

January 24, 2024

Ms. Marlen Salazar  
New York State Department of Environmental Conservation (NYSDEC) Region 2  
Division of Environmental Remediation  
625 Broadway  
Albany, NY 12207

**RE: Fifth Quarter Groundwater Monitoring Report  
27-01 Jackson Avenue  
Long Island City, New York  
NYSDEC Order on Consent No. S241209  
Langan Project No.: 170472002**

Dear Ms. Salazar:

In accordance with the January 23, 2020 Off-Site In-Situ Treatment Remedial Design Plan (RDP) and the December 12, 2022 NYSDEC-approved Off-Site Site Management Plan (OSMP), Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. (Langan) conducted groundwater sampling within the public right-of-way and sidewalks adjacent to the 27-01 Jackson Avenue site located in the Long Island City neighborhood of Queens, New York (Brownfield Cleanup Program [BCP] Site No. C241209). The south- and west-adjoining sidewalks are subject to the April 20, 2022 Order on Consent and Administrative Settlement (CO), Index No. S241209-08-09 and hereinafter referred to as the "CO site". A site location map is provided as Figure 1. This was the fifth quarterly sampling event completed following implementation of the off-site in-situ groundwater treatment program between October 20 and November 11, 2021.

## **Project Background**

The CO site is an approximately 2,750-square-foot area that spans sections of the Jackson Avenue and 43<sup>rd</sup> Avenue sidewalks adjoining the BCP site located at 27-01 Jackson Avenue in the Long Island City neighborhood of Queens, New York (identified as Block 432, Lot 21 on the Queens County Tax Map). A site layout plan is presented on Figure 2.

Light non-aqueous phase liquid (LNAPL), and petroleum-impacted soil, groundwater, and soil vapor were identified on- and off-site during a Remedial Investigation (RI) and supplemental sampling events performed between October 2018 and July 2020. To address the impacts, NYSDEC approved the RDP and the Remedial Action Work Plan (RAWP) on January 23, 2020 and January 9, 2021, respectively. A Track 1 remedy was achieved at the BCP site and a certificate of completion (COC) was issued on December 23, 2022. Pursuant to the RAWP, a CO was executed on April 20, 2022, which requires compliance with the NYSDEC-approved

December 12, 2022 OSMP. The intent of the CO is to monitor off-site conditions in groundwater following off-site groundwater treatment and on-site dewatering. The OSMP addresses the means for implementing, monitoring, and reporting on the Engineering and Institutional Controls (ECs/ICs) that are required by the CO for the off-site areas adjacent to the BCP site.

### **In-Situ Groundwater Treatment**

An off-site in-situ groundwater treatment program was implemented to treat remaining petroleum-related VOCs beneath the CO site, which were initially identified during the RI. Targeted petroleum-related VOCs included benzene, toluene, ethylbenzene, and xylenes (BTEX), and their breakdown products. Impacted groundwater was treated using an activated carbon solution (PetroFix™) via direct-push injection points located in a rough grid pattern to spread chemicals evenly within the off-site, south- and west-adjointing sidewalks comprising the CO site.

The injection program was carried out by Clean Harbors of Norwell, Massachusetts and Aquifer Drilling and Testing (ADT) of Mineola, New York, under the oversight of Langan, between October 20 and November 11, 2021. Injection point locations are shown on Figure 3. At each injection point, a hollow steel injection rod was advanced to depths ranging from about 15 to 30 feet below grade surface (bgs). Injections were made using a “bottom-up” approach, beginning at the deepest 2-foot interval, and raised from the bottom depth in 2-foot intervals to approximately 15 feet bgs. Approximately 14,400 pounds of Petrofix® and 720 pounds of electron acceptor blend were applied via direct-push drill rig between October 20 and November 11, 2021. Between 664 and 976 pounds of Petrofix® were applied to each point.

### **Performance Monitoring Methodology**

The RDP and OSMP included baseline sampling and quarterly post-injection groundwater monitoring to evaluate the efficacy of the CO site remedy. Baseline groundwater sampling was conducted from existing monitoring wells MW-3 and MW-4 and temporary monitoring wells MW-1 and MW-2 on October 7 and 19, 2021. Monitoring wells MW-3 and MW-4 were compromised during installation of the support of excavation, and the four monitoring wells were reinstalled for post-remediation groundwater monitoring on August 22, 2022 and October 13 and 14, 2022. Post-injection monitoring well locations are shown on Figure 3.

Post-injection groundwater monitoring was not conducted between November 2021 and October 2022 due to remediation efforts and active dewatering at the BCP site. Five post-injection quarterly sampling events have been completed at the CO site in October 2022, January 2023, April 2023, July 2023 and October 2023.

Between the third and fourth quarter sampling events, monitoring well MW-3 was compromised during the installation of utilities beneath the 43<sup>rd</sup> Avenue sidewalk. Considering VOCs were non-detect in MW-3 during the previous three quarters of sampling, NYSDEC allowed the discontinuation of sampling of MW-3 via email correspondence on August 8<sup>th</sup>, 2023. The Fourth Quarter Groundwater Monitoring Report, dated September 15, 2023, indicated that VOCs were also non-detect in monitoring well MW-4 during the previous four quarters; therefore, NYSDEC

allowed the discontinuation of sampling of MW-4 via email correspondence on October 13<sup>th</sup>, 2023. NYSDEC correspondence is included as Attachment A.

#### Well Purging and Sampling

Monitoring well sampling was conducted for monitoring wells MW-1 and MW-2 on October 23, 2023. Before sampling, each well was purged using the low-flow method developed by the USEPA ("Low-Flow [Minimal Drawdown] Ground-Water Sampling Procedures," EPA/540/S-95/504, April 1996) and accepted by the NYSDEC. Purging was performed using a peristaltic pump fitted with dedicated tubing at each well. During purging, the turbidity, pH, temperature, conductivity, oxidation-reduction potential (ORP), and dissolved oxygen (DO) were monitored using a Horiba U-52 water quality meter with a flow-through cell. Purged groundwater was containerized in 55-gallon drums during each event. The daily site observation report is included in Attachment B. The groundwater quality parameters were recorded in the Well Purging and Sampling Logs provided in Attachment C.

As a general rule, groundwater was purged until water quality parameters stabilized or after purging about three well volumes. Groundwater quality parameters stabilized in MW-1 prior to sampling, and a groundwater sample was collected from MW-2 after purging about three well volumes.

After purging each well, a groundwater sample was collected directly from the pump discharge line using USEPA low-flow techniques. For quality assurance and quality control, one field blank sample and one duplicate sample were collected. A trip blank was included in each shipment for quality control during transport. All samples were analyzed for Part 375/Target Compound List (TCL) VOCs via USEPA SW-846 method 8260C by Alpha Analytical Laboratories, a NYSDOH Environmental Laboratory Approval Program (ELAP)-accredited laboratory in Westborough, Massachusetts.

The laboratory analytical results for the baseline sampling event, the previous quarterly sampling events, and the October 2023 sampling event are summarized in Table 1 and illustrated on Figure 4. The laboratory analytical report from the October 2023 sampling event is provided as Attachment D. Groundwater analytical results were compared to the NYSDEC Title 6 of the Official Compilation of New York Codes, Rules, and Regulations (NYCRR) Part 703.5 and the NYSDEC Technical & Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values for Class GA drinking water (herein collectively referenced as the NYSDEC SGVs). Analytical results from the first quarterly sampling event are discussed in the NYSDEC-approved December 2022 Final Engineering Report (FER), and analytical results from subsequent quarters are discussed in their respective quarterly monitoring reports.

#### **October 2023 Performance Monitoring Analytical Results**

Analytical results from the October 2023 performance monitoring are summarized as follows:

- MW-1: 1,2,4,5-Tetramethylbenzene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, and n-propylbenzene were detected above the NYSDEC SGVs. In comparison

to baseline analytical results, total VOC and total BTEX concentrations have decreased by 76% and 90%, respectively. Target contaminant concentrations have slightly increased from the previous quarterly sampling event but were generally within the same order of magnitude.

- MW-2: 1,2,4,5-Tetramethylbenzene, 1,2,4-Trimethylbenzene, isopropylbenzene, and n-propylbenzene were detected above the NYSDEC SGVs. In comparison to baseline analytical results, total VOC and total BTEX concentrations have decreased by over 99%.

Five VOCs were detected above the NYSDEC SGVs in groundwater samples collected during the October 2023 monitoring event. Total VOC concentrations have decreased by over 99% (MW-2) and 76% (MW-1), and total BTEX concentrations have decreased by over 99% (MW-1 and MW-2) when compared to baseline concentrations. In comparison to the fourth quarterly sampling event, analyte concentrations detected above the NYSDEC SGVs in MW-2 have generally decreased by one order of magnitude, except for 1,2,4,5-tetramethylbenzene which was detected within the same order of magnitude. Concentrations above the NYSDEC SGVs in MW-1 are generally within the same order of magnitude in comparison to the fourth quarterly sampling event. Although residual petroleum impacts remain, continued degradation is anticipated. Based on the post-remedy sampling results, the off-site remedy appears to have been effective.

Analytical data is shown on Figure 4 and result trends are shown on Figure 5.

### **Data Validation**

Copies of the Analytical Services Protocol (ASP) Category B laboratory reports were submitted to Langan's data validation department for review in accordance with the USEPA validation guidelines for organic and inorganic data. The data were found to be 100% acceptable. The Data Usability Summary Report (DUSR) is included in Attachment E.



## Closure

Targeted petroleum-related VOC concentrations exceeded the NYSDEC SGVs in MW-1 and MW-2 but have been reduced by one to three orders of magnitude relative to baseline concentrations; therefore, consistent reduction has been observed. Based on the October 2023 sampling and previous sampling event results, the off-site remedy appears to have been effective in the post-remedy monitoring wells. We recommend continued monitoring to document achievement of asymptotic conditions, and further reduction trends in contaminant degradation.

Should you have any questions, please call the undersigned at 212-479-5427.

Sincerely,

**Langan Engineering, Environmental, Surveying  
Landscape Architecture and Geology, D.P.C.**

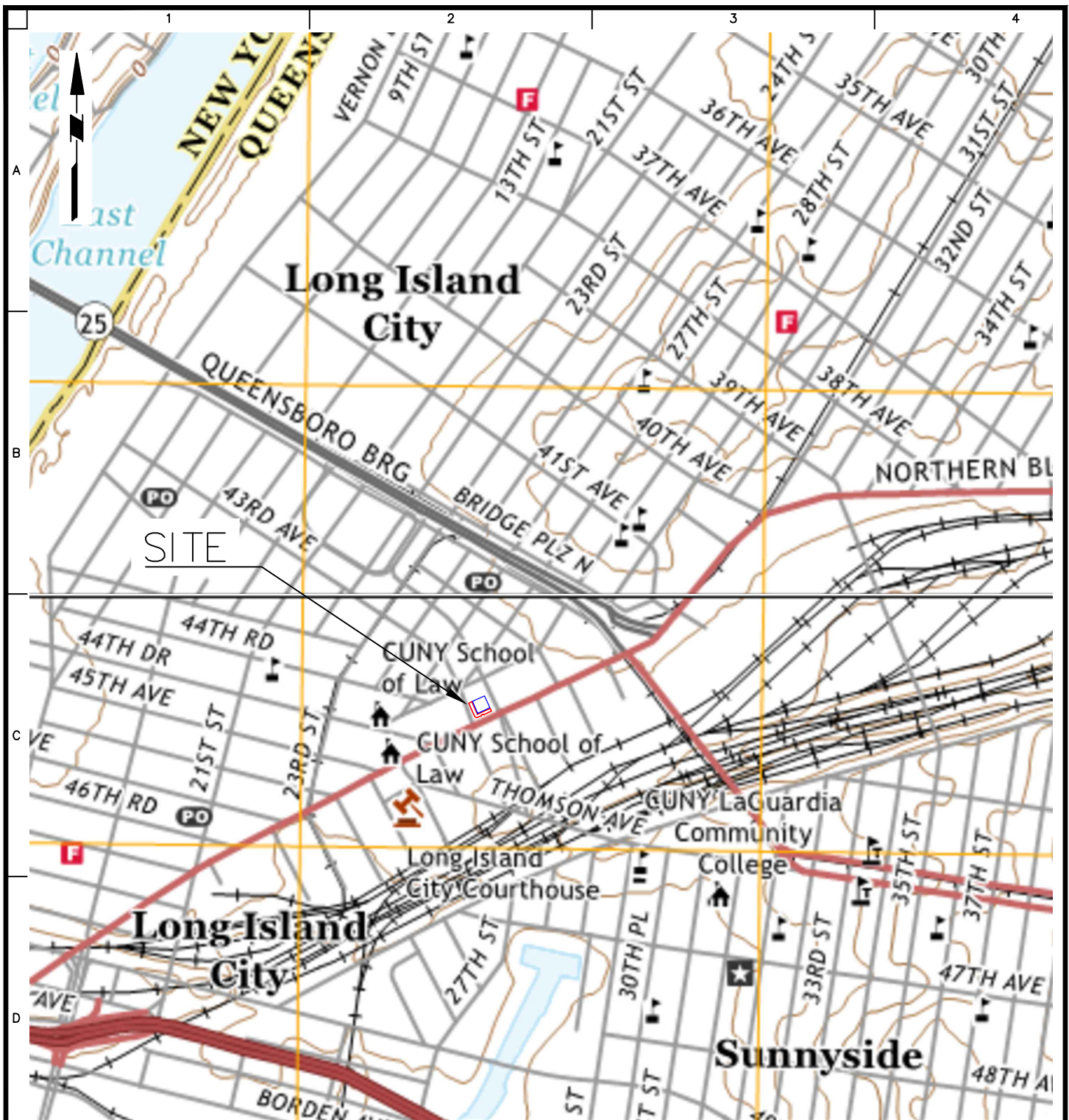


Jason Hayes, P.E.  
Principal/Vice President

## Enclosures:

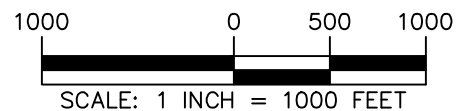
Figure 1	Site Location Map
Figure 2	Site Layout Plan
Figure 3	In-Situ Groundwater Treatment Injection Plan
Figure 4	Groundwater Sample Analytical Results
Figure 5	Groundwater Sample Analytical Results Trends
Table 1	Groundwater Sample Analytical Results
Attachment A	NYSDEC Correspondence for MW-3 and MW-4 Monitoring
Attachment B	Daily Site Observation Report
Attachment C	Well Purging and Sampling Logs
Attachment D	Laboratory Analytical Report
Attachment E	Data Usability Summary Report

# FIGURES



#### LEGEND

- APPROXIMATE SITE BOUNDARY
- APPROXIMATE BOUNDARY OF BROWNFIELD CLEANUP PROGRAM  
SITE NO. C241209



NOTE: BASE MAP IS REFERENCED FROM THE UNITED STATES GEOLOGICAL SURVEY (USGS) 7.5 MINUTE SERIES CENTRAL PARK AND BROOKLYN QUADRANGLE MAPS, DATED 2019.

# LANGAN

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Project

**27-01 JACKSON  
AVENUE**

BLOCK No. 4321, LOT No. 21

QUEENS

NEW YORK

Figure Title

**SITE LOCATION  
MAP**

Project No.

170472002

Date

06/01/2022

Drawn By

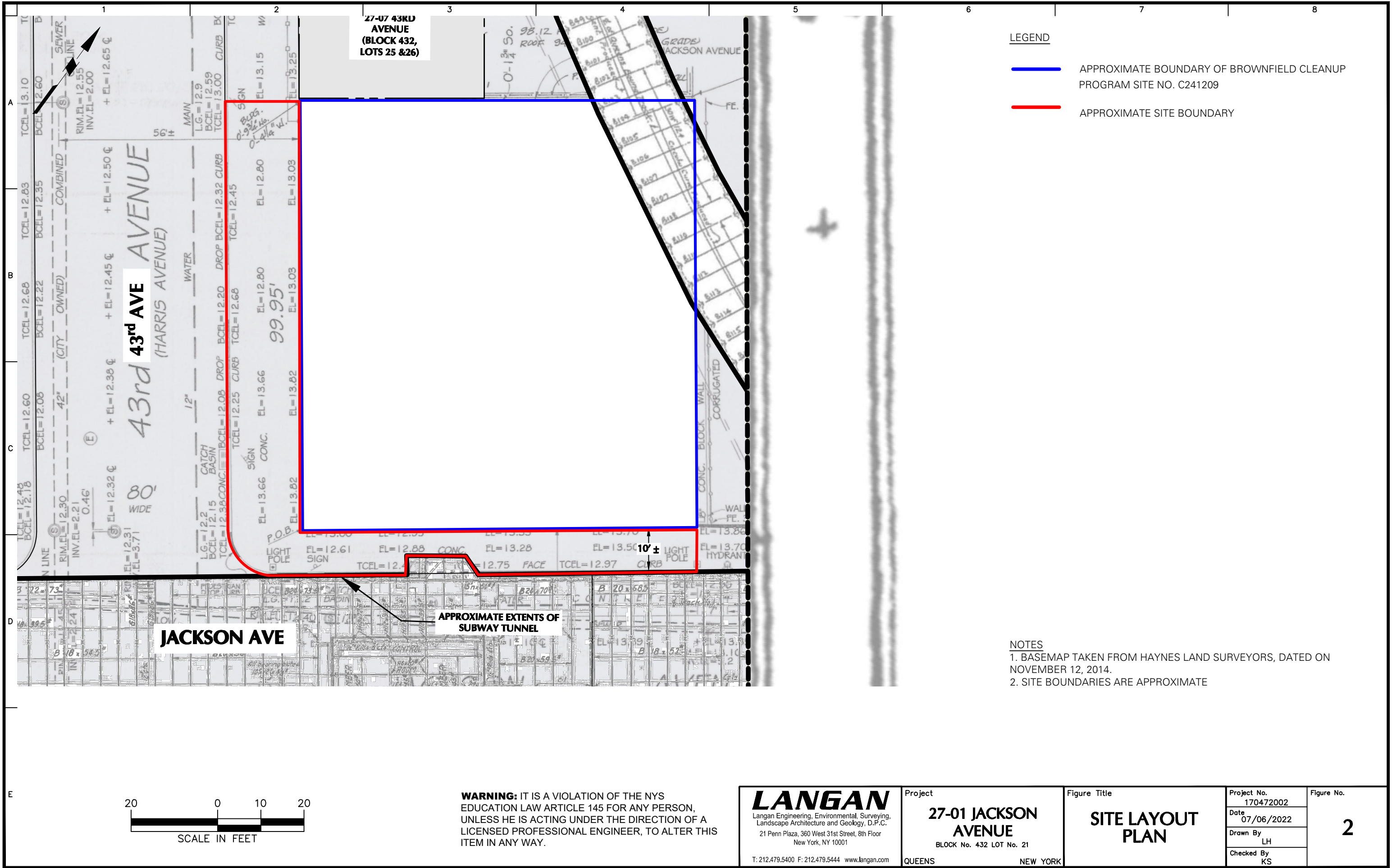
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Figure No.

**1**











**27-01 Jackson Avenue  
Long Island City, New York  
NYSDEC BCP Site No.: C241209  
Langan Project No.: 170472002**

**Total Concentration (ug/l)**

**Sample Date**

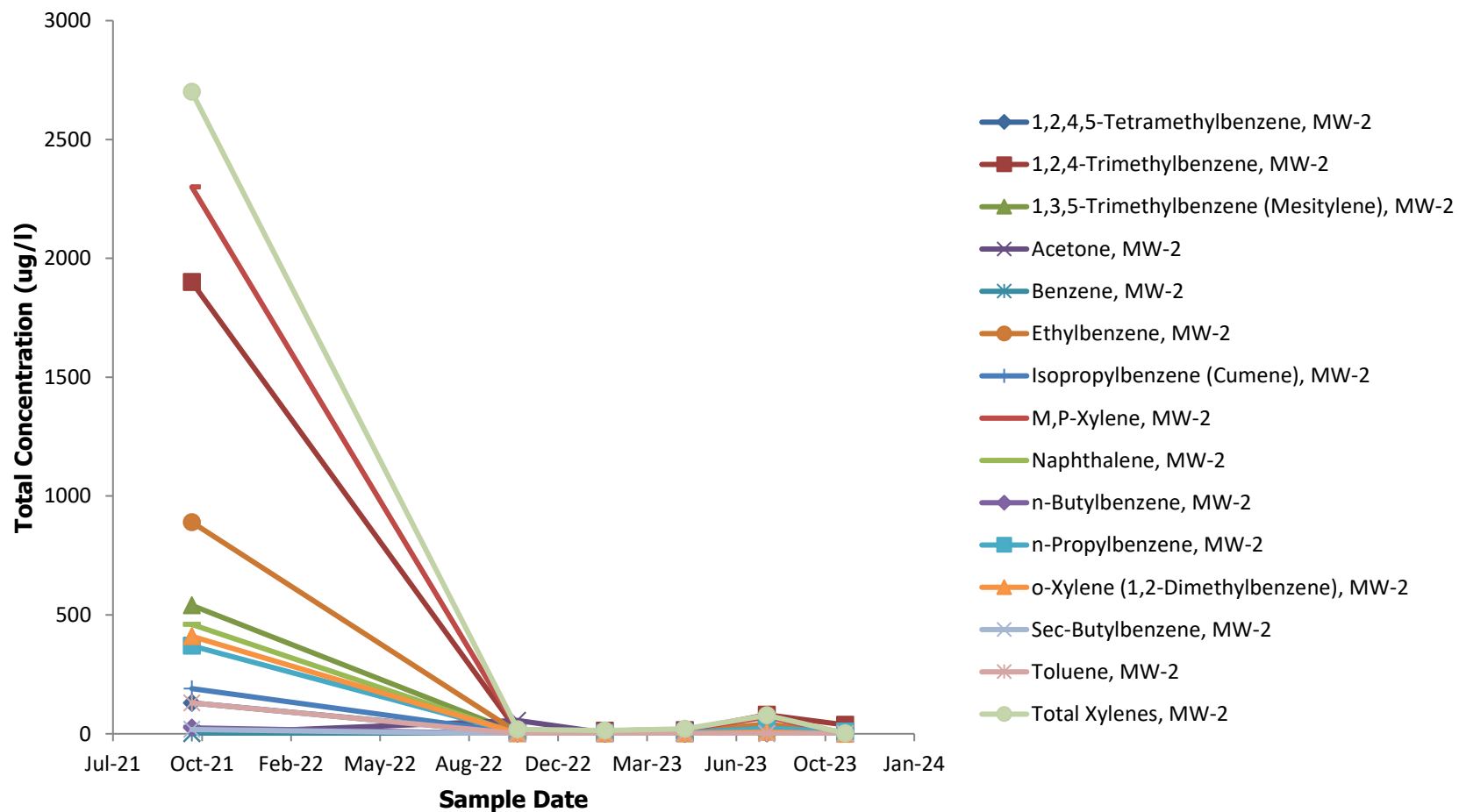
Legend:

- 1,2,4,5-Tetramethylbenzene, MW-1
- 1,2,4-Trimethylbenzene, MW-1
- 1,3,5-Trimethylbenzene (Mesitylene), MW-1
- Acetone, MW-1
- Benzene, MW-1
- Ethylbenzene, MW-1
- Isopropylbenzene (Cumene), MW-1
- M,P-Xylene, MW-1
- Naphthalene, MW-1
- n-Butylbenzene, MW-1
- n-Propylbenzene, MW-1
- o-Xylene (1,2-Dimethylbenzene), MW-1
- Sec-Butylbenzene, MW-1
- Toluene, MW-1
- Total Xylenes, MW-1

Figure 5  
Quarterly Groundwater Monitoring Report  
Groundwater Sample Analytical Results Trends

27-01 Jackson Avenue  
Long Island City, New York  
NYSDEC BCP Site No.: C241209  
Langan Project No.: 170472002

**MW-2**  
**Groundwater Trends - VOCs**





**Figure 5**  
**Quarterly Groundwater Monitoring Report**  
**Groundwater Sample Analytical Results Trends**

**27-01 Jackson Avenue  
Long Island City, New York  
NYSDEC BCP Site No.: C241209  
Langan Project No.: 170472002**

### MW-3

#### Groundwater Trends - VOCs

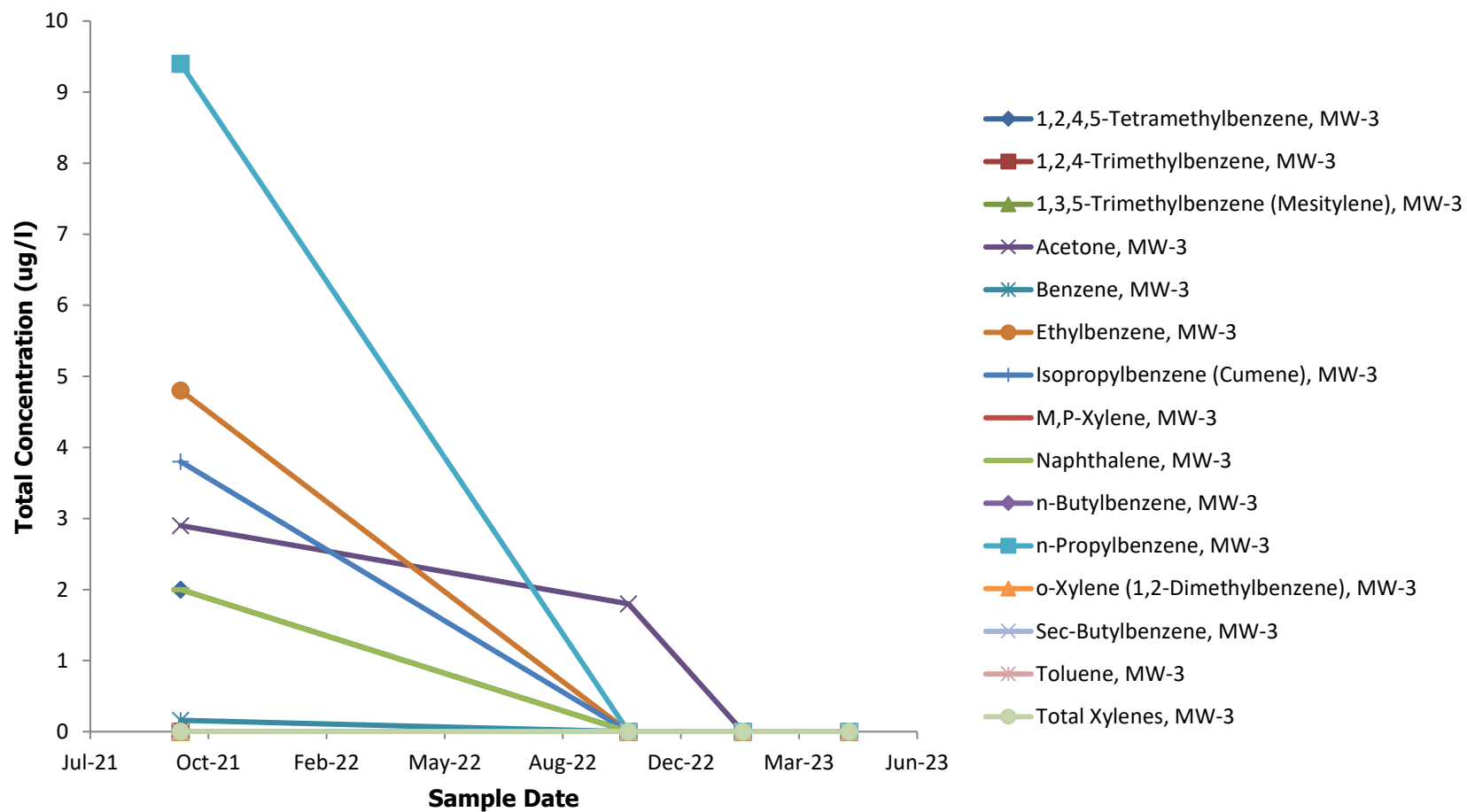
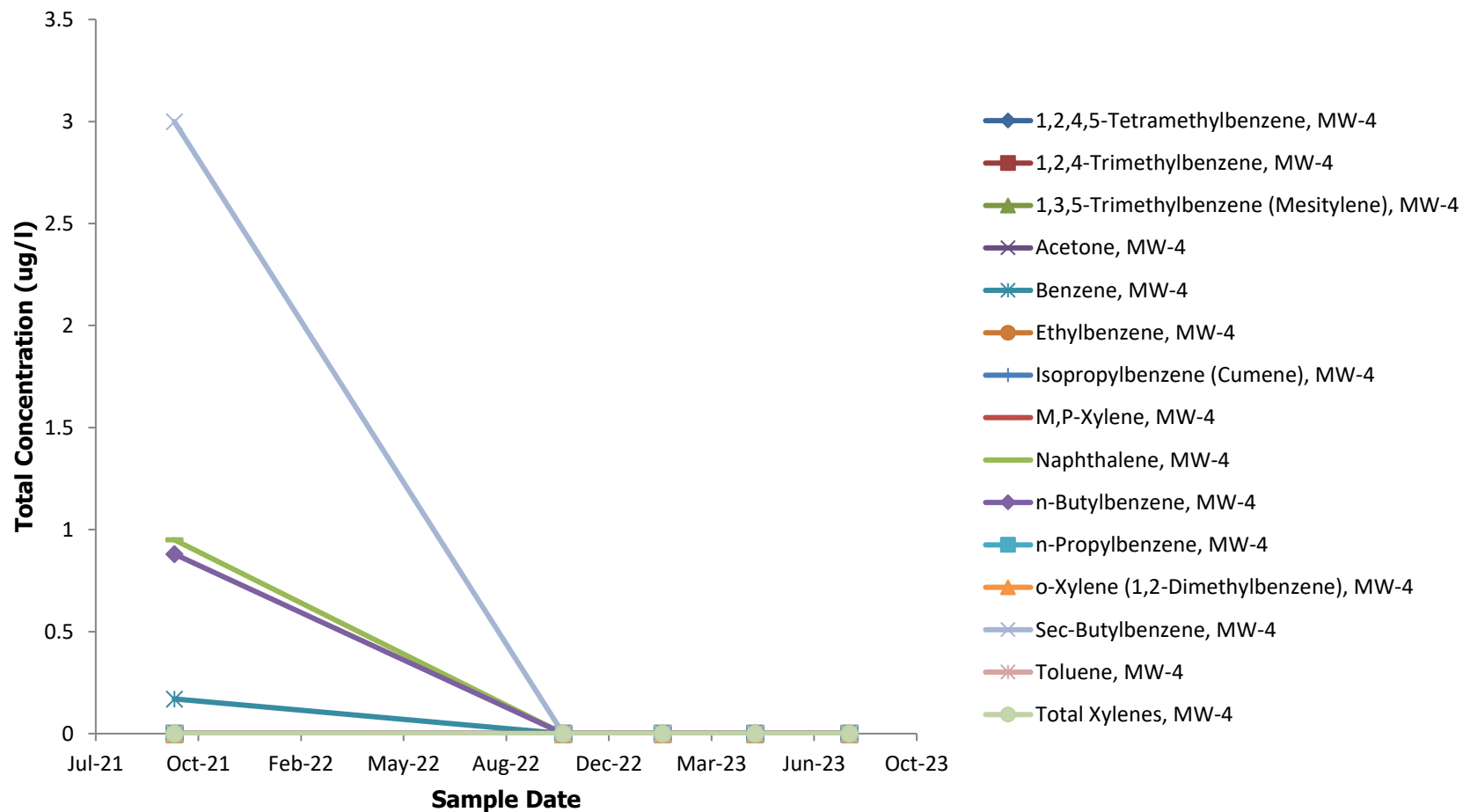


Figure 5  
Quarterly Groundwater Monitoring Report  
Groundwater Sample Analytical Results Trends

27-01 Jackson Avenue  
Long Island City, New York  
NYSDEC BCP Site No.: C241209  
Langan Project No.: 170472002

MW-4  
Groundwater Trends - VOCs



# TABLES

Table 1  
Quarterly Groundwater Monitoring Report  
Groundwater Sample Analytical Results

27-01 Jackson Avenue  
Long Island City, New York  
NYSDEC BCP Site No.: C241209  
Langan Project No.: 170472002

Analyte	CAS Number	NYSDEC SGVs	Sampling Event	Baseline	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 4	Quarter 5	Quarter 5
			Location	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1		
			Sample Name	MW01_101921	MW-1_102122	MW-1_012623	MW-1_042623	MW-1_072723	DUP01_072723	MW-1_102323	DUP01_102323
			Sample Date	10/19/2021	10/21/2022	01/26/2023	04/26/2023	07/27/2023	07/27/2023	10/23/2023	10/23/2023
			Unit	Result	Result	Result	Result	Result	Result	Result	
Volatile Organic Compounds											
1,1,1,2-Tetrachloroethane	630-20-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,1,1-Trichloroethane	71-55-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,1,2,2-Tetrachloroethane	79-34-5	5	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2-Trichloroethane	79-00-5	1	ug/l	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U
1,1-Dichloroethane	75-34-3	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,1-Dichloroethene	75-35-4	5	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-Dichloropropene	563-58-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,3-Trichlorobenzene	87-61-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,3-Trichloropropane	96-18-4	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	<2.5 U
1,2,4,5-Tetramethylbenzene	95-93-2	5	ug/l	12	1.9 J	8.9	1.7 J	<2 U	<2 U	7.6	8.4
1,2,4-Trichlorobenzene	120-82-1	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,4-Trimethylbenzene	95-63-6	5	ug/l	11	0.77 J	0.74 J	<2.5 U	<2.5 U	<2.5 U	7.2	7.5
1,2-Dibromo-3-Chloropropane	96-12-8	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	<2.5 U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	0.0006	ug/l	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
1,2-Dichlorobenzene	95-50-1	3	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2-Dichloroethane	107-06-2	0.6	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-Dichloropropane	78-87-5	1	ug/l	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	5	ug/l	7.8	4	1.7 J	<2.5 U	<2.5 U	<2.5 U	5.3	5.6
1,3-Dichlorobenzene	541-73-1	3	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,3-Dichloropropane	142-28-9	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,4-Dichlorobenzene	106-46-7	3	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,4-Diethyl Benzene	105-05-5	NS	ug/l	26	4	4.9	1.7 J	<2 U	<2 U	1.6 J	1.7 J
1,4-Dioxane (P-Dioxane)	123-91-1	0.35	ug/l	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U
2,2-Dichloropropane	594-20-7	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
2-Chlorotoluene	95-49-8	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
2-Hexanone (MBK)	591-78-6	50	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
4-Chlorotoluene	106-43-4	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
4-Ethyltoluene	622-96-8	NS	ug/l	6.1	1.5 J	1.4 J	<2 U	<2 U	<2 U	4	4.3
Acetone	67-64-1	50	ug/l	4.5 J	25	<5 U	<5 U	2.5 J	<5 U	<5 U	<5 U
Acrylonitrile	107-13-1	5	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Benzene	71-43-2	1	ug/l	17	<0.5 U	0.22 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Bromobenzene	108-86-1	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Bromochloromethane	74-97-5	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Bromodichloromethane	75-27-4	50	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Bromoform	75-25-2	50	ug/l	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
Bromomethane	74-83-9	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 UJ	<2.5 UJ
Carbon Disulfide	75-15-0	60	ug/l	1.2 J	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Carbon Tetrachloride	56-23-5	5	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Chlorobenzene	108-90-7	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Chloroethane	75-00-3	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Chloroform	67-66-3	7	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Chloromethane	74-87-3	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Cis-1,2-Dichloroethene	156-59-2	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Cis-1,3-Dichloropropene	10061-01-5	0.4	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Cymene	99-87-6	5	ug/l	1.4 J	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Dibromochloromethane	124-48-1	50	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Dibromomethane	74-95-3	5	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Dichlorodifluoromethane	75-71-8	5	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Diethyl Ether (Ethyl Ether)	60-29-7	NS	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Ethylbenzene	100-41-4	5	ug/l	54	<2.5 U	5.4	<2.5 U	<2.5 U	<2.5 U	4.7	5
Hexachlorobutadiene	87-68-3	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	<2.5 U
Isopropylbenzene (Cumene)	98-82-8	5	ug/l	10	<2.5 U	9.1	<2.5 U	<2.5 U	<2.5 U	3.9	4.2
M,P-Xylene	179601-23-1	5	ug/l	11	1.3 J	0.88 J	<2.5 U	<2.5 U	<2.5 U	3.7	4
Methyl Ethyl Ketone (2-Butanone)	78-93-3	50	ug/l	<5 U	<5 UJ	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	NS	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Methylene Chloride	75-09-2	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Naphthalene	91-20-3	10	ug/l	3.4 J	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	2.2 J	2 J
n-Butylbenzene	104-51-8	5	ug/l	5.6	<2.5 U	2.2 J	<2.5 U	<2.5 U	<2.5 U	1.4 J	1.6 J
n-Propylbenzene	103-65-1	5	ug/l	17	<2.5 U	11	<2.5 U	<2.5 U	<2.5 U	7.1	7.7
o-Xylene (1,2-Dimethylbenzene)	95-47-6	5	ug/l	9.1	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	0.98 J	1 J
Sec-Butylbenzene	135-98-8	5	ug/l	4.6	<2.5 U	2.7	0.87 J	<2.5 U	<2.5 U	0.9 J	1 J
Styrene	100-42-5	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
T-Butylbenzene	98-06-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Tert-Butyl Methyl Ether	1634-04-4	10	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Tetrachloroethene (PCE)	127-18-4	5	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Toluene	108-88-3	5	ug/l	5.3	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Total 1,2-Dichloroethene (Cis and Trans)	540-59-0	NS	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Total Xylenes	1330-20-7	5	ug/l	20	1.3 J	0.88 J	<2.5 U	<2.5 U	<2.5 U	4.7 J	5 J
Total, 1,3-Dichloropropene (Cis And Trans)	542-75-6	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	<0.5 U
Trans-1,2-Dichloroethene	156-60-5	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Trans-1,3-Dichloropropene	10061-02-6	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	<0.5 U
Trans-1,4-Dichloro-2-Butene	110-57-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Trichloroethene (TCE)	79-01-6	5	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Trichlorofluoromethane	75-69-4	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Vinyl Acetate	108-05-4	NS	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Vinyl Chloride	75-01-4	2	ug/l	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U

Table 1  
Quarterly Groundwater Monitoring Report  
Groundwater Sample Analytical Results

27-01 Jackson Avenue  
Long Island City, New York  
NYSDEC BCP Site No.: C241209  
Langan Project No.: 170472002

Analyte	CAS Number	NYSDEC SGVs	Sampling Event	Baseline	Quarter 1	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 5
			Location	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	
			Sample Name	MW02_101921	MW-2_102022	DUP01_102022	MW-2_012623	MW-2_042623	MW-2_072723	MW-2_102323
			Sample Date	10/19/2021	10/20/2022	10/20/2022	01/26/2023	04/26/2023	07/27/2023	10/23/2023
Unit										
Result										
Volatile Organic Compounds										
1,1,1,2-Tetrachloroethane	630-20-6	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,1,1-Trichloroethane	71-55-6	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,1,2,2-Tetrachloroethane	79-34-5	5	ug/l	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2-Trichloroethane	79-00-5	1	ug/l	<15 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U
1,1-Dichloroethane	75-34-3	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,1-Dichloroethene	75-35-4	5	ug/l	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-Dichloropropene	563-58-6	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,3-Trichlorobenzene	87-61-6	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,3-Trichloropropane	96-18-4	0.04	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,4,5-Tetramethylbenzene	95-93-2	5	ug/l	130	1.4 J	4.2 J	<2 U	<2 U	2.6	6.2
1,2,4-Trichlorobenzene	120-82-1	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,4-Trimethylbenzene	95-63-6	5	ug/l	1,900	10 J	34 J	12	15	80	37
1,2-Dibromo-3-Chloropropane	96-12-8	0.04	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	0.0006	ug/l	<20 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
1,2-Dichlorobenzene	95-50-1	3	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2-Dichloroethane	107-06-2	0.6	ug/l	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-Dichloropropane	78-87-5	1	ug/l	<10 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	5	ug/l	540	3.5 J	8 J	2.5	2.4 J	11	2.5
1,3-Dichlorobenzene	541-73-1	3	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,3-Dichloropropane	142-28-9	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,4-Dichlorobenzene	106-46-7	3	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,4-Diethyl Benzene	105-05-5	NS	ug/l	270	<2 U	0.72 J	1.4 J	0.85 J	1.4 J	0.91 J
1,4-Dioxane (P-Dioxane)	123-91-1	0.35	ug/l	<2,500 U	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U
2,2-Dichloropropane	594-20-7	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
2-Chlorotoluene	95-49-8	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
2-Hexanone (MBK)	591-78-6	50	ug/l	<50 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
4-Chlorotoluene	106-43-4	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
4-Ethyltoluene	622-96-8	NS	ug/l	800	7.4 J	15 J	6.2	9.7	44	13
Acetone	67-64-1	50	ug/l	<50 U	56	63	4.4 J	12 J	37	3.8 J
Acrylonitrile	107-13-1	5	ug/l	<50 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Benzene	71-43-2	1	ug/l	2.1 J	0.69	0.35 J	0.51	0.82	0.6	<0.5 U
Bromobenzene	108-86-1	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Bromochloromethane	74-97-5	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Bromodichloromethane	75-27-4	50	ug/l	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Bromoform	75-25-2	50	ug/l	<20 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
Bromomethane	74-83-9	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	1.3 J	2.6 J
Carbon Disulfide	75-15-0	60	ug/l	<50 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Carbon Tetrachloride	56-23-5	5	ug/l	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Chlorobenzene	108-90-7	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Chloroethane	75-00-3	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Chloroform	67-66-3	7	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Chloromethane	74-87-3	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Cis-1,2-Dichloroethene	156-59-2	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Cis-1,3-Dichloropropene	10061-01-5	0.4	ug/l	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Cymene	99-87-6	5	ug/l	<25 U	<2.5 U	0.7 J	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Dibromochloromethane	124-48-1	50	ug/l	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Dibromomethane	74-95-3	5	ug/l	<50 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Dichlorodifluoromethane	75-71-8	5	ug/l	<50 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Diethyl Ether (Ethyl Ether)	60-29-7	NS	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Ethylbenzene	100-41-4	5	ug/l	890	5.9	4	5.8	11	41	3.2
Hexachlorobutadiene	87-68-3	0.5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Isopropylbenzene (Cumene)	98-82-8	5	ug/l	190	3	3.5	3.2	5.2	22	8.3
M,P-Xylene	179601-23-1	5	ug/l	2,300	16	14	12	19	70	2.3 J
Methyl Ethyl Ketone (2-Butanone)	78-93-3	50	ug/l	<50 U	<5 UJ	21 J	<5 U	<5 U	27	<5 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	NS	ug/l	<50 U	1.5 J	<5 U	<5 U	1.7 J	<5 U	<5 U
Methylene Chloride	75-09-2	5	ug/l	<25 U	1 J	<2.5 U	0.92 J	<2.5 U	<2.5 U	<2.5 U
Naphthalene	91-20-3	10	ug/l	460 J	<2.5 U	3	<2.5 U	<2.5 U	1.4 J	<2.5 U
n-Butylbenzene	104-51-8	5	ug/l	25	<2.5 U	0.93 J	<2.5 U	<2.5 U	0.7 J	<2.5 U
n-Propylbenzene	103-65-1	5	ug/l	370	2.8 J	5.7 J	2.7	4.5	23	9.5
o-Xylene (1,2-Dimethylbenzene)	95-47-6	5	ug/l	410	2 J	1.9 J	1.5 J	2.1 J	7.5	<2.5 U
Sec-Butylbenzene	135-98-8	5	ug/l	18 J	<2.5 U	0.83 J	<2.5 U	<2.5 U	0.93 J	0.84 J
Styrene	100-42-5	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
T-Butylbenzene	98-06-6	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Tert-Butyl Methyl Ether	1634-04-4	10	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Tetrachloroethene (PCE)	127-18-4	5	ug/l	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Toluene	108-88-3	5	ug/l	130	0.7 J	1 J	<2.5 U	0.79 J	1.2 J	<2.5 U
Total 1,2-Dichloroethene (Cis and Trans)	540-59-0	NS	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Total Xylenes	1330-20-7	5	ug/l	2,700	18 J	16 J	14 J	21 J	78	2.3 J
Total, 1,3-Dichloropropene (Cis And Trans)	542-75-6	0.4	ug/l	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Trans-1,2-Dichloroethene	156-60-5	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Trans-1,3-Dichloropropene	10061-02-6	0.4	ug/l	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Trans-1,4-Dichloro-2-Butene	110-57-6	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Trichloroethene (TCE)	79-01-6	5	ug/l	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Trichlorofluoromethane	75-69-4	5	ug/l	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Vinyl Acetate	108-05-4	NS	ug/l	<50 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Vinyl Chloride	75-01-4	2	ug/l	<10 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U

Table 1  
Quarterly Groundwater Monitoring Report  
Groundwater Sample Analytical Results

27-01 Jackson Avenue  
Long Island City, New York  
NYSDEC BCP Site No.: C241209  
Langan Project No.: 170472002

Analyte	CAS Number	NYSDEC SGVs	Sampling Event	Baseline	Quarter 1	Quarter 2	Quarter 3	Quarter 3
			Location	MW-3	MW-3	MW-3	MW-3	
			Sample Name	MW03_100721	MW-3_102122	MW-3_012623	MW-3_042623	DUP01_042623
			Sample Date	10/07/2021	10/21/2022	01/26/2023	04/26/2023	04/26/2023
			Unit	Result	Result	Result	Result	Result
Volatile Organic Compounds								
1,1,1,2-Tetrachloroethane	630-20-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,1,1-Trichloroethane	71-55-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,1,2,2-Tetrachloroethane	79-34-5	5	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2-Trichloroethane	79-00-5	1	ug/l	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U
1,1-Dichloroethane	75-34-3	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,1-Dichloroethene	75-35-4	5	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-Dichloropropene	563-58-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,3-Trichlorobenzene	87-61-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,3-Trichloropropane	96-18-4	0.04	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,4,5-Tetramethylbenzene	95-93-2	5	ug/l	2	<2 U	<2 U	<2 U	<2 U
1,2,4-Trichlorobenzene	120-82-1	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,4-Trimethylbenzene	95-63-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2-Dibromo-3-Chloropropane	96-12-8	0.04	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	0.0006	ug/l	<2 U	<2 U	<2 U	<2 U	<2 U
1,2-Dichlorobenzene	95-50-1	3	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2-Dichloroethane	107-06-2	0.6	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-Dichloropropane	78-87-5	1	ug/l	<1 U	<1 U	<1 U	<1 U	<1 U
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,3-Dichlorobenzene	541-73-1	3	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,3-Dichloropropane	142-28-9	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,4-Dichlorobenzene	106-46-7	3	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,4-Diethyl Benzene	105-05-5	NS	ug/l	2.1 J	<2 U	<2 U	<2 U	<2 U
1,4-Dioxane (P-Dioxane)	123-91-1	0.35	ug/l	<250 UJ	<250 U	<250 U	<250 U	<250 U
2,2-Dichloropropane	594-20-7	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
2-Chlorotoluene	95-49-8	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
2-Hexanone (MBK)	591-78-6	50	ug/l	<5 UJ	<5 U	<5 U	<5 U	<5 U
4-Chlorotoluene	106-43-4	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
4-Ethyltoluene	622-96-8	NS	ug/l	0.9 J	<2 U	<2 U	<2 U	<2 U
Acetone	67-64-1	50	ug/l	2.9 J	1.8 J	<5 U	<5 U	<5 U
Acrylonitrile	107-13-1	5	ug/l	<5 UJ	<5 U	<5 U	<5 U	<5 U
Benzene	71-43-2	1	ug/l	0.16 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Bromobenzene	108-86-1	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Bromochloromethane	74-97-5	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Bromodichloromethane	75-27-4	50	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Bromoform	75-25-2	50	ug/l	<2 U	<2 U	<2 U	<2 U	<2 U
Bromomethane	74-83-9	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Carbon Disulfide	75-15-0	60	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U
Carbon Tetrachloride	56-23-5	5	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Chlorobenzene	108-90-7	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Chloroethane	75-00-3	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Chloroform	67-66-3	7	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Chloromethane	74-87-3	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Cis-1,2-Dichloroethene	156-59-2	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Cis-1,3-Dichloropropene	10061-01-5	0.4	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Cymene	99-87-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Dibromochloromethane	124-48-1	50	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Dibromomethane	74-95-3	5	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U
Dichlorodifluoromethane	75-71-8	5	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U
Diethyl Ether (Ethyl Ether)	60-29-7	NS	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Ethylbenzene	100-41-4	5	ug/l	4.8	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Hexachlorobutadiene	87-68-3	0.5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Isopropylbenzene (Cumene)	98-82-8	5	ug/l	3.8	<2.5 U	<2.5 U	<2.5 U	<2.5 U
M,P-Xylene	179601-23-1	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Methyl Ethyl Ketone (2-Butanone)	78-93-3	50	ug/l	<5 U	<5 UJ	<5 U	<5 U	<5 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	NS	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U
Methylene Chloride	75-09-2	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Naphthalene	91-20-3	10	ug/l	2 J	<2.5 U	<2.5 U	<2.5 U	<2.5 U
n-Butylbenzene	104-51-8	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
n-Propylbenzene	103-65-1	5	ug/l	9.4 J	<2.5 U	<2.5 U	<2.5 U	<2.5 U
o-Xylene (1,2-Dimethylbenzene)	95-47-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Sec-Butylbenzene	135-98-8	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Styrene	100-42-5	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
T-Butylbenzene	98-06-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Tert-Butyl Methyl Ether	1634-04-4	10	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Tetrachloroethene (PCE)	127-18-4	5	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Toluene	108-88-3	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Total 1,2-Dichloroethene (Cis and Trans)	540-59-0	NS	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Total Xylenes	1330-20-7	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Total, 1,3-Dichloropropene (Cis And Trans)	542-75-6	0.4	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Trans-1,2-Dichloroethene	156-60-5	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Trans-1,3-Dichloropropene	10061-02-6	0.4	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Trans-1,4-Dichloro-2-Butene	110-57-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Trichloroethene (TCE)	79-01-6	5	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Trichlorofluoromethane	75-69-4	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Vinyl Acetate	108-05-4	NS	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U
Vinyl Chloride	75-01-4	2	ug/l	<1 U	<1 U	<1 U	<1 U	<1 U

Table 1  
Quarterly Groundwater Monitoring Report  
Groundwater Sample Analytical Results

27-01 Jackson Avenue  
Long Island City, New York  
NYSDEC BCP Site No.: C241209  
Langan Project No.: 170472002

Analyte	CAS Number	NYSDEC SGVs	Sampling Event	Baseline	Baseline	Quarter 1	Quarter 2	Quarter 2	Quarter 3	Quarter 4
			Location	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	
			Sample Name	MW04_100721	GWDUP01_100721	MW-4_102122	MW-4_012623	DUP01_012623	MW-4_042623	MW-4_072723
			Sample Date	10/07/2021	10/07/2021	10/21/2022	01/26/2023	01/26/2023	04/26/2023	07/27/2023
			Unit	Result	Result	Result	Result	Result	Result	Result
Volatile Organic Compounds										
1,1,1,2-Tetrachloroethane	630-20-6	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-Trichloroethane	71-55-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,1,2,2-Tetrachloroethane	79-34-5	5	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2-Trichloroethane	79-00-5	1	ug/l	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U
1,1-Dichloroethane	75-34-3	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,1-Dichloroethene	75-35-4	5	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-Dichloropropene	563-58-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,3-Trichlorobenzene	87-61-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,3-Trichloropropane	96-18-4	0.04	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,4,5-Tetramethylbenzene	95-93-2	5	ug/l	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
1,2,4-Trichlorobenzene	120-82-1	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	95-63-6	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	96-12-8	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
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	0.0006	ug/l	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
1,2-Dichlorobenzene	95-50-1	3	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2-Dichloroethane	107-06-2	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
1,2-Dichloropropane	78-87-5	1	ug/l	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,3-Dichlorobenzene	541-73-1	3	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,3-Dichloropropane	142-28-9	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,4-Dichlorobenzene	106-46-7	3	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,4-Diethyl Benzene	105-05-5	NS	ug/l	5.3	5.3 J	<2 U	<2 U	<2 U	<2 U	<2 U
1,4-Dioxane (P-Dioxane)	123-91-1	0.35	ug/l	<250 UJ	<250 UJ	<250 U	<250 U	<250 U	<250 U	<250 U
2,2-Dichloropropane	594-20-7	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-Chlorotoluene	95-49-8	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-Hexanone (MBK)	591-78-6	50	ug/l	<5 UJ	<5 UJ	<5 U	<5 U	<5 U	<5 U	<5 U
4-Chlorotoluene	106-43-4	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
4-Ethyltoluene	622-96-8	NS	ug/l	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
Acetone	67-64-1	50	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Acrylonitrile	107-13-1	5	ug/l	<5 UJ	<5 UJ	<5 U	<5 U	<5 U	<5 U	<5 U
Benzene	71-43-2	1	ug/l	0.17 J	0.2 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Bromobenzene	108-86-1	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Bromochloromethane	74-97-5	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Bromodichloromethane	75-27-4	50	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Bromoform	75-25-2	50	ug/l	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
Bromomethane	74-83-9	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Carbon Disulfide	75-15-0	60	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Carbon Tetrachloride	56-23-5	5	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Chlorobenzene	108-90-7	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Chloroethane	75-00-3	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Chloroform	67-66-3	7	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Chloromethane	74-87-3	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Cis-1,2-Dichloroethene	156-59-2	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Cis-1,3-Dichloropropene	10061-01-5	0.4	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Cymene	99-87-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Dibromochloromethane	124-48-1	50	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Dibromomethane	74-95-3	5	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Dichlorodifluoromethane	75-71-8	5	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Diethyl Ether (Ethyl Ether)	60-29-7	NS	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Ethylbenzene	100-41-4	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Hexachlorobutadiene	87-68-3	0.5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Isopropylbenzene (Cumene)	98-82-8	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
M,P-Xylene	179601-23-1	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Methyl Ethyl Ketone (2-Butanone)	78-93-3	50	ug/l	<5 U	<5 U	<5 UJ	<5 U	<5 U	<5 U	<5 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	NS	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Methylene Chloride	75-09-2	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	91-20-3	10	ug/l	0.95 J	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
n-Butylbenzene	104-51-8	5	ug/l	0.88 J	0.87 J	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
n-Propylbenzene	103-65-1	5	ug/l	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
o-Xylene (1,2-Dimethylbenzene)	95-47-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Sec-Butylbenzene	135-98-8	5	ug/l	3	3	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Styrene	100-42-5	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
T-Butylbenzene	98-06-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Tert-Butyl Methyl Ether	1634-04-4	10	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Tetrachloroethene (PCE)	127-18-4	5	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Toluene	108-88-3	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Total 1,2-Dichloroethene (Cis and Trans)	540-59-0	NS	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Total Xylenes	1330-20-7	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Total, 1,3-Dichloropropene (Cis And Trans)	542-75-6	0.4	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Trans-1,2-Dichloroethene	156-60-5	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Trans-1,3-Dichloropropene	10061-02-6	0.4	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Trans-1,4-Dichloro-2-Butene	110-57-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Trichloroethene (TCE)	79-01-6	5	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Trichlorofluoromethane	75-69-4	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Vinyl Acetate	108-05-4	NS	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Vinyl Chloride	75-01-4	2	ug/l	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U

**Table 1**  
**Quarterly Groundwater Monitoring Report**  
**Groundwater Sample Analytical Results**

**Page 5 of 5**

27-01 Jackson Avenue  
Long Island City, New York  
NYSDEC BCP Site No.: C241209  
Langan Project No.: 170472002

**Notes:**

CAS - Chemical Abstract Service

NS - No standard

ug/l - microgram per liter

NA - Not analyzed

RL - Reporting limit

<RL - Not detected

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

**Qualifiers:**

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

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

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

**Exceedance Summary:**

**10** - Result exceeds NYSDEC SGVs



# **ATTACHMENT A**

## **NYSDEC Correspondence for MW-3 and MW-4 Monitoring**

## Caroline Devin

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**From:** Caroline Devin  
**Sent:** Wednesday, November 8, 2023 5:18 PM  
**To:** Caroline Devin  
**Subject:** FW: 27-01 Jackson Avenue (C241209) - Q4 Off-Site Quarterly GW Monitoring Report

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**From:** Bollers, Shaun (DEC) <[shaun.bollers@dec.ny.gov](mailto:shaun.bollers@dec.ny.gov)>  
**Sent:** Friday, October 13, 2023 10:10 AM  
**To:** Lexi Haley <[lhaley@langan.com](mailto:lhaley@langan.com)>  
**Cc:** Kimberly Semon <[ksemon@langan.com](mailto:ksemon@langan.com)>; Obligado, Andre A (DEC) <[andre.obligado@dec.ny.gov](mailto:andre.obligado@dec.ny.gov)>  
**Subject:** [External] RE: 27-01 Jackson Avenue (C241209) - Q4 Off-Site Quarterly GW Monitoring Report

Good Morning Lexi:

NYSDEC has no objections to this change in the sampling protocol as the MW-4 groundwater samples have shown non-detect for 4 consecutive quarters.

BTW How far has the on-site construction progressed?

Regards,  
Shaun

**Shaun Bollers**

Assistant Environmental Engineer, Division of Environmental Remediation

**New York State Department of Environmental Conservation**

47-40 21<sup>st</sup> Street, Long Island City, NY 11101

P: (718) 482-4096 | F: (718) 482-6358 | [shaun.bollers@dec.ny.gov](mailto:shaun.bollers@dec.ny.gov)

[www.dec.ny.gov](http://www.dec.ny.gov) |  | 



Department of  
Environmental  
Conservation



---

**From:** Lexi Haley <[lhaley@langan.com](mailto:lhaley@langan.com)>  
**Sent:** Wednesday, October 11, 2023 3:12 PM  
**To:** Bollers, Shaun (DEC) <[shaun.bollers@dec.ny.gov](mailto:shaun.bollers@dec.ny.gov)>  
**Cc:** Kimberly Semon <[ksemon@langan.com](mailto:ksemon@langan.com)>  
**Subject:** RE: 27-01 Jackson Avenue (C241209) - Q4 Off-Site Quarterly GW Monitoring Report

*ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.*

Good afternoon Shaun,

I hope you are doing well!

We are planning to schedule the next quarterly sampling event at 27-01 Jackson Avenue for the week of October 23<sup>rd</sup>. As noted in the Q4 Off-Site Quarterly GW Monitoring Report, groundwater results from MW-4

have been non-detect for consecutive quarters and we are requesting to conduct further monitoring only in MW-1 and MW-2.

Please let us know if you have any objections to this plan.

Thank you,

**Lexi Haley**  
**Senior Staff Engineer**

**LANGAN**

Direct: 212.479.5499 x5656

Mobile: 332.208.2127

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---

**From:** Lexi Haley

**Sent:** Friday, September 15, 2023 1:58 PM

**To:** 'Bollers, Shaun (DEC)' <[shaun.bollers@dec.ny.gov](mailto:shaun.bollers@dec.ny.gov)>

**Cc:** Brian Gochenaur <[bgochenaur@Langan.com](mailto:bgochenaur@Langan.com)>

**Subject:** 27-01 Jackson Avenue (C241209) - Q4 Off-Site Quarterly GW Monitoring Report

Good afternoon Shaun,

Please see below for a link to the quarterly sampling report for 27-01 Jackson Avenue. Please note that, since groundwater results from MW-4 have been non-detect for consecutive quarters, we are requesting to conduct further monitoring only in MW-1 and MW-2.

<https://clients.langan.com/Sharing/filessharing/ViewPosted?transactionHash=1122680310>

Let us know if you have any questions.

Have a great weekend,

**Lexi Haley**  
**Senior Staff Engineer**

**LANGAN**

Direct: 212.479.5499 x5656

Mobile: 332.208.2127

[File Sharing Link](#)

Phone: 212.479.5400 Fax: 212.479.5444  
360 West 31st Street  
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## Ali Reach

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**To:** Lexi Haley  
**Subject:** RE: 27-01 Jackson Avenue Off-site (S241209) - Off-Site Well Monitoring Program Meeting

---

**From:** Bollers, Shaun (DEC) <[shaun.bollers@dec.ny.gov](mailto:shaun.bollers@dec.ny.gov)>  
**Sent:** Tuesday, August 8, 2023 10:30 AM  
**To:** Lexi Haley <[lhaley@langan.com](mailto:lhaley@langan.com)>  
**Cc:** Brian Gochenaur <[bgochenaur@Langan.com](mailto:bgochenaur@Langan.com)>; Obligado, Andre A (DEC) <[andre.obligado@dec.ny.gov](mailto:andre.obligado@dec.ny.gov)>; Kenney, Julia M (HEALTH) <[julia.kenney@health.ny.gov](mailto:julia.kenney@health.ny.gov)>  
**Subject:** [External] RE: 27-01 Jackson Avenue Off-site (S241209) - Off-Site Well Monitoring Program Meeting

Lexi:  
As discussed during our telecon last Friday 8/5 this change in sampling protocol for the 27-01 Jackson Avenue Off-site site S241209 is acceptable. There is no need to replace MW-3.

Thanks,

Shaun

**Shaun Bollers**

Assistant Environmental Engineer, Division of Environmental Remediation  
**New York State Department of Environmental Conservation**  
47-40 21<sup>st</sup> Street, Long Island City, NY 11101  
P: (718) 482-4096 | F: (718) 482-6358 | [shaun.bollers@dec.ny.gov](mailto:shaun.bollers@dec.ny.gov)

[www.dec.ny.gov](http://www.dec.ny.gov) |  | 



---

**From:** Lexi Haley <[lhaley@langan.com](mailto:lhaley@langan.com)>  
**Sent:** Tuesday, August 8, 2023 9:34 AM  
**To:** Bollers, Shaun (DEC) <[shaun.bollers@dec.ny.gov](mailto:shaun.bollers@dec.ny.gov)>  
**Cc:** Brian Gochenaur <[bgochenaur@Langan.com](mailto:bgochenaur@Langan.com)>  
**Subject:** RE: 27-01 Jackson Avenue (C241209) - Off-Site Well Monitoring Program Meeting

*ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.*

Good morning Shaun,

As discussed during our call on Friday, monitoring well MW-3 (located along 43<sup>rd</sup> Avenue) was destroyed during installation of utilities beneath the sidewalk and was not able to be sampled from during the Q4 event. In

the previous three quarters of groundwater monitoring, VOC concentrations were non-detect in samples collected from MW-3. As such, we are requesting to stop monitoring at MW-3.

We will continue to monitor VOC concentrations in groundwater from monitoring wells MW-1, MW-2, and MW-4 on a quarterly basis.

Thank you,

**Lexi Haley**  
**Senior Staff Engineer**

**LANGAN**

Direct: 212.479.5499 x5656

Mobile: 332.208.2127

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**From:** Lexi Haley  
**Sent:** Tuesday, August 1, 2023 2:13 PM  
**To:** 'Bollers, Shaun (DEC)' <[shaun.bollers@dec.ny.gov](mailto:shaun.bollers@dec.ny.gov)>  
**Cc:** Brian Gochenaur <[bgochenaur@Langan.com](mailto:bgochenaur@Langan.com)>  
**Subject:** RE: 27-01 Jackson Avenue (C241209) - Off-Site Well Monitoring Program Meeting

Thanks Shaun – I will send out the meeting invite for Friday.

**Lexi Haley**  
**Senior Staff Engineer**

**LANGAN**

Direct: 212.479.5499 x5656

Mobile: 332.208.2127

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---

**From:** Bollers, Shaun (DEC) <[shaun.bollers@dec.ny.gov](mailto:shaun.bollers@dec.ny.gov)>  
**Sent:** Tuesday, August 1, 2023 2:00 PM

**To:** Lexi Haley <[lhaley@langan.com](mailto:lhaley@langan.com)>

**Cc:** Brian Gochenaur <[bgochenaur@Langan.com](mailto:bgochenaur@Langan.com)>

**Subject:** [External] RE: 27-01 Jackson Avenue (C241209) - Off-Site Well Monitoring Program Meeting

Hi Lexy:

Friday 8/4 would be fine.

Shaun

**Shaun Bollers**

Assistant Environmental Engineer, Division of Environmental Remediation

**New York State Department of Environmental Conservation**

47-40 21<sup>st</sup> Street, Long Island City, NY 11101

P: (718) 482-4096 | F: (718) 482-6358 | [shaun.bollers@dec.ny.gov](mailto:shaun.bollers@dec.ny.gov)

[www.dec.ny.gov](http://www.dec.ny.gov) |  | 



---

**From:** Lexi Haley <[lhaley@langan.com](mailto:lhaley@langan.com)>

**Sent:** Tuesday, August 1, 2023 11:38 AM

**To:** Bollers, Shaun (DEC) <[shaun.bollers@dec.ny.gov](mailto:shaun.bollers@dec.ny.gov)>

**Cc:** Brian Gochenaur <[bgochenaur@Langan.com](mailto:bgochenaur@Langan.com)>

**Subject:** 27-01 Jackson Avenue (C241209) - Off-Site Well Monitoring Program Meeting

*Hi*

Good morning Shaun,

Brian and I would like to set up a call with you to discuss the off-site well monitoring program at 27-01 Jackson Avenue (BCP Site No. C241209). We are available between 12 pm and 2:30 pm on Thursday (8/3) and between 11 am and 12 pm on Friday (8/4). Do either of these time slots work for you? If not, we can schedule something for next week.

Thank you,

**Lexi Haley**  
**Senior Staff Engineer**

**LANGAN**

Direct: 212.479.5499 x5656

Mobile: 332.208.2127

[File Sharing Link](#)

Phone: 212.479.5400 Fax: 212.479.5444

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# **ATTACHMENT B**

## **Daily Site Observation Report**

## SITE OBSERVATION REPORT

<b>PROJECT No.:</b> 170472002	<b>CLIENT:</b> 2701 Jackson Avenue LLC	<b>DATE:</b> 10/23/23
<b>PROJECT:</b> 27-01 Jackson Avenue		
<b>LOCATION:</b> Long Island City, NY		
<b>CONTRACTOR:</b> Lions Group NYC		<b>LANGAN REP. :</b> Mat Frankel
<b>CONTRACTOR'S EQUIPMENT:</b> N/A	<b>PRESENT AT SITE:</b> Mat Frankel – Langan Michael Capozzoli– Lions Group NYC (Construction Manager)	

### OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to observe environmental protocols in accordance with the January 2021 New York Department of Environmental Conservation (NYSDEC) approved Off-Site Site Management Plan (OSMP) for BCP site C241209 at 27-01 Jackson Avenue (Block 432, Lot 21). Observed activities were as follows:

#### Site Activities

- Langan used a peristaltic pump to purge and sample groundwater monitoring wells MW-1 and MW-2 along the Jackson Avenue sidewalk. Purged groundwater was screened for odors, sheen, and organic vapors using a photoionization detector (PID). Odors, sheen or PID readings above background levels were not observed in MW-2. Petroleum-like odors and a maximum PID reading of 5,158 parts per million (ppm) were detected beneath the well cap at MW-1; however, no sheen was observed in the purged groundwater. Purged groundwater was containerized in a 55-gallon New York State Department of Transportation (NYSDOT)-approved drum for future disposal.

#### Sampling

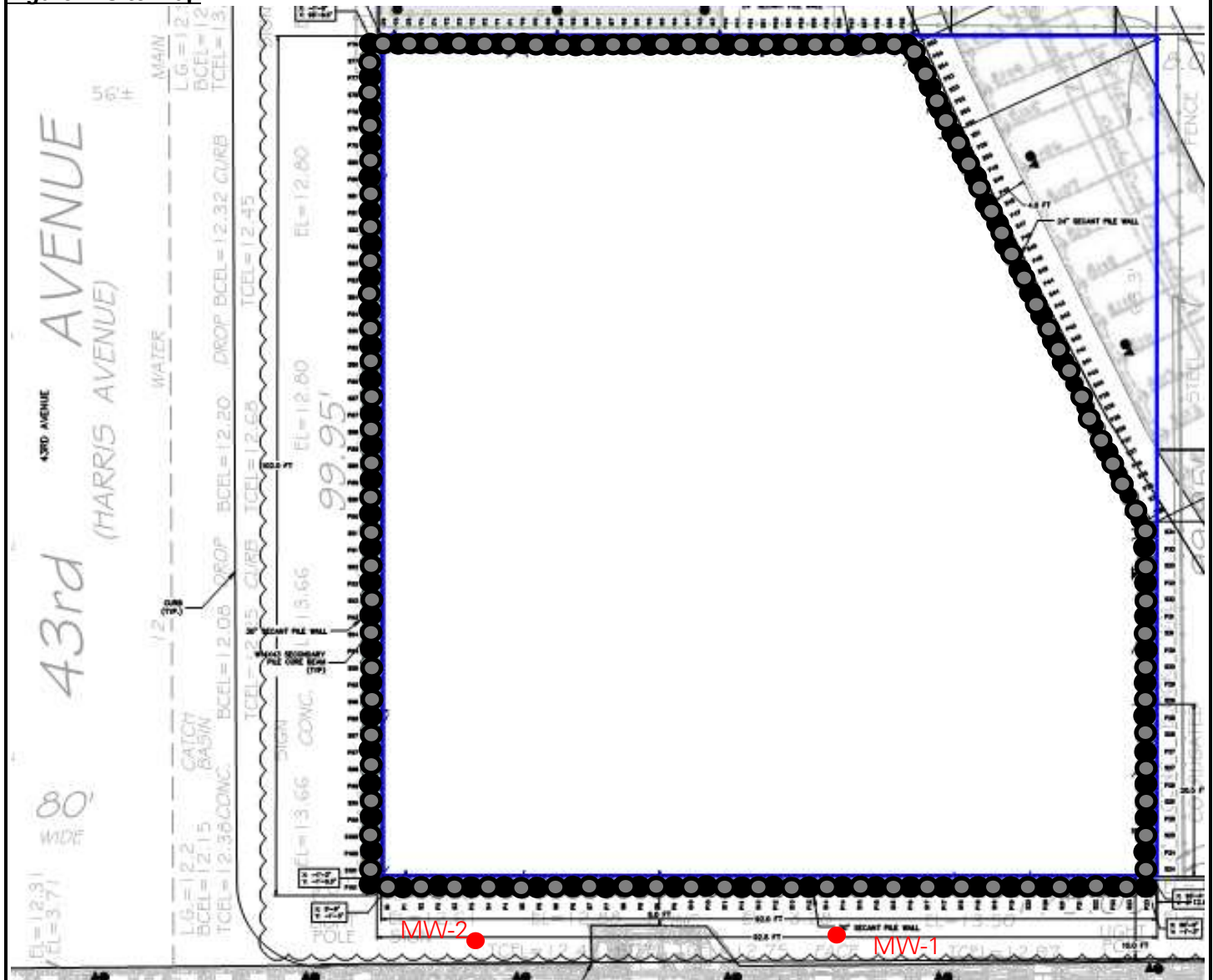
- Langan collected two groundwater samples (plus quality assurance/quality control [QA/QC] samples) for laboratory analysis of NYSDEC Part 375/target compound list (TCL) volatile organic compounds (VOCs). The samples were submitted to Alpha Analytical Inc. (Alpha) of Mahwah, New Jersey, a New York State Department of Health (NYSDOH) Environmental Laboratory Accredited Program (ELAP)-certified laboratory under standard chain-of-custody protocols.

#### Anticipated Activities

- The next groundwater sampling event will take place in January 2024.

<b>Cc:</b>	L. Haley, K. Semon, B. Gochenaur, M. Raygorodetsky (Langan)	<b>By:</b>	Mat Frankel
			<b>LANGAN</b>

### Figure 1: Site Map



- Monitoring Well Location

Cc:	L. Haley, K. Semon, B. Gochenaur, M. Raygorodetsky (Langan)	By:	Mat Frankel
			<b>LANGAN</b>

## SITE OBSERVATION REPORT

### SITE PHOTOGRAPHS



**Photo 1:** View of Langan purging monitoring well MW-2 along the Jackson Avenue sidewalk (facing southwest).

Cc:	L. Haley, K. Semon, B. Gochenaur, M. Raygorodetsky (Langan)	By:	Mat Frankel <b>LANGAN</b>
-----	---	-----	------------------------------

# **ATTACHMENT C**

## **Well Purging and Sampling Logs**

Project Information		Well Information		Equipment Information		Sampling Conditions				Sampling Information	
Project Name:	27-01 Jackson Ave	Well No:	MW-1	Water Quality Device Model:	Horiba U-52	Weather:	Sunny, 46-62 °F			Sample(s):	MW-1_102323
Project Number:	170472002	Well Depth:	19 ft	Pine Number:	213183	Background PID (ppm):	0.0				DUP01_102323
Site Location:	Long Island City, NY	Well Diameter:	2-inch	Pump Make and Model:	Peristaltic Pump	PID Beneath Inner Cap (ppm):	5,158				(MS/MSD)
Sampling Personnel:	Mat Frankel	Well Screen Interval:	9 ft	Pine Number:	24458	Pump Intake Depth:	18.50			Sample Date:	10/23/2023
			19 ft	Tubing Diameter:	0.17 ID x 1/4-inch OD	Depth to Water Before Purge:	10.95			Sample Time:	11:35
STABILIZATION = 3 successive readings within limits											
TIME	TEMP °Celsius  (+/- 3%)	PH  (+/- 0.1)	ORP mV  (+/- 10mV)	CONDUCTIVITY mS/cm  (+/- 3%)	TURBIDITY ntu (+/- 10%) above 5 NTU	DO mg/l (+/- 10%) above 0.5 mg/l	DTW ft Drawdown < 0.33 ft	Flow Rate (gpm)  <0.13 gpm)	Cumulative Discharge Volume (Gal)	NOTES  color, odor etc.	Stabilized?
BEGIN PURGING											
10:55	16.75	8.05	-132	2.760	262.0	1.26	11.60	N/A	0.30	petroleum-like odor	N
11:00	18.18	7.55	-134	2.630	204.0	0.28	11.73	0.07	0.65		N
11:05	18.47	7.51	-130	2.790	106.0	0.17	11.86	0.04	0.85		N
11:10	18.94	7.53	-123	2.940	40.0	0.04	12.01	0.03	1.00		N
11:15	18.72	7.53	-117	2.970	23.7	0.00	12.14	0.06	1.30		N
11:20	18.53	7.52	-109	3.000	18.3	0.00	12.22	0.05	1.55		N
11:25	18.66	7.51	-106	3.010	19.7	0.00	12.30	0.05	1.80		N
11:30	18.67	7.51	-104	3.010	19.5	0.00	13.38	0.06	2.10	petroleum-like odor	Y
<b>Notes:</b> 1. Well depths and groundwater depths were measured in feet below the top of well casing. 2. Well and tubing diameters are measured in inches. 3. PID = Photoionization Detector 4. PPM = Parts per million 5. pH = Hydrogen ion concentration 6. ORP = Oxidation-reduction potential, measured in millivolts (mV) 7. DO = Dissolved Oxygen, measured in milligrams per liter (mg/L) 8. DTW = Depth to water 9. mS/cm = milli-Siemens per centimeter 10. NTU = Nephelometric Turbidity Unit 11. N/A = Not Applicable											
LANGAN Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. 21 Penn Plaza, 360 West 31st Street, 8th Floor, New York											

Project Information		Well Information		Equipment Information			Sampling Conditions			Sampling Information	
Project Name:	27-01 Jackson Ave	Well No:	MW-2	Water Quality Device Model:	Horiba U-52		Weather:	Sunny, 46-62 °F		Sample(s):	MW-2_102323
Project Number:	170472002	Well Depth:	20 ft	Pine Number:	213183		Background PID (ppm):	0.0			
Site Location:	Long Island City, NY	Well Diameter:	1-inch	Pump Make and Model:	Peristaltic Pump		PID Beneath Inner Cap (ppm):	0.0			
Sampling Personnel:	Mat Frankel	Well Screen	10 ft	Pine Number:	24458		Pump Intake Depth:	19.50		Sample Date:	10/23/2023
		Interval:	20 ft	Tubing Diameter:	0.17 ID x 1/4-inch OD		Depth to Water Before Purge:	11.51		Sample Time:	10:05
STABILIZATION = 3 successive readings within limits											
	TEMP °Celsius	PH	ORP mV	CONDUCTIVITY mS/cm	TURBIDITY ntu	DO mg/l	DTW ft	Flow Rate (gpm)	Cumulative Discharge Volume (Gal)	NOTES	Stabilized?
TIME	(+/- 3%)	(+/- 0.1)	(+/- 10mV)	(+/- 3%)	(+/- 10%) above 5 NTU	(+/- 10%) above 0.5 mg/l	Drawdown < 0.33 ft	(<0.13 gpm)		color, odor etc.	
BEGIN PURGING											
9:00	14.88	13.08	-21.00	4.09	170.0	1.19		0.10	0.50	Black water, no odor/sheen	N
9:05	16.71	13.14	-79.00	3.65	198.0	1.14	N/A	0.03	0.65	N/A	N
9:10	18.60	13.04	-77.00	3.20	331.0	4.76	N/A	0.01	0.70	Poor well recharge	N
9:15	18.57	12.93	-66.00	3.07	95.0	5.16	N/A	0.04	0.90		N
9:20	18.55	12.83	-61.00	2.95	155.0	5.73	N/A	0.04	1.10		N
9:25	18.62	12.73	-55.00	2.92	24.9	6.62	N/A	0.02	1.20		N
9:30	18.50	12.71	-55.00	2.92	16.0	6.59	N/A	0.02	1.30		N
9:35	18.48	12.68	-54.00	2.90	11.7	6.58	N/A	0.02	1.40		N
9:40	18.34	12.63	-52.00	2.89	122.0	6.57	N/A	0.02	1.50		N
9:45	18.48	12.58	-52.00	2.86	2.6	6.58	N/A	0.02	1.60		N
9:50	18.41	12.55	-50.00	2.84	28.5	6.55	N/A	0.02	1.70		N
9:55	18.42	12.48	-48.00	2.86	20.4	6.64	N/A	0.02	1.80		N
10:00	18.45	12.45	-46.00	2.84	109.0	6.54	N/A	0.04	1.90	N	
10:05	Additional water quality parameters were not monitored due to poor recharge of the well. Groundwater sample was collected after purging about three well volumes.										
Notes:											
1. Well depths and groundwater depths were measured in feet below the top of well casing.											
2. Well and tubing diameters are measured in inches.											
3. PID = Photoionization Detector											
4. PPM = Parts per million											
5. pH = Hydrogen ion concentration											
6. ORP = Oxidation-reduction potential, measured in millivolts (mV)											
7. DO = Dissolved Oxygen, measured in milligrams per liter (mg/L)											
8. DTW = Depth to water											
9. mS/cm = milli-Siemens per centimeter											
10. NTU = Nephelometric Turbidity Unit											
11. N/A = Not Applicable											
LANGAN Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.											
21 Penn Plaza, 360 West 31st Street, 8th Floor, New York											

# **ATTACHMENT D**

## **Laboratory Analytical Report**





## ANALYTICAL REPORT

Lab Number:	L2362827
Client:	Langan Engineering & Environmental 21 Penn Plaza 360 W. 31st Street, 8th Floor New York, NY 10001-2727
ATTN:	Kimberly Semon
Phone:	(212) 479-5486
Project Name:	27-01 JACKSON AVE
Project Number:	170472002
Report Date:	10/30/23

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-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

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



**Project Name:** 27-01 JACKSON AVE  
**Project Number:** 170472002

**Lab Number:** L2362827  
**Report Date:** 10/30/23

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>	<b>Receive Date</b>
L2362827-01	MW-2_102323	WATER	27-01 JACKSON AVE	10/23/23 10:05	10/23/23
L2362827-02	MW-1_102323	WATER	27-01 JACKSON AVE	10/23/23 11:35	10/23/23
L2362827-03	FB01_102323	WATER	27-01 JACKSON AVE	10/23/23 12:00	10/23/23
L2362827-04	TB01_102323	WATER	27-01 JACKSON AVE	10/23/23 00:00	10/23/23
L2362827-05	DUP01_102323	WATER	27-01 JACKSON AVE	10/23/23 00:00	10/23/23

**Project Name:** 27-01 JACKSON AVE  
**Project Number:** 170472002

**Lab Number:** L2362827  
**Report Date:** 10/30/23

### 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:** 27-01 JACKSON AVE  
**Project Number:** 170472002

**Lab Number:** L2362827  
**Report Date:** 10/30/23

### Case Narrative (continued)

#### Report Submission

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

#### Volatile Organics

L2362827-03: The Field Blank has results for acrylonitrile present above the reporting limit. The sample was re-analyzed and confirmed the original results. The results of the original analysis are reported.

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:



Cristin Walker

Title: Technical Director/Representative

Date: 10/30/23

# ORGANICS

# **VOLATILES**

**Project Name:** 27-01 JACKSON AVE**Lab Number:** L2362827**Project Number:** 170472002**Report Date:** 10/30/23**SAMPLE RESULTS**

Lab ID: L2362827-01  
 Client ID: MW-2\_102323  
 Sample Location: 27-01 JACKSON AVE

Date Collected: 10/23/23 10:05  
 Date Received: 10/23/23  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 10/29/23 02:36  
 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	3.2		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	2.6		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:** 27-01 JACKSON AVE**Lab Number:** L2362827**Project Number:** 170472002**Report Date:** 10/30/23**SAMPLE RESULTS****Lab ID:** L2362827-01**Date Collected:** 10/23/23 10:05**Client ID:** MW-2\_102323**Date Received:** 10/23/23**Sample Location:** 27-01 JACKSON AVE**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	2.3	J	ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	2.3	J	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	3.8	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	0.84	J	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	8.3		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:** 27-01 JACKSON AVE**Lab Number:** L2362827**Project Number:** 170472002**Report Date:** 10/30/23**SAMPLE RESULTS****Lab ID:** L2362827-01**Date Collected:** 10/23/23 10:05**Client ID:** MW-2\_102323**Date Received:** 10/23/23**Sample Location:** 27-01 JACKSON AVE**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	9.5		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	2.5		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	37		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	0.91	J	ug/l	2.0	0.70	1
p-Ethyltoluene	13		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	6.2		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	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	102		70-130

**Project Name:** 27-01 JACKSON AVE**Lab Number:** L2362827**Project Number:** 170472002**Report Date:** 10/30/23**SAMPLE RESULTS**

Lab ID: L2362827-02  
 Client ID: MW-1\_102323  
 Sample Location: 27-01 JACKSON AVE

Date Collected: 10/23/23 11:35  
 Date Received: 10/23/23  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 10/29/23 02:59

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	4.7		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:** 27-01 JACKSON AVE**Lab Number:** L2362827**Project Number:** 170472002**Report Date:** 10/30/23**SAMPLE RESULTS**

Lab ID: L2362827-02  
 Client ID: MW-1\_102323  
 Sample Location: 27-01 JACKSON AVE

Date Collected: 10/23/23 11:35  
 Date Received: 10/23/23  
 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	3.7		ug/l	2.5	0.70	1
o-Xylene	0.98	J	ug/l	2.5	0.70	1
Xylenes, Total	4.7	J	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	1.4	J	ug/l	2.5	0.70	1
sec-Butylbenzene	0.90	J	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	3.9		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	2.2	J	ug/l	2.5	0.70	1

**Project Name:** 27-01 JACKSON AVE**Lab Number:** L2362827**Project Number:** 170472002**Report Date:** 10/30/23**SAMPLE RESULTS**

Lab ID: L2362827-02  
 Client ID: MW-1\_102323  
 Sample Location: 27-01 JACKSON AVE

Date Collected: 10/23/23 11:35  
 Date Received: 10/23/23  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	7.1		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	5.3		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	7.2		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	1.6	J	ug/l	2.0	0.70	1
p-Ethyltoluene	4.0		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	7.6		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	98		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	95		70-130

**Project Name:** 27-01 JACKSON AVE**Lab Number:** L2362827**Project Number:** 170472002**Report Date:** 10/30/23**SAMPLE RESULTS**

Lab ID: L2362827-03  
 Client ID: FB01\_102323  
 Sample Location: 27-01 JACKSON AVE

Date Collected: 10/23/23 12:00  
 Date Received: 10/23/23  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 10/29/23 01:52  
 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:** 27-01 JACKSON AVE**Lab Number:** L2362827**Project Number:** 170472002**Report Date:** 10/30/23**SAMPLE RESULTS**

Lab ID: L2362827-03  
 Client ID: FB01\_102323  
 Sample Location: 27-01 JACKSON AVE

Date Collected: 10/23/23 12:00  
 Date Received: 10/23/23  
 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	12		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:** 27-01 JACKSON AVE**Lab Number:** L2362827**Project Number:** 170472002**Report Date:** 10/30/23**SAMPLE RESULTS****Lab ID:** L2362827-03**Date Collected:** 10/23/23 12:00**Client ID:** FB01\_102323**Date Received:** 10/23/23**Sample Location:** 27-01 JACKSON AVE**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	101		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	100		70-130

**Project Name:** 27-01 JACKSON AVE**Lab Number:** L2362827**Project Number:** 170472002**Report Date:** 10/30/23**SAMPLE RESULTS**

Lab ID: L2362827-04  
 Client ID: TB01\_102323  
 Sample Location: 27-01 JACKSON AVE

Date Collected: 10/23/23 00:00  
 Date Received: 10/23/23  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 10/29/23 02:14

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:** 27-01 JACKSON AVE**Lab Number:** L2362827**Project Number:** 170472002**Report Date:** 10/30/23**SAMPLE RESULTS**

Lab ID: L2362827-04  
 Client ID: TB01\_102323  
 Sample Location: 27-01 JACKSON AVE

Date Collected: 10/23/23 00:00  
 Date Received: 10/23/23  
 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	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:** 27-01 JACKSON AVE**Lab Number:** L2362827**Project Number:** 170472002**Report Date:** 10/30/23**SAMPLE RESULTS****Lab ID:** L2362827-04**Date Collected:** 10/23/23 00:00**Client ID:** TB01\_102323**Date Received:** 10/23/23**Sample Location:** 27-01 JACKSON AVE**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	102		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	101		70-130

**Project Name:** 27-01 JACKSON AVE**Lab Number:** L2362827**Project Number:** 170472002**Report Date:** 10/30/23**SAMPLE RESULTS**

Lab ID: L2362827-05  
 Client ID: DUP01\_102323  
 Sample Location: 27-01 JACKSON AVE

Date Collected: 10/23/23 00:00  
 Date Received: 10/23/23  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 10/29/23 03:21

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	5.0		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:** 27-01 JACKSON AVE**Lab Number:** L2362827**Project Number:** 170472002**Report Date:** 10/30/23**SAMPLE RESULTS**

Lab ID: L2362827-05  
 Client ID: DUP01\_102323  
 Sample Location: 27-01 JACKSON AVE

Date Collected: 10/23/23 00:00  
 Date Received: 10/23/23  
 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	4.0		ug/l	2.5	0.70	1
o-Xylene	1.0	J	ug/l	2.5	0.70	1
Xylenes, Total	5.0	J	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	1.6	J	ug/l	2.5	0.70	1
sec-Butylbenzene	1.0	J	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	4.2		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	2.0	J	ug/l	2.5	0.70	1

Project Name: 27-01 JACKSON AVE

Lab Number: L2362827

Project Number: 170472002

Report Date: 10/30/23

## SAMPLE RESULTS

Lab ID: L2362827-05  
 Client ID: DUP01\_102323  
 Sample Location: 27-01 JACKSON AVE

Date Collected: 10/23/23 00:00  
 Date Received: 10/23/23  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	7.7		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	5.6		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	7.5		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	1.7	J	ug/l	2.0	0.70	1
p-Ethyltoluene	4.3		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	8.4		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	96		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	94		70-130

Project Name: 27-01 JACKSON AVE

Lab Number: L2362827

Project Number: 170472002

Report Date: 10/30/23

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260D  
 Analytical Date: 10/28/23 22:30  
 Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-05 Batch: WG1845643-5					
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:** 27-01 JACKSON AVE  
**Project Number:** 170472002

**Lab Number:** L2362827  
**Report Date:** 10/30/23

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260D  
 Analytical Date: 10/28/23 22:30  
 Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-05 Batch: WG1845643-5					
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:** 27-01 JACKSON AVE  
**Project Number:** 170472002

**Lab Number:** L2362827  
**Report Date:** 10/30/23

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260D  
 Analytical Date: 10/28/23 22:30  
 Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-05 Batch: WG1845643-5					
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	99		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	99		70-130



# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** 27-01 JACKSON AVE

**Project Number:** 170472002

**Lab Number:** L2362827

**Report Date:** 10/30/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05 Batch: WG1845643-3 WG1845643-4								
Methylene chloride	98		97		70-130	1		20
1,1-Dichloroethane	110		110		70-130	0		20
Chloroform	97		95		70-130	2		20
Carbon tetrachloride	94		95		63-132	1		20
1,2-Dichloropropane	100		110		70-130	10		20
Dibromochloromethane	94		93		63-130	1		20
1,1,2-Trichloroethane	99		99		70-130	0		20
Tetrachloroethene	110		110		70-130	0		20
Chlorobenzene	100		100		75-130	0		20
Trichlorofluoromethane	81		79		62-150	3		20
1,2-Dichloroethane	93		95		70-130	2		20
1,1,1-Trichloroethane	96		94		67-130	2		20
Bromodichloromethane	86		86		67-130	0		20
trans-1,3-Dichloropropene	93		94		70-130	1		20
cis-1,3-Dichloropropene	85		86		70-130	1		20
1,1-Dichloropropene	93		92		70-130	1		20
Bromoform	92		92		54-136	0		20
1,1,2,2-Tetrachloroethane	100		100		67-130	0		20
Benzene	96		95		70-130	1		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		100		70-130	0		20
Chloromethane	120		110		64-130	9		20
Bromomethane	29	Q	33	Q	39-139	13		20

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** 27-01 JACKSON AVE

**Project Number:** 170472002

**Lab Number:** L2362827

**Report Date:** 10/30/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05 Batch: WG1845643-3 WG1845643-4								
Vinyl chloride	100		100		55-140	0		20
Chloroethane	88		88		55-138	0		20
1,1-Dichloroethene	100		98		61-145	2		20
trans-1,2-Dichloroethene	98		97		70-130	1		20
Trichloroethene	95		94		70-130	1		20
1,2-Dichlorobenzene	110		100		70-130	10		20
1,3-Dichlorobenzene	110		100		70-130	10		20
1,4-Dichlorobenzene	110		100		70-130	10		20
Methyl tert butyl ether	79		82		63-130	4		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	100		95		70-130	5		20
cis-1,2-Dichloroethene	95		95		70-130	0		20
Dibromomethane	87		88		70-130	1		20
1,2,3-Trichloropropane	99		99		64-130	0		20
Acrylonitrile	110		120		70-130	9		20
Styrene	100		100		70-130	0		20
Dichlorodifluoromethane	96		94		36-147	2		20
Acetone	91		98		58-148	7		20
Carbon disulfide	100		100		51-130	0		20
2-Butanone	100		100		63-138	0		20
Vinyl acetate	99		100		70-130	1		20
4-Methyl-2-pentanone	97		100		59-130	3		20
2-Hexanone	95		99		57-130	4		20

# **Lab Control Sample Analysis** Batch Quality Control

**Project Name:** 27-01 JACKSON AVE

**Project Number:** 170472002

**Lab Number:** L2362827

**Report Date:** 10/30/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05 Batch: WG1845643-3 WG1845643-4								
Bromochloromethane	97		97		70-130	0		20
2,2-Dichloropropane	99		96		63-133	3		20
1,2-Dibromoethane	94		94		70-130	0		20
1,3-Dichloropropane	97		97		70-130	0		20
1,1,1,2-Tetrachloroethane	100		100		64-130	0		20
Bromobenzene	110		100		70-130	10		20
n-Butylbenzene	110		100		53-136	10		20
sec-Butylbenzene	110		100		70-130	10		20
tert-Butylbenzene	100		100		70-130	0		20
o-Chlorotoluene	110		110		70-130	0		20
p-Chlorotoluene	110		100		70-130	10		20
1,2-Dibromo-3-chloropropane	93		94		41-144	1		20
Hexachlorobutadiene	120		120		63-130	0		20
Isopropylbenzene	100		99		70-130	1		20
p-Isopropyltoluene	100		100		70-130	0		20
Naphthalene	94		97		70-130	3		20
n-Propylbenzene	110		100		69-130	10		20
1,2,3-Trichlorobenzene	110		110		70-130	0		20
1,2,4-Trichlorobenzene	100		100		70-130	0		20
1,3,5-Trimethylbenzene	100		100		64-130	0		20
1,2,4-Trimethylbenzene	100		100		70-130	0		20
1,4-Dioxane	78		76		56-162	3		20
p-Diethylbenzene	100		100		70-130	0		20

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** 27-01 JACKSON AVE

**Project Number:** 170472002

**Lab Number:** L2362827

**Report Date:** 10/30/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05 Batch: WG1845643-3 WG1845643-4								
p-Ethyltoluene	100		100		70-130	0		20
1,2,4,5-Tetramethylbenzene	100		97		70-130	3		20
Ethyl ether	73		75		59-134	3		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	101		98		70-130
Toluene-d8	104		103		70-130
4-Bromofluorobenzene	99		98		70-130
Dibromofluoromethane	96		96		70-130

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** 27-01 JACKSON AVE

**Project Number:** 170472002

**Lab Number:** L2362827

**Report Date:** 10/30/23

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): 01-05 QC Batch ID: WG1845643-6 WG1845643-7 QC Sample: L2362827-02 Client ID: MW-1_102323												
Methylene chloride	ND	10	9.6	96		9.6	96		70-130	0		20
1,1-Dichloroethane	ND	10	11	110		11	110		70-130	0		20
Chloroform	ND	10	9.4	94		9.4	94		70-130	0		20
Carbon tetrachloride	ND	10	9.6	96		9.4	94		63-132	2		20
1,2-Dichloropropane	ND	10	11	110		10	100		70-130	10		20
Dibromochloromethane	ND	10	9.0	90		8.9	89		63-130	1		20
1,1,2-Trichloroethane	ND	10	10	100		10	100		70-130	0		20
Tetrachloroethene	ND	10	11	110		11	110		70-130	0		20
Chlorobenzene	ND	10	10	100		10	100		75-130	0		20
Trichlorofluoromethane	ND	10	8.1	81		8.1	81		62-150	0		20
1,2-Dichloroethane	ND	10	9.4	94		9.1	91		70-130	3		20
1,1,1-Trichloroethane	ND	10	9.6	96		9.5	95		67-130	1		20
Bromodichloromethane	ND	10	8.5	85		8.3	83		67-130	2		20
trans-1,3-Dichloropropene	ND	10	8.8	88		8.7	87		70-130	1		20
cis-1,3-Dichloropropene	ND	10	8.0	80		8.1	81		70-130	1		20
1,1-Dichloropropene	ND	10	9.3	93		9.4	94		70-130	1		20
Bromoform	ND	10	8.9	89		8.9	89		54-136	0		20
1,1,2,2-Tetrachloroethane	ND	10	9.8	98		9.9	99		67-130	1		20
Benzene	ND	10	9.6	96		9.5	95		70-130	1		20
Toluene	ND	10	10	100		10	100		70-130	0		20
Ethylbenzene	4.7	10	15	103		15	103		70-130	0		20
Chloromethane	ND	10	12	120		12	120		64-130	0		20
Bromomethane	ND	10	6.3	63		6.3	63		39-139	0		20

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** 27-01 JACKSON AVE

**Project Number:** 170472002

**Lab Number:** L2362827

**Report Date:** 10/30/23

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): 01-05 QC Batch ID: WG1845643-6 WG1845643-7 QC Sample: L2362827-02 Client ID: MW-1_102323												
Vinyl chloride	ND	10	10	100		10	100		55-140	0		20
Chloroethane	ND	10	8.9	89		9.0	90		55-138	1		20
1,1-Dichloroethene	ND	10	10	100		10	100		61-145	0		20
trans-1,2-Dichloroethene	ND	10	9.7	97		9.7	97		70-130	0		20
Trichloroethene	ND	10	9.6	96		9.4	94		70-130	2		20
1,2-Dichlorobenzene	ND	10	10	100		10	100		70-130	0		20
1,3-Dichlorobenzene	ND	10	10	100		10	100		70-130	0		20
1,4-Dichlorobenzene	ND	10	10	100		10	100		70-130	0		20
Methyl tert butyl ether	ND	10	8.1	81		8.3	83		63-130	2		20
p/m-Xylene	3.7	20	24	102		24	102		70-130	0		20
o-Xylene	0.98J	20	20	100		20	100		70-130	0		20
cis-1,2-Dichloroethene	ND	10	9.5	95		9.5	95		70-130	0		20
Dibromomethane	ND	10	8.6	86		8.6	86		70-130	0		20
1,2,3-Trichloropropane	ND	10	9.8	98		9.6	96		64-130	2		20
Acrylonitrile	ND	10	12	120		12	120		70-130	0		20
Styrene	ND	20	19	95		19	95		70-130	0		20
Dichlorodifluoromethane	ND	10	9.4	94		9.4	94		36-147	0		20
Acetone	ND	10	11	110		11	110		58-148	0		20
Carbon disulfide	ND	10	10	100		10	100		51-130	0		20
2-Butanone	ND	10	11	110		11	110		63-138	0		20
Vinyl acetate	ND	10	9.6	96		9.6	96		70-130	0		20
4-Methyl-2-pentanone	ND	10	10	100		10	100		59-130	0		20
2-Hexanone	ND	10	11	110		11	110		57-130	0		20

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** 27-01 JACKSON AVE

**Project Number:** 170472002

**Lab Number:** L2362827

**Report Date:** 10/30/23

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): 01-05 QC Batch ID: WG1845643-6 WG1845643-7 QC Sample: L2362827-02 Client ID: MW-1_102323												
Bromochloromethane	ND	10	9.6	96		9.6	96		70-130	0		20
2,2-Dichloropropane	ND	10	8.1	81		7.9	79		63-133	2		20
1,2-Dibromoethane	ND	10	9.4	94		9.2	92		70-130	2		20
1,3-Dichloropropane	ND	10	9.5	95		9.4	94		70-130	1		20
1,1,1,2-Tetrachloroethane	ND	10	9.6	96		9.7	97		64-130	1		20
Bromobenzene	ND	10	9.9	99		10	100		70-130	1		20
n-Butylbenzene	1.4J	10	12	120		12	120		53-136	0		20
sec-Butylbenzene	0.90J	10	11	110		11	110		70-130	0		20
tert-Butylbenzene	ND	10	10	100		10	100		70-130	0		20
o-Chlorotoluene	ND	10	10	100		9.9	99		70-130	1		20
p-Chlorotoluene	ND	10	9.9	99		10	100		70-130	1		20
1,2-Dibromo-3-chloropropane	ND	10	9.5	95		9.6	96		41-144	1		20
Hexachlorobutadiene	ND	10	11	110		11	110		63-130	0		20
Isopropylbenzene	3.9	10	14	101		14	101		70-130	0		20
p-Isopropyltoluene	ND	10	11	110		11	110		70-130	0		20
Naphthalene	2.2J	10	12	120		13	130		70-130	8		20
n-Propylbenzene	7.1	10	17	99		18	109		69-130	6		20
1,2,3-Trichlorobenzene	ND	10	11	110		11	110		70-130	0		20
1,2,4-Trichlorobenzene	ND	10	10	100		10	100		70-130	0		20
1,3,5-Trimethylbenzene	5.3	10	15	97		16	107		64-130	6		20
1,2,4-Trimethylbenzene	7.2	10	17	98		18	108		70-130	6		20
1,4-Dioxane	ND	500	370	74		450	90		56-162	20		20
p-Diethylbenzene	1.6J	10	13	130		13	130		70-130	0		20

**Matrix Spike Analysis***Batch Quality Control***Project Name:** 27-01 JACKSON AVE**Project Number:** 170472002**Lab Number:** L2362827**Report Date:** 10/30/23

<b>Parameter</b>	<b>Native Sample</b>	<b>MS Added</b>	<b>MS Found</b>	<b>MS %Recovery</b>	<b>Qual</b>	<b>MSD Found</b>	<b>MSD %Recovery</b>	<b>Qual</b>	<b>Recovery Limits</b>	<b>RPD</b>	<b>Qual</b>	<b>RPD Limits</b>
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1845643-6 WG1845643-7 QC Sample: L2362827-02 Client ID: MW-1_102323												
p-Ethyltoluene	4.0	10	14	100		14	100		70-130	0		20
1,2,4,5-Tetramethylbenzene	7.6	10	17	94		18	104		70-130	6		20
Ethyl ether	ND	10	7.2	72		7.4	74		59-134	3		20
trans-1,4-Dichloro-2-butene	ND	10	9.6	66	Q	8.9	59	Q	70-130	8		20

<b>Surrogate</b>	<b>MS % Recovery</b>	<b>Qualifier</b>	<b>MSD % Recovery</b>	<b>Qualifier</b>	<b>Acceptance Criteria</b>
1,2-Dichloroethane-d4	98		96		70-130
4-Bromofluorobenzene	98		100		70-130
Dibromofluoromethane	94		93		70-130
Toluene-d8	102		101		70-130



**Project Name:** 27-01 JACKSON AVE**Lab Number:** L2362827**Project Number:** 170472002**Report Date:** 10/30/23**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

Cooler	Custody Seal
A	Absent

**Container Information**

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2362827-01A	Vial HCl preserved	A	NA		4.6	Y	Absent		NYTCL-8260(14)
L2362827-01B	Vial HCl preserved	A	NA		4.6	Y	Absent		NYTCL-8260(14)
L2362827-01C	Vial HCl preserved	A	NA		4.6	Y	Absent		NYTCL-8260(14)
L2362827-02A	Vial HCl preserved	A	NA		4.6	Y	Absent		NYTCL-8260(14)
L2362827-02A1	Vial HCl preserved	A	NA		4.6	Y	Absent		NYTCL-8260(14)
L2362827-02A2	Vial HCl preserved	A	NA		4.6	Y	Absent		NYTCL-8260(14)
L2362827-02B	Vial HCl preserved	A	NA		4.6	Y	Absent		NYTCL-8260(14)
L2362827-02B1	Vial HCl preserved	A	NA		4.6	Y	Absent		NYTCL-8260(14)
L2362827-02B2	Vial HCl preserved	A	NA		4.6	Y	Absent		NYTCL-8260(14)
L2362827-02C	Vial HCl preserved	A	NA		4.6	Y	Absent		NYTCL-8260(14)
L2362827-02C1	Vial HCl preserved	A	NA		4.6	Y	Absent		NYTCL-8260(14)
L2362827-02C2	Vial HCl preserved	A	NA		4.6	Y	Absent		NYTCL-8260(14)
L2362827-03A	Vial HCl preserved	A	NA		4.6	Y	Absent		NYTCL-8260(14)
L2362827-03B	Vial HCl preserved	A	NA		4.6	Y	Absent		NYTCL-8260(14)
L2362827-03C	Vial HCl preserved	A	NA		4.6	Y	Absent		NYTCL-8260(14)
L2362827-04A	Vial HCl preserved	A	NA		4.6	Y	Absent		NYTCL-8260(14)
L2362827-04B	Vial HCl preserved	A	NA		4.6	Y	Absent		NYTCL-8260(14)
L2362827-05A	Vial HCl preserved	A	NA		4.6	Y	Absent		NYTCL-8260(14)
L2362827-05B	Vial HCl preserved	A	NA		4.6	Y	Absent		NYTCL-8260(14)
L2362827-05C	Vial HCl preserved	A	NA		4.6	Y	Absent		NYTCL-8260(14)

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## 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.

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### 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

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#### Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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:** 27-01 JACKSON AVE  
**Project Number:** 170472002

**Lab Number:** L2362827  
**Report Date:** 10/30/23

## REFERENCES

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

## 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

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The following analytes are not included in our Primary NELAP Scope of Accreditation:

**Westborough Facility**

**EPA 624.1:** m/p-xylene, o-xylene, Naphthalene

**EPA 625.1:** alpha-Terpineol

**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**Mansfield Facility**

**SM 2540D:** TSS.

**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

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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, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**

**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).

**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**

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For a complete listing of analytes and methods, please contact your Alpha Project Manager.





# **ATTACHMENT E**

## **Data Usability Summary Report**



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1 University Square Drive Princeton, NJ 08540 T: 609.282.8000  
Mailing Address: 1 University Square Drive Princeton, NJ 08540

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**To:** Kimberly Semon, Langan Senior Project Manager

**From:** Joe Conboy, Langan Senior Staff Chemist

**Date:** November 2, 2023

**Re:** Data Usability Summary Report  
For 27-01 Jackson Avenue  
October 2023 Groundwater Samples  
Langan Project No.: 170472002

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This memorandum presents the findings of an analytical data validation from the analysis of groundwater samples collected in October 2023 by Langan Engineering and Environmental Services at 27-01 Jackson Avenue. The samples were analyzed by Alpha Analytical Laboratories, Inc. (NYSDOH NELAP registration # 11148) for volatile organic compounds (VOCs) by the method specified below.

- VOCs by SW-846 Method 8260D

Table 1, attached, summarizes the laboratory and client sample identification numbers, sample collection dates, level of data validation, and analytical parameters subject to review.

### **Validation Overview**

This data validation was performed in accordance with the following guidelines, where applicable:

- USEPA Region II Standard Operating Procedures (SOPs) for Data Validation
- USEPA Contract Laboratory Program “National Functional Guidelines for Organic Superfund Methods Data Review” (EPA 540- R-20-005, November 2020)
- USEPA Contract Laboratory Program “National Functional Guidelines for Inorganic Superfund Methods Data Review” (EPA 540- R-20-005, November 2020), and
- published analytical methodologies.

# Technical Memorandum

Data Usability Summary Report  
For 27-01 Jackson Avenue  
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The following acronyms may be used in the discussion of data-quality issues:

%D	Percent Difference	MB	Method Blank
CCV	Continuing Calibration Verification	MDL	Method Detection Limit
FB	Field Blank	MS	Matrix Spike
FD	Field Duplicate	MSD	Matrix Spike Duplicate
ICAL	Initial Calibration	RF	Response Factor
ICV	Initial Calibration Verification	RL	Reporting Limit
ISTD	Internal Standard	RPD	Relative Percent Difference
LCL	Lower Control Limit	RSD	Relative Standard Deviation
LCS	Laboratory Control Sample	TB	Trip Blank
LCSD	Laboratory Control Sample Duplicate	UCL	Upper Control Limit

Tier 1 data validation is based on completeness and compliance checks of sample-related QC results including: sample receipt documentation; analytical holding times; sample preservation; blank results (method, field, and trip); surrogate recoveries; MS/MSD recoveries and RPDs values; field duplicate RPDs, laboratory duplicate RPDs, and LCS/LCSD recoveries and RPDs. The SDG L2362827 underwent Tier 1 validation review.

As a result of the review process, the following qualifiers may be assigned to the data in accordance with the USEPA guidelines and our best professional judgment:

- R** – The sample results are unusable because certain criteria were not met when generating the data. The analyte may or may not be present in the sample.
- J** – The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ** – The analyte was not detected at a level greater than or equal to the reporting limit; however, the reported reporting limit is approximate and may be inaccurate or imprecise.
- U** – The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank contamination.
- NJ** – The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

If any validation qualifiers are assigned, these qualifiers should supersede any laboratory-applied qualifiers. Data that is not qualified as a result of this data validation is considered acceptable on the basis of the items specified for review. Data that is qualified as "R" are considered invalid and are not technically usable for data interpretation. Data that is otherwise qualified because of minor data-quality anomalies are usable, as qualified in Table 2 (attached).

# Technical Memorandum

Data Usability Summary Report  
For 27-01 Jackson Avenue  
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## MAJOR DEFICIENCIES:

Major deficiencies include those that grossly impact data quality and necessitate the rejection of results. No major deficiencies were identified.

## MINOR DEFICIENCIES:

Minor deficiencies include anomalies that directly impact data quality and necessitate qualification, but do not result in unusable data. The section below describes the minor deficiencies that were identified.

### VOCs by SW-846 Method 8260D

#### L2362827

The LCS/LCSD for batch WG1845643 exhibited a percent recovery below the LCL for bromomethane (29%, 33%). The associated results in samples MW-2\_102323, MW-1\_102323, and DUP01\_102323 are qualified as J or UJ because of potential low bias.

## OTHER DEFICIENCIES:

Other deficiencies include anomalies that do not directly impact data quality and do not necessitate qualification. The section below describes the other deficiencies that were identified.

### VOCs by SW-846 Method 8260D

#### L2362827

The FB (FB01\_102323) exhibited a detection of acrylonitrile (12 ug/l). The associated results are non-detect. No qualification is necessary.

The MS/MSD performed on sample MW-1\_102323 exhibited a percent recovery below the LCL for trans-1,4-dichloro-2-butene (66%, 59%). Organic results are not qualified on the basis of MS/MSD recoveries alone. No qualification is necessary.

## FIELD DUPLICATES:

One field duplicate and parent sample pair was collected and analyzed for all parameters. For results less than 5X the RL, analytes meet the precision criteria if the absolute difference is less than X the RL. For results greater than 5X the RL, analytes meet the precision criteria if the RPD is less than or equal to 30% groundwater. The following field duplicate and parent sample pair was compared to and met the precision criteria:

- DUP01\_102323 and MW-1\_102323

# Technical Memorandum

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## CONCLUSION:

On the basis of this evaluation, the laboratory appears to have followed the specified analytical methods with the exception of errors discussed above. If a given fraction is not mentioned above, that means that all specified criteria were met for that parameter. All of the data packages met ASP Category B requirements.

All data are considered usable, as qualified. In addition, completeness, defined as the percentage of analytical results that are judged to be valid, is 100%.

Signed:



Joe Conboy  
Senior Staff Chemist