoromethane	5	ug/l	5	UJ	5	UJ	5	UJ	5	UJ	5	U	5	U	5	U
Acetone	50	ug/l	5	U	5	U	5	U	5	U	2.3	J	2.6	J	1.7	J
Carbon disulfide	60	ug/l	5	U	5	U	5	U	5	U	5	UJ	5	UJ	5	UJ
2-Butanone	50	ug/l	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Vinyl acetate	NA	ug/l	5	U	5	U	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-pentanone	NA	ug/l	5	U	5	U	5	U	5	U	5	U	5	U	5	U
2-Hexanone	50	ug/l	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Bromochloromethane	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
2,2-Dichloropropane	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,2-Dibromoethane	0.0006	ug/l	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,3-Dichloropropane	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,1,1,2-Tetrachloroethane	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Bromobenzene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
n-Butylbenzene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
sec-Butylbenzene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
tert-Butylbenzene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
o-Chlorotoluene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
p-Chlorotoluene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,2-Dibromo-3-chloropropane	0.04	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Hexachlorobutadiene	0.5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Isopropylbenzene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
p-Isopropyltoluene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Naphthalene	10	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
n-Propylbenzene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,2,3-Trichlorobenzene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,2,4-Trichlorobenzene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,3,5-Trimethylbenzene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,2,4-Trimethylbenzene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,4-Dioxane	NA	ug/l	250	R	250	R	250	R	250	R	250	R	250	R	250	R
p-Diethylbenzene	NA	ug/l	2	U	2	U	2	U	2	U	2	U	2	U	2	U
p-Ethyltoluene	NA	ug/l	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,2,4,5-Tetramethylbenzene	5	ug/l	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Ethyl ether	NA	ug/l	2.5	UJ	2.5	UJ	2.5	UJ	2.5	UJ	2.5	UJ	2.5	UJ	2.5	UJ
trans-1,4-Dichloro-2-butene	5	ug/l	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U

Abbreviation:
U = Not Detected
J = Value is Estimated
Qual = Qualifier
R = Data are unusable
J+ = Estimated quantity but may be biased high
NA = Not Applicable
*NYSDEC Technical and Operational Guidance Series (1.1.1)
Ambient water Quality Standards and Guidance Values
and Groundwater Effluent Limitations June 1998

Bold and Highlighted indicates value over TOGS

All values are shown in ug/L or PPB

Table 2
Validated 1,4-Dioxane, and PFOA/PFAS in Groundwater Samples
461-467 Forest Avenue
Staten Island, NY

	LOCATION:		MW-1		MW-N		MW-NW		MW-XX		EQUIPMENT BLANK		FIELD BLANK		TRIP BLANK	
	SAMPLING DATE:		12/1/2022		12/1/2022		12/1/2022		12/1/2022		12/1/2022		12/1/2022		12/1/2022	
	UNITS:		ppb		ppb		ppb		ppb		ppb		ppb		ppb	
	*NY TOGS	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
1,4 Dioxane by 8270E-SIM																
1,4-Dioxane	0.35	ppb	0.147	U	0.142	U	0.147	U	0.147	U	0.136	U	0.136	U	NA	
Perfluorinated Alkyl Acids by Isotope Dilution																
Perfluorobutanoic Acid (PFBA)	NA	ppt	8.2		9.53		9.01		8.79		1.83	U	1.77	U	NA	
Perfluoropentanoic Acid (PFPeA)	NA	ppt	15.7		15.2		13.4		14.7		1.83	U	1.77	U	NA	
Perfluorobutanesulfonic Acid (PFBS)	NA	ppt	4.94		10.2		8.6		8.94		1.83	U	1.77	U	NA	
Perfluorohexanoic Acid (PFHxA)	NA	ppt	15.7		15.1		14.9		14.5		1.83	U	1.77	U	NA	
Perfluoroheptanoic Acid (PFHpA)	NA	ppt	17.1		19.2		19.4		18.5		1.83	U	1.77	U	NA	
Perfluorohexanesulfonic Acid (PFHxS)	NA	ppt	2.78		2.94		2.65		2.77		1.83	U	1.77	U	NA	
Perfluorooctanoic Acid (PFOA)	6.7	ppt	200		243		240		243		0.22	U	1.77	U	NA	
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	NA	ppt	1.72	U	1.81	U	5.31		1.85	U	1.83	U	1.77	U	NA	
Perfluoroheptanesulfonic Acid (PFHpS)	NA	ppt	0.789	J	1.81	U	1.87	U	1.85	U	1.83	U	1.77	U	NA	
Perfluorononanoic Acid (PFNA)	NA	ppt	1.65	J	1.74	J	1.76	J	1.74	J	1.83	U	1.77	U	NA	
Perfluorooctanesulfonic Acid (PFOS)	2.7	ppt	16.3		12.5		10.6		11.8		0.807	J	1.77	U	NA	
Perfluorodecanoic Acid (PFDA)	NA	ppt	1.72	U	0.544	J	0.673	J	0.369	J	1.83	U	1.77	U	NA	
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	NA	ppt	1.72	U	1.81	U	1.87	U	1.85	U	1.83	U	1.77	U	NA	
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NA	ppt	1.72	U	1.81	U	1.87	U	1.85	U	1.83	U	1.77	U	NA	
Perfluoroundecanoic Acid (PFUnA)	NA	ppt	1.72	U	1.81	U	1.87	U	1.85	U	1.83	U	1.77	U	NA	
Perfluorodecanesulfonic Acid (PFDS)	NA	ppt	1.72	U	1.81	U	1.87	U	1.85	U	1.83	U	1.77	U	NA	
Perfluorooctanesulfonamide (FOSA)	NA	ppt	1.72	UJ	1.81	U	1.87	UJ	1.85	U	1.83	U	1.77	U	NA	
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NA	ppt	1.72	U	1.81	U	1.87	U	1.85	U	1.83	U	1.77	U	NA	
Perfluorododecanoic Acid (PFDoA)	NA	ppt	1.72	U	1.81	U	1.87	U	1.85	U	1.83	U	1.77	U	NA	
Perfluorotridecanoic Acid (PFTrDA)	NA	ppt	1.72	U	1.81	U	1.87	U	1.85	U	1.83	U	1.77	U	NA	
Perfluorotetradecanoic Acid (PFTA)	NA	ppt	1.72	U	1.81	U	1.87	U	1.85	U	1.83	U	1.77	U	NA	
PFOA/PFOS, Total	NA	ppt	216		256		251		255		1.03	J	1.77	U	NA	

Abbreviation:
U = Not Detected
J = Value is Estimated
Qual = Qualifier
NA = Not Applicable
*NYSDEC Technical and Operational Guidance Series (1.1.1)
Ambient water Quality Standards and Guidance Values
and Groundwater Effluent Limitations June 1998, 2023 Addendum
Highlight exceeds 2023 Addendum to June 1998 Division of Water TOGS NO. 1.1.1
1,4-Dioxane values are shown in ug/L or PPB and PFAAs values are shown in ng/l or PPT

Table 3
Validated Volatile Organic Compound Concentrations in Soil Samples
461-467 Forest Avenue
Staten Island, NY

	SAMPLE ID:	SB-461		SB-467		SB-XX		FIELD BLANK 11/11/22		EQUIPMENT BLANK 11/11/22		TRIP BLANK 11/11/22	
	COLLECTION DATE:	11/11/2022		11/11/2022		11/11/2022		11/11/2022		11/11/2022		11/11/2022	
	SAMPLE MATRIX:	SOIL		SOIL		SOIL		WATER		WATER		WATER	
	LABORATORY NUMBER:	L2263658		L2263658		L2263658							
ANALYTE	**PGSCO***	**Conc**	**Q**	**Conc**	**Q**	**Conc**	**Q**	**Conc**	**Q**	**Conc**	**Q**	**Conc**	**Q**
VOLATILE ORGANICS BY EPA 5035	**in mg/kg or ppm**												
Methylene chloride	0.05	0.448	U	0.0048	U	0.32	U	0.0025	U	0.0025	U	0.0025	U
1,1-Dichloroethane	0.33	0.089	U	0.00096	UJ	0.063	U	0.0025	U	0.0025	U	0.0025	U
Chloroform	0.37	0.13	U	0.0014	UJ	0.095	U	0.0025	U	0.0025	U	0.0025	U
Carbon tetrachloride	0.76	0.089	U	0.00096	U	0.063	U	0.0005	U	0.0005	U	0.0005	U
1,2-Dichloropropane	NA	0.089	U	0.00096	UJ	0.063	U	0.001	U	0.001	U	0.001	U
Dibromochloromethane	NA	0.089	U	0.00096	U	0.063	U	0.0005	U	0.0005	U	0.0005	U
1,1,2-Trichloroethane	NA	0.089	U	0.00096	U	0.063	U	0.0015	U	0.0015	U	0.0015	U
Tetrachloroethene	1.3	18	J	0.014	J+	7.1	J	0.0005	U	0.0005	U	0.0005	U
Chlorobenzene	1.1	0.044	U	0.00048	U	0.032	U	0.0025	U	0.0025	U	0.0025	U
Trichlorofluoromethane	NA	0.35	U	0.0038	U	0.25	U	0.0025	U	0.0025	U	0.0025	U
1,2-Dichloroethane	0.27	0.089	U	0.00096	UJ	0.063	U	0.0005	U	0.0005	U	0.0005	U
1,1,1-Trichloroethane	NA	0.044	U	0.00048	U	0.032	U	0.0025	U	0.0025	U	0.0025	U
Bromodichloromethane	NA	0.044	U	0.00048	UJ	0.032	U	0.0005	U	0.0005	U	0.0005	U
trans-1,3-Dichloropropene	NA	0.089	U	0.00096	UJ	0.063	U	0.0005	U	0.0005	U	0.0005	U
cis-1,3-Dichloropropene	NA	0.044	U	0.00048	UJ	0.032	U	0.0005	U	0.0005	U	0.0005	U
1,3-Dichloropropene, Total	NA	0.044	U	0.00048	UJ	0.032	U	0.0005	U	0.0005	U	0.0005	U
1,1-Dichloropropene	NA	0.044	U	0.00048	U	0.032	U	0.0025	U	0.0025	U	0.0025	U
Bromoform	NA	0.35	U	0.0038	UJ	0.25	U	0.002	U	0.002	U	0.002	U
1,1,2,2-Tetrachloroethane	NA	0.044	U	0.00048	UJ	0.032	U	0.0005	U	0.0005	U	0.0005	U
Benzene	0.06	0.044	U	0.00048	U	0.032	U	0.0005	U	0.0005	U	0.0005	U
Toluene	0.7	0.089	U	0.00096	U	0.063	U	0.0025	U	0.0025	U	0.0025	U
Ethylbenzene	1	0.089	U	0.00096	U	0.063	U	0.0025	U	0.0025	U	0.0025	U
Chloromethane	NA	0.35	UJ	0.0038	U	0.25	UJ	0.0025	U	0.0025	U	0.0025	U
Bromomethane	NA	0.18	UJ	0.0019	U	0.13	UJ	0.0025	U	0.0025	U	0.0025	U
Vinyl chloride	0.02	0.089	U	0.00096	U	0.063	U	0.001	U	0.001	U	0.001	U
Chloroethane	NA	0.18	U	0.0019	U	0.13	U	0.0025	U	0.0025	U	0.0025	U
1,1-Dichloroethene	0.33	0.089	U	0.00096	U	0.063	U	0.0005	U	0.0005	U	0.0005	U
trans-1,2-Dichloroethene	0.19	0.13	U	0.0014	U	0.095	U	0.0025	U	0.0025	U	0.0025	U
Trichloroethene	0.47	0.92	J	0.0016		0.31	J	0.0005	U	0.0005	U	0.0005	U
1,2-Dichlorobenzene	1.1	0.18	U	0.0019	UJ	0.13	U	0.0025	U	0.0025	U	0.0025	U
1,3-Dichlorobenzene	2.4	0.18	U	0.0019	UJ	0.13	U	0.0025	U	0.0025	U	0.0025	U
1,4-Dichlorobenzene	1.8	0.18	U	0.0019	UJ	0.13	U	0.0025	U	0.0025	U	0.0025	U
Methyl tert butyl ether	0.93	0.18	U	0.0019	U	0.13	U	0.0025	U	0.0025	U	0.0025	U
p/m-Xylene	NA	0.18	U	0.0019	UJ	0.13	U	0.0025	U	0.0025	U	0.0025	U
o-Xylene	NA	0.089	U	0.00096	UJ	0.063	U	0.0025	U	0.0025	U	0.0025	U
Xylenes, Total	1.6	0.089	U	0.00096	UJ	0.063	U	0.0025	U	0.0025	U	0.0025	U
cis-1,2-Dichloroethene	0.25	0.61	J	0.00067	J-	0.12	J	0.0025	U	0.0025	U	0.0025	U
1,2-Dichloroethene, Total	0.44	0.61	J	0.00067	J	0.12	J	0.0025	U	0.0025	U	0.0025	U
Dibromomethane	NA	0.18	U	0.0019	UJ	0.13	U	0.005	U	0.005	U	0.005	U
Styrene	NA	0.089	U	0.00096	UJ	0.063	U	0.0025	U	0.0025	U	0.0025	U
Dichlorodifluoromethane	NA	0.89	U	0.0096	U	0.63	U	0.005	U	0.005	U	0.005	U
Acetone	0.05	0.89	U	0.0096	U	0.63	U	0.0017	J	0.0037	J	0.002	J
Carbon disulfide	NA	0.89	UJ	0.0096	UJ	0.63	UJ	0.005	U	0.005	U	0.005	U
2-Butanone	NA	0.89	U	0.0096	UJ	0.63	U	0.005	U	0.005	U	0.005	U
Vinyl acetate	NA	0.89	U	0.0096	R	0.63	U	0.005	U	0.005	U	0.005	U
4-Methyl-2-pentanone	NA	0.89	U	0.0096	U	0.63	U	0.005	U	0.005	U	0.005	U
1,2,3-Trichloropropane	NA	0.18	U	0.0019	U	0.13	U	0.0025	U	0.0025	U	0.0025	U
2-Hexanone	NA	0.89	U	0.0096	UJ	0.63	U	0.005	U	0.005	U	0.005	U
Bromochloromethane	NA	0.18	U	0.0019	UJ	0.13	U	0.0025	U	0.0025	U	0.0025	U
2,2-Dichloropropane	NA	0.18	U	0.0019	U	0.13	U	0.0025	U	0.0025	U	0.0025	U
1,2-Dibromoethane	NA	0.089	U	0.00096	UJ	0.063	U	0.002	U	0.002	U	0.002	U
1,3-Dichloropropane	NA	0.18	U	0.0019	U	0.13	U	0.0025	U	0.0025	U	0.0025	U
1,1,1,2-Tetrachloroethane	NA	0.044	U	0.00048	U	0.032	U	0.0025	U	0.0025	U	0.0025	U
Bromobenzene	NA	0.18	U	0.0019	UJ	0.13	U	0.0025	U	0.0025	U	0.0025	U
n-Butylbenzene	NA	0.089	U	0.00096	UJ	0.063	U	0.0025	U	0.0025	U	0.0025	U
sec-Butylbenzene	11	0.089	U	0.00096	UJ	0.063	U	0.0025	U	0.0025	U	0.0025	U
tert-Butylbenzene	6	0.18	U	0.0019	UJ	0.13	U	0.0025	U	0.0025	U	0.0025	U
o-Chlorotoluene	NA	0.18	U	0.0019	UJ	0.13	U	0.0025	U	0.0025	U	0.0025	U
p-Chlorotoluene	NA	0.18	U	0.0019	UJ	0.13	U	0.0025	U	0.0025	U	0.0025	U
1,2-Dibromo-3-chloropropane	NA	0.26	U	0.0029	UJ	0.19	U	0.0025	U	0.0025	U	0.0025	U
Hexachlorobutadiene	NA	0.35	U	0.0038	UJ	0.25	U	0.0025	U	0.0025	U	0.0025	U
Isopropylbenzene	NA	0.089	U	0.00096	U	0.063	U	0.0025	U	0.0025	U	0.0025	U
p-Isopropyltoluene	NA	0.089	U	0.00096	UJ	0.063	U	0.0025	U	0.0025	U	0.0025	U
Naphthalene	NA	0.35	U	0.0038	UJ	0.25	U	0.0025	U	0.0025	U	0.0025	U
Acrylonitrile	NA	0.35	U	0.0038	UJ	0.25	U	0.005	U	0.005	U	0.005	U
n-Propylbenzene	3.9	0.089	U	0.00096	UJ	0.063	U	0.0025	U	0.0025	U	0.0025	U
1,2,3-Trichlorobenzene	NA	0.18	U	0.0019	UJ	0.13	U	0.0025	U	0.0025	U	0.0025	U
1,2,4-Trichlorobenzene	NA	0.18	U	0.0019	UJ	0.13	U	0.0025	U	0.0025	U	0.0025	U
1,3,5-Trimethylbenzene	8.4	0.18	U	0.0019	UJ	0.13	U	0.0025	U	0.0025	U	0.0025	U
1,2,4-Trimethylbenzene	3.6	0.18	U	0.0019	UJ	0.13	U	0.0025	U	0.0025	U	0.0025	U
1,4-Dioxane	NA	7.1	R	0.076	R	5.1	R	0.25	U	0.25	U	0.25	U
p-Diethylbenzene	NA	0.18	U	0.0019	UJ	0.13	U	0.002	U	0.002	U	0.002	U
p-Ethyltoluene	NA	0.18	U	0.0019	UJ	0.13	U	0.002	U	0.002	U	0.002	U
1,2,4,5-Tetramethylbenzene	NA	0.18	U	0.0019	UJ	0.13	U	0.002	U	0.002	U	0.002	U
Ethyl ether	NA	0.18	UJ	0.0019	UJ	0.13	UJ	0.0025	U	0.0025	U	0.0025	U
trans-1,4-Dichloro-2-butene	NA	0.44	U	0.0048	UJ	0.32	U	0.0025	U	0.0025	U	0.0025	U

Abbreviation:
ND = Not Detected
J = Value is Estimated
Q = Qualifier
Conc = Concentration
R = The data are unusable
J+ = Value is estimated biased high
J- = Value is estimated biased low
NA = Not Applicable
* - The Protection of Groundwater Soil Cleanup Objectives (PGSCOs) as noted in the Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS), April 2023
Bold and Highlighted indicates value over Protection of Groundwater
Grayed values indicate the detection limit exceeds the PGSCO
All values are shown in ppm or mg/kg (soil) ppm

Table 4
Validated 1,4-Dioxane and PFOA/PFAS Concentrations in Soil Samples
461-467 Forest Avenue
Staten Island, NY

	SAMPLE ID:	SB-461		SB-467		SB-XX		FIELD BLANK 11/11/22		EQUIPMENT BLANK 11/11/22		TRIP BLANK 11/11/22	
	COLLECTION DATE:	11/11/2022		11/11/2022		11/11/2022		11/11/2022		11/11/2022		11/11/2022	
	SAMPLE MATRIX:	SOIL		SOIL		SOIL		WATER		WATER		WATER	
	UNITS:	ug/kg		ug/kg		ug/kg		ug/L		ug/L		ng/kg	
ANALYTE	**Protection of Groundwater ppb**	**Conc**	**Q**	**Conc**	**Q**	**Conc**	**Q**	**Conc**	**Q**	**Conc**	**Q**	**Conc**	**Q**
PERFLUORINATED ALKYL ACIDS BY ISOTOPE DILUTION													
Perfluorobutanoic Acid (PFBA)	NA	0.495	U	0.026	J	0.479	U	0.00178	U	0.00172	U	NA	
Perfluoropentanoic Acid (PFPeA)	NA	0.495	U	0.069	J	0.479	U	0.00178	U	0.00172	U	NA	
Perfluorobutanesulfonic Acid (PFBS)	NA	0.248	U	0.26	U	0.24	U	0.00178	U	0.00172	U	NA	
Perfluorohexanoic Acid (PFHxA)	NA	0.495	U	0.067	J	0.479	U	0.00178	U	0.00172	U	NA	
Perfluoroheptanoic Acid (PFHpA)	NA	0.248	U	0.072	J	0.24	U	0.00178	U	0.00172	U	NA	
Perfluorohexanesulfonic Acid (PFHxS)	NA	0.248	U	0.26	U	0.24	U	0.00178	U	0.00172	U	NA	
Perfluorooctanoic Acid (PFOA)	0.8	0.229	J	0.59		0.282		0.00178	U	0.00172	U	NA	
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	NA	0.495	U	0.52	U	0.479	U	0.00178	U	0.00172	U	NA	
Perfluoroheptanesulfonic Acid (PFHpS)	NA	0.495	U	0.52	U	0.479	U	0.00178	U	0.00172	U	NA	
Perfluorononanoic Acid (PFNA)	NA	0.248	U	0.26	U	0.24	U	0.00178	U	0.00172	U	NA	
Perfluorooctanesulfonic Acid (PFOS)	1.0	0.969		3.7		0.967	J	0.00178	U	0.00172	U	NA	
Perfluorodecanoic Acid (PFDA)	NA	0.248	U	0.26	U	0.24	U	0.00178	U	0.00172	U	NA	
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	NA	0.495	U	0.52	U	0.479	U	0.00178	U	0.00172	U	NA	
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NA	0.495	U	0.52	U	0.479	U	0.00178	U	0.00172	U	NA	
Perfluoroundecanoic Acid (PFUnA)	NA	0.495	U	0.52	U	0.479	U	0.00178	U	0.00172	U	NA	
Perfluorodecanesulfonic Acid (PFDS)	NA	0.495	U	0.52	U	0.479	U	0.00178	U	0.00172	U	NA	
Perfluorooctanesulfonamide (FOSA)	NA	0.495	U	0.52	U	0.479	U	0.00178	U	0.00172	U	NA	
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NA	0.495	U	0.52	UJ	0.479	U	0.00178	U	0.00172	U	NA	
Perfluorododecanoic Acid (PFDoA)	NA	0.495	U	0.52	U	0.479	U	0.00178	U	0.00172	U	NA	
Perfluorotridecanoic Acid (PFTrDA)	NA	0.495	U	0.52	U	0.479	U	0.00178	U	0.00172	U	NA	
Perfluorotetradecanoic Acid (PFTA)	NA	0.495	U	0.52	U	0.479	U	0.00178	U	0.00172	U	NA	
PFOA/PFOS, Total	NA	1.2	J	4.29		1.25		0.00178	U	0.00172	U	NA	
SEMIVOLATILE ORGANICS BY GC/MS													
1,4-Dioxane	100	27	U	27	U	26	U	0.142	U	0.136	U	NA	

Abbreviation:
ND = Not Detected
J = Value is Estimated
Q = Qualifier
Conc = Concentration
NA = Not Applicable
* - The Protection of Groundwater Soil Cleanup Objectives (PGSCOs) as noted in the Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS), April 2023
Bold and Highlighted indicates value over TAGM Protection of Groundwater
All values are shown in ug/kg and ug/L or PPB

Table 5
Validated Volatile Organic Compounds in Sub-Slab Vapor, Soil Vapor, Indoor Air, and Outdoor Air
461-467 Forest Avenue
Staten Island, NY

LOCATION SAMPLING DATE LOCATION	Units	SSV-461 11/16/2022 SUBSLAB		SSV-463 11/16/2022 SUBSLAB		SSV-465 11/16/2022 SUBSLAB		SSV-467 11/16/2022 SUBSLAB		SSV-XX 11/16/2022 SUBSLAB		NYSDOH Sub-Slab Vapor No Further Action Levels	NYSDOH Sub-Slab Vapor Mitigation Levels	IA-461 11/16/2022 INDOOR AIR		IA-463 11/16/2022 INDOOR AIR		IA-465 11/16/2022 INDOOR AIR		IA-467 11/16/2022 INDOOR AIR		NYSDOH Indoor Air No Further Action Levels	NYSDOH Indoor Air Mitigation Levels	SV-E 11/16/2022 SOIL VAPOR		SV-W 11/16/2022 SOIL VAPOR		OA-1 11/16/2022 OUDOOR AIR	
		Results	Qual	Results	Qual	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	ug/m3	235	U	476	U	13.8		23.1	U	168	U	NVG	NVG	3.93		5.14		10.2		6.82		NVG	NVG	2.91		14		2.55	
Chloromethane	ug/m3	98.3	U	199	U	1.81	U	9.66	U	70.2	U	NVG	NVG	1.24		1.29		1.36		1.27		NVG	NVG	1.25		1.07		1.22	
Freon-114	ug/m3	333	U	672	U	6.14	U	32.7	U	238	U	NVG	NVG	1.4	U	1.4	U	1.4	U	1.4	U	NVG	NVG	1.4	U	3.29	U	1.4	U
Vinyl chloride[C]	ug/m3	122	U	246	U	2.24	U	12	U	86.9	U	<6	>60	0.051	U	0.051	U	0.051	U	0.051	U	<0.2	>0.2	0.511	U	**1.32**		0.051	U
1,3-Butadiene	ug/m3	105	U	213	U	1.94	U	10.4	U	75.2	U	NVG	NVG	0.442	U	0.442	U	0.442	U	0.442	U	NVG	NVG	0.442	U	6.11		0.442	U
Bromomethane	ug/m3	185	U	374	U	3.41	U	18.2	U	132	U	NVG	NVG	0.777	U	0.777	U	0.777	U	0.777	U	NVG	NVG	0.777	U	1.83	U	0.777	U
Chloroethane	ug/m3	126	U	254	U	2.32	U	12.3	U	89.7	U	NVG	NVG	0.528	U	0.528	U	0.528	U	0.528	U	NVG	NVG	0.528	U	1.24	U	0.528	U
Ethanol	ug/m3	2240	U	4520	U	524		347		1600	U	NVG	NVG	503		1390	D	2340	D	1800	D	NVG	NVG	200		66.3		15	
Vinyl bromide	ug/m3	208	U	421	U	3.84	U	20.5	U	149	U	NVG	NVG	0.874	U	0.874	U	0.874	U	0.874	U	NVG	NVG	0.874	U	2.06	U	0.874	U
Acetone	ug/m3	565	U	1140	U	40.1		57		404	U	NVG	NVG	13		17.3		24.9		18.2		NVG	NVG	45.1		701		4.7	
Trichlorofluoromethane	ug/m3	267	U	541	U	4.93	U	26.3	U	191	U	NVG	NVG	1.67		4.52		2.48		1.84		NVG	NVG	1.4		11.1		1.23	
Isopropanol	ug/m3	293	U	590	U	111		162		209	U	NVG	NVG	92.2		54.1		151		656	D	NVG	NVG	21.9		155		1.54	
1,1-Dichloroethene[A]	ug/m3	189	U	381	U	3.48	U	18.6	U	135	U	<6	>60	0.079	U	0.079	U	0.079	U	0.079	U	<0.2	>1	0.793	U	1.87	U	0.079	U
Tertiary butyl Alcohol	ug/m3	361	U	728	U	6.64	U	35.5	U	258	U	NVG	NVG	1.52	U	1.52	U	3.64		1.52	U	NVG	NVG	1.52	U	37.3		1.52	U
Methylene chloride[B]	ug/m3	413	U	834	U	7.61	U	40.6	U	295	U	<100	>1,000	2.03		1.74	U	1.74	U	1.74	U	<3	>10	2		**17.3**		1.74	U
3-Chloropropene	ug/m3	149	U	301	U	2.75	U	14.6	U	106	U	NVG	NVG	0.626	U	0.626	U	0.626	U	0.626	U	NVG	NVG	0.626	U	1.47	U	0.626	U
Carbon disulfide	ug/m3	148	U	300	U	2.73	U	14.6	U	106	U	NVG	NVG	0.623	U	0.623	U	0.623	U	0.623	U	NVG	NVG	0.76		55.1		0.623	U
Freon-113	ug/m3	365	U	737	U	6.73	U	35.9	U	261	U	NVG	NVG	1.53	U	1.53	U	1.53	U	1.53	U	NVG	NVG	1.53	U	3.61	U	1.53	U
trans-1,2-Dichloroethene	ug/m3	320		1110		5.55		18.6	U	251		NVG	NVG	0.793	U	0.793	U	0.793	U	0.793	U	NVG	NVG	0.793	U	9.95		0.793	U
1,1-Dichloroethane	ug/m3	193	U	389	U	3.55	U	18.9	U	138	U	NVG	NVG	0.809	U	0.809	U	0.809	U	0.809	U	NVG	NVG	0.809	U	1.91	U	0.809	U
Methyl tert butyl ether	ug/m3	172	U	347	U	3.17	U	16.9	U	123	U	NVG	NVG	0.721	U	0.721	U	0.721	U	0.721	U	NVG	NVG	0.721	U	1.7	U	0.721	U
2-Butanone	ug/m3	351	U	708	U	8.85		34.5	U	251	U	NVG	NVG	2.93		1.47	U	1.47	U	1.47	U	NVG	NVG	9.44		92		1.47	U
cis-1,2-Dichloroethene[A]	ug/m3	**4680**	**J**	**16500**		**88.8**		**78.9**		**3560**	**J**	<6	>60	0.163		**1.67**		**2.11**		**0.27**		<0.2	>1	**1.23**		**179**		0.079	U
Ethyl Acetate	ug/m3	429	U	865	U	7.89	U	42.2	U	306	U	NVG	NVG	1.8	U	1.8	U	2.27		2.11		NVG	NVG	2.07		10.8		1.8	U
Chloroform	ug/m3	232	U	470	U	4.29	U	22.9	U	166	U	NVG	NVG	0.977	U	0.977	U	0.977	U	0.977	U	NVG	NVG	0.977	U	10.8		0.977	U
Tetrahydrofuran	ug/m3	351	U	708	U	14.7		34.5	U	251	U	NVG	NVG	3.36		1.47	U	1.47	U	1.47	U	NVG	NVG	13.3		35.1		1.47	U
1,2-Dichloroethane	ug/m3	193	U	389	U	3.55	U	18.9	U	138	U	NVG	NVG	0.809	U	0.809	U	0.809	U	0.809	U	NVG	NVG	0.809	U	1.91	U	0.809	U
n-Hexane	ug/m3	168	U	339	U	3.09	U	16.5	U	120	U	NVG	NVG	3.03		0.705	U	0.828		0.705	U	NVG	NVG	9.97		55.7		0.705	U
1,1,1-Trichloroethane[B]	ug/m3	260	U	525	U	4.79	U	25.5	U	186	U	<100	>1,000	0.338		0.109	U	0.109	U	0.109	U	<3	>10	1.09	U	2.57	U	0.109	U
Benzene	ug/m3	152	U	307	U	18.3		25.1		109	U	NVG	NVG	1.84		0.955		1.16		0.856		NVG	NVG	9.07		57.2		0.658	
Carbon tetrachloride[A]	ug/m3	299	U	605	U	5.52	U	29.4	U	214	U	<6	>60	0.447		0.453		0.547		0.572		<3	>10	1.26	U	2.96	U	0.516	
Cyclohexane	ug/m3	164	U	331	U	3.02	U	16.1	U	117	U	NVG	NVG	1.21		0.688	U	0.688	U	0.688	U	NVG	NVG	3.96		12.4		0.688	U
1,2-Dichloropropane	ug/m3	220	U	445	U	4.06	U	21.6	U	157	U	NVG	NVG	0.924	U	0.924	U	0.924	U	0.924	U	NVG	NVG	0.924	U	2.18	U	0.924	U
Bromodichloromethane	ug/m3	319	U	644	U	5.88	U	31.4	U	228	U	NVG	NVG	1.34	U	1.34	U	1.34	U	1.34	U	NVG	NVG	1.34	U	3.16	U	1.34	U
1,4-Dioxane	ug/m3	172	U	347	U	3.16	U	16.9	U	123	U	NVG	NVG	0.721	U	0.721	U	0.721	U	0.721	U	NVG	NVG	0.721	U	1.7	U	0.721	U
Trichloroethene[A]	ug/m3	**6770**	**J**	**9400**		**124**		**253**		**5180**	**J**	<6	>60	**1.11**		**4.25**		**8.06**		**0.951**		<0.2	>1	1.07	U	**150**		0.107	U
2,2,4-Trimethylpentane	ug/m3	222	U	449	U	4.1	U	21.9	U	159	U	NVG	NVG	2.46		0.934	U	0.962		0.934	U	NVG	NVG	6.82		15.2		0.934	U
Heptane	ug/m3	195	U	394	U	3.6	U	19.2	U	139	U	NVG	NVG	1.64		0.82	U	2.7		0.82	U	NVG	NVG	5.57		40.2		0.82	U
cis-1,3-Dichloropropene	ug/m3	216	U	437	U	3.99	U	21.2	U	154	U	NVG	NVG	0.908	U	0.908	U	0.908	U	0.908	U	NVG	NVG	0.908	U	2.14	U	0.908	U
4-Methyl-2-pentanone	ug/m3	488	U	984	U	8.97	U	47.9	U	348	U	NVG	NVG	2.05	U	2.05	U	2.05	U	2.05	U	NVG	NVG	2.92		6.31		2.05	U
trans-1,3-Dichloropropene	ug/m3	216	U	437	U	3.99	U	21.2	U	154	U	NVG	NVG	0.908	U	0.908	U	0.908	U	0.908	U	NVG	NVG	0.908	U	2.14	U	0.908	U
1,1,2-Trichloroethane	ug/m3	260	U	525	U	4.79	U	25.5	U	186	U	NVG	NVG	1.09	U	1.09	U	1.09	U	1.09	U	NVG	NVG	1.09	U	2.57	U	1.09	U
Toluene	ug/m3	179	U	363	U	117		155		135		NVG	NVG	10.7		2.11		4.97		1.7		NVG	NVG	40.3		265		1.16	
2-Hexanone	ug/m3	195	U	394	U	3.6	U	19.2	U	139	U	NVG	NVG	0.82	U	0.82	U	0.82	U	0.82	U	NVG	NVG	0.82	U	3.94		0.82	U
Dibromochloromethane	ug/m3	406	U	820	U	7.48	U	39.9	U	290	U	NVG	NVG	1.7	U	1.7	U	1.7	U	1.7	U	NVG	NVG	1.7	U	4.01	U	1.7	U
1,2-Dibromoethane	ug/m3	366	U	739	U	6.75	U	36	U	261	U	NVG	NVG	1.54	U	1.54	U	1.54	U	1.54	U	NVG	NVG	1.54	U	3.62	U	1.54	U
Tetrachloroethene[B]	ug/m3	**147000**	**J**	**273000**		**2940**		**13600**		**109000**	**J**	<100	>1,000	**166**		**119**		**104**		**12.1**		<3	>10	**5.11**		**535**		0.359	
Chlorobenzene	ug/m3	219	U	443	U	9.03		21.6	U	157	U	NVG	NVG	0.921	U	0.921	U	0.921	U	0.921	U	NVG	NVG	0.921	U	12.4		0.921	U
Ethylbenzene	ug/m3	207	U	418	U	4.91		20.3	U	148	U	NVG	NVG	1.09		0.869	U	0.869	U	0.869	U	NVG	NVG	2.22		10.6		0.869	U
p/m-Xylene	ug/m3	414	U	834	U	21.4		40.7	U	295	U	NVG	NVG	3.62		1.74	U	1.74	U	1.74	U	NVG	NVG	7.56		31.1		1.74	U
Bromoform	ug/m3	492	UJ	995	UJ	9.08	UJ	48.4	UJ	352	UJ	NVG	NVG	2.07	UJ	2.07	UJ	2.07	UJ	2.07	UJ	NVG	NVG	2.07	UJ	4.87	UJ	2.07	UJ
Styrene	ug/m3	203	U	410	U	3.74	U	19.9	U	145	U	NVG	NVG	0.852	U	0.852	U	1.1		0.852	U	NVG	NVG	0.852	U	2.01	U	0.852	U
1,1,2,2-Tetrachloroethane	ug/m3	327	U	661	U	6.03	U	32.1	U	233	U	NVG	NVG	1.37	U	1.37	U	1.37	U	1.37	U	NVG	NVG	1.37	U	3.23	U	1.37	U
o-Xylene	ug/m3	207	U	418	U	7.6		20.3	U	148	U	NVG	NVG	1.32		0.869	U	0.869	U	0.869	U	NVG	NVG	2.65		8.95		0.869	U
4-Ethyltoluene	ug/m3	234	U	473	U	4.32	U	23	U	167	U	NVG	NVG	0.983	U	0.983	U	0.983	U	0.983	U	NVG	NVG	0.983	U	2.32	U	0.983	U
1,3,5-Trimethylbenzene	ug/m3	234	U	473	U	4.32	U	23	U	167	U	NVG	NVG	0.983	U	0.983	U	0.983	U	0.983	U	NVG	NVG	0.983	U	2.32	U	0.983	U
1,2,4-Trimethylbenzene	ug/m3	234	U	473	U	9.09		23	U	167	U	NVG	NVG	1.44		0.983	U	0.983	U	0.983	U	NVG	NVG	2.47		2.32	U	0.983	U
Benzyl chloride	ug/m3	246	UJ	498	UJ	4.55	UJ	24.2	UJ	176	UJ	NVG	NVG	1.04	UJ	1.04	UJ	1.04	UJ	1.04	UJ	NVG	NVG	1.04	UJ	2.44	UJ	1.04	UJ
1,3-Dichlorobenzene	ug/m3	286	U	578	U	5.28	U	28.1	U	204	U	NVG	NVG	1.2	U	1.2	U	1.2	U	1.2	U	NVG	NVG	1.2	U	2.83	U	1.2	U
1,4-Dichlorobenzene	ug/m3	286	U	578	U	5.28	U	28.1	U	204	U	NVG	NVG	1.2	U	1.2	U	1.2	U	1.2	U	NVG	NVG	1.2	U	2.83	U	1.2	U
1,2-Dichlorobenzene	ug/m3	286	U	578	U	5.28	U	28.1	U	204	U	NVG	NVG	1.2	U	1.2	U	1.2	U	1.2	U	NVG	NVG	1.2	U	2.83	U	1.2	U
1,2,4-Trichlorobenzene	ug/m3	353	UJ	714	UJ	6.52	UJ	34.7	UJ	252	UJ	NVG	NVG	1.48	UJ	1.48	UJ	1.48	UJ	1.48	UJ	NVG	NVG	1.48	UJ	3.5	UJ	1.48	UJ
Hexachlorobutadiene	ug/m3	508	U	1030	U	9.37	U	49.9	U	363	U	NVG	NVG	2.13	U	2.13	U	2.13	U	2.13	U	NVG	NVG	2.13	U	5.02	U	2.13	U

Abbreviation:
NVG = No Value Given by NYSDOH
U = Not Detected
ug/m^3 = micrograms per cubic meter
D = Analyte concentration was obtained from diluted analysis
J = Estimated Value

SSV-XX is a duplicate of SSV-461

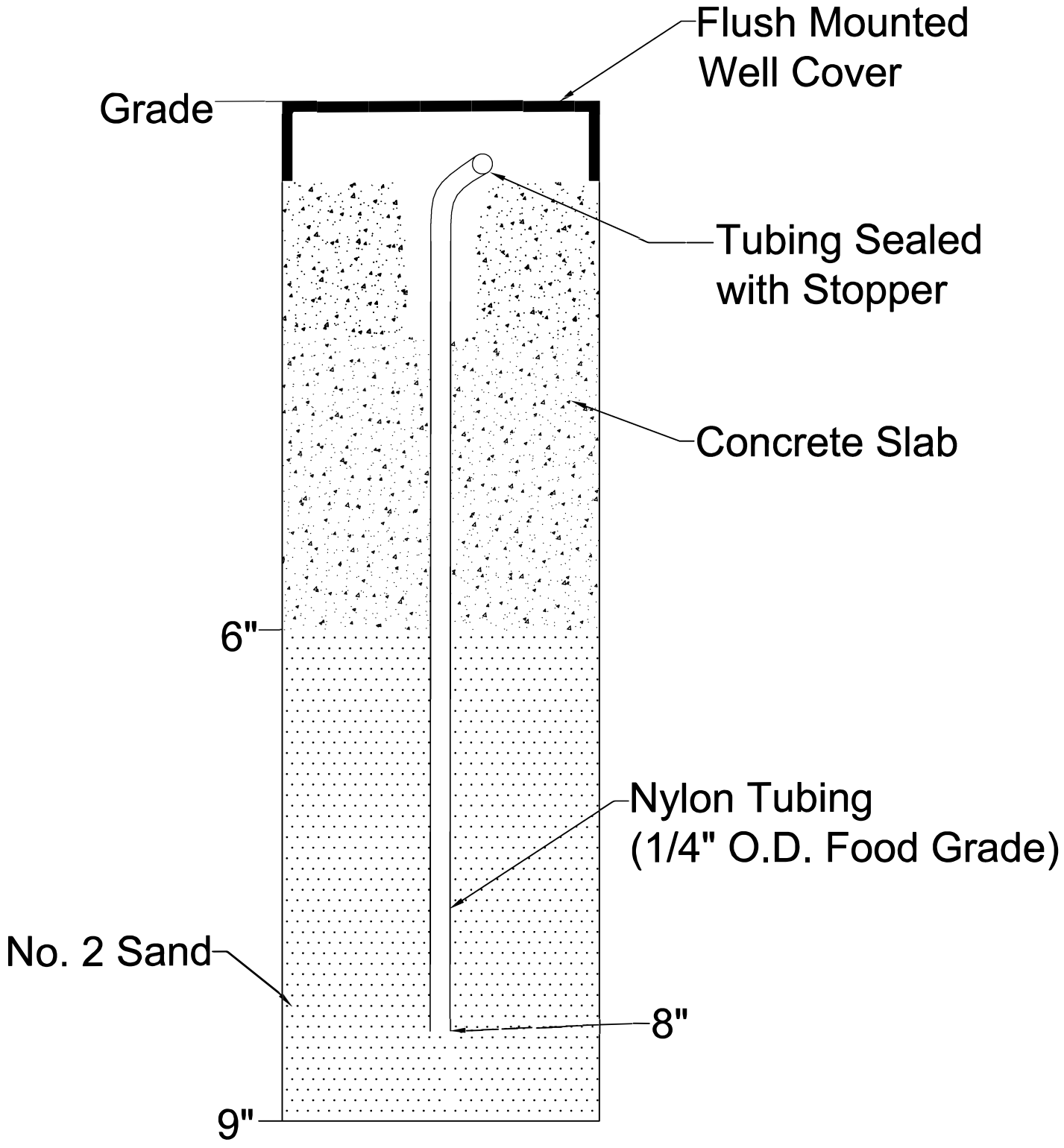
Bold and Boxed indicates elevated levels requiring mitigation

Notes:
Highlighted rows are the 8 compounds that currently have NYSDOH guidance values
Air samples collected over a period of 8 hours on November 16, 2022

[A] - Matrix A compounds. According to NYSDOH, concentrations for indoor air below 0.20 ug/m^3 require 'No Further Action' and
Concentrations above 1.0 ug/m^3 require 'Identify Source(s) and Resample or Mitigate'
Concentrations for sub-slab vapor below 6.0 µg/m^3 require 'No Further Action' and concentrations above 60 µg/m^3 require 'Mitigation'
[B] - Matrix B compounds. According to NYSDOH, concentrations for indoor air below 3.0 ug/m^3 require 'No Further Action' and
Concentrations above 10 ug/m^3 require 'Identify Source(s) and Resample or Mitigate'
Concentrations for sub-slab vapor below 100 ug/m^3 require 'No Further Action' and concentrations above 1000 ug/m^3 require 'Mitigation'
[C] - Matrix C compound. According to NYSDOH, concentration for indoro air below 0.20 ug/m3 require 'No Further Action and
Concentrations above 0.2 ug/m3 require 'Identify Source(s) and Resample or Mitigate'
Concentrations for sub-slab vapor below 6.0 µg/m^3 require 'No Further Action' and concentrations above 60 µg/m^3 require 'Mitigation'

APPENDICES

APPENDIX A
Vapor Point Construction Log



Legend

No. 2 Filter Sand

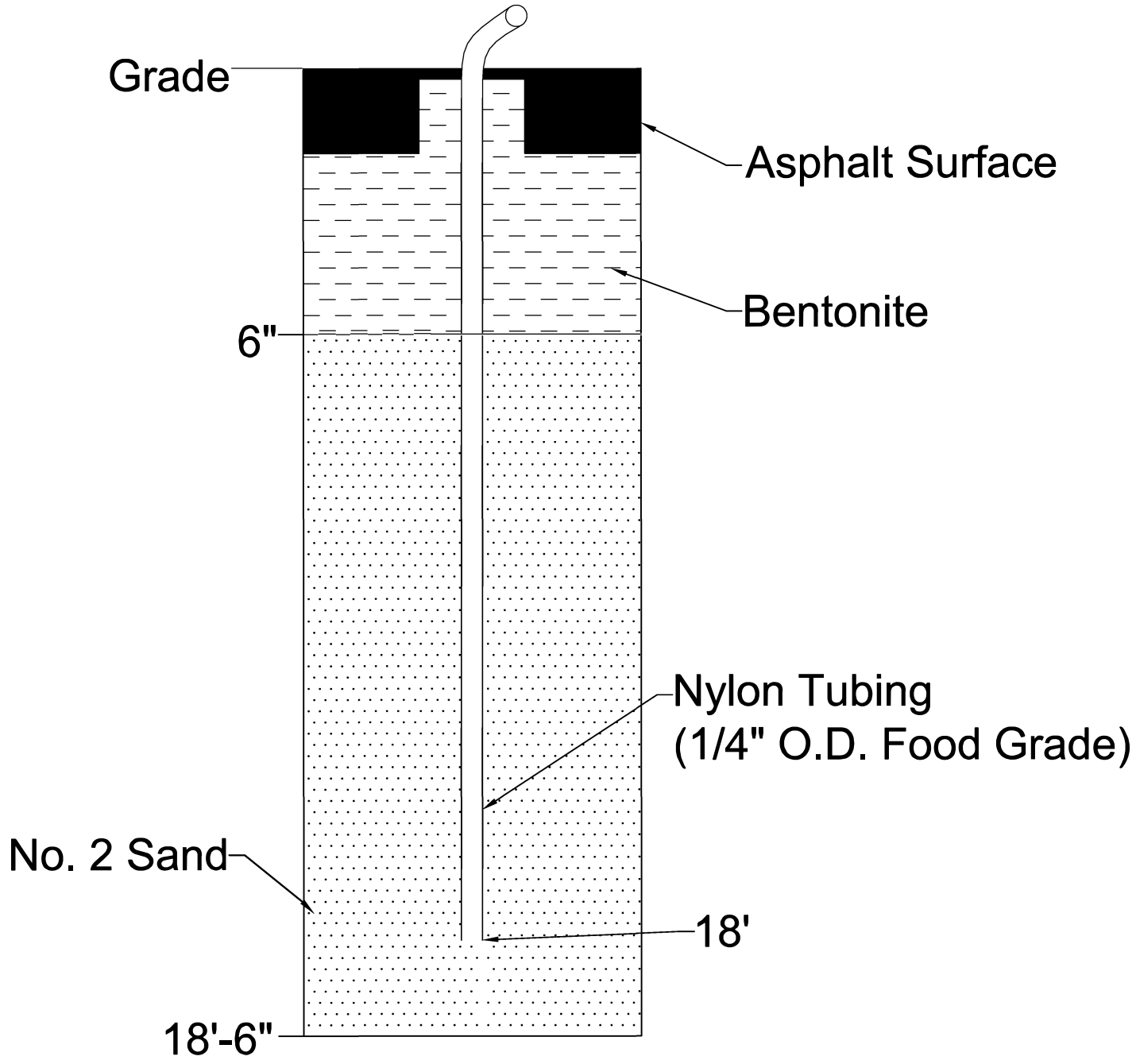
Concrete

CA RICH CONSULTANTS

Certified Groundwater and Environmental Specialists

17 Dupont Street, Plainview, New York 11803

TITLE: Typical Construction Details For Sub–Slab Soil Vapor Points		DATE: 4/13/2023
		SCALE: N.T.S.
FIGURE:	461–467 Forest Avenue Staten Island, NY	DRAWN BY: T.R.B.
DRAWING NO: 2023–1		APPR. BY: J.T.C.



Legend

- No. 2 Filter Sand
- Bentonite
- Asphalt Surface

CA RICH CONSULTANTS
Certified Groundwater and Environmental Specialists
17 Dupont Street, Plainview, New York 11803

TITLE: Typical Construction Details For Temporary Soil Vapor Points		DATE: 4/13/2023
		SCALE: N.T.S.
FIGURE:	461–467 Forest Avenue Staten Island, NY	DRAWN BY: T.R.B.
DRAWING NO: 2023–2		APPR. BY: J.T.C.

APPENDIX B
Water Quality Measurement Log

RICH ENVIRONMENTAL SPECIALISTS

Water Quality Measurement Log

Location: (Site/Facility Name)_____
Date: 12/1/22
Sampling Personnel: TG
Weather: Sunny 30s
Identify Measuring Point (MP): TOC
Well ID: MW-1
Static Depth to Water (Prior to installing pump) 20.52

Depth to: _____/_____ of screen
(Below MP) Top Bottom
Pump Intake at (ft. below MP)_____
Well Diameter: 2"
Purging Device: (Pump type) monsoon
Purge Start Time: 1200 Purge End Time:_____
Sample Start Time: 1310 Sample End Time: 1318

Clock Time 24 HR	Water Depth Below MP FT	Pump Dial [1]	Purge Rate ml/min	Cum. Volume Purged Liters	Temp. °C	Spec. Conduct.[2] uS/cm	pH	ORP/Eh[3] mv	DO mg/L	Turbidity NTU	Comments
Tolerance	**0.33 ft**				**3%**	**3%**	**± 0.1**	**± 10**	**± 0.3**	**10%**	
1225	20.52	12.4	100	1gal	9.71	1.06	7.06	143	0.97	275	
1235	20.52	12.5	100	1½gal	10.68	1.06	6.70	144	0	219	
1245	20.52	12.4	100	2gal	11.74	1.07	6.64	127	0.19	879	
1255	20.52	12.4	100	2gal	12.42	1.05	6.81	116	0	50.10	
1300	20.52	12.4	100	2gal	12.58	1.04	6.81	114	0.12	48.4	
1305	20.52	12.4	100	2gal	12.86	1.05	6.80	115	0.03	39.1	
1310	20.52	12.4	100	2gal	13.20	1.05	6.51	114	0.28	33.7	

1. Pump dial setting (Example: hertz, cycles/minute, etc)
2. uSiemens per cm (same as umhos/cm) at 25°C
3. Oxidation reduction potential (stand in for Eh)

Water Quality Measurement Log

RICH ENVIRONMENTAL SPECIALISTS

Location: (Site/Facility Name)_____
Date: 12/1/22
Sampling Personnel: JB
Weather: Sunny 30s
Identify Measuring Point (MP): TOC
Well ID: MW-N
Static Depth to Water (Prior to installing pump) 20.70

Depth to: _____/_____ of screen
(Below MP) Top Bottom
Pump Intake at (ft. below MP)_____
Well Diameter: 2"
Purging Device: (Pump type) Monsoon
Purge Start Time: 948 Purge End Time:_____
Sample Start Time: 1110 Sample End Time: 1124

Clock Time 24 HR	Water Depth Below MP FT	Pump Dial [1]	Purge Rate ml/min	Cum. Volume Purged Liters	Temp. °C	Spec. Conduct.[2] uS/cm	pH	ORP/Eh[3] mv	DO mg/L	Turbidity NTU	Comments
Tolerance	**0.33 ft**				**3%**	**3%**	**± 0.1**	**± 10**	**± 0.3**	**10%**	
1020	20.72	10.6	250	2 gal	9.89	1.10	6.55	-67	0	90.9	
1030	20.72	10.5	250	3 gal	10.37	1.03	6.70	-50	0	<7.1	
1040	20.72	10.5	250	3 gal	10.68	0.991	6.78	-37	0	24.8	
1050	20.72	10.5	250	4 gal	10.94	0.943	6.83	-10	0	12.6	
1055	20.72	10.5	250	4 gal	10.98	0.931	6.86	-2	0	9.9	
1100	20.72	10.5	250	4 gal	11.01	0.925	6.88	3	0	<7	
1105	20.72	10.5	250	5 gal	11.01	0.921	6.90	7	0	4.5	
1110	20.72	10.5	250	6 gal	10.99	0.913	6.90	8	0	4.8	

1. Pump dial setting (Example: hertz, cycles/minute, etc)
2. uSiemens per cm (same as umhos/cm) at 25°C
3. Oxidation reduction potential (stand in for Eh)

MW-XX

Water Quality Measurement Log

RICH ENVIRONMENTAL SPECIALISTS

Location: (Site/Facility Name)_____
Date: 12/1/22
Sampling Personnel: [illegible]
Weather: Sunny, 30s
Identify Measuring Point (MP): TOC
Well ID: MW-NW
Static Depth to Water (Prior to installing pump) 20.16

Depth to: _____/_____ of screen
(Below MP) Top Bottom
Pump Intake at (ft. below MP)_____
Well Diameter: 2"
Purging Device: (Pump type) Peristaltic
Purge Start Time: 745 Purge End Time:_____
Sample Start Time: 900 Sample End Time: 919

Clock Time 24 HR	Water Depth Below MP FT	Pump Dial [1]	Purge Rate ml/min	Cum. Volume Purged Liters	Temp. °C	Spec. Conduct.[2] uS/cm	pH	ORP/Eh[3] mv	DO mg/L	Turbidity NTU	Comments
Tolerance	**0.33 ft**				**3%**	**3%**	**± 0.1**	**± 10**	**± 0.3**	**10%**	
815	20.15	10.5	250	2 gal	13.05	0.864	6.03	52	0	121	
825	20.16	10.0	250	2 gal	13.12	0.841	6.83	24	0	58.6	
835	20.15	10.0	250	3 gal	13.92	0.817	7.03	21	0	33.1	
845	20.15	10.0	250	3 gal	13.90	0.812	7.10	39	0	13.7	
850	20.15	10.0	250	4 gal	13.85	0.811	7.11	43	0	9.1	
855	20.15	10.0	250	4 gal	14.03	0.812	7.11	46	0	7.2	
900	20.15	10.0	250	5 gal	13.85	0.813	7.11	49	0	4.4	

1. Pump dial setting (Example: hertz, cycles/minute, etc)
2. uSiemens per cm (same as umhos/cm) at 25°C
3. Oxidation reduction potential (stand in for Eh)

MW-NW
MW-NWMS
MW-NWMSD

APPENDIX C
Laboratory Data

ANALYTICAL REPORT

Lab Number:	L2267585
Client:	CA Rich Consultants, Inc. 17 Dupont St. Plainview, NY 11803
ATTN:	Jason Cooper
Phone:	(516) 576-8844
Project Name:	FOREST AVE SCWP IMP
Project Number:	FOREST AVE SCWP IMP
Report Date:	01/09/23

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585
Report Date: 01/09/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2267585-01	MW-1	WATER	FOREST AVE STATEN ISLAND	12/01/22 13:10	12/02/22
L2267585-02	MW-N	WATER	FOREST AVE STATEN ISLAND	12/01/22 11:10	12/02/22
L2267585-03	MW-NW	WATER	FOREST AVE STATEN ISLAND	12/01/22 09:00	12/02/22
L2267585-04	MW-XX	WATER	FOREST AVE STATEN ISLAND	12/01/22 11:20	12/02/22
L2267585-05	FIELD BLANK 12/1/22	WATER	FOREST AVE STATEN ISLAND	12/01/22 09:30	12/02/22
L2267585-06	EQUIPMENT BLANK 12/1/22	WATER	FOREST AVE STATEN ISLAND	12/01/22 09:40	12/02/22
L2267585-07	TRIP BLANK 12/1/22	WATER	FOREST AVE STATEN ISLAND	12/01/22 00:00	12/02/22

Project Name:	FOREST AVE SCWP IMP	**Lab Number:**	L2267585
Project Number:	FOREST AVE SCWP IMP	**Report Date:**	01/09/23

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:	FOREST AVE SCWP IMP	**Lab Number:**	L2267585
Project Number:	FOREST AVE SCWP IMP	**Report Date:**	01/09/23

Case Narrative (continued)

Report Submission

January 09, 2023: This final report includes the results of all requested analyses.

December 23, 2022: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

The analyses performed were specified by the client.

Perfluorinated Alkyl Acids by Isotope Dilution

L2267585-02: The MeOH fraction of the extraction is reported for perfluorooctanesulfonamide (fosa) due to better extraction efficiency of the perfluoro[13c8]octanesulfonamide (m8fosa) Extracted Internal Standard.

L2267585-05, -06, WG1727978-1, WG1727978-2, and WG1727978-3: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

The Extracted Internal Standard recovery for the WG1727978-3 MS, associated with L2267585-01 through -06, is below the acceptance criteria (less than 10%) for perfluoro[13c8]octanesulfonamide (m8fosa) (9%); however, all associated target analytes are within MS criteria; therefore, no further action was taken.

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: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative Date: 01/09/23

ORGANICS

VOLATILES

Project Name: FOREST AVE SCWP IMP
Lab Number: L2267585
Project Number: FOREST AVE SCWP IMF
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-01
Client ID: MW-1
Sample Location: FOREST AVE STATEN ISLAND
Date Collected: 12/01/22 13:10
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 12/07/22 16:17
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	1.1	J	ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	80		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: FOREST AVE SCWP IMP **Lab Number:** L2267585

Project Number: FOREST AVE SCWP IMF **Report Date:** 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-01 Date Collected: 12/01/22 13:10

Client ID: MW-1 Date Received: 12/02/22

Sample Location: FOREST AVE STATEN ISLAND Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	0.52		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: FOREST AVE SCWP IMP
Lab Number: L2267585
Project Number: FOREST AVE SCWP IMF
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-01
Client ID: MW-1
Sample Location: FOREST AVE STATEN ISLAND

Date Collected: 12/01/22 13:10
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	99		70-130

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMF
Lab Number: L2267585
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-02
Client ID: MW-N
Sample Location: FOREST AVE STATEN ISLAND
Date Collected: 12/01/22 11:10
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 12/07/22 16:36
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	1.0	J	ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	38		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: FOREST AVE SCWP IMP **Lab Number:** L2267585

Project Number: FOREST AVE SCWP IMF **Report Date:** 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-02 Date Collected: 12/01/22 11:10

Client ID: MW-N Date Received: 12/02/22

Sample Location: FOREST AVE STATEN ISLAND Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	0.78		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	1.2	J	ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	1.2	J	ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: FOREST AVE SCWP IMP **Lab Number:** L2267585

Project Number: FOREST AVE SCWP IMF **Report Date:** 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-02 Date Collected: 12/01/22 11:10

Client ID: MW-N Date Received: 12/02/22

Sample Location: FOREST AVE STATEN ISLAND Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	103		70-130

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMF
Lab Number: L2267585
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-03
Client ID: MW-NW
Sample Location: FOREST AVE STATEN ISLAND
Date Collected: 12/01/22 09:00
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 12/07/22 16:56
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	1.1	J	ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	8.2		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: FOREST AVE SCWP IMP **Lab Number:** L2267585

Project Number: FOREST AVE SCWP IMF **Report Date:** 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-03 Date Collected: 12/01/22 09:00

Client ID: MW-NW Date Received: 12/02/22

Sample Location: FOREST AVE STATEN ISLAND Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	4.6	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: FOREST AVE SCWP IMP
Lab Number: L2267585
Project Number: FOREST AVE SCWP IMF
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-03
Client ID: MW-NW
Sample Location: FOREST AVE STATEN ISLAND
Date Collected: 12/01/22 09:00
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	107		70-130

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMF

Lab Number: L2267585
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-04
Client ID: MW-XX
Sample Location: FOREST AVE STATEN ISLAND

Date Collected: 12/01/22 11:20
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 12/07/22 17:15
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	1.1	J	ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	40		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: FOREST AVE SCWP IMP **Lab Number:** L2267585

Project Number: FOREST AVE SCWP IMF **Report Date:** 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-04 Date Collected: 12/01/22 11:20

Client ID: MW-XX Date Received: 12/02/22

Sample Location: FOREST AVE STATEN ISLAND Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	0.84		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	1.3	J	ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	1.3	J	ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: FOREST AVE SCWP IMP
Lab Number: L2267585
Project Number: FOREST AVE SCWP IMF
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-04
Client ID: MW-XX
Sample Location: FOREST AVE STATEN ISLAND
Date Collected: 12/01/22 11:20
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	105		70-130

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMF
Lab Number: L2267585
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-05
Client ID: FIELD BLANK 12/1/22
Sample Location: FOREST AVE STATEN ISLAND
Date Collected: 12/01/22 09:30
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 12/12/22 19:11
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: FOREST AVE SCWP IMP **Lab Number:** L2267585

Project Number: FOREST AVE SCWP IMF **Report Date:** 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-05 Date Collected: 12/01/22 09:30

Client ID: FIELD BLANK 12/1/22 Date Received: 12/02/22

Sample Location: FOREST AVE STATEN ISLAND Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	2.6	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: FOREST AVE SCWP IMP **Lab Number:** L2267585

Project Number: FOREST AVE SCWP IMF **Report Date:** 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-05 Date Collected: 12/01/22 09:30

Client ID: FIELD BLANK 12/1/22 Date Received: 12/02/22

Sample Location: FOREST AVE STATEN ISLAND Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	109		70-130

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMF

Lab Number: L2267585
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-06
Client ID: EQUIPMENT BLANK 12/1/22
Sample Location: FOREST AVE STATEN ISLAND

Date Collected: 12/01/22 09:40
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 12/12/22 19:31
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: FOREST AVE SCWP IMP **Lab Number:** L2267585

Project Number: FOREST AVE SCWP IMF **Report Date:** 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-06 Date Collected: 12/01/22 09:40

Client ID: EQUIPMENT BLANK 12/1/22 Date Received: 12/02/22

Sample Location: FOREST AVE STATEN ISLAND Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	2.3	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: FOREST AVE SCWP IMP **Lab Number:** L2267585

Project Number: FOREST AVE SCWP IMF **Report Date:** 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-06 Date Collected: 12/01/22 09:40

Client ID: EQUIPMENT BLANK 12/1/22 Date Received: 12/02/22

Sample Location: FOREST AVE STATEN ISLAND Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	113		70-130

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMF

Lab Number: L2267585
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-07
Client ID: TRIP BLANK 12/1/22
Sample Location: FOREST AVE STATEN ISLAND

Date Collected: 12/01/22 00:00
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 12/12/22 19:51
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: FOREST AVE SCWP IMP **Lab Number:** L2267585

Project Number: FOREST AVE SCWP IMF **Report Date:** 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-07 Date Collected: 12/01/22 00:00

Client ID: TRIP BLANK 12/1/22 Date Received: 12/02/22

Sample Location: FOREST AVE STATEN ISLAND Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	1.7	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: FOREST AVE SCWP IMP **Lab Number:** L2267585

Project Number: FOREST AVE SCWP IMF **Report Date:** 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-07 Date Collected: 12/01/22 00:00

Client ID: TRIP BLANK 12/1/22 Date Received: 12/02/22

Sample Location: FOREST AVE STATEN ISLAND Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	111		70-130

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP
Lab Number: L2267585
Report Date: 01/09/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 12/07/22 10:46
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1720955-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.70
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP
Lab Number: L2267585
Report Date: 01/09/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 12/07/22 10:46
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1720955-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
Xylenes, Total	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Acrylonitrile	ND		ug/l	5.0	1.5
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	1.0
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP
Lab Number: L2267585
Report Date: 01/09/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 12/07/22 10:46
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1720955-5					
o-Chlorotoluene	ND		ug/l	2.5	0.70
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.
p-Diethylbenzene	ND		ug/l	2.0	0.70
p-Ethyltoluene	ND		ug/l	2.0	0.70
1,2,4,5-Tetramethylbenzene	1.0	J	ug/l	2.0	0.54
Ethyl ether	ND		ug/l	2.5	0.70
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	106		70-130

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP
Lab Number: L2267585
Report Date: 01/09/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 12/12/22 18:51
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 05-07 Batch: WG1722796-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.70
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP
Lab Number: L2267585
Report Date: 01/09/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 12/12/22 18:51
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 05-07 Batch: WG1722796-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
Xylenes, Total	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Acrylonitrile	ND		ug/l	5.0	1.5
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	1.0
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP
Lab Number: L2267585
Report Date: 01/09/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 12/12/22 18:51
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 05-07 Batch: WG1722796-5					
o-Chlorotoluene	ND		ug/l	2.5	0.70
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.
p-Diethylbenzene	ND		ug/l	2.0	0.70
p-Ethyltoluene	ND		ug/l	2.0	0.70
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54
Ethyl ether	ND		ug/l	2.5	0.70
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	112		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585
Report Date: 01/09/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1720955-3 WG1720955-4								
Methylene chloride	110		120		70-130	9		20
1,1-Dichloroethane	120		130		70-130	8		20
Chloroform	110		110		70-130	0		20
Carbon tetrachloride	100		110		63-132	10		20
1,2-Dichloropropane	120		130		70-130	8		20
Dibromochloromethane	94		99		63-130	5		20
1,1,2-Trichloroethane	100		100		70-130	0		20
Tetrachloroethene	110		120		70-130	9		20
Chlorobenzene	110		120		75-130	9		20
Trichlorofluoromethane	83		88		62-150	6		20
1,2-Dichloroethane	100		110		70-130	10		20
1,1,1-Trichloroethane	110		110		67-130	0		20
Bromodichloromethane	100		100		67-130	0		20
trans-1,3-Dichloropropene	92		96		70-130	4		20
cis-1,3-Dichloropropene	99		100		70-130	1		20
1,1-Dichloropropene	100		110		70-130	10		20
Bromoform	87		90		54-136	3		20
1,1,2,2-Tetrachloroethane	100		100		67-130	0		20
Benzene	120		120		70-130	0		20
Toluene	110		120		70-130	9		20
Ethylbenzene	110		120		70-130	9		20
Chloromethane	**140**	Q	**150**	Q	64-130	7		20
Bromomethane	72		78		39-139	8		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: FOREST AVE SCWP IMP

Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585

Report Date: 01/09/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1720955-3 WG1720955-4								
Vinyl chloride	120		130		55-140	8		20
Chloroethane	95		96		55-138	1		20
1,1-Dichloroethene	87		89		61-145	2		20
trans-1,2-Dichloroethene	110		110		70-130	0		20
Trichloroethene	110		120		70-130	9		20
1,2-Dichlorobenzene	110		110		70-130	0		20
1,3-Dichlorobenzene	110		110		70-130	0		20
1,4-Dichlorobenzene	110		110		70-130	0		20
Methyl tert butyl ether	98		100		63-130	2		20
p/m-Xylene	115		120		70-130	4		20
o-Xylene	110		115		70-130	4		20
cis-1,2-Dichloroethene	110		120		70-130	9		20
Dibromomethane	94		99		70-130	5		20
1,2,3-Trichloropropane	100		100		64-130	0		20
Acrylonitrile	120		130		70-130	8		20
Styrene	110		115		70-130	4		20
Dichlorodifluoromethane	98		100		36-147	2		20
Acetone	130		140		58-148	7		20
Carbon disulfide	64		66		51-130	3		20
2-Butanone	130		120		63-138	8		20
Vinyl acetate	110		100		70-130	10		20
4-Methyl-2-pentanone	110		120		59-130	9		20
2-Hexanone	130		**140**	Q	57-130	7		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585
Report Date: 01/09/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1720955-3 WG1720955-4								
Bromochloromethane	100		100		70-130	0		20
2,2-Dichloropropane	110		110		63-133	0		20
1,2-Dibromoethane	98		100		70-130	2		20
1,3-Dichloropropane	100		110		70-130	10		20
1,1,1,2-Tetrachloroethane	100		110		64-130	10		20
Bromobenzene	110		110		70-130	0		20
n-Butylbenzene	97		100		53-136	3		20
sec-Butylbenzene	110		110		70-130	0		20
tert-Butylbenzene	110		110		70-130	0		20
o-Chlorotoluene	120		120		70-130	0		20
p-Chlorotoluene	120		120		70-130	0		20
1,2-Dibromo-3-chloropropane	100		100		41-144	0		20
Hexachlorobutadiene	100		110		63-130	10		20
Isopropylbenzene	120		120		70-130	0		20
p-Isopropyltoluene	100		110		70-130	10		20
Naphthalene	96		100		70-130	4		20
n-Propylbenzene	120		120		69-130	0		20
1,2,3-Trichlorobenzene	96		99		70-130	3		20
1,2,4-Trichlorobenzene	95		100		70-130	5		20
1,3,5-Trimethylbenzene	110		120		64-130	9		20
1,2,4-Trimethylbenzene	110		120		70-130	9		20
1,4-Dioxane	130		148		56-162	13		20
p-Diethylbenzene	100		100		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: FOREST AVE SCWP IMP

Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585

Report Date: 01/09/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1720955-3 WG1720955-4								
p-Ethyltoluene	120		120		70-130	0		20
1,2,4,5-Tetramethylbenzene	100		100		70-130	0		20
Ethyl ether	77		81		59-134	5		20
trans-1,4-Dichloro-2-butene	100		100		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		91		70-130
Toluene-d8	101		104		70-130
4-Bromofluorobenzene	108		110		70-130
Dibromofluoromethane	91		91		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585
Report Date: 01/09/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05-07 Batch: WG1722796-3 WG1722796-4								
Methylene chloride	100		97		70-130	3		20
1,1-Dichloroethane	110		110		70-130	0		20
Chloroform	100		94		70-130	6		20
Carbon tetrachloride	95		90		63-132	5		20
1,2-Dichloropropane	100		100		70-130	0		20
Dibromochloromethane	89		90		63-130	1		20
1,1,2-Trichloroethane	95		98		70-130	3		20
Tetrachloroethene	94		94		70-130	0		20
Chlorobenzene	95		95		75-130	0		20
Trichlorofluoromethane	73		69		62-150	6		20
1,2-Dichloroethane	100		98		70-130	2		20
1,1,1-Trichloroethane	95		89		67-130	7		20
Bromodichloromethane	92		90		67-130	2		20
trans-1,3-Dichloropropene	87		88		70-130	1		20
cis-1,3-Dichloropropene	87		86		70-130	1		20
1,1-Dichloropropene	97		92		70-130	5		20
Bromoform	74		80		54-136	8		20
1,1,2,2-Tetrachloroethane	91		95		67-130	4		20
Benzene	100		97		70-130	3		20
Toluene	96		95		70-130	1		20
Ethylbenzene	94		92		70-130	2		20
Chloromethane	120		110		64-130	9		20
Bromomethane	60		53		39-139	12		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585
Report Date: 01/09/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05-07 Batch: WG1722796-3 WG1722796-4								
Vinyl chloride	110		110		55-140	0		20
Chloroethane	77		74		55-138	4		20
1,1-Dichloroethene	77		73		61-145	5		20
trans-1,2-Dichloroethene	100		97		70-130	3		20
Trichloroethene	96		93		70-130	3		20
1,2-Dichlorobenzene	90		91		70-130	1		20
1,3-Dichlorobenzene	92		91		70-130	1		20
1,4-Dichlorobenzene	91		91		70-130	0		20
Methyl tert butyl ether	88		88		63-130	0		20
p/m-Xylene	95		90		70-130	5		20
o-Xylene	90		90		70-130	0		20
cis-1,2-Dichloroethene	99		96		70-130	3		20
Dibromomethane	91		87		70-130	4		20
1,2,3-Trichloropropane	86		88		64-130	2		20
Acrylonitrile	120		120		70-130	0		20
Styrene	90		90		70-130	0		20
Dichlorodifluoromethane	94		88		36-147	7		20
Acetone	120		130		58-148	8		20
Carbon disulfide	82		77		51-130	6		20
2-Butanone	110		110		63-138	0		20
Vinyl acetate	120		120		70-130	0		20
4-Methyl-2-pentanone	89		96		59-130	8		20
2-Hexanone	93		99		57-130	6		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585
Report Date: 01/09/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05-07 Batch: WG1722796-3 WG1722796-4								
Bromochloromethane	100		96		70-130	4		20
2,2-Dichloropropane	96		91		63-133	5		20
1,2-Dibromoethane	89		91		70-130	2		20
1,3-Dichloropropane	96		97		70-130	1		20
1,1,1,2-Tetrachloroethane	87		87		64-130	0		20
Bromobenzene	89		89		70-130	0		20
n-Butylbenzene	96		93		53-136	3		20
sec-Butylbenzene	94		92		70-130	2		20
tert-Butylbenzene	92		90		70-130	2		20
o-Chlorotoluene	96		95		70-130	1		20
p-Chlorotoluene	96		95		70-130	1		20
1,2-Dibromo-3-chloropropane	80		84		41-144	5		20
Hexachlorobutadiene	92		96		63-130	4		20
Isopropylbenzene	90		89		70-130	1		20
p-Isopropyltoluene	92		91		70-130	1		20
Naphthalene	84		86		70-130	2		20
n-Propylbenzene	95		93		69-130	2		20
1,2,3-Trichlorobenzene	90		92		70-130	2		20
1,2,4-Trichlorobenzene	92		93		70-130	1		20
1,3,5-Trimethylbenzene	94		90		64-130	4		20
1,2,4-Trimethylbenzene	93		92		70-130	1		20
1,4-Dioxane	100		98		56-162	2		20
p-Diethylbenzene	90		89		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585
Report Date: 01/09/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05-07 Batch: WG1722796-3 WG1722796-4								
p-Ethyltoluene	94		92		70-130	2		20
1,2,4,5-Tetramethylbenzene	88		87		70-130	1		20
Ethyl ether	74		72		59-134	3		20
trans-1,4-Dichloro-2-butene	98		94		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	104		101		70-130
Toluene-d8	103		104		70-130
4-Bromofluorobenzene	100		101		70-130
Dibromofluoromethane	102		100		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP
Lab Number: L2267585
Report Date: 01/09/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1720955-6 WG1720955-7 QC Sample: L2267585-03 Client ID: MW-NW												
Methylene chloride	ND	10	12	120		12	120		70-130	0		20
1,1-Dichloroethane	ND	10	14	**140**	Q	14	**140**	Q	70-130	0		20
Chloroform	1.1J	10	13	130		14	**140**	Q	70-130	7		20
Carbon tetrachloride	ND	10	12	120		13	130		63-132	8		20
1,2-Dichloropropane	ND	10	13	130		14	**140**	Q	70-130	7		20
Dibromochloromethane	ND	10	10	100		11	110		63-130	10		20
1,1,2-Trichloroethane	ND	10	11	110		12	120		70-130	9		20
Tetrachloroethene	8.2	10	20	118		20	118		70-130	0		20
Chlorobenzene	ND	10	12	120		12	120		75-130	0		20
Trichlorofluoromethane	ND	10	10	100		10	100		62-150	0		20
1,2-Dichloroethane	ND	10	12	120		12	120		70-130	0		20
1,1,1-Trichloroethane	ND	10	12	120		13	130		67-130	8		20
Bromodichloromethane	ND	10	11	110		11	110		67-130	0		20
trans-1,3-Dichloropropene	ND	10	9.5	95		10	100		70-130	5		20
cis-1,3-Dichloropropene	ND	10	10	100		10	100		70-130	0		20
1,1-Dichloropropene	ND	10	12	120		12	120		70-130	0		20
Bromoform	ND	10	9.0	90		9.4	94		54-136	4		20
1,1,2,2-Tetrachloroethane	ND	10	10	100		11	110		67-130	10		20
Benzene	ND	10	13	130		13	130		70-130	0		20
Toluene	ND	10	12	120		12	120		70-130	0		20
Ethylbenzene	ND	10	12	120		12	120		70-130	0		20
Chloromethane	ND	10	18	**180**	Q	18	**180**	Q	64-130	0		20
Bromomethane	ND	10	5.9	59		6.5	65		39-139	10		20

Matrix Spike Analysis

Batch Quality Control

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP
Lab Number: L2267585
Report Date: 01/09/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1720955-6 WG1720955-7 QC Sample: L2267585-03 Client ID: MW-NW												
Vinyl chloride	ND	10	15	**150**	Q	14	140		55-140	7		20
Chloroethane	ND	10	11	110		11	110		55-138	0		20
1,1-Dichloroethene	ND	10	10	100		9.7	97		61-145	3		20
trans-1,2-Dichloroethene	ND	10	12	120		12	120		70-130	0		20
Trichloroethene	ND	10	13	130		13	130		70-130	0		20
1,2-Dichlorobenzene	ND	10	11	110		12	120		70-130	9		20
1,3-Dichlorobenzene	ND	10	11	110		12	120		70-130	9		20
1,4-Dichlorobenzene	ND	10	11	110		11	110		70-130	0		20
Methyl tert butyl ether	ND	10	10	100		10	100		63-130	0		20
p/m-Xylene	ND	20	25	125		25	125		70-130	0		20
o-Xylene	ND	20	24	120		24	120		70-130	0		20
cis-1,2-Dichloroethene	ND	10	12	120		12	120		70-130	0		20
Dibromomethane	ND	10	11	110		11	110		70-130	0		20
1,2,3-Trichloropropane	ND	10	10	100		11	110		64-130	10		20
Acrylonitrile	ND	10	14	**140**	Q	14	**140**	Q	70-130	0		20
Styrene	ND	20	23	115		24	120		70-130	4		20
Dichlorodifluoromethane	ND	10	12	120		12	120		36-147	0		20
Acetone	4.6J	10	18	**180**	Q	18	**180**	Q	58-148	0		20
Carbon disulfide	ND	10	7.5	75		7.4	74		51-130	1		20
2-Butanone	ND	10	14	**140**	Q	15	**150**	Q	63-138	7		20
Vinyl acetate	ND	10	12	120		11	110		70-130	9		20
4-Methyl-2-pentanone	ND	10	12	120		13	130		59-130	8		20
2-Hexanone	ND	10	14	**140**	Q	14	**140**	Q	57-130	0		20

Matrix Spike Analysis

Batch Quality Control

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585
Report Date: 01/09/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1720955-6 WG1720955-7 QC Sample: L2267585-03 Client ID: MW-NW												
Bromochloromethane	ND	10	11	110		11	110		70-130	0		20
2,2-Dichloropropane	ND	10	12	120		11	110		63-133	9		20
1,2-Dibromoethane	ND	10	10	100		11	110		70-130	10		20
1,3-Dichloropropane	ND	10	11	110		11	110		70-130	0		20
1,1,1,2-Tetrachloroethane	ND	10	11	110		11	110		64-130	0		20
Bromobenzene	ND	10	11	110		11	110		70-130	0		20
n-Butylbenzene	ND	10	10	100		10	100		53-136	0		20
sec-Butylbenzene	ND	10	11	110		11	110		70-130	0		20
tert-Butylbenzene	ND	10	11	110		11	110		70-130	0		20
o-Chlorotoluene	ND	10	12	120		12	120		70-130	0		20
p-Chlorotoluene	ND	10	12	120		13	130		70-130	8		20
1,2-Dibromo-3-chloropropane	ND	10	11	110		10	100		41-144	10		20
Hexachlorobutadiene	ND	10	11	110		11	110		63-130	0		20
Isopropylbenzene	ND	10	12	120		12	120		70-130	0		20
p-Isopropyltoluene	ND	10	10	100		11	110		70-130	10		20
Naphthalene	ND	10	9.3	93		9.9	99		70-130	6		20
n-Propylbenzene	ND	10	12	120		12	120		69-130	0		20
1,2,3-Trichlorobenzene	ND	10	9.8	98		10	100		70-130	2		20
1,2,4-Trichlorobenzene	ND	10	9.9	99		10	100		70-130	1		20
1,3,5-Trimethylbenzene	ND	10	12	120		12	120		64-130	0		20
1,2,4-Trimethylbenzene	ND	10	12	120		12	120		70-130	0		20
1,4-Dioxane	ND	500	460	92		620	124		56-162	**30**	Q	20
p-Diethylbenzene	ND	10	10	100		11	110		70-130	10		20

Matrix Spike Analysis

Batch Quality Control

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585
Report Date: 01/09/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1720955-6 WG1720955-7 QC Sample: L2267585-03 Client ID: MW-NW												
p-Ethyltoluene	ND	10	12	120		12	120		70-130	0		20
1,2,4,5-Tetramethylbenzene	ND	10	10	100		10	100		70-130	0		20
Ethyl ether	ND	10	7.9	79		8.6	86		59-134	8		20
trans-1,4-Dichloro-2-butene	ND	10	10	100		11	110		70-130	10		20

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		96		70-130
4-Bromofluorobenzene	108		108		70-130
Dibromofluoromethane	93		96		70-130
Toluene-d8	101		100		70-130

SEMIVOLATILES

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMF

Lab Number: L2267585
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-01
Client ID: MW-1
Sample Location: FOREST AVE STATEN ISLAND

Date Collected: 12/01/22 13:10
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 12/17/22 07:47
Analyst: TPR

Extraction Method: EPA 3510C
Extraction Date: 12/08/22 20:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270E-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	147	33.2	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	38		15-110

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMF
Lab Number: L2267585
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-01
Client ID: MW-1
Sample Location: FOREST AVE STATEN ISLAND

Date Collected: 12/01/22 13:10
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 12/30/22 22:23
Analyst: RS

Extraction Method: ALPHA 23528
Extraction Date: 12/28/22 08:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	8.20		ng/l	1.72	0.350	1
Perfluoropentanoic Acid (PFPeA)	15.7		ng/l	1.72	0.340	1
Perfluorobutanesulfonic Acid (PFBS)	4.94		ng/l	1.72	0.204	1
Perfluorohexanoic Acid (PFHxA)	15.7		ng/l	1.72	0.281	1
Perfluoroheptanoic Acid (PFHpA)	17.1		ng/l	1.72	0.193	1
Perfluorohexanesulfonic Acid (PFHxS)	2.78		ng/l	1.72	0.322	1
Perfluorooctanoic Acid (PFOA)	200		ng/l	1.72	0.202	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.72	1.14	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.789	J	ng/l	1.72	0.590	1
Perfluorononanoic Acid (PFNA)	1.65	JF	ng/l	1.72	0.268	1
Perfluorooctanesulfonic Acid (PFOS)	16.3		ng/l	1.72	0.432	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.72	0.261	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.72	1.04	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.72	0.556	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.72	0.223	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.72	0.840	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.72	0.497	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.72	0.690	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.72	0.319	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.72	0.281	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.72	0.213	1
PFOA/PFOS, Total	216		ng/l	1.72	0.202	1

Project Name: FOREST AVE SCWP IMP
Lab Number: L2267585
Project Number: FOREST AVE SCWP IMF
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-01
Client ID: MW-1
Sample Location: FOREST AVE STATEN ISLAND
Date Collected: 12/01/22 13:10
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	82		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	70		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	97		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	87		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	91		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	103		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	87		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	93		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	82		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	104		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	96		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	104		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	111		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	104		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	12		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	77		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	91		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	81		22-136

Project Name: FOREST AVE SCWP IMP
Lab Number: L2267585
Project Number: FOREST AVE SCWP IMF
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-02
Client ID: MW-N
Sample Location: FOREST AVE STATEN ISLAND

Date Collected: 12/01/22 11:10
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 12/17/22 08:10
Analyst: TPR

Extraction Method: EPA 3510C
Extraction Date: 12/08/22 20:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270E-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	142	32.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	35		15-110

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMF

Lab Number: L2267585
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-02
Client ID: MW-N
Sample Location: FOREST AVE STATEN ISLAND

Date Collected: 12/01/22 11:10
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/06/23 04:25
Analyst: JW

Extraction Method: ALPHA 23528
Extraction Date: 12/28/22 08:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.81	0.526	1

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	74		10-112

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMF

Lab Number: L2267585
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-02
Client ID: MW-N
Sample Location: FOREST AVE STATEN ISLAND

Date Collected: 12/01/22 11:10
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 12/30/22 22:39
Analyst: RS

Extraction Method: ALPHA 23528
Extraction Date: 12/28/22 08:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	9.53		ng/l	1.81	0.370	1
Perfluoropentanoic Acid (PFPeA)	15.2		ng/l	1.81	0.359	1
Perfluorobutanesulfonic Acid (PFBS)	10.2		ng/l	1.81	0.216	1
Perfluorohexanoic Acid (PFHxA)	15.1		ng/l	1.81	0.297	1
Perfluoroheptanoic Acid (PFHpA)	19.2		ng/l	1.81	0.204	1
Perfluorohexanesulfonic Acid (PFHxS)	2.94		ng/l	1.81	0.341	1
Perfluorooctanoic Acid (PFOA)	243		ng/l	1.81	0.214	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.81	1.21	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.81	0.624	1
Perfluorononanoic Acid (PFNA)	1.74	J	ng/l	1.81	0.283	1
Perfluorooctanesulfonic Acid (PFOS)	12.5		ng/l	1.81	0.457	1
Perfluorodecanoic Acid (PFDA)	0.544	J	ng/l	1.81	0.276	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.81	1.10	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.81	0.587	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.81	0.236	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.81	0.888	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.81	0.729	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.81	0.337	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.81	0.296	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.81	0.225	1
PFOA/PFOS, Total	256		ng/l	1.81	0.214	1

Project Name: FOREST AVE SCWP IMP
Lab Number: L2267585
Project Number: FOREST AVE SCWP IMF
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-02
Client ID: MW-N
Sample Location: FOREST AVE STATEN ISLAND
Date Collected: 12/01/22 11:10
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	86		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	68		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	93		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	91		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	96		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	104		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	89		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	98		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	83		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	101		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	93		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	108		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	113		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	97		55-137
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	75		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	80		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	68		22-136

Project Name: FOREST AVE SCWP IMP
Lab Number: L2267585
Project Number: FOREST AVE SCWP IMF
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-03
Client ID: MW-NW
Sample Location: FOREST AVE STATEN ISLAND

Date Collected: 12/01/22 09:00
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 12/17/22 07:23
Analyst: TPR

Extraction Method: EPA 3510C
Extraction Date: 12/08/22 20:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270E-SIM - Mansfield Lab						
1,4-Dioxane	68.5	J	ng/l	147	33.2	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	35		15-110

Project Name: FOREST AVE SCWP IMP
Lab Number: L2267585
Project Number: FOREST AVE SCWP IMF
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-03
Client ID: MW-NW
Sample Location: FOREST AVE STATEN ISLAND

Date Collected: 12/01/22 09:00
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 12/30/22 22:56
Analyst: RS

Extraction Method: ALPHA 23528
Extraction Date: 12/28/22 08:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	9.01		ng/l	1.87	0.381	1
Perfluoropentanoic Acid (PFPeA)	13.4		ng/l	1.87	0.370	1
Perfluorobutanesulfonic Acid (PFBS)	8.60		ng/l	1.87	0.222	1
Perfluorohexanoic Acid (PFHxA)	14.9		ng/l	1.87	0.306	1
Perfluoroheptanoic Acid (PFHpA)	19.4		ng/l	1.87	0.210	1
Perfluorohexanesulfonic Acid (PFHxS)	2.65		ng/l	1.87	0.351	1
Perfluorooctanoic Acid (PFOA)	240		ng/l	1.87	0.220	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	5.31		ng/l	1.87	1.24	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.87	0.643	1
Perfluorononanoic Acid (PFNA)	1.76	JF	ng/l	1.87	0.291	1
Perfluorooctanesulfonic Acid (PFOS)	10.6		ng/l	1.87	0.471	1
Perfluorodecanoic Acid (PFDA)	0.673	J	ng/l	1.87	0.284	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.87	1.13	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.87	0.605	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.87	0.243	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.87	0.916	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.87	0.542	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.87	0.751	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.87	0.348	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.87	0.306	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.87	0.232	1
PFOA/PFOS, Total	251		ng/l	1.87	0.220	1

Project Name: FOREST AVE SCWP IMP
Lab Number: L2267585
Project Number: FOREST AVE SCWP IMF
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-03
Client ID: MW-NW
Sample Location: FOREST AVE STATEN ISLAND
Date Collected: 12/01/22 09:00
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	84		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	72		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	97		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	92		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	92		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	99		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	85		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	93		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	79		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	100		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	91		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	92		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	96		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	89		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	10		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	74		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	75		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	73		22-136

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMF

Lab Number: L2267585
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-04
Client ID: MW-XX
Sample Location: FOREST AVE STATEN ISLAND

Date Collected: 12/01/22 11:20
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 12/17/22 10:22
Analyst: TPR

Extraction Method: EPA 3510C
Extraction Date: 12/08/22 20:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270E-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	147	33.2	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	37		15-110

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMF
Lab Number: L2267585
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-04
Client ID: MW-XX
Sample Location: FOREST AVE STATEN ISLAND

Date Collected: 12/01/22 11:20
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 12/30/22 23:45
Analyst: RS

Extraction Method: ALPHA 23528
Extraction Date: 12/28/22 08:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	8.79		ng/l	1.85	0.377	1
Perfluoropentanoic Acid (PFPeA)	14.7		ng/l	1.85	0.366	1
Perfluorobutanesulfonic Acid (PFBS)	8.94		ng/l	1.85	0.220	1
Perfluorohexanoic Acid (PFHxA)	14.5		ng/l	1.85	0.303	1
Perfluoroheptanoic Acid (PFHpA)	18.5		ng/l	1.85	0.208	1
Perfluorohexanesulfonic Acid (PFHxS)	2.77		ng/l	1.85	0.347	1
Perfluorooctanoic Acid (PFOA)	243		ng/l	1.85	0.218	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.85	1.23	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.85	0.635	1
Perfluorononanoic Acid (PFNA)	1.74	J	ng/l	1.85	0.288	1
Perfluorooctanesulfonic Acid (PFOS)	11.8		ng/l	1.85	0.465	1
Perfluorodecanoic Acid (PFDA)	0.369	J	ng/l	1.85	0.281	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.85	1.12	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.85	0.598	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.85	0.240	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.85	0.905	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.85	0.535	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.85	0.742	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.85	0.343	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.85	0.302	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.85	0.229	1
PFOA/PFOS, Total	255		ng/l	1.85	0.218	1

Project Name: FOREST AVE SCWP IMP **Lab Number:** L2267585

Project Number: FOREST AVE SCWP IMF **Report Date:** 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-04 Date Collected: 12/01/22 11:20

Client ID: MW-XX Date Received: 12/02/22

Sample Location: FOREST AVE STATEN ISLAND Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	91		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	77		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	102		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	103		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	96		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	114		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	91		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	105		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	83		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	109		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	97		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	106		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	113		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	97		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	29		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	74		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	81		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	70		22-136

Project Name: FOREST AVE SCWP IMP
Lab Number: L2267585
Project Number: FOREST AVE SCWP IMF
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-05
Client ID: FIELD BLANK 12/1/22
Sample Location: FOREST AVE STATEN ISLAND

Date Collected: 12/01/22 09:30
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 12/12/22 15:17
Analyst: TPR

Extraction Method: EPA 3510C
Extraction Date: 12/08/22 22:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270E-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	136	30.8	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	48		15-110

Project Name: FOREST AVE SCWP IMP
Lab Number: L2267585
Project Number: FOREST AVE SCWP IMF
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-05
Client ID: FIELD BLANK 12/1/22
Sample Location: FOREST AVE STATEN ISLAND

Date Collected: 12/01/22 09:30
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 12/31/22 00:01
Analyst: RS

Extraction Method: ALPHA 23528
Extraction Date: 12/28/22 08:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.77	0.362	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.77	0.351	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.77	0.211	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.77	0.291	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.77	0.200	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.77	0.333	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.77	0.209	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.77	1.18	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.77	0.610	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.77	0.276	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.77	0.447	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.77	0.269	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.77	1.07	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.77	0.574	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.77	0.230	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.77	0.868	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.77	0.514	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.77	0.712	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.77	0.330	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.77	0.290	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.77	0.220	1
PFOA/PFOS, Total	ND		ng/l	1.77	0.209	1

Project Name: FOREST AVE SCWP IMP **Lab Number:** L2267585

Project Number: FOREST AVE SCWP IMF **Report Date:** 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-05 Date Collected: 12/01/22 09:30

Client ID: FIELD BLANK 12/1/22 Date Received: 12/02/22

Sample Location: FOREST AVE STATEN ISLAND Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	112		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	92		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	96		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	113		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	121		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	106		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	118		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	91		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	101		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	110		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	107		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	100		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**138**	Q	24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	111		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	90		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	103		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	90		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	85		22-136

Project Name: FOREST AVE SCWP IMP
Lab Number: L2267585
Project Number: FOREST AVE SCWP IMF
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-06
Client ID: EQUIPMENT BLANK 12/1/22
Sample Location: FOREST AVE STATEN ISLAND

Date Collected: 12/01/22 09:40
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 12/12/22 15:39
Analyst: TPR

Extraction Method: EPA 3510C
Extraction Date: 12/08/22 22:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270E-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	136	30.8	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	43		15-110

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMF

Lab Number: L2267585
Report Date: 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-06
Client ID: EQUIPMENT BLANK 12/1/22
Sample Location: FOREST AVE STATEN ISLAND

Date Collected: 12/01/22 09:40
Date Received: 12/02/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 12/31/22 00:18
Analyst: RS

Extraction Method: ALPHA 23528
Extraction Date: 12/28/22 08:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.83	0.374	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.83	0.363	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.83	0.218	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.83	0.301	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.83	0.206	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.83	0.345	1
Perfluorooctanoic Acid (PFOA)	0.220	J	ng/l	1.83	0.216	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.83	1.22	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.83	0.631	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.83	0.286	1
Perfluorooctanesulfonic Acid (PFOS)	0.807	JF	ng/l	1.83	0.462	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.83	0.279	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.83	1.11	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.83	0.594	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.83	0.238	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.83	0.899	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.83	0.532	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.83	0.737	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.83	0.341	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.83	0.300	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.83	0.227	1
PFOA/PFOS, Total	1.03	J	ng/l	1.83	0.216	1

Project Name: FOREST AVE SCWP IMP **Lab Number:** L2267585

Project Number: FOREST AVE SCWP IMF **Report Date:** 01/09/23

SAMPLE RESULTS

Lab ID: L2267585-06 Date Collected: 12/01/22 09:40

Client ID: EQUIPMENT BLANK 12/1/22 Date Received: 12/02/22

Sample Location: FOREST AVE STATEN ISLAND Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	111		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	89		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	107		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	109		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	110		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	111		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	110		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	105		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	96		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	114		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	109		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	109		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**141**	Q	24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	115		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	78		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	98		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	91		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	82		22-136

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP
Lab Number: L2267585
Report Date: 01/09/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270E-SIM
Analytical Date: 12/16/22 23:49
Analyst: TPR

Extraction Method: EPA 3510C
Extraction Date: 12/08/22 20:00

Parameter	Result	Qualifier	Units	RL	MDL
1,4 Dioxane by 8270E-SIM - Mansfield Lab for sample(s): 01-04 Batch: WG1721057-1					
1,4-Dioxane	43.4	J	ng/l	150	33.9

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	45		15-110

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP
Lab Number: L2267585
Report Date: 01/09/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270E-SIM
Analytical Date: 12/12/22 09:59
Analyst: TPR

Extraction Method: EPA 3510C
Extraction Date: 12/08/22 22:30

Parameter	Result	Qualifier	Units	RL	MDL
1,4 Dioxane by 8270E-SIM - Mansfield Lab for sample(s): 05-06 Batch: WG1721058-1					
1,4-Dioxane	ND		ng/l	150	33.9

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	54		15-110

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP
Lab Number: L2267585
Report Date: 01/09/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/06/23 04:13
Analyst: JW

Extraction Method: ALPHA 23528
Extraction Date: 12/28/22 08:08

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-06 Batch: WG1727978-1					
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	0.580

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	81		10-112

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP
Lab Number: L2267585
Report Date: 01/09/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 12/30/22 18:34
Analyst: RS

Extraction Method: ALPHA 23528
Extraction Date: 12/28/22 08:08

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-06 Batch: WG1727978-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	0.408
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	0.396
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.238
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	0.328
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.225
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.376
Perfluorooctanoic Acid (PFOA)	0.640	J	ng/l	2.00	0.236
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	1.33
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	0.688
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.312
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	0.504
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.304
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	1.21
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	0.648
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.260
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	0.980
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	0.580
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	0.804
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	0.372
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	0.327
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	0.248
PFOA/PFOS, Total	0.640	J	ng/l	2.00	0.236

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP
Lab Number: L2267585
Report Date: 01/09/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 12/30/22 18:34
Analyst: RS

Extraction Method: ALPHA 23528
Extraction Date: 12/28/22 08:08

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-06 Batch: WG1727978-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	106		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	86		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	107		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	97		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	113		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	107		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	108		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	93		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	96		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	110		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	99		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	101		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**138**	Q	24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	109		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	84		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	99		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	92		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	79		22-136

Lab Control Sample Analysis

Batch Quality Control

Project Name: FOREST AVE SCWP IMP

Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585

Report Date: 01/09/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
1,4 Dioxane by 8270E-SIM - Mansfield Lab	Associated sample(s): 01-04		Batch: WG1721057-2 WG1721057-3					
1,4-Dioxane	118		121		40-140	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	37		37		15-110

Lab Control Sample Analysis

Batch Quality Control

Project Name: FOREST AVE SCWP IMP

Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585

Report Date: 01/09/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
1,4 Dioxane by 8270E-SIM - Mansfield Lab	Associated sample(s): 05-06		Batch: WG1721058-2	WG1721058-3				
1,4-Dioxane	110		111		40-140	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	51		51		15-110

Lab Control Sample Analysis
Batch Quality Control

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585
Report Date: 01/09/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-06 Batch: WG1727978-2								
Perfluorobutanoic Acid (PFBA)	102		-		67-148	-		30
Perfluoropentanoic Acid (PFPeA)	105		-		63-161	-		30
Perfluorobutanesulfonic Acid (PFBS)	105		-		65-157	-		30
Perfluorohexanoic Acid (PFHxA)	106		-		69-168	-		30
Perfluoroheptanoic Acid (PFHpA)	104		-		58-159	-		30
Perfluorohexanesulfonic Acid (PFHxS)	107		-		69-177	-		30
Perfluorooctanoic Acid (PFOA)	99		-		63-159	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	100		-		49-187	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	107		-		61-179	-		30
Perfluorononanoic Acid (PFNA)	88		-		68-171	-		30
Perfluorooctanesulfonic Acid (PFOS)	101		-		52-151	-		30
Perfluorodecanoic Acid (PFDA)	98		-		63-171	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	101		-		56-173	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	102		-		60-166	-		30
Perfluoroundecanoic Acid (PFUnA)	117		-		60-153	-		30
Perfluorodecanesulfonic Acid (PFDS)	116		-		38-156	-		30
Perfluorooctanesulfonamide (FOSA)	106		-		46-170	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	102		-		45-170	-		30
Perfluorododecanoic Acid (PFDoA)	101		-		67-153	-		30
Perfluorotridecanoic Acid (PFTrDA)	113		-		48-158	-		30
Perfluorotetradecanoic Acid (PFTA)	109		-		59-182	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585
Report Date: 01/09/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-06 Batch: WG1727978-2								

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	100				58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	78				62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	96				70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	87				57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	105				60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	94				71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	101				62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	95				14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	94				59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	101				69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	108				62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	101				10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**144**	Q			24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	98				55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	86				10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	102				27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	97				48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	82				22-136

Lab Control Sample Analysis

Batch Quality Control

Project Name: FOREST AVE SCWP IMP

Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585

Report Date: 01/09/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-06 Batch: WG1727978-2								
Perfluorooctanesulfonamide (FOSA)	98		-		46-170	-		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	79				10-112

Matrix Spike Analysis

Batch Quality Control

Project Name: FOREST AVE SCWP IMP

Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585

Report Date: 01/09/23

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
1,4 Dioxane by 8270E-SIM - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG1721057-4 WG1721057-5 QC Sample: L2267585-03 Client ID: MW-NW												
1,4-Dioxane	68.5J	4900	5990	122		6020	123		40-140	0		30

Surrogate	*MS % Recovery*	*MS Qualifier*	*MSD % Recovery*	*MSD Qualifier*	*Acceptance Criteria*
1,4-Dioxane-d8	36		28		15-110

Matrix Spike Analysis

Batch Quality Control

Project Name: FOREST AVE SCWP IMP

Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585

Report Date: 01/09/23

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1727978-3 WG1727978-4 QC Sample: L2267585-03 Client ID: MW-NW												
Perfluorobutanoic Acid (PFBA)	9.01	37.5	45.3	97		45.3	98		67-148	0		30
Perfluoropentanoic Acid (PFPeA)	13.4	37.5	49.7	97		50.2	99		63-161	1		30
Perfluorobutanesulfonic Acid (PFBS)	8.60	33.3	39.8	94		39.6	94		65-157	1		30
Perfluorohexanoic Acid (PFHxA)	14.9	37.5	49.9	93		49.6	93		69-168	1		30
Perfluoroheptanoic Acid (PFHpA)	19.4	37.5	57.8	102		58.1	104		58-159	1		30
Perfluorohexanesulfonic Acid (PFHxS)	2.65	34.2	37.0	100		36.5	100		69-177	1		30
Perfluorooctanoic Acid (PFOA)	240	37.5	280	107		275	94		63-159	2		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	5.31	35.7	35.7	85		37.2	90		49-187	4		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	35.8	37.2	104		39.4	111		61-179	6		30
Perfluorononanoic Acid (PFNA)	1.76JF	37.5	28.3F	71		29.4	74		68-171	4		30
Perfluorooctanesulfonic Acid (PFOS)	10.6	34.8	43.5	95		43.4	95		52-151	0		30
Perfluorodecanoic Acid (PFDA)	0.673J	37.5	37.6	98		36.3	96		63-171	4		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	36	35.9	100		36.1	101		56-173	1		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	37.5	35.1	94		39.1	105		60-166	11		30
Perfluoroundecanoic Acid (PFUnA)	ND	37.5	35.8	96		36.8	99		60-153	3		30
Perfluorodecanesulfonic Acid (PFDS)	ND	36.2	37.7	104		36.7	102		38-156	3		30
Perfluorooctanesulfonamide (FOSA)	ND	37.5	43.3	116		36.1	97		46-170	18		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	37.5	34.1	91		35.9	96		45-170	5		30
Perfluorododecanoic Acid (PFDoA)	ND	37.5	33.7	90		37.8	102		67-153	11		30
Perfluorotridecanoic Acid (PFTrDA)	ND	37.5	35.9	96		40.4	109		48-158	12		30
Perfluorotetradecanoic Acid (PFTA)	ND	37.5	37.0	99		36.2	97		59-182	2		30

Matrix Spike Analysis

Batch Quality Control

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP
Lab Number: L2267585
Report Date: 01/09/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1727978-3 WG1727978-4 QC Sample: L2267585-03 Client ID: MW-NW

Surrogate (Extracted Internal Standard)	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	98		94		10-162
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	98		98		14-147
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	86		74		27-126
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**127**	Q	105		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	101		93		55-137
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	96		91		62-124
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	96		107		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	98		104		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	101		104		71-134
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	94		81		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	81		80		22-136
Perfluoro[13C4]Butanoic Acid (MPFBA)	87		99		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	74		84		62-163
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	**9**	Q	11		10-112
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	103		97		69-131
Perfluoro[13C8]Octanoic Acid (M8PFOA)	92		95		62-129
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	87		85		59-139
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	91		100		70-131

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585
Report Date: 01/09/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2267585-01A	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-01B	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-01C	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-01D	Plastic 250ml unpreserved	A	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(28)
L2267585-01E	Plastic 250ml unpreserved	A	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(28)
L2267585-01F	Amber 250ml unpreserved	B	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2267585-01G	Amber 250ml unpreserved	B	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2267585-02A	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-02B	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-02C	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-02D	Plastic 250ml unpreserved	A	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(28)
L2267585-02E	Plastic 250ml unpreserved	A	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(28)
L2267585-02F	Amber 250ml unpreserved	B	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2267585-02G	Amber 250ml unpreserved	B	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2267585-03A	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-03A1	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-03A2	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-03B	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-03B1	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-03B2	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-03C	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-03C1	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585
Report Date: 01/09/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2267585-03C2	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-03D	Plastic 250ml unpreserved	A	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(28)
L2267585-03D1	Plastic 250ml unpreserved	A	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(28)
L2267585-03D2	Plastic 250ml unpreserved	A	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(28)
L2267585-03E	Plastic 250ml unpreserved	A	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(28)
L2267585-03E1	Plastic 250ml unpreserved	A	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(28)
L2267585-03E2	Plastic 250ml unpreserved	A	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(28)
L2267585-03F	Amber 250ml unpreserved	B	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2267585-03F1	Amber 250ml unpreserved	B	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2267585-03F2	Amber 250ml unpreserved	B	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2267585-03G	Amber 250ml unpreserved	B	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2267585-03G1	Amber 250ml unpreserved	B	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2267585-03G2	Amber 250ml unpreserved	B	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2267585-04A	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-04B	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-04C	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-04D	Plastic 250ml unpreserved	A	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(28)
L2267585-04E	Plastic 250ml unpreserved	A	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(28)
L2267585-04F	Amber 250ml unpreserved	B	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2267585-04G	Amber 250ml unpreserved	B	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2267585-05A	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-05B	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-05C	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-05D	Plastic 250ml unpreserved	A	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(28)
L2267585-05F	Amber 250ml unpreserved	B	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2267585-05G	Amber 250ml unpreserved	B	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2267585-06A	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-06B	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585
Report Date: 01/09/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2267585-06C	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-06D	Plastic 250ml unpreserved	A	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(28)
L2267585-06F	Amber 250ml unpreserved	B	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2267585-06G	Amber 250ml unpreserved	B	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2267585-07A	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)
L2267585-07B	Vial HCl preserved	B	NA		3.2	Y	Absent		NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585
Report Date: 01/09/23

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: FOREST AVE SCWP IMP
Project Number: FOREST AVE SCWP IMP

Lab Number: L2267585
Report Date: 01/09/23

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	FOREST AVE SCWP IMP	**Lab Number:**	L2267585
Project Number:	FOREST AVE SCWP IMP	**Report Date:**	01/09/23

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: DU Report with 'J' Qualifiers

Project Name:	FOREST AVE SCWP IMP	**Lab Number:**	L2267585
Project Number:	FOREST AVE SCWP IMP	**Report Date:**	01/09/23

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.

Chlordane: 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.)

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'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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 for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	FOREST AVE SCWP IMP	**Lab Number:**	L2267585
Project Number:	FOREST AVE SCWP IMP	**Report Date:**	01/09/23

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where 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.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	FOREST AVE SCWP IMP	**Lab Number:**	L2267585
Project Number:	FOREST AVE SCWP IMP	**Report Date:**	01/09/23

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

134 Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) using Isotope Dilution. Alpha SOP 23528.

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 625/625.1: alpha-Terpineol
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, alpha-Terpineol; 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.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

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FAX: 508-898-9193

Mansfield, MA 02048
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Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 12/02/22

ALPHA Job #: L2267585

Client Information

Client: CA Rich Consultants
Address: 17 Dupont St.
Plainview NY 11803
Phone: 5165768844
Fax:
Email: tbrown@carichinc.com

Project Information

Project Name: Forest Ave SCWP IHP
Project Location: Forest Ave Staten Island
Project #: Forest Ave SCWP IHP
(Use Project name as Project #) ☐
Project Manager: Jason Cooper
ALPHAQuote #:

Turn-Around Time

Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☐ ASP-A ☒ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☐ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TCL VOCs 8260	PFAS Method 537	1,4-Dioxane 8270SIM	Total Bottle	Sample Specific Comments
L2267585-01	MW-1	12/1/22	1310	GW	TB					
-02	MW-N	12/1/22	1110	GW	TB	X	X	X	7	
-03	MW-NW	12/1/22	900	GW	TB	X	X	X	7	
-03	MW-NWMS	12/1/22	905	GW	TB	X	X	X	7	
-03	MW-NWMSD	12/1/22	910	GW	TB	X	X	X	7	
-04	MW-XX	12/1/22	1120	GW	TB	X	X	X	7	
-05	Field Blank 12/1/22	12/1/22	930	FB	TB	X	X	X	6	
-06	Equipment Blank 12/1/22	12/1/22	940	EB	TB	X	X	X	6	
-07	Trip Blank 12/1/22	12/1/22	—	TB	TB	X			2	

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	V	P	A
Preservative	B	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
	12/2/22		12/2/22 915A
	12/2/22 1237p		12/2/22 1600
	12/2/22		12/2/22 2000

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L2263658
Client:	CA Rich Consultants, Inc. 17 Dupont St. Plainview, NY 11803
ATTN:	Jason Cooper
Phone:	(516) 576-8844
Project Name:	Not Specified
Project Number:	Not Specified
Report Date:	12/21/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2263658-01	SB-461	SOIL	461 FOREST AVE STATEN ISLAND	11/11/22 10:06	11/11/22
L2263658-02	SB-467	SOIL	461 FOREST AVE STATEN ISLAND	11/11/22 11:21	11/11/22
L2263658-03	SB-XX	SOIL	461 FOREST AVE STATEN ISLAND	11/11/22 10:07	11/11/22
L2263658-04	FIELD BLANK 11/11/22	WATER	461 FOREST AVE STATEN ISLAND	11/11/22 10:30	11/11/22
L2263658-05	EQUIPMENT BLANK 11/11/22	WATER	461 FOREST AVE STATEN ISLAND	11/11/22 10:35	11/11/22
L2263658-06	TRIP BLANK 11/11/22	WATER	461 FOREST AVE STATEN ISLAND	11/11/22 00:00	11/11/22

Project Name:	Not Specified	**Lab Number:**	L2263658
Project Number:	Not Specified	**Report Date:**	12/21/22

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: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Case Narrative (continued)

Report Submission

December 21, 2022: This final report includes the results of all requested analyses.

November 29, 2022: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Perfluorinated Alkyl Acids by Isotope Dilution

L2263658-01, -04, -05, WG1715913-1, and WG1715913-2: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

L2263658-01 and -03: The MeOH fraction of the extraction is reported for perfluorooctanesulfonamide (fosa) due to better extraction efficiency of the perfluoro[13c8]octanesulfonamide (m8fosa) Extracted Internal Standard.

The Extracted Internal Standard recovery for the WG1715913-1 Method Blank, associated with L2263658-01 through -03, is below the acceptance criteria for perfluoro[13c8]octanesulfonamide (m8fosa) (less than 10%); however, the associated samples are non-detect to the RL for all associated target analytes; therefore, no further action was taken.

The WG1715913-3/-4 MS/MSD RPD, performed on L2263658-02, is outside the acceptance criteria for n-ethyl perfluorooctanesulfonamidoacetic acid (netfosaa) (34%).

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: Kelly Stenstrom

Title: Technical Director/Representative Date: 12/21/22

ORGANICS

VOLATILES

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-01
Client ID: SB-461
Sample Location: 461 FOREST AVE STATEN ISLAND
Date Collected: 11/11/22 10:06
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 11/20/22 15:53
Analyst: NLK
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	440	200	1
1,1-Dichloroethane	ND		ug/kg	89	13.	1
Chloroform	ND		ug/kg	130	12.	1
Carbon tetrachloride	ND		ug/kg	89	20.	1
1,2-Dichloropropane	ND		ug/kg	89	11.	1
Dibromochloromethane	ND		ug/kg	89	12.	1
1,1,2-Trichloroethane	ND		ug/kg	89	24.	1
Tetrachloroethene	18000		ug/kg	44	17.	1
Chlorobenzene	ND		ug/kg	44	11.	1
Trichlorofluoromethane	ND		ug/kg	350	62.	1
1,2-Dichloroethane	ND		ug/kg	89	23.	1
1,1,1-Trichloroethane	ND		ug/kg	44	15.	1
Bromodichloromethane	ND		ug/kg	44	9.7	1
trans-1,3-Dichloropropene	ND		ug/kg	89	24.	1
cis-1,3-Dichloropropene	ND		ug/kg	44	14.	1
1,3-Dichloropropene, Total	ND		ug/kg	44	14.	1
1,1-Dichloropropene	ND		ug/kg	44	14.	1
Bromoform	ND		ug/kg	350	22.	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	44	15.	1
Benzene	ND		ug/kg	44	15.	1
Toluene	ND		ug/kg	89	48.	1
Ethylbenzene	ND		ug/kg	89	12.	1
Chloromethane	ND		ug/kg	350	83.	1
Bromomethane	ND		ug/kg	180	52.	1
Vinyl chloride	ND		ug/kg	89	30.	1
Chloroethane	ND		ug/kg	180	40.	1
1,1-Dichloroethene	ND		ug/kg	89	21.	1
trans-1,2-Dichloroethene	ND		ug/kg	130	12.	1

Project Name: Not Specified **Lab Number:** L2263658

Project Number: Not Specified **Report Date:** 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-01 Date Collected: 11/11/22 10:06

Client ID: SB-461 Date Received: 11/11/22

Sample Location: 461 FOREST AVE STATEN ISLAND Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Trichloroethene	920		ug/kg	44	12.	1
1,2-Dichlorobenzene	ND		ug/kg	180	13.	1
1,3-Dichlorobenzene	ND		ug/kg	180	13.	1
1,4-Dichlorobenzene	ND		ug/kg	180	15.	1
Methyl tert butyl ether	ND		ug/kg	180	18.	1
p/m-Xylene	ND		ug/kg	180	50.	1
o-Xylene	ND		ug/kg	89	26.	1
Xylenes, Total	ND		ug/kg	89	26.	1
cis-1,2-Dichloroethene	610		ug/kg	89	16.	1
1,2-Dichloroethene, Total	610		ug/kg	89	12.	1
Dibromomethane	ND		ug/kg	180	21.	1
Styrene	ND		ug/kg	89	17.	1
Dichlorodifluoromethane	ND		ug/kg	890	81.	1
Acetone	ND		ug/kg	890	430	1
Carbon disulfide	ND		ug/kg	890	400	1
2-Butanone	ND		ug/kg	890	200	1
Vinyl acetate	ND		ug/kg	890	190	1
4-Methyl-2-pentanone	ND		ug/kg	890	110	1
1,2,3-Trichloropropane	ND		ug/kg	180	11.	1
2-Hexanone	ND		ug/kg	890	100	1
Bromochloromethane	ND		ug/kg	180	18.	1
2,2-Dichloropropane	ND		ug/kg	180	18.	1
1,2-Dibromoethane	ND		ug/kg	89	25.	1
1,3-Dichloropropane	ND		ug/kg	180	15.	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	44	12.	1
Bromobenzene	ND		ug/kg	180	13.	1
n-Butylbenzene	ND		ug/kg	89	15.	1
sec-Butylbenzene	ND		ug/kg	89	13.	1
tert-Butylbenzene	ND		ug/kg	180	10.	1
o-Chlorotoluene	ND		ug/kg	180	17.	1
p-Chlorotoluene	ND		ug/kg	180	9.6	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	260	88.	1
Hexachlorobutadiene	ND		ug/kg	350	15.	1
Isopropylbenzene	ND		ug/kg	89	9.7	1
p-Isopropyltoluene	ND		ug/kg	89	9.7	1
Naphthalene	ND		ug/kg	350	58.	1
Acrylonitrile	ND		ug/kg	350	100	1

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-01
Client ID: SB-461
Sample Location: 461 FOREST AVE STATEN ISLAND
Date Collected: 11/11/22 10:06
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
n-Propylbenzene	ND		ug/kg	89	15.	1
1,2,3-Trichlorobenzene	ND		ug/kg	180	28.	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	24.	1
1,3,5-Trimethylbenzene	ND		ug/kg	180	17.	1
1,2,4-Trimethylbenzene	ND		ug/kg	180	30.	1
1,4-Dioxane	ND		ug/kg	7100	3100	1
p-Diethylbenzene	ND		ug/kg	180	16.	1
p-Ethyltoluene	ND		ug/kg	180	34.	1
1,2,4,5-Tetramethylbenzene	ND		ug/kg	180	17.	1
Ethyl ether	ND		ug/kg	180	30.	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	440	120	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	99		70-130

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-02
Client ID: SB-467
Sample Location: 461 FOREST AVE STATEN ISLAND
Date Collected: 11/11/22 11:21
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 11/23/22 17:07
Analyst: NLK
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.8	2.2	1
1,1-Dichloroethane	ND		ug/kg	0.96	0.14	1
Chloroform	ND		ug/kg	1.4	0.13	1
Carbon tetrachloride	ND		ug/kg	0.96	0.22	1
1,2-Dichloropropane	ND		ug/kg	0.96	0.12	1
Dibromochloromethane	ND		ug/kg	0.96	0.13	1
1,1,2-Trichloroethane	ND		ug/kg	0.96	0.26	1
Tetrachloroethene	14		ug/kg	0.48	0.19	1
Chlorobenzene	ND		ug/kg	0.48	0.12	1
Trichlorofluoromethane	ND		ug/kg	3.8	0.66	1
1,2-Dichloroethane	ND		ug/kg	0.96	0.24	1
1,1,1-Trichloroethane	ND		ug/kg	0.48	0.16	1
Bromodichloromethane	ND		ug/kg	0.48	0.10	1
trans-1,3-Dichloropropene	ND		ug/kg	0.96	0.26	1
cis-1,3-Dichloropropene	ND		ug/kg	0.48	0.15	1
1,3-Dichloropropene, Total	ND		ug/kg	0.48	0.15	1
1,1-Dichloropropene	ND		ug/kg	0.48	0.15	1
Bromoform	ND		ug/kg	3.8	0.24	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.48	0.16	1
Benzene	ND		ug/kg	0.48	0.16	1
Toluene	ND		ug/kg	0.96	0.52	1
Ethylbenzene	ND		ug/kg	0.96	0.13	1
Chloromethane	ND		ug/kg	3.8	0.89	1
Bromomethane	ND		ug/kg	1.9	0.56	1
Vinyl chloride	ND		ug/kg	0.96	0.32	1
Chloroethane	ND		ug/kg	1.9	0.43	1
1,1-Dichloroethene	ND		ug/kg	0.96	0.23	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	0.13	1

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-02
Client ID: SB-467
Sample Location: 461 FOREST AVE STATEN ISLAND
Date Collected: 11/11/22 11:21
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	1.6		ug/kg	0.48	0.13	1
1,2-Dichlorobenzene	ND		ug/kg	1.9	0.14	1
1,3-Dichlorobenzene	ND		ug/kg	1.9	0.14	1
1,4-Dichlorobenzene	ND		ug/kg	1.9	0.16	1
Methyl tert butyl ether	ND		ug/kg	1.9	0.19	1
p/m-Xylene	ND		ug/kg	1.9	0.54	1
o-Xylene	ND		ug/kg	0.96	0.28	1
Xylenes, Total	ND		ug/kg	0.96	0.28	1
cis-1,2-Dichloroethene	0.67	J	ug/kg	0.96	0.17	1
1,2-Dichloroethene, Total	0.67	J	ug/kg	0.96	0.13	1
Dibromomethane	ND		ug/kg	1.9	0.23	1
Styrene	ND		ug/kg	0.96	0.19	1
Dichlorodifluoromethane	ND		ug/kg	9.6	0.88	1
Acetone	ND		ug/kg	9.6	4.6	1
Carbon disulfide	ND		ug/kg	9.6	4.4	1
2-Butanone	ND		ug/kg	9.6	2.1	1
Vinyl acetate	ND		ug/kg	9.6	2.0	1
4-Methyl-2-pentanone	ND		ug/kg	9.6	1.2	1
1,2,3-Trichloropropane	ND		ug/kg	1.9	0.12	1
2-Hexanone	ND		ug/kg	9.6	1.1	1
Bromochloromethane	ND		ug/kg	1.9	0.20	1
2,2-Dichloropropane	ND		ug/kg	1.9	0.19	1
1,2-Dibromoethane	ND		ug/kg	0.96	0.27	1
1,3-Dichloropropane	ND		ug/kg	1.9	0.16	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.48	0.13	1
Bromobenzene	ND		ug/kg	1.9	0.14	1
n-Butylbenzene	ND		ug/kg	0.96	0.16	1
sec-Butylbenzene	ND		ug/kg	0.96	0.14	1
tert-Butylbenzene	ND		ug/kg	1.9	0.11	1
o-Chlorotoluene	ND		ug/kg	1.9	0.18	1
p-Chlorotoluene	ND		ug/kg	1.9	0.10	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.9	0.95	1
Hexachlorobutadiene	ND		ug/kg	3.8	0.16	1
Isopropylbenzene	ND		ug/kg	0.96	0.10	1
p-Isopropyltoluene	ND		ug/kg	0.96	0.10	1
Naphthalene	ND		ug/kg	3.8	0.62	1
Acrylonitrile	ND		ug/kg	3.8	1.1	1

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-02
Client ID: SB-467
Sample Location: 461 FOREST AVE STATEN ISLAND
Date Collected: 11/11/22 11:21
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
n-Propylbenzene	ND		ug/kg	0.96	0.16	1
1,2,3-Trichlorobenzene	ND		ug/kg	1.9	0.31	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.9	0.26	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.9	0.18	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.9	0.32	1
1,4-Dioxane	ND		ug/kg	76	34.	1
p-Diethylbenzene	ND		ug/kg	1.9	0.17	1
p-Ethyltoluene	ND		ug/kg	1.9	0.37	1
1,2,4,5-Tetramethylbenzene	ND		ug/kg	1.9	0.18	1
Ethyl ether	ND		ug/kg	1.9	0.33	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	4.8	1.4	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	101		70-130

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-03
Client ID: SB-XX
Sample Location: 461 FOREST AVE STATEN ISLAND
Date Collected: 11/11/22 10:07
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 11/20/22 16:46
Analyst: NLK
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	320	140	1
1,1-Dichloroethane	ND		ug/kg	63	9.2	1
Chloroform	ND		ug/kg	95	8.9	1
Carbon tetrachloride	ND		ug/kg	63	14.	1
1,2-Dichloropropane	ND		ug/kg	63	7.9	1
Dibromochloromethane	ND		ug/kg	63	8.9	1
1,1,2-Trichloroethane	ND		ug/kg	63	17.	1
Tetrachloroethene	7100		ug/kg	32	12.	1
Chlorobenzene	ND		ug/kg	32	8.0	1
Trichlorofluoromethane	ND		ug/kg	250	44.	1
1,2-Dichloroethane	ND		ug/kg	63	16.	1
1,1,1-Trichloroethane	ND		ug/kg	32	10.	1
Bromodichloromethane	ND		ug/kg	32	6.9	1
trans-1,3-Dichloropropene	ND		ug/kg	63	17.	1
cis-1,3-Dichloropropene	ND		ug/kg	32	10.	1
1,3-Dichloropropene, Total	ND		ug/kg	32	10.	1
1,1-Dichloropropene	ND		ug/kg	32	10.	1
Bromoform	ND		ug/kg	250	16.	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	32	10.	1
Benzene	ND		ug/kg	32	10.	1
Toluene	ND		ug/kg	63	34.	1
Ethylbenzene	ND		ug/kg	63	8.9	1
Chloromethane	ND		ug/kg	250	59.	1
Bromomethane	ND		ug/kg	130	37.	1
Vinyl chloride	ND		ug/kg	63	21.	1
Chloroethane	ND		ug/kg	130	29.	1
1,1-Dichloroethene	ND		ug/kg	63	15.	1
trans-1,2-Dichloroethene	ND		ug/kg	95	8.7	1

Project Name: Not Specified **Lab Number:** L2263658

Project Number: Not Specified **Report Date:** 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-03 Date Collected: 11/11/22 10:07

Client ID: SB-XX Date Received: 11/11/22

Sample Location: 461 FOREST AVE STATEN ISLAND Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Trichloroethene	310		ug/kg	32	8.7	1
1,2-Dichlorobenzene	ND		ug/kg	130	9.1	1
1,3-Dichlorobenzene	ND		ug/kg	130	9.4	1
1,4-Dichlorobenzene	ND		ug/kg	130	11.	1
Methyl tert butyl ether	ND		ug/kg	130	13.	1
p/m-Xylene	ND		ug/kg	130	35.	1
o-Xylene	ND		ug/kg	63	18.	1
Xylenes, Total	ND		ug/kg	63	18.	1
cis-1,2-Dichloroethene	120		ug/kg	63	11.	1
1,2-Dichloroethene, Total	120		ug/kg	63	8.7	1
Dibromomethane	ND		ug/kg	130	15.	1
Styrene	ND		ug/kg	63	12.	1
Dichlorodifluoromethane	ND		ug/kg	630	58.	1
Acetone	ND		ug/kg	630	300	1
Carbon disulfide	ND		ug/kg	630	290	1
2-Butanone	ND		ug/kg	630	140	1
Vinyl acetate	ND		ug/kg	630	140	1
4-Methyl-2-pentanone	ND		ug/kg	630	81.	1
1,2,3-Trichloropropane	ND		ug/kg	130	8.0	1
2-Hexanone	ND		ug/kg	630	75.	1
Bromochloromethane	ND		ug/kg	130	13.	1
2,2-Dichloropropane	ND		ug/kg	130	13.	1
1,2-Dibromoethane	ND		ug/kg	63	18.	1
1,3-Dichloropropane	ND		ug/kg	130	10.	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	32	8.4	1
Bromobenzene	ND		ug/kg	130	9.2	1
n-Butylbenzene	ND		ug/kg	63	10.	1
sec-Butylbenzene	ND		ug/kg	63	9.2	1
tert-Butylbenzene	ND		ug/kg	130	7.5	1
o-Chlorotoluene	ND		ug/kg	130	12.	1
p-Chlorotoluene	ND		ug/kg	130	6.8	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	190	63.	1
Hexachlorobutadiene	ND		ug/kg	250	11.	1
Isopropylbenzene	ND		ug/kg	63	6.9	1
p-Isopropyltoluene	ND		ug/kg	63	6.9	1
Naphthalene	ND		ug/kg	250	41.	1
Acrylonitrile	ND		ug/kg	250	73.	1

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-03
Client ID: SB-XX
Sample Location: 461 FOREST AVE STATEN ISLAND
Date Collected: 11/11/22 10:07
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
n-Propylbenzene	ND		ug/kg	63	11.	1
1,2,3-Trichlorobenzene	ND		ug/kg	130	20.	1
1,2,4-Trichlorobenzene	ND		ug/kg	130	17.	1
1,3,5-Trimethylbenzene	ND		ug/kg	130	12.	1
1,2,4-Trimethylbenzene	ND		ug/kg	130	21.	1
1,4-Dioxane	ND		ug/kg	5100	2200	1
p-Diethylbenzene	ND		ug/kg	130	11.	1
p-Ethyltoluene	ND		ug/kg	130	24.	1
1,2,4,5-Tetramethylbenzene	ND		ug/kg	130	12.	1
Ethyl ether	ND		ug/kg	130	22.	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	320	90.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	99		70-130

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-04
Client ID: FIELD BLANK 11/11/22
Sample Location: 461 FOREST AVE STATEN ISLAND
Date Collected: 11/11/22 10:30
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 11/21/22 21:13
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-04
Client ID: FIELD BLANK 11/11/22
Sample Location: 461 FOREST AVE STATEN ISLAND
Date Collected: 11/11/22 10:30
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	1.7	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-04
Client ID: FIELD BLANK 11/11/22
Sample Location: 461 FOREST AVE STATEN ISLAND
Date Collected: 11/11/22 10:30
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	100		70-130

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-05
Client ID: EQUIPMENT BLANK 11/11/22
Sample Location: 461 FOREST AVE STATEN ISLAND
Date Collected: 11/11/22 10:35
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 11/21/22 21:36
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: Not Specified **Lab Number:** L2263658

Project Number: Not Specified **Report Date:** 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-05 Date Collected: 11/11/22 10:35

Client ID: EQUIPMENT BLANK 11/11/22 Date Received: 11/11/22

Sample Location: 461 FOREST AVE STATEN ISLAND Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	3.7	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-05
Client ID: EQUIPMENT BLANK 11/11/22
Sample Location: 461 FOREST AVE STATEN ISLAND
Date Collected: 11/11/22 10:35
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	99		70-130

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-06
Client ID: TRIP BLANK 11/11/22
Sample Location: 461 FOREST AVE STATEN ISLAND
Date Collected: 11/11/22 00:00
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 11/21/22 20:49
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: Not Specified **Lab Number:** L2263658

Project Number: Not Specified **Report Date:** 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-06 Date Collected: 11/11/22 00:00

Client ID: TRIP BLANK 11/11/22 Date Received: 11/11/22

Sample Location: 461 FOREST AVE STATEN ISLAND Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	2.0	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-06
Client ID: TRIP BLANK 11/11/22
Sample Location: 461 FOREST AVE STATEN ISLAND
Date Collected: 11/11/22 00:00
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	99		70-130

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 11/21/22 20:26
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 04-06 Batch: WG1715281-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.70
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 11/21/22 20:26
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 04-06 Batch: WG1715281-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
Xylenes, Total	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Acrylonitrile	ND		ug/l	5.0	1.5
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	1.0
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L2263658
Report Date: 12/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 11/21/22 20:26
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 04-06 Batch: WG1715281-5					
o-Chlorotoluene	ND		ug/l	2.5	0.70
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.
p-Diethylbenzene	ND		ug/l	2.0	0.70
p-Ethyltoluene	ND		ug/l	2.0	0.70
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54
Ethyl ether	ND		ug/l	2.5	0.70
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	99		70-130

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 11/20/22 12:45
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01,03 Batch: WG1715571-5					
Methylene chloride	ND		ug/kg	250	110
1,1-Dichloroethane	ND		ug/kg	50	7.2
Chloroform	ND		ug/kg	75	7.0
Carbon tetrachloride	ND		ug/kg	50	12.
1,2-Dichloropropane	ND		ug/kg	50	6.2
Dibromochloromethane	ND		ug/kg	50	7.0
1,1,2-Trichloroethane	ND		ug/kg	50	13.
Tetrachloroethene	ND		ug/kg	25	9.8
Chlorobenzene	ND		ug/kg	25	6.4
Trichlorofluoromethane	ND		ug/kg	200	35.
1,2-Dichloroethane	ND		ug/kg	50	13.
1,1,1-Trichloroethane	ND		ug/kg	25	8.4
Bromodichloromethane	ND		ug/kg	25	5.4
trans-1,3-Dichloropropene	ND		ug/kg	50	14.
cis-1,3-Dichloropropene	ND		ug/kg	25	7.9
1,3-Dichloropropene, Total	ND		ug/kg	25	7.9
1,1-Dichloropropene	ND		ug/kg	25	8.0
Bromoform	ND		ug/kg	200	12.
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	8.3
Benzene	ND		ug/kg	25	8.3
Toluene	ND		ug/kg	50	27.
Ethylbenzene	ND		ug/kg	50	7.0
Chloromethane	ND		ug/kg	200	47.
Bromomethane	ND		ug/kg	100	29.
Vinyl chloride	ND		ug/kg	50	17.
Chloroethane	ND		ug/kg	100	23.
1,1-Dichloroethene	ND		ug/kg	50	12.
trans-1,2-Dichloroethene	ND		ug/kg	75	6.8
Trichloroethene	ND		ug/kg	25	6.8

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 11/20/22 12:45
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01,03 Batch: WG1715571-5					
1,2-Dichlorobenzene	ND		ug/kg	100	7.2
1,3-Dichlorobenzene	ND		ug/kg	100	7.4
1,4-Dichlorobenzene	ND		ug/kg	100	8.6
Methyl tert butyl ether	ND		ug/kg	100	10.
p/m-Xylene	ND		ug/kg	100	28.
o-Xylene	ND		ug/kg	50	14.
Xylenes, Total	ND		ug/kg	50	14.
cis-1,2-Dichloroethene	ND		ug/kg	50	8.8
1,2-Dichloroethene, Total	ND		ug/kg	50	6.8
Dibromomethane	ND		ug/kg	100	12.
Styrene	ND		ug/kg	50	9.8
Dichlorodifluoromethane	ND		ug/kg	500	46.
Acetone	ND		ug/kg	500	240
Carbon disulfide	ND		ug/kg	500	230
2-Butanone	ND		ug/kg	500	110
Vinyl acetate	ND		ug/kg	500	110
4-Methyl-2-pentanone	ND		ug/kg	500	64.
1,2,3-Trichloropropane	ND		ug/kg	100	6.4
2-Hexanone	ND		ug/kg	500	59.
Bromochloromethane	ND		ug/kg	100	10.
2,2-Dichloropropane	ND		ug/kg	100	10.
1,2-Dibromoethane	ND		ug/kg	50	14.
1,3-Dichloropropane	ND		ug/kg	100	8.4
1,1,1,2-Tetrachloroethane	ND		ug/kg	25	6.6
Bromobenzene	ND		ug/kg	100	7.2
n-Butylbenzene	ND		ug/kg	50	8.4
sec-Butylbenzene	ND		ug/kg	50	7.3
tert-Butylbenzene	ND		ug/kg	100	5.9
o-Chlorotoluene	ND		ug/kg	100	9.6

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L2263658
Report Date: 12/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 11/20/22 12:45
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01,03 Batch: WG1715571-5					
p-Chlorotoluene	ND		ug/kg	100	5.4
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	50.
Hexachlorobutadiene	ND		ug/kg	200	8.4
Isopropylbenzene	ND		ug/kg	50	5.4
p-Isopropyltoluene	ND		ug/kg	50	5.4
Naphthalene	ND		ug/kg	200	32.
Acrylonitrile	ND		ug/kg	200	58.
n-Propylbenzene	ND		ug/kg	50	8.6
1,2,3-Trichlorobenzene	ND		ug/kg	100	16.
1,2,4-Trichlorobenzene	ND		ug/kg	100	14.
1,3,5-Trimethylbenzene	ND		ug/kg	100	9.6
1,2,4-Trimethylbenzene	ND		ug/kg	100	17.
1,4-Dioxane	ND		ug/kg	4000	1800
p-Diethylbenzene	ND		ug/kg	100	8.8
p-Ethyltoluene	ND		ug/kg	100	19.
1,2,4,5-Tetramethylbenzene	ND		ug/kg	100	9.6
Ethyl ether	ND		ug/kg	100	17.
trans-1,4-Dichloro-2-butene	ND		ug/kg	250	71.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	97		70-130

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L2263658
Report Date: 12/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 11/23/22 08:52
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1716422-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
1,3-Dichloropropene, Total	ND		ug/kg	0.50	0.16
1,1-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	0.86	J	ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 11/23/22 08:52
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1716422-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
Xylenes, Total	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
1,2-Dichloroethene, Total	ND		ug/kg	1.0	0.14
Dibromomethane	ND		ug/kg	2.0	0.24
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
Vinyl acetate	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
1,2,3-Trichloropropane	ND		ug/kg	2.0	0.13
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
2,2-Dichloropropane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
1,3-Dichloropropane	ND		ug/kg	2.0	0.17
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	0.13
Bromobenzene	ND		ug/kg	2.0	0.14
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
tert-Butylbenzene	ND		ug/kg	2.0	0.12
o-Chlorotoluene	ND		ug/kg	2.0	0.19

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 11/23/22 08:52
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1716422-5					
p-Chlorotoluene	ND		ug/kg	2.0	0.11
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Hexachlorobutadiene	ND		ug/kg	4.0	0.17
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
Naphthalene	ND		ug/kg	4.0	0.65
Acrylonitrile	ND		ug/kg	4.0	1.2
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	0.35	J	ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	0.27	J	ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
1,4-Dioxane	ND		ug/kg	80	35.
p-Diethylbenzene	ND		ug/kg	2.0	0.18
p-Ethyltoluene	ND		ug/kg	2.0	0.38
1,2,4,5-Tetramethylbenzene	ND		ug/kg	2.0	0.19
Ethyl ether	ND		ug/kg	2.0	0.34
trans-1,4-Dichloro-2-butene	ND		ug/kg	5.0	1.4

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	104		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: Not Specified

Project Number: Not Specified

Lab Number: L2263658

Report Date: 12/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-06 Batch: WG1715281-3 WG1715281-4								
Methylene chloride	94		93		70-130	1		20
1,1-Dichloroethane	86		85		70-130	1		20
Chloroform	91		92		70-130	1		20
Carbon tetrachloride	85		83		63-132	2		20
1,2-Dichloropropane	84		84		70-130	0		20
Dibromochloromethane	82		85		63-130	4		20
1,1,2-Trichloroethane	89		94		70-130	5		20
Tetrachloroethene	95		96		70-130	1		20
Chlorobenzene	97		97		75-130	0		20
Trichlorofluoromethane	110		110		62-150	0		20
1,2-Dichloroethane	82		83		70-130	1		20
1,1,1-Trichloroethane	91		90		67-130	1		20
Bromodichloromethane	86		84		67-130	2		20
trans-1,3-Dichloropropene	83		85		70-130	2		20
cis-1,3-Dichloropropene	81		83		70-130	2		20
1,1-Dichloropropene	90		90		70-130	0		20
Bromoform	65		76		54-136	16		20
1,1,2,2-Tetrachloroethane	77		92		67-130	18		20
Benzene	92		92		70-130	0		20
Toluene	96		95		70-130	1		20
Ethylbenzene	96		94		70-130	2		20
Chloromethane	86		83		64-130	4		20
Bromomethane	90		85		39-139	6		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: Not Specified

Project Number: Not Specified

Lab Number: L2263658

Report Date: 12/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-06 Batch: WG1715281-3 WG1715281-4								
Vinyl chloride	91		88		55-140	3		20
Chloroethane	110		110		55-138	0		20
1,1-Dichloroethene	95		93		61-145	2		20
trans-1,2-Dichloroethene	94		92		70-130	2		20
Trichloroethene	84		84		70-130	0		20
1,2-Dichlorobenzene	92		94		70-130	2		20
1,3-Dichlorobenzene	94		95		70-130	1		20
1,4-Dichlorobenzene	94		95		70-130	1		20
Methyl tert butyl ether	76		81		63-130	6		20
p/m-Xylene	95		95		70-130	0		20
o-Xylene	95		95		70-130	0		20
cis-1,2-Dichloroethene	92		91		70-130	1		20
Dibromomethane	82		84		70-130	2		20
1,2,3-Trichloropropane	80		89		64-130	11		20
Acrylonitrile	74		80		70-130	8		20
Styrene	95		95		70-130	0		20
Dichlorodifluoromethane	85		82		36-147	4		20
Acetone	83		78		58-148	6		20
Carbon disulfide	93		90		51-130	3		20
2-Butanone	83		83		63-138	0		20
Vinyl acetate	90		95		70-130	5		20
4-Methyl-2-pentanone	70		76		59-130	8		20
2-Hexanone	83		86		57-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-06 Batch: WG1715281-3 WG1715281-4								
Bromochloromethane	93		92		70-130	1		20
2,2-Dichloropropane	90		88		63-133	2		20
1,2-Dibromoethane	93		95		70-130	2		20
1,3-Dichloropropane	89		92		70-130	3		20
1,1,1,2-Tetrachloroethane	90		90		64-130	0		20
Bromobenzene	80		91		70-130	13		20
n-Butylbenzene	93		100		53-136	7		20
sec-Butylbenzene	94		98		70-130	4		20
tert-Butylbenzene	95		98		70-130	3		20
o-Chlorotoluene	88		96		70-130	9		20
p-Chlorotoluene	90		94		70-130	4		20
1,2-Dibromo-3-chloropropane	69		76		41-144	10		20
Hexachlorobutadiene	94		93		63-130	1		20
Isopropylbenzene	84		93		70-130	10		20
p-Isopropyltoluene	97		100		70-130	3		20
Naphthalene	75		84		70-130	11		20
n-Propylbenzene	86		97		69-130	12		20
1,2,3-Trichlorobenzene	77		83		70-130	8		20
1,2,4-Trichlorobenzene	85		88		70-130	3		20
1,3,5-Trimethylbenzene	92		95		64-130	3		20
1,2,4-Trimethylbenzene	91		95		70-130	4		20
1,4-Dioxane	90		90		56-162	0		20
p-Diethylbenzene	95		96		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-06 Batch: WG1715281-3 WG1715281-4								
p-Ethyltoluene	85		96		70-130	12		20
1,2,4,5-Tetramethylbenzene	88		91		70-130	3		20
Ethyl ether	100		100		59-134	0		20
trans-1,4-Dichloro-2-butene	75		84		70-130	11		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		96		70-130
Toluene-d8	105		106		70-130
4-Bromofluorobenzene	86		99		70-130
Dibromofluoromethane	98		98		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01,03 Batch: WG1715571-3 WG1715571-4								
Methylene chloride	99		98		70-130	1		30
1,1-Dichloroethane	106		106		70-130	0		30
Chloroform	102		104		70-130	2		30
Carbon tetrachloride	103		102		70-130	1		30
1,2-Dichloropropane	104		103		70-130	1		30
Dibromochloromethane	91		89		70-130	2		30
1,1,2-Trichloroethane	98		96		70-130	2		30
Tetrachloroethene	95		94		70-130	1		30
Chlorobenzene	98		97		70-130	1		30
Trichlorofluoromethane	106		103		70-139	3		30
1,2-Dichloroethane	103		101		70-130	2		30
1,1,1-Trichloroethane	107		105		70-130	2		30
Bromodichloromethane	102		102		70-130	0		30
trans-1,3-Dichloropropene	96		95		70-130	1		30
cis-1,3-Dichloropropene	105		105		70-130	0		30
1,1-Dichloropropene	100		98		70-130	2		30
Bromoform	94		91		70-130	3		30
1,1,2,2-Tetrachloroethane	92		89		70-130	3		30
Benzene	106		104		70-130	2		30
Toluene	98		96		70-130	2		30
Ethylbenzene	97		96		70-130	1		30
Chloromethane	110		108		52-130	2		30
Bromomethane	130		132		57-147	2		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01,03 Batch: WG1715571-3 WG1715571-4								
Vinyl chloride	103		102		67-130	1		30
Chloroethane	99		99		50-151	0		30
1,1-Dichloroethene	104		101		65-135	3		30
trans-1,2-Dichloroethene	102		101		70-130	1		30
Trichloroethene	95		94		70-130	1		30
1,2-Dichlorobenzene	94		92		70-130	2		30
1,3-Dichlorobenzene	94		93		70-130	1		30
1,4-Dichlorobenzene	94		92		70-130	2		30
Methyl tert butyl ether	100		97		66-130	3		30
p/m-Xylene	99		97		70-130	2		30
o-Xylene	96		96		70-130	0		30
cis-1,2-Dichloroethene	103		101		70-130	2		30
Dibromomethane	103		100		70-130	3		30
Styrene	96		96		70-130	0		30
Dichlorodifluoromethane	100		98		30-146	2		30
Acetone	97		89		54-140	9		30
Carbon disulfide	92		92		59-130	0		30
2-Butanone	93		90		70-130	3		30
Vinyl acetate	96		89		70-130	8		30
4-Methyl-2-pentanone	96		94		70-130	2		30
1,2,3-Trichloropropane	94		92		68-130	2		30
2-Hexanone	85		84		70-130	1		30
Bromochloromethane	105		103		70-130	2		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01,03 Batch: WG1715571-3 WG1715571-4								
2,2-Dichloropropane	105		104		70-130	1		30
1,2-Dibromoethane	93		90		70-130	3		30
1,3-Dichloropropane	97		96		69-130	1		30
1,1,1,2-Tetrachloroethane	91		90		70-130	1		30
Bromobenzene	93		91		70-130	2		30
n-Butylbenzene	98		96		70-130	2		30
sec-Butylbenzene	96		95		70-130	1		30
tert-Butylbenzene	93		92		70-130	1		30
o-Chlorotoluene	94		93		70-130	1		30
p-Chlorotoluene	94		93		70-130	1		30
1,2-Dibromo-3-chloropropane	92		92		68-130	0		30
Hexachlorobutadiene	100		100		67-130	0		30
Isopropylbenzene	94		92		70-130	2		30
p-Isopropyltoluene	94		93		70-130	1		30
Naphthalene	85		84		70-130	1		30
Acrylonitrile	102		98		70-130	4		30
n-Propylbenzene	94		92		70-130	2		30
1,2,3-Trichlorobenzene	91		92		70-130	1		30
1,2,4-Trichlorobenzene	95		95		70-130	0		30
1,3,5-Trimethylbenzene	94		93		70-130	1		30
1,2,4-Trimethylbenzene	94		92		70-130	2		30
1,4-Dioxane	93		92		65-136	1		30
p-Diethylbenzene	95		93		70-130	2		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01,03 Batch: WG1715571-3 WG1715571-4								
p-Ethyltoluene	94		93		70-130	1		30
1,2,4,5-Tetramethylbenzene	90		89		70-130	1		30
Ethyl ether	105		104		67-130	1		30
trans-1,4-Dichloro-2-butene	97		95		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		100		70-130
Toluene-d8	97		97		70-130
4-Bromofluorobenzene	96		95		70-130
Dibromofluoromethane	97		97		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1716422-3 WG1716422-4								
Methylene chloride	94		92		70-130	2		30
1,1-Dichloroethane	85		84		70-130	1		30
Chloroform	83		81		70-130	2		30
Carbon tetrachloride	84		83		70-130	1		30
1,2-Dichloropropane	86		86		70-130	0		30
Dibromochloromethane	95		94		70-130	1		30
1,1,2-Trichloroethane	91		91		70-130	0		30
Tetrachloroethene	107		104		70-130	3		30
Chlorobenzene	102		100		70-130	2		30
Trichlorofluoromethane	88		87		70-139	1		30
1,2-Dichloroethane	81		82		70-130	1		30
1,1,1-Trichloroethane	88		85		70-130	3		30
Bromodichloromethane	78		79		70-130	1		30
trans-1,3-Dichloropropene	89		88		70-130	1		30
cis-1,3-Dichloropropene	93		91		70-130	2		30
1,1-Dichloropropene	96		95		70-130	1		30
Bromoform	94		95		70-130	1		30
1,1,2,2-Tetrachloroethane	94		96		70-130	2		30
Benzene	92		90		70-130	2		30
Toluene	99		96		70-130	3		30
Ethylbenzene	100		98		70-130	2		30
Chloromethane	82		80		52-130	2		30
Bromomethane	100		97		57-147	3		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1716422-3 WG1716422-4								
Vinyl chloride	86		84		67-130	2		30
Chloroethane	74		72		50-151	3		30
1,1-Dichloroethene	89		88		65-135	1		30
trans-1,2-Dichloroethene	90		88		70-130	2		30
Trichloroethene	91		89		70-130	2		30
1,2-Dichlorobenzene	102		99		70-130	3		30
1,3-Dichlorobenzene	105		101		70-130	4		30
1,4-Dichlorobenzene	102		98		70-130	4		30
Methyl tert butyl ether	87		89		66-130	2		30
p/m-Xylene	103		100		70-130	3		30
o-Xylene	102		99		70-130	3		30
cis-1,2-Dichloroethene	87		86		70-130	1		30
Dibromomethane	83		84		70-130	1		30
Styrene	101		98		70-130	3		30
Dichlorodifluoromethane	79		78		30-146	1		30
Acetone	80		71		54-140	12		30
Carbon disulfide	95		93		59-130	2		30
2-Butanone	76		83		70-130	9		30
Vinyl acetate	80		85		70-130	6		30
4-Methyl-2-pentanone	95		99		70-130	4		30
1,2,3-Trichloropropane	97		98		68-130	1		30
2-Hexanone	88		92		70-130	4		30
Bromochloromethane	88		88		70-130	0		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1716422-3 WG1716422-4								
2,2-Dichloropropane	87		86		70-130	1		30
1,2-Dibromoethane	93		93		70-130	0		30
1,3-Dichloropropane	98		99		69-130	1		30
1,1,1,2-Tetrachloroethane	97		95		70-130	2		30
Bromobenzene	103		100		70-130	3		30
n-Butylbenzene	106		102		70-130	4		30
sec-Butylbenzene	104		100		70-130	4		30
tert-Butylbenzene	105		101		70-130	4		30
o-Chlorotoluene	104		99		70-130	5		30
p-Chlorotoluene	104		101		70-130	3		30
1,2-Dibromo-3-chloropropane	99		100		68-130	1		30
Hexachlorobutadiene	107		103		67-130	4		30
Isopropylbenzene	104		100		70-130	4		30
p-Isopropyltoluene	107		103		70-130	4		30
Naphthalene	98		100		70-130	2		30
Acrylonitrile	81		84		70-130	4		30
n-Propylbenzene	105		100		70-130	5		30
1,2,3-Trichlorobenzene	104		102		70-130	2		30
1,2,4-Trichlorobenzene	106		103		70-130	3		30
1,3,5-Trimethylbenzene	104		99		70-130	5		30
1,2,4-Trimethylbenzene	102		98		70-130	4		30
1,4-Dioxane	91		98		65-136	7		30
p-Diethylbenzene	106		103		70-130	3		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1716422-3 WG1716422-4								
p-Ethyltoluene	106		102		70-130	4		30
1,2,4,5-Tetramethylbenzene	100		97		70-130	3		30
Ethyl ether	83		84		67-130	1		30
trans-1,4-Dichloro-2-butene	83		85		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	84		86		70-130
Toluene-d8	100		101		70-130
4-Bromofluorobenzene	97		95		70-130
Dibromofluoromethane	85		86		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: Not Specified

Project Number: Not Specified

Lab Number: L2263658

Report Date: 12/21/22

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 QC Batch ID: WG1716422-6 WG1716422-7 QC Sample: L2263658-02 Client ID: SB-467												
Methylene chloride	ND	141	120	81		64	72		70-130	**56**	Q	30
1,1-Dichloroethane	ND	141	110	76		62	**68**	Q	70-130	**55**	Q	30
Chloroform	ND	141	100	72		56	**62**	Q	70-130	**57**	Q	30
Carbon tetrachloride	ND	141	110	78		66	74		70-130	**50**	Q	30
1,2-Dichloropropane	ND	141	110	78		62	**69**	Q	70-130	**56**	Q	30
Dibromochloromethane	ND	141	110	81		63	70		70-130	**58**	Q	30
1,1,2-Trichloroethane	ND	141	110	80		63	70		70-130	**57**	Q	30
Tetrachloroethene	14	141	210	**140**	Q	97	93		70-130	**74**	Q	30
Chlorobenzene	ND	141	110	78		63	70		70-130	**55**	Q	30
Trichlorofluoromethane	ND	141	120	86		72	80		70-139	**52**	Q	30
1,2-Dichloroethane	ND	141	94	**66**	Q	53	**59**	Q	70-130	**56**	Q	30
1,1,1-Trichloroethane	ND	141	110	79		67	74		70-130	**51**	Q	30
Bromodichloromethane	ND	141	94	**66**	Q	53	**59**	Q	70-130	**56**	Q	30
trans-1,3-Dichloropropene	ND	141	97	**68**	Q	55	**62**	Q	70-130	**54**	Q	30
cis-1,3-Dichloropropene	ND	141	110	76		62	**68**	Q	70-130	**54**	Q	30
1,1-Dichloropropene	ND	141	120	88		75	83		70-130	**49**	Q	30
Bromoform	ND	141	110	75		60	**67**	Q	70-130	**55**	Q	30
1,1,2,2-Tetrachloroethane	ND	141	92	**65**	Q	60	**66**	Q	70-130	**43**	Q	30
Benzene	ND	141	120	84		68	76		70-130	**54**	Q	30
Toluene	ND	141	120	86		70	77		70-130	**55**	Q	30
Ethylbenzene	ND	141	110	77		63	70		70-130	**53**	Q	30
Chloromethane	ND	141	110	79		63	70		52-130	**55**	Q	30
Bromomethane	ND	141	120	86		69	77		57-147	**55**	Q	30

Matrix Spike Analysis

Batch Quality Control

Project Name: Not Specified

Project Number: Not Specified

Lab Number: L2263658

Report Date: 12/21/22

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 QC Batch ID: WG1716422-6 WG1716422-7 QC Sample: L2263658-02 Client ID: SB-467												
Vinyl chloride	ND	141	120	84		69	77		67-130	**52**	Q	30
Chloroethane	ND	141	90	63		51	56		50-151	**55**	Q	30
1,1-Dichloroethene	ND	141	120	86		72	80		65-135	**51**	Q	30
trans-1,2-Dichloroethene	ND	141	110	75		63	70		70-130	**51**	Q	30
Trichloroethene	1.6	141	130	89		67	73		70-130	**62**	Q	30
1,2-Dichlorobenzene	ND	141	80	**56**	Q	48	**53**	Q	70-130	**50**	Q	30
1,3-Dichlorobenzene	ND	141	79	**56**	Q	48	**54**	Q	70-130	**48**	Q	30
1,4-Dichlorobenzene	ND	141	76	**54**	Q	46	**51**	Q	70-130	**49**	Q	30
Methyl tert butyl ether	ND	141	110	81		62	69		66-130	**59**	Q	30
p/m-Xylene	ND	283	210	75		120	**68**	Q	70-130	**54**	Q	30
o-Xylene	ND	283	210	75		120	**67**	Q	70-130	**54**	Q	30
cis-1,2-Dichloroethene	0.67J	141	100	73		59	**65**	Q	70-130	**55**	Q	30
Dibromomethane	ND	141	93	**66**	Q	53	**59**	Q	70-130	**54**	Q	30
Styrene	ND	283	200	**69**	Q	110	**62**	Q	70-130	**54**	Q	30
Dichlorodifluoromethane	ND	141	110	81		67	74		30-146	**52**	Q	30
Acetone	ND	141	95	67		57	63		54-140	**51**	Q	30
Carbon disulfide	ND	141	110	77		66	73		59-130	**50**	Q	30
2-Butanone	ND	141	89	**63**	Q	57	**63**	Q	70-130	**44**	Q	30
Vinyl acetate	ND	141	6.8J	**5**	Q	8.7J	**10**	Q	70-130	24		30
4-Methyl-2-pentanone	ND	141	120	84		65	73		70-130	**57**	Q	30
1,2,3-Trichloropropane	ND	141	110	76		61	68		68-130	**55**	Q	30
2-Hexanone	ND	141	100	72		57	**63**	Q	70-130	**57**	Q	30
Bromochloromethane	ND	141	100	71		56	**62**	Q	70-130	**56**	Q	30

Matrix Spike Analysis

Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 QC Batch ID: WG1716422-6 WG1716422-7 QC Sample: L2263658-02 Client ID: SB-467												
2,2-Dichloropropane	ND	141	110	79		66	74		70-130	**51**	Q	30
1,2-Dibromoethane	ND	141	110	76		61	**68**	Q	70-130	**56**	Q	30
1,3-Dichloropropane	ND	141	120	86		67	74		69-130	**58**	Q	30
1,1,1,2-Tetrachloroethane	ND	141	120	84		66	74		70-130	**57**	Q	30
Bromobenzene	ND	141	100	72		59	**66**	Q	70-130	**52**	Q	30
n-Butylbenzene	ND	141	67	**48**	Q	44	**48**	Q	70-130	**43**	Q	30
sec-Butylbenzene	ND	141	87	**61**	Q	54	**60**	Q	70-130	**47**	Q	30
tert-Butylbenzene	ND	141	98	**69**	Q	59	**65**	Q	70-130	**50**	Q	30
o-Chlorotoluene	ND	141	94	**67**	Q	56	**62**	Q	70-130	**51**	Q	30
p-Chlorotoluene	ND	141	89	**63**	Q	53	**59**	Q	70-130	**51**	Q	30
1,2-Dibromo-3-chloropropane	ND	141	100	72		60	**67**	Q	68-130	**51**	Q	30
Hexachlorobutadiene	ND	141	43	**31**	Q	32	**36**	Q	67-130	29		30
Isopropylbenzene	ND	141	110	77		64	71		70-130	**52**	Q	30
p-Isopropyltoluene	ND	141	83	**58**	Q	51	**56**	Q	70-130	**48**	Q	30
Naphthalene	ND	141	65	**46**	Q	42	**46**	Q	70-130	**45**	Q	30
Acrylonitrile	ND	141	96	**68**	Q	55	**61**	Q	70-130	**55**	Q	30
n-Propylbenzene	ND	141	96	**68**	Q	57	**64**	Q	70-130	**50**	Q	30
1,2,3-Trichlorobenzene	ND	141	43	**30**	Q	30	**33**	Q	70-130	**36**	Q	30
1,2,4-Trichlorobenzene	ND	141	44	**31**	Q	31	**34**	Q	70-130	**34**	Q	30
1,3,5-Trimethylbenzene	ND	141	92	**65**	Q	54	**60**	Q	70-130	**51**	Q	30
1,2,4-Trimethylbenzene	ND	141	88	**62**	Q	52	**58**	Q	70-130	**52**	Q	30
1,4-Dioxane	ND	7060	6400	91		4200	92		65-136	**43**	Q	30
p-Diethylbenzene	ND	141	72	**51**	Q	46	**50**	Q	70-130	**46**	Q	30

Matrix Spike Analysis

Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 QC Batch ID: WG1716422-6 WG1716422-7 QC Sample: L2263658-02 Client ID: SB-467												
p-Ethyltoluene	ND	141	94	**66**	Q	56	**62**	Q	70-130	**51**	Q	30
1,2,4,5-Tetramethylbenzene	ND	141	61	**43**	Q	38	**43**	Q	70-130	**46**	Q	30
Ethyl ether	ND	141	110	76		59	**66**	Q	67-130	**58**	Q	30
trans-1,4-Dichloro-2-butene	ND	141	81	**57**	Q	48	**53**	Q	70-130	**52**	Q	30

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	80		81		70-130
4-Bromofluorobenzene	98		98		70-130
Dibromofluoromethane	79		80		70-130
Toluene-d8	102		101		70-130

SEMIVOLATILES

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-01
Client ID: SB-461
Sample Location: 461 FOREST AVE STATEN ISLAND

Date Collected: 11/11/22 10:06
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 11/16/22 02:28
Analyst: MG
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 11/14/22 00:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
1,4-Dioxane	ND		ug/kg	27	8.3	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	62		25-120
Phenol-d6	68		10-120
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	62		30-120
2,4,6-Tribromophenol	73		10-136
4-Terphenyl-d14	66		18-120

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-01
Client ID: SB-461
Sample Location: 461 FOREST AVE STATEN ISLAND

Date Collected: 11/11/22 10:06
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 12/08/22 08:22
Analyst: JW
Percent Solids: 92%

Extraction Method: ALPHA 23528
Extraction Date: 11/23/22 15:20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.495	0.023	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.495	0.046	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.248	0.039	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.495	0.052	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.248	0.045	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.248	0.060	1
Perfluorooctanoic Acid (PFOA)	0.229	J	ng/g	0.248	0.042	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.495	0.178	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.495	0.135	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.248	0.074	1
Perfluorooctanesulfonic Acid (PFOS)	0.969		ng/g	0.248	0.129	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.248	0.066	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.495	0.284	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.495	0.200	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.495	0.046	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.495	0.152	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.495	0.084	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.495	0.069	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.495	0.202	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.495	0.054	1
PFOA/PFOS, Total	1.20	J	ng/g	0.248	0.042	1

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-01
Client ID: SB-461
Sample Location: 461 FOREST AVE STATEN ISLAND
Date Collected: 11/11/22 10:06
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	61		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	**56**	Q	58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	82		74-139
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	**63**	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	**64**	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	85		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	**70**	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	72		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	**70**	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	83		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	**70**	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	77		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	48		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	77		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	43		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	86		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	52		24-159

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-01
Client ID: SB-461
Sample Location: 461 FOREST AVE STATEN ISLAND

Date Collected: 11/11/22 10:06
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 12/09/22 18:08
Analyst: JW
Percent Solids: 92%

Extraction Method: ALPHA 23528
Extraction Date: 11/23/22 15:20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.495	0.097	1

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	86		10-117

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-02
Client ID: SB-467
Sample Location: 461 FOREST AVE STATEN ISLAND

Date Collected: 11/11/22 11:21
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 11/16/22 06:53
Analyst: MG
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 11/14/22 00:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
1,4-Dioxane	ND		ug/kg	27	8.3	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	83		25-120
Phenol-d6	85		10-120
Nitrobenzene-d5	96		23-120
2-Fluorobiphenyl	67		30-120
2,4,6-Tribromophenol	82		10-136
4-Terphenyl-d14	69		18-120

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-02
Client ID: SB-467
Sample Location: 461 FOREST AVE STATEN ISLAND

Date Collected: 11/11/22 11:21
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 11/25/22 21:45
Analyst: SG
Percent Solids: 91%

Extraction Method: ALPHA 23528
Extraction Date: 11/23/22 15:20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.026	J	ng/g	0.520	0.024	1
Perfluoropentanoic Acid (PFPeA)	0.069	J	ng/g	0.520	0.048	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.260	0.041	1
Perfluorohexanoic Acid (PFHxA)	0.067	J	ng/g	0.520	0.055	1
Perfluoroheptanoic Acid (PFHpA)	0.072	J	ng/g	0.260	0.047	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.260	0.063	1
Perfluorooctanoic Acid (PFOA)	0.590		ng/g	0.260	0.044	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.520	0.186	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.520	0.142	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.260	0.078	1
Perfluorooctanesulfonic Acid (PFOS)	3.70		ng/g	0.260	0.135	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.260	0.070	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.520	0.298	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.520	0.209	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.520	0.049	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.520	0.159	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.520	0.102	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.520	0.088	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.520	0.073	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.520	0.212	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.520	0.056	1
PFOA/PFOS, Total	4.29		ng/g	0.260	0.044	1

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-02
Client ID: SB-467
Sample Location: 461 FOREST AVE STATEN ISLAND
Date Collected: 11/11/22 11:21
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	88		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	87		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	102		74-139
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	99		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	96		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	100		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	90		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	103		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	92		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	87		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	89		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	95		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	57		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	98		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	65		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	73		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	107		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	78		24-159

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-03
Client ID: SB-XX
Sample Location: 461 FOREST AVE STATEN ISLAND

Date Collected: 11/11/22 10:07
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 11/16/22 01:16
Analyst: MG
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 11/14/22 00:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
1,4-Dioxane	ND		ug/kg	26	7.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	61		25-120
Phenol-d6	65		10-120
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	55		30-120
2,4,6-Tribromophenol	60		10-136
4-Terphenyl-d14	56		18-120

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-03
Client ID: SB-XX
Sample Location: 461 FOREST AVE STATEN ISLAND

Date Collected: 11/11/22 10:07
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 12/08/22 09:41
Analyst: JW
Percent Solids: 94%

Extraction Method: ALPHA 23528
Extraction Date: 11/23/22 15:20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.479	0.022	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.479	0.044	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.240	0.037	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.479	0.050	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.240	0.043	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.240	0.058	1
Perfluorooctanoic Acid (PFOA)	0.282		ng/g	0.240	0.040	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.479	0.172	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.479	0.131	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.240	0.072	1
Perfluorooctanesulfonic Acid (PFOS)	0.967	F	ng/g	0.240	0.125	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.240	0.064	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.479	0.275	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.479	0.193	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.479	0.045	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.479	0.147	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.479	0.081	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.479	0.067	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.479	0.196	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.479	0.052	1
PFOA/PFOS, Total	1.25		ng/g	0.240	0.040	1

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-03
Client ID: SB-XX
Sample Location: 461 FOREST AVE STATEN ISLAND
Date Collected: 11/11/22 10:07
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	84		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	77		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	89		74-139
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	84		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	81		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	90		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	85		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	103		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	90		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	98		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	87		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	91		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	74		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	88		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	76		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	102		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	34		24-159

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-03
Client ID: SB-XX
Sample Location: 461 FOREST AVE STATEN ISLAND

Date Collected: 11/11/22 10:07
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 12/09/22 18:14
Analyst: JW
Percent Solids: 94%

Extraction Method: ALPHA 23528
Extraction Date: 11/23/22 15:20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.479	0.094	1

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	88		10-117

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-04
Client ID: FIELD BLANK 11/11/22
Sample Location: 461 FOREST AVE STATEN ISLAND

Date Collected: 11/11/22 10:30
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 11/18/22 11:59
Analyst: AMV

Extraction Method: EPA 3510C
Extraction Date: 11/17/22 17:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270E-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	142	32.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	38		15-110

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-04
Client ID: FIELD BLANK 11/11/22
Sample Location: 461 FOREST AVE STATEN ISLAND

Date Collected: 11/11/22 10:30
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 12/07/22 01:33
Analyst: SML

Extraction Method: ALPHA 23528
Extraction Date: 11/16/22 06:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.78	0.363	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.78	0.352	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.78	0.212	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.78	0.292	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.78	0.200	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.78	0.334	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.78	0.210	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.78	1.18	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.78	0.612	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.78	0.277	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.78	0.448	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.78	0.270	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.78	1.08	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.78	0.576	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.78	0.231	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.78	0.871	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.78	0.516	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.78	0.715	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.78	0.331	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.78	0.291	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.78	0.220	1
PFOA/PFOS, Total	ND		ng/l	1.78	0.210	1

Project Name: Not Specified **Lab Number:** L2263658

Project Number: Not Specified **Report Date:** 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-04 Date Collected: 11/11/22 10:30

Client ID: FIELD BLANK 11/11/22 Date Received: 11/11/22

Sample Location: 461 FOREST AVE STATEN ISLAND Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	98		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	89		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	117		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	106		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	108		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	101		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	102		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	101		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	88		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	104		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	94		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	103		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**117**	Q	24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	107		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	71		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	100		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	94		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	98		22-136

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-05
Client ID: EQUIPMENT BLANK 11/11/22
Sample Location: 461 FOREST AVE STATEN ISLAND

Date Collected: 11/11/22 10:35
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 11/22/22 18:42
Analyst: AMV

Extraction Method: EPA 3510C
Extraction Date: 11/18/22 11:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270E-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	136	30.8	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	51		15-110

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-05
Client ID: EQUIPMENT BLANK 11/11/22
Sample Location: 461 FOREST AVE STATEN ISLAND

Date Collected: 11/11/22 10:35
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 12/07/22 01:49
Analyst: SML

Extraction Method: ALPHA 23528
Extraction Date: 11/16/22 06:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.72	0.351	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.72	0.341	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.72	0.205	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.72	0.282	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.72	0.194	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.72	0.324	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.72	0.203	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.72	1.15	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.72	0.592	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.72	0.268	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.72	0.434	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.72	0.262	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.72	1.04	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.72	0.558	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.72	0.224	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.72	0.843	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.72	0.499	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.72	0.692	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.72	0.320	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.72	0.282	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.72	0.213	1
PFOA/PFOS, Total	ND		ng/l	1.72	0.203	1

Project Name: Not Specified **Lab Number:** L2263658

Project Number: Not Specified **Report Date:** 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-05 Date Collected: 11/11/22 10:35

Client ID: EQUIPMENT BLANK 11/11/22 Date Received: 11/11/22

Sample Location: 461 FOREST AVE STATEN ISLAND Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	99		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	90		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	108		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	105		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	112		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	96		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	105		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	95		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	90		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	97		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	96		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	103		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**134**	Q	24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	110		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	77		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	90		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	97		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	97		22-136

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270E
Analytical Date: 11/15/22 21:28
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 11/14/22 00:31

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1711805-1					
1,4-Dioxane	ND		ug/kg	25	7.6

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	87		25-120
Phenol-d6	92		10-120
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	89		30-120
2,4,6-Tribromophenol	49		10-136
4-Terphenyl-d14	84		18-120

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 11/23/22 00:50
Analyst: AC

Extraction Method: ALPHA 23528
Extraction Date: 11/16/22 06:10

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 04-05 Batch: WG1712748-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	0.408
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	0.396
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.238
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	0.328
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.225
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.376
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	0.236
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	1.33
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	0.688
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.312
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	0.504
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.304
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	1.21
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	0.648
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.260
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	0.980
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	0.580
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	0.804
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	0.372
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	0.327
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	0.248
PFOA/PFOS, Total	ND		ng/l	2.00	0.236

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 11/23/22 00:50
Analyst: AC

Extraction Method: ALPHA 23528
Extraction Date: 11/16/22 06:10

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 04-05 Batch: WG1712748-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	103		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	107		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	115		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	111		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	107		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	109		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	102		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	117		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	98		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	100		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	96		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	111		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	93		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	98		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	57		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	92		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	102		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	95		22-136

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270E-SIM
Analytical Date: 11/18/22 10:47
Analyst: AMV

Extraction Method: EPA 3510C
Extraction Date: 11/17/22 17:00

Parameter	Result	Qualifier	Units	RL	MDL
1,4 Dioxane by 8270E-SIM - Mansfield Lab for sample(s): 04 Batch: WG1713637-1					
1,4-Dioxane	ND		ng/l	150	33.9

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	40		15-110

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270E-SIM
Analytical Date: 11/22/22 11:05
Analyst: AMV

Extraction Method: EPA 3510C
Extraction Date: 11/18/22 11:00

Parameter	Result	Qualifier	Units	RL	MDL
1,4 Dioxane by 8270E-SIM - Mansfield Lab for sample(s): 05 Batch: WG1713934-1					
1,4-Dioxane	ND		ng/l	150	33.9

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	58		15-110

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 11/25/22 20:56
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 11/23/22 15:20

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-03 Batch: WG1715913-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.500	0.023
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.500	0.046
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.250	0.039
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.500	0.053
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.250	0.045
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.250	0.061
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.250	0.042
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.500	0.180
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.500	0.136
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.250	0.075
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.250	0.130
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.250	0.067
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.500	0.287
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.500	0.202
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.500	0.047
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.500	0.153
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.500	0.098
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.500	0.085
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.500	0.070
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.500	0.204
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.500	0.054
PFOA/PFOS, Total	ND		ng/g	0.250	0.042

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 11/25/22 20:56
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 11/23/22 15:20

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-03 Batch: WG1715913-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	**57**	Q	61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	**57**	Q	58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	**72**	Q	74-139
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	**65**	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	**62**	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	**69**	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	**59**	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	69		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	**58**	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	**55**	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	**58**	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	60		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**29**	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	62		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	**5**	Q	10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	**25**	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	55		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	**20**	Q	24-159

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 12/09/22 17:44
Analyst: JW

Extraction Method: ALPHA 23528
Extraction Date: 11/23/22 15:20

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-03 Batch: WG1715913-1					
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.500	0.098

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	96		10-117

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1711805-2 WG1711805-3								
1,4-Dioxane	51		65		40-140	24		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	81		100		25-120
Phenol-d6	81		100		10-120
Nitrobenzene-d5	78		94		23-120
2-Fluorobiphenyl	77		92		30-120
2,4,6-Tribromophenol	57		74		10-136
4-Terphenyl-d14	71		88		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 04-05 Batch: WG1712748-2								
Perfluorobutanoic Acid (PFBA)	101		-		67-148	-		30
Perfluoropentanoic Acid (PFPeA)	100		-		63-161	-		30
Perfluorobutanesulfonic Acid (PFBS)	100		-		65-157	-		30
Perfluorohexanoic Acid (PFHxA)	98		-		69-168	-		30
Perfluoroheptanoic Acid (PFHpA)	98		-		58-159	-		30
Perfluorohexanesulfonic Acid (PFHxS)	114		-		69-177	-		30
Perfluorooctanoic Acid (PFOA)	107		-		63-159	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	105		-		49-187	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	109		-		61-179	-		30
Perfluorononanoic Acid (PFNA)	101		-		68-171	-		30
Perfluorooctanesulfonic Acid (PFOS)	116		-		52-151	-		30
Perfluorodecanoic Acid (PFDA)	101		-		63-171	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	101		-		56-173	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	106		-		60-166	-		30
Perfluoroundecanoic Acid (PFUnA)	88		-		60-153	-		30
Perfluorodecanesulfonic Acid (PFDS)	108		-		38-156	-		30
Perfluorooctanesulfonamide (FOSA)	100		-		46-170	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	90		-		45-170	-		30
Perfluorododecanoic Acid (PFDoA)	112		-		67-153	-		30
Perfluorotridecanoic Acid (PFTrDA)	101		-		48-158	-		30
Perfluorotetradecanoic Acid (PFTA)	107		-		59-182	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 04-05 Batch: WG1712748-2								

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	102				58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	105				62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	114				70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	112				57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	108				60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	108				71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	98				62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	122				14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	98				59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	100				69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	101				62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	111				10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	96				24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	106				55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	55				10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	102				27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	107				48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	99				22-136

Lab Control Sample Analysis

Batch Quality Control

Project Name: Not Specified

Project Number: Not Specified

Lab Number: L2263658

Report Date: 12/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
1,4 Dioxane by 8270E-SIM - Mansfield Lab Associated sample(s): 04 Batch: WG1713637-2 WG1713637-3								
1,4-Dioxane	110		110		40-140	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	37		40		15-110

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
1,4 Dioxane by 8270E-SIM - Mansfield Lab Associated sample(s): 05 Batch: WG1713934-2 WG1713934-3								
1,4-Dioxane	113		114		40-140	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	55		60		15-110

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03 Batch: WG1715913-2								
Perfluorobutanoic Acid (PFBA)	96		-		71-135	-		30
Perfluoropentanoic Acid (PFPeA)	96		-		69-132	-		30
Perfluorobutanesulfonic Acid (PFBS)	101		-		72-128	-		30
Perfluorohexanoic Acid (PFHxA)	97		-		70-132	-		30
Perfluoroheptanoic Acid (PFHpA)	99		-		71-131	-		30
Perfluorohexanesulfonic Acid (PFHxS)	110		-		67-130	-		30
Perfluorooctanoic Acid (PFOA)	102		-		69-133	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	98		-		64-140	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	113		-		70-132	-		30
Perfluorononanoic Acid (PFNA)	97		-		72-129	-		30
Perfluorooctanesulfonic Acid (PFOS)	111		-		68-136	-		30
Perfluorodecanoic Acid (PFDA)	102		-		69-133	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	105		-		65-137	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	112		-		63-144	-		30
Perfluoroundecanoic Acid (PFUnA)	84		-		64-136	-		30
Perfluorodecanesulfonic Acid (PFDS)	103		-		59-134	-		30
Perfluorooctanesulfonamide (FOSA)	90		-		67-137	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	110		-		61-139	-		30
Perfluorododecanoic Acid (PFDoA)	112		-		69-135	-		30
Perfluorotridecanoic Acid (PFTrDA)	138		-		66-139	-		30
Perfluorotetradecanoic Acid (PFTA)	98		-		69-133	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: Not Specified

Project Number: Not Specified

Lab Number: L2263658

Report Date: 12/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03 Batch: WG1715913-2								

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	66				61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	64				58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	77				74-139
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	74				66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	**70**	Q			71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	**76**	Q			78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	**64**	Q			75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	79				20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	**65**	Q			72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	**61**	Q			79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	**62**	Q			75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	64				19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	47				31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	66				61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	18				10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	44				34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	63				54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	32				24-159

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab	Associated sample(s): 01-03		Batch: WG1715913-2					
Perfluorooctanesulfonamide (FOSA)	97		-		67-137	-		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	95				10-117

Matrix Spike Analysis

Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1711805-4 WG1711805-5 QC Sample: L2263658-02 Client ID: SB-467												
1,4-Dioxane	ND	1450	720	50		690	49		40-140	4		50

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,4,6-Tribromophenol	72		77		10-136
2-Fluorobiphenyl	62		63		30-120
2-Fluorophenol	80		82		25-120
4-Terphenyl-d14	61		63		18-120
Nitrobenzene-d5	87		88		23-120
Phenol-d6	77		80		10-120

Matrix Spike Analysis

Batch Quality Control

Project Name: Not Specified

Project Number: Not Specified

Lab Number: L2263658

Report Date: 12/21/22

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 04-05 QC Batch ID: WG1712748-3 QC Sample: L2261617-02 Client ID: MS Sample												
Perfluorobutanoic Acid (PFBA)	7.36	39.2	46.0	99		-	-		67-148	-		30
Perfluoropentanoic Acid (PFPeA)	15.1	39.2	53.8	99		-	-		63-161	-		30
Perfluorobutanesulfonic Acid (PFBS)	6.38	34.8	41.2	100		-	-		65-157	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	36.8	38.1	104		-	-		37-219	-		30
Perfluorohexanoic Acid (PFHxA)	10.1	39.2	48.9	99		-	-		69-168	-		30
Perfluoropentanesulfonic Acid (PFPeS)	0.614J	36.9	38.6	103		-	-		52-156	-		30
Perfluoroheptanoic Acid (PFHpA)	9.22	39.2	47.5	98		-	-		58-159	-		30
Perfluorohexanesulfonic Acid (PFHxS)	2.10	35.8	41.5	110		-	-		69-177	-		30
Perfluorooctanoic Acid (PFOA)	19.5	39.2	59.8	103		-	-		63-159	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	1.68J	37.3	40.1	103		-	-		49-187	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	37.4	40.6	109		-	-		61-179	-		30
Perfluorononanoic Acid (PFNA)	2.02	39.2	40.2	97		-	-		68-171	-		30
Perfluorooctanesulfonic Acid (PFOS)	18.9	36.4	59.8	112		-	-		52-151	-		30
Perfluorodecanoic Acid (PFDA)	ND	39.2	36.0	92		-	-		63-171	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	37.6	35.4	94		-	-		56-173	-		30
Perfluorononanesulfonic Acid (PFNS)	ND	37.7	38.9	103		-	-		48-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	39.2	42.8	109		-	-		60-166	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	39.2	36.4	93		-	-		60-153	-		30
Perfluorodecanesulfonic Acid (PFDS)	ND	37.9	37.8	100		-	-		38-156	-		30
Perfluorooctanesulfonamide (FOSA)	ND	39.2	37.2	95		-	-		46-170	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	39.2	37.3	95		-	-		45-170	-		30
Perfluorododecanoic Acid (PFDoA)	ND	39.2	35.7	91		-	-		67-153	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 04-05 QC Batch ID: WG1712748-3 QC Sample: L2261617-02 Client ID: MS Sample												
Perfluorotridecanoic Acid (PFTrDA)	ND	39.2	39.7	101		-	-		48-158	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	39.2	39.1	100		-	-		59-182	-		30

Surrogate (Extracted Internal Standard)	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	142				10-162
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	**256**	Q			12-142
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**223**	Q			14-147
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	75				27-126
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	71				24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	85				55-137
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	89				62-124
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	85				57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	93				60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	100				71-134
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	84				48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	71				22-136
Perfluoro[13C4]Butanoic Acid (MPFBA)	96				58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	79				62-163
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	35				10-112
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	94				69-131
Perfluoro[13C8]Octanoic Acid (M8PFOA)	92				62-129
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	95				59-139
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	99				70-131

Matrix Spike Analysis

Batch Quality Control

Project Name: Not Specified

Project Number: Not Specified

Lab Number: L2263658

Report Date: 12/21/22

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1715913-3 WG1715913-4 QC Sample: L2263658-02 Client ID: SB-467												
Perfluorobutanoic Acid (PFBA)	0.026J	5.23	5.14	98		4.97	100		71-135	3		30
Perfluoropentanoic Acid (PFPeA)	0.069J	5.23	5.13	97		5.12	102		69-132	0		30
Perfluorobutanesulfonic Acid (PFBS)	ND	4.65	4.60	99		4.62	105		72-128	0		30
Perfluorohexanoic Acid (PFHxA)	0.067J	5.23	5.27	99		5.08	101		70-132	4		30
Perfluoroheptanoic Acid (PFHpA)	0.072J	5.23	5.27	99		5.04	100		71-131	4		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	4.78	5.37	112		5.00	110		67-130	7		30
Perfluorooctanoic Acid (PFOA)	0.590	5.23	5.72	98		5.72	103		69-133	0		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	4.98	5.30	106		4.95	105		64-140	7		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	4.99	5.86	117		5.62	119		70-132	4		30
Perfluorononanoic Acid (PFNA)	ND	5.23	5.37	103		5.34	108		72-129	1		30
Perfluorooctanesulfonic Acid (PFOS)	3.70	4.86	8.62	101		8.74	109		68-136	1		30
Perfluorodecanoic Acid (PFDA)	ND	5.23	5.27	101		5.18	104		69-133	2		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	5.02	4.60	92		4.21	88		65-137	9		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	5.23	5.29	101		4.52F	91		63-144	16		30
Perfluoroundecanoic Acid (PFUnA)	ND	5.23	4.70	90		4.50	91		64-136	4		30
Perfluorodecanesulfonic Acid (PFDS)	ND	5.06	6.12	121		5.94	124		59-134	3		30
Perfluorooctanesulfonamide (FOSA)	ND	5.23	5.14	98		5.14	104		67-137	0		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	5.23	6.06	116		4.29	87		61-139	**34**	Q	30
Perfluorododecanoic Acid (PFDoA)	ND	5.23	5.43	104		5.66	114		69-135	4		30
Perfluorotridecanoic Acid (PFTrDA)	ND	5.23	5.86	112		6.46	130		66-139	10		30
Perfluorotetradecanoic Acid (PFTA)	ND	5.23	5.86	112		5.33	107		69-133	9		30

Matrix Spike Analysis

Batch Quality Control

Project Name: Not Specified

Project Number: Not Specified

Lab Number: L2263658

Report Date: 12/21/22

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1715913-3 WG1715913-4 QC Sample: L2263658-02 Client ID: SB-467

Surrogate (Extracted Internal Standard)	*MS % Recovery*	*MS Qualifier*	*MSD % Recovery*	*MSD Qualifier*	*Acceptance Criteria*
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	109		111		19-175
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	112		110		20-154
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	68		81		34-137
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	64		65		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	104		105		61-155
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	91		94		75-130
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	101		104		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	99		101		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	106		108		78-139
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	111		111		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	86		88		24-159
Perfluoro[13C4]Butanoic Acid (MPFBA)	92		92		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	89		89		58-150
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	51		70		10-117
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	92		91		79-136
Perfluoro[13C8]Octanoic Acid (M8PFOA)	94		94		75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	92		92		72-140
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	111		107		74-139

Lab Duplicate Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 04-05 QC Batch ID: WG1712748-4 QC Sample: L2261617-03 Client ID: DUP Sample						
Perfluorobutanoic Acid (PFBA)	7.20	7.55	ng/l	5		30
Perfluoropentanoic Acid (PFPeA)	14.0	13.6	ng/l	3		30
Perfluorobutanesulfonic Acid (PFBS)	6.52	6.30	ng/l	3		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	10.0	10.0	ng/l	0		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	8.96	9.08	ng/l	1		30
Perfluorohexanesulfonic Acid (PFHxS)	1.93	1.99	ng/l	3		30
Perfluorooctanoic Acid (PFOA)	19.1	19.4	ng/l	2		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	1.79J	1.65J	ng/l	NC		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	1.81J	2.09	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	18.2	19.7	ng/l	8		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	ND	ng/l	NC		30
Perfluorononanesulfonic Acid (PFNS)	ND	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
Perfluorodecanesulfonic Acid (PFDS)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonamide (FOSA)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 04-05 QC Batch ID: WG1712748-4 QC Sample: L2261617-03 Client ID: DUP Sample						
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	96		94		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	79		79		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	97		94		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	**248**	Q	**236**	Q	12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	85		87		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	92		95		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	98		98		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	93		95		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**221**	Q	**207**	Q	14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	94		91		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	90		85		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	85		82		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	137		122		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	74		70		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	81		84		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	24		27		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	68		70		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	73		77		48-131

Lab Duplicate Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 04-05 QC Batch ID: WG1712748-4 QC Sample: L2261617-03 Client ID: DUP Sample						

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	68		68		22-136

INORGANICS
&
MISCELLANEOUS

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-01
Client ID: SB-461
Sample Location: 461 FOREST AVE STATEN ISLAND

Date Collected: 11/11/22 10:06
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.4		%	0.100	NA	1	-	11/13/22 22:00	121,2540G	MF

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-02
Client ID: SB-467
Sample Location: 461 FOREST AVE STATEN ISLAND

Date Collected: 11/11/22 11:21
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.2		%	0.100	NA	1	-	11/13/22 22:00	121,2540G	MF

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

SAMPLE RESULTS

Lab ID: L2263658-03
Client ID: SB-XX
Sample Location: 461 FOREST AVE STATEN ISLAND

Date Collected: 11/11/22 10:07
Date Received: 11/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.4		%	0.100	NA	1	-	11/13/22 22:00	121,2540G	MF

Lab Duplicate Analysis

Batch Quality Control

Project Name: Not Specified

Project Number: Not Specified

Lab Number: L2263658

Report Date: 12/21/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1711795-1 QC Sample: L2263658-02 Client ID: SB-467						
Solids, Total	91.2	90.1	%	1		20

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2263658-01A	Vial MeOH preserved	B	NA		4.0	Y	Absent		NYTCL-8260HLW(14)
L2263658-01B	Vial water preserved	B	NA		4.0	Y	Absent	12-NOV-22 08:26	NYTCL-8260HLW(14)
L2263658-01C	Vial water preserved	B	NA		4.0	Y	Absent	12-NOV-22 08:26	NYTCL-8260HLW(14)
L2263658-01D	Glass 60mL/2oz unpreserved	B	NA		4.0	Y	Absent		NYTCL-8270(14)
L2263658-01E	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		TS(7)
L2263658-01F	Plastic 120ml unpreserved	B	NA		4.0	Y	Absent		TS(7)
L2263658-01G	Plastic 8oz unpreserved	A	NA		3.4	Y	Absent		A2-NY-537-ISOTOPE(90)
L2263658-02A	Vial MeOH preserved	B	NA		4.0	Y	Absent		NYTCL-8260HLW(14)
L2263658-02A1	Vial MeOH preserved	B	NA		4.0	Y	Absent		NYTCL-8260HLW(14)
L2263658-02A2	Vial MeOH preserved	B	NA		4.0	Y	Absent		NYTCL-8260HLW(14)
L2263658-02B	Vial water preserved	B	NA		4.0	Y	Absent	12-NOV-22 08:26	NYTCL-8260HLW(14)
L2263658-02B1	Vial water preserved	B	NA		4.0	Y	Absent	12-NOV-22 08:26	NYTCL-8260HLW(14)
L2263658-02B2	Vial water preserved	B	NA		4.0	Y	Absent	12-NOV-22 08:26	NYTCL-8260HLW(14)
L2263658-02C	Vial water preserved	B	NA		4.0	Y	Absent	12-NOV-22 08:26	NYTCL-8260HLW(14)
L2263658-02C1	Vial water preserved	B	NA		4.0	Y	Absent	12-NOV-22 08:26	NYTCL-8260HLW(14)
L2263658-02C2	Vial water preserved	B	NA		4.0	Y	Absent	12-NOV-22 08:26	NYTCL-8260HLW(14)
L2263658-02D	Glass 60mL/2oz unpreserved	B	NA		4.0	Y	Absent		NYTCL-8270(14)
L2263658-02D1	Glass 60mL/2oz unpreserved	B	NA		4.0	Y	Absent		NYTCL-8270(14)
L2263658-02D2	Glass 60mL/2oz unpreserved	B	NA		4.0	Y	Absent		NYTCL-8270(14)
L2263658-02E	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		TS(7)
L2263658-02E1	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		TS(7)
L2263658-02E2	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: Not Specified
Project Number: Not Specified

Lab Number: L2263658
Report Date: 12/21/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2263658-02F	Plastic 120ml unpreserved	B	NA		4.0	Y	Absent		TS(7)
L2263658-02F1	Plastic 120ml unpreserved	B	NA		4.0	Y	Absent		TS(7)
L2263658-02F2	Plastic 120ml unpreserved	B	NA		4.0	Y	Absent		TS(7)
L2263658-02G	Plastic 8oz unpreserved	A	NA		3.4	Y	Absent		A2-NY-537-ISOTOPE(90)
L2263658-02G1	Plastic 8oz unpreserved	A	NA		3.4	Y	Absent		A2-NY-537-ISOTOPE(90)
L2263658-02G2	Plastic 8oz unpreserved	A	NA		3.4	Y	Absent		A2-NY-537-ISOTOPE(90)
L2263658-03A	Vial MeOH preserved	B	NA		4.0	Y	Absent		NYTCL-8260HLW(14)
L2263658-03B	Vial water preserved	B	NA		4.0	Y	Absent	12-NOV-22 08:26	NYTCL-8260HLW(14)
L2263658-03C	Vial water preserved	B	NA		4.0	Y	Absent	12-NOV-22 08:26	NYTCL-8260HLW(14)
L2263658-03D	Glass 60mL/2oz unpreserved	B	NA		4.0	Y	Absent		NYTCL-8270(14)
L2263658-03E	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		TS(7)
L2263658-03F	Plastic 120ml unpreserved	B	NA		4.0	Y	Absent		TS(7)
L2263658-03G	Plastic 8oz unpreserved	A	NA		3.4	Y	Absent		A2-NY-537-ISOTOPE(90)
L2263658-04A	Vial HCl preserved	B	NA		4.0	Y	Absent		NYTCL-8260(14)
L2263658-04B	Vial HCl preserved	B	NA		4.0	Y	Absent		NYTCL-8260(14)
L2263658-04C	Vial HCl preserved	B	NA		4.0	Y	Absent		NYTCL-8260(14)
L2263658-04D	Amber 250ml unpreserved	B	7	7	4.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2263658-04E	Amber 250ml unpreserved	B	7	7	4.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2263658-04F	Plastic 250ml unpreserved	A	NA		3.4	Y	Absent		A2-NY-537-ISOTOPE(28)
L2263658-05A	Vial HCl preserved	B	NA		4.0	Y	Absent		NYTCL-8260(14)
L2263658-05B	Vial HCl preserved	B	NA		4.0	Y	Absent		NYTCL-8260(14)
L2263658-05C	Vial HCl preserved	B	NA		4.0	Y	Absent		NYTCL-8260(14)
L2263658-05D	Amber 250ml unpreserved	B	7	7	4.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2263658-05E	Amber 250ml unpreserved	B	7	7	4.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2263658-05F	Plastic 250ml unpreserved	A	NA		3.4	Y	Absent		A2-NY-537-ISOTOPE(28)
L2263658-06A	Vial HCl preserved	B	NA		4.0	Y	Absent		NYTCL-8260(14)
L2263658-06B	Vial HCl preserved	B	NA		4.0	Y	Absent		NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Project Name: Not Specified
Project Number:

Lab Number: L2263658
Report Date: 12/21/22

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: Not Specified
Project Number:

Lab Number: L2263658
Report Date: 12/21/22

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	Not Specified	**Lab Number:**	L2263658
Project Number:	Not Specified	**Report Date:**	12/21/22

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: DU Report with 'J' Qualifiers

Project Name:	Not Specified	**Lab Number:**	L2263658
Project Number:	Not Specified	**Report Date:**	12/21/22

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.

Chlordane: 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.)

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'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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 for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name: Not Specified **Lab Number:** L2263658

Project Number: Not Specified **Report Date:** 12/21/22

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where 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.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name: Not Specified
Project Number: Not Specified
Lab Number: L2263658
Report Date: 12/21/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

134 Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) using Isotope Dilution. Alpha SOP 23528.

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 625/625.1: alpha-Terpineol
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, alpha-Terpineol; 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.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 11/11/22

ALPHA Job #: L2263658

Client Information

Client: CA Rich Consultants
Address: 17 Dupont St.
Plainview NY
Phone: 5165760844
Fax:
Email: Hmoran@carichinc.com

Project Information

Project Name:
Project Location: 461 Forest Ave. Staten Island
Project #
(Use Project name as Project #) ☐
Project Manager: Jason Cooper
ALPHAQuote #:

Turn-Around Time

Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☐ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TCL VOCs 8260	PFAS Method 537	1,4-Dioxane 8270						Sample Specific Comments	Total Bottle
L3658-01	SB-461	11/11/22	1000	S	TB	X	X	X							7
-02	SB-467	11/11/22	1121	S	TB	X	X	X							7
-02	SB-467 MS	11/11/22	1122	S	TB	X	X	X							7
-02	SB-467 MSD	11/11/22	1123	S	TB	X	X	X							7
-03	SB-XX	11/11/22	1007	S	TB	X	X	X							7
-04	Field Blank 11/11/22	11/11/22	1030	FB	TB	X	X	X							6
-05	Equipment Blank 11/11/22	11/11/22	1035	EB	TB	X	X	X							6
-06	Trip Blank 11/11/22	11/11/22	—	TB	TB	X									2

Container Type: V P A
Preservative: A A A

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
TB	11/11/22 1300	(AAL)	11/11/22 1300
(AAL)	11/11/22 18:30		11/11/22 2115
	11/11/22 2305		11/11/22 2305

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

ANALYTICAL REPORT

Lab Number:	L2264810
Client:	CA Rich Consultants, Inc. 17 Dupont St. Plainview, NY 11803
ATTN:	Jason Cooper
Phone:	(516) 576-8844
Project Name:	FOREST AVE
Project Number:	Not Specified
Report Date:	12/05/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

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: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2264810-01	SSV-461	SOIL_VAPOR	Not Specified	11/16/22 14:05	11/17/22
L2264810-02	SSV-463	SOIL_VAPOR	Not Specified	11/16/22 14:10	11/17/22
L2264810-03	SSV-465	SOIL_VAPOR	Not Specified	11/16/22 14:15	11/17/22
L2264810-04	SSV-467	SOIL_VAPOR	Not Specified	11/16/22 14:22	11/17/22
L2264810-05	SSV-XX	SOIL_VAPOR	Not Specified	11/16/22 14:06	11/17/22
L2264810-06	SV-E	SOIL_VAPOR	Not Specified	11/16/22 11:23	11/17/22
L2264810-07	SV-W	SOIL_VAPOR	Not Specified	11/16/22 15:50	11/17/22
L2264810-08	IA-461	AIR	Not Specified	11/16/22 12:30	11/17/22
L2264810-09	IA-463	AIR	Not Specified	11/16/22 14:11	11/17/22
L2264810-10	IA-465	AIR	Not Specified	11/16/22 14:16	11/17/22
L2264810-11	IA-467	AIR	Not Specified	11/16/22 14:25	11/17/22
L2264810-12	OA-1	AIR	Not Specified	11/16/22 15:46	11/17/22

Project Name:	FOREST AVE	**Lab Number:**	L2264810
Project Number:	Not Specified	**Report Date:**	12/05/22

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: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on November 9, 2022. The canister certification results are provided as an addendum.

L2264810-01D, -02D, -03D, -04D, -05D, -09D, -10D, and -11D: The samples have elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the samples.

L2264810-07D: Prior to sample analysis, the canisters were pressurized with UHP Nitrogen in order to perform a screen analysis. The pressurization resulted in a dilution of the samples. The reporting limits have been elevated accordingly.

L2264810-09, -10, and -11: The samples were re-analyzed on dilution in order to quantitate 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.

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: 12/05/22

AIR

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-01 D
Client ID: SSV-461
Sample Location:

Date Collected: 11/16/22 14:05
Date Received: 11/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 12/03/22 22:56
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	47.6	--	ND	235	--		238.1
Chloromethane	ND	47.6	--	ND	98.3	--		238.1
Freon-114	ND	47.6	--	ND	333	--		238.1
Vinyl chloride	ND	47.6	--	ND	122	--		238.1
1,3-Butadiene	ND	47.6	--	ND	105	--		238.1
Bromomethane	ND	47.6	--	ND	185	--		238.1
Chloroethane	ND	47.6	--	ND	126	--		238.1
Ethanol	ND	1190	--	ND	2240	--		238.1
Vinyl bromide	ND	47.6	--	ND	208	--		238.1
Acetone	ND	238	--	ND	565	--		238.1
Trichlorofluoromethane	ND	47.6	--	ND	267	--		238.1
Isopropanol	ND	119	--	ND	293	--		238.1
1,1-Dichloroethene	ND	47.6	--	ND	189	--		238.1
Tertiary butyl Alcohol	ND	119.	--	ND	361	--		238.1
Methylene chloride	ND	119	--	ND	413	--		238.1
3-Chloropropene	ND	47.6	--	ND	149	--		238.1
Carbon disulfide	ND	47.6	--	ND	148	--		238.1
Freon-113	ND	47.6	--	ND	365	--		238.1
trans-1,2-Dichloroethene	80.7	47.6	--	320	189	--		238.1
1,1-Dichloroethane	ND	47.6	--	ND	193	--		238.1
Methyl tert butyl ether	ND	47.6	--	ND	172	--		238.1
2-Butanone	ND	119.	--	ND	351	--		238.1
cis-1,2-Dichloroethene	1180	47.6	--	4680	189	--		238.1

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-01 D
Client ID: SSV-461
Sample Location:

Date Collected: 11/16/22 14:05
Date Received: 11/17/22
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	119.	--	ND	429	--		238.1
Chloroform	ND	47.6	--	ND	232	--		238.1
Tetrahydrofuran	ND	119.	--	ND	351	--		238.1
1,2-Dichloroethane	ND	47.6	--	ND	193	--		238.1
n-Hexane	ND	47.6	--	ND	168	--		238.1
1,1,1-Trichloroethane	ND	47.6	--	ND	260	--		238.1
Benzene	ND	47.6	--	ND	152	--		238.1
Carbon tetrachloride	ND	47.6	--	ND	299	--		238.1
Cyclohexane	ND	47.6	--	ND	164	--		238.1
1,2-Dichloropropane	ND	47.6	--	ND	220	--		238.1
Bromodichloromethane	ND	47.6	--	ND	319	--		238.1
1,4-Dioxane	ND	47.6	--	ND	172	--		238.1
Trichloroethene	1260	47.6	--	6770	256	--		238.1
2,2,4-Trimethylpentane	ND	47.6	--	ND	222	--		238.1
Heptane	ND	47.6	--	ND	195	--		238.1
cis-1,3-Dichloropropene	ND	47.6	--	ND	216	--		238.1
4-Methyl-2-pentanone	ND	119.	--	ND	488	--		238.1
trans-1,3-Dichloropropene	ND	47.6	--	ND	216	--		238.1
1,1,2-Trichloroethane	ND	47.6	--	ND	260	--		238.1
Toluene	ND	47.6	--	ND	179	--		238.1
2-Hexanone	ND	47.6	--	ND	195	--		238.1
Dibromochloromethane	ND	47.6	--	ND	406	--		238.1
1,2-Dibromoethane	ND	47.6	--	ND	366	--		238.1
Tetrachloroethene	21700	47.6	--	147000	323	--		238.1
Chlorobenzene	ND	47.6	--	ND	219	--		238.1
Ethylbenzene	ND	47.6	--	ND	207	--		238.1

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-01 D
Client ID: SSV-461
Sample Location:

Date Collected: 11/16/22 14:05
Date Received: 11/17/22
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	95.2	--	ND	414	--		238.1
Bromoform	ND	47.6	--	ND	492	--		238.1
Styrene	ND	47.6	--	ND	203	--		238.1
1,1,2,2-Tetrachloroethane	ND	47.6	--	ND	327	--		238.1
o-Xylene	ND	47.6	--	ND	207	--		238.1
4-Ethyltoluene	ND	47.6	--	ND	234	--		238.1
1,3,5-Trimethylbenzene	ND	47.6	--	ND	234	--		238.1
1,2,4-Trimethylbenzene	ND	47.6	--	ND	234	--		238.1
Benzyl chloride	ND	47.6	--	ND	246	--		238.1
1,3-Dichlorobenzene	ND	47.6	--	ND	286	--		238.1
1,4-Dichlorobenzene	ND	47.6	--	ND	286	--		238.1
1,2-Dichlorobenzene	ND	47.6	--	ND	286	--		238.1
1,2,4-Trichlorobenzene	ND	47.6	--	ND	353	--		238.1
Hexachlorobutadiene	ND	47.6	--	ND	508	--		238.1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	97		60-140
Bromochloromethane	98		60-140
chlorobenzene-d5	97		60-140

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-02 D
Client ID: SSV-463
Sample Location:

Date Collected: 11/16/22 14:10
Date Received: 11/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 12/03/22 23:32
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	96.2	--	ND	476	--		480.8
Chloromethane	ND	96.2	--	ND	199	--		480.8
Freon-114	ND	96.2	--	ND	672	--		480.8
Vinyl chloride	ND	96.2	--	ND	246	--		480.8
1,3-Butadiene	ND	96.2	--	ND	213	--		480.8
Bromomethane	ND	96.2	--	ND	374	--		480.8
Chloroethane	ND	96.2	--	ND	254	--		480.8
Ethanol	ND	2400	--	ND	4520	--		480.8
Vinyl bromide	ND	96.2	--	ND	421	--		480.8
Acetone	ND	481	--	ND	1140	--		480.8
Trichlorofluoromethane	ND	96.2	--	ND	541	--		480.8
Isopropanol	ND	240	--	ND	590	--		480.8
1,1-Dichloroethene	ND	96.2	--	ND	381	--		480.8
Tertiary butyl Alcohol	ND	240.	--	ND	728	--		480.8
Methylene chloride	ND	240	--	ND	834	--		480.8
3-Chloropropene	ND	96.2	--	ND	301	--		480.8
Carbon disulfide	ND	96.2	--	ND	300	--		480.8
Freon-113	ND	96.2	--	ND	737	--		480.8
trans-1,2-Dichloroethene	280	96.2	--	1110	381	--		480.8
1,1-Dichloroethane	ND	96.2	--	ND	389	--		480.8
Methyl tert butyl ether	ND	96.2	--	ND	347	--		480.8
2-Butanone	ND	240.	--	ND	708	--		480.8
cis-1,2-Dichloroethene	4150	96.2	--	16500	381	--		480.8

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-02 D
Client ID: SSV-463
Sample Location:

Date Collected: 11/16/22 14:10
Date Received: 11/17/22
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	240.	--	ND	865	--		480.8
Chloroform	ND	96.2	--	ND	470	--		480.8
Tetrahydrofuran	ND	240.	--	ND	708	--		480.8
1,2-Dichloroethane	ND	96.2	--	ND	389	--		480.8
n-Hexane	ND	96.2	--	ND	339	--		480.8
1,1,1-Trichloroethane	ND	96.2	--	ND	525	--		480.8
Benzene	ND	96.2	--	ND	307	--		480.8
Carbon tetrachloride	ND	96.2	--	ND	605	--		480.8
Cyclohexane	ND	96.2	--	ND	331	--		480.8
1,2-Dichloropropane	ND	96.2	--	ND	445	--		480.8
Bromodichloromethane	ND	96.2	--	ND	644	--		480.8
1,4-Dioxane	ND	96.2	--	ND	347	--		480.8
Trichloroethene	1750	96.2	--	9400	517	--		480.8
2,2,4-Trimethylpentane	ND	96.2	--	ND	449	--		480.8
Heptane	ND	96.2	--	ND	394	--		480.8
cis-1,3-Dichloropropene	ND	96.2	--	ND	437	--		480.8
4-Methyl-2-pentanone	ND	240.	--	ND	984	--		480.8
trans-1,3-Dichloropropene	ND	96.2	--	ND	437	--		480.8
1,1,2-Trichloroethane	ND	96.2	--	ND	525	--		480.8
Toluene	ND	96.2	--	ND	363	--		480.8
2-Hexanone	ND	96.2	--	ND	394	--		480.8
Dibromochloromethane	ND	96.2	--	ND	820	--		480.8
1,2-Dibromoethane	ND	96.2	--	ND	739	--		480.8
Tetrachloroethene	40300	96.2	--	273000	652	--		480.8
Chlorobenzene	ND	96.2	--	ND	443	--		480.8
Ethylbenzene	ND	96.2	--	ND	418	--		480.8

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-02 D
Client ID: SSV-463
Sample Location:

Date Collected: 11/16/22 14:10
Date Received: 11/17/22
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	192.	--	ND	834	--		480.8
Bromoform	ND	96.2	--	ND	995	--		480.8
Styrene	ND	96.2	--	ND	410	--		480.8
1,1,2,2-Tetrachloroethane	ND	96.2	--	ND	661	--		480.8
o-Xylene	ND	96.2	--	ND	418	--		480.8
4-Ethyltoluene	ND	96.2	--	ND	473	--		480.8
1,3,5-Trimethylbenzene	ND	96.2	--	ND	473	--		480.8
1,2,4-Trimethylbenzene	ND	96.2	--	ND	473	--		480.8
Benzyl chloride	ND	96.2	--	ND	498	--		480.8
1,3-Dichlorobenzene	ND	96.2	--	ND	578	--		480.8
1,4-Dichlorobenzene	ND	96.2	--	ND	578	--		480.8
1,2-Dichlorobenzene	ND	96.2	--	ND	578	--		480.8
1,2,4-Trichlorobenzene	ND	96.2	--	ND	714	--		480.8
Hexachlorobutadiene	ND	96.2	--	ND	1030	--		480.8

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	96		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	96		60-140

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-03 D
Client ID: SSV-465
Sample Location:

Date Collected: 11/16/22 14:15
Date Received: 11/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 12/04/22 00:08
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	2.80	0.878	--	13.8	4.34	--		4.388
Chloromethane	ND	0.878	--	ND	1.81	--		4.388
Freon-114	ND	0.878	--	ND	6.14	--		4.388
Vinyl chloride	ND	0.878	--	ND	2.24	--		4.388
1,3-Butadiene	ND	0.878	--	ND	1.94	--		4.388
Bromomethane	ND	0.878	--	ND	3.41	--		4.388
Chloroethane	ND	0.878	--	ND	2.32	--		4.388
Ethanol	278	21.9	--	524	41.3	--		4.388
Vinyl bromide	ND	0.878	--	ND	3.84	--		4.388
Acetone	16.9	4.39	--	40.1	10.4	--		4.388
Trichlorofluoromethane	ND	0.878	--	ND	4.93	--		4.388
Isopropanol	45.1	2.19	--	111	5.38	--		4.388
1,1-Dichloroethene	ND	0.878	--	ND	3.48	--		4.388
Tertiary butyl Alcohol	ND	2.19	--	ND	6.64	--		4.388
Methylene chloride	ND	2.19	--	ND	7.61	--		4.388
3-Chloropropene	ND	0.878	--	ND	2.75	--		4.388
Carbon disulfide	ND	0.878	--	ND	2.73	--		4.388
Freon-113	ND	0.878	--	ND	6.73	--		4.388
trans-1,2-Dichloroethene	1.40	0.878	--	5.55	3.48	--		4.388
1,1-Dichloroethane	ND	0.878	--	ND	3.55	--		4.388
Methyl tert butyl ether	ND	0.878	--	ND	3.17	--		4.388
2-Butanone	3.00	2.19	--	8.85	6.46	--		4.388
cis-1,2-Dichloroethene	22.4	0.878	--	88.8	3.48	--		4.388

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-03 D
Client ID: SSV-465
Sample Location:

Date Collected: 11/16/22 14:15
Date Received: 11/17/22
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	2.19	--	ND	7.89	--		4.388
Chloroform	ND	0.878	--	ND	4.29	--		4.388
Tetrahydrofuran	4.97	2.19	--	14.7	6.46	--		4.388
1,2-Dichloroethane	ND	0.878	--	ND	3.55	--		4.388
n-Hexane	ND	0.878	--	ND	3.09	--		4.388
1,1,1-Trichloroethane	ND	0.878	--	ND	4.79	--		4.388
Benzene	5.73	0.878	--	18.3	2.80	--		4.388
Carbon tetrachloride	ND	0.878	--	ND	5.52	--		4.388
Cyclohexane	ND	0.878	--	ND	3.02	--		4.388
1,2-Dichloropropane	ND	0.878	--	ND	4.06	--		4.388
Bromodichloromethane	ND	0.878	--	ND	5.88	--		4.388
1,4-Dioxane	ND	0.878	--	ND	3.16	--		4.388
Trichloroethene	23.0	0.878	--	124	4.72	--		4.388
2,2,4-Trimethylpentane	ND	0.878	--	ND	4.10	--		4.388
Heptane	ND	0.878	--	ND	3.60	--		4.388
cis-1,3-Dichloropropene	ND	0.878	--	ND	3.99	--		4.388
4-Methyl-2-pentanone	ND	2.19	--	ND	8.97	--		4.388
trans-1,3-Dichloropropene	ND	0.878	--	ND	3.99	--		4.388
1,1,2-Trichloroethane	ND	0.878	--	ND	4.79	--		4.388
Toluene	31.0	0.878	--	117	3.31	--		4.388
2-Hexanone	ND	0.878	--	ND	3.60	--		4.388
Dibromochloromethane	ND	0.878	--	ND	7.48	--		4.388
1,2-Dibromoethane	ND	0.878	--	ND	6.75	--		4.388
Tetrachloroethene	434	0.878	--	2940	5.95	--		4.388
Chlorobenzene	1.96	0.878	--	9.03	4.04	--		4.388
Ethylbenzene	1.13	0.878	--	4.91	3.81	--		4.388

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-03 D
Client ID: SSV-465
Sample Location:

Date Collected: 11/16/22 14:15
Date Received: 11/17/22
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	4.92	1.76	--	21.4	7.64	--		4.388
Bromoform	ND	0.878	--	ND	9.08	--		4.388
Styrene	ND	0.878	--	ND	3.74	--		4.388
1,1,2,2-Tetrachloroethane	ND	0.878	--	ND	6.03	--		4.388
o-Xylene	1.75	0.878	--	7.60	3.81	--		4.388
4-Ethyltoluene	ND	0.878	--	ND	4.32	--		4.388
1,3,5-Trimethylbenzene	ND	0.878	--	ND	4.32	--		4.388
1,2,4-Trimethylbenzene	1.85	0.878	--	9.09	4.32	--		4.388
Benzyl chloride	ND	0.878	--	ND	4.55	--		4.388
1,3-Dichlorobenzene	ND	0.878	--	ND	5.28	--		4.388
1,4-Dichlorobenzene	ND	0.878	--	ND	5.28	--		4.388
1,2-Dichlorobenzene	ND	0.878	--	ND	5.28	--		4.388
1,2,4-Trichlorobenzene	ND	0.878	--	ND	6.52	--		4.388
Hexachlorobutadiene	ND	0.878	--	ND	9.37	--		4.388

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	91		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	91		60-140

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-04 D
Client ID: SSV-467
Sample Location:

Date Collected: 11/16/22 14:22
Date Received: 11/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 12/04/22 10:08
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	4.68	--	ND	23.1	--		23.41
Chloromethane	ND	4.68	--	ND	9.66	--		23.41
Freon-114	ND	4.68	--	ND	32.7	--		23.41
Vinyl chloride	ND	4.68	--	ND	12.0	--		23.41
1,3-Butadiene	ND	4.68	--	ND	10.4	--		23.41
Bromomethane	ND	4.68	--	ND	18.2	--		23.41
Chloroethane	ND	4.68	--	ND	12.3	--		23.41
Ethanol	184	117	--	347	220	--		23.41
Vinyl bromide	ND	4.68	--	ND	20.5	--		23.41
Acetone	24.0	23.4	--	57.0	55.6	--		23.41
Trichlorofluoromethane	ND	4.68	--	ND	26.3	--		23.41
Isopropanol	66.1	11.7	--	162	28.8	--		23.41
1,1-Dichloroethene	ND	4.68	--	ND	18.6	--		23.41
Tertiary butyl Alcohol	ND	11.7	--	ND	35.5	--		23.41
Methylene chloride	ND	11.7	--	ND	40.6	--		23.41
3-Chloropropene	ND	4.68	--	ND	14.6	--		23.41
Carbon disulfide	ND	4.68	--	ND	14.6	--		23.41
Freon-113	ND	4.68	--	ND	35.9	--		23.41
trans-1,2-Dichloroethene	ND	4.68	--	ND	18.6	--		23.41
1,1-Dichloroethane	ND	4.68	--	ND	18.9	--		23.41
Methyl tert butyl ether	ND	4.68	--	ND	16.9	--		23.41
2-Butanone	ND	11.7	--	ND	34.5	--		23.41
cis-1,2-Dichloroethene	19.9	4.68	--	78.9	18.6	--		23.41

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-04 D
Client ID: SSV-467
Sample Location:

Date Collected: 11/16/22 14:22
Date Received: 11/17/22
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	11.7	--	ND	42.2	--		23.41
Chloroform	ND	4.68	--	ND	22.9	--		23.41
Tetrahydrofuran	ND	11.7	--	ND	34.5	--		23.41
1,2-Dichloroethane	ND	4.68	--	ND	18.9	--		23.41
n-Hexane	ND	4.68	--	ND	16.5	--		23.41
1,1,1-Trichloroethane	ND	4.68	--	ND	25.5	--		23.41
Benzene	7.86	4.68	--	25.1	15.0	--		23.41
Carbon tetrachloride	ND	4.68	--	ND	29.4	--		23.41
Cyclohexane	ND	4.68	--	ND	16.1	--		23.41
1,2-Dichloropropane	ND	4.68	--	ND	21.6	--		23.41
Bromodichloromethane	ND	4.68	--	ND	31.4	--		23.41
1,4-Dioxane	ND	4.68	--	ND	16.9	--		23.41
Trichloroethene	47.1	4.68	--	253	25.2	--		23.41
2,2,4-Trimethylpentane	ND	4.68	--	ND	21.9	--		23.41
Heptane	ND	4.68	--	ND	19.2	--		23.41
cis-1,3-Dichloropropene	ND	4.68	--	ND	21.2	--		23.41
4-Methyl-2-pentanone	ND	11.7	--	ND	47.9	--		23.41
trans-1,3-Dichloropropene	ND	4.68	--	ND	21.2	--		23.41
1,1,2-Trichloroethane	ND	4.68	--	ND	25.5	--		23.41
Toluene	41.1	4.68	--	155	17.6	--		23.41
2-Hexanone	ND	4.68	--	ND	19.2	--		23.41
Dibromochloromethane	ND	4.68	--	ND	39.9	--		23.41
1,2-Dibromoethane	ND	4.68	--	ND	36.0	--		23.41
Tetrachloroethene	2010	4.68	--	13600	31.7	--		23.41
Chlorobenzene	ND	4.68	--	ND	21.6	--		23.41
Ethylbenzene	ND	4.68	--	ND	20.3	--		23.41

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-04 D
Client ID: SSV-467
Sample Location:

Date Collected: 11/16/22 14:22
Date Received: 11/17/22
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	9.36	--	ND	40.7	--		23.41
Bromoform	ND	4.68	--	ND	48.4	--		23.41
Styrene	ND	4.68	--	ND	19.9	--		23.41
1,1,2,2-Tetrachloroethane	ND	4.68	--	ND	32.1	--		23.41
o-Xylene	ND	4.68	--	ND	20.3	--		23.41
4-Ethyltoluene	ND	4.68	--	ND	23.0	--		23.41
1,3,5-Trimethylbenzene	ND	4.68	--	ND	23.0	--		23.41
1,2,4-Trimethylbenzene	ND	4.68	--	ND	23.0	--		23.41
Benzyl chloride	ND	4.68	--	ND	24.2	--		23.41
1,3-Dichlorobenzene	ND	4.68	--	ND	28.1	--		23.41
1,4-Dichlorobenzene	ND	4.68	--	ND	28.1	--		23.41
1,2-Dichlorobenzene	ND	4.68	--	ND	28.1	--		23.41
1,2,4-Trichlorobenzene	ND	4.68	--	ND	34.7	--		23.41
Hexachlorobutadiene	ND	4.68	--	ND	49.9	--		23.41

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	92		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	92		60-140

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-05 D
Client ID: SSV-XX
Sample Location:

Date Collected: 11/16/22 14:06
Date Received: 11/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 12/04/22 01:22
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	34.0	--	ND	168	--		170.1
Chloromethane	ND	34.0	--	ND	70.2	--		170.1
Freon-114	ND	34.0	--	ND	238	--		170.1
Vinyl chloride	ND	34.0	--	ND	86.9	--		170.1
1,3-Butadiene	ND	34.0	--	ND	75.2	--		170.1
Bromomethane	ND	34.0	--	ND	132	--		170.1
Chloroethane	ND	34.0	--	ND	89.7	--		170.1
Ethanol	ND	850	--	ND	1600	--		170.1
Vinyl bromide	ND	34.0	--	ND	149	--		170.1
Acetone	ND	170	--	ND	404	--		170.1
Trichlorofluoromethane	ND	34.0	--	ND	191	--		170.1
Isopropanol	ND	85.0	--	ND	209	--		170.1
1,1-Dichloroethene	ND	34.0	--	ND	135	--		170.1
Tertiary butyl Alcohol	ND	85.0	--	ND	258	--		170.1
Methylene chloride	ND	85.0	--	ND	295	--		170.1
3-Chloropropene	ND	34.0	--	ND	106	--		170.1
Carbon disulfide	ND	34.0	--	ND	106	--		170.1
Freon-113	ND	34.0	--	ND	261	--		170.1
trans-1,2-Dichloroethene	63.3	34.0	--	251	135	--		170.1
1,1-Dichloroethane	ND	34.0	--	ND	138	--		170.1
Methyl tert butyl ether	ND	34.0	--	ND	123	--		170.1
2-Butanone	ND	85.0	--	ND	251	--		170.1
cis-1,2-Dichloroethene	899	34.0	--	3560	135	--		170.1

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-05 D
Client ID: SSV-XX
Sample Location:

Date Collected: 11/16/22 14:06
Date Received: 11/17/22
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	85.0	--	ND	306	--		170.1
Chloroform	ND	34.0	--	ND	166	--		170.1
Tetrahydrofuran	ND	85.0	--	ND	251	--		170.1
1,2-Dichloroethane	ND	34.0	--	ND	138	--		170.1
n-Hexane	ND	34.0	--	ND	120	--		170.1
1,1,1-Trichloroethane	ND	34.0	--	ND	186	--		170.1
Benzene	ND	34.0	--	ND	109	--		170.1
Carbon tetrachloride	ND	34.0	--	ND	214	--		170.1
Cyclohexane	ND	34.0	--	ND	117	--		170.1
1,2-Dichloropropane	ND	34.0	--	ND	157	--		170.1
Bromodichloromethane	ND	34.0	--	ND	228	--		170.1
1,4-Dioxane	ND	34.0	--	ND	123	--		170.1
Trichloroethene	964	34.0	--	5180	183	--		170.1
2,2,4-Trimethylpentane	ND	34.0	--	ND	159	--		170.1
Heptane	ND	34.0	--	ND	139	--		170.1
cis-1,3-Dichloropropene	ND	34.0	--	ND	154	--		170.1
4-Methyl-2-pentanone	ND	85.0	--	ND	348	--		170.1
trans-1,3-Dichloropropene	ND	34.0	--	ND	154	--		170.1
1,1,2-Trichloroethane	ND	34.0	--	ND	186	--		170.1
Toluene	35.7	34.0	--	135	128	--		170.1
2-Hexanone	ND	34.0	--	ND	139	--		170.1
Dibromochloromethane	ND	34.0	--	ND	290	--		170.1
1,2-Dibromoethane	ND	34.0	--	ND	261	--		170.1
Tetrachloroethene	16100	34.0	--	109000	231	--		170.1
Chlorobenzene	ND	34.0	--	ND	157	--		170.1
Ethylbenzene	ND	34.0	--	ND	148	--		170.1

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-05 D
Client ID: SSV-XX
Sample Location:

Date Collected: 11/16/22 14:06
Date Received: 11/17/22
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	68.0	--	ND	295	--		170.1
Bromoform	ND	34.0	--	ND	352	--		170.1
Styrene	ND	34.0	--	ND	145	--		170.1
1,1,2,2-Tetrachloroethane	ND	34.0	--	ND	233	--		170.1
o-Xylene	ND	34.0	--	ND	148	--		170.1
4-Ethyltoluene	ND	34.0	--	ND	167	--		170.1
1,3,5-Trimethylbenzene	ND	34.0	--	ND	167	--		170.1
1,2,4-Trimethylbenzene	ND	34.0	--	ND	167	--		170.1
Benzyl chloride	ND	34.0	--	ND	176	--		170.1
1,3-Dichlorobenzene	ND	34.0	--	ND	204	--		170.1
1,4-Dichlorobenzene	ND	34.0	--	ND	204	--		170.1
1,2-Dichlorobenzene	ND	34.0	--	ND	204	--		170.1
1,2,4-Trichlorobenzene	ND	34.0	--	ND	252	--		170.1
Hexachlorobutadiene	ND	34.0	--	ND	363	--		170.1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	94		60-140
Bromochloromethane	94		60-140
chlorobenzene-d5	94		60-140

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-06
Client ID: SV-E
Sample Location:

Date Collected: 11/16/22 11:23
Date Received: 11/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 12/04/22 02:00
Analyst: TJS

	ppbV			ug/m3				
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.589	0.200	--	2.91	0.989	--		1
Chloromethane	0.607	0.200	--	1.25	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	106	5.00	--	200	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	19.0	1.00	--	45.1	2.38	--		1
Trichlorofluoromethane	0.249	0.200	--	1.40	1.12	--		1
Isopropanol	8.89	0.500	--	21.9	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	0.576	0.500	--	2.00	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	0.244	0.200	--	0.760	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	3.20	0.500	--	9.44	1.47	--		1
cis-1,2-Dichloroethene	0.311	0.200	--	1.23	0.793	--		1

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-06
Client ID: SV-E
Sample Location:

Date Collected: 11/16/22 11:23
Date Received: 11/17/22
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	0.574	0.500	--	2.07	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	4.52	0.500	--	13.3	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	2.83	0.200	--	9.97	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	2.84	0.200	--	9.07	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	1.15	0.200	--	3.96	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	1.46	0.200	--	6.82	0.934	--		1
Heptane	1.36	0.200	--	5.57	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	0.712	0.500	--	2.92	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	10.7	0.200	--	40.3	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	0.753	0.200	--	5.11	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	0.511	0.200	--	2.22	0.869	--		1

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-06
Client ID: SV-E
Sample Location:

Date Collected: 11/16/22 11:23
Date Received: 11/17/22
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	1.74	0.400	--	7.56	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	0.609	0.200	--	2.65	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	0.502	0.200	--	2.47	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	94		60-140
chlorobenzene-d5	94		60-140

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-07 D
Client ID: SV-W
Sample Location:

Date Collected: 11/16/22 15:50
Date Received: 11/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 12/04/22 02:40
Analyst: TJS

	ppbV			ug/m3				
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	2.84	0.471	--	14.0	2.33	--		2.357
Chloromethane	0.516	0.471	--	1.07	0.973	--		2.357
Freon-114	ND	0.471	--	ND	3.29	--		2.357
Vinyl chloride	0.518	0.471	--	1.32	1.20	--		2.357
1,3-Butadiene	2.76	0.471	--	6.11	1.04	--		2.357
Bromomethane	ND	0.471	--	ND	1.83	--		2.357
Chloroethane	ND	0.471	--	ND	1.24	--		2.357
Ethanol	35.2	11.8	--	66.3	22.2	--		2.357
Vinyl bromide	ND	0.471	--	ND	2.06	--		2.357
Acetone	295	2.36	--	701	5.61	--		2.357
Trichlorofluoromethane	1.98	0.471	--	11.1	2.65	--		2.357
Isopropanol	63.0	1.18	--	155	2.90	--		2.357
1,1-Dichloroethene	ND	0.471	--	ND	1.87	--		2.357
Tertiary butyl Alcohol	12.3	1.18	--	37.3	3.58	--		2.357
Methylene chloride	4.97	1.18	--	17.3	4.10	--		2.357
3-Chloropropene	ND	0.471	--	ND	1.47	--		2.357
Carbon disulfide	17.7	0.471	--	55.1	1.47	--		2.357
Freon-113	ND	0.471	--	ND	3.61	--		2.357
trans-1,2-Dichloroethene	2.51	0.471	--	9.95	1.87	--		2.357
1,1-Dichloroethane	ND	0.471	--	ND	1.91	--		2.357
Methyl tert butyl ether	ND	0.471	--	ND	1.70	--		2.357
2-Butanone	31.2	1.18	--	92.0	3.48	--		2.357
cis-1,2-Dichloroethene	45.2	0.471	--	179	1.87	--		2.357

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-07 D
Client ID: SV-W
Sample Location:

Date Collected: 11/16/22 15:50
Date Received: 11/17/22
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	3.00	1.18	--	10.8	4.25	--		2.357
Chloroform	2.21	0.471	--	10.8	2.30	--		2.357
Tetrahydrofuran	11.9	1.18	--	35.1	3.48	--		2.357
1,2-Dichloroethane	ND	0.471	--	ND	1.91	--		2.357
n-Hexane	15.8	0.471	--	55.7	1.66	--		2.357
1,1,1-Trichloroethane	ND	0.471	--	ND	2.57	--		2.357
Benzene	17.9	0.471	--	57.2	1.50	--		2.357
Carbon tetrachloride	ND	0.471	--	ND	2.96	--		2.357
Cyclohexane	3.60	0.471	--	12.4	1.62	--		2.357
1,2-Dichloropropane	ND	0.471	--	ND	2.18	--		2.357
Bromodichloromethane	ND	0.471	--	ND	3.16	--		2.357
1,4-Dioxane	ND	0.471	--	ND	1.70	--		2.357
Trichloroethene	28.0	0.471	--	150	2.53	--		2.357
2,2,4-Trimethylpentane	3.26	0.471	--	15.2	2.20	--		2.357
Heptane	9.82	0.471	--	40.2	1.93	--		2.357
cis-1,3-Dichloropropene	ND	0.471	--	ND	2.14	--		2.357
4-Methyl-2-pentanone	1.54	1.18	--	6.31	4.84	--		2.357
trans-1,3-Dichloropropene	ND	0.471	--	ND	2.14	--		2.357
1,1,2-Trichloroethane	ND	0.471	--	ND	2.57	--		2.357
Toluene	70.4	0.471	--	265	1.77	--		2.357
2-Hexanone	0.962	0.471	--	3.94	1.93	--		2.357
Dibromochloromethane	ND	0.471	--	ND	4.01	--		2.357
1,2-Dibromoethane	ND	0.471	--	ND	3.62	--		2.357
Tetrachloroethene	78.9	0.471	--	535	3.19	--		2.357
Chlorobenzene	2.70	0.471	--	12.4	2.17	--		2.357
Ethylbenzene	2.45	0.471	--	10.6	2.05	--		2.357

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-07 D
Client ID: SV-W
Sample Location:

Date Collected: 11/16/22 15:50
Date Received: 11/17/22
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	7.15	0.943	--	31.1	4.10	--		2.357
Bromoform	ND	0.471	--	ND	4.87	--		2.357
Styrene	ND	0.471	--	ND	2.01	--		2.357
1,1,2,2-Tetrachloroethane	ND	0.471	--	ND	3.23	--		2.357
o-Xylene	2.06	0.471	--	8.95	2.05	--		2.357
4-Ethyltoluene	ND	0.471	--	ND	2.32	--		2.357
1,3,5-Trimethylbenzene	ND	0.471	--	ND	2.32	--		2.357
1,2,4-Trimethylbenzene	ND	0.471	--	ND	2.32	--		2.357
Benzyl chloride	ND	0.471	--	ND	2.44	--		2.357
1,3-Dichlorobenzene	ND	0.471	--	ND	2.83	--		2.357
1,4-Dichlorobenzene	ND	0.471	--	ND	2.83	--		2.357
1,2-Dichlorobenzene	ND	0.471	--	ND	2.83	--		2.357
1,2,4-Trichlorobenzene	ND	0.471	--	ND	3.50	--		2.357
Hexachlorobutadiene	ND	0.471	--	ND	5.02	--		2.357

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	93		60-140
Bromochloromethane	94		60-140
chlorobenzene-d5	95		60-140

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-08
Client ID: IA-461
Sample Location:

Date Collected: 11/16/22 12:30
Date Received: 11/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 12/03/22 19:36
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.795	0.200	--	3.93	0.989	--		1
Chloromethane	0.601	0.200	--	1.24	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	267	5.00	--	503	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	5.49	1.00	--	13.0	2.38	--		1
Trichlorofluoromethane	0.298	0.200	--	1.67	1.12	--		1
Isopropanol	37.5	0.500	--	92.2	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	0.584	0.500	--	2.03	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	0.995	0.500	--	2.93	1.47	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	1.14	0.500	--	3.36	1.47	--		1

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-08
Client ID: IA-461
Sample Location:

Date Collected: 11/16/22 12:30
Date Received: 11/17/22
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	0.861	0.200	--	3.03	0.705	--		1
Benzene	0.577	0.200	--	1.84	0.639	--		1
Cyclohexane	0.352	0.200	--	1.21	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	0.526	0.200	--	2.46	0.934	--		1
Heptane	0.399	0.200	--	1.64	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	2.85	0.200	--	10.7	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	0.251	0.200	--	1.09	0.869	--		1
p/m-Xylene	0.833	0.400	--	3.62	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: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-08
Client ID: IA-461
Sample Location:

Date Collected: 11/16/22 12:30
Date Received: 11/17/22
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	0.292	0.200	--	1.44	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: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-08
Client ID: IA-461
Sample Location:

Date Collected: 11/16/22 12:30
Date Received: 11/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/03/22 19:36
Analyst: TJS

	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	0.041	0.020	--	0.163	0.079	--		1
1,1,1-Trichloroethane	0.062	0.020	--	0.338	0.109	--		1
Carbon tetrachloride	0.071	0.020	--	0.447	0.126	--		1
Trichloroethene	0.206	0.020	--	1.11	0.107	--		1
Tetrachloroethene	24.5	0.020	--	166	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	96		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	95		60-140

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-09
Client ID: IA-463
Sample Location:

Date Collected: 11/16/22 14:11
Date Received: 11/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 12/03/22 20:18
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	1.04	0.200	--	5.14	0.989	--		1
Chloromethane	0.626	0.200	--	1.29	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	651	5.00	--	1230	9.42	--	E	1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	7.27	1.00	--	17.3	2.38	--		1
Trichlorofluoromethane	0.804	0.200	--	4.52	1.12	--		1
Isopropanol	22.0	0.500	--	54.1	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	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: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-09
Client ID: IA-463
Sample Location:

Date Collected: 11/16/22 14:11
Date Received: 11/17/22
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	0.299	0.200	--	0.955	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	0.561	0.200	--	2.11	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: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-09
Client ID: IA-463
Sample Location:

Date Collected: 11/16/22 14:11
Date Received: 11/17/22
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	95		60-140
chlorobenzene-d5	93		60-140

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-09
Client ID: IA-463
Sample Location:

Date Collected: 11/16/22 14:11
Date Received: 11/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/03/22 20:18
Analyst: TJS

	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	0.422	0.020	--	1.67	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.072	0.020	--	0.453	0.126	--		1
Trichloroethene	0.791	0.020	--	4.25	0.107	--		1
Tetrachloroethene	17.5	0.020	--	119	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	90		60-140
bromochloromethane	91		60-140
chlorobenzene-d5	90		60-140

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-09 D
Client ID: IA-463
Sample Location:

Date Collected: 11/16/22 14:11
Date Received: 11/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 12/04/22 06:33
Analyst: TJS

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								
Ethanol	736	10.0	--	1390	18.8	--		2

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	88		60-140
Bromochloromethane	90		60-140
chlorobenzene-d5	88		60-140

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-10
Client ID: IA-465
Sample Location:

Date Collected: 11/16/22 14:16
Date Received: 11/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 12/03/22 20:58
Analyst: TJS

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								
Dichlorodifluoromethane	2.06	0.200	--	10.2	0.989	--		1
Chloromethane	0.661	0.200	--	1.36	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	1040	5.00	--	1960	9.42	--	E	1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	10.5	1.00	--	24.9	2.38	--		1
Trichlorofluoromethane	0.442	0.200	--	2.48	1.12	--		1
Isopropanol	61.3	0.500	--	151	1.23	--		1
Tertiary butyl Alcohol	1.20	0.500	--	3.64	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	0.629	0.500	--	2.27	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-10
Client ID: IA-465
Sample Location:

Date Collected: 11/16/22 14:16
Date Received: 11/17/22
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	0.235	0.200	--	0.828	0.705	--		1
Benzene	0.362	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	0.206	0.200	--	0.962	0.934	--		1
Heptane	0.660	0.200	--	2.70	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	1.32	0.200	--	4.97	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	0.258	0.200	--	1.10	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: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-10
Client ID: IA-465
Sample Location:

Date Collected: 11/16/22 14:16
Date Received: 11/17/22
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	95		60-140
chlorobenzene-d5	94		60-140

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-10
Client ID: IA-465
Sample Location:

Date Collected: 11/16/22 14:16
Date Received: 11/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/03/22 20:58
Analyst: TJS

	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	0.532	0.020	--	2.11	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	1.50	0.020	--	8.06	0.107	--		1
Tetrachloroethene	15.3	0.020	--	104	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	89		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	91		60-140

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-10 D
Client ID: IA-465
Sample Location:

Date Collected: 11/16/22 14:16
Date Received: 11/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 12/04/22 07:10
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Ethanol	1240	12.5	--	2340	23.6	--		2.5

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	86		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	87		60-140

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-11
Client ID: IA-467
Sample Location:

Date Collected: 11/16/22 14:25
Date Received: 11/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 12/03/22 22:19
Analyst: TJS

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								
Dichlorodifluoromethane	1.38	0.200	--	6.82	0.989	--		1
Chloromethane	0.613	0.200	--	1.27	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	841	5.00	--	1580	9.42	--	E	1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	7.67	1.00	--	18.2	2.38	--		1
Trichlorofluoromethane	0.327	0.200	--	1.84	1.12	--		1
Isopropanol	257	0.500	--	632	1.23	--	E	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	0.585	0.500	--	2.11	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-11
Client ID: IA-467
Sample Location:

Date Collected: 11/16/22 14:25
Date Received: 11/17/22
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	0.268	0.200	--	0.856	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	0.450	0.200	--	1.70	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: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-11
Client ID: IA-467
Sample Location:

Date Collected: 11/16/22 14:25
Date Received: 11/17/22
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	95		60-140
chlorobenzene-d5	94		60-140

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-11
Client ID: IA-467
Sample Location:

Date Collected: 11/16/22 14:25
Date Received: 11/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/03/22 22:19
Analyst: TJS

	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	0.068	0.020	--	0.270	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.091	0.020	--	0.572	0.126	--		1
Trichloroethene	0.177	0.020	--	0.951	0.107	--		1
Tetrachloroethene	1.78	0.020	--	12.1	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	89		60-140
bromochloromethane	91		60-140
chlorobenzene-d5	90		60-140

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-11 D
Client ID: IA-467
Sample Location:

Date Collected: 11/16/22 14:25
Date Received: 11/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 12/04/22 08:26
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Ethanol	956	10.0	--	1800	18.8	--		2
Isopropanol	267	1.00	--	656	2.46	--		2

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	84		60-140
Bromochloromethane	88		60-140
chlorobenzene-d5	86		60-140

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-12
Client ID: OA-1
Sample Location:

Date Collected: 11/16/22 15:46
Date Received: 11/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 12/03/22 18:58
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.516	0.200	--	2.55	0.989	--		1
Chloromethane	0.591	0.200	--	1.22	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	7.95	5.00	--	15.0	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	1.98	1.00	--	4.70	2.38	--		1
Trichlorofluoromethane	0.218	0.200	--	1.23	1.12	--		1
Isopropanol	0.625	0.500	--	1.54	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: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-12
Client ID: OA-1
Sample Location:

Date Collected: 11/16/22 15:46
Date Received: 11/17/22
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	0.206	0.200	--	0.658	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	0.309	0.200	--	1.16	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	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: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-12
Client ID: OA-1
Sample Location:

Date Collected: 11/16/22 15:46
Date Received: 11/17/22
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	94		60-140
Bromochloromethane	95		60-140
chlorobenzene-d5	93		60-140

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

SAMPLE RESULTS

Lab ID: L2264810-12
Client ID: OA-1
Sample Location:

Date Collected: 11/16/22 15:46
Date Received: 11/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/03/22 18:58
Analyst: TJS

	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	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	0.053	0.020	--	0.359	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	91		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	91		60-140

Project Name: FOREST AVE
Project Number: Not Specified
Lab Number: L2264810
Report Date: 12/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 12/03/22 18:17

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): 08-12 Batch: WG1719016-4								
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: FOREST AVE
Project Number: Not Specified
Lab Number: L2264810
Report Date: 12/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 12/03/22 17:38

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): 01-12 Batch: WG1719017-4								
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: FOREST AVE
Project Number: Not Specified
Lab Number: L2264810
Report Date: 12/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 12/03/22 17:38

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): 01-12 Batch: WG1719017-4								
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: FOREST AVE
Project Number: Not Specified
Lab Number: L2264810
Report Date: 12/05/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 12/03/22 17:38

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): 01-12 Batch: WG1719017-4								
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

Lab Control Sample Analysis
Batch Quality Control

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 08-12 Batch: WG1719016-3								
Vinyl chloride	99		-		70-130	-		25
1,1-Dichloroethene	101		-		70-130	-		25
cis-1,2-Dichloroethene	105		-		70-130	-		25
1,1,1-Trichloroethane	100		-		70-130	-		25
Carbon tetrachloride	108		-		70-130	-		25
Trichloroethene	102		-		70-130	-		25
Tetrachloroethene	102		-		70-130	-		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-12 Batch: WG1719017-3								
Dichlorodifluoromethane	101		-		70-130	-		
Chloromethane	106		-		70-130	-		
Freon-114	106		-		70-130	-		
Vinyl chloride	101		-		70-130	-		
1,3-Butadiene	110		-		70-130	-		
Bromomethane	99		-		70-130	-		
Chloroethane	101		-		70-130	-		
Ethanol	85		-		40-160	-		
Vinyl bromide	100		-		70-130	-		
Acetone	110		-		40-160	-		
Trichlorofluoromethane	98		-		70-130	-		
Isopropanol	108		-		40-160	-		
1,1-Dichloroethene	101		-		70-130	-		
Tertiary butyl Alcohol	92		-		70-130	-		
Methylene chloride	105		-		70-130	-		
3-Chloropropene	108		-		70-130	-		
Carbon disulfide	104		-		70-130	-		
Freon-113	105		-		70-130	-		
trans-1,2-Dichloroethene	97		-		70-130	-		
1,1-Dichloroethane	98		-		70-130	-		
Methyl tert butyl ether	104		-		70-130	-		
2-Butanone	108		-		70-130	-		
cis-1,2-Dichloroethene	104		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-12 Batch: WG1719017-3								
Ethyl Acetate	108		-		70-130	-		
Chloroform	104		-		70-130	-		
Tetrahydrofuran	107		-		70-130	-		
1,2-Dichloroethane	100		-		70-130	-		
n-Hexane	107		-		70-130	-		
1,1,1-Trichloroethane	100		-		70-130	-		
Benzene	98		-		70-130	-		
Carbon tetrachloride	113		-		70-130	-		
Cyclohexane	108		-		70-130	-		
1,2-Dichloropropane	108		-		70-130	-		
Bromodichloromethane	113		-		70-130	-		
1,4-Dioxane	109		-		70-130	-		
Trichloroethene	105		-		70-130	-		
2,2,4-Trimethylpentane	109		-		70-130	-		
Heptane	114		-		70-130	-		
cis-1,3-Dichloropropene	118		-		70-130	-		
4-Methyl-2-pentanone	117		-		70-130	-		
trans-1,3-Dichloropropene	103		-		70-130	-		
1,1,2-Trichloroethane	108		-		70-130	-		
Toluene	98		-		70-130	-		
2-Hexanone	114		-		70-130	-		
Dibromochloromethane	118		-		70-130	-		
1,2-Dibromoethane	107		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-12 Batch: WG1719017-3								
Tetrachloroethene	102		-		70-130	-		
Chlorobenzene	107		-		70-130	-		
Ethylbenzene	104		-		70-130	-		
p/m-Xylene	106		-		70-130	-		
Bromoform	118		-		70-130	-		
Styrene	105		-		70-130	-		
1,1,2,2-Tetrachloroethane	109		-		70-130	-		
o-Xylene	106		-		70-130	-		
4-Ethyltoluene	107		-		70-130	-		
1,3,5-Trimethylbenzene	105		-		70-130	-		
1,2,4-Trimethylbenzene	112		-		70-130	-		
Benzyl chloride	120		-		70-130	-		
1,3-Dichlorobenzene	108		-		70-130	-		
1,4-Dichlorobenzene	106		-		70-130	-		
1,2-Dichlorobenzene	106		-		70-130	-		
1,2,4-Trichlorobenzene	116		-		70-130	-		
Hexachlorobutadiene	108		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 08-12 QC Batch ID: WG1719016-5 QC Sample: L2264810-10 Client ID: IA-465						
Vinyl chloride	ND	ND	ppbV	NC		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	0.532	0.551	ppbV	4		25
1,1,1-Trichloroethane	ND	ND	ppbV	NC		25
Carbon tetrachloride	0.087	0.073	ppbV	18		25
Trichloroethene	1.50	1.49	ppbV	1		25
Tetrachloroethene	15.3	15.7	ppbV	3		25

Project Name: FOREST AVE

Project Number:

Lab Number: L2264810

Report Date: 12/05/22

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
L2264810-01	SSV-461	0435	Flow 4	11/09/22	405225		-	-	-	Pass	10.0	10.1	1
L2264810-01	SSV-461	1887	6.0L Can	11/09/22	405225	L2260826-03	Pass	-28.8	-13.6	-	-	-	-
L2264810-02	SSV-463	01780	Flow 4	11/09/22	405225		-	-	-	Pass	10.0	10.6	6
L2264810-02	SSV-463	1659	6.0L Can	11/09/22	405225	L2260927-09	Pass	-29.1	-12.4	-	-	-	-
L2264810-03	SSV-465	01297	Flow 4	11/09/22	405225		-	-	-	Pass	10.0	10.5	5
L2264810-03	SSV-465	3371	6.0L Can	11/09/22	405225	L2260927-09	Pass	-28.9	-11.1	-	-	-	-
L2264810-04	SSV-467	0824	Flow 4	11/09/22	405225		-	-	-	Pass	10.0	10.6	6
L2264810-04	SSV-467	2929	6.0L Can	11/09/22	405225	L2260826-03	Pass	-29.0	-13.1	-	-	-	-
L2264810-05	SSV-XX	0637	Flow 4	11/09/22	405225		-	-	-	Pass	10.0	10.6	6
L2264810-05	SSV-XX	811	6.0L Can	11/09/22	405225	L2260927-08	Pass	-29.1	-13.5	-	-	-	-
L2264810-06	SV-E	0411	Flow 4	11/09/22	405225		-	-	-	Pass	10.0	11.6	15
L2264810-06	SV-E	1814	6.0L Can	11/09/22	405225	L2260927-08	Pass	-29.1	0.0	-	-	-	-
L2264810-07	SV-W	01452	Flow 4	11/09/22	405225		-	-	-	Pass	10.0	11.2	11
L2264810-07	SV-W	2449	6.0L Can	11/09/22	405225	L2260927-08	Pass	-28.8	-21.5	-	-	-	-
L2264810-08	IA-461	01705	Flow 4	11/09/22	405225		-	-	-	Pass	10.0	9.7	3

Project Name: FOREST AVE

Lab Number: L2264810

Project Number:

Report Date: 12/05/22

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
L2264810-08	IA-461	1606	6.0L Can	11/09/22	405225	L2260927-08	Pass	-28.9	-2.8	-	-	-	-
L2264810-09	IA-463	02150	Flow 4	11/09/22	405225		-	-	-	Pass	10.0	10.0	0
L2264810-09	IA-463	3957	6.0L Can	11/09/22	405225	L2260397-05	Pass	-28.9	-12.5	-	-	-	-
L2264810-10	IA-465	02063	Flow 5	11/09/22	405225		-	-	-	Pass	10.0	10.1	1
L2264810-10	IA-465	3906	6.0L Can	11/09/22	405225	L2260397-05	Pass	-28.8	-9.9	-	-	-	-
L2264810-11	IA-467	01184	Flow 4	11/09/22	405225		-	-	-	Pass	10.0	9.9	1
L2264810-11	IA-467	1661	6.0L Can	11/09/22	405225	L2260397-05	Pass	-29.1	-11.9	-	-	-	-
L2264810-12	OA-1	01023	Flow 4	11/09/22	405225		-	-	-	Pass	10.0	9.9	1
L2264810-12	OA-1	1777	6.0L Can	11/09/22	405225	L2260397-05	Pass	-28.8	-11.8	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2260397
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260397-05
Client ID: CAN 3378 SHELF 38
Sample Location:

Date Collected: 10/27/22 18:00
Date Received: 10/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 11/01/22 00:03
Analyst: TJS

	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: L2260397
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260397-05
Client ID: CAN 3378 SHELF 38
Sample Location:

Date Collected: 10/27/22 18:00
Date Received: 10/28/22
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: L2260397
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260397-05
Client ID: CAN 3378 SHELF 38
Sample Location:

Date Collected: 10/27/22 18:00
Date Received: 10/28/22
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: L2260397
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260397-05
Client ID: CAN 3378 SHELF 38
Sample Location:

Date Collected: 10/27/22 18:00
Date Received: 10/28/22
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: L2260397
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260397-05
Client ID: CAN 3378 SHELF 38
Sample Location:

Date Collected: 10/27/22 18:00
Date Received: 10/28/22
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	100		60-140
Bromochloromethane	99		60-140
chlorobenzene-d5	90		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2260397
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260397-05
Client ID: CAN 3378 SHELF 38
Sample Location:

Date Collected: 10/27/22 18:00
Date Received: 10/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 11/01/22 00:03
Analyst: TJS

	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: L2260397
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260397-05
Client ID: CAN 3378 SHELF 38
Sample Location:

Date Collected: 10/27/22 18:00
Date Received: 10/28/22
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	0.100	--	ND	0.377	--		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	0.100	--	ND	0.518	--		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: L2260397
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260397-05
Client ID: CAN 3378 SHELF 38
Sample Location:

Date Collected: 10/27/22 18:00
Date Received: 10/28/22
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	99		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	94		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2260826
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260826-03
Client ID: CAN 1851 SHELF 30
Sample Location:

Date Collected: 10/29/22 08:00
Date Received: 10/31/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 11/01/22 23:19
Analyst: TJS

	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: L2260826
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260826-03
Client ID: CAN 1851 SHELF 30
Sample Location:

Date Collected: 10/29/22 08:00
Date Received: 10/31/22
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: L2260826
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260826-03
Client ID: CAN 1851 SHELF 30
Sample Location:

Date Collected: 10/29/22 08:00
Date Received: 10/31/22
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: L2260826
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260826-03
Client ID: CAN 1851 SHELF 30
Sample Location:

Date Collected: 10/29/22 08:00
Date Received: 10/31/22
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: L2260826
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260826-03
Client ID: CAN 1851 SHELF 30
Sample Location:

Date Collected: 10/29/22 08:00
Date Received: 10/31/22
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	91		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	89		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2260826
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260826-03
Client ID: CAN 1851 SHELF 30
Sample Location:

Date Collected: 10/29/22 08:00
Date Received: 10/31/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 11/01/22 23:19
Analyst: TJS

	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: L2260826
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260826-03
Client ID: CAN 1851 SHELF 30
Sample Location:

Date Collected: 10/29/22 08:00
Date Received: 10/31/22
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	0.100	--	ND	0.377	--		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	0.100	--	ND	0.518	--		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: L2260826
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260826-03
Client ID: CAN 1851 SHELF 30
Sample Location:

Date Collected: 10/29/22 08:00
Date Received: 10/31/22
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	94		60-140
chlorobenzene-d5	94		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2260927
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260927-08
Client ID: CAN 590 SHELF 41
Sample Location:

Date Collected: 11/01/22 09:00
Date Received: 11/01/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 11/03/22 20:17
Analyst: RAY

	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: L2260927
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260927-08
Client ID: CAN 590 SHELF 41
Sample Location:

Date Collected: 11/01/22 09:00
Date Received: 11/01/22
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: L2260927
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260927-08
Client ID: CAN 590 SHELF 41
Sample Location:

Date Collected: 11/01/22 09:00
Date Received: 11/01/22
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: L2260927
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260927-08
Client ID: CAN 590 SHELF 41
Sample Location:

Date Collected: 11/01/22 09:00
Date Received: 11/01/22
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: L2260927
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260927-08
Client ID: CAN 590 SHELF 41
Sample Location:

Date Collected: 11/01/22 09:00
Date Received: 11/01/22
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	104		60-140
Bromochloromethane	105		60-140
chlorobenzene-d5	111		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2260927
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260927-08
Client ID: CAN 590 SHELF 41
Sample Location:

Date Collected: 11/01/22 09:00
Date Received: 11/01/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 11/03/22 20:17
Analyst: RAY

	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: L2260927
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260927-08
Client ID: CAN 590 SHELF 41
Sample Location:

Date Collected: 11/01/22 09:00
Date Received: 11/01/22
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	0.100	--	ND	0.377	--		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	0.100	--	ND	0.518	--		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: L2260927
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260927-08
Client ID: CAN 590 SHELF 41
Sample Location:

Date Collected: 11/01/22 09:00
Date Received: 11/01/22
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	104		60-140
bromochloromethane	104		60-140
chlorobenzene-d5	108		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2260927
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260927-09
Client ID: CAN 3083 SHELF 42
Sample Location:

Date Collected: 11/01/22 09:00
Date Received: 11/01/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 11/03/22 20:56
Analyst: RAY

	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: L2260927
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260927-09
Client ID: CAN 3083 SHELF 42
Sample Location:

Date Collected: 11/01/22 09:00
Date Received: 11/01/22
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: L2260927
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260927-09
Client ID: CAN 3083 SHELF 42
Sample Location:

Date Collected: 11/01/22 09:00
Date Received: 11/01/22
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: L2260927
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260927-09
Client ID: CAN 3083 SHELF 42
Sample Location:

Date Collected: 11/01/22 09:00
Date Received: 11/01/22
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: L2260927
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260927-09
Client ID: CAN 3083 SHELF 42
Sample Location:

Date Collected: 11/01/22 09:00
Date Received: 11/01/22
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	107		60-140
Bromochloromethane	110		60-140
chlorobenzene-d5	117		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2260927
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260927-09
Client ID: CAN 3083 SHELF 42
Sample Location:

Date Collected: 11/01/22 09:00
Date Received: 11/01/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 11/03/22 20:56
Analyst: RAY

	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: L2260927
Report Date: 12/05/22

Air Canister Certification Results

Lab ID: L2260927-09
Client ID: CAN 3083 SHELF 42
Sample Location:

Date Collected: 11/01/22 09:00
Date Received: 11/01/22
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	0.100	--	ND	0.377	--		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	0.100	--	ND	0.518	--		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:** L2260927

Project Number: CANISTER QC BAT **Report Date:** 12/05/22

Air Canister Certification Results

Lab ID: L2260927-09
Client ID: CAN 3083 SHELF 42
Sample Location:

Date Collected: 11/01/22 09:00
Date Received: 11/01/22
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	107		60-140
bromochloromethane	109		60-140
chlorobenzene-d5	114		60-140

Project Name: FOREST AVE
Project Number: Not Specified

Lab Number: L2264810
Report Date: 12/05/22

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(*)
L2264810-01A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2264810-02A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2264810-03A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2264810-04A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2264810-05A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2264810-06A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2264810-07A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2264810-08A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L2264810-09A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L2264810-10A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-SIM(30),TO15-LL(30)
L2264810-11A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-SIM(30),TO15-LL(30)
L2264810-12A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-SIM(30),TO15-LL(30)

*Values in parentheses indicate holding time in days

Project Name:	FOREST AVE	**Lab Number:**	L2264810
Project Number:	Not Specified	**Report Date:**	12/05/22

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:	FOREST AVE	**Lab Number:**	L2264810
Project Number:	Not Specified	**Report Date:**	12/05/22

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.

Chlordane: 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.)

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'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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 for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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.

Report Format: Data Usability Report

Project Name:	FOREST AVE	**Lab Number:**	L2264810
Project Number:	Not Specified	**Report Date:**	12/05/22

Data Qualifiers

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 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.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

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 625/625.1: alpha-Terpineol
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, alpha-Terpineol; 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 2

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/18/22

ALPHA Job #: L2264810

Client Information

Client: CA Rich Consultants
Address: 17 Dupont St. Plainview NY
Phone: 5165748844
Fax:
Email: tbrown@carichinc.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Forest Ave
Project Location:
Project #:
Project Manager: Jason Cooper
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: ☐

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)
64810-01	SSV-461	11/16/22	851	1405	30.10	13.71	SV	TB	6L	1867	0435	X					
02	SSV-463	11/16/22	859	1410	29.02	12.41	SV	TB	6L	1659	1780	X					
03	SSV-465	11/16/22	908	1415	30.18	11.02	SV	TB	6L	3371	1297	X					
04	SSV-467	11/16/22	919	1422	30.20	12.91	SV	TB	6L	2929	824	X					
05	SSV-XX	11/16/22	852	1406	29.93	13.40	SV	TB	6L	811	637	X					
06	SV-E	11/16/22	930	1123	1.74	0.2	SV	TB	6L	1814	411	X					
07	SV-W	11/16/22	935	1550	30.12	21.90	SV	TB	6L	2449	1452	X					
08	IA-461	11/16/22	853	1230	18.85	7.32	AA	TB	6L	16006	1705	X					
09	IA-463	11/16/22	900	1411	30.22	11.84	AA	TB	6L	3957	2150	X					
10	IA-465	11/16/22	908	1416	30.30	9.21	AA	TB	6L	3906	2663	X					

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

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.

Relinquished By:	Date/Time	Received By:	Date/Time:
11/18/22 0340			
	11/17/22 1035		11/17/22 1035
Paul Mazzella	11/17/22 2020		11/17/22 2020
			11/18/22 0100

Form No: 101-02 Rev. (25-Sep-15)

AIR ANALYSIS

PAGE 2 OF 2

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/18/22

ALPHA Job #: L2264310

Client Information

Client:

Address:

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name:

Project Location:

Project #:

Project Manager:

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: ☐

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	ANALYSIS TO-15	TO-15 SIM	APH (Subtract Non-petroleum HCs ☐)	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
11	IA-467	11/16/22	920	1425	30.34	11.37	AA	TB	6L	1661	1184	X					
12	OA-1	11/16/22	938	1546	30.46	12.30	AA	TB	6L	1777	1023	X					

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

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.

Relinquished By:	Date/Time	Received By:	Date/Time:
11/18/22 0340			
Paul Mazzella 11/18/22 0340	11/17/22 1236	Paul Mazzella	11/17/22 1634
Paul Mazzella 11/17/22		GO AM	11/18/22 0100

Form No: 101-02 Rev: (25-Sep-15)

APPENDIX D
Data Usability Study Report

L.A.B. Validation Corp, 14 West Point Drive, East Northport, NY 11731

DATA USABILITY SUMMARY REPORT – DUSR
DATA VALIDATION SUMMARY

ORGANIC ANALYSES

VOLATILES BY GC/MS METHOD 8260D
1,4-DIOXANE BY SIM GC/MS METHOD 8270E
ISOTOPE DILUTION ORGANIC ANALYSIS
PERFLUORINATED ALKYL SUBSTANCES - PFAS (21 ANALYTES)
BY LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)
BY MODIFIED EPA METHOD 537.1

For Groundwater Samples Collected
December 01, 2022
From Forest Avenue, Staten Island, New York
by CA Rich Consultants, Inc.

SAMPLE DELIVERY GROUP NUMBER:
L2267585
Alpha Analytical (ELAP #11148)

SUBMITTED TO:

Mr. Thomas Brown
CA Rich Consultants, Inc.
17 Dupont Street
Plainview, NY 11803

Cc: Mr. Jason Cooper/CA Rich Consultants, Inc.

January 26, 2023

PREPARED BY:

Lori A. Beyer/President
L.A.B. Validation Corp.
14 West Point Drive
East Northport, NY 11731

Lori A. Beyer

(516) 523-7891; email LABValidation@aol.com

Forest Avenue, Staten Island, New York
Groundwater Data Usability Summary Report (Data Validation)
December 2022 Sampling Event; Analysis for Volatiles, 1,4-Dioxane, and PFAS (21 Analytes).

Table of Contents:

Introduction
Data Qualifier Definitions
Sample Receipt
1.0 Volatile Organics by GC/MS SW846 Method 8260D
- 1.1 Holding Time
- 1.2 System Monitoring Compound (Surrogate) Recovery
- 1.3 Matrix Spikes (MS), Matrix Spike Duplicates (MSD)
- 1.4 Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)
- 1.5 Blank Contamination
- 1.6 GC/MS Instrument Performance Check (Tuning)
- 1.7 Initial and Continuing Calibrations
- 1.8 Internal Standards
- 1.9 Field Duplicates
- 1.10 Target Compound List Identification
- 1.11 Non-Target Compounds (TICs)
- 1.12 Compound Quantification and Reported Detection Limits
- 1.13 Overall System Performance

2.0 1,4-Dioxane Semivolatile Organics by GC/MS SW846 Method 8270E Selective Ion Monitoring (SIM) Techniques
- 2.1 Holding Time
- 2.2 Surrogate Recovery
- 2.3 Matrix Spikes (MS), Matrix Spike Duplicates (MSD)
- 2.4 Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)
- 2.5 Method Blanks
- 2.6 GC/MS Instrument Performance Check (Tuning)
- 2.7 Initial and Continuing Calibrations
- 2.8 Internal Standards
- 2.9 Field Duplicates
- 2.10 Target Compound List Identification
- 2.11 Compound Quantification and Reported Detection Limits
- 2.12 Overall System Performance

3.0 Perfluorinated Alkyl Substances (PFAS) by LC/MS/MS EPA Modified Method 537.1
- 3.1 Holding Time/Preservation
- 3.2 Surrogate Recovery
- 3.3 Matrix Spikes (MS), Matrix Spike Duplicate (MSD),Laboratory Duplicates (DUPs)
- 3.4 Laboratory Control Sample (LCS)
- 3.5 Blank Contamination
- 3.6 Initial and Continuing Calibrations
- 3.7 Field Duplicates
- 3.8 Target Compound List Identification
- 3.9 Compound Quantification and Reported Detection Limits
- 3.10 Overall System Performance

APPENDICES:

A. Chain of Custody Document
B. Case Narrative
C. Data Summary Form I's with Qualifications

A validation was performed on groundwater samples and the associated quality control samples (Field Duplicate/MS/MSD/Field Blank/Equipment Blank/Trip Blank) for organic analysis for samples collected under chain of custody documentation by CA Rich Consultants, Inc. and submitted to Alpha Analytical for subsequent analysis. This report contains the laboratory and validation results for the field samples itemized below. Analysis was performed in accordance with requested tests per the chain of custody documents and in accordance with client instructions.

The samples were analyzed by Alpha Analytical, utilizing SW846 Methods and submitted under NYSDEC ASP Category B equivalent deliverable requirements for the associated analytical methodologies employed. The analytical testing for groundwater samples consisted of Volatile Organics, Semivolatile Organics for 1,4-Dioxane, and PFAS (21 Analytes).

The data was evaluated in accordance with EPA Region II National Functional Guidelines for Organic and Inorganic Data Review and EPA Region II SOPs for 8260, 8270, NYSDEC Appendix H – Data Review Guidelines for Analysis of PFAS in Non-Potable Water and Solids (November 2022) and in conjunction with the analytical methodologies for which the samples were analyzed, where applicable and relevant.

The data validation report pertains to the following samples:

Sample ID	Lab ID	Analysis	Date Collected/ Received
MW-1	L226785-01	Volatiles by 8260D, 1,4-Dioxane by 8270E (Selective Ion Monitoring) and PFAS by Isotope Dilution EPA Modified Method 537.1	12/01/2022 12/02/2022
MW-N	L226785-02	Volatiles by 8260D, 1,4-Dioxane by 8270E (Selective Ion Monitoring) and PFAS by Isotope Dilution EPA Modified Method 537.1	12/01/2022 12/02/2022
MW-NW [Plus, MS/MSD]	L226785-03	Volatiles by 8260D, 1,4-Dioxane by 8270E (Selective Ion Monitoring) and PFAS by Isotope Dilution EPA Modified Method 537.1	12/01/2022 12/02/2022
MW-XX [Field Duplicate of MW-N]	L226785-04	Volatiles by 8260D, 1,4-Dioxane by 8270E (Selective Ion Monitoring) and PFAS by Isotope Dilution EPA Modified Method 537.1	12/01/2022 12/02/2022
Field Blank	L226785-05	Volatiles by 8260D, 1,4-Dioxane by 8270E (Selective Ion Monitoring) and PFAS by Isotope Dilution EPA Modified Method 537.1	12/01/2022 12/02/2022
Equipment Blank 12/1/22	L226785-06	Volatiles by 8260D, 1,4-Dioxane by 8270E (Selective Ion Monitoring) and PFAS by Isotope Dilution EPA Modified Method 537.1	12/01/2022 12/02/2022
Trip Blank 12/1/22	L226785-07	Volatiles by 8260D	12/01/2022 12/02/2022

Data Qualifier Definitions:

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

U - The analyte was analyzed for but was not detected above the reported sample quantitation limit.

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

UJ - The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R - The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.

N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate quantity.

J+ - The result is an estimated quantity, but the result may be biased high.

J- - The result is an estimated quantity, but the result may be biased low.

D - Analyte concentration is from diluted analysis.

Sample Receipt:
The Chain of Custody document indicates that the samples were received at Alpha Analytical via laboratory courier upon completion of the sampling event. Sample login notes were generated. The cooler temperatures for the sample receipts were recorded upon receipt and determined to be acceptable (<6.0 degrees C). The actual temperatures (3.2/2.5 degrees C) are documented on the sample receipt checklist provided in the lab report.

The data summary Form I's included in Appendix C includes all usable (qualified) and unusable (rejected) results for the samples identified above. The Form I's summarize the detailed narrative section of the report.

NOTE:
L.A.B. Validation Corp. believes it is appropriate to note that the data validation criteria utilized for data evaluation is different than the method requirements utilized by the laboratory. Qualified data does not necessarily mean that the laboratory was non-compliant in the analysis that was performed.

1.0 Volatile Organics by GC/MS SW846 Method 8260D

The following method criteria were reviewed: holding times, SMCs, MS, MSD, LCS, Laboratory Spiked Blanks, Field Duplicate, Method Blanks, Tunes, Calibrations, Internal Standards, Target Component Identification, Quantitation, Reported Quantitation Limits and Overall System Performance. The Volatile results are valid and usable except for non-detects for 1,4-Dioxane in all samples due to low calibration response as noted within the following text:

1.1 Holding Time

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the technical holding time is exceeded, the data may not be considered valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimates, "J." The non-detects (sample quantitation limits) are required to be flagged as estimated, "J," or unusable, "R," if the holding times are grossly exceeded.

Samples were analyzed the Method required holding times as well as the technical holding times for data validation of within 14 days from collection for HCL preserved vials. No data validation qualifiers were required based upon holding time or sample preservation.

1.2 System Monitoring Compound (Surrogate) Recovery

All samples are spiked with surrogate compounds prior to sample analysis to evaluate overall laboratory performance and efficiency of the analytical technique. If the measure of surrogate concentrations is outside contract specification, qualifications are required to be applied to associated samples and analytes.

Surrogate recoveries (%R) for Dibromofluoromethane, 1,2-Dichloroethane-d4, Toluene-d8 and 4-Bromofluorobenzene were found to be within acceptable limits for surrogate compounds for all analyses.

1.3 Matrix Spikes (MS)/ Matrix Spike Duplicates (MSD)

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

Groundwater MS/MSD was performed on MW-NW. 1,1-Dichloroehtnae (140%/140%), Chloroform (140%), 1,2-Dichloropropane (140%), Chloromethane (180%/180%), Vinyl Chloride (150%), Acrylonitrile (140%/140%), Acetone (180%/180%), 2-Butanone (140%/150%), and 2-Hexanone (140%/140%) recovered above laboratory limits in the MS and/or MSD. No qualifiers were applied to non-detects in the parent sample since elevated recovery does not support any potential loss of detection and/or result bias. The laboratory detected concentrations of Acetone (4.6 ug/kg), and Chloroform (1.1 ug/kg) must be considered estimated, biased high, "J+." Acetone was subsequently negated, "U" due to Field, Equipment and Trip Blank contamination. No additional qualifiers were applied based on MS/MSD data.

The National Functional Guidelines and EPA Region 2 SOPs state that "No qualifications to the data are necessary based on MS data alone."

1.4 Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

The LCS data for laboratory control samples (LCS) are generated to provide information on the accuracy of the analytical method and on the laboratory performance.

LCS/LCS Duplicates were analyzed for each sequence. In cases where high recovery for an analyte was obtained and the target compound was not detected in the associated samples, the data was not qualified. High recovery does not support any potential loss of detection and/or result bias for non-detects. Recovery values were acceptable for all spiked analytes except as discussed below:

LCS/LCS Duplicate associated with MW-1, MW-N, MW-NW, and MW-XX yielded Chloromethane (140%/150%), and 2-Hexanone (140%) above laboratory criteria. RPD was acceptable for all spiked compounds. No qualifiers are required.

1.5 Blank Contamination

Quality assurance (QA) blanks, i.e., method, trip and field blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field blanks measure cross-contamination of samples during field operations. The following table was utilized to qualify target analyte results due to contamination. The largest value from all the associated blanks is required to be utilized:

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Storage, field, Trip, Instrument	Detects	Not Detected	No qualification required
	<CRQL*	<CRQL*	Report CRQL value with a U
		>/= CRQL* and <2x the CRQL**	No qualification required
	>CRQL*	</= CRQL*	Report CRQL value with a U
		>/=CRQL* and </= blank concentration	Report blank value for sample concentration with a U
		>/= CRQL* and > blank concentration	No qualification required
	=CRQL*	</= CRQL*	Report CRQL value with a U
		>CRQL*	No qualification required
	Gross Contamination**	Detects	Report blank value for sample concentration with a U

*2x the CRQL for methylene chloride, 2-butanone, and acetone.
**4x the CRQL for methylene chloride, 2-butanone, and acetone
***Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 ug/L.

Below is a summary of the compounds in the sample and the associated qualifications that have been applied:

A) **Method Blank Contamination:**
The method blank associated with MW-1, MW-N, MW-NW, and MW-XX yielded 1,2,4,5-Tetramethylbenzene at 1.0 ug/kg. This target analyte was not detected in corresponding field samples. Reported results are not impacted.

B) **Field Blank Contamination:**
Acetone (2.6ug/L) was detected in Field Blank 12/1/22. The laboratory reported concentration of this common laboratory contaminant was negated, "U" in MW-NW.

C) **Equipment Blank Contamination:**
Acetone (2.3ug/L) was detected in Equipment Blank 12/1/22. The laboratory reported concentration of this common laboratory contaminant was negated, "U" in MW-NW.

D) Trip Blank Contamination:
Acetone (1.7ug/L) was detected in Trip Blank 12/1/22. The laboratory reported concentration of this common laboratory contaminant was negated, "U" in MW-NW.

1.6 GC/MS Instrument Performance Check
Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The Tuning standard for volatile organics is Bromofluorobenzene (BFB).

Instrument performance was generated within acceptable limits and frequency (once prior to ICAL for 8260D) for Bromofluorobenzene (BFB) for all analyses.

1.7 Initial and Continuing Calibrations
Satisfactory instrument calibration is established to ensure that the instrument can produce acceptable quantitative data. An initial calibration demonstrates that the instrument can produce acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance. Initial calibration verifications were acceptable.

A) Response Factor GC/MS:
The response factor measures the instrument's response to specific chemical compounds. The response factor for all compounds must be >/= 0.05 in both initial and continuing calibrations. A value <0.05 indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J." All non-detects for that compound in the corresponding samples will be rejected, "R." Method 8260D allows for a minimum response factor of 0.1 for Acetone and 2-Butanone. Validation criteria allows response factor to be /=>0.01 for poor responders (Acetone, MEK, Carbon Disulfide, Chloroethane, Chloromethane, Cyclohexane, 1,2-Dibromoethane, Dichlorodifluoromethane, cis-1,2-Dichloroethene, 1,2-Dichloropropane, 1,2-Dibromo-3-chloropropane, Isopropylbenzene, Methyl Acetate, Methylene Chloride, Methylcyclohexane, MTBE, trans-1,2-Dichloroethene, 4-Methyl-2-Pentanone, 2-Hexanone, Trichlorofluoromethane, 1,1,2-Trichloro-1,2,2-Trifluoroethane.

Response factors for the target analytes reported were found to be within acceptable limits (>/=0.05) and (>/= 0.01 for poor responders) and minimum response criteria in Table 4 of Method 8260D, for the initial and continuing calibrations for all reported analytes except for 1,4-Dioxane (0.001 and 0.003). Non-detects for 1,4-Dioxane must be considered unreliable and have been rejected, "R."

1,4-Dioxane is usable in the 8270E SIM analysis.

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):
Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentrations. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be <20% and %D must be <20%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ." If %RSD and %D grossly exceed QC criteria, non-detect data may be qualified, "R," unusable. Additionally, in cases where the %RSD is >20% and eliminating either the high or the low point of the curve does not restore the %RSD to less than or equal to 20% then positive results are qualified, "J". In cases where removal of either the low or high point restores the linearity, then only low or high-level results will be qualified, "J" in the portion of the curve where non-linearity exists. Closing CCV must meet 30% criteria. Poor responders must be </= 40%.

*Method 8260D allows for several analytes to be outside requirements due to the large number of compounds.

Initial Calibrations: The initial calibrations provided and the %RSD were within acceptable limits (20%) and (40% for poor responders) for all reported compounds. Initial calibration verification (ICV) was outside criteria for Dichlorodifluoromethane (64.5%) and Bromomethane (32.9%). Non-detects in MW-1, MW-N, MW-NW, and MW-XX have been qualified, "UJ." Initial calibration verification (ICV) associated with Field Blank 12/1/22, Equipment Blank 12/1/22, and Trip Blank 12/22/22 yielded Bromomethane (37.3%) and Carbon Disulfide (60.7%) outside criteria. Non-detects have been qualified, "UJ."

Continuing Calibrations: The continuing calibrations provided and the %D was within acceptable limits (20%) and (40% for poor responders) for all reported compounds with exceptions discussed below:

CCAL VOA130 12/07/2022 – Chloromethane – 44.4%, Bromomethane – 28.6%, Ethyl Ether – 23.7%, 1,1-Dichloroethane – 22.0%, 1,2-Dichloropropane – 22.3%; "UJ" non-detects in MW-1, MW-N, MW-NW, and MW-XX.

CCAL VOA108 12/12/2022 - Bromomethane – 40.5%, Ethyl Ether – 26.2%, 1,1-Dichloroethene – 22.5%, and Bromoform – 25.7%; "UJ" non-detects in Field Blank 12/1/22, Equipment Blank 12/1/22, and Trip Blank 12/22/22.

1.8 Internal Standards
Internal Standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than +/-30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to +100%) range of the associated standard, all the

positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, professional judgment will be used to determine either partial or total rejection of the data for that sample fraction.

All samples were spiked with the internal standards Fluorobenzene, Chlorobenzene-d5 and 1,4-Dichlorobenzene-d4 prior to sample analysis. The area responses and retention time of each internal standard met QC criteria in all samples.

1.9 Field Duplicates

Field duplicate samples are collected and analyzed as an indication of overall precision. These results are expected to have more variability than laboratory duplicate samples.

An acceptable RPD is 25% for aqueous matrices. Professional judgment is utilized for analytes that demonstrate high percent difference.

Field duplicate analysis was collected on MW-N as MW-XX. Precision is acceptable for detected analytes Chloroform (1.1 ug/L vs 1.0 ug/L), Tetrachloroethene (40 ug/L vs 38 ug/L), Trichloroethene (0.84 ug/L vs. 0.78 ug/L), and cis-1,2-Dichloroethene (1.3 ug/L vs.1.2 ug/L). No qualifiers are required.

1.10 Target Compound List Identification

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within =/- 0.06RRT units of the standard compound and have an ion spectrum which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound.

GC/MS spectra met the qualitative criteria for identification. All retention times were within required specifications.

1.11 Tentatively Identified Compounds (TICs)

TICs were not required for these sampling events. When detected the identification must be considered tentative (both quantitative and qualitative) due to the lack of required compound specific response factors. Consequently, all concentrations should be considered estimated, "J" due to the qualitative uncertainty should be qualified, "N" where an identification has been made.

TICS were not required.

1.12 Compound Quantification and Reported Detection Limits

GC/MS quantitative analysis is acceptable. Correct internal standards per SW846 and response factors were used to calculate final concentrations.

As required, the laboratory reported "J" values between the reporting limits (RL) and Method Detection Limits (MDLs). This is consistent with common laboratory practices and a requirement of the National Environmental Laboratory Approval Program (NELAP).

Samples were analyzed undiluted.

1.13 Overall System Performance

Good resolution and chromatographic performance were observed.

2.0 1,4-Dioxane Semivolatile Organics by GC/MS SW846 Method 8270E by 8270D Selective Ion Monitoring (SIM) Techniques

The following method criteria were reviewed: holding times, Surrogates, MS, MSD, LCS, Field Duplicate, Blanks, Tunes, Calibrations, Internal Standards, Target Component Identification, Quantitation, Reported Quantitation Limits, and overall system performance. The 1,4 Dioxane results are valid and usable as noted within the following text:

2.1 Holding Time

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the technical holding time is exceeded, the data may not be considered valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimates, "J." The non-detects (sample quantitation limits) are required to be flagged as estimated, "J," or unusable, "R," if the holding times are grossly exceeded.

Samples were extracted and analyzed within the method required holding times and the technical holding times (7 days from collection) required for data validation. Sample extracts were analyzed within 40 days of preparation as required.

2.2 Surrogate Recovery

All samples are spiked with surrogate compounds prior to sample preparation/extraction to evaluate overall laboratory performance and efficiency of the analytical technique. Additionally, the sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Since the effects of the sample matrix are frequently outside the control of the laboratory and may present unique problems, the evaluation of the data is dependent upon reextraction and/or reanalysis to confirm/negate laboratory error or matrix related problems. Discussion of surrogate recoveries that fell outside (above/below) QC guidelines is itemized below:

Surrogate 1,4-Dioxane-d8 was acceptable for SIM analysis (1,4-Dioxane) for all samples.

2.3 Matrix Spikes (MS)/Matrix Spike Duplicates (MSD)

MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices.

Groundwater MS/MSD analyzed on MW-NW yielded acceptable recovery (122%/123%) and RPD (0%). No qualifiers are required.

The National Functional Guidelines and EPA Region 2 SOPs state that "No qualifications to the data are necessary based on MS data alone."
alone."

2.4 Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

The LCS data for laboratory control samples (LCS) are generated to provide information on the accuracy of the analytical method and on the laboratory performance.

Acceptable LCS/LCS Duplicates were analyzed with each sequence. Recovery values and RPD was acceptable for 1,4-Dioxane.

2.5 Method Blanks

Quality assurance (QA) blanks, i.e., method, trip and field blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Field blanks measure cross-contamination of samples during field operations.

The following table was utilized to qualify target analyte results due to contamination. The largest value from all the associated blanks is required to be utilized:

For:	Flag Sample Result with a "U" when:	Report CRQL & Qualify "U" when:	No Qualification is Needed when:
1,4-Dioxane	Sample Conc. is <CRQL, but </=1x blank value	Sample Conc. Is <CRQL and </=1x blank value	Sample Conc. is >CRQL and >1x blank value

Below is a summary of the compounds in the sample and the associated qualification that have been applied:

A) **Method Blank Contamination:**

1,4-Dioxane was not detected in the method blank associated with Field Blank 12/1/22 or Equipment blank 12/1/22.

1,4-Dioxane -43.4 ng/L (or 0.0434 ug/L) was detected in the method blank associated with MW-NW, MW-1, MW-N, and MW-XX. The laboratory reported concentration of 68.5 ng/L (or 0.0685 ug/L) [J qualified by the laboratory since the reported concentration is less than the reporting limit] has been negated, "U" in MW-NW due to laboratory contamination. 1,4-Dioxane was not detected or reported in remaining field samples. No additional qualifiers were applied.

B) **Field Blank Contamination:**

1,4-Dioxane was not detected in Field Blank 12/1/22.

C) **Equipment Blank Contamination:**

1,4-Dioxane was not detected in Equipment Blank 12/1/22.

2.6 GC/MS Instrument Performance Check

Tuning and performance criteria are established to ensure adequate mass resolution proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The Tuning standard for semivolatile organics is decafluorotriphenylphosphine (DFTPP).

Instrument performance was generated within acceptable limits and frequency (12 hours) for decafluorotriphenylphosphine (DFTPP) for all analyses.

2.7 Initial and Continuing Calibrations

Satisfactory instrument calibration is established to ensure that the instrument can produce acceptable quantitative data. An initial calibration demonstrates that the instrument can give acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) Response Factor GC/MS:
The response factor measures the instrument's response to specific chemical compounds. The response factor for all compounds must be >/= 0.05 in both initial and continuing calibrations. A value <0.05 indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J." All non-detects for that compound in the corresponding samples will be rejected, "R."

Response factors for 1,4-Dioxane were found to be within acceptable limits (>/=0.05), for the initial (average RRF) and continuing calibrations.

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):
Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentrations. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be <20% and %D must be <20%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ." If %RSD and %D grossly exceed QC criteria, non-detect data may be qualified, "R," unusable. Additionally, in cases where the %RSD is >30% and eliminating either the high or the low point of the curve does not restore the %RSD to less than or equal to 20% then positive results are qualified, "J". In cases where removal of either the low or high point restores the linearity, then only low or high-level results will be qualified, "J" in the portion of the curve where non-linearity exists. Acceptable Initial Calibration Verifications were performed.

Initial Calibrations: The initial calibrations provided and the %RSD were within acceptable limits (20%) for 1,4-Dioxane.

Continuing Calibrations: The continuing calibrations provided and the %D was within acceptable limits (20%) for 1,4-Dioxane.

2.8 Internal Standards
Internal Standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than +/-30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to +100%) range of the associated standard, all the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, professional judgment will be used to determine either partial or total rejection of the data for that sample fraction.

Area responses and retention times for 1,4-Dichlorobenzene-d4 fell within established QC ranges for sample analysis.

2.9 Field Duplicates
Field duplicate samples are collected and analyzed as an indication of overall precision. These results are expected to have more variability than laboratory duplicate samples.

An acceptable RPD is 25% for aqueous matrices. Professional judgment is utilized for analytes that demonstrate high percent difference.

Field duplicate was collected on MW-N as MW-XX. Precision is acceptable. 1,4-Dioxane was not detected in the parent or field duplicate.

2.10 Target Compound List Identification

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within =/- 0.06RRT units of the standard compound and have an ion spectrum which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound.

Mass spectra meet criteria. 1,4-Dioxane was not detected in any samples after correction for method blank contamination.

2.11 Compound Quantification and Reported Detection Limits

GC/MS quantitative analysis is acceptable. Correct internal standards and response factors were used to calculate final concentrations.

As required, the laboratory reported "J" values between the reporting limits (RL) and Method Detection Limits (MDLs). This is consistent with common laboratory practices and a requirement of the National Environmental Laboratory Approval Program (NELAP). Samples were analyzed undiluted. Samples were extracted by Method 3510C (Separatory Funnel Extraction). Samples were analyzed undiluted.

2.12 Overall System Performance

Good resolution and chromatographic performance were observed. Groundwater results for 1,4-Dioxane are reported in ng/L where 1 ng/L = 0.001 ug/L.

3.0 Perfluorinated Alkyl Substances (PFAS) by LC/MS/MS EPA Modified Method 537.1

The following method criteria were reviewed: Holding times, Surrogates, MS, MSD, LCS/Laboratory Spiked Blanks, Field Duplicates, Method Blanks, Calibrations, Target Component Identification, Quantitation, Reported Quantitation Limits and Overall System Performance. The PFAS results are valid and usable as noted within the following text:

3.1 Holding Time/Preservation

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the technical holding time is exceeded, the data may not be considered valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimates, "J." The non-detects (sample quantitation limits) are required to be flagged as estimated, "J," or unusable, "R," if the holding times are grossly exceeded.

Samples were extracted and performed within the method required holding times of 28 days from extraction to analysis for aqueous samples. Samples must be analyzed within 28 days from extraction. Samples were analyzed within the required holding times. No data validation qualifiers were required based upon holding time. Samples were received properly preserved within temperature requirements of 6 degrees Celsius.

3.2 System Monitoring Compound (Surrogate) Recovery

All samples are spiked with surrogate compounds prior to sample analysis to evaluate overall laboratory performance and efficiency of the analytical technique. If the measure of surrogate concentrations is outside contract specification, qualifications are required to be applied to associated samples and analytes.

Surrogate recoveries (%R) for Isotope Dilution analysis were found to be within acceptable limits with exceptions discussed below. Data was qualified based on the following criteria:

Recovery <50% or >150%	**Apply "J" Qualifier**
Recovery <25% or >150% for poor responding analytes	**Apply "J" Qualifier**
Isotope Dilution Analyte (IDA) recovery <10%	**Reject Results, "R"**

Note: Problematic analytes (PFBA, PFPeA, Fluorotelomer sulfonates) can have wider recoveries without qualification.

Samples were spiked with surrogate standards MPFBA, M5PFPEA, M3PFBS, M5PFHXA, M4PFHPA, M3PFHXS, M8PFOA, M2-6:2FTS, M9PFNA, M8PFOS, M6PFDA, M2-8:2FTS, D3-NMEFOSAA, M7-PFUDA, M8FOSA, D5-NETFOSAA, MPFDOA and M2PFTEDA. Acceptable recovery values were obtained for sample analysis with exceptions noted below:

M8FOSA – Recovery values <25% have been qualified, "UJ" for FOSA in MW-1 (12%) and MW-NW (10%). Recovery values were below limits also in MW-NWMS (9%), and MW-NWMSD (22%) and therefore indicating a sample matrix effect for this sample. No additional qualifiers were applied.

3.3 Matrix Spikes (MS)/Matrix Spike Duplicate (MSD)Laboratory Duplicates (DUPs)

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

Recovery <70% or >130% [laboratory criteria may also be used]	Apply "J" qualifier to detects and 'UJ" qualifier to non-detects of parent sample only
RPD >30%	Apply "J" qualifier to detects and 'UJ" qualifier to non-detects of parent sample only

Groundwater MS/MSD analysis was conducted on MW-NW. Recovery values and RPD met acceptance criteria for all spike analytes. MSD was performed in lieu of laboratory duplicate. This is acceptable practice.

3.4 Laboratory Control Sample (LCS)

The LCS data for laboratory control samples (LCS) are generated to provide information on the accuracy of the analytical method and on the laboratory performance.

LCS/Blank Spike was analyzed and was spiked with all twenty-one (21) spiked compounds as required. Recovery values were acceptable. No qualifiers are required based on LCS data.

In cases where outliers are obtained the following qualifiers are required:

Recovery <70% or >130% [laboratory criteria may also be used]	**Apply "J" qualifier to detects and "UJ" qualifier to non-detects**

3.5 Blank Contamination

Quality assurance (QA) blanks, i.e., method, trip and field blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field blanks measure cross-contamination of samples during field operations. The following table was utilized to qualify target analyte results due to contamination. The largest value from all the associated blanks is required to be utilized:

Blank Result	Sample Result	Qualification
Any detection	<Reporting Limit	Qualify as ND as reporting limit
Any detection	>Reporting Limit and >10x the blank result	No Qualification
>Reporting Limit	>Reporting limit and <10x the blank result	J+ Biased High

Below is a summary of the compounds in the blanks and the associated qualifications that have been applied:

A) Method Blank Contamination:

PFOA (0.640 ng/L) was detected in the method blank associated with all samples. The laboratory reported concentration (0.220 ng/L) of this analyte has been negated, "U" in the Equipment Blank 12/1/22 based on the above criteria. Remaining sample detections were greater than 10x the reporting limits and therefore must be considered, "real." No additional qualifiers were applied based on method blank contamination.

B) Field Blank Contamination:

No target analytes were detected in Field Blank 12/1/22.

C) Equipment Blank Contamination:

PFOS – 0.807 ng/L (0.00087 ug/L) was detected in Equipment Blank 12/1/22. Sample concentrations were greater than 10x the Equipment Blank level and therefore no qualifiers are required.

3.6 Initial and Continuing Calibrations

Satisfactory instrument calibration is established to ensure that the instrument can produce acceptable quantitative data. An initial calibration demonstrates that the instrument can produce acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance. Initial and continuing calibration and verifications were acceptable and met the requirements summarized below:

Initial Calibrations:

%RSD >20% (6 calibration levels)	J flag detects and UJ non-detects
R2 >0.990 (6 calibration levels)	J flag detects and UJ non-detects
Low-level calibration check <50% or >150%	J flag detects and UJ non-detects
Mid-level calibration check <70% or >130%	U flag detects and UJ non-detects

Initial Calibration Verification:

ICV recovery <70% or >130%	J flag detects and "UJ" non-detects.

Continuing Calibration Verification:

CCV recovery <70% or >130%	J flag results

Acceptable calibrations were analyzed.

3.7 Field Duplicates

Field duplicate samples are collected and analyzed as an indication of overall precision. These results are expected to have more variability than laboratory duplicate samples. Acceptable RPD is 30% where sample concentrations are greater than 2x the reporting limit. In cases where RPD is >30%, the end user should utilize the higher concentration.

Field duplicate analysis was conducted on MW-N as MWXX. Precision is acceptable for all detected compounds.

3.8 Target Compound List Identification

TCL compounds are identified on the LC/MS/MS by using the analyte's relative retention time (RRT) obtained from known standards.

LC/MS/MS raw data met the qualitative criteria for identification. All retention times were within required specifications. In cases where the ratio of quantifier ion response to qualifier ion response falls outside the laboratory criteria, results are considered estimated, "J." No additional qualifiers were required based on these criteria for field samples.

3.9 Compound Quantification and Reported Detection Limits

LC/MS/MS quantitative analysis is acceptable. Samples were extracted by solid phase extraction techniques via Method 3535. Correct response factors were used to calculate final concentrations. Aqueous results are reported in ng/L (where 1 ng/L = 0.001 ug/L) for all detections.

As required, the laboratory reported "J" values between the reporting limits (RL) and Method Detection Limits (MDLs). This is consistent with common laboratory practices and a requirement of the National Environmental Laboratory Approval Program (NELAP).

Samples were analyzed undiluted. Extracts were performed utilizing initial sample volumes of approximately 250ml as verified by laboratory prep sheets. Extracts were concentrated to 1 ml and the laboratory has injected 3ul for samples and standards which is acceptable practice. Groundwater and the Field/Equipment Blank results are reported in ng/L where (1 ng/L = 0.001 ug/L). Reporting forms for liquid erroneously list "grams" instead of "mls." Manual edits were made to the reporting sheets as part of the review process.

3.10 Overall System Performance

Good resolution and chromatographic performance were observed. Target analyte peaks were properly integrated and consistently when compared to reference standards.

Reviewer's Signature Lori A. Beyer **Date** 01/26/2023

Appendix A
Chain of Custody Document

NEW YORK CHAIN OF CUSTODY

ALPHA

Westborough, MA 01581 — 8 Walkup Dr. — TEL: 508-898-9220 — FAX: 508-898-9193

Mansfield, MA 02048 — 320 Forbes Blvd — TEL: 508-822-9300 — FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 12/02/22

ALPHA Job #: L2267585

Client Information

Client: CA Rich Consultants
Address: 17 Dupont St.
Plainview NY 11803
Phone: 5165760849
Fax:
Email: thevan@carichinc.com

Project Information

Project Name: Forest Ave SCWP IHP
Project Location: Forest Ave Staten Island
Project #: Forest Ave SCWP IHP
(Use Project name as Project #) ☐
Project Manager: Jason Cooper
ALPHAQuote #:

Turn-Around Time

Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☐ ASP-A ☒ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☐ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

TCL VOC 8260 | PFAS Method 537 | 1,4-Dioxane 8270SIM

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TCL VOC 8260	PFAS Method 537	1,4-Dioxane 8270SIM	Sample Specific Comments	Total Bottle
L2267585-01	MW-1	12/1/22	1310	GW	TB					
-02	MW-N	12/1/22	1110	GW	TB	X	X	X		7
-03	MW-NW	12/1/22	900	GW	TB	X	X	X		7
-03	MW-NW MS	12/1/22	905	GW	TB	X	X	X		7
-03	MW-NW MSD	12/1/22	910	GW	TB	X	X	X		7
-04	MW-XX	12/1/22	1120	GW	TB	X	X	X		7
-05	Field Blank 12/1/22	12/1/22	930	FB	TB	X	X	X		6
-06	Equipment Blank 12/1/22	12/1/22	940	EB	TB	X	X	X		6
-07	Trip Blank 12/1/22	12/1/22	—	TB	TB	X				2

Container Type: V | P | A
Preservative: B | A | A

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
	12/2/22		
T. Sumin	12/2/22 1230	Paul Massella	12/2/22 1600
Paul Massella	12/2/22		

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

Appendix B
Case Narrative

Project Name:	FOREST AVE SCWP IMP	**Lab Number:**	L2267585
Project Number:	FOREST AVE SCWP IMP	**Report Date:**	01/09/23

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

1/25/2023

Case Narrative (continued)

Report Submission

January 09, 2023: This final report includes the results of all requested analyses.

December 23, 2022: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

The analyses performed were specified by the client.

Perfluorinated Alkyl Acids by Isotope Dilution

L2267585-02: The MeOH fraction of the extraction is reported for perfluorooctanesulfonamide (fosa) due to better extraction efficiency of the perfluoro[13c8]octanesulfonamide (m8fosa) Extracted Internal Standard.

L2267585-05, -06, WG1727978-1, WG1727978-2, and WG1727978-3: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

The Extracted Internal Standard recovery for the WG1727978-3 MS, associated with L2267585-01 through -06, is below the acceptance criteria (less than 10%) for perfluoro[13c8]octanesulfonamide (m8fosa) (9%); however, all associated target analytes are within MS criteria; therefore, no further action was taken.

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: Tiffani Morrissey Report Date: 01/09/23

Title: Technical Director/Representative

1/25/2023

Appendix C
Data Summary Form I's
With Qualifications

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-01	Date Collected	: 12/01/22 13:10
Client ID	: MW-1	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/07/22 16:17
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V30221207A23	Instrument ID	: VOA130
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	~~U~~ UJ
67-66-3	Chloroform	1.1	2.5	0.70	J
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	~~U~~ UJ
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	80	0.50	0.18	
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
542-75-6	1,3-Dichloropropene, Total	ND	0.50	0.14	U
563-58-6	1,1-Dichloropropene	ND	2.5	0.70	U
75-25-2	Bromoform	ND	2.0	0.65	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	~~U~~ UJ
74-83-9	Bromomethane	ND	2.5	0.70	~~U~~ UJ
75-01-4	Vinyl chloride	ND	1.0	0.07	U

for 12/8/2023

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-01	Date Collected	: 12/01/22 13:10
Client ID	: MW-1	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/07/22 16:17
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V30221207A23	Instrument ID	: VOA130
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U
79-01-6	Trichloroethene	0.52	0.50	0.18	
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
1330-20-7	Xylenes, Total	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.70	U
540-59-0	1,2-Dichloroethene, Total	ND	2.5	0.70	U
74-95-3	Dibromomethane	ND	5.0	1.0	U
96-18-4	1,2,3-Trichloropropane	ND	2.5	0.70	U
107-13-1	Acrylonitrile	ND	5.0	1.5	U
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U UJ
67-64-1	Acetone	ND	5.0	1.5	U
75-15-0	Carbon disulfide	ND	5.0	1.0	U
78-93-3	2-Butanone	ND	5.0	1.9	U
108-05-4	Vinyl acetate	ND	5.0	1.0	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
74-97-5	Bromochloromethane	ND	2.5	0.70	U

for 1/25/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-01	Date Collected	: 12/01/22 13:10
Client ID	: MW-1	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/07/22 16:17
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V30221207A23	Instrument ID	: VOA130
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
594-20-7	2,2-Dichloropropane	ND	2.5	0.70	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
142-28-9	1,3-Dichloropropane	ND	2.5	0.70	U
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.5	0.70	U
108-86-1	Bromobenzene	ND	2.5	0.70	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
95-49-8	o-Chlorotoluene	ND	2.5	0.70	U
106-43-4	p-Chlorotoluene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
87-68-3	Hexachlorobutadiene	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	U
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
123-91-1	1,4-Dioxane	ND	250	61.	~~U~~ R
105-05-5	p-Diethylbenzene	ND	2.0	0.70	U
622-96-8	p-Ethyltoluene	ND	2.0	0.70	U
95-93-2	1,2,4,5-Tetramethylbenzene	ND	2.0	0.54	U
60-29-7	Ethyl ether	ND	2.5	0.70	~~U~~ UJ

12/5/2023

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	**Lab Number**	: L2267585
Project Name	: FOREST AVE SCWP IMP	**Project Number**	: FOREST AVE SCWP IMP
Lab ID	: L2267585-01	**Date Collected**	: 12/01/22 13:10
Client ID	: MW-1	**Date Received**	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	**Date Analyzed**	: 12/07/22 16:17
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,8260D	**Analyst**	: MJV
Lab File ID	: V30221207A23	**Instrument ID**	: VOA130
Sample Amount	: 10 ml	**GC Column**	: RTX-502.2
Level	: LOW	**%Solids**	: N/A
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
110-57-6	trans-1,4-Dichloro-2-butene	ND	2.5	0.70	U

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-02	Date Collected	: 12/01/22 11:10
Client ID	: MW-N	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/07/22 16:36
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V30221207A24	Instrument ID	: VOA130
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U UJ
67-66-3	Chloroform	1.0	2.5	0.70	J
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U UJ
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	38	0.50	0.18	
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
542-75-6	1,3-Dichloropropene, Total	ND	0.50	0.14	U
563-58-6	1,1-Dichloropropene	ND	2.5	0.70	U
75-25-2	Bromofonn	ND	2.0	0.65	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U UJ
74-83-9	Bromomethane	ND	2.5	0.70	U UJ
75-01-4	Vinyl chloride	ND	1.0	0.07	U

1/25/2023

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-02	Date Collected	: 12/01/22 11:10
Client ID	: MW-N	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/07/22 16:36
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V30221207A24	Instrument ID	: VOA130
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U
79-01-6	Trichloroethene	0.78	0.50	0.18	
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
1330-20-7	Xylenes, Total	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	1.2	2.5	0.70	J
540-59-0	1,2-Dichloroethene, Total	1.2	2.5	0.70	J
74-95-3	Dibromomethane	ND	5.0	1.0	U
96-18-4	1,2,3-Trichloropropane	ND	2.5	0.70	U
107-13-1	Acrylonitrile	ND	5.0	1.5	U
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	~~U~~ UJ
67-64-1	Acetone	ND	5.0	1.5	U
75-15-0	Carbon disulfide	ND	5.0	1.0	U
78-93-3	2-Butanone	ND	5.0	1.9	U
108-05-4	Vinyl acetate	ND	5.0	1.0	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
74-97-5	Bromochloromethane	ND	2.5	0.70	U

for 12/8/2023

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-02	Date Collected	: 12/01/22 11:10
Client ID	: MW-N	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/07/22 16:36
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V30221207A24	Instrument ID	: VOA130
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
594-20-7	2,2-Dichloropropane	ND	2.5	0.70	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
142-28-9	1,3-Dichloropropane	ND	2.5	0.70	U
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.5	0.70	U
108-86-1	Bromobenzene	ND	2.5	0.70	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
95-49-8	o-Chlorotoluene	ND	2.5	0.70	U
106-43-4	p-Chlorotoluene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
87-68-3	Hexachlorobutadiene	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	U
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
123-91-1	1,4-Dioxane	ND	250	61.	R
105-05-5	p-Diethylbenzene	ND	2.0	0.70	U
622-96-8	p-Ethyltoluene	ND	2.0	0.70	U
95-93-2	1,2,4,5-Tetramethylbenzene	ND	2.0	0.54	U
60-29-7	Ethyl ether	ND	2.5	0.70	UJ

12/7/2023

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-02	Date Collected	: 12/01/22 11:10
Client ID	: MW-N	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/07/22 16:36
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V30221207A24	Instrument ID	: VOA130
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
110-57-6	trans-1,4-Dichloro-2-butene	ND	2.5	0.70	U

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-03	Date Collected	: 12/01/22 09:00
Client ID	: MW-NW	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/07/22 16:56
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V30221207A25	Instrument ID	: VOA130
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	~~U~~ UJ
67-66-3	Chloroform	1.1	2.5	0.70	~~J~~ J+
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	~~U~~ UJ
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	8.2	0.50	0.18	
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
542-75-6	1,3-Dichloropropene, Total	ND	0.50	0.14	U
563-58-6	1,1-Dichloropropene	ND	2.5	0.70	U
75-25-2	Bromoform	ND	2.0	0.65	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	~~U~~ UJ
74-83-9	Bromomethane	ND	2.5	0.70	~~U~~ UJ
75-01-4	Vinyl chloride	ND	1.0	0.07	U

12/27/2023

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-03	Date Collected	: 12/01/22 09:00
Client ID	: MW-NW	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/07/22 16:56
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V30221207A25	Instrument ID	: VOA130
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U
79-01-6	Trichloroethene	ND	0.50	0.18	U
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
1330-20-7	Xylenes, Total	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.70	U
540-59-0	1,2-Dichloroethene, Total	ND	2.5	0.70	U
74-95-3	Dibromomethane	ND	5.0	1.0	U
96-18-4	1,2,3-Trichloropropane	ND	2.5	0.70	U
107-13-1	Acrylonitrile	ND	5.0	1.5	U
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	~~U~~ UJ
67-64-1	Acetone	ND ~~4.6~~	5.0	1.5	~~J~~ U
75-15-0	Carbon disulfide	ND	5.0	1.0	U
78-93-3	2-Butanone	ND	5.0	1.9	U
108-05-4	Vinyl acetate	ND	5.0	1.0	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
74-97-5	Bromochloromethane	ND	2.5	0.70	U

1/27/2023

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-03	Date Collected	: 12/01/22 09:00
Client ID	: MW-NW	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/07/22 16:56
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V30221207A25	Instrument ID	: VOA130
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
594-20-7	2,2-Dichloropropane	ND	2.5	0.70	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
142-28-9	1,3-Dichloropropane	ND	2.5	0.70	U
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.5	0.70	U
108-86-1	Bromobenzene	ND	2.5	0.70	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
95-49-8	o-Chlorotoluene	ND	2.5	0.70	U
106-43-4	p-Chlorotoluene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
87-68-3	Hexachlorobutadiene	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	U
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
123-91-1	1,4-Dioxane	ND	250	61.	~~U~~ R
105-05-5	p-Diethylbenzene	ND	2.0	0.70	U
622-96-8	p-Ethyltoluene	ND	2.0	0.70	U
95-93-2	1,2,4,5-Tetramethylbenzene	ND	2.0	0.54	U
60-29-7	Ethyl ether	ND	2.5	0.70	~~U~~ UJ

for 12/5/2023

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-03	Date Collected	: 12/01/22 09:00
Client ID	: MW-NW	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/07/22 16:56
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V30221207A25	Instrument ID	: VOA130
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
110-57-6	trans-1,4-Dichloro-2-butene	ND	2.5	0.70	U

12/5/2023

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-04	Date Collected	: 12/01/22 11:20
Client ID	: MW-XX MW-N	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/07/22 17:15
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V30221207A26	Instrument ID	: VOA130
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	~~U~~ UJ
67-66-3	Chloroform	1.1	2.5	0.70	J
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	~~U~~ UJ
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	40	0.50	0.18	
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
542-75-6	1,3-Dichloropropene, Total	ND	0.50	0.14	U
563-58-6	1,1-Dichloropropene	ND	2.5	0.70	U
75-25-2	Bromoform	ND	2.0	0.65	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	~~U~~ UJ
74-83-9	Bromomethane	ND	2.5	0.70	~~U~~ UJ
75-01-4	Vinyl chloride	ND	1.0	0.07	U

12/15/2023

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-04	Date Collected	: 12/01/22 11:20
Client ID	: MW-XX MW-N	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/07/22 17:15
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V30221207A26	Instrument ID	: VOA130
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U
79-01-6	Trichloroethene	0.84	0.50	0.18	
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
1330-20-7	Xylenes, Total	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	1.3	2.5	0.70	J
540-59-0	1,2-Dichloroethene, Total	1.3	2.5	0.70	J
74-95-3	Dibromomethane	ND	5.0	1.0	U
96-18-4	1,2,3-Trichloropropane	ND	2.5	0.70	U
107-13-1	Acrylonitrile	ND	5.0	1.5	U
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	~~U~~ UJ
67-64-1	Acetone	ND	5.0	1.5	U
75-15-0	Carbon disulfide	ND	5.0	1.0	U
78-93-3	2-Butanone	ND	5.0	1.9	U
108-05-4	Vinyl acetate	ND	5.0	1.0	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
74-97-5	Bromochloromethane	ND	2.5	0.70	U

1/25/2023

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-04	Date Collected	: 12/01/22 11:20
Client ID	: MW-XX MW-N	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/07/22 17:15
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V30221207A26	Instrument ID	: VOA130
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier
594-20-7	2,2-Dichloropropane	ND	2.5	0.70	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
142-28-9	1,3-Dichloropropane	ND	2.5	0.70	U
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.5	0.70	U
108-86-1	Bromobenzene	ND	2.5	0.70	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
95-49-8	o-Chlorotoluene	ND	2.5	0.70	U
106-43-4	p-Chlorotoluene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
87-68-3	Hexachlorobutadiene	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	U
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
123-91-1	1,4-Dioxane	ND	250	61.	~~U~~ R
105-05-5	p-Diethylbenzene	ND	2.0	0.70	U
622-96-8	p-Ethyltoluene	ND	2.0	0.70	U
95-93-2	1,2,4,5-Tetramethylbenzene	ND	2.0	0.54	U
60-29-7	Ethyl ether	ND	2.5	0.70	~~U~~ UJ

MJV 12/27/23

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-04	Date Collected	: 12/01/22 11:20
Client ID	: MW-XX MW-N	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/07/22 17:15
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V30221207A26	Instrument ID	: VOA130
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
110-57-6	trans-1,4-Dichloro-2-butene	ND	2.5	0.70	U

JOT 1/25/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-05	Date Collected	: 12/01/22 09:30
Client ID	: FIELD BLANK 12/1/22	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/12/22 19:11
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V08221212N06	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	ND	0.50	0.18	U
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
542-75-6	1,3-Dichloropropene, Total	ND	0.50	0.14	U
563-58-6	1,1-Dichloropropene	ND	2.5	0.70	U
75-25-2	Bromoform	ND	2.0	0.65	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U
74-83-9	Bromomethane	ND	2.5	0.70	~~U~~ UJ
75-01-4	Vinyl chloride	ND	1.0	0.07	U

for 12/27/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-05	Date Collected	: 12/01/22 09:30
Client ID	: FIELD BLANK 12/1/22	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/12/22 19:11
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V08221212N06	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	~~U~~ UJ
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U
79-01-6	Trichloroethene	ND	0.50	0.18	U
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
1330-20-7	Xylenes, Total	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.70	U
540-59-0	1,2-Dichloroethene, Total	ND	2.5	0.70	U
74-95-3	Dibromomethane	ND	5.0	1.0	U
96-18-4	1,2,3-Trichloropropane	ND	2.5	0.70	U
107-13-1	Acrylonitrile	ND	5.0	1.5	U
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	2.6	5.0	1.5	J
75-15-0	Carbon disulfide	ND	5.0	1.0	~~U~~ UJ
78-93-3	2-Butanone	ND	5.0	1.9	U
108-05-4	Vinyl acetate	ND	5.0	1.0	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
74-97-5	Bromochloromethane	ND	2.5	0.70	U

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-05	Date Collected	: 12/01/22 09:30
Client ID	: FIELD BLANK 12/1/22	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/12/22 19:11
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V08221212N06	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
594-20-7	2,2-Dichloropropane	ND	2.5	0.70	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
142-28-9	1,3-Dichloropropane	ND	2.5	0.70	U
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.5	0.70	U
108-86-1	Bromobenzene	ND	2.5	0.70	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
95-49-8	o-Chlorotoluene	ND	2.5	0.70	U
106-43-4	p-Chlorotoluene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
87-68-3	Hexachlorobutadiene	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	U
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
123-91-1	1,4-Dioxane	ND	250	61.	U R
105-05-5	p-Diethylbenzene	ND	2.0	0.70	U
622-96-8	p-Ethyltoluene	ND	2.0	0.70	U
95-93-2	1,2,4,5-Tetramethylbenzene	ND	2.0	0.54	U
60-29-7	Ethyl ether	ND	2.5	0.70	U UJ

12/27/2022

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-05	Date Collected	: 12/01/22 09:30
Client ID	: FIELD BLANK 12/1/22	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/12/22 19:11
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V08221212N06	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
110-57-6	trans-1,4-Dichloro-2-butene	ND	2.5	0.70	U

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-06	Date Collected	: 12/01/22 09:40
Client ID	: EQUIPMENT BLANK 12/1/22	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/12/22 19:31
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V08221212N07	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	ND	0.50	0.18	U
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
542-75-6	1,3-Dichloropropene, Total	ND	0.50	0.14	U
563-58-6	1,1-Dichloropropene	ND	2.5	0.70	U
75-25-2	Bromoform	ND	2.0	0.65	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U
74-83-9	Bromomethane	ND	2.5	0.70	~~U~~ UJ
75-01-4	Vinyl chloride	ND	1.0	0.07	U

BOT 12/15/22

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-06	Date Collected	: 12/01/22 09:40
Client ID	: EQUIPMENT BLANK 12/1/22	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/12/22 19:31
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V08221212N07	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U-UJ
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U
79-01-6	Trichloroethene	ND	0.50	0.18	U
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
1330-20-7	Xylenes, Total	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.70	U
540-59-0	1,2-Dichloroethene, Total	ND	2.5	0.70	U
74-95-3	Dibromomethane	ND	5.0	1.0	U
96-18-4	1,2,3-Trichloropropane	ND	2.5	0.70	U
107-13-1	Acrylonitrile	ND	5.0	1.5	U
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	2.3	5.0	1.5	J
75-15-0	Carbon disulfide	ND	5.0	1.0	U-UJ
78-93-3	2-Butanone	ND	5.0	1.9	U
108-05-4	Vinyl acetate	ND	5.0	1.0	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
74-97-5	Bromochloromethane	ND	2.5	0.70	U

1/25/2023

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-06	Date Collected	: 12/01/22 09:40
Client ID	: EQUIPMENT BLANK 12/1/22	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/12/22 19:31
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V08221212N07	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
594-20-7	2,2-Dichloropropane	ND	2.5	0.70	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
142-28-9	1,3-Dichloropropane	ND	2.5	0.70	U
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.5	0.70	U
108-86-1	Bromobenzene	ND	2.5	0.70	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
95-49-8	o-Chlorotoluene	ND	2.5	0.70	U
106-43-4	p-Chlorotoluene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
87-68-3	Hexachlorobutadiene	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	U
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
123-91-1	1,4-Dioxane	ND	250	61.	~~U~~ R
105-05-5	p-Diethylbenzene	ND	2.0	0.70	U
622-96-8	p-Ethyltoluene	ND	2.0	0.70	U
95-93-2	1,2,4,5-Tetramethylbenzene	ND	2.0	0.54	U
60-29-7	Ethyl ether	ND	2.5	0.70	~~U~~ UJ

12/15/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-06	Date Collected	: 12/01/22 09:40
Client ID	: EQUIPMENT BLANK 12/1/22	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/12/22 19:31
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V08221212N07	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
110-57-6	trans-1,4-Dichloro-2-butene	ND	2.5	0.70	U

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-07	Date Collected	: 12/01/22 00:00
Client ID	: TRIP BLANK 12/1/22	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/12/22 19:51
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V08221212N08	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	ND	0.50	0.18	U
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
542-75-6	1,3-Dichloropropene, Total	ND	0.50	0.14	U
563-58-6	1,1-Dichloropropene	ND	2.5	0.70	U
75-25-2	Bromoform	ND	2.0	0.65	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U
74-83-9	Bromomethane	ND	2.5	0.70	~~U~~ UJ
75-01-4	Vinyl chloride	ND	1.0	0.07	U

JOT 1/25/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-07	Date Collected	: 12/01/22 00:00
Client ID	: TRIP BLANK 12/1/22	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/12/22 19:51
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V08221212N08	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	UJ
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U
79-01-6	Trichloroethene	ND	0.50	0.18	U
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
1330-20-7	Xylenes, Total	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.70	U
540-59-0	1,2-Dichloroethene, Total	ND	2.5	0.70	U
74-95-3	Dibromomethane	ND	5.0	1.0	U
96-18-4	1,2,3-Trichloropropane	ND	2.5	0.70	U
107-13-1	Acrylonitrile	ND	5.0	1.5	U
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	1.7	5.0	1.5	J
75-15-0	Carbon disulfide	ND	5.0	1.0	UJ
78-93-3	2-Butanone	ND	5.0	1.9	U
108-05-4	Vinyl acetate	ND	5.0	1.0	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
74-97-5	Bromochloromethane	ND	2.5	0.70	U

12/5/2023

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-07	Date Collected	: 12/01/22 00:00
Client ID	: TRIP BLANK 12/1/22	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/12/22 19:51
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V08221212N08	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
594-20-7	2,2-Dichloropropane	ND	2.5	0.70	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
142-28-9	1,3-Dichloropropane	ND	2.5	0.70	U
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.5	0.70	U
108-86-1	Bromobenzene	ND	2.5	0.70	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
95-49-8	o-Chlorotoluene	ND	2.5	0.70	U
106-43-4	p-Chlorotoluene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
87-68-3	Hexachlorobutadiene	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	U
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
123-91-1	1,4-Dioxane	ND	250	61.	~~U~~ R
105-05-5	p-Diethylbenzene	ND	2.0	0.70	U
622-96-8	p-Ethyltoluene	ND	2.0	0.70	U
95-93-2	1,2,4,5-Tetramethylbenzene	ND	2.0	0.54	U
60-29-7	Ethyl ether	ND	2.5	0.70	~~U~~ UJ

12/27/2023

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-07	Date Collected	: 12/01/22 00:00
Client ID	: TRIP BLANK 12/1/22	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/12/22 19:51
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V08221212N08	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
110-57-6	trans-1,4-Dichloro-2-butene	ND	2.5	0.70	U

Results Summary
Form 1
1,4 Dioxane by 8270E-SIM

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-01	Date Collected	: 12/01/22 13:10
Client ID	: MW-1	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/17/22 07:47
Sample Matrix	: WATER	Date Extracted	: 12/08/22
Analytical Method	: 1,8270E-SIM	Dilution Factor	: 1
Lab File ID	: F2212162251	Analyst	: TPR
Sample Amount	: 255 ml	Instrument ID	: PAH22
Extraction Method	: EPA 3510C	GC Column	: RTX-5
Extract Volume	: 2500 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
123-91-1	1,4-Dioxane	ND	147	33.2	U

Results Summary
Form 1
1,4 Dioxane by 8270E-SIM

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-02	Date Collected	: 12/01/22 11:10
Client ID	: MW-N	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/17/22 08:10
Sample Matrix	: WATER	Date Extracted	: 12/08/22
Analytical Method	: 1,8270E-SIM	Dilution Factor	: 1
Lab File ID	: F2212162252	Analyst	: TPR
Sample Amount	: 265 ml	Instrument ID	: PAH22
Extraction Method	: EPA 3510C	GC Column	: RTX-5
Extract Volume	: 2500 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
123-91-1	1,4-Dioxane	ND	142	32.0	U

for 1/25/2023

ALPHA ANALYTICAL

Results Summary
Form 1
1,4 Dioxane by 8270E-SIM

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-03	Date Collected	: 12/01/22 09:00
Client ID	: MW-NW	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/17/22 07:23
Sample Matrix	: WATER	Date Extracted	: 12/08/22
Analytical Method	: 1,8270E-SIM	Dilution Factor	: 1
Lab File ID	: F2212162250	Analyst	: TPR
Sample Amount	: 255 ml	Instrument ID	: PAH22
Extraction Method	: EPA 3510C	GC Column	: RTX-5
Extract Volume	: 2500 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

			ng/l			
CAS NO.	Parameter		Results	RL	MDL	Qualifier
123-91-1	1,4-Dioxane	ND	~~68.5~~	147	33.2	~~J~~ U

12/17/2022

Results Summary
Form 1
1,4 Dioxane by 8270E-SIM

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-04	Date Collected	: 12/01/22 11:20
Client ID	: MW-XX MW-N	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/17/22 10:22
Sample Matrix	: WATER	Date Extracted	: 12/08/22
Analytical Method	: 1,8270E-SIM	Dilution Factor	: 1
Lab File ID	: F2212162257	Analyst	: TPR
Sample Amount	: 255 ml	Instrument ID	: PAH22
Extraction Method	: EPA 3510C	GC Column	: RTX-5
Extract Volume	: 2500 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
123-91-1	1,4-Dioxane	ND	147	33.2	U

JDr 1/27/2023

ALPHA ANALYTICAL

Results Summary
Form 1
1,4 Dioxane by 8270E-SIM

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-05	Date Collected	: 12/01/22 09:30
Client ID	: FIELD BLANK 12/1/22	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/12/22 15:17
Sample Matrix	: WATER	Date Extracted	: 12/08/22
Analytical Method	: 1,8270E-SIM	Dilution Factor	: 1
Lab File ID	: F612122217	Analyst	: TPR
Sample Amount	: 275 ml	Instrument ID	: GCMS6
Extraction Method	: EPA 3510C	GC Column	: RTX-5
Extract Volume	: 2500 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
123-91-1	1,4-Dioxane	ND	136	30.8	U

Results Summary
Form 1
1,4 Dioxane by 8270E-SIM

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-06	Date Collected	: 12/01/22 09:40
Client ID	: EQUIPMENT BLANK 12/1/22	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/12/22 15:39
Sample Matrix	: WATER	Date Extracted	: 12/08/22
Analytical Method	: 1,8270E-SIM	Dilution Factor	: 1
Lab File ID	: F612122218	Analyst	: TPR
Sample Amount	: 275 ml	Instrument ID	: GCMS6
Extraction Method	: EPA 3510C	GC Column	: RTX-5
Extract Volume	: 2500 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
123-91-1	1,4-Dioxane	ND	136	30.8	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-01	Date Collected	: 12/01/22 13:10
Client ID	: MW-1	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/30/22 22:23
Sample Matrix	: WATER	Date Extracted	: 12/28/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: SCI07_221230_18	Analyst	: RS
Sample Amount	: 291.46 g	Instrument ID	: LCMS07
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

CAS NO.	Parameter	ng/l Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	8.20	1.72	0.350	
2706-90-3	Perfluoropentanoic Acid (PFPeA)	15.7	1.72	0.340	
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	4.94	1.72	0.204	
307-24-4	Perfluorohexanoic Acid (PFHxA)	15.7	1.72	0.281	
375-85-9	Perfluoroheptanoic Acid (PFHpA)	17.1	1.72	0.193	
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	2.78	1.72	0.322	
335-67-1	Perfluorooctanoic Acid (PFOA)	200	1.72	0.202	
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	1.72	1.14	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.789	1.72	0.590	J
375-95-1	Perfluorononanoic Acid (PFNA)	1.65	1.72	0.268	~~JF~~ J
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	16.3	1.72	0.432	
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	1.72	0.261	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	1.72	1.04	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	1.72	0.556	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	1.72	0.223	U
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	1.72	0.840	U
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND	1.72	0.497	~~U~~ UJ
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.72	0.690	U

1/26/2023

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-01	Date Collected	: 12/01/22 13:10
Client ID	: MW-1	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/30/22 22:23
Sample Matrix	: WATER	Date Extracted	: 12/28/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: SCI07_221230_18	Analyst	: RS
Sample Amount	: 291.46 g- ml	Instrument ID	: LCMS07
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	1.72	0.319	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	1.72	0.281	U
376-06-7	Perfluorotetradecanoic Acid (PFTA)	ND	1.72	0.213	U
NONE	PFOA/PFOS, Total	216	1.72	0.202	

JOF 1/25/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-02	Date Collected	: 12/01/22 11:10
Client ID	: MW-N	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/30/22 22:39
Sample Matrix	: WATER	Date Extracted	: 12/28/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: SCI07_221230_19	Analyst	: RS
Sample Amount	: 275.83 g~~g~~ ml	Instrument ID	: LCMS07
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

CAS NO.	Parameter	ng/l Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	9.53	1.81	0.370	
2706-90-3	Perfluoropentanoic Acid (PFPeA)	15.2	1.81	0.359	
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	10.2	1.81	0.216	
307-24-4	Perfluorohexanoic Acid (PFHxA)	15.1	1.81	0.297	
375-85-9	Perfluoroheptanoic Acid (PFHpA)	19.2	1.81	0.204	
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	2.94	1.81	0.341	
335-67-1	Perfluorooctanoic Acid (PFOA)	243	1.81	0.214	
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	1.81	1.21	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	1.81	0.624	U
375-95-1	Perfluorononanoic Acid (PFNA)	1.74	1.81	0.283	J
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	12.5	1.81	0.457	
335-76-2	Perfluorodecanoic Acid (PFDA)	0.544	1.81	0.276	J
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	1.81	1.10	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	1.81	0.587	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	1.81	0.236	U
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	1.81	0.888	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.81	0.729	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	1.81	0.337	U

1/2/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-02	Date Collected	: 12/01/22 11:10
Client ID	: MW-N	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/30/22 22:39
Sample Matrix	: WATER	Date Extracted	: 12/28/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: SCI07_221230_19	Analyst	: RS
Sample Amount	: 275.83 g- ml	Instrument ID	: LCMS07
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	1.81	0.296	U
376-06-7	Perfluorotetradecanoic Acid (PFTA)	ND	1.81	0.225	U
NONE	PFOA/PFOS, Total	256	1.81	0.214	

1/25/2023

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-02	Date Collected	: 12/01/22 11:10
Client ID	: MW-N	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 01/06/23 04:25
Sample Matrix	: WATER	Date Extracted	: 12/28/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: SCI02_54193	Analyst	: JW
Sample Amount	: 275.83 g ml	Instrument ID	: LCMS04
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND	1.81	0.526	U

1/24/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-03	Date Collected	: 12/01/22 09:00
Client ID	: MW-NW	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/30/22 22:56
Sample Matrix	: WATER	Date Extracted	: 12/28/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: SCI07_221230_20	Analyst	: RS
Sample Amount	: 267.59 g- ml	Instrument ID	: LCMS07
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

CAS NO.	Parameter	ng/l Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	9.01	1.87	0.381	
2706-90-3	Perfluoropentanoic Acid (PFPeA)	13.4	1.87	0.370	
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	8.60	1.87	0.222	
307-24-4	Perfluorohexanoic Acid (PFHxA)	14.9	1.87	0.306	
375-85-9	Perfluoroheptanoic Acid (PFHpA)	19.4	1.87	0.210	
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	2.65	1.87	0.351	
335-67-1	Perfluorooctanoic Acid (PFOA)	240	1.87	0.220	
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	5.31	1.87	1.24	
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	1.87	0.643	U
375-95-1	Perfluorononanoic Acid (PFNA)	1.76	1.87	0.291	~~J~~ J
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	10.6	1.87	0.471	
335-76-2	Perfluorodecanoic Acid (PFDA)	0.673	1.87	0.284	J
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	1.87	1.13	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	1.87	0.605	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	1.87	0.243	U
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	1.87	0.916	U
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND	1.87	0.542	~~U~~ UJ
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.87	0.751	U

for 1/25/2023

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-03	Date Collected	: 12/01/22 09:00
Client ID	: MW-NW	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/30/22 22:56
Sample Matrix	: WATER	Date Extracted	: 12/28/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: SCI07_221230_20	Analyst	: RS
Sample Amount	: 267.59 ~~g~~ mL	Instrument ID	: LCMS07
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	1.87	0.348	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	1.87	0.306	U
376-06-7	Perfluorotetradecanoic Acid (PFTA)	ND	1.87	0.232	U
NONE	PFOA/PFOS, Total	251	1.87	0.220	

for 1/25/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-04	Date Collected	: 12/01/22 11:20
Client ID	: MW-XX MW-N	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/30/22 23:45
Sample Matrix	: WATER	Date Extracted	: 12/28/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: SCI07_221230_23	Analyst	: RS
Sample Amount	: 270.83 g mL	Instrument ID	: LCMS07
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

CAS NO.	Parameter	ng/l Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	8.79	1.85	0.377	
2706-90-3	Perfluoropentanoic Acid (PFPeA)	14.7	1.85	0.366	
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	8.94	1.85	0.220	
307-24-4	Perfluorohexanoic Acid (PFHxA)	14.5	1.85	0.303	
375-85-9	Perfluoroheptanoic Acid (PFHpA)	18.5	1.85	0.208	
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	2.77	1.85	0.347	
335-67-1	Perfluorooctanoic Acid (PFOA)	243	1.85	0.218	
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	1.85	1.23	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	1.85	0.635	U
375-95-1	Perfluorononanoic Acid (PFNA)	1.74	1.85	0.288	J
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	11.8	1.85	0.465	
335-76-2	Perfluorodecanoic Acid (PFDA)	0.369	1.85	0.281	J
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	1.85	1.12	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	1.85	0.598	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	1.85	0.240	U
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	1.85	0.905	U
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND	1.85	0.535	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.85	0.742	U

for 1/25/2023

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-04	Date Collected	: 12/01/22 11:20
Client ID	: MW-XX MW-N	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/30/22 23:45
Sample Matrix	: WATER	Date Extracted	: 12/28/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: SCI07_221230_23	Analyst	: RS
Sample Amount	: 270.83g MT	Instrument ID	: LCMS07
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	1.85	0.343	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	1.85	0.302	U
376-06-7	Perfluorotetradecanoic Acid (PFTA)	ND	1.85	0.229	U
NONE	PFOA/PFOS, Total	255	1.85	0.218	

for 1/23/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-05	Date Collected	: 12/01/22 09:30
Client ID	: FIELD BLANK 12/1/22	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/31/22 00:01
Sample Matrix	: WATER	Date Extracted	: 12/28/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: SCI07_221230_24	Analyst	: RS
Sample Amount	: 282.11 g m7	Instrument ID	: LCMS07
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

CAS NO.	Parameter	ng/l Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	1.77	0.362	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	1.77	0.351	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	1.77	0.211	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	1.77	0.291	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	1.77	0.200	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	1.77	0.333	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	1.77	0.209	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	1.77	1.18	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	1.77	0.610	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	1.77	0.276	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	1.77	0.447	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	1.77	0.269	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	1.77	1.07	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	1.77	0.574	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	1.77	0.230	U
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	1.77	0.868	U
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND	1.77	0.514	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.77	0.712	U

for 1/20/2023

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-05	Date Collected	: 12/01/22 09:30
Client ID	: FIELD BLANK 12/1/22	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/31/22 00:01
Sample Matrix	: WATER	Date Extracted	: 12/28/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: SCI07_221230_24	Analyst	: RS
Sample Amount	: 282.11 g-ml	Instrument ID	: LCMS07
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	1.77	0.330	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	1.77	0.290	U
376-06-7	Perfluorotetradecanoic Acid (PFTA)	ND	1.77	0.220	U
NONE	PFOA/PFOS, Total	ND	1.77	0.209	U

for 1/25/2023

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-06	Date Collected	: 12/01/22 09:40
Client ID	: EQUIPMENT BLANK 12/1/22	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/31/22 00:18
Sample Matrix	: WATER	Date Extracted	: 12/28/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: SCI07_221230_25	Analyst	: RS
Sample Amount	: 272.61 g ml	Instrument ID	: LCMS07
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

CAS NO.	Parameter	ng/l Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	1.83	0.374	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	1.83	0.363	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	1.83	0.218	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	1.83	0.301	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	1.83	0.206	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	1.83	0.345	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND ~~0.220~~	1.83	0.216	J U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	1.83	1.22	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	1.83	0.631	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	1.83	0.286	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	0.807	1.83	0.462	~~JF~~ J
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	1.83	0.279	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	1.83	1.11	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	1.83	0.594	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	1.83	0.238	U
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	1.83	0.899	U
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND	1.83	0.532	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.83	0.737	U

JOL 1/25/2023

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2267585
Project Name	: FOREST AVE SCWP IMP	Project Number	: FOREST AVE SCWP IMP
Lab ID	: L2267585-06	Date Collected	: 12/01/22 09:40
Client ID	: EQUIPMENT BLANK 12/1/22	Date Received	: 12/02/22
Sample Location	: FOREST AVE STATEN ISLAND	Date Analyzed	: 12/31/22 00:18
Sample Matrix	: WATER	Date Extracted	: 12/28/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: SCI07_221230_25	Analyst	: RS
Sample Amount	: 272.61 g ~~g~~ ML	Instrument ID	: LCMS07
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	1.83	0.341	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	1.83	0.300	U
376-06-7	Perfluorotetradecanoic Acid (PFTA)	ND	1.83	0.227	U
NONE	PFOA/PFOS, Total	0.807 ~~1.03~~	1.83	0.216	J

1/25/2023

L.A.B. Validation Corp, 14 West Point Drive, East Northport, NY 11731

DATA USABILITY SUMMARY REPORT – DUSR
DATA VALIDATION SUMMARY

ORGANIC ANALYSES

VOLATILES BY GC/MS METHOD 8260D
1,4-DIOXANE BY GC/MS METHOD 8270E
ISOTOPE DILUTION ORGANIC ANALYSIS
PERFLUORINATED ALKYL SUBSTANCES - PFAS (21 ANALYTES)
BY LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)
BY MODIFIED EPA METHOD 537.1

For Soil Samples Collected
November 11, 2022
From Forest Avenue, Staten Island, New York
by CA Rich Consultants, Inc.

SAMPLE DELIVERY GROUP NUMBER:
L2263658
Alpha Analytical (ELAP #11148)

SUBMITTED TO:

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Forest Avenue, Staten Island, New York
Soil Data Usability Summary Report (Data Validation)
November 2022 Sampling Event; Analysis for Volatiles, 1,4-Dioxane Semivolatiles, and PFAS (21 Analytes).

Table of Contents:

Introduction
Data Qualifier Definitions
Sample Receipt
1.0 Volatile Organics by GC/MS SW846 Method 8260D
- 1.1 Holding Time
- 1.2 System Monitoring Compound (Surrogate) Recovery
- 1.3 Matrix Spikes (MS), Matrix Spike Duplicates (MSD)
- 1.4 Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)
- 1.5 Blank Contamination
- 1.6 GC/MS Instrument Performance Check (Tuning)
- 1.7 Initial and Continuing Calibrations
- 1.8 Internal Standards
- 1.9 Field Duplicates
- 1.10 Target Compound List Identification
- 1.11 Non-Target Compounds (TICs)
- 1.12 Compound Quantification and Reported Detection Limits
- 1.13 Overall System Performance

2.0 1,4-Dioxane Semivolatile Organics by GC/MS SW846 Method 8270E
- 2.1 Holding Time
- 2.2 Surrogate Recovery
- 2.3 Matrix Spikes (MS), Matrix Spike Duplicates (MSD)
- 2.4 Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)
- 2.5 Method Blanks
- 2.6 GC/MS Instrument Performance Check (Tuning)
- 2.7 Initial and Continuing Calibrations
- 2.8 Internal Standards
- 2.9 Field Duplicates
- 2.10 Target Compound List Identification
- 2.11 Compound Quantification and Reported Detection Limits
- 2.12 Overall System Performance

3.0 Perfluorinated Alkyl Substances (PFAS) by LC/MS/MS EPA Modified Method 537.1
- 3.1 Holding Time/Preservation
- 3.2 Surrogate Recovery
- 3.3 Matrix Spikes (MS), Matrix Spike Duplicate (MSD),Laboratory Duplicates (DUPs)
- 3.4 Laboratory Control Sample (LCS)
- 3.5 Blank Contamination
- 3.6 Initial and Continuing Calibrations
- 3.7 Field Duplicates
- 3.8 Target Compound List Identification
- 3.9 Compound Quantification and Reported Detection Limits
- 3.10 Overall System Performance

APPENDICES:
A. Chain of Custody Document
B. Case Narrative
C. Data Summary Form I's with Qualifications

A validation was performed on soil samples and the associated quality control samples (Field Duplicate/MS/MSD/Field Blank/Equipment Blank/Trip Blank) for organic analysis for samples collected under chain of custody documentation by CA Rich Consultants, Inc. and submitted to Alpha Analytical for subsequent analysis. This report contains the laboratory and validation results for the field samples itemized below. Analysis was performed in accordance with requested tests per the chain of custody document and in accordance with client instructions.

The samples were analyzed by Alpha Analytical, utilizing SW846 Methods and submitted under NYSDEC ASP Category B equivalent deliverable requirements for the associated analytical methodologies employed. The analytical testing for soil samples consisted of Volatile Organics, Semivolatile Organics for 1,4-Dioxane, and PFAS (21 Analytes).

The data was evaluated in accordance with EPA Region II National Functional Guidelines for Organic and Inorganic Data Review and EPA Region II SOPs for 8260, 8270, NYSDEC Appendix H – Data Review Guidelines for Analysis of PFAS in Non-Potable Water and Solids (November 2022) and in conjunction with the analytical methodologies for which the samples were analyzed, where applicable and relevant.

The data validation report pertains to the following samples:

Sample ID	Lab ID	Analysis	Date Collected/ Received
SB-461	L2263658-01	Volatiles by 8260D, 1,4-Dioxane by 8270E PFAS by Isotope Dilution EPA Modified Method 537.1	11/11/2022
SB-467 [Plus, MS/MSD]	L2263658-02	Volatiles by 8260D, 1,4-Dioxane by 8270E PFAS by Isotope Dilution EPA Modified Method 537.1	11/11/2022
SB-XX [Field Duplicate of SB-461]	L2263658-03	Volatiles by 8260D, 1,4-Dioxane by 8270E PFAS by Isotope Dilution EPA Modified Method 537.1	11/11/2022
Field Blank 11/11/22	L2263658-04	Volatiles by 8260D, 1,4-Dioxane by 8270E PFAS by Isotope Dilution EPA Modified Method 537.1	11/11/2022
Equipment Blank 11/11/22	L2263658-05	Volatiles by 8260D, 1,4-Dioxane by 8270E PFAS by Isotope Dilution EPA Modified Method 537.1	11/11/2022
Trip Blank	L2263658-06	Volatiles by 8260D	11/11/2022

Data Qualifier Definitions:

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

U - The analyte was analyzed for but was not detected above the reported sample quantitation limit.

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

UJ - The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R - The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.

N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate quantity.

J+ - The result is an estimated quantity, but the result may be biased high.

J- - The result is an estimated quantity, but the result may be biased low.

D - Analyte concentration is from diluted analysis.

Sample Receipt:
The Chain of Custody document indicates that the samples were received at Alpha Analytical via laboratory courier upon completion of the sampling event. Sample login notes were generated. The cooler temperatures for the sample receipts were recorded upon receipt and determined to be acceptable (<6.0 degrees C). The actual temperatures (3.4/4.0 degrees C) are documented on the sample receipt checklist provided in the lab report.

The data summary Form I's included in Appendix C includes all usable (qualified) and unusable (rejected) results for the samples identified above. The Form I's summarize the detailed narrative section of the report.

NOTE:
L.A.B. Validation Corp. believes it is appropriate to note that the data validation criteria utilized for data evaluation is different than the method requirements utilized by the laboratory. Qualified data does not necessarily mean that the laboratory was non-compliant in the analysis that was performed.

1.0 Volatile Organics by GC/MS SW846 Method 8260D
The following method criteria were reviewed: holding times, SMCs, MS, MSD, LCS, Laboratory Spiked Blanks, Field Duplicate, Method Blanks, Tunes, Calibrations, Internal Standards, Target Component Identification, Quantitation, Reported Quantitation Limits and Overall System Performance. The Volatile results are valid and usable except for non-detects for 1,4-Dioxane in all samples due to low calibration response and non-detects for Vinyl Acetate in SB-467 due to low (<10%) recovery in the MS/MSD as noted within the following text:

1.1 Holding Time
The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the technical holding time is exceeded, the data may not be considered valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimates, "J." The non-detects (sample quantitation limits) are required to be flagged as estimated, "J," or unusable, "R," if the holding times are grossly exceeded.

Samples were analyzed the Method required holding times as well as the technical holding times for data validation of within 14 days from collection by 5025A and for HCL preserved vials. No data validation qualifiers were required based upon holding time or sample preservation.

1.2 System Monitoring Compound (Surrogate) Recovery
All samples are spiked with surrogate compounds prior to sample analysis to evaluate overall laboratory performance and efficiency of the analytical technique. If the measure of surrogate concentrations is outside contract specification, qualifications are required to be applied to associated samples and analytes.

Surrogate recoveries (%R) for Dibromofluoromethane, 1,2-Dichloroethane-d4, Toluene-d8 and 4-Bromofluorobenzene were found to be within acceptable limits for surrogate compounds for all analyses.

1.3 Matrix Spikes (MS)/ Matrix Spike Duplicates (MSD)
The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

Soil MS/MSD was performed on SB-467. Tetrachloroethene (140%) recovered above limits in the MS. MSD recovery (93%) was acceptable and as a result, the RPD (74%) was above laboratory criteria of 30%. The laboratory detected concentration in the parent sample (14 ug/kg) must be considered estimated, "J+" biased high. Many analytes recovered below laboratory criteria in the MS and/or MSD and were not detected in the parent sample. Results for these compounds have been qualified, "UJ." Specifically, 1,1-Dichloroethane (68%), Chloroform (62%), 1,2-Dichloropropane (69%), 1,2-Dichloroethane (66%/59%), Bromodichloromethane (66%/59%), trans-1,3-Dichloropropene (66%/62%), cis-1,3-Dichloropropene (68%), Bromoform (67%), 1,1,2,2-Tetrachloroethane (65%/66%), 1,2-Dichlorobenzene (56%/53%), 1,3-Dichlorobenzene (56%/54%), 1,4-Dichlorobenzene (54%/51%), m+p-Xylene (68%), o-Xylene (67%), Dibromomethane (66%/59%), Styrene (69%/62%), 2-Butanone (63%/63%), 2-Hexanone (63%), Bromochloromethane (62%), 1,2-Dibromomethane (68%), Bromobenzene (66%), n-Butylbenzene (48%/48%), sec-Butylbenzene (61%/60%), tert-Butylbenzene (69%/65%), o-Chlorotoluene (67%/62%), p-Chlorotoluene (63%/59%), 1,2-Dibromo-3-chloropropane (67%), Hexachlorobutadiene (31%/36%), p-Isopropyl toluene (58%/56%), Naphthalene (46%/46%), Acrylonitrile (68%/61%), n-Propylbenzene (68%/64%), 1,2,3-Trichlorobenzene (30%/33%), 1,2,4-Trichlorobenzene (31%/34%), 1,3,5-Trimethylbenzene (65%/60%), 1,2,4-Trimethylbenzene (62%/58%), p-Diethyl benzene (51%/50%), p-Ethyl toluene (66%/62%), 1,2,4,5-Tetramethylbenzene (43%/43%), Ethyl Ether (66%), and trans-1,4-Dichloro-2-butene (57%/53%). Vinyl Acetate (5%/10%) recovered low in the MS/MSD. Based on professional judgment, non-detects in the parent sample must be considered unreliable and has been rejected, "R." cis-1,2-Dichloroethene (65%) recovered below limits in the MSD. The detected concentration in the parent sample (0.67 ug/kg) has been qualified, estimated, biased low, "J-." RPD was above 30% laboratory limits for many analytes. No additional qualifiers were applied.

The National Functional Guidelines and EPA Region 2 SOPs state that "No qualifications to the data are necessary based on MS data alone."

1.4 Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

The LCS data for laboratory control samples (LCS) are generated to provide information on the accuracy of the analytical method and on the laboratory performance.

LCS/LCS Duplicates were analyzed for each sequence. In cases where high recovery for an analyte was obtained and the target compound was not detected in the associated samples, the data was not qualified. High recovery does not support any potential loss of detection and/or result bias for non-detects. Recovery values were acceptable for all spiked analytes. No qualifiers are required.

1.5 Blank Contamination

Quality assurance (QA) blanks, i.e., method, trip and field blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field blanks measure cross-contamination of samples during field operations. The following table was utilized to qualify target analyte results due to contamination. The largest value from all the associated blanks is required to be utilized:

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Storage, field, Trip, Instrument	Detects	Not Detected	No qualification required
	<CRQL*	<CRQL*	Report CRQL value with a U
		>/= CRQL* and <2x the CRQL**	No qualification required
	>CRQL*	</= CRQL*	Report CRQL value with a U
		>/=CRQL* and </= blank concentration	Report blank value for sample concentration with a U
		>/= CRQL* and > blank concentration	No qualification required
	=CRQL*	</= CRQL*	Report CRQL value with a U
		>CRQL*	No qualification required
	Gross Contamination**	Detects	Report blank value for sample concentration with a U

*2x the CRQL for methylene chloride, 2-butanone, and acetone.
**4x the CRQL for methylene chloride, 2-butanone, and acetone
***Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 ug/L.
Below is a summary of the compounds in the sample and the associated qualifications that have been applied:

A) **Method Blank Contamination:**
The method blank associated with SB-467 yielded Bromomethane (0.86 ug/kg), 1,2,3-Trichlorobenzene (0.35 ug/kg) and 1,2,4-Trichlorobenzene (0.27 ug/kg) These target analytes were not detected in corresponding field sample. Reported results are not impacted.

B) **Field Blank Contamination:**
Acetone (1.7ug/L) was detected in Field Blank 11/11/22. This common laboratory contaminant was not detected in associated soil samples.

C) **Equipment Blank Contamination:**
Acetone (3.7ug/L) was detected in Equipment Blank 11/11/22. This common laboratory contaminant was not detected in associated soil samples.

D) Trip Blank Contamination:
Acetone (2.07ug/L) was detected in Trip Blank 11/11/22. This common laboratory contaminant was not detected in associated soil samples.

Soil results are not impacted by low concentration of Acetone in the above-mentioned blanks.

1.6 GC/MS Instrument Performance Check
Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The Tuning standard for volatile organics is Bromofluorobenzene (BFB).

Instrument performance was generated within acceptable limits and frequency (once prior to ICAL for 8260D) for Bromofluorobenzene (BFB) for all analyses.

1.7 Initial and Continuing Calibrations

Satisfactory instrument calibration is established to ensure that the instrument can produce acceptable quantitative data. An initial calibration demonstrates that the instrument can produce acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance. Initial calibration verifications were acceptable.

A) Response Factor GC/MS:

The response factor measures the instrument's response to specific chemical compounds. The response factor for all compounds must be >/= 0.05 in both initial and continuing calibrations. A value <0.05 indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J." All non-detects for that compound in the corresponding samples will be rejected, "R." Method 8260D allows for a minimum response factor of 0.1 for Acetone and 2-Butanone. Validation criteria allows response factor to be /=>0.01 for poor responders (Acetone, MEK, Carbon Disulfide, Chloroethane, Chloromethane, Cyclohexane, 1,2-Dibromoethane, Dichlorodifluoromethane, cis-1,2-Dichloroethene, 1,2-Dichloropropane, 1,2-Dibromo-3-chloropropane, Isopropylbenzene, Methyl Acetate, Methylene Chloride, Methylcyclohexane, MTBE, trans-1,2-Dichloroethene, 4-Methyl-2-Pentanone, 2-Hexanone, Trichlorofluoromethane, 1,1,2-Trichloro-1,2,2-Trifluoroethane.

Response factors for the target analytes reported were found to be within acceptable limits (>/=0.05) and (>/= 0.01 for poor responders) and minimum response criteria in Table 4 of Method 8260D, for the initial and continuing calibrations for all reported analytes except for 1,4-Dioxane (0.001 and 0.003). Non-detects for 1,4-Dioxane must be considered unreliable and have been rejected, "R."

1,4-Dioxane is usable in the 8270E analysis.

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentrations. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be <20% and %D must be <20%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ." If %RSD and %D grossly exceed QC criteria, non-detect data may be qualified, "R," unusable. Additionally, in cases where the %RSD is >20% and eliminating either the high or the low point of the curve does not restore the %RSD to less than or equal to 20% then positive results are qualified, "J". In cases where removal of either the low or high point restores the linearity, then only low or high-level results will be qualified, "J" in the portion of the curve where non-linearity exists. Closing CCV must meet 30% criteria. Poor responders must be </= 40%.

*Method 8260D allows for several analytes to be outside requirements due to the large number of compounds.

Initial Calibrations: The initial calibrations provided and the %RSD were within acceptable limits (20%) and (40% for poor responders) for all reported compounds. Initial calibration verification (ICV) was outside criteria for Carbon Disulfide (62.1%) associated with Trip Blank 11/11/22, Field Blank 11/11/22, and Equipment Blank 11/11/22. Non-detects have been qualified, "UJ." The ICV associated with SB-467 also yielded Carbon Disulfide (75.5%) outside criteria. Non-detects have been qualified, "UJ." ICV associated with SB-461, and SB-XX yielded

Chloromethane (47.5%), Ethyl Ether (35.2%), and Carbon Disulfide (50.5%) outside criteria. Non-detects have also been qualified, "UJ."

Continuing Calibrations: The continuing calibrations provided and the %D was within acceptable limits (20%) and (40% for poor responders) for all reported compounds with exceptions discussed below:

CCAL VOA105 11/21/22 – Acrylonitrile – 26.5%, Bromoform – 35.3%, Bromobenzene – 20.3%, 4-Chlorotoluene – 25.0%, Naphthalene – 25.1%, and 1,2,3-Trichlorobenzene – 23.1%; "UJ" non-detects in Trip Blank 11/11/22, Field Blank 11/11/22, and Equipment Blank 11/11/22.

CCAL VOA104 11/23/2022 – 1,2-Dichloroethane – 20.2%, Bromodichloromethane – 22.6%; non-detects for these analytes were previously qualified "UJ" in SB-467 due to low MS/MSD recovery values. No additional qualifiers were applied.

CCAL VOA111 11/20/22 – Bromomethane – 28.4%; "UJ" non-detects in SB-461, and SB-XX.

1.8 Internal Standards

Internal Standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than +/-30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to +100%) range of the associated standard, all the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, professional judgment will be used to determine either partial or total rejection of the data for that sample fraction.

All samples were spiked with the internal standards Fluorobenzene, Chlorobenzene-d5 and 1,4-Dichlorobenzene-d4 prior to sample analysis. The area responses and retention time of each internal standard met QC criteria in all samples.

1.9 Field Duplicates

Field duplicate samples are collected and analyzed as an indication of overall precision. These results are expected to have more variability than laboratory duplicate samples.

An acceptable RPD is 60% for soil matrices. Professional judgment is utilized for analytes that demonstrate high percent difference.

Field duplicate analysis was collected on SB-461 as SB-XX. Both analyses were conducted at high-level. Results for Tetrachloroethene (18000 ug/kg vs 7100 ug/kg), Trichloroethene (920 ug/kg vs. 310 ug/kg), and cis-1,2-Dichloroethene (610 ug/kg vs 120 ug/kg) yielded elevated RPD. Results in the parent and field duplicate must be considered estimated, "J." It is recommended that the end user make decisions based on the higher parent concentrations.

1.10 Target Compound List Identification

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within =/- 0.06RRT units of the standard compound and have an ion spectrum which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound.

GC/MS spectra met the qualitative criteria for identification. All retention times were within required specifications.

1.11 Tentatively Identified Compounds (TICs)

TICs were not required for these sampling events. When detected the identification must be considered tentative (both quantitative and qualitative) due to the lack of required compound specific response factors. Consequently, all concentrations should be considered estimated, "J" due to the qualitative uncertainty should be qualified, "N" where an identification has been made.

TICS were not required.

1.12 Compound Quantification and Reported Detection Limits

GC/MS quantitative analysis is acceptable. Correct internal standards per SW846, response factors and moisture were used to calculate final concentrations.

As required, the laboratory reported "J" values between the reporting limits (RL) and Method Detection Limits (MDLs). This is consistent with common laboratory practices and a requirement of the National Environmental Laboratory Approval Program (NELAP).

Samples SB-461 and the corresponding field duplicate; SB-XX was analyzed at high-level. Raw data supports the inherent dilution that was performed. Reporting limits have been adjusted accordingly. There is potential that lower-level detections were lost in dilution. SB-467 was analyzed at low-level.

1.13 Overall System Performance

Good resolution and chromatographic performance were observed.

2.0 1,4-Dioxane Semivolatile Organics by GC/MS SW846 Method 8270E

The following method criteria were reviewed: holding times, Surrogates, MS, MSD, LCS, Field Duplicate, Blanks, Tunes, Calibrations, Internal Standards, Target Component Identification, Quantitation, Reported Quantitation Limits, and overall system performance. The 1,4 Dioxane results are valid and usable as noted within the following text:

2.1 Holding Time

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the technical holding time is exceeded, the data may not be considered valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimates, "J." The non-detects (sample quantitation limits) are required to be flagged as estimated, "J," or unusable, "R," if the holding times are grossly exceeded.

Samples were extracted and analyzed within the method required holding times and the technical holding times (14 days from collection for soils and 7 days from collection for Field/Equipment Blanks) required for data validation. Sample extracts were analyzed within 40 days of preparation as required.

2.2 Surrogate Recovery

All samples are spiked with surrogate compounds prior to sample preparation/extraction to evaluate overall laboratory performance and efficiency of the analytical technique. Additionally, the sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Since the effects of the sample matrix are frequently outside the control of the laboratory and may present unique problems, the evaluation of the data is dependent upon reextraction and/or reanalysis to

confirm/negate laboratory error or matrix related problems. Discussion of surrogate recoveries that fell outside (above/below) QC guidelines is itemized below:

Samples were spiked with six (6) surrogate standards at the sample extraction portion of analysis for full scan. Acceptable recoveries were observed. Method allows for one (1) base neutral and one (1) acid recovery to be outside acceptance limits providing the recovery value is >10% without requiring reextraction/reanalysis. Recovery values met acceptance criteria for all samples. Surrogate 1,4-Dioxane-d8 was acceptable for SIM analysis on the Field and Equipment Blank.

2.3 Matrix Spikes (MS)/Matrix Spike Duplicates (MSD)
MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices.

Soil MS/MSD on SB-467 yielded acceptable recovery and RPD for 1,4-Dioxane.

The National Functional Guidelines and EPA Region 2 SOPs state that "No qualifications to the data are necessary based on MS data alone."
alone."

2.4 Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)
The LCS data for laboratory control samples (LCS) are generated to provide information on the accuracy of the analytical method and on the laboratory performance.

Acceptable LCS/LCS Duplicates were analyzed with each sequence. Recovery values and RPD was acceptable for 1,4-Dioxane.

2.5 Method Blanks
Quality assurance (QA) blanks, i.e., method, trip and field blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Field blanks measure cross-contamination of samples during field operations.

The following table was utilized to qualify target analyte results due to contamination. The largest value from all the associated blanks is required to be utilized:

For:	Flag Sample Result with a "U" when:	Report CRQL & Qualify "U" when:	No Qualification is Needed when:
1,4-Dioxane	Sample Conc. is <CRQL, but </=1x blank value	Sample Conc. Is <CRQL and </=1x blank value	Sample Conc. is >CRQL and >1x blank value

Below is a summary of the compounds in the sample and the associated qualification that have been applied:

A) **Method Blank Contamination:**
1,4-Dioxane was not detected in the method blanks.

B) **Field Blank Contamination:**
1,4-Dioxane was not detected in Field Blank 11/11/22.

C) **Equipment Blank Contamination:**
1,4-Dioxane was not detected in Equipment Blank 11/11/22.

2.6 GC/MS Instrument Performance Check

Tuning and performance criteria are established to ensure adequate mass resolution proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The Tuning standard for Semivolatile organics is Decafluorotriphenylphosphine (DFTPP).

Instrument performance was generated within acceptable limits and frequency (once prior to ICAL for 8270E) for Decafluorotriphenylphosphine (DFTPP) for all analyses.

2.7 Initial and Continuing Calibrations

Satisfactory instrument calibration is established to ensure that the instrument can produce acceptable quantitative data. An initial calibration demonstrates that the instrument can give acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) Response Factor GC/MS:
The response factor measures the instrument's response to specific chemical compounds. The response factor for all compounds must be >/= 0.05 in both initial and continuing calibrations. A value <0.05 indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J." All non-detects for that compound in the corresponding samples will be rejected, "R."

Response factors for 1,4-Dioxane were found to be within acceptable limits (>/=0.05), for the initial (average RRF) and continuing calibrations.

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):
Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentrations. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be <20% and %D must be <20%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ." If %RSD and %D grossly exceed QC criteria, non-detect data may be qualified, "R," unusable. Additionally, in cases where the %RSD is >30% and eliminating either the high or the low point of the curve does not restore the %RSD to less than or equal to 20% then positive results are qualified, "J". In cases where removal of either the low or high point restores the linearity, then only low or high-level results will be qualified, "J" in the portion of the curve where non-linearity exists. Acceptable Initial Calibration Verifications were performed.

Initial Calibrations: The initial calibrations provided and the %RSD were within acceptable limits (20%) for 1,4-Dioxane.

Continuing Calibrations: The continuing calibrations provided and the %D was within acceptable limits (20%) for 1,4-Dioxane.

2.8 Internal Standards

Internal Standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than +/-30 seconds from the associated continuing calibration

standard. If the area count is outside the (-50% to +100%) range of the associated standard, all the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, professional judgment will be used to determine either partial or total rejection of the data for that sample fraction.

Area responses and retention times for 1,4-Dichlorobenzene-d4 fell within established QC ranges for SIM sample analysis of the field and equipment blank. Area responses were also acceptable for full scan analysis.

2.9 Field Duplicates

Field duplicate samples are collected and analyzed as an indication of overall precision. These results are expected to have more variability than laboratory duplicate samples.

An acceptable RPD is 50% for soil matrices. Professional judgment is utilized for analytes that demonstrate high percent difference.

Field duplicate was collected on SB-467 as SB-XX. Precision is acceptable. 1,4-Dioxane was not detected in the parent or field duplicate.

2.10 Target Compound List Identification

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within =/- 0.06RRT units of the standard compound and have an ion spectrum which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound.

Mass spectra meet criteria. 1,4-Dioxane was not detected in any samples.

2.11 Compound Quantification and Reported Detection Limits

GC/MS quantitative analysis is acceptable. Correct internal standards and response factors were used to calculate final concentrations.

As required, the laboratory reported "J" values between the reporting limits (RL) and Method Detection Limits (MDLs). This is consistent with common laboratory practices and a requirement of the National Environmental Laboratory Approval Program (NELAP). Samples were analyzed undiluted. Field and Equipment Blanks were extracted by Method 3510C (Separatory Funnel Extraction). Soil samples were extracted by Method 3546 (Microwave Extraction). Samples were analyzed undiluted.

2.12 Overall System Performance

Good resolution and chromatographic performance were observed. Field and Equipment Blank results for 1,4-Dioxane are reported in ng/L where 1 ng/L = 0.001 ug/L. Soil samples are reported in ug/kg (ppb) on a dry weight basis as required.

3.0 Perfluorinated Alkyl Substances (PFAS) by LC/MS/MS EPA Modified Method 537.1

The following method criteria were reviewed: Holding times, Surrogates, MS, MSD, LCS/Laboratory Spiked Blanks, Field Duplicates, Method Blanks, Calibrations, Target Component Identification, Quantitation, Reported Quantitation Limits and Overall System Performance. The PFAS results are valid and usable as noted within the following text:

3.1 Holding Time/Preservation

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the technical holding time is exceeded, the data may not be considered valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimates, "J." The non-detects (sample quantitation limits) are required to be flagged as estimated, "J," or unusable, "R," if the holding times are grossly exceeded.

Samples were extracted and performed within the method required holding times of 28 days from extraction to analysis for aqueous samples. Aqueous matrices must be analyzed within 28 days from extraction. Soil samples must be analyzed within 40 days from extraction. Samples were analyzed within the required holding times. No data validation qualifiers were required based upon holding time. Samples were received properly preserved within temperature requirements of 6 degrees Celsius.

3.2 System Monitoring Compound (Surrogate) Recovery

All samples are spiked with surrogate compounds prior to sample analysis to evaluate overall laboratory performance and efficiency of the analytical technique. If the measure of surrogate concentrations is outside contract specification, qualifications are required to be applied to associated samples and analytes.

Surrogate recoveries (%R) for Isotope Dilution analysis were found to be within acceptable limits with exceptions discussed below. Data was qualified based on the following criteria:

Recovery <50% or >150%	**Apply "J" Qualifier**
Recovery <25% or >150% for poor responding analytes	**Apply "J" Qualifier**
Isotope Dilution Analyte (IDA) recovery <10%	**Reject Results, "R"**

Note: Problematic analytes (PFBA, PFPeA, Fluorotelomer sulfonates) can have wider recoveries without qualification.

Samples were spiked with surrogate standards MPFBA, M5PFPEA, M3PFBS, M5PFHXA, M4PFHPA, M3PFHXS, M8PFOA, M2-6:2FTS, M9PFNA, M8PFOS, M6PFDA, M2-8:2FTS, D3-NMEFOSAA, M7-PFUDA, M8FOSA, D5-NETFOSAA, MPFDOA and M2PFTEDA. Acceptable recovery values were obtained for sample analysis.

In cases where the method blanks, LCS, and/or batch QC recovery values were below limits but samples yielded acceptable recovery values, the data was not qualified.

3.3 Matrix Spikes (MS)/Matrix Spike Duplicate (MSD)Laboratory Duplicates (DUPs)

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

Recovery <70% or >130% [laboratory criteria may also be used]	Apply "J" qualifier to detects and 'UJ" qualifier to non-detects of parent sample only
RPD >30%	Apply "J" qualifier to detects and 'UJ" qualifier to non-detects of parent sample only

Soil MS/MSD analysis was conducted on SB-467. Recovery values met acceptance criteria for all spike analytes. MSD was performed in lieu of laboratory duplicate. This is acceptable practice. RPD for NEtFOSAA (34%) was outside 320% criteria. Non-detects have been qualified, "UJ" in the parent sample.

3.4 Laboratory Control Sample (LCS)

The LCS data for laboratory control samples (LCS) are generated to provide information on the accuracy of the analytical method and on the laboratory performance.

LCS/Blank Spike was analyzed and was spiked with all twenty-one (21) spiked compounds as required. Recovery values were acceptable. No qualifiers are required based on LCS data.

In cases where outliers are obtained the following qualifiers are required:

Recovery <70% or >130% [laboratory criteria may also be used]	**Apply "J" qualifier to detects and "UJ" qualifier to non-detects**

3.5 Blank Contamination

Quality assurance (QA) blanks, i.e., method, trip and field blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field blanks measure cross-contamination of samples during field operations. The following table was utilized to qualify target analyte results due to contamination. The largest value from all the associated blanks is required to be utilized:

Blank Result	Sample Result	Qualification
Any detection	<Reporting Limit	Qualify as ND as reporting limit
Any detection	>Reporting Limit and >10x the blank result	No Qualification
>Reporting Limit	>Reporting limit and <10x the blank result	J+ Biased High

Below is a summary of the compounds in the blanks and the associated qualifications that have been applied:

A) Method Blank Contamination:
No target analytes were detected in the method blanks.

B) Field Blank Contamination:
No target analytes were detected in Field Blank 11/11/22.

C) Equipment Blank Contamination:
No target analytes were detected in Equipment Blank 11/11/22.

3.6 Initial and Continuing Calibrations

Satisfactory instrument calibration is established to ensure that the instrument can produce acceptable quantitative data. An initial calibration demonstrates that the instrument can produce acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance. Initial and continuing calibration and verifications were acceptable and met the requirements summarized below:

Initial Calibrations:

%RSD >20% (6 calibration levels)	J flag detects and UJ non-detects
R2 >0.990 (6 calibration levels)	J flag detects and UJ non-detects
Low-level calibration check <50% or >150%	J flag detects and UJ non-detects
Mid-level calibration check <70% or >130%	U flag detects and UJ non-detects

Initial Calibration Verification:

ICV recovery <70% or >130%	J flag detects and "UJ" non-detects.

Continuing Calibration Verification:

CCV recovery <70% or >130%	J flag results

Acceptable calibrations were analyzed.

3.7 Field Duplicates

Field duplicate samples are collected and analyzed as an indication of overall precision. These results are expected to have more variability than laboratory duplicate samples. Acceptable RPD is 30% where sample concentrations are greater than 2x the reporting limit. In cases where RPD is >30%, the end user should utilize the higher concentration.

Field duplicate analysis was conducted on SB-461 as SB-XX. Precision is acceptable for PFOA (0.229 ug/kg vs 0.282 ug/kg), and PFOS (0.969 ug/kg vs 0.967 ug/kg).

3.8 Target Compound List Identification

TCL compounds are identified on the LC/MS/MS by using the analyte's relative retention time (RRT) obtained from known standards.

LC/MS/MS raw data met the qualitative criteria for identification. All retention times were within required specifications. In cases where the ratio of quantifier ion response to qualifier ion response falls outside the laboratory criteria, results are considered estimated, "J." No qualifiers were required based on these criteria for field samples.

3.9 Compound Quantification and Reported Detection Limits

LC/MS/MS quantitative analysis is acceptable. Samples were extracted by solid phase extraction techniques via Method 3535. Correct response factors were used to calculate final concentrations. Aqueous results are reported in ng/L (where 1 ng/L = 0.001 ug/L) for all detections.

As required, the laboratory reported "J" values between the reporting limits (RL) and Method Detection Limits (MDLs). This is consistent with common laboratory practices and a requirement of the National Environmental Laboratory Approval Program (NELAP).

Samples were analyzed undiluted. Extracts for Field and Equipment Blanks were performed utilizing initial sample volumes of approximately 250ml as verified by laboratory prep sheets. Extracts were concentrated to 1 ml and the laboratory has injected 3ul for samples and standards which is acceptable practice. Field/Equipment Blank results are reported in ng/L where (1 ng/L = 0.001 ug/L). Reporting forms for liquid erroneously list "grams" instead of "mls." Manual edits were made to the reporting sheets as part of the review process. Soil results are reported in ng/g (ug/kg) on a dry weight basis as required.

3.10 Overall System Performance

Good resolution and chromatographic performance were observed. Target analyte peaks were properly integrated and consistently when compared to reference standards.

Reviewer's Signature Lori A. Blum **Date** 01/31/2023

Appendix A
Chain of Custody Document

ALPHA

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

NEW YORK CHAIN OF CUSTODY

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 11/11/22

ALPHA Job #: L2263658

Client Information
Client: CARLIN Consultants
Address: 17 Depot St, Plainview NY
Phone: 516 576 8844
Fax:
Email: tbrown@carlinenv.com

Project Information
Project Name:
Project Location: 461 Forest Ave. Staten Island
Project #
(Use Project name as Project #)
Project Manager: Jason Cooper
ALPHAQuote #:

Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
☐ Same as Client Info
PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TCL VOCs 8260	PFAS Method 537	1,4-Dioxane 8270	Total Bottles
L3658-01	SB-461	11/11/22	1000	S	TB	X	X	X	7
-02	SB-467	11/11/22	1121	S	TB	X	X	X	7
-02	SB-467 MS	11/11/22	1122	S	TB	X	X	X	7
-02	SB-467 MSD	11/11/22	1123	S	TB	X	X	X	7
-03	SB-XX	11/11/22	1007	S	TB	X	X	X	7
-04	Field Blank 11/11/22	11/11/22	1030	FB	TB	X	X	X	6
-05	Equipment Blank 11/11/22	11/11/22	1035	EB	TB	X	X	X	6
-06	Trip Blank 11/11/22	11/11/22	—	TB	TB	X			1

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

Sample Specific Comments

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	V	P	A
Preservative	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
TB (AAL)	11/11/22 1350	(AAL)	11/11/22 1300
(AAL)	11/11/22 1830		11/11/22 2115
	11/11/22 2305		11/11/22 2305

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

Appendix B
Case Narrative

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Case Narrative (continued)

Report Submission
December 21, 2022: This final report includes the results of all requested analyses.
November 29, 2022: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Perfluorinated Alkyl Acids by Isotope Dilution
L2263658-01, -04, -05, WG1715913-1, and WG1715913-2: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.
L2263658-01 and -03: The MeOH fraction of the extraction is reported for perfluorooctanesulfonamide (fosa) due to better extraction efficiency of the perfluoro[13c8]octanesulfonamide (m8fosa) Extracted Internal Standard.
The Extracted Internal Standard recovery for the WG1715913-1 Method Blank, associated with L2263658-01 through -03, is below the acceptance criteria for perfluoro[13c8]octanesulfonamide (m8fosa) (less than 10%); however, the associated samples are non-detect to the RL for all associated target analytes; therefore, no further action was taken.
The WG1715913-3/-4 MS/MSD RPD, performed on L2263658-02, is outside the acceptance criteria for n-ethyl perfluorooctanesulfonamidoacetic acid (netfosaa) (34%).

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: Kelly Stenstrom Report Date: 12/21/22

Title: Technical Director/Representative

Appendix C
Data Summary Form I's
With Qualifications

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-01	Date Collected	: 11/11/22 10:06
Client ID	: SB-461	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/20/22 15:53
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: NLK
Lab File ID	: V11221120A12	Instrument ID	: VOA111
Sample Amount	: 3.2 g	GC Column	: RTX-VMS
Level	: HIGH	%Solids	: 92
Extract Volume (MeOH)	: 5 ml	Injection Volume	: N/A

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	440	200	U
75-34-3	1,1-Dichloroethane	ND	89	13.	U
67-66-3	Chloroform	ND	130	12.	U
56-23-5	Carbon tetrachloride	ND	89	20.	U
78-87-5	1,2-Dichloropropane	ND	89	11.	U
124-48-1	Dibromochloromethane	ND	89	12.	U
79-00-5	1,1,2-Trichloroethane	ND	89	24.	U
127-18-4	Tetrachloroethene	18000	44	17.	J
108-90-7	Chlorobenzene	ND	44	11.	U
75-69-4	Trichlorofluoromethane	ND	350	62.	U
107-06-2	1,2-Dichloroethane	ND	89	23.	U
71-55-6	1,1,1-Trichloroethane	ND	44	15.	U
75-27-4	Bromodichloromethane	ND	44	9.7	U
10061-02-6	trans-1,3-Dichloropropene	ND	89	24.	U
10061-01-5	cis-1,3-Dichloropropene	ND	44	14.	U
542-75-6	1,3-Dichloropropene, Total	ND	44	14.	U
563-58-6	1,1-Dichloropropene	ND	44	14.	U
75-25-2	Bromoform	ND	350	22.	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	44	15.	U
71-43-2	Benzene	ND	44	15.	U
108-88-3	Toluene	ND	89	48.	U
100-41-4	Ethylbenzene	ND	89	12.	U
74-87-3	Chloromethane	ND	350	83.	~~U~~ UJ
74-83-9	Bromomethane	ND	180	52.	~~U~~ UJ
75-01-4	Vinyl chloride	ND	89	30.	U

11/24/2023

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-01	Date Collected	: 11/11/22 10:06
Client ID	: SB-461	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/20/22 15:53
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: NLK
Lab File ID	: V11221120A12	Instrument ID	: VOA111
Sample Amount	: 3.2 g	GC Column	: RTX-VMS
Level	: HIGH	%Solids	: 92
Extract Volume (MeOH)	: 5 ml	Injection Volume	: N/A

CAS NO.	Parameter	ug/Kg Results	RL	MDL	Qualifier
75-00-3	Chloroethane	ND	180	40.	U
75-35-4	1,1-Dichloroethene	ND	89	21.	U
156-60-5	trans-1,2-Dichloroethene	ND	130	12.	U
79-01-6	Trichloroethene	920	44	12.	J
95-50-1	1,2-Dichlorobenzene	ND	180	13.	U
541-73-1	1,3-Dichlorobenzene	ND	180	13.	U
106-46-7	1,4-Dichlorobenzene	ND	180	15.	U
1634-04-4	Methyl tert butyl ether	ND	180	18.	U
179601-23-1	p/m-Xylene	ND	180	50.	U
95-47-6	o-Xylene	ND	89	26.	U
1330-20-7	Xylenes, Total	ND	89	26.	U
156-59-2	cis-1,2-Dichloroethene	610	89	16.	J
540-59-0	1,2-Dichloroethene, Total	610	89	12.	J
74-95-3	Dibromomethane	ND	180	21.	U
100-42-5	Styrene	ND	89	17.	U
75-71-8	Dichlorodifluoromethane	ND	890	81.	U
67-64-1	Acetone	ND	890	430	U
75-15-0	Carbon disulfide	ND	890	400	U JJ
78-93-3	2-Butanone	ND	890	200	U
108-05-4	Vinyl acetate	ND	890	190	U
108-10-1	4-Methyl-2-pentanone	ND	890	110	U
96-18-4	1,2,3-Trichloropropane	ND	180	11.	U
591-78-6	2-Hexanone	ND	890	100	U
74-97-5	Bromochloromethane	ND	180	18.	U
594-20-7	2,2-Dichloropropane	ND	180	18.	U

ALPHA ANALYTICAL

1/24/2023

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-01	Date Collected	: 11/11/22 10:06
Client ID	: SB-461	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/20/22 15:53
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: NLK
Lab File ID	: V11221120A12	Instrument ID	: VOA111
Sample Amount	: 3.2 g	GC Column	: RTX-VMS
Level	: HIGH	%Solids	: 92
Extract Volume (MeOH)	: 5 ml	Injection Volume	: N/A

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
106-93-4	1,2-Dibromoethane	ND	89	25.	U
142-28-9	1,3-Dichloropropane	ND	180	15.	U
630-20-6	1,1,1,2-Tetrachloroethane	ND	44	12.	U
108-86-1	Bromobenzene	ND	180	13.	U
104-51-8	n-Butylbenzene	ND	89	15.	U
135-98-8	sec-Butylbenzene	ND	89	13.	U
98-06-6	tert-Butylbenzene	ND	180	10.	U
95-49-8	o-Chlorotoluene	ND	180	17.	U
106-43-4	p-Chlorotoluene	ND	180	9.6	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	260	88.	U
87-68-3	Hexachlorobutadiene	ND	350	15.	U
98-82-8	Isopropylbenzene	ND	89	9.7	U
99-87-6	p-Isopropyltoluene	ND	89	9.7	U
91-20-3	Naphthalene	ND	350	58.	U
107-13-1	Acrylonitrile	ND	350	100	U
103-65-1	n-Propylbenzene	ND	89	15.	U
87-61-6	1,2,3-Trichlorobenzene	ND	180	28.	U
120-82-1	1,2,4-Trichlorobenzene	ND	180	24.	U
108-67-8	1,3,5-Trimethylbenzene	ND	180	17.	U
95-63-6	1,2,4-Trimethylbenzene	ND	180	30.	U
123-91-1	1,4-Dioxane	ND	7100	3100	~~U~~ R
105-05-5	p-Diethylbenzene	ND	180	16.	U
622-96-8	p-Ethyltoluene	ND	180	34.	U
95-93-2	1,2,4,5-Tetramethylbenzene	ND	180	17.	U
60-29-7	Ethyl ether	ND	180	30.	~~U~~ UJ

11/25/2023

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: CA Rich Consultants, Inc.	**Lab Number**	: L2263658
Project Name	:	**Project Number**	:
Lab ID	: L2263658-01	**Date Collected**	: 11/11/22 10:06
Client ID	: SB-461	**Date Received**	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	**Date Analyzed**	: 11/20/22 15:53
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 1,8260D	**Analyst**	: NLK
Lab File ID	: V11221120A12	**Instrument ID**	: VOA111
Sample Amount	: 3.2 g	**GC Column**	: RTX-VMS
Level	: HIGH	**%Solids**	: 92
Extract Volume (MeOH)	: 5 ml	**Injection Volume**	: N/A

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
110-57-6	trans-1,4-Dichloro-2-butene	ND	440	120	U

1/24/2023

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-02	Date Collected	: 11/11/22 11:21
Client ID	: SB-467	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/23/22 17:07
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: NLK
Lab File ID	: V04221123A24	Instrument ID	: VOA104
Sample Amount	: 5.7 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 91
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	4.8	2.2	U
75-34-3	1,1-Dichloroethane	ND	0.96	0.14	U UJ
67-66-3	Chloroform	ND	1.4	0.13	U UJ
56-23-5	Carbon tetrachloride	ND	0.96	0.22	U
78-87-5	1,2-Dichloropropane	ND	0.96	0.12	U UJ
124-48-1	Dibromochloromethane	ND	0.96	0.13	U
79-00-5	1,1,2-Trichloroethane	ND	0.96	0.26	U
127-18-4	Tetrachloroethene	14	0.48	0.19	J+
108-90-7	Chlorobenzene	ND	0.48	0.12	U
75-69-4	Trichlorofluoromethane	ND	3.8	0.66	U
107-06-2	1,2-Dichloroethane	ND	0.96	0.24	U UJ
71-55-6	1,1,1-Trichloroethane	ND	0.48	0.16	U
75-27-4	Bromodichloromethane	ND	0.48	0.10	U UJ
10061-02-6	trans-1,3-Dichloropropene	ND	0.96	0.26	U UJ
10061-01-5	cis-1,3-Dichloropropene	ND	0.48	0.15	U UJ
542-75-6	1,3-Dichloropropene, Total	ND	0.48	0.15	U UJ
563-58-6	1,1-Dichloropropene	ND	0.48	0.15	U
75-25-2	Bromoform	ND	3.8	0.24	U UJ
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.48	0.16	U UJ
71-43-2	Benzene	ND	0.48	0.16	U
108-88-3	Toluene	ND	0.96	0.52	U
100-41-4	Ethylbenzene	ND	0.96	0.13	U
74-87-3	Chloromethane	ND	3.8	0.89	U
74-83-9	Bromomethane	ND	1.9	0.56	U
75-01-4	Vinyl chloride	ND	0.96	0.32	U

1/24/2023

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-02	Date Collected	: 11/11/22 11:21
Client ID	: SB-467	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/23/22 17:07
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: NLK
Lab File ID	: V04221123A24	Instrument ID	: VOA104
Sample Amount	: 5.7 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 91
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/Kg Results	RL	MDL	Qualifier
75-00-3	Chloroethane	ND	1.9	0.43	U
75-35-4	1,1-Dichloroethene	ND	0.96	0.23	U
156-60-5	trans-1,2-Dichloroethene	ND	1.4	0.13	U
79-01-6	Trichloroethene	1.6	0.48	0.13	
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.14	U UJ
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.14	U UJ
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.16	U UJ
1634-04-4	Methyl tert butyl ether	ND	1.9	0.19	U
179601-23-1	p/m-Xylene	ND	1.9	0.54	U UJ
95-47-6	o-Xylene	ND	0.96	0.28	U UJ
1330-20-7	Xylenes, Total	ND	0.96	0.28	U UJ
156-59-2	cis-1,2-Dichloroethene	0.67	0.96	0.17	J J-
540-59-0	1,2-Dichloroethene, Total	0.67	0.96	0.13	J
74-95-3	Dibromomethane	ND	1.9	0.23	U UJ
100-42-5	Styrene	ND	0.96	0.19	U UJ
75-71-8	Dichlorodifluoromethane	ND	9.6	0.88	U
67-64-1	Acetone	ND	9.6	4.6	U
75-15-0	Carbon disulfide	ND	9.6	4.4	U UJ
78-93-3	2-Butanone	ND	9.6	2.1	U UJ
108-05-4	Vinyl acetate	ND	9.6	2.0	U R
108-10-1	4-Methyl-2-pentanone	ND	9.6	1.2	U
96-18-4	1,2,3-Trichloropropane	ND	1.9	0.12	U
591-78-6	2-Hexanone	ND	9.6	1.1	U UJ
74-97-5	Bromochloromethane	ND	1.9	0.20	U UJ
594-20-7	2,2-Dichloropropane	ND	1.9	0.19	U

for 11/24/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-02	Date Collected	: 11/11/22 11:21
Client ID	: SB-467	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/23/22 17:07
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: NLK
Lab File ID	: V04221123A24	Instrument ID	: VOA104
Sample Amount	: 5.7 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 91
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/Kg Results	RL	MDL	Qualifier
106-93-4	1,2-Dibromoethane	ND	0.96	0.27	U UJ
142-28-9	1,3-Dichloropropane	ND	1.9	0.16	U
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.48	0.13	U
108-86-1	Bromobenzene	ND	1.9	0.14	U UJ
104-51-8	n-Butylbenzene	ND	0.96	0.16	U UJ
135-98-8	sec-Butylbenzene	ND	0.96	0.14	U UJ
98-06-6	tert-Butylbenzene	ND	1.9	0.11	U UJ
95-49-8	o-Chlorotoluene	ND	1.9	0.18	U UJ
106-43-4	p-Chlorotoluene	ND	1.9	0.10	U UJ
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.9	0.95	U UJ
87-68-3	Hexachlorobutadiene	ND	3.8	0.16	U UJ
98-82-8	Isopropylbenzene	ND	0.96	0.10	U
99-87-6	p-Isopropyltoluene	ND	0.96	0.10	U UJ
91-20-3	Naphthalene	ND	3.8	0.62	U UJ
107-13-1	Acrylonitrile	ND	3.8	1.1	U UJ
103-65-1	n-Propylbenzene	ND	0.96	0.16	U UJ
87-61-6	1,2,3-Trichlorobenzene	ND	1.9	0.31	U UJ
120-82-1	1,2,4-Trichlorobenzene	ND	1.9	0.26	U UJ
108-67-8	1,3,5-Trimethylbenzene	ND	1.9	0.18	U UJ
95-63-6	1,2,4-Trimethylbenzene	ND	1.9	0.32	U UJ
123-91-1	1,4-Dioxane	ND	76	34.	U R
105-05-5	p-Diethylbenzene	ND	1.9	0.17	U UJ
622-96-8	p-Ethyltoluene	ND	1.9	0.37	U UJ
95-93-2	1,2,4,5-Tetramethylbenzene	ND	1.9	0.18	U UJ
60-29-7	Ethyl ether	ND	1.9	0.33	U UJ

ALPHA ANALYTICAL

1/24/2023

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-02	Date Collected	: 11/11/22 11:21
Client ID	: SB-467	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/23/22 17:07
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: NLK
Lab File ID	: V04221123A24	Instrument ID	: VOA104
Sample Amount	: 5.7 g	GC Column	: RTX-VMS
Level	: LOW	%Solids	: 91
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
110-57-6	trans-1,4-Dichloro-2-butene	ND	4.8	1.4	~~U~~ UJ

for 11/24/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-03	Date Collected	: 11/11/22 10:07
Client ID	: SB-XX SB-461	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/20/22 16:46
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: NLK
Lab File ID	: V11221120A14	Instrument ID	: VOA111
Sample Amount	: 4.4 g	GC Column	: RTX-VMS
Level	: HIGH	%Solids	: 94
Extract Volume (MeOH)	: 5 ml	Injection Volume	: N/A

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	320	140	U
75-34-3	1,1-Dichloroethane	ND	63	9.2	U
67-66-3	Chloroform	ND	95	8.9	U
56-23-5	Carbon tetrachloride	ND	63	14.	U
78-87-5	1,2-Dichloropropane	ND	63	7.9	U
124-48-1	Dibromochloromethane	ND	63	8.9	U
79-00-5	1,1,2-Trichloroethane	ND	63	17.	U
127-18-4	Tetrachloroethene	7100	32	12.	J
108-90-7	Chlorobenzene	ND	32	8.0	U
75-69-4	Trichlorofluoromethane	ND	250	44.	U
107-06-2	1,2-Dichloroethane	ND	63	16.	U
71-55-6	1,1,1-Trichloroethane	ND	32	10.	U
75-27-4	Bromodichloromethane	ND	32	6.9	U
10061-02-6	trans-1,3-Dichloropropene	ND	63	17.	U
10061-01-5	cis-1,3-Dichloropropene	ND	32	10.	U
542-75-6	1,3-Dichloropropene, Total	ND	32	10.	U
563-58-6	1,1-Dichloropropene	ND	32	10.	U
75-25-2	Bromoform	ND	250	16.	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	32	10.	U
71-43-2	Benzene	ND	32	10.	U
108-88-3	Toluene	ND	63	34.	U
100-41-4	Ethylbenzene	ND	63	8.9	U
74-87-3	Chloromethane	ND	250	59.	~~U~~ UJ
74-83-9	Bromomethane	ND	130	37.	~~U~~ UJ
75-01-4	Vinyl chloride	ND	63	21.	U

1/24/2023

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-03	Date Collected	: 11/11/22 10:07
Client ID	: SB-XX SB-46	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/20/22 16:46
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: NLK
Lab File ID	: V11221120A14	Instrument ID	: VOA111
Sample Amount	: 4.4 g	GC Column	: RTX-VMS
Level	: HIGH	%Solids	: 94
Extract Volume (MeOH)	: 5 ml	Injection Volume	: N/A

CAS NO.	Parameter	ug/Kg Results	RL	MDL	Qualifier
75-00-3	Chloroethane	ND	130	29.	U
75-35-4	1,1-Dichloroethene	ND	63	15.	U
156-60-5	trans-1,2-Dichloroethene	ND	95	8.7	U
79-01-6	Trichloroethene	310	32	8.7	J
95-50-1	1,2-Dichlorobenzene	ND	130	9.1	U
541-73-1	1,3-Dichlorobenzene	ND	130	9.4	U
106-46-7	1,4-Dichlorobenzene	ND	130	11.	U
1634-04-4	Methyl tert butyl ether	ND	130	13.	U
179601-23-1	p/m-Xylene	ND	130	35.	U
95-47-6	o-Xylene	ND	63	18.	U
1330-20-7	Xylenes, Total	ND	63	18.	U
156-59-2	cis-1,2-Dichloroethene	120	63	11.	J
540-59-0	1,2-Dichloroethene, Total	120	63	8.7	J
74-95-3	Dibromomethane	ND	130	15.	U
100-42-5	Styrene	ND	63	12.	U
75-71-8	Dichlorodifluoromethane	ND	630	58.	U
67-64-1	Acetone	ND	630	300	U
75-15-0	Carbon disulfide	ND	630	290	~~U~~ UJ
78-93-3	2-Butanone	ND	630	140	U
108-05-4	Vinyl acetate	ND	630	140	U
108-10-1	4-Methyl-2-pentanone	ND	630	81.	U
96-18-4	1,2,3-Trichloropropane	ND	130	8.0	U
591-78-6	2-Hexanone	ND	630	75.	U
74-97-5	Bromochloromethane	ND	130	13.	U
594-20-7	2,2-Dichloropropane	ND	130	13.	U

11/24/2023

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-03	Date Collected	: 11/11/22 10:07
Client ID	: SB-XX SB-46	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/20/22 16:46
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: NLK
Lab File ID	: V11221120A14	Instrument ID	: VOA111
Sample Amount	: 4.4 g	GC Column	: RTX-VMS
Level	: HIGH	%Solids	: 94
Extract Volume (MeOH)	: 5 ml	Injection Volume	: N/A

CAS NO.	Parameter	ug/Kg Results	RL	MDL	Qualifier
106-93-4	1,2-Dibromoethane	ND	63	18.	U
142-28-9	1,3-Dichloropropane	ND	130	10.	U
630-20-6	1,1,1,2-Tetrachloroethane	ND	32	8.4	U
108-86-1	Bromobenzene	ND	130	9.2	U
104-51-8	n-Butylbenzene	ND	63	10.	U
135-98-8	sec-Butylbenzene	ND	63	9.2	U
98-06-6	tert-Butylbenzene	ND	130	7.5	U
95-49-8	o-Chlorotoluene	ND	130	12.	U
106-43-4	p-Chlorotoluene	ND	130	6.8	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	190	63.	U
87-68-3	Hexachlorobutadiene	ND	250	11.	U
98-82-8	Isopropylbenzene	ND	63	6.9	U
99-87-6	p-Isopropyltoluene	ND	63	6.9	U
91-20-3	Naphthalene	ND	250	41.	U
107-13-1	Acrylonitrile	ND	250	73.	U
103-65-1	n-Propylbenzene	ND	63	11.	U
87-61-6	1,2,3-Trichlorobenzene	ND	130	20.	U
120-82-1	1,2,4-Trichlorobenzene	ND	130	17.	U
108-67-8	1,3,5-Trimethylbenzene	ND	130	12.	U
95-63-6	1,2,4-Trimethylbenzene	ND	130	21.	U
123-91-1	1,4-Dioxane	ND	5100	2200	~~U~~ R
105-05-5	p-Diethylbenzene	ND	130	11.	U
622-96-8	p-Ethyltoluene	ND	130	24.	U
95-93-2	1,2,4,5-Tetramethylbenzene	ND	130	12.	U
60-29-7	Ethyl ether	ND	130	22.	~~U~~ UJ

12/5/2023

Results Summary
Form 1
Volatile Organics by EPA 5035

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-03	Date Collected	: 11/11/22 10:07
Client ID	: SB-XX SB-46	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/20/22 16:46
Sample Matrix	: SOIL	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: NLK
Lab File ID	: V11221120A14	Instrument ID	: VOA111
Sample Amount	: 4.4 g	GC Column	: RTX-VMS
Level	: HIGH	%Solids	: 94
Extract Volume (MeOH)	: 5 ml	Injection Volume	: N/A

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
110-57-6	trans-1,4-Dichloro-2-butene	ND	320	90.	U

JSR 1/24/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-04	Date Collected	: 11/11/22 10:30
Client ID	: FIELD BLANK 11/11/22	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/21/22 21:13
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V05221121N07	Instrument ID	: VOA105
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	ND	0.50	0.18	U
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
542-75-6	1,3-Dichloropropene, Total	ND	0.50	0.14	U
563-58-6	1,1-Dichloropropene	ND	2.5	0.70	U
75-25-2	Bromoform	ND	2.0	0.65	U JJ
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U
74-83-9	Bromomethane	ND	2.5	0.70	U
75-01-4	Vinyl chloride	ND	1.0	0.07	U

11/28/23

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-04	Date Collected	: 11/11/22 10:30
Client ID	: FIELD BLANK 11/11/22	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/21/22 21:13
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V05221121N07	Instrument ID	: VOA105
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U
79-01-6	Trichloroethene	ND	0.50	0.18	U
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
1330-20-7	Xylenes, Total	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.70	U
540-59-0	1,2-Dichloroethene, Total	ND	2.5	0.70	U
74-95-3	Dibromomethane	ND	5.0	1.0	U
96-18-4	1,2,3-Trichloropropane	ND	2.5	0.70	U
107-13-1	Acrylonitrile	ND	5.0	1.5	U UJ
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	1.7	5.0	1.5	J
75-15-0	Carbon disulfide	ND	5.0	1.0	U UJ
78-93-3	2-Butanone	ND	5.0	1.9	U
108-05-4	Vinyl acetate	ND	5.0	1.0	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
74-97-5	Bromochloromethane	ND	2.5	0.70	U

for 11/24/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-04	Date Collected	: 11/11/22 10:30
Client ID	: FIELD BLANK 11/11/22	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/21/22 21:13
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V05221121N07	Instrument ID	: VOA105
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
594-20-7	2,2-Dichloropropane	ND	2.5	0.70	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
142-28-9	1,3-Dichloropropane	ND	2.5	0.70	U
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.5	0.70	U
108-86-1	Bromobenzene	ND	2.5	0.70	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
95-49-8	o-Chlorotoluene	ND	2.5	0.70	U
106-43-4	p-Chlorotoluene	ND	2.5	0.70	U UJ
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
87-68-3	Hexachlorobutadiene	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U UJ
103-65-1	n-Propylbenzene	ND	2.5	0.70	U
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	U UJ
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
123-91-1	1,4-Dioxane	ND	250	61.	U R
105-05-5	p-Diethylbenzene	ND	2.0	0.70	U
622-96-8	p-Ethyltoluene	ND	2.0	0.70	U
95-93-2	1,2,4,5-Tetramethylbenzene	ND	2.0	0.54	U
60-29-7	Ethyl ether	ND	2.5	0.70	U

Sop 11/24/2023

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-04	Date Collected	: 11/11/22 10:30
Client ID	: FIELD BLANK 11/11/22	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/21/22 21:13
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V05221121N07	Instrument ID	: VOA105
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
110-57-6	trans-1,4-Dichloro-2-butene	ND	2.5	0.70	U

for 11/24/2023

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-05	Date Collected	: 11/11/22 10:35
Client ID	: EQUIPMENT BLANK 11/11/22	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/21/22 21:36
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V05221121N08	Instrument ID	: VOA105
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	ND	0.50	0.18	U
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
542-75-6	1,3-Dichloropropene, Total	ND	0.50	0.14	U
563-58-6	1,1-Dichloropropene	ND	2.5	0.70	U
75-25-2	Bromoform	ND	2.0	0.65	U UJ
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U
74-83-9	Bromomethane	ND	2.5	0.70	U
75-01-4	Vinyl chloride	ND	1.0	0.07	U

ALPHA ANALYTICAL

11/28/23

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-05	Date Collected	: 11/11/22 10:35
Client ID	: EQUIPMENT BLANK 11/11/22	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/21/22 21:36
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V05221121N08	Instrument ID	: VOA105
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U
79-01-6	Trichloroethene	ND	0.50	0.18	U
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
1330-20-7	Xylenes, Total	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.70	U
540-59-0	1,2-Dichloroethene, Total	ND	2.5	0.70	U
74-95-3	Dibromomethane	ND	5.0	1.0	U
96-18-4	1,2,3-Trichloropropane	ND	2.5	0.70	~~U~~ UJ
107-13-1	Acrylonitrile	ND	5.0	1.5	U
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	3.7	5.0	1.5	J
75-15-0	Carbon disulfide	ND	5.0	1.0	~~U~~ UJ
78-93-3	2-Butanone	ND	5.0	1.9	U
108-05-4	Vinyl acetate	ND	5.0	1.0	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
74-97-5	Bromochloromethane	ND	2.5	0.70	U

11/21/2022

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-05	Date Collected	: 11/11/22 10:35
Client ID	: EQUIPMENT BLANK 11/11/22	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/21/22 21:36
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V05221121N08	Instrument ID	: VOA105
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
594-20-7	2,2-Dichloropropane	ND	2.5	0.70	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
142-28-9	1,3-Dichloropropane	ND	2.5	0.70	U
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.5	0.70	U
108-86-1	Bromobenzene	ND	2.5	0.70	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
95-49-8	o-Chlorotoluene	ND	2.5	0.70	U
106-43-4	p-Chlorotoluene	ND	2.5	0.70	~~U~~ UJ
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
87-68-3	Hexachlorobutadiene	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	~~U~~ UJ
103-65-1	n-Propylbenzene	ND	2.5	0.70	U
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	~~U~~ UJ
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
123-91-1	1,4-Dioxane	ND	250	61	~~U~~ R
105-05-5	p-Diethylbenzene	ND	2.0	0.70	U
622-96-8	p-Ethyltoluene	ND	2.0	0.70	U
95-93-2	1,2,4,5-Tetramethylbenzene	ND	2.0	0.54	U
60-29-7	Ethyl ether	ND	2.5	0.70	U

1/24/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-05	Date Collected	: 11/11/22 10:35
Client ID	: EQUIPMENT BLANK 11/11/22	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/21/22 21:36
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V05221121N08	Instrument ID	: VOA105
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
110-57-6	trans-1,4-Dichloro-2-butene	ND	2.5	0.70	U

JGR 11/24/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-06	Date Collected	: 11/11/22 00:00
Client ID	: TRIP BLANK 11/11/22	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/21/22 20:49
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V05221121N06	Instrument ID	: VOA105
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	ND	0.50	0.18	U
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
542-75-6	1,3-Dichloropropene, Total	ND	0.50	0.14	U
563-58-6	1,1-Dichloropropene	ND	2.5	0.70	U
75-25-2	Bromoform	ND	2.0	0.65	U VJ
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U
74-83-9	Bromomethane	ND	2.5	0.70	U
75-01-4	Vinyl chloride	ND	1.0	0.07	U

12/1/2023

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-06	Date Collected	: 11/11/22 00:00
Client ID	: TRIP BLANK 11/11/22	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/21/22 20:49
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V05221121N06	Instrument ID	: VOA105
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U
79-01-6	Trichloroethene	ND	0.50	0.18	U
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
1330-20-7	Xylenes, Total	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.70	U
540-59-0	1,2-Dichloroethene, Total	ND	2.5	0.70	U
74-95-3	Dibromomethane	ND	5.0	1.0	U
96-18-4	1,2,3-Trichloropropane	ND	2.5	0.70	U
107-13-1	Acrylonitrile	ND	5.0	1.5	~~U~~ UJ
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	2.0	5.0	1.5	J
75-15-0	Carbon disulfide	ND	5.0	1.0	~~U~~ UJ
78-93-3	2-Butanone	ND	5.0	1.9	U
108-05-4	Vinyl acetate	ND	5.0	1.0	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
74-97-5	Bromochloromethane	ND	2.5	0.70	U

1/24/2023

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-06	Date Collected	: 11/11/22 00:00
Client ID	: TRIP BLANK 11/11/22	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/21/22 20:49
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260D	Analyst	: MJV
Lab File ID	: V05221121N06	Instrument ID	: VOA105
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier
594-20-7	2,2-Dichloropropane	ND	2.5	0.70	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
142-28-9	1,3-Dichloropropane	ND	2.5	0.70	U
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.5	0.70	U
108-86-1	Bromobenzene	ND	2.5	0.70	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
95-49-8	o-Chlorotoluene	ND	2.5	0.70	U
106-43-4	p-Chlorotoluene	ND	2.5	0.70	U UJ
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
87-68-3	Hexachlorobutadiene	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U UJ
103-65-1	n-Propylbenzene	ND	2.5	0.70	U
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	U UJ
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
123-91-1	1,4-Dioxane	ND	250	61.	U R
105-05-5	p-Diethylbenzene	ND	2.0	0.70	U
622-96-8	p-Ethyltoluene	ND	2.0	0.70	U
95-93-2	1,2,4,5-Tetramethylbenzene	ND	2.0	0.54	U
60-29-7	Ethyl ether	ND	2.5	0.70	U

JOF 1/24/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	**Lab Number**	: L2263658
Project Name	:	**Project Number**	:
Lab ID	: L2263658-06	**Date Collected**	: 11/11/22 00:00
Client ID	: TRIP BLANK 11/11/22	**Date Received**	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	**Date Analyzed**	: 11/21/22 20:49
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,8260D	**Analyst**	: MJV
Lab File ID	: V05221121N06	**Instrument ID**	: VOA105
Sample Amount	: 10 ml	**GC Column**	: RTX-502.2
Level	: LOW	**%Solids**	: N/A
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
110-57-6	trans-1,4-Dichloro-2-butene	ND	2.5	0.70	U

11/24/2023

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	**Lab Number**	: L2263658
Project Name	:	**Project Number**	:
Lab ID	: L2263658-01	**Date Collected**	: 11/11/22 10:06
Client ID	: SB-461	**Date Received**	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	**Date Analyzed**	: 11/16/22 02:28
Sample Matrix	: SOIL	**Date Extracted**	: 11/14/22
Analytical Method	: 1,8270E	**Dilution Factor**	: 1
Lab File ID	: 63658-01	**Analyst**	: MG
Sample Amount	: 30.09 g	**Instrument ID**	: JULIET
Extraction Method	: EPA 3546	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: 92
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	27	8.3	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	**Lab Number**	: L2263658
Project Name	:	**Project Number**	:
Lab ID	: L2263658-02	**Date Collected**	: 11/11/22 11:21
Client ID	: SB-467	**Date Received**	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	**Date Analyzed**	: 11/16/22 06:53
Sample Matrix	: SOIL	**Date Extracted**	: 11/14/22
Analytical Method	: 1,8270E	**Dilution Factor**	: 1
Lab File ID	: 63658-02	**Analyst**	: MG
Sample Amount	: 30.3 g	**Instrument ID**	: JULIET
Extraction Method	: EPA 3546	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: 91
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
123-91-1	1,4-Dioxane	ND	27	8.3	U

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-03	Date Collected	: 11/11/22 10:07
Client ID	: SB-XX SB-461	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/16/22 01:16
Sample Matrix	: SOIL	Date Extracted	: 11/14/22
Analytical Method	: 1,8270E	Dilution Factor	: 1
Lab File ID	: 63658-03	Analyst	: MG
Sample Amount	: 30.76 g	Instrument ID	: JULIET
Extraction Method	: EPA 3546	GC Column	: RTX5-MS
Extract Volume	: 1000 uL	%Solids	: 94
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
123-91-1	1,4-Dioxane	ND	26	7.9	U

1/24/2023

Results Summary
Form 1
1,4 Dioxane by 8270E-SIM

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-04	Date Collected	: 11/11/22 10:30
Client ID	: FIELD BLANK 11/11/22	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/18/22 11:59
Sample Matrix	: WATER	Date Extracted	: 11/17/22
Analytical Method	: 1,8270E-SIM	Dilution Factor	: 1
Lab File ID	: F1111182206	Analyst	: AMV
Sample Amount	: 265 ml	Instrument ID	: BNA11
Extraction Method	: EPA 3510C	GC Column	: RTX-5
Extract Volume	: 2500 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
123-91-1	1,4-Dioxane	ND	142	32.0	U

Results Summary
Form 1
1,4 Dioxane by 8270E-SIM

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-05	Date Collected	: 11/11/22 10:35
Client ID	: EQUIPMENT BLANK 11/11/22	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/22/22 18:42
Sample Matrix	: WATER	Date Extracted	: 11/18/22
Analytical Method	: 1,8270E-SIM	Dilution Factor	: 1
Lab File ID	: F2211222223	Analyst	: AMV
Sample Amount	: 275 ml	Instrument ID	: PAH22
Extraction Method	: EPA 3510C	GC Column	: RTX-5
Extract Volume	: 2500 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
123-91-1	1,4-Dioxane	ND	136	30.8	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-01	Date Collected	: 11/11/22 10:06
Client ID	: SB-461	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 12/08/22 08:22
Sample Matrix	: SOIL	Date Extracted	: 11/23/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: I32468	Analyst	: JW
Sample Amount	: 4.37 g	Instrument ID	: LCMS01
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: 92
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/g			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.495	0.023	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.495	0.046	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.248	0.039	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.495	0.052	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.248	0.045	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.248	0.060	U
335-67-1	Perfluorooctanoic Acid (PFOA)	0.229	0.248	0.042	J
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.495	0.178	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.495	0.135	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.248	0.074	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	0.969	0.248	0.129	
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.248	0.066	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.495	0.284	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.495	0.200	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.495	0.046	U
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.495	0.152	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.495	0.084	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.495	0.069	U

for 1/24/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-01	Date Collected	: 11/11/22 10:06
Client ID	: SB-461	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 12/08/22 08:22
Sample Matrix	: SOIL	Date Extracted	: 11/23/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: I32468	Analyst	: JW
Sample Amount	: 4.37 g	Instrument ID	: LCMS01
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: 92
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/g			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.495	0.202	U
376-06-7	Perfluorotetradecanoic Acid (PFTA)	ND	0.495	0.054	U
NONE	PFOA/PFOS, Total	1.20	0.248	0.042	J

1/24/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	**Lab Number**	: L2263658
Project Name	:	**Project Number**	:
Lab ID	: L2263658-01	**Date Collected**	: 11/11/22 10:06
Client ID	: SB-461	**Date Received**	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	**Date Analyzed**	: 12/09/22 18:08
Sample Matrix	: SOIL	**Date Extracted**	: 11/23/22
Analytical Method	: 134,LCMSMS-ID	**Dilution Factor**	: 1
Lab File ID	: SCI02_52992	**Analyst**	: JW
Sample Amount	: 4.37 g	**Instrument ID**	: LCMS04
Extraction Method	: ALPHA 23528	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	**%Solids**	: 92
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/g			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND	0.495	0.097	U

12/24/2023

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-02	Date Collected	: 11/11/22 11:21
Client ID	: SB-467	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/25/22 21:45
Sample Matrix	: SOIL	Date Extracted	: 11/23/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: I73172	Analyst	: SG
Sample Amount	: 4.22 g	Instrument ID	: LCMS02
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: 91
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/g			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	0.026	0.520	0.024	J
2706-90-3	Perfluoropentanoic Acid (PFPeA)	0.069	0.520	0.048	J
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.260	0.041	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	0.067	0.520	0.055	J
375-85-9	Perfluoroheptanoic Acid (PFHpA)	0.072	0.260	0.047	J
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.260	0.063	U
335-67-1	Perfluorooctanoic Acid (PFOA)	0.590	0.260	0.044	
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.520	0.186	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.520	0.142	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.260	0.078	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	3.70	0.260	0.135	
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.260	0.070	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.520	0.298	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	0.520	0.209	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.520	0.049	U
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.520	0.159	U
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND	0.520	0.102	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.520	0.088	~~U~~ UJ

1/24/2023

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-02	Date Collected	: 11/11/22 11:21
Client ID	: SB-467	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 11/25/22 21:45
Sample Matrix	: SOIL	Date Extracted	: 11/23/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: I73172	Analyst	: SG
Sample Amount	: 4.22 g	Instrument ID	: LCMS02
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: 91
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/g			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.520	0.073	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.520	0.212	U
376-06-7	Perfluorotetradecanoic Acid (PFTA)	ND	0.520	0.056	U
NONE	PFOA/PFOS, Total	4.29	0.260	0.044	

for 11/24/2022

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-03	Date Collected	: 11/11/22 10:07
Client ID	: SB-XX SB-461	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 12/08/22 09:41
Sample Matrix	: SOIL	Date Extracted	: 11/23/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: I32469	Analyst	: JW
Sample Amount	: 4.42 g	Instrument ID	: LCMS01
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: 94
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/g			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	0.479	0.022	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	0.479	0.044	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	0.240	0.037	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	0.479	0.050	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	0.240	0.043	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	0.240	0.058	U
335-67-1	Perfluorooctanoic Acid (PFOA)	0.282	0.240	0.040	
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	0.479	0.172	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	0.479	0.131	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	0.240	0.072	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	0.967	0.240	0.125	~~F~~ J
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	0.240	0.064	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	0.479	0.275	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	0.479	0.193	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	0.479	0.045	U
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	0.479	0.147	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	0.479	0.081	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	0.479	0.067	U

JG 12/12/2023

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-03	Date Collected	: 11/11/22 10:07
Client ID	: SB-XX SB-46	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 12/08/22 09:41
Sample Matrix	: SOIL	Date Extracted	: 11/23/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: I32469	Analyst	: JW
Sample Amount	: 4.42 g	Instrument ID	: LCMS01
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: 94
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/g			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	0.479	0.196	U
376-06-7	Perfluorotetradecanoic Acid (PFTA)	ND	0.479	0.052	U
NONE	PFOA/PFOS, Total	1.25	0.240	0.040	

12/14/2022

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-03	Date Collected	: 11/11/22 10:07
Client ID	: SB-XX SB-461	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 12/09/22 18:14
Sample Matrix	: SOIL	Date Extracted	: 11/23/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: SCI02_52993	Analyst	: JW
Sample Amount	: 4.42 g	Instrument ID	: LCMS04
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: 94
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/g			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND	0.479	0.094	U

1/24/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-04	Date Collected	: 11/11/22 10:30
Client ID	: FIELD BLANK 11/11/22	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 12/07/22 01:33
Sample Matrix	: WATER	Date Extracted	: 11/16/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: SCI07_221206_20	Analyst	: SML
Sample Amount	: 281.25 ~~g~~ mL	Instrument ID	: LCMS07
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

CAS NO.	Parameter	ng/l Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	1.78	0.363	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	1.78	0.352	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	1.78	0.212	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	1.78	0.292	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	1.78	0.200	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	1.78	0.334	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	1.78	0.210	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	1.78	1.18	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	1.78	0.612	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	1.78	0.277	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	1.78	0.448	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	1.78	0.270	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	1.78	1.08	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	1.78	0.576	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	1.78	0.231	U
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	1.78	0.871	U
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND	1.78	0.516	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.78	0.715	U

for 12/14/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-04	Date Collected	: 11/11/22 10:30
Client ID	: FIELD BLANK 11/11/22	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 12/07/22 01:33
Sample Matrix	: WATER	Date Extracted	: 11/16/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: SCI07_221206_20	Analyst	: SML
Sample Amount	: 281.25 ~~g~~ ml	Instrument ID	: LCMS07
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	1.78	0.331	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	1.78	0.291	U
376-06-7	Perfluorotetradecanoic Acid (PFTA)	ND	1.78	0.220	U
NONE	PFOA/PFOS, Total	ND	1.78	0.210	U

1/24/2023

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-05	Date Collected	: 11/11/22 10:35
Client ID	: EQUIPMENT BLANK 11/11/22	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 12/07/22 01:49
Sample Matrix	: WATER	Date Extracted	: 11/16/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: SCI07_221206_21	Analyst	: SML
Sample Amount	: 290.51 g ml	Instrument ID	: LCMS07
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

CAS NO.	Parameter	ng/l Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	1.72	0.351	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	1.72	0.341	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	1.72	0.205	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	1.72	0.282	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	1.72	0.194	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	1.72	0.324	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	1.72	0.203	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	1.72	1.15	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	1.72	0.592	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	1.72	0.268	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	1.72	0.434	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	1.72	0.262	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	1.72	1.04	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	1.72	0.558	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	1.72	0.224	U
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	1.72	0.843	U
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND	1.72	0.499	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.72	0.692	U

for 1/24/2023

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: CA Rich Consultants, Inc.	Lab Number	: L2263658
Project Name	:	Project Number	:
Lab ID	: L2263658-05	Date Collected	: 11/11/22 10:35
Client ID	: EQUIPMENT BLANK 11/11/22	Date Received	: 11/11/22
Sample Location	: 461 FOREST AVE STATEN ISLAND	Date Analyzed	: 12/07/22 01:49
Sample Matrix	: WATER	Date Extracted	: 11/16/22
Analytical Method	: 134,LCMSMS-ID	Dilution Factor	: 1
Lab File ID	: SCI07_221206_21	Analyst	: SML
Sample Amount	: 290.51 g	Instrument ID	: LCMS07
Extraction Method	: ALPHA 23528	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	1.72	0.320	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	1.72	0.282	U
376-06-7	Perfluorotetradecanoic Acid (PFTA)	ND	1.72	0.213	U
NONE	PFOA/PFOS, Total	ND	1.72	0.203	U

for 1/24/2023

L.A.B. Validation Corp. 14 West Point Drive, East Northport, N.Y. 11731

DATA USABILITY SUMMARY REPORT (DUSR)

ORGANIC ANALYSIS

EPA Compendium Method TO-15
LOW LEVEL VOLATILES BY GC/MS
For Soil Vapor and Ambient Air Samples
Collected November 16, 2022
From Forest Avenue, Staten Island, New York
by CA Rich Consultants, Inc.

SAMPLE DELIVERY GROUP NUMBER:
L2264810
Alpha Analytical (ELAP #11148)

SUBMITTED TO:

Mr. Thomas Brown
CA Rich Consultants, Inc.
17 Dupont Street
Plainview, NY 11803

Cc: Mr. Jason Cooper/CA Rich Consultants, Inc.

January 25, 2023

PREPARED BY:

Lori A. Beyer/President
L.A.B. Validation Corp.
14 West Point Drive
East Northport, NY 11731

Forest Avenue, Staten Island, New York; November 2022.
Data Validation Report: Volatile Organics by EPA Method TO15

Table of Contents:

Introduction
Data Qualifier Definitions
Sample Receipt

1.0 Volatile Organics by GC/MS EPA Compendium Method TO-15
- 1.1 Holding Time
- 1.2 Surrogate Standards
- 1.3 Matrix Spikes (MS), Matrix Spike Duplicates (MSD), Laboratory Duplicate, Field Duplicate Analysis
- 1.4 Laboratory Control Sample
- 1.5 Blank Contamination
- 1.6 GC/MS Instrument Performance Check
- 1.7 Initial and Continuing Calibrations
- 1.8 Internal Standards
- 1.9 Target Compound List Identification
- 1.10 Tentatively Identified Compounds
- 1.11 Compound Quantification and Reported Detection Limits
- 1.12 Overall System Performance

APPENDICES:
A. Chain of Custody Documents
B. Case Narrative
C. Data Summary Form Is with Qualifications

Introduction:
A validation was performed on soil vapor and ambient air samples for Volatile Organic analysis collected by CA Rich Consultants, Inc. and submitted to Alpha Analytical for subsequent analysis under chain of custody documentation. This report contains the laboratory and validation results for the field samples itemized below. The samples were collected on November 16, 2022.

The samples were analyzed by Alpha Analytical utilizing EPA Method TO-15 and in accordance with NYSDEC Analytical Services Protocol (2005) and submitted under NYSDEC ASP Category B equivalent deliverable requirements for the associated analytical methodology employed. The analytical testing consisted of the TO-15 Compound List. Ambient Air samples were also analyzed by Selective Ion Monitoring (SIM) techniques for select chlorinated compounds to achieve NYSDOH Guidance Value reporting levels.

The data was evaluated in accordance with the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (Publication 9240.1-05), EPA SOP #HW31 (Revision 6-Updated September 2016) and in conjunction with the analytical methodology for which the samples were analyzed, where applicable and relevant.

The data validation report pertains to the following field air samples:

Sample Identification	Laboratory Identification	Sample Matrix (Air Type)	Collection Date
SSV-461	L2264810-01	Soil Vapor	11/16/2022
SSV-463	L2264810-02	Soil Vapor	11/16/2022
SSV-465	L2264810-03	Soil Vapor	11/16/2022
SSV-467	L2264810-04	Soil Vapor	11/16/2022
SSV-XX [Field Duplicate of SSV-461]	L2264810-05	Soil Vapor	11/16/2022
SV-E	L2264810-06	Soil Vapor	11/16/2022
SV-W	L2264810-07	Soil Vapor	11/16/2022
IA-461	L2264810-08	Ambient Air	11/16/2022
IA-463	L2264810-09	Ambient Air	11/16/2022
IA-465	L2264810-10	Ambient Air	11/16/2022
IA-467	L2264810-11	Ambient Air	11/16/2022
OA-1	L2264810-12	Ambient Air	11/16/2022

Data Qualifier Definitions:

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

U - The analyte was analyzed for but was not detected above the reported sample quantitation limit.

J - The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

J+ - The result is an estimated quantity, but the result may be biased high.

J- - The result is an estimated quantity, but the result may be biased low.

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was analyzed for but not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R - The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.

D - Analyte concentration was obtained from diluted analysis.

Sample Receipt:
The Chain of Custody documents indicates that the air samples were received the day following completion of the sampling event via laboratory courier on November 17, 2022. Sample login notes and the chain of custody indicate that at the Validated Time of Sample Receipt (VTSR) at the laboratory no discrepancies were notated and therefore the integrity of the summa canister samples is assumed to be good.

Summa Canisters were leak tested prior to collection of each sample. Initial pressure gauge is recorded on the chain of custody and is required to be approximately 30 psi with zero air. Acceptable canister pressure was observed for these samples. All canisters pass the leak check requirements.

The data summary Form I's included in Appendix C includes all usable (qualified) and unusable (rejected) results for the samples identified above and summarize the detailed narrative section of the report. Data validation qualifications have been reported on the Form I's for ease of review and verification.

NOTE:
L.A.B. Validation Corp. believes it is appropriate to note that the data validation criteria utilized for data evaluation is different than the method requirements utilized by the laboratory. Qualified data does not necessarily mean that the laboratory was non-compliant in the analysis that was performed.

1.0 Volatile Organics by EPA Compendium Method TO-15

The following method criteria were reviewed: holding times, surrogate standards, LCS, Blanks, Laboratory Duplicate, Tunes, Calibrations, Internal Standards, Target Component Identification and Quantitation, Reported Quantitation Limits and Overall System Performance. The volatile results are valid and useable as noted on the data summary table in Appendix C and within the following text:

1.1 Holding Time
The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the technical holding time is exceeded, the data may not be considered valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimates, "J". The non-detects (sample quantitation limits) are required to be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

Air samples were analyzed within the method and technical required holding times of thirty (30) days from sample collection for analysis. No qualifications were required based upon holding time criteria.

1.2 Surrogate Standards
All samples are spiked with surrogate compounds prior to sample analysis to evaluate overall laboratory performance and efficiency of the analytical technique. If the measure of surrogate concentrations is outside contract
specifications, qualifications are required to be applied to associated samples and analytes.

Samples were not spiked with surrogate standards. Method TO15 does not mandate the addition of surrogate standards.

1.3 Matrix Spikes (MS)/ Matrix Spike Duplicates (MSD)/Laboratory Duplicate /Field Duplicate Analysis

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices.

Matrix Spike/Matrix Spike Duplicate analysis was not performed on samples pertaining to this SDG. Batch Laboratory duplicate was provided in the lab report for full scan analysis. SIM laboratory duplicate analysis was performed on IA-465. Precision is acceptable. Detected analytes are below laboratory criteria of 25%. No qualifications are required based on laboratory duplicate analysis.

Field Duplicate analysis was collected on SSV-461 as SSV-XX. Acceptable precision for air samples is 25%. The following criteria are utilized for Field/Lab Duplicate analysis when performed:

Criteria	Detected Compounds	Non-Detected Compounds
The RPD is within the limits of 0 and 25%	No qualification	No qualification
The RPD >25%	J in the parent and duplicate samples	Not applicable
The RPD could not be calculated since the compound was only detected in either the parent of duplicate sample. However, the detected concentration was </=2x the reporting limit	No qualification	No qualification
The RPD could not be calculated since the compound was only detected in either the parent or duplicate sample However, the detected concentration was >2x the reporting limit.	J in the parent and duplicate sample	UJ in the parent of duplicate sample

No qualifications to the data were applied based on MS/MSD/Laboratory Duplicate analysis.

A summary of detections is summarized below for Field Duplicate analysis:

Analyte	SSV-461 (ug/m3)	SSV-XX (ug/m3)	Percent Difference (%D)
Trans-1,2-Dichloroethene	320	251	24.2%
Cis-1,2-Dichloroethene	4680	3560	27.2%
Trichloroethene	6770	5180	36.6%
Tetrachloroethene	147000	109000	29.7%
Toluene	179U	135	Not Calculable

The parent sample was analyzed at 1.05ml and the field duplicate at 1.47ml. Reporting limits and detected concentrations have been adjusted accordingly. No qualifications are required for Toluene since detected concentration in the field duplicate is <2x the reporting limit. Reported results for cis-1,2-Dichloroethene, Trichloroethene, and Tetrachloroethene must be considered estimated, "J" in both the parent and field duplicate.

1.4 Laboratory Control Sample

The LCS data for laboratory control samples (LCS) are generated to provide information on the accuracy of the analytical method and on the laboratory performance.
The following table summarizes the LCS criteria and the data qualification guidelines for all associated field samples.

LCS	NOT QUALIFIED	J	R
% Recovery:			
Detects	70-130%	<70%, >130%	
Non-Detects	>/=130%	50-69%	<50%
Absolute RT of LCS Compounds:			
LCS Compounds in samples RT: (min)	+/-0 .33		>/=0.33

Acceptable LCS was analyzed pertaining to this sampling event. Recovery values for all spiked compounds was determined to be >70%-<130% for all analytes.

1.5 Blank Contamination

Quality assurance (QA) blanks, i.e., method, trip and field blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field blanks measure cross-contamination of samples during field operations. Storage blanks measure cross-contamination during sample storage of the field samples and are not required for TO15 analysis. Canister blanks measure cross-contamination from the sampling media.

The following table was utilized to qualify target analyte results due to method blank contamination. The largest value from all the associated blanks is required to be utilized. The largest value from all the associated blanks is required to be utilized:

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Storage, field, Trip, Instrument	Detects	Not Detected	No qualification required
	<CRQL*	<CRQL*	Report CRQL value with a U
		>/= CRQL* and <2x the CRQL**	No qualification required
	>CRQL*	</= CRQL*	Report CRQL value with a U
		>/=CRQL* and </= blank concentration	Report blank value for sample concentration with a U
		>/= CRQL* and > blank concentration	No qualification required
	=CRQL*	</= CRQL*	Report CRQL value with a U
		>CRQL*	No qualification required
	Gross Contamination**	Detects	Report blank value for sample concentration with a U

*2x the CRQL for methylene chloride, 2-butanone, and acetone.
**4x the CRQL for methylene chloride, 2-butanone, and acetone
***Qualifications based on instrument blank results affect only the sample analyzed immediately after the sample that has target compounds that exceed the calibration range or non-target compounds that exceed 100 ug/L.
Below is a summary of the compounds in the sample and the associated qualifications that have been applied:

The table below is utilized to qualify samples with target compound results also present in certification blanks:

Certification Contamination	Sample Result	Action for Sample
>/=detect limit	>5x certification contamination	No qualification required
>/=detect limit	<detect limit	Detection limit "U"
>/=detect limit	>/=detect limit and </= 5x certification contamination level	5x certification contamination "U"
<detect limit	</=detection limit and >/= detection limit	No qualification

Below is a summary of the compounds in the sample and the associated qualifications that have been applied:

A) **Method Blank Contamination:**
Method and Canister blanks were determined to be free of any contamination.

Acetone/Methylene Chloride and 2-Butanone are common laboratory contaminants. The end user should proceed with caution when making decisions based on the reported concentrations for these compounds since detections could not be negated due to lack of presence in the corresponding blanks.

B) **Field Blank Contamination:**
Field Blank analysis was not required.

C) **Trip Blank Contamination:**
Trip Blank analysis was not required.

1.6 GC/MS Instrument Performance Check
Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The Tuning standard for volatile organics is Bromofluorobenzene (BFB).

Instrument performance was generated within acceptable limits and frequency (24 hours) for Bromofluorobenzene (BFB) for all analyses.

1.7 Initial and Continuing Calibrations
Satisfactory instrument calibration is established to ensure that the instrument can produce acceptable quantitative data. An initial calibration demonstrates that the instrument can give acceptable performance at the beginning of an experimental sequence.
The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) Response Factor GC/MS:
The response factor measures the instrument's response to specific chemical compounds. The response factor for all compounds must be >/= 0.05 in both initial and continuing calibrations. A value <0.05 indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound in the corresponding samples will be rejected, "R".

The following compounds can be >0.01 without qualification:
2-Butanone
Carbon Disulfide
Chloroethane
Chloromethane
1,2-Dibromoethane
1,2-Dichloropropane
1,4-Dioxane
1,2-Dibromo-3-chloropropane
Methylene Chloride

Response factors for the target analytes reported were found to be within acceptable limits (>/=0.05) [or >/=0.01 for the 9 compounds above] and remaining analytes, for the initial and continuing calibrations.

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):
Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentrations. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be <30% and %D must be <30%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ". If %RSD and %D grossly exceed QC criteria (>90%), non-detect data may be qualified, "R", unusable. Additionally, in cases where the %RSD is >30% and eliminating either the high or the low point of the curve does not restore the %RSD to less than or equal to 30% then positive results are qualified, "J". In cases where removal of either the low or high point restores the linearity, then only low or high-level results will be qualified, "J" in the portion of the curve where non-linearity exists. Acceptable ICV was analyzed.

Initial Calibrations: The initial calibrations provided and the %RSD was within acceptable limits (30%) and (40%) for poor responders for all requested target compounds except for Benzyl Chloride (35.53%) Non-detects in all samples have been qualified, "UJ " Initial calibration verification standard met QC requirements (<30%) for all compounds except for Bromoform (33.4%), Benzyl Chloride (41.2%), and 1,2,4-Trichlorobenzene (31.4%). No additional qualifiers are required for Benzyl Chloride. Non-detects for Bromoform and 1,2,4-Trichlorobenzene has been qualified, "UJ" in all samples.

Continuing Calibrations: The continuing calibrations provided and the %D was within acceptable limits (30%) and (40%) for poor responders for all reported compounds.

1.8 Internal Standards
Internal Standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-40% to +40%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than +/-20 seconds from the associated continuing calibration standard. If the area count is outside the (-40% to +40%) range of the associated standard, all positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 20 seconds, professional judgment will be used to determine either partial or total rejection of the data for that sample fraction.

Internal Standard area responses met QC requirements for all analysis pertaining to this data set as compared to the continuing calibration.

1.9 Target Compound List Identification

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within =/- 0.06RRT units of the standard compound and have an ion spectrum which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound.

GC/MS spectra met the qualitative criteria for identification. Retention times were within required specifications.

1.10 Tentatively Identified Compounds (TICs)

TICs were not required for this project. When submitted, the identification must be considered tentative (both quantitative and qualitative) due to the lack of required compound specific response factors. Consequently, all concentrations should be considered estimated, "J" and because of the qualitative uncertainty should be qualified, "N" where an identification has been made.

TICs were not required with this data set.

1.11 Compound Quantification and Reported Detection Limits

GC/MS quantitative analysis are acceptable. Correct internal standards and response factors and air volumes were used to calculate final concentrations.

Sample results have been presented in ug/m3 as well as ppbv on the laboratory reporting forms. Samples were analyzed at the dilution documented on the Form I's. Ambient samples were also analyzed by SIM (Selective Ion Monitoring) for select chlorinated compounds to achieve required NYSDOH action levels. Initial analysis of IA-463, IA-465, and IA-467 yielded Ethanol and/or Isopropyl Alcohol over the instruments' calibration range. Secondary diluted reanalysis was performed as required. Initial result, qualified, "E" by the laboratory has been rejected, "R" and the diluted value, qualified, "D" during the review process to assist the end user which concentration should be utilized for decision purposes.

1.12 Overall System Performance

GC/MS analytical methodology was acceptable for this analysis. The data reported agrees with the raw data provided in the final reports. The laboratory provided complete data package and reported all data using acceptable protocols and laboratory qualifiers as defined in the report package.

Reviewer's Signature Lori A. Bly **Date** 01/25/2023

Appendix A
Chain of Custody Documents

AIR ANALYSIS

PAGE 1 OF 2

CHAIN OF CUSTODY

ALPHA ANALYTICAL
320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/18/22

ALPHA Job #: L2264310

Client Information

Client: CA Rich Consultants
Address: 17 Dupont St.
Plainview NY
Phone: 5165768844
Fax:
Email: tbrown@carichinc.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Forest Ave
Project Location:
Project #:
Project Manager: Jason Cooper
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: ☐

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	☐	Sample Comments (i.e. PID)
64810-01	SSV-461	11/16/22	851	1405	30.10	13.71	SV	TB	6L	1867	0435	X						
02	SSV-463	11/16/22	859	1410	29.02	12.41	SV	TB	6L	1659	1780	X						
03	SSV-465	11/16/22	908	1415	30.18	11.07	SV	TB	6L	3371	1297	X						
04	SSV-467	11/16/22	919	1422	30.20	12.91	SV	TB	6L	2929	824	X						
05	SSV-XX	11/16/22	852	1406	29.93	13.40	SV	TB	6L	811	637	X						
06	SV-E	11/16/22	930	1123	1.74	0.2	SV	TB	6L	1814	411	X						
07	SV-W	11/16/22	935	1550	30.12	21.90	SV	TB	6L	2449	1452	X						
08	IA-461	11/16/22	853	1230	18.85	7.32	AA	TB	6L	1606	1705	X						
09	IA-463	11/16/22	900	1411	30.22	11.44	AA	TB	6L	3957	2150	X						
10	IA-465	11/16/22	908	1416	30.30	9.21	AA	TB	6L	3906	2063	X						

***SAMPLE MATRIX CODES**

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

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.

Relinquished By:	Date/Time	Received By:	Date/Time:
11/18/22 0340			
TBrown	11/17/22 1654	TBrown	11/17/22 1035
Paul Mazzella	11/17/22	Paul Mazzella	11/17/22 2020
Paul Mazzella 11/17/22 0340	11/17/22	TBrown	11/18/22 0100

Form No. 101-02 Rev. (25-Sep-15)

AIR ANALYSIS

PAGE 2 OF 2

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/18/22

ALPHA Job #: L2264310

Client Information

Client:

Address: Same

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name:

Project Location:

Project #: Same

Project Manager:

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: ☐

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	ANALYSIS TO-15	TO-15 SIM	APH Subset Non-petroleum HCs	Fixed Gases	Sulfides & Mercaptans by TO-15	☐	Sample Comments (i.e. PID)
11	DA-467	11/16/22	920	1425	30.34	11.37	AA	TB	6L	Nad	1184	X						
12	OA-1	11/16/22	938	1546	30.46	12.30	AA	TB	6L	1777	1023	X						

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

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.

Relinquished By:	Date/Time	Received By:	Date/Time:
11/18/22 0340			
Paul Mazzella 11/18/22 0340	11/17/22 1236p	Paul Mazzella	11/17/22 1234
Paul Mazzella 11/17/22		GO AM	11/18/22 0100

Form No: 101-82 Rev: (25-Sep-15)

Appendix B
Case Narrative

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on November 9, 2022. The canister certification results are provided as an addendum.

L2264810-01D, -02D, -03D, -04D, -05D, -09D, -10D, and -11D: The samples have elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the samples.

L2264810-07D: Prior to sample analysis, the canisters were pressurized with UHP Nitrogen in order to perform a screen analysis. The pressurization resulted in a dilution of the samples. The reporting limits have been elevated accordingly.

L2264810-09, -10, and -11: The samples were re-analyzed on dilution in order to quantitate 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.

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 Report Date: 12/05/22 for 1/23/2023

Title: Technical Director/Representative

Appendix C
Data Summary Form I's
With Qualifications

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-01 D	Date Collected	: 11/16/22 14:05
Client ID	: SSV-461	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 22:56
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 238.1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535867	Instrument ID	: AIRLAB15
Sample Amount	: 1.05 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	ND	47.6	--	ND	235.	--	U
74-87-3	Chloromethane	ND	47.6	--	ND	98.3	--	U
76-14-2	Freon-114	ND	47.6	--	ND	333.	--	U
75-01-4	Vinyl chloride	ND	47.6	--	ND	122	--	U
106-99-0	1,3-Butadiene	ND	47.6	--	ND	105.	--	U
74-83-9	Bromomethane	ND	47.6	--	ND	185.	--	U
75-00-3	Chloroethane	ND	47.6	--	ND	126.	--	U
64-17-5	Ethanol	ND	1190	--	ND	2240	--	U
593-60-2	Vinyl bromide	ND	47.6	--	ND	208.	--	U
67-64-1	Acetone	ND	238	--	ND	565	--	U
75-69-4	Trichlorofluoromethane	ND	47.6	--	ND	267.	--	U
67-63-0	Isopropanol	ND	119	--	ND	293	--	U
75-35-4	1,1-Dichloroethene	ND	47.6	--	ND	189.	--	U
75-65-0	Tertiary butyl Alcohol	ND	119	--	ND	361.	--	U
75-09-2	Methylene chloride	ND	119	--	ND	413	--	U
107-05-1	3-Chloropropene	ND	47.6	--	ND	149.	--	U
75-15-0	Carbon disulfide	ND	47.6	--	ND	148.	--	U
76-13-1	Freon-113	ND	47.6	--	ND	365.	--	U
156-60-5	trans-1,2-Dichloroethene	80.7	47.6	--	320	189	--	
75-34-3	1,1-Dichloroethane	ND	47.6	--	ND	193.	--	U
1634-04-4	Methyl tert butyl ether	ND	47.6	--	ND	172.	--	U
78-93-3	2-Butanone	ND	119	--	ND	351.	--	U
156-59-2	cis-1,2-Dichloroethene	1180	47.6	--	4680	189	--	J
141-78-6	Ethyl Acetate	ND	119	--	ND	429.	--	U
67-66-3	Chloroform	ND	47.6	--	ND	232	--	U
109-99-9	Tetrahydrofuran	ND	119	--	ND	351.	--	U

for 12/4/2022

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-01D	Date Collected	: 11/16/22 14:05
Client ID	: SSV-461	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 22:56
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 238.1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535867	Instrument ID	: AIRLAB15
Sample Amount	: 1.05 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
107-06-2	1,2-Dichloroethane	ND	47.6	--	ND	193.	--	U
110-54-3	n-Hexane	ND	47.6	--	ND	168.	--	U
71-55-6	1,1,1-Trichloroethane	ND	47.6	--	ND	260.	--	U
71-43-2	Benzene	ND	47.6	--	ND	152.	--	U
56-23-5	Carbon tetrachloride	ND	47.6	--	ND	299.	--	U
110-82-7	Cyclohexane	ND	47.6	--	ND	164.	--	U
78-87-5	1,2-Dichloropropane	ND	47.6	--	ND	220.	--	U
75-27-4	Bromodichloromethane	ND	47.6	--	ND	319.	--	U
123-91-1	1,4-Dioxane	ND	47.6	--	ND	172.	--	U
79-01-6	Trichloroethene	1260	47.6	--	6770	256	--	J
540-84-1	2,2,4-Trimethylpentane	ND	47.6	--	ND	222.	--	U
142-82-5	Heptane	ND	47.6	--	ND	195.	--	U
10061-01-5	cis-1,3-Dichloropropene	ND	47.6	--	ND	216.	--	U
108-10-1	4-Methyl-2-pentanone	ND	119	--	ND	488.	--	U
10061-02-6	trans-1,3-Dichloropropene	ND	47.6	--	ND	216.	--	U
79-00-5	1,1,2-Trichloroethane	ND	47.6	--	ND	260.	--	U
108-88-3	Toluene	ND	47.6	--	ND	179	--	U
591-78-6	2-Hexanone	ND	47.6	--	ND	195.	--	U
124-48-1	Dibromochloromethane	ND	47.6	--	ND	406.	--	U
106-93-4	1,2-Dibromoethane	ND	47.6	--	ND	366.	--	U
127-18-4	Tetrachloroethene	21700	47.6	--	147000	323	--	J
108-90-7	Chlorobenzene	ND	47.6	--	ND	219.	--	U
100-41-4	Ethylbenzene	ND	47.6	--	ND	207.	--	U
179601-23-1	p/m-Xylene	ND	95.2	--	ND	414.	--	U
75-25-2	Bromoform	ND	47.6	--	ND	492.	--	~~U~~ UJ
100-42-5	Styrene	ND	47.6	--	ND	203.	--	U

12/4/2023

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-01D	Date Collected	: 11/16/22 14:05
Client ID	: SSV-461	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 22:56
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 238.1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535867	Instrument ID	: AIRLAB15
Sample Amount	: 1.05 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
79-34-5	1,1,2,2-Tetrachloroethane	ND	47.6	--	ND	327.	--	U
95-47-6	o-Xylene	ND	47.6	--	ND	207.	--	U
622-96-8	4-Ethyltoluene	ND	47.6	--	ND	234.	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	47.6	--	ND	234.	--	U
95-63-6	1,2,4-Trimethylbenzene	ND	47.6	--	ND	234.	--	U
100-44-7	Benzyl chloride	ND	47.6	--	ND	246.	--	~~U~~ UJ
541-73-1	1,3-Dichlorobenzene	ND	47.6	--	ND	286.	--	U
106-46-7	1,4-Dichlorobenzene	ND	47.6	--	ND	286.	--	U
95-50-1	1,2-Dichlorobenzene	ND	47.6	--	ND	286.	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	47.6	--	ND	353.	--	~~U~~ UJ
87-68-3	Hexachlorobutadiene	ND	47.6	--	ND	508.	--	U

for 11/21/2023

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-02D	Date Collected	: 11/16/22 14:10
Client ID	: SSV-463	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 23:32
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 480.8
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535868	Instrument ID	: AIRLAB15
Sample Amount	: 0.520 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	ND	96.2	--	ND	476.	--	U
74-87-3	Chloromethane	ND	96.2	--	ND	199.	--	U
76-14-2	Freon-114	ND	96.2	--	ND	672.	--	U
75-01-4	Vinyl chloride	ND	96.2	--	ND	246	--	U
106-99-0	1,3-Butadiene	ND	96.2	--	ND	213.	--	U
74-83-9	Bromomethane	ND	96.2	--	ND	374.	--	U
75-00-3	Chloroethane	ND	96.2	--	ND	254.	--	U
64-17-5	Ethanol	ND	2400	--	ND	4520	--	U
593-60-2	Vinyl bromide	ND	96.2	--	ND	421.	--	U
67-64-1	Acetone	ND	481	--	ND	1140	--	U
75-69-4	Trichlorofluoromethane	ND	96.2	--	ND	541.	--	U
67-63-0	Isopropanol	ND	240	--	ND	590	--	U
75-35-4	1,1-Dichloroethene	ND	96.2	--	ND	381.	--	U
75-65-0	Tertiary butyl Alcohol	ND	240	--	ND	728.	--	U
75-09-2	Methylene chloride	ND	240	--	ND	834	--	U
107-05-1	3-Chloropropene	ND	96.2	--	ND	301.	--	U
75-15-0	Carbon disulfide	ND	96.2	--	ND	300.	--	U
76-13-1	Freon-113	ND	96.2	--	ND	737.	--	U
156-60-5	trans-1,2-Dichloroethene	280	96.2	--	1110	381	--	
75-34-3	1,1-Dichloroethane	ND	96.2	--	ND	389.	--	U
1634-04-4	Methyl tert butyl ether	ND	96.2	--	ND	347.	--	U
78-93-3	2-Butanone	ND	240	--	ND	708.	--	U
156-59-2	cis-1,2-Dichloroethene	4150	96.2	--	16500	381	--	
141-78-6	Ethyl Acetate	ND	240	--	ND	865.	--	U
67-66-3	Chloroform	ND	96.2	--	ND	470.	--	U
109-99-9	Tetrahydrofuran	ND	240	--	ND	708.	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-02D	Date Collected	: 11/16/22 14:10
Client ID	: SSV-463	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 23:32
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 480.8
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535868	Instrument ID	: AIRLAB15
Sample Amount	: 0.520 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
107-06-2	1,2-Dichloroethane	ND	96.2	--	ND	389.	--	U
110-54-3	n-Hexane	ND	96.2	--	ND	339.	--	U
71-55-6	1,1,1-Trichloroethane	ND	96.2	--	ND	525.	--	U
71-43-2	Benzene	ND	96.2	--	ND	307.	--	U
56-23-5	Carbon tetrachloride	ND	96.2	--	ND	605.	--	U
110-82-7	Cyclohexane	ND	96.2	--	ND	331.	--	U
78-87-5	1,2-Dichloropropane	ND	96.2	--	ND	445.	--	U
75-27-4	Bromodichloromethane	ND	96.2	--	ND	644.	--	U
123-91-1	1,4-Dioxane	ND	96.2	--	ND	347.	--	U
79-01-6	Trichloroethene	1750	96.2	--	9400	517	--	
540-84-1	2,2,4-Trimethylpentane	ND	96.2	--	ND	449.	--	U
142-82-5	Heptane	ND	96.2	--	ND	394.	--	U
10061-01-5	cis-1,3-Dichloropropene	ND	96.2	--	ND	437.	--	U
108-10-1	4-Methyl-2-pentanone	ND	240	--	ND	984.	--	U
10061-02-6	trans-1,3-Dichloropropene	ND	96.2	--	ND	437.	--	U
79-00-5	1,1,2-Trichloroethane	ND	96.2	--	ND	525.	--	U
108-88-3	Toluene	ND	96.2	--	ND	363	--	U
591-78-6	2-Hexanone	ND	96.2	--	ND	394.	--	U
124-48-1	Dibromochloromethane	ND	96.2	--	ND	820.	--	U
106-93-4	1,2-Dibromoethane	ND	96.2	--	ND	739.	--	U
127-18-4	Tetrachloroethene	40300	96.2	--	273000	652	--	
108-90-7	Chlorobenzene	ND	96.2	--	ND	443.	--	U
100-41-4	Ethylbenzene	ND	96.2	--	ND	418.	--	U
179601-23-1	p/m-Xylene	ND	192	--	ND	834.	--	U
75-25-2	Bromoform	ND	96.2	--	ND	995.	--	U → UJ
100-42-5	Styrene	ND	96.2	--	ND	410.	--	U

12/15/2023

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-02D	Date Collected	: 11/16/22 14:10
Client ID	: SSV-463	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 23:32
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 480.8
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535868	Instrument ID	: AIRLAB15
Sample Amount	: 0.520 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
79-34-5	1,1,2,2-Tetrachloroethane	ND	96.2	--	ND	661.	--	U
95-47-6	o-Xylene	ND	96.2	--	ND	418.	--	U
622-96-8	4-Ethyltoluene	ND	96.2	--	ND	473.	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	96.2	--	ND	473.	--	U
95-63-6	1,2,4-Trimethylbenzene	ND	96.2	--	ND	473.	--	U
100-44-7	Benzyl chloride	ND	96.2	--	ND	498.	--	~~U~~ UJ
541-73-1	1,3-Dichlorobenzene	ND	96.2	--	ND	578.	--	U
106-46-7	1,4-Dichlorobenzene	ND	96.2	--	ND	578.	--	U
95-50-1	1,2-Dichlorobenzene	ND	96.2	--	ND	578.	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	96.2	--	ND	714.	--	~~U~~ UJ
87-68-3	Hexachlorobutadiene	ND	96.2	--	ND	1030	--	U

JQA 1/24/2023

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-03D	Date Collected	: 11/16/22 14:15
Client ID	: SSV-465	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/04/22 00:08
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 4.388
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535869	Instrument ID	: AIRLAB15
Sample Amount	: 57.0 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	2.80	0.878	--	13.8	4.34	--	
74-87-3	Chloromethane	ND	0.878	--	ND	1.81	--	U
76-14-2	Freon-114	ND	0.878	--	ND	6.14	--	U
75-01-4	Vinyl chloride	ND	0.878	--	ND	2.24	--	U
106-99-0	1,3-Butadiene	ND	0.878	--	ND	1.94	--	U
74-83-9	Bromomethane	ND	0.878	--	ND	3.41	--	U
75-00-3	Chloroethane	ND	0.878	--	ND	2.32	--	U
64-17-5	Ethanol	278	21.9	--	524	41.3	--	
593-60-2	Vinyl bromide	ND	0.878	--	ND	3.84	--	U
67-64-1	Acetone	16.9	4.39	--	40.1	10.4	--	
75-69-4	Trichlorofluoromethane	ND	0.878	--	ND	4.93	--	U
67-63-0	Isopropanol	45.1	2.19	--	111	5.38	--	
75-35-4	1,1-Dichloroethene	ND	0.878	--	ND	3.48	--	U
75-65-0	Tertiary butyl Alcohol	ND	2.19	--	ND	6.64	--	U
75-09-2	Methylene chloride	ND	2.19	--	ND	7.61	--	U
107-05-1	3-Chloropropene	ND	0.878	--	ND	2.75	--	U
75-15-0	Carbon disulfide	ND	0.878	--	ND	2.73	--	U
76-13-1	Freon-113	ND	0.878	--	ND	6.73	--	U
156-60-5	trans-1,2-Dichloroethene	1.40	0.878	--	5.55	3.48	--	
75-34-3	1,1-Dichloroethane	ND	0.878	--	ND	3.55	--	U
1634-04-4	Methyl tert butyl ether	ND	0.878	--	ND	3.17	--	U
78-93-3	2-Butanone	3.00	2.19	--	8.85	6.46	--	
156-59-2	cis-1,2-Dichloroethene	22.4	0.878	--	88.8	3.48	--	
141-78-6	Ethyl Acetate	ND	2.19	--	ND	7.89	--	U
67-66-3	Chloroform	ND	0.878	--	ND	4.29	--	U
109-99-9	Tetrahydrofuran	4.97	2.19	--	14.7	6.46	--	

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-03D	Date Collected	: 11/16/22 14:15
Client ID	: SSV-465	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/04/22 00:08
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 4.388
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535869	Instrument ID	: AIRLAB15
Sample Amount	: 57.0 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
107-06-2	1,2-Dichloroethane	ND	0.878	--	ND	3.55	--	U
110-54-3	n-Hexane	ND	0.878	--	ND	3.09	--	U
71-55-6	1,1,1-Trichloroethane	ND	0.878	--	ND	4.79	--	U
71-43-2	Benzene	5.73	0.878	--	18.3	2.80	--	
56-23-5	Carbon tetrachloride	ND	0.878	--	ND	5.52	--	U
110-82-7	Cyclohexane	ND	0.878	--	ND	3.02	--	U
78-87-5	1,2-Dichloropropane	ND	0.878	--	ND	4.06	--	U
75-27-4	Bromodichloromethane	ND	0.878	--	ND	5.88	--	U
123-91-1	1,4-Dioxane	ND	0.878	--	ND	3.16	--	U
79-01-6	Trichloroethene	23.0	0.878	--	124	4.72	--	
540-84-1	2,2,4-Trimethylpentane	ND	0.878	--	ND	4.10	--	U
142-82-5	Heptane	ND	0.878	--	ND	3.60	--	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.878	--	ND	3.99	--	U
108-10-1	4-Methyl-2-pentanone	ND	2.19	--	ND	8.97	--	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.878	--	ND	3.99	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.878	--	ND	4.79	--	U
108-88-3	Toluene	31.0	0.878	--	117	3.31	--	
591-78-6	2-Hexanone	ND	0.878	--	ND	3.60	--	U
124-48-1	Dibromochloromethane	ND	0.878	--	ND	7.48	--	U
106-93-4	1,2-Dibromoethane	ND	0.878	--	ND	6.75	--	U
127-18-4	Tetrachloroethene	434	0.878	--	2940	5.95	--	
108-90-7	Chlorobenzene	1.96	0.878	--	9.03	4.04	--	
100-41-4	Ethylbenzene	1.13	0.878	--	4.91	3.81	--	
179601-23-1	p/m-Xylene	4.92	1.76	--	21.4	7.64	--	
75-25-2	Bromoform	ND	0.878	--	ND	9.08	--	~~U~~ UJ
100-42-5	Styrene	ND	0.878	--	ND	3.74	--	U

1/24/2023

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-03D	Date Collected	: 11/16/22 14:15
Client ID	: SSV-465	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/04/22 00:08
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 4.388
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535869	Instrument ID	: AIRLAB15
Sample Amount	: 57.0 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.878	--	ND	6.03	--	U
95-47-6	o-Xylene	1.75	0.878	--	7.60	3.81	--	
622-96-8	4-Ethyltoluene	ND	0.878	--	ND	4.32	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	0.878	--	ND	4.32	--	U
95-63-6	1,2,4-Trimethylbenzene	1.85	0.878	--	9.09	4.32	--	
100-44-7	Benzyl chloride	ND	0.878	--	ND	4.55	--	~~U~~ UJ
541-73-1	1,3-Dichlorobenzene	ND	0.878	--	ND	5.28	--	U
106-46-7	1,4-Dichlorobenzene	ND	0.878	--	ND	5.28	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.878	--	ND	5.28	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.878	--	ND	6.52	--	~~U~~ UJ
87-68-3	Hexachlorobutadiene	ND	0.878	--	ND	9.37	--	U

JSR 11/24/2023

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-04D	Date Collected	: 11/16/22 14:22
Client ID	: SSV-467	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/04/22 10:08
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 23.41
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535882	Instrument ID	: AIRLAB15
Sample Amount	: 10.7 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	ND	4.68	--	ND	23.1	--	U
74-87-3	Chloromethane	ND	4.68	--	ND	9.66	--	U
76-14-2	Freon-114	ND	4.68	--	ND	32.7	--	U
75-01-4	Vinyl chloride	ND	4.68	--	ND	12.0	--	U
106-99-0	1,3-Butadiene	ND	4.68	--	ND	10.4	--	U
74-83-9	Bromomethane	ND	4.68	--	ND	18.2	--	U
75-00-3	Chloroethane	ND	4.68	--	ND	12.3	--	U
64-17-5	Ethanol	184	117	--	347	220	--	
593-60-2	Vinyl bromide	ND	4.68	--	ND	20.5	--	U
67-64-1	Acetone	24.0	23.4	--	57.0	55.6	--	
75-69-4	Trichlorofluoromethane	ND	4.68	--	ND	26.3	--	U
67-63-0	Isopropanol	66.1	11.7	--	162	28.8	--	
75-35-4	1,1-Dichloroethene	ND	4.68	--	ND	18.6	--	U
75-65-0	Tertiary butyl Alcohol	ND	11.7	--	ND	35.5	--	U
75-09-2	Methylene chloride	ND	11.7	--	ND	40.6	--	U
107-05-1	3-Chloropropene	ND	4.68	--	ND	14.6	--	U
75-15-0	Carbon disulfide	ND	4.68	--	ND	14.6	--	U
76-13-1	Freon-113	ND	4.68	--	ND	35.9	--	U
156-60-5	trans-1,2-Dichloroethene	ND	4.68	--	ND	18.6	--	U
75-34-3	1,1-Dichloroethane	ND	4.68	--	ND	18.9	--	U
1634-04-4	Methyl tert butyl ether	ND	4.68	--	ND	16.9	--	U
78-93-3	2-Butanone	ND	11.7	--	ND	34.5	--	U
156-59-2	cis-1,2-Dichloroethene	19.9	4.68	--	78.9	18.6	--	
141-78-6	Ethyl Acetate	ND	11.7	--	ND	42.2	--	U
67-66-3	Chloroform	ND	4.68	--	ND	22.9	--	U
109-99-9	Tetrahydrofuran	ND	11.7	--	ND	34.5	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-04D	Date Collected	: 11/16/22 14:22
Client ID	: SSV-467	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/04/22 10:08
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 23.41
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535882	Instrument ID	: AIRLAB15
Sample Amount	: 10.7 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
107-06-2	1,2-Dichloroethane	ND	4.68	--	ND	18.9	--	U
110-54-3	n-Hexane	ND	4.68	--	ND	16.5	--	U
71-55-6	1,1,1-Trichloroethane	ND	4.68	--	ND	25.5	--	U
71-43-2	Benzene	7.86	4.68	--	25.1	15.0	--	
56-23-5	Carbon tetrachloride	ND	4.68	--	ND	29.4	--	U
110-82-7	Cyclohexane	ND	4.68	--	ND	16.1	--	U
78-87-5	1,2-Dichloropropane	ND	4.68	--	ND	21.6	--	U
75-27-4	Bromodichloromethane	ND	4.68	--	ND	31.4	--	U
123-91-1	1,4-Dioxane	ND	4.68	--	ND	16.9	--	U
79-01-6	Trichloroethene	47.1	4.68	--	253	25.2	--	
540-84-1	2,2,4-Trimethylpentane	ND	4.68	--	ND	21.9	--	U
142-82-5	Heptane	ND	4.68	--	ND	19.2	--	U
10061-01-5	cis-1,3-Dichloropropene	ND	4.68	--	ND	21.2	--	U
108-10-1	4-Methyl-2-pentanone	ND	11.7	--	ND	47.9	--	U
10061-02-6	trans-1,3-Dichloropropene	ND	4.68	--	ND	21.2	--	U
79-00-5	1,1,2-Trichloroethane	ND	4.68	--	ND	25.5	--	U
108-88-3	Toluene	41.1	4.68	--	155	17.6	--	
591-78-6	2-Hexanone	ND	4.68	--	ND	19.2	--	U
124-48-1	Dibromochloromethane	ND	4.68	--	ND	39.9	--	U
106-93-4	1,2-Dibromoethane	ND	4.68	--	ND	36.0	--	U
127-18-4	Tetrachloroethene	2010	4.68	--	13600	31.7	--	
108-90-7	Chlorobenzene	ND	4.68	--	ND	21.6	--	U
100-41-4	Ethylbenzene	ND	4.68	--	ND	20.3	--	U
179601-23-1	p/m-Xylene	ND	9.36	--	ND	40.7	--	U
75-25-2	Bromoform	ND	4.68	--	ND	48.4	--	~~U~~ UJ
100-42-5	Styrene	ND	4.68	--	ND	19.9	--	U

jar 12/7/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-04D	Date Collected	: 11/16/22 14:22
Client ID	: SSV-467	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/04/22 10:08
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 23.41
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535882	Instrument ID	: AIRLAB15
Sample Amount	: 10.7 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
79-34-5	1,1,2,2-Tetrachloroethane	ND	4.68	--	ND	32.1	--	U
95-47-6	o-Xylene	ND	4.68	--	ND	20.3	--	U
622-96-8	4-Ethyltoluene	ND	4.68	--	ND	23.0	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	4.68	--	ND	23.0	--	U
95-63-6	1,2,4-Trimethylbenzene	ND	4.68	--	ND	23.0	--	U
100-44-7	Benzyl chloride	ND	4.68	--	ND	24.2	--	~~U~~ UJ
541-73-1	1,3-Dichlorobenzene	ND	4.68	--	ND	28.1	--	U
106-46-7	1,4-Dichlorobenzene	ND	4.68	--	ND	28.1	--	U
95-50-1	1,2-Dichlorobenzene	ND	4.68	--	ND	28.1	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	4.68	--	ND	34.7	--	~~U~~ UJ
87-68-3	Hexachlorobutadiene	ND	4.68	--	ND	49.9	--	U

for 1/23/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-05D	Date Collected	: 11/16/22 14:06
Client ID	: SSV-XX SSV-461	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/04/22 01:22
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 170.1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535871	Instrument ID	: AIRLAB15
Sample Amount	: 1.47 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	ND	34.0	--	ND	168.	--	U
74-87-3	Chloromethane	ND	34.0	--	ND	70.2	--	U
76-14-2	Freon-114	ND	34.0	--	ND	238.	--	U
75-01-4	Vinyl chloride	ND	34.0	--	ND	86.9	--	U
106-99-0	1,3-Butadiene	ND	34.0	--	ND	75.2	--	U
74-83-9	Bromomethane	ND	34.0	--	ND	132.	--	U
75-00-3	Chloroethane	ND	34.0	--	ND	89.7	--	U
64-17-5	Ethanol	ND	850	--	ND	1600	--	U
593-60-2	Vinyl bromide	ND	34.0	--	ND	149.	--	U
67-64-1	Acetone	ND	170	--	ND	404	--	U
75-69-4	Trichlorofluoromethane	ND	34.0	--	ND	191.	--	U
67-63-0	Isopropanol	ND	85.0	--	ND	209	--	U
75-35-4	1,1-Dichloroethene	ND	34.0	--	ND	135	--	U
75-65-0	Tertiary butyl Alcohol	ND	85.0	--	ND	258.	--	U
75-09-2	Methylene chloride	ND	85.0	--	ND	295	--	U
107-05-1	3-Chloropropene	ND	34.0	--	ND	106.	--	U
75-15-0	Carbon disulfide	ND	34.0	--	ND	106.	--	U
76-13-1	Freon-113	ND	34.0	--	ND	261.	--	U
156-60-5	trans-1,2-Dichloroethene	63.3	34.0	--	251	135	--	
75-34-3	1,1-Dichloroethane	ND	34.0	--	ND	138.	--	U
1634-04-4	Methyl tert butyl ether	ND	34.0	--	ND	123.	--	U
78-93-3	2-Butanone	ND	85.0	--	ND	251	--	U
156-59-2	cis-1,2-Dichloroethene	899	34.0	--	3560	135	--	J
141-78-6	Ethyl Acetate	ND	85.0	--	ND	306.	--	U
67-66-3	Chloroform	ND	34.0	--	ND	166	--	U
109-99-9	Tetrahydrofuran	ND	85.0	--	ND	251.	--	U

for 11/23/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-05D	Date Collected	: 11/16/22 14:06
Client ID	: SSV-XX SSV-461	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/04/22 01:22
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 170.1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535871	Instrument ID	: AIRLAB15
Sample Amount	: 1.47 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
107-06-2	1,2-Dichloroethane	ND	34.0	--	ND	138.	--	U
110-54-3	n-Hexane	ND	34.0	--	ND	120.	--	U
71-55-6	1,1,1-Trichloroethane	ND	34.0	--	ND	186.	--	U
71-43-2	Benzene	ND	34.0	--	ND	109	--	U
56-23-5	Carbon tetrachloride	ND	34.0	--	ND	214.	--	U
110-82-7	Cyclohexane	ND	34.0	--	ND	117.	--	U
78-87-5	1,2-Dichloropropane	ND	34.0	--	ND	157.	--	U
75-27-4	Bromodichloromethane	ND	34.0	--	ND	228.	--	U
123-91-1	1,4-Dioxane	ND	34.0	--	ND	123.	--	U
79-01-6	Trichloroethene	964	34.0	--	5180	183	--	J
540-84-1	2,2,4-Trimethylpentane	ND	34.0	--	ND	159.	--	U
142-82-5	Heptane	ND	34.0	--	ND	139.	--	U
10061-01-5	cis-1,3-Dichloropropene	ND	34.0	--	ND	154.	--	U
108-10-1	4-Methyl-2-pentanone	ND	85.0	--	ND	348.	--	U
10061-02-6	trans-1,3-Dichloropropene	ND	34.0	--	ND	154.	--	U
79-00-5	1,1,2-Trichloroethane	ND	34.0	--	ND	186.	--	U
108-88-3	Toluene	35.7	34.0	--	135	128	--	
591-78-6	2-Hexanone	ND	34.0	--	ND	139.	--	U
124-48-1	Dibromochloromethane	ND	34.0	--	ND	290.	--	U
106-93-4	1,2-Dibromoethane	ND	34.0	--	ND	261.	--	U
127-18-4	Tetrachloroethene	16100	34.0	--	109000	231	--	J
108-90-7	Chlorobenzene	ND	34.0	--	ND	157.	--	U
100-41-4	Ethylbenzene	ND	34.0	--	ND	148.	--	U
179601-23-1	p/m-Xylene	ND	68.0	--	ND	295.	--	U
75-25-2	Bromoform	ND	34.0	--	ND	352.	--	~~U~~ UJ
100-42-5	Styrene	ND	34.0	--	ND	145.	--	U

for 12/3/2022

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-05D	Date Collected	: 11/16/22 14:06
Client ID	: SSV-XX SSV-461	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/04/22 01:22
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 170.1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535871	Instrument ID	: AIRLAB15
Sample Amount	: 1.47 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
79-34-5	1,1,2,2-Tetrachloroethane	ND	34.0	--	ND	233.	--	U
95-47-6	o-Xylene	ND	34.0	--	ND	148.	--	U
622-96-8	4-Ethyltoluene	ND	34.0	--	ND	167.	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	34.0	--	ND	167.	--	U
95-63-6	1,2,4-Trimethylbenzene	ND	34.0	--	ND	167.	--	U
100-44-7	Benzyl chloride	ND	34.0	--	ND	176.	--	U UJ
541-73-1	1,3-Dichlorobenzene	ND	34.0	--	ND	204.	--	U
106-46-7	1,4-Dichlorobenzene	ND	34.0	--	ND	204.	--	U
95-50-1	1,2-Dichlorobenzene	ND	34.0	--	ND	204.	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	34.0	--	ND	252.	--	U UJ
87-68-3	Hexachlorobutadiene	ND	34.0	--	ND	363.	--	U

1/23/2023

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-06	Date Collected	: 11/16/22 11:23
Client ID	: SV-E	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/04/22 02:00
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535872	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	0.589	0.200	--	2.91	0.989	--	
74-87-3	Chloromethane	0.607	0.200	--	1.25	0.413	--	
76-14-2	Freon-114	ND	0.200	--	ND	1.40	--	U
75-01-4	Vinyl chloride	ND	0.200	--	ND	0.511	--	U
106-99-0	1,3-Butadiene	ND	0.200	--	ND	0.442	--	U
74-83-9	Bromomethane	ND	0.200	--	ND	0.777	--	U
75-00-3	Chloroethane	ND	0.200	--	ND	0.528	--	U
64-17-5	Ethanol	106	5.00	--	200	9.42	--	
593-60-2	Vinyl bromide	ND	0.200	--	ND	0.874	--	U
67-64-1	Acetone	19.0	1.00	--	45.1	2.38	--	
75-69-4	Trichlorofluoromethane	0.249	0.200	--	1.40	1.12	--	
67-63-0	Isopropanol	8.89	0.500	--	21.9	1.23	--	
75-35-4	1,1-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-65-0	Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--	U
75-09-2	Methylene chloride	0.576	0.500	--	2.00	1.74	--	
107-05-1	3-Chloropropene	ND	0.200	--	ND	0.626	--	U
75-15-0	Carbon disulfide	0.244	0.200	--	0.760	0.623	--	
76-13-1	Freon-113	ND	0.200	--	ND	1.53	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-34-3	1,1-Dichloroethane	ND	0.200	--	ND	0.809	--	U
1634-04-4	Methyl tert butyl ether	ND	0.200	--	ND	0.721	--	U
78-93-3	2-Butanone	3.20	0.500	--	9.44	1.47	--	
156-59-2	cis-1,2-Dichloroethene	0.311	0.200	--	1.23	0.793	--	
141-78-6	Ethyl Acetate	0.574	0.500	--	2.07	1.80	--	
67-66-3	Chloroform	ND	0.200	--	ND	0.977	--	U
109-99-9	Tetrahydrofuran	4.52	0.500	--	13.3	1.47	--	

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-06	Date Collected	: 11/16/22 11:23
Client ID	: SV-E	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/04/22 02:00
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535872	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
107-06-2	1,2-Dichloroethane	ND	0.200	--	ND	0.809	--	U
110-54-3	n-Hexane	2.83	0.200	--	9.97	0.705	--	
71-55-6	1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--	U
71-43-2	Benzene	2.84	0.200	--	9.07	0.639	--	
56-23-5	Carbon tetrachloride	ND	0.200	--	ND	1.26	--	U
110-82-7	Cyclohexane	1.15	0.200	--	3.96	0.688	--	
78-87-5	1,2-Dichloropropane	ND	0.200	--	ND	0.924	--	U
75-27-4	Bromodichloromethane	ND	0.200	--	ND	1.34	--	U
123-91-1	1,4-Dioxane	ND	0.200	--	ND	0.721	--	U
79-01-6	Trichloroethene	ND	0.200	--	ND	1.07	--	U
540-84-1	2,2,4-Trimethylpentane	1.46	0.200	--	6.82	0.934	--	
142-82-5	Heptane	1.36	0.200	--	5.57	0.820	--	
10061-01-5	cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
108-10-1	4-Methyl-2-pentanone	0.712	0.500	--	2.92	2.05	--	
10061-02-6	trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--	U
108-88-3	Toluene	10.7	0.200	--	40.3	0.754	--	
591-78-6	2-Hexanone	ND	0.200	--	ND	0.820	--	U
124-48-1	Dibromochloromethane	ND	0.200	--	ND	1.70	--	U
106-93-4	1,2-Dibromoethane	ND	0.200	--	ND	1.54	--	U
127-18-4	Tetrachloroethene	0.753	0.200	--	5.11	1.36	--	
108-90-7	Chlorobenzene	ND	0.200	--	ND	0.921	--	U
100-41-4	Ethylbenzene	0.511	0.200	--	2.22	0.869	--	
179601-23-1	p/m-Xylene	1.74	0.400	--	7.56	1.74	--	
75-25-2	Bromoform	ND	0.200	--	ND	2.07	--	U J
100-42-5	Styrene	ND	0.200	--	ND	0.852	--	U

1/24/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-06	Date Collected	: 11/16/22 11:23
Client ID	: SV-E	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/04/22 02:00
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535872	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	U
95-47-6	o-Xylene	0.609	0.200	--	2.65	0.869	--	
622-96-8	4-Ethyltoluene	ND	0.200	--	ND	0.983	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
95-63-6	1,2,4-Trimethylbenzene	0.502	0.200	--	2.47	0.983	--	
100-44-7	Benzyl chloride	ND	0.200	--	ND	1.04	--	~~U~~ UJ
541-73-1	1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
106-46-7	1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--	~~U~~ UJ
87-68-3	Hexachlorobutadiene	ND	0.200	--	ND	2.13	--	U

for 1/24/2023

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-07D	Date Collected	: 11/16/22 15:50
Client ID	: SV-W	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/04/22 02:40
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 2.357
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535873	Instrument ID	: AIRLAB15
Sample Amount	: 106 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	2.84	0.471	--	14.0	2.33	--	
74-87-3	Chloromethane	0.516	0.471	--	1.07	0.973	--	
76-14-2	Freon-114	ND	0.471	--	ND	3.29	--	U
75-01-4	Vinyl chloride	0.518	0.471	--	1.32	1.20	--	
106-99-0	1,3-Butadiene	2.76	0.471	--	6.11	1.04	--	
74-83-9	Bromomethane	ND	0.471	--	ND	1.83	--	U
75-00-3	Chloroethane	ND	0.471	--	ND	1.24	--	U
64-17-5	Ethanol	35.2	11.8	--	66.3	22.2	--	
593-60-2	Vinyl bromide	ND	0.471	--	ND	2.06	--	U
67-64-1	Acetone	295	2.36	--	701	5.61	--	
75-69-4	Trichlorofluoromethane	1.98	0.471	--	11.1	2.65	--	
67-63-0	Isopropanol	63.0	1.18	--	155	2.90	--	
75-35-4	1,1-Dichloroethene	ND	0.471	--	ND	1.87	--	U
75-65-0	Tertiary butyl Alcohol	12.3	1.18	--	37.3	3.58	--	
75-09-2	Methylene chloride	4.97	1.18	--	17.3	4.10	--	
107-05-1	3-Chloropropene	ND	0.471	--	ND	1.47	--	U
75-15-0	Carbon disulfide	17.7	0.471	--	55.1	1.47	--	
76-13-1	Freon-113	ND	0.471	--	ND	3.61	--	U
156-60-5	trans-1,2-Dichloroethene	2.51	0.471	--	9.95	1.87	--	
75-34-3	1,1-Dichloroethane	ND	0.471	--	ND	1.91	--	U
1634-04-4	Methyl tert butyl ether	ND	0.471	--	ND	1.70	--	U
78-93-3	2-Butanone	31.2	1.18	--	92.0	3.48	--	
156-59-2	cis-1,2-Dichloroethene	45.2	0.471	--	179	1.87	--	
141-78-6	Ethyl Acetate	3.00	1.18	--	10.8	4.25	--	
67-66-3	Chloroform	2.21	0.471	--	10.8	2.30	--	
109-99-9	Tetrahydrofuran	11.9	1.18	--	35.1	3.48	--	

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-07D	Date Collected	: 11/16/22 15:50
Client ID	: SV-W	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/04/22 02:40
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 2.357
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535873	Instrument ID	: AIRLAB15
Sample Amount	: 106 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
107-06-2	1,2-Dichloroethane	ND	0.471	--	ND	1.91	--	U
110-54-3	n-Hexane	15.8	0.471	--	55.7	1.66	--	
71-55-6	1,1,1-Trichloroethane	ND	0.471	--	ND	2.57	--	U
71-43-2	Benzene	17.9	0.471	--	57.2	1.50	--	
56-23-5	Carbon tetrachloride	ND	0.471	--	ND	2.96	--	U
110-82-7	Cyclohexane	3.60	0.471	--	12.4	1.62	--	
78-87-5	1,2-Dichloropropane	ND	0.471	--	ND	2.18	--	U
75-27-4	Bromodichloromethane	ND	0.471	--	ND	3.16	--	U
123-91-1	1,4-Dioxane	ND	0.471	--	ND	1.70	--	U
79-01-6	Trichloroethene	28.0	0.471	--	150	2.53	--	
540-84-1	2,2,4-Trimethylpentane	3.26	0.471	--	15.2	2.20	--	
142-82-5	Heptane	9.82	0.471	--	40.2	1.93	--	
10061-01-5	cis-1,3-Dichloropropene	ND	0.471	--	ND	2.14	--	U
108-10-1	4-Methyl-2-pentanone	1.54	1.18	--	6.31	4.84	--	
10061-02-6	trans-1,3-Dichloropropene	ND	0.471	--	ND	2.14	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.471	--	ND	2.57	--	U
108-88-3	Toluene	70.4	0.471	--	265	1.77	--	
591-78-6	2-Hexanone	0.962	0.471	--	3.94	1.93	--	
124-48-1	Dibromochloromethane	ND	0.471	--	ND	4.01	--	U
106-93-4	1,2-Dibromoethane	ND	0.471	--	ND	3.62	--	U
127-18-4	Tetrachloroethene	78.9	0.471	--	535	3.19	--	
108-90-7	Chlorobenzene	2.70	0.471	--	12.4	2.17	--	
100-41-4	Ethylbenzene	2.45	0.471	--	10.6	2.05	--	
179601-23-1	p/m-Xylene	7.15	0.943	--	31.1	4.10	--	
75-25-2	Bromoform	ND	0.471	--	ND	4.87	--	~~U~~ UJ
100-42-5	Styrene	ND	0.471	--	ND	2.01	--	U

12/14/2023

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-07D	Date Collected	: 11/16/22 15:50
Client ID	: SV-W	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/04/22 02:40
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 2.357
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535873	Instrument ID	: AIRLAB15
Sample Amount	: 106 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.471	--	ND	3.23	--	U
95-47-6	o-Xylene	2.06	0.471	--	8.95	2.05	--	
622-96-8	4-Ethyltoluene	ND	0.471	--	ND	2.32	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	0.471	--	ND	2.32	--	U
95-63-6	1,2,4-Trimethylbenzene	ND	0.471	--	ND	2.32	--	U
100-44-7	Benzyl chloride	ND	0.471	--	ND	2.44	--	~~U~~ UJ
541-73-1	1,3-Dichlorobenzene	ND	0.471	--	ND	2.83	--	U
106-46-7	1,4-Dichlorobenzene	ND	0.471	--	ND	2.83	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.471	--	ND	2.83	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.471	--	ND	3.50	--	~~U~~ UJ
87-68-3	Hexachlorobutadiene	ND	0.471	--	ND	5.02	--	U

for 1/24/2023

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-08	Date Collected	: 11/16/22 12:30
Client ID	: IA-461	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 19:36
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535862	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	0.795	0.200	--	3.93	0.989	--	
74-87-3	Chloromethane	0.601	0.200	--	1.24	0.413	--	
76-14-2	Freon-114	ND	0.200	--	ND	1.40	--	U
106-99-0	1,3-Butadiene	ND	0.200	--	ND	0.442	--	U
74-83-9	Bromomethane	ND	0.200	--	ND	0.777	--	U
75-00-3	Chloroethane	ND	0.200	--	ND	0.528	--	U
64-17-5	Ethanol	267	5.00	--	503	9.42	--	
593-60-2	Vinyl bromide	ND	0.200	--	ND	0.874	--	U
67-64-1	Acetone	5.49	1.00	--	13.0	2.38	--	
75-69-4	Trichlorofluoromethane	0.298	0.200	--	1.67	1.12	--	
67-63-0	Isopropanol	37.5	0.500	--	92.2	1.23	--	
75-65-0	Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--	U
75-09-2	Methylene chloride	0.584	0.500	--	2.03	1.74	--	
107-05-1	3-Chloropropene	ND	0.200	--	ND	0.626	--	U
75-15-0	Carbon disulfide	ND	0.200	--	ND	0.623	--	U
76-13-1	Freon-113	ND	0.200	--	ND	1.53	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-34-3	1,1-Dichloroethane	ND	0.200	--	ND	0.809	--	U
1634-04-4	Methyl tert butyl ether	ND	0.200	--	ND	0.721	--	U
78-93-3	2-Butanone	0.995	0.500	--	2.93	1.47	--	
141-78-6	Ethyl Acetate	ND	0.500	--	ND	1.80	--	U
67-66-3	Chloroform	ND	0.200	--	ND	0.977	--	U
109-99-9	Tetrahydrofuran	1.14	0.500	--	3.36	1.47	--	
107-06-2	1,2-Dichloroethane	ND	0.200	--	ND	0.809	--	U
110-54-3	n-Hexane	0.861	0.200	--	3.03	0.705	--	
71-43-2	Benzene	0.577	0.200	--	1.84	0.639	--	

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-08	Date Collected	: 11/16/22 12:30
Client ID	: IA-461	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 19:36
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535862	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
110-82-7	Cyclohexane	0.352	0.200	--	1.21	0.688	--	
78-87-5	1,2-Dichloropropane	ND	0.200	--	ND	0.924	--	U
75-27-4	Bromodichloromethane	ND	0.200	--	ND	1.34	--	U
123-91-1	1,4-Dioxane	ND	0.200	--	ND	0.721	--	U
540-84-1	2,2,4-Trimethylpentane	0.526	0.200	--	2.46	0.934	--	
142-82-5	Heptane	0.399	0.200	--	1.64	0.820	--	
10061-01-5	cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
108-10-1	4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--	U
108-88-3	Toluene	2.85	0.200	--	10.7	0.754	--	
591-78-6	2-Hexanone	ND	0.200	--	ND	0.820	--	U
124-48-1	Dibromochloromethane	ND	0.200	--	ND	1.70	--	U
106-93-4	1,2-Dibromoethane	ND	0.200	--	ND	1.54	--	U
108-90-7	Chlorobenzene	ND	0.200	--	ND	0.921	--	U
100-41-4	Ethylbenzene	0.251	0.200	--	1.09	0.869	--	
179601-23-1	p/m-Xylene	0.833	0.400	--	3.62	1.74	--	
75-25-2	Bromoform	ND	0.200	--	ND	2.07	--	U UJ
100-42-5	Styrene	ND	0.200	--	ND	0.852	--	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	U
95-47-6	o-Xylene	0.304	0.200	--	1.32	0.869	--	
622-96-8	4-Ethyltoluene	ND	0.200	--	ND	0.983	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
95-63-6	1,2,4-Trimethylbenzene	0.292	0.200	--	1.44	0.983	--	
100-44-7	Benzyl chloride	ND	0.200	--	ND	1.04	--	U UJ
541-73-1	1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U

for 1/23/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-08	Date Collected	: 11/16/22 12:30
Client ID	: IA-461	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 19:36
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535862	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
106-46-7	1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--	~~U~~ UJ
87-68-3	Hexachlorobutadiene	ND	0.200	--	ND	2.13	--	U

for 11/24/2023

Results Summary
Form 1
Volatile Organics in Air by SIM

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-08	Date Collected	: 11/16/22 12:30
Client ID	: IA-461	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 19:36
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15-SIM	Analyst	: TJS
Lab File ID	: R1535862_EV2	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-01-4	Vinyl chloride	ND	0.020	--	ND	0.051	--	U
75-35-4	1,1-Dichloroethene	ND	0.020	--	ND	0.079	--	U
156-59-2	cis-1,2-Dichloroethene	0.041	0.020	--	0.163	0.079	--	
71-55-6	1,1,1-Trichloroethane	0.062	0.020	--	0.338	0.109	--	
56-23-5	Carbon tetrachloride	0.071	0.020	--	0.447	0.126	--	
79-01-6	Trichloroethene	0.206	0.020	--	1.11	0.107	--	
127-18-4	Tetrachloroethene	24.5	0.020	--	166	0.136	--	

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-09	Date Collected	: 11/16/22 14:11
Client ID	: IA-463	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 20:18
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535863	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	1.04	0.200	--	5.14	0.989	--	
74-87-3	Chloromethane	0.626	0.200	--	1.29	0.413	--	
76-14-2	Freon-114	ND	0.200	--	ND	1.40	--	U
106-99-0	1,3-Butadiene	ND	0.200	--	ND	0.442	--	U
74-83-9	Bromomethane	ND	0.200	--	ND	0.777	--	U
75-00-3	Chloroethane	ND	0.200	--	ND	0.528	--	U
64-17-5	Ethanol	651	5.00	--	1230	9.42	--	E R
593-60-2	Vinyl bromide	ND	0.200	--	ND	0.874	--	U
67-64-1	Acetone	7.27	1.00	--	17.3	2.38	--	
75-69-4	Trichlorofluoromethane	0.804	0.200	--	4.52	1.12	--	
67-63-0	Isopropanol	22.0	0.500	--	54.1	1.23	--	
75-65-0	Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--	U
75-09-2	Methylene chloride	ND	0.500	--	ND	1.74	--	U
107-05-1	3-Chloropropene	ND	0.200	--	ND	0.626	--	U
75-15-0	Carbon disulfide	ND	0.200	--	ND	0.623	--	U
76-13-1	Freon-113	ND	0.200	--	ND	1.53	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-34-3	1,1-Dichloroethane	ND	0.200	--	ND	0.809	--	U
1634-04-4	Methyl tert butyl ether	ND	0.200	--	ND	0.721	--	U
78-93-3	2-Butanone	ND	0.500	--	ND	1.47	--	U
141-78-6	Ethyl Acetate	ND	0.500	--	ND	1.80	--	U
67-66-3	Chloroform	ND	0.200	--	ND	0.977	--	U
109-99-9	Tetrahydrofuran	ND	0.500	--	ND	1.47	--	U
107-06-2	1,2-Dichloroethane	ND	0.200	--	ND	0.809	--	U
110-54-3	n-Hexane	ND	0.200	--	ND	0.705	--	U
71-43-2	Benzene	0.299	0.200	--	0.955	0.639	--	

JDT 12/23/2022

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-09	Date Collected	: 11/16/22 14:11
Client ID	: IA-463	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 20:18
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535863	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
110-82-7	Cyclohexane	ND	0.200	--	ND	0.688	--	U
78-87-5	1,2-Dichloropropane	ND	0.200	--	ND	0.924	--	U
75-27-4	Bromodichloromethane	ND	0.200	--	ND	1.34	--	U
123-91-1	1,4-Dioxane	ND	0.200	--	ND	0.721	--	U
540-84-1	2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--	U
142-82-5	Heptane	ND	0.200	--	ND	0.820	--	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
108-10-1	4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--	U
108-88-3	Toluene	0.561	0.200	--	2.11	0.754	--	
591-78-6	2-Hexanone	ND	0.200	--	ND	0.820	--	U
124-48-1	Dibromochloromethane	ND	0.200	--	ND	1.70	--	U
106-93-4	1,2-Dibromoethane	ND	0.200	--	ND	1.54	--	U
108-90-7	Chlorobenzene	ND	0.200	--	ND	0.921	--	U
100-41-4	Ethylbenzene	ND	0.200	--	ND	0.869	--	U
179601-23-1	p/m-Xylene	ND	0.400	--	ND	1.74	--	U
75-25-2	Bromoform	ND	0.200	--	ND	2.07	--	~~U~~ UJ
100-42-5	Styrene	ND	0.200	--	ND	0.852	--	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	U
95-47-6	o-Xylene	ND	0.200	--	ND	0.869	--	U
622-96-8	4-Ethyltoluene	ND	0.200	--	ND	0.983	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
95-63-6	1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
100-44-7	Benzyl chloride	ND	0.200	--	ND	1.04	--	~~U~~ UJ
541-73-1	1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U

for 12/13/22

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-09	Date Collected	: 11/16/22 14:11
Client ID	: IA-463	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 20:18
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535863	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
106-46-7	1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--	U → UJ
87-68-3	Hexachlorobutadiene	ND	0.200	--	ND	2.13	--	U

JG 1/24/2023

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-09D	Date Collected	: 11/16/22 14:11
Client ID	: IA-463	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/04/22 06:33
Sample Matrix	: AIR	Dilution Factor	: 2
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535877	Instrument ID	: AIRLAB15
Sample Amount	: 125 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
64-17-5	Ethanol	736	10.0	--	1390	18.8	--	D

for 1/23/2023

Results Summary
Form 1
Volatile Organics in Air by SIM

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-09	Date Collected	: 11/16/22 14:11
Client ID	: IA-463	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 20:18
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15-SIM	Analyst	: TJS
Lab File ID	: R1535863_EV2	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-01-4	Vinyl chloride	ND	0.020	--	ND	0.051	--	U
75-35-4	1,1-Dichloroethene	ND	0.020	--	ND	0.079	--	U
156-59-2	cis-1,2-Dichloroethene	0.422	0.020	--	1.67	0.079	--	
71-55-6	1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--	U
56-23-5	Carbon tetrachloride	0.072	0.020	--	0.453	0.126	--	
79-01-6	Trichloroethene	0.791	0.020	--	4.25	0.107	--	
127-18-4	Tetrachloroethene	17.5	0.020	--	119	0.136	--	

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-10	Date Collected	: 11/16/22 14:16
Client ID	: IA-465	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 20:58
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535864	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	2.06	0.200	--	10.2	0.989	--	
74-87-3	Chloromethane	0.661	0.200	--	1.36	0.413	--	
76-14-2	Freon-114	ND	0.200	--	ND	1.40	--	U
106-99-0	1,3-Butadiene	ND	0.200	--	ND	0.442	--	U
74-83-9	Bromomethane	ND	0.200	--	ND	0.777	--	U
75-00-3	Chloroethane	ND	0.200	--	ND	0.528	--	U
64-17-5	Ethanol	1040	5.00	--	1960	9.42	--	E
593-60-2	Vinyl bromide	ND	0.200	--	ND	0.874	--	U
67-64-1	Acetone	10.5	1.00	--	24.9	2.38	--	
75-69-4	Trichlorofluoromethane	0.442	0.200	--	2.48	1.12	--	
67-63-0	Isopropanol	61.3	0.500	--	151	1.23	--	
75-65-0	Tertiary butyl Alcohol	1.20	0.500	--	3.64	1.52	--	
75-09-2	Methylene chloride	ND	0.500	--	ND	1.74	--	U
107-05-1	3-Chloropropene	ND	0.200	--	ND	0.626	--	U
75-15-0	Carbon disulfide	ND	0.200	--	ND	0.623	--	U
76-13-1	Freon-113	ND	0.200	--	ND	1.53	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-34-3	1,1-Dichloroethane	ND	0.200	--	ND	0.809	--	U
1634-04-4	Methyl tert butyl ether	ND	0.200	--	ND	0.721	--	U
78-93-3	2-Butanone	ND	0.500	--	ND	1.47	--	U
141-78-6	Ethyl Acetate	0.629	0.500	--	2.27	1.80	--	
67-66-3	Chloroform	ND	0.200	--	ND	0.977	--	U
109-99-9	Tetrahydrofuran	ND	0.500	--	ND	1.47	--	U
107-06-2	1,2-Dichloroethane	ND	0.200	--	ND	0.809	--	U
110-54-3	n-Hexane	0.235	0.200	--	0.828	0.705	--	
71-43-2	Benzene	0.362	0.200	--	1.16	0.639	--	

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12/23/2022

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-10	Date Collected	: 11/16/22 14:16
Client ID	: IA-465	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 20:58
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535864	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
110-82-7	Cyclohexane	ND	0.200	--	ND	0.688	--	U
78-87-5	1,2-Dichloropropane	ND	0.200	--	ND	0.924	--	U
75-27-4	Bromodichloromethane	ND	0.200	--	ND	1.34	--	U
123-91-1	1,4-Dioxane	ND	0.200	--	ND	0.721	--	U
540-84-1	2,2,4-Trimethylpentane	0.206	0.200	--	0.962	0.934	--	
142-82-5	Heptane	0.660	0.200	--	2.70	0.820	--	
10061-01-5	cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
108-10-1	4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--	U
108-88-3	Toluene	1.32	0.200	--	4.97	0.754	--	
591-78-6	2-Hexanone	ND	0.200	--	ND	0.820	--	U
124-48-1	Dibromochloromethane	ND	0.200	--	ND	1.70	--	U
106-93-4	1,2-Dibromoethane	ND	0.200	--	ND	1.54	--	U
108-90-7	Chlorobenzene	ND	0.200	--	ND	0.921	--	U
100-41-4	Ethylbenzene	ND	0.200	--	ND	0.869	--	U
179601-23-1	p/m-Xylene	ND	0.400	--	ND	1.74	--	U
75-25-2	Bromoform	ND	0.200	--	ND	2.07	--	U UJ
100-42-5	Styrene	0.258	0.200	--	1.10	0.852	--	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	U
95-47-6	o-Xylene	ND	0.200	--	ND	0.869	--	U
622-96-8	4-Ethyltoluene	ND	0.200	--	ND	0.983	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
95-63-6	1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
100-44-7	Benzyl chloride	ND	0.200	--	ND	1.04	--	U UJ
541-73-1	1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U

jor 1/24/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-10	Date Collected	: 11/16/22 14:16
Client ID	: IA-465	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 20:58
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535864	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
106-46-7	1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--	U - UJ
87-68-3	Hexachlorobutadiene	ND	0.200	--	ND	2.13	--	U

JO 11/24/2023

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Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-10D	Date Collected	: 11/16/22 14:16
Client ID	: IA-465	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/04/22 07:10
Sample Matrix	: AIR	Dilution Factor	: 2.5
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535878	Instrument ID	: AIRLAB15
Sample Amount	: 100 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
64-17-5	Ethanol	1240	12.5	--	2340	23.6	--	D

for 11/23/2023

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Results Summary
Form 1
Volatile Organics in Air by SIM

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-10	Date Collected	: 11/16/22 14:16
Client ID	: IA-465	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 20:58
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15-SIM	Analyst	: TJS
Lab File ID	: R1535864_EV2	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-01-4	Vinyl chloride	ND	0.020	--	ND	0.051	--	U
75-35-4	1,1-Dichloroethene	ND	0.020	--	ND	0.079	--	U
156-59-2	cis-1,2-Dichloroethene	0.532	0.020	--	2.11	0.079	--	
71-55-6	1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--	U
56-23-5	Carbon tetrachloride	0.087	0.020	--	0.547	0.126	--	
79-01-6	Trichloroethene	1.50	0.020	--	8.06	0.107	--	
127-18-4	Tetrachloroethene	15.3	0.020	--	104	0.136	--	

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-11	Date Collected	: 11/16/22 14:25
Client ID	: IA-467	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 22:19
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535866	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	1.38	0.200	--	6.82	0.989	--	
74-87-3	Chloromethane	0.613	0.200	--	1.27	0.413	--	
76-14-2	Freon-114	ND	0.200	--	ND	1.40	--	U
106-99-0	1,3-Butadiene	ND	0.200	--	ND	0.442	--	U
74-83-9	Bromomethane	ND	0.200	--	ND	0.777	--	U
75-00-3	Chloroethane	ND	0.200	--	ND	0.528	--	U
64-17-5	Ethanol	841	5.00	--	1580	9.42	--	E R
593-60-2	Vinyl bromide	ND	0.200	--	ND	0.874	--	U
67-64-1	Acetone	7.67	1.00	--	18.2	2.38	--	
75-69-4	Trichlorofluoromethane	0.327	0.200	--	1.84	1.12	--	
67-63-0	Isopropanol	257	0.500	--	632	1.23	--	E R
75-65-0	Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--	U
75-09-2	Methylene chloride	ND	0.500	--	ND	1.74	--	U
107-05-1	3-Chloropropene	ND	0.200	--	ND	0.626	--	U
75-15-0	Carbon disulfide	ND	0.200	--	ND	0.623	--	U
76-13-1	Freon-113	ND	0.200	--	ND	1.53	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-34-3	1,1-Dichloroethane	ND	0.200	--	ND	0.809	--	U
1634-04-4	Methyl tert butyl ether	ND	0.200	--	ND	0.721	--	U
78-93-3	2-Butanone	ND	0.500	--	ND	1.47	--	U
141-78-6	Ethyl Acetate	0.585	0.500	--	2.11	1.80	--	
67-66-3	Chloroform	ND	0.200	--	ND	0.977	--	U
109-99-9	Tetrahydrofuran	ND	0.500	--	ND	1.47	--	U
107-06-2	1,2-Dichloroethane	ND	0.200	--	ND	0.809	--	U
110-54-3	n-Hexane	ND	0.200	--	ND	0.705	--	U
71-43-2	Benzene	0.268	0.200	--	0.856	0.639	--	

JAS 1/23/2023

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-11	Date Collected	: 11/16/22 14:25
Client ID	: IA-467	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 22:19
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535866	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
110-82-7	Cyclohexane	ND	0.200	--	ND	0.688	--	U
78-87-5	1,2-Dichloropropane	ND	0.200	--	ND	0.924	--	U
75-27-4	Bromodichloromethane	ND	0.200	--	ND	1.34	--	U
123-91-1	1,4-Dioxane	ND	0.200	--	ND	0.721	--	U
540-84-1	2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--	U
142-82-5	Heptane	ND	0.200	--	ND	0.820	--	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
108-10-1	4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--	U
108-88-3	Toluene	0.450	0.200	--	1.70	0.754	--	
591-78-6	2-Hexanone	ND	0.200	--	ND	0.820	--	U
124-48-1	Dibromochloromethane	ND	0.200	--	ND	1.70	--	U
106-93-4	1,2-Dibromoethane	ND	0.200	--	ND	1.54	--	U
108-90-7	Chlorobenzene	ND	0.200	--	ND	0.921	--	U
100-41-4	Ethylbenzene	ND	0.200	--	ND	0.869	--	U
179601-23-1	p/m-Xylene	ND	0.400	--	ND	1.74	--	U
75-25-2	Bromoform	ND	0.200	--	ND	2.07	--	U UJ
100-42-5	Styrene	ND	0.200	--	ND	0.852	--	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	U
95-47-6	o-Xylene	ND	0.200	--	ND	0.869	--	U
622-96-8	4-Ethyltoluene	ND	0.200	--	ND	0.983	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
95-63-6	1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
100-44-7	Benzyl chloride	ND	0.200	--	ND	1.04	--	U UJ
541-73-1	1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U

for 12/4/2023

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-11	Date Collected	: 11/16/22 14:25
Client ID	: IA-467	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 22:19
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535866	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
106-46-7	1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--	~~U~~ UJ
87-68-3	Hexachlorobutadiene	ND	0.200	--	ND	2.13	--	U

for 1/24/2023

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-11D	Date Collected	: 11/16/22 14:25
Client ID	: IA-467	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/04/22 08:26
Sample Matrix	: AIR	Dilution Factor	: 2
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535880	Instrument ID	: AIRLAB15
Sample Amount	: 125 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
64-17-5	Ethanol	956	10.0	--	1800	18.8	--	D
67-63-0	Isopropanol	267	1.00	--	656	2.46	--	D

JGP 1/23/2023

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics in Air by SIM

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-11	Date Collected	: 11/16/22 14:25
Client ID	: IA-467	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 22:19
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15-SIM	Analyst	: TJS
Lab File ID	: R1535866_EV2	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-01-4	Vinyl chloride	ND	0.020	--	ND	0.051	--	U
75-35-4	1,1-Dichloroethene	ND	0.020	--	ND	0.079	--	U
156-59-2	cis-1,2-Dichloroethene	0.068	0.020	--	0.270	0.079	--	
71-55-6	1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--	U
56-23-5	Carbon tetrachloride	0.091	0.020	--	0.572	0.126	--	
79-01-6	Trichloroethene	0.177	0.020	--	0.951	0.107	--	
127-18-4	Tetrachloroethene	1.78	0.020	--	12.1	0.136	--	

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	**Lab Number**	: L2264810
Project Name	: FOREST AVE	**Project Number**	:
Lab ID	: L2264810-12	**Date Collected**	: 11/16/22 15:46
Client ID	: OA-1	**Date Received**	: 11/17/22
Sample Location	:	**Date Analyzed**	: 12/03/22 18:58
Sample Matrix	: AIR	**Dilution Factor**	: 1
Analytical Method	: 48,TO-15	**Analyst**	: TJS
Lab File ID	: R1535861	**Instrument ID**	: AIRLAB15
Sample Amount	: 250 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	0.516	0.200	--	2.55	0.989	--	
74-87-3	Chloromethane	0.591	0.200	--	1.22	0.413	--	
76-14-2	Freon-114	ND	0.200	--	ND	1.40	--	U
106-99-0	1,3-Butadiene	ND	0.200	--	ND	0.442	--	U
74-83-9	Bromomethane	ND	0.200	--	ND	0.777	--	U
75-00-3	Chloroethane	ND	0.200	--	ND	0.528	--	U
64-17-5	Ethanol	7.95	5.00	--	15.0	9.42	--	
593-60-2	Vinyl bromide	ND	0.200	--	ND	0.874	--	U
67-64-1	Acetone	1.98	1.00	--	4.70	2.38	--	
75-69-4	Trichlorofluoromethane	0.218	0.200	--	1.23	1.12	--	
67-63-0	Isopropanol	0.625	0.500	--	1.54	1.23	--	
75-65-0	Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--	U
75-09-2	Methylene chloride	ND	0.500	--	ND	1.74	--	U
107-05-1	3-Chloropropene	ND	0.200	--	ND	0.626	--	U
75-15-0	Carbon disulfide	ND	0.200	--	ND	0.623	--	U
76-13-1	Freon-113	ND	0.200	--	ND	1.53	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-34-3	1,1-Dichloroethane	ND	0.200	--	ND	0.809	--	U
1634-04-4	Methyl tert butyl ether	ND	0.200	--	ND	0.721	--	U
78-93-3	2-Butanone	ND	0.500	--	ND	1.47	--	U
141-78-6	Ethyl Acetate	ND	0.500	--	ND	1.80	--	U
67-66-3	Chloroform	ND	0.200	--	ND	0.977	--	U
109-99-9	Tetrahydrofuran	ND	0.500	--	ND	1.47	--	U
107-06-2	1,2-Dichloroethane	ND	0.200	--	ND	0.809	--	U
110-54-3	n-Hexane	ND	0.200	--	ND	0.705	--	U
71-43-2	Benzene	0.206	0.200	--	0.658	0.639	--	

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-12	Date Collected	: 11/16/22 15:46
Client ID	: OA-1	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 18:58
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535861	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
110-82-7	Cyclohexane	ND	0.200	--	ND	0.688	--	U
78-87-5	1,2-Dichloropropane	ND	0.200	--	ND	0.924	--	U
75-27-4	Bromodichloromethane	ND	0.200	--	ND	1.34	--	U
123-91-1	1,4-Dioxane	ND	0.200	--	ND	0.721	--	U
540-84-1	2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--	U
142-82-5	Heptane	ND	0.200	--	ND	0.820	--	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
108-10-1	4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--	U
108-88-3	Toluene	0.309	0.200	--	1.16	0.754	--	
591-78-6	2-Hexanone	ND	0.200	--	ND	0.820	--	U
124-48-1	Dibromochloromethane	ND	0.200	--	ND	1.70	--	U
106-93-4	1,2-Dibromoethane	ND	0.200	--	ND	1.54	--	U
108-90-7	Chlorobenzene	ND	0.200	--	ND	0.921	--	U
100-41-4	Ethylbenzene	ND	0.200	--	ND	0.869	--	U
179601-23-1	p/m-Xylene	ND	0.400	--	ND	1.74	--	U
75-25-2	Bromoform	ND	0.200	--	ND	2.07	--	~~U~~ UJ
100-42-5	Styrene	ND	0.200	--	ND	0.852	--	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	U
95-47-6	o-Xylene	ND	0.200	--	ND	0.869	--	U
622-96-8	4-Ethyltoluene	ND	0.200	--	ND	0.983	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
95-63-6	1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
100-44-7	Benzyl chloride	ND	0.200	--	ND	1.04	--	~~U~~ UJ
541-73-1	1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U

for 1/24/2023

Results Summary
Form 1
Volatile Organics in Air

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-12	Date Collected	: 11/16/22 15:46
Client ID	: OA-1	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 18:58
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: TJS
Lab File ID	: R1535861	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
106-46-7	1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--	~~U~~ UJ
87-68-3	Hexachlorobutadiene	ND	0.200	--	ND	2.13	--	U

1/24/2023

Results Summary
Form 1
Volatile Organics in Air by SIM

Client	: CA Rich Consultants, Inc.	Lab Number	: L2264810
Project Name	: FOREST AVE	Project Number	:
Lab ID	: L2264810-12	Date Collected	: 11/16/22 15:46
Client ID	: OA-1	Date Received	: 11/17/22
Sample Location	:	Date Analyzed	: 12/03/22 18:58
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15-SIM	Analyst	: TJS
Lab File ID	: R1535861_EV2	Instrument ID	: AIRLAB15
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-01-4	Vinyl chloride	ND	0.020	--	ND	0.051	--	U
75-35-4	1,1-Dichloroethene	ND	0.020	--	ND	0.079	--	U
156-59-2	cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	U
71-55-6	1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--	U
56-23-5	Carbon tetrachloride	0.082	0.020	--	0.516	0.126	--	
79-01-6	Trichloroethene	ND	0.020	--	ND	0.107	--	U
127-18-4	Tetrachloroethene	0.053	0.020	--	0.359	0.136	--	

Table XX
Volatile Organic Compounds in Sub-Slab Vapor, Soil Vapor, Indoor Air, and Outdoor Air
464-467 Forest Avenue
Staten Island, NY

LOCATION SAMPLING DATE LOCATION	Units	SSV-461 11/16/2022 SUBSLAB		SSV-463 11/16/2022 SUBSLAB		SSV-464 11/16/2022 SUBSLAB		SSV-467 11/16/2022 SUBSLAB		SSV-XX 11/16/2022 SUBSLAB		NYSDOH Sub-Slab Vapor No Further Action Levels	NYSDOH Sub-Slab Vapor Mitigation Levels	IA-461 11/16/2022 INDOOR AIR		IA-463 11/16/2022 INDOOR AIR		IA-465 11/16/2022 INDOOR AIR		IA-467 11/16/2022 INDOOR AIR		NYSDOH Indoor Air No Further Action Levels	NYSDOH Indoor Air Mitigation Levels	SV-E 11/16/2022 SOIL VAPOR		SV-W 11/16/2022 SOIL VAPOR		OA-1 11/16/2022 OUTDOOR AIR	
		Results	Qual	Results	Qual	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	ug/m3	235	U	476	U	13.8		23.1	U	168	U	NVG	NVG	3.93		5.14		10.2		6.82		NVG	NVG	2.91		14		2.55	
Chloromethane	ug/m3	98.3	U	199	U	1.81	U	9.66	U	70.2	U	NVG	NVG	1.24		1.29		1.36		1.27		NVG	NVG	1.25		1.07		1.22	
Freon-114	ug/m3	333	U	672	U	6.14	U	32.7	U	238	U	NVG	NVG	1.4	U	1.4	U	1.4	U	1.4	U	NVG	NVG	1.4	U	3.89	U	1.4	U
Vinyl chloride[2]	ug/m3	122	U	248	U	2.24	U	12	U	86.9	U	<6	>80	0.051	U	0.051	U	0.051	U	0.051	U	<0.2	>0.2	0.511	U	1.33		0.051	U
1,3-Butadiene	ug/m3	105	U	213	U	1.94	U	10.4	U	75.2	U	NVG	NVG	0.442	U	0.442	U	0.442	U	0.442	U	NVG	NVG	0.442	U	5.71		0.442	U
Bromomethane	ug/m3	185	U	374	U	3.41	U	18.2	U	132	U	NVG	NVG	0.777	U	0.777	U	0.777	U	0.777	U	NVG	NVG	0.777	U	1.83	U	0.777	U
Chloroethane	ug/m3	126	U	254	U	2.32	U	12.3	U	89.7	U	NVG	NVG	0.528	U	0.528	U	0.528	U	0.528	U	NVG	NVG	0.528	U	1.24	U	0.528	U
Ethanol	ug/m3	2240	U	4520	U	524		347		1600	U	NVG	NVG	503		1390		2340		1800		NVG	NVG	200		66.3		15	
Vinyl bromide	ug/m3	208	U	421	U	3.84	U	20.5	U	149	U	NVG	NVG	0.874	U	0.874	U	0.874	U	0.874	U	NVG	NVG	0.874	U	2.06	U	0.874	U
Acetone	ug/m3	565	U	1140	U	40.1		57		404	U	NVG	NVG	13		17.3		24.9		18.2		NVG	NVG	46.1		701		4.7	
Trichlorofluoromethane	ug/m3	267	U	541	U	4.93	U	26.3	U	191	U	NVG	NVG	1.67		4.52		2.48		1.84		NVG	NVG	1.4		11.1		1.23	
Isopropanol	ug/m3	293	U	590	U	111		162		209	U	NVG	NVG	92.2		54.1		151		656		NVG	NVG	21.9		135		1.54	
1,1-Dichloroethene[2]	ug/m3	189	U	381	U	3.48	U	18.8	U	135	U	<6	>80	0.079	U	0.079	U	0.079	U	0.079	U	<0.2	>1	0.793	U	1.87	U	0.079	U
Tertiary butyl Alcohol	ug/m3	361	U	726	U	6.64	U	35.5	U	258	U	NVG	NVG	1.52	U	1.52	U	3.64		1.52	U	NVG	NVG	1.52	U	37.3		1.52	U
Methylene chloride[3]	ug/m3	413	U	834	U	7.61	U	40.8	U	295	U	<100	>1,000	2.03		1.74	U	1.74	U	1.74	U	<3	>10	2		17.4		1.74	U
3-Chloropropene	ug/m3	149	U	301	U	2.75	U	14.6	U	106	U	NVG	NVG	0.626	U	0.626	U	0.626	U	0.626	U	NVG	NVG	0.626	U	1.47	U	0.626	U
Carbon disulfide	ug/m3	148	U	300	U	2.73	U	14.6	U	106	U	NVG	NVG	0.623	U	0.623	U	0.623	U	0.623	U	NVG	NVG	0.76		55.1		0.623	U
Freon-113	ug/m3	365	U	737	U	6.73	U	35.9	U	261	U	NVG	NVG	1.53	U	1.53	U	1.53	U	1.53	U	NVG	NVG	1.53	U	3.61	U	1.53	U
trans-1,2-Dichloroethene	ug/m3	320		1110		5.55		18.6	U	251		NVG	NVG	0.793	U	0.793	U	0.793	U	0.793	U	NVG	NVG	0.793	U	9.95		0.793	U
1,1-Dichloroethane	ug/m3	193	U	389	U	3.55	U	18.9	U	138	U	NVG	NVG	0.809	U	0.809	U	0.809	U	0.809	U	NVG	NVG	0.809	U	1.91	U	0.809	U
Methyl tert butyl ether	ug/m3	172	U	347	U	3.17	U	16.9	U	123	U	NVG	NVG	0.721	U	0.721	U	0.721	U	0.721	U	NVG	NVG	0.721	U	1.7	U	0.721	U
2-Butanone	ug/m3	351	U	708	U	6.25	U	34.5	U	251	U	NVG	NVG	2.93		1.47	U	1.47	U	1.47	U	NVG	NVG	9.44		82		1.47	U
cis-1,2-Dichloroethene[2]	ug/m3	4580		16300		88.8		78.8		3540		<6	>80	0.163		1.87		2.11		0.22		<0.2	>1	1.31		179		0.079	U
Ethyl Acetate	ug/m3	428	U	885	U	7.89	U	42.2	U	306	U	NVG	NVG	1.8	U	1.8	U	2.27		2.11		NVG	NVG	2.07		10.8		1.8	U
Chloroform	ug/m3	232	U	470	U	4.29	U	22.9	U	166	U	NVG	NVG	0.977	U	0.977	U	0.977	U	0.977	U	NVG	NVG	0.977	U	10.8		0.977	U
Tetrahydrofuran	ug/m3	351	U	708	U	14.7		34.5	U	251	U	NVG	NVG	3.36		1.47	U	1.47	U	1.47	U	NVG	NVG	13.3		35.1		1.47	U
1,2-Dichloroethane	ug/m3	193	U	389	U	3.55	U	18.9	U	138	U	NVG	NVG	0.809	U	0.809	U	0.809	U	0.809	U	NVG	NVG	0.809	U	1.91	U	0.809	U
n-Hexane	ug/m3	168	U	339	U	3.09	U	16.5	U	120	U	NVG	NVG	3.69		0.705	U	0.828		0.705	U	NVG	NVG	9.97		55.7		0.705	U
1,1,1-Trichloroethane[3]	ug/m3	280	U	525	U	4.79	U	25.5	U	186	U	<100	>1,000	0.336		0.109	U	0.109	U	0.109	U	<3	>10	1.09	U	2.57	U	0.109	U
Benzene	ug/m3	152		307	U	18.3		25.1		109	U	NVG	NVG	1.84		0.955		1.16		0.856		NVG	NVG	9.07		57.2		0.658	
Carbon tetrachloride[3]	ug/m3	299	U	605	U	5.52	U	29.4	U	214	U	<6	>80	0.447		0.453		0.547		0.572		<3	>10	1.26	U	2.96	U	0.516	
Cyclohexane	ug/m3	164	U	331	U	3.02	U	16.1	U	117	U	NVG	NVG	1.21		0.688	U	0.688	U	0.688	U	NVG	NVG	3.96		12.4		0.688	U
1,2-Dichloropropane	ug/m3	220	U	445	U	4.06	U	21.6	U	157	U	NVG	NVG	0.924	U	0.924	U	0.924	U	0.924	U	NVG	NVG	0.924	U	2.18	U	0.924	U
Bromodichloromethane	ug/m3	319	U	644	U	5.88	U	31.4	U	228	U	NVG	NVG	1.34	U	1.34	U	1.34	U	1.34	U	NVG	NVG	1.34	U	3.16	U	1.34	U
1,4-Dioxane	ug/m3	172	U	347	U	3.16	U	16.9	U	123	U	NVG	NVG	0.721	U	0.721	U	0.721	U	0.721	U	NVG	NVG	0.721	U	1.7	U	0.721	U
Trichloroethene[3]	ug/m3	6770		15400		124		263		6180		<6	>80	1.15		4.26		9.04		0.951		<0.2	>1	1.07	U	130		0.107	U
2,2,4-Trimethylpentane	ug/m3	222	U	449	U	4.1	U	21.9	U	159	U	NVG	NVG	2.48		0.934	U	0.962		0.934	U	NVG	NVG	6.82		15.2		0.934	U
Heptane	ug/m3	195	U	394	U	3.6	U	19.2	U	139	U	NVG	NVG	1.64		0.82	U	2.7		0.82	U	NVG	NVG	5.57		40.2		0.82	U
cis-1,3-Dichloropropene	ug/m3	216	U	437	U	3.99	U	21.2	U	154	U	NVG	NVG	0.908	U	0.908	U	0.908	U	0.908	U	NVG	NVG	0.908	U	2.14	U	0.908	U
4-Methyl-2-pentanone	ug/m3	488	U	984	U	8.97	U	47.9	U	348	U	NVG	NVG	2.05	U	2.05	U	2.05	U	2.05	U	NVG	NVG	2.92		6.31		2.05	U
trans-1,3-Dichloropropene	ug/m3	216	U	437	U	3.99	U	21.2	U	154	U	NVG	NVG	0.908	U	0.908	U	0.908	U	0.908	U	NVG	NVG	0.908	U	2.14	U	0.908	U
1,1,2-Trichloroethane	ug/m3	260	U	525	U	4.79	U	25.5	U	186	U	NVG	NVG	1.09	U	1.09	U	1.09	U	1.09	U	NVG	NVG	1.09	U	2.57	U	1.09	U
Toluene	ug/m3	179	U	363	U	117		155		135		NVG	NVG	10.7		2.11		4.97		1.7		NVG	NVG	40.3		265		1.16	
2-Hexanone	ug/m3	195	U	394	U	3.6	U	19.2	U	139	U	NVG	NVG	0.82	U	0.82	U	0.82	U	0.82	U	NVG	NVG	0.82	U	3.94		0.82	U
Dibromochloromethane	ug/m3	406	U	820	U	7.48	U	39.9	U	290	U	NVG	NVG	1.7	U	1.7	U	1.7	U	1.7	U	NVG	NVG	1.7	U	4.01	U	1.7	U
1,2-Dibromoethane	ug/m3	363	U	739	U	6.75	U	36	U	261	U	NVG	NVG	1.54	U	1.54	U	1.54	U	1.54	U	NVG	NVG	1.54	U	3.62	U	1.54	U
Tetrachloroethene[3]	ug/m3	147000		372000		2640		11600		128000		<100	>1,000	165		4.16		104		12.1		<3	>10	8.11		525		0.359	
Chlorobenzene	ug/m3	312	U	443	U	9.03		27.6	U	157	U	NVG	NVG	0.921	U	0.921	U	0.921	U	0.921	U	NVG	NVG	0.921	U	12.4		0.921	U
Ethylbenzene	ug/m3	207	U	418	U	4.91		20.3	U	148	U	NVG	NVG	1.09		0.869	U	0.869	U	0.869	U	NVG	NVG	2.22		10.6		0.869	U
p,m-Xylene	ug/m3	414	U	834	U	21.4		40.7	U	295	U	NVG	NVG	3.62		1.74	U	1.74	U	1.74	U	NVG	NVG	7.56		31.1		1.74	U
Bromoform	ug/m3	492	U	995	U	9.08	U	48.4	U	352	U	NVG	NVG	2.07	U	2.07	U	2.07	U	2.07	U	NVG	NVG	2.07	U	4.87	U	2.07	U
Styrene	ug/m3	203	U	410	U	3.74	U	19.9	U	145	U	NVG	NVG	0.852	U	0.852	U	1.1		0.852	U	NVG	NVG	0.852	U	2.01	U	0.852	U
1,1,2,2-Tetrachloroethane	ug/m3	327	U	661	U	6.03	U	32.1	U	233	U	NVG	NVG	1.37	U	1.37	U	1.37	U	1.37	U	NVG	NVG	1.37	U	3.23	U	1.37	U
o-Xylene	ug/m3	207	U	418	U	7.6		20.3	U	148	U	NVG	NVG	1.32		0.869	U	0.869	U	0.869	U	NVG	NVG	2.65		8.95		0.869	U
4-Ethyltoluene	ug/m3	234	U	473	U	4.32	U	23	U	167	U	NVG	NVG	0.983	U	0.983	U	0.983	U	0.983	U	NVG	NVG	0.983	U	2.32	U	0.983	U
1,3,5-Trimethylbenzene	ug/m3	234	U	473	U	4.32	U	23	U	167	U	NVG	NVG	0.983	U	0.983	U	0.983	U	0.983	U	NVG	NVG	0.983	U	2.32	U	0.983	U
1,2,4-Trimethylbenzene	ug/m3	234	U	473	U	9.09		23	U	167	U	NVG	NVG	1.44		0.983	U	0.983	U	0.983	U	NVG	NVG	2.47		2.32	U	0.983	U
Benzyl chloride	ug/m3	246	U	498	U	4.55	U	24.2	U	176	U	NVG	NVG	1.04	U	1.04	U	1.04	U	1.04	U	NVG	NVG	1.04	U	2.44	U	1.04	U
1,3-Dichlorobenzene	ug/m3	286	U	578	U	5.28	U	28.1	U	204	U	NVG	NVG	1.2	U	1.2	U	1.2	U	1.2	U	NVG	NVG	1.2	U	2.83	U	1.2	U
1,4-Dichlorobenzene	ug/m3	286	U	578	U	5.28	U	28.1	U	204	U	NVG	NVG	1.2	U	1.2	U	1.2	U	1.2	U	NVG	NVG	1.2	U	2.83	U	1.2	U
1,2-Dichlorobenzene	ug/m3	286	U	578	U	5.28	U	28.1	U	204	U	NVG	NVG	1.2	U	1.2	U	1.2	U	1.2	U	NVG	NVG	1.2	U	2.83	U	1.2	U
1,2,4-Trichlorobenzene	ug/m3	353	U	714	U	6.52	U	34.7	U	252	U	NVG	NVG	1.48	U	1.48	U	1.48	U	1.48	U	NVG	NVG	1.48	U	3.5	U	1.48	U
Hexachlorobutadiene	ug/m3	509	U	1030	U	9.37	U	49.9	U	363	U	NVG	NVG	2.13	U	2.13	U	2.13	U	2.13	U	NVG	NVG	2.13	U	5.02	U	2.13	U

Abbreviation:
NVG = No Value Given by NYSDOH
U = Not Detected
ug/m³ = micrograms per cubicmeter

SSV-XX is a duplicate of SSV-461

Bold and Boxed indicates elevated levels requiring mitigation

Notes:
Highlighted rows are the 8 compounds that currently have NYSDOH guidance values
Air samples collected over a period of 8 hours on November 16, 2022

[1] - Matrix A compounds. According to NYSDOH, concentrations for indoor air below 0.20 ug/m³ require 'No Further Action' and
Concentrations above 1.0 ug/m³ require 'Identify Source(s) and Resample or Mitigate';
Concentrations for sub-slab vapor below 6.0 ug/m³ require 'No Further Action' and concentrations above 60 ug/m³ require 'Mitigation'
[2] - Matrix B compounds. According to NYSDOH, concentrations for indoor air below 3.0 ug/m³ require 'No Further Action' and
Concentrations above 10 ug/m³ require 'Identify Source(s) and Resample or Mitigate'
Concentrations for sub-slab vapor below 100 ug/m³ require 'no Further Action' and concentrations above 1000 ug/m³ require 'Mitigation'
[3] - Matrix C compound. According to NYSDOH, concentration for indoor air below 0.25 ug/m3 require 'No Further Action and
Concentrations above 0.2 ug/m3 require 'Identify Source(s) and Resample or Mitigate'
Concentrations for sub-slab vapor below 6.0 ug/m³ require 'No Further Action' and concentrations above 60 ug/m³ require 'Mitigation'

APPENDIX E
NYSDOH IAQ Building Inventory Form

NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing.

Preparer's Name Thomas Bawn Date/Time Prepared _____

Preparer's Affiliation _____ Phone No._____

Purpose of Investigation_____

1. OCCUPANT:

Interviewed: Y / (N)

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

Number of Occupants/persons at this location _____ Age of Occupants _____

2. OWNER OR LANDLORD: (Check if same as occupant ___)

Interviewed: Y (N)

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential	School	(Commercial/Multi-use)
Industrial	Church	Other: _____

If the property is residential, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other:_____

If multiple units, how many? 4

If the property is commercial, type?

Business Type(s) Liquor Store, Stationary/Card Store, Bagel Deli, Dry Cleaner

Does it include residences (i.e., multi-use)? Y / (N) If yes, how many? _____

Other characteristics:

Number of floors 1 Building age _____

Is the building insulated? (Y) / N How air tight? Tight / (Average) / Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors

Only 1 Floor

Airflow near source

Outdoor air infiltration

Infiltration into air ducts

5. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply)

a. Above grade construction:	wood frame	(concrete)	stone	brick
b. Basement type: no basement	full	crawlspace	slab	other _____
c. Basement floor: no basement	concrete	dirt	stone	other _____
d. Basement floor: no basement	uncovered	covered	covered with _____	
e. Concrete floor:	(unsealed)	sealed	sealed with _____	
f. Foundation walls:	poured	(block)	stone	other _____
g. Foundation walls:	unsealed	(sealed)	sealed with _____	
h. The basement is: no basement	wet	damp	dry	moldy
i. The basement is: no basement	finished	unfinished	partially finished	
j. Sump present?	Y (N)			
k. Water in sump?	Y / N (not applicable)			

Basement/Lowest level depth below grade: (0) (feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

Cracks in floors

6. HEATING, VENTING and AIR CONDITIONING (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

(Hot air circulation)	Heat pump	Hot water baseboard	
(Space Heaters)	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other _____

The primary type of fuel used is:

(Natural Gas)	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: _____

Boiler/furnace located in:	Basement	Outdoors	(Main Floor)	Other_____
Air conditioning:	Central Air	Window units	Open Windows	None

Are there air distribution ducts present? Y / N

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

7. OCCUPANCY

Is basement/lowest level occupied? Full-time (Occasionally) Seldom Almost Never

Level	**General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)**
Basement	none
1st Floor	Commercial businesses
2nd Floor	none
3rd Floor	none
4th Floor	none

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage? Y / (N)

b. Does the garage have a separate heating unit? Y / N / (NA)

c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car) Y / N / (NA) Please specify_____

d. Has the building ever had a fire? Y / N When?_____

e. Is a kerosene or unvented gas space heater present? Y / N Where?_____

f. Is there a workshop or hobby/craft area? Y / (N) Where & Type? _____

g. Is there smoking in the building? Y / (N) How frequently? _____

h. Have cleaning products been used recently? Y / N When & Type? _____

i. Have cosmetic products been used recently? Y / N When & Type? _____

j. Has painting/staining been done in the last 6 months? Y (N) Where & When? _____

k. Is there new carpet, drapes or other textiles? Y (N) Where & When? _____

l. Have air fresheners been used recently? Y / N When & Type? _____

m. Is there a kitchen exhaust fan? Y / N If yes, where vented? _____

n. Is there a bathroom exhaust fan? (Y) / N If yes, where vented? _____

o. Is there a clothes dryer? (Y) / N If yes, is it vented outside? Y / N

p. Has there been a pesticide application? Y / (N) When & Type? _____

Are there odors in the building? Y (N)
If yes, please describe: _____ _____ _____

Do any of the building occupants use solvents at work? (Y) / N
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? Dry Cleaning Chemicals

If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly)	No
Yes, use dry-cleaning infrequently (monthly or less)	Unknown
Yes, work at a dry-cleaning service	

Is there a radon mitigation system for the building/structure? Y / N Date of Installation: _____
Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

Water Supply:	Public Water	Drilled Well	Driven Well	Dug Well	Other: _____
Sewage Disposal:	Public Sewer	Septic Tank	Leach Field	Dry Well	Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: _____

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel

c. Responsibility for costs associated with reimbursement explained? Y / N

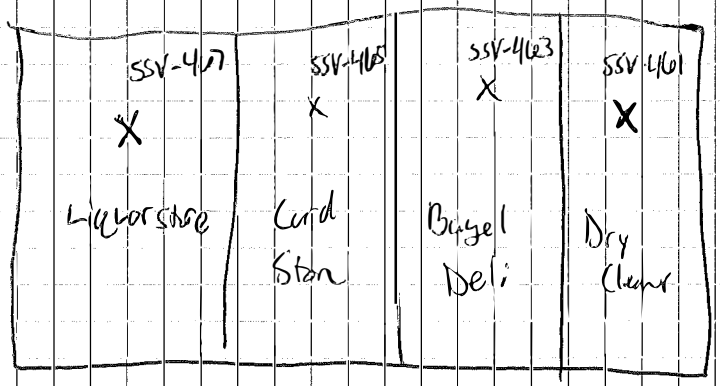
d. Relocation package provided and explained to residents? Y / N

11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement: No basement

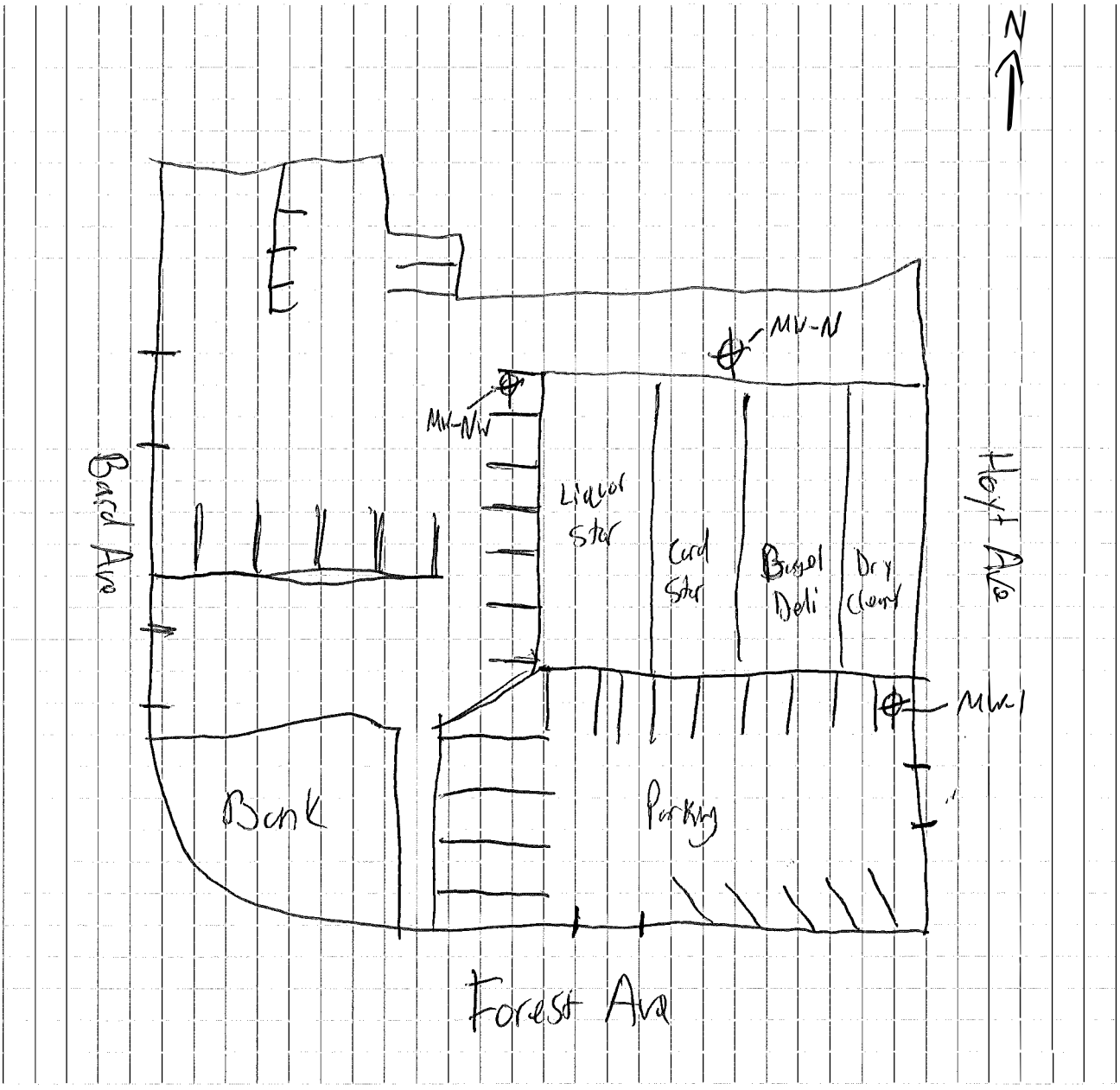
First Floor:



12. OUTDOOR PLOT

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: _____

List specific products found in the residence that have the potential to affect indoor air quality.

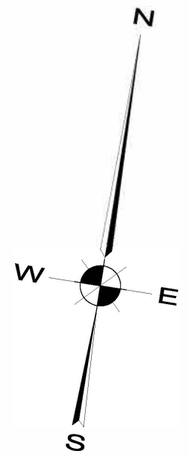
Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo ** Y / N
	Lysol		U			N
	Pinesol		U			N
	Bleach		U			N

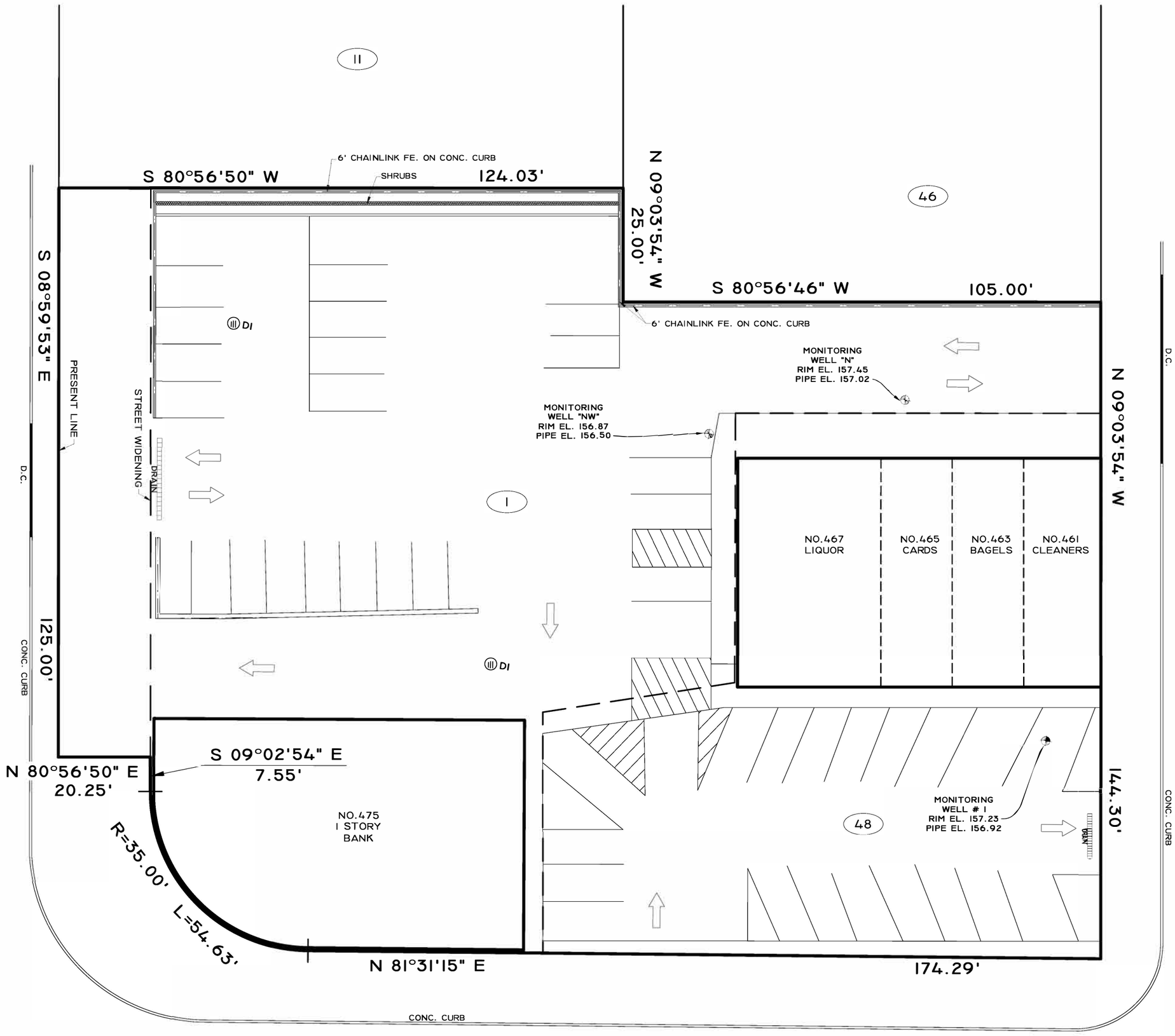
* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

APPENDIX F
Site Survey

LEGEND

ELECTRIC LINE	E
GAS MAIN	G
OVERHEAD WIRES	OH
STORM DRAIN	DR
SANITARY SEWER LINE	S
WATER MAIN	W
CHAIN LINK FENCE	
METAL FENCE	
PVC FENCE	
STOCKADE FENCE	
WIRE FENCE	
WOOD FENCE	





MW-1	MAR-23
RIM EL.	157.23
TOP OF PVC PIPE	156.92

N: 169148.516
E: 955135.498

MW-NW	MAR-23
RIM EL.	156.87
TOP OF PVC PIPE	156.50

N: 169203.485
E: 955051.803

MW-N	MAR-23
RIM EL.	157.45
TOP OF PVC PIPE	157.02

N: 169217.584
E: 955093.17

NOTES:

HORIZONTAL DATUM IS NORTH AMERICAN DATUM OF 1983 (NAD 83 NEW YORK STATE PLANE COORDINATES LONG ISLAND ZONE 3104)
VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
US SURVEY FEET

NOTE: NOT RESPONSIBLE FOR EASEMENTS AND SUB SURFACE CONDITIONS OTHER THAN SHOWN

MONITORING WELL LOCATION SURVEY

© 2018 FERRANTELLO COPYRIGHTED

ONLY A LICENSED LAND SURVEYOR CAN ESTABLISH BOUNDARY/PROPERTY LINES/CORNERS. CALL US FOR A STAKE OUT. STAKE YOUR CLAIM!

MONUMENTS HAVE NOT BEEN SET UNLESS REQUESTED.

THIS SURVEY WAS PREPARED FOR THE PARTIES AND PURPOSE INDICATED HEREON. ANY EXTENSION OF THE USE BEYOND THE PURPOSE AGREED TO BETWEEN THE CLIENT AND THE SURVEYOR EXCEEDS THE SCOPE OF THE ENGAGEMENT.

IT IS HEREBY CERTIFIED THAT THIS SURVEY WAS PREPARED IN ACCORDANCE WITH THE CODE OF PRACTICE AND MINIMUM STANDARDS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS

MEMBER OF THE NEW YORK STATE LAND TITLE ASSOCIATION
MEMBER OF THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS
MEMBER OF THE NATIONAL SOCIETY OF PROFESSIONAL SURVEYORS
MEMBER OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS

STATE OF NEW YORK
FRANK S. FERRANTELLO
LICENSED PROFESSIONAL SURVEYOR
Lic.# 50703

seal here

No.	REVISION DESCRIPTION	DATE	REV.BY	CHK.BY
6				
5				
4				
3				
2				
1	-	-	-	-

SITE DATA:

MAP OF: DESCRIPTIVE PROPERTY

LOCATED AT: BOROUGH OF STATEN ISLAND
RICHMOND COUNTY, CITY AND STATE OF NEW YORK

TAX MAP ID: BLOCK 136, LOTS 1 & 48

FERRANTELLO LAND SURVEYING P.C.
NEW YORK STATE LICENSED LAND SURVEYORS
SITE PLANNING & SUBDIVISION CONSULTANTS
BUILDING & CONSTRUCTION LAYOUT PROFESSIONALS
12 WEST MALL
PLAINVIEW, NY 11803
PHONE 516-248-2766
WEBSITE : WWW.FGROUPPC.COM
EMAIL: INFO@FGROUPPC.COM
FAX 516-294-8570

SCALE:	DATE:	DATUM:	SURVEYED BY:	DRAFTED BY:	CHECKED BY:	SHEET:
1" = 20'	3/28/2023	SEE NOTE	SJG	SAM/AL	JC	1 OF 1

F:\N.Y. CITY\STATEN ISLAND\SI-136_48\DWG\SURVEY\SI-136_48 MONITORING WELLS.DWG 9/7/2018 1:34 PM

APPENDIX G

Comment Letter

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 2
47-40 21st Street, Long Island City, NY 11101
P: (718) 482-4995
www.dec.ny.gov

January 29, 2024

Theresa Shaughnessy
467 Forest Property Inc.
55 Flatbush Avenue
Brooklyn, NY 11217

Re: Former Drycleaner 469 Forest Ave
Site ID No. 243042
Site Characterization Investigation Report

Dear Theresa Shaughnessy,

The New York State Department of Environmental Conservation (NYSDEC), in consultation with the New York State Department of Health (NYSDOH), has reviewed the Site Characterization Investigation Report (SCIR), dated May 2023, for the above-referenced site, which was prepared by CA Rich Geology Services D.P.C. on behalf of 467 Forest Property, Inc. (the Remedial Party). The following comments must be adequately addressed in a revised SCIR.

NYSDEC Comments:

1. Section 4.1 – Per-and Polyfluoroalkyl Substances (PFAS) – Please report PFAS data in parts per trillion (ppt) or nanograms per liter (ng/L). Additionally, please use newly finalized Guidance Values for PFAS in groundwater which can be found at https://www.dec.ny.gov/chemical/23853.html#Standards_and_Criteria. The guidance values for PFAS should be updated throughout the document.

2. Section 4.2 – With the exception of PFAS, all other soil data exceedances should be reported in parts per million (ppm) or milligrams per kilogram (mg/kg). PFAS data should be compared to the Protection of Groundwater Guidance Values in NYSDEC's Sampling, Analysis and Assessment of Per- and Polyfluoroalkyl Substances guidance which can be found at https://dec.ny.gov/docs/remediation_hudson_pdf/pfassampanaly.pdf.

3. Figure – Soil Exceedance Map –The Protection of Groundwater Soil Cleanup Objectives (PGSCOs) are 1.3 ppm and 0.47 ppm for tetrachloroethene (PCE) and trichloroethene (TCE), respectively. Please revise figures to indicate VOC results in ppm or mg/kg, and PFAS results in ppb, or ug/kg to be consistent with standards and guidance.

4. Section 5.7 – Exposure Assessment Conclusions and Recommendations – The preceding Section 5.6 states, "There is an existing potential exposure pathway from soil gas emanating from VOCs entering adjoining buildings". As such, a vapor intrusion investigation of adjacent buildings is warranted.

5. Conclusions – The PCE and TCE contamination in soil, groundwater, soil vapor, and indoor air presented in the report support reclassifying the Site as a Class 2 Inactive Hazardous Waste Disposal Site, which will require a comprehensive on-site and off-site Remedial Investigation and remedial actions.

NYSDOH Comments:

6. Section 1.0, Introduction. The second to last paragraph should be revised to state more accurately that the site characterization "was designed to sample and test soils, groundwater, soil vapor, sub-slab vapor, and indoor air, and identify contaminant sources…"

7. Section 3.7, Chemical Inventory:
    - It states that "a screening of the building did not identify any areas where VOCs were above 0.0 ppm." Presumably, "screening" was performed with a photoionization detector (PID) which is not introduced until Section 4.2. Revise accordingly.
    - It concludes that "a completed NYSDOH indoor air quality questionnaire and building inventory form is included as Appendix E." Please note that the form is incomplete. One should have been filled out for each tenant space, particularly if each unit has a separate entrance and they share no common space.

8. Section 4.1, Groundwater, under PFAS. It states that "the October 2020 NYSDEC Sampling Analysis and Assessment of Per- and Polyfluoroalkyl Substances guidance values were used." From the SC work plan that was approved in June 2022 to the draft May 2023 SC report, the PFAS guidance most applicable to these dates would be the June 2021 version and not October 2020 (as referenced in the SC work plan). Please revise accordingly; see also Section 7.0.

9. Section 4.2, Soil, under VOCs. It concludes that "soil boring SB-461 did not exceed Protection of Groundwater standards." Per Figure 5, SB-467 had no exceedances; revise text.

10. Section 4.3, Soil Vapor:
    - The duplicate sub-slab vapor sample collected from SSV-461 (SV-XX) should be presented on Figure 6.
    - The outdoor air sample (OA-1) should be presented on Figure 6.

- Although “relatively lower levels of VOCs were detected in the soil vapor,” those detections should be presented on Figure 6 to compare with the elevated VOC concentrations detected beneath the on-site building.

11. Section 5.2, Contaminants of Concern, under Sub-Slab Vapor, Soil Vapor, and Indoor Air. As titled, this section should highlight the “contaminants of concern” which are primarily PCE, TCE, and cis-1,2-dichloroethene. The remaining VOC detections can be presented (and referred to) in Table 5.

12. Section 5.3, Media of Concern, under Groundwater. Groundwater exceedances are presented in Figure 4; please revise.

13. Section 6.1, Findings. The concluding statement is erroneous as the recommended action is to mitigate “all four units.” Please revise.

14. Section 6.3 Recommendations. Based on the elevated concentrations of PCE and TCE in sub-slab vapor and indoor air, the NYSDOH agrees with the recommendation presented to either repair the existing sub-slab depressurization system or install a new system.

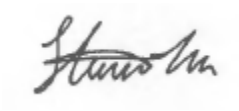
15. Figure 2, Site Plan with Sample Locations, under Legend:
    - Redefine the ‘pentagon with circle’ symbol to include indoor air.
    - Redefine the ‘triangle’ symbol to include indoor air.

16. Figure 6, Sub-Slab Vapor, Soil Vapor, and Ambient Air Concentrations:
    - Revise the title by replacing “ambient” with indoor;
    - Include the VOC detections in soil vapor at SV-W and SV-E;
    - Include the VOC detections in the duplicate sub-slab vapor sample at SSV-461 (i.e., SV-XX);
    - Redefine the ‘pentagon with circle’ symbol to include indoor air;
    - Redefine the ‘triangle’ symbol to include indoor air; and
    - Delete the text of “Sub- -Slab Soil Vapor Samples collected with an adjacent ambient indoor air sample.”

Please revise and resubmit the SCIR within 45 days from the date of this letter, along with a cover letter providing written response to each comment provided herein. If you have any questions, please feel free to contact me at steven.wu@dec.ny.gov.

T. Shaughnessy
Former Dry Cleaner 469 Forest Ave
NYSDEC Site No. 243042

Sincerely,



Steven Wu
Project Manager

ec: J. O'Connell, A. Obligado, A. Levine – NYSDEC
S. McLaughlin, H. Hood – NYSDOH
J. Cooper – CA Rich
D. Cervino – Beattie Padovano LLC