PERIODIC REVIEW REPORT

For

ASTORIA STEEL
Block 911, Lot 1
3-15 36th Avenue
Astoria, Queens County, New York
NYSDEC BCP No. C241155

Prepared For:

Astoria Owners LLC
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September 27, 2023
Langan Project No. 170581301

LANGAN

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1.0 INTRODUCTION

1.1 General

This Periodic Review Report (PRR) was prepared in accordance with the March 4, 2022 revision of the New York State Department of Environmental Conservation (NYSDEC)-approved Site Management Plan (SMP) and Section 6.3 of the NYSDEC Division of Environmental Remediation (DER)-10 Technical Guidance for Site Investigation and Remediation. This report documents annual groundwater monitoring and site inspection at the Astoria Steel site (Brownfield Cleanup Program [BCP] Site No. C241155) for the certification period of April 24, 2022 through April 24, 2023. The site, located at 3-15 26th Avenue in the Hallets Point neighborhood of Astoria, Queens, New York, was remediated pursuant to the March 28, 2014 Brownfield Cleanup Agreement (BCA) and subsequent September 4, 2018 amendment between NYSDEC and Astoria Owners LLC (the Volunteer). A Certificate of Completion (COC) was issued by the NYSDEC on December 24, 2019.

As the site was not remediated to Track 1 standards, engineering controls and institutional controls (EC/IC) were implemented. There have been no changes in site use since the COC was issued; however, a reduction in the groundwater sampling scope was approved by the NYSDEC on November 4, 2021. A Site Location Map is provided as Figure 1. Figure 2 identifies the site area subject to the requirements of the SMP. A copy of the SMP and Environmental Easement (EE) are provided as Appendix A.

As part of the remedy, improvements to the site include an engineered site cover system comprised of impervious cover or a minimum of 18 inches of recycled concrete aggregate (RCA) topped with a minimum 6 inches of topsoil meeting the soil quality requirements in Part 375-6.7(d)(ii)(b), and new shoreline erosion and sedimentation control improvements consisting of rip-rap, hay bales, silt fencing, and a filter sock. Figure 3 identifies the cover system components that are considered ECs at the site.

1.2 Site Location and Background

The about 3.67-acre site is located on the East River waterfront in the Astoria neighborhood of Queens, New York (Queens Borough Tax Map Block 911, Lot 1) and is bound by the East River to the north, 26th Avenue to the south, an industrial/manufacturing property (8-01 26th Avenue) to the east, and industrial/manufacturing properties (3-17 26th Avenue and 4-05 26th Avenue) to the west. The site was most recently occupied by the LeNoble Lumber Company for lumber storage until 2014 when the site was sold to the Volunteer, Astoria Owners LLC. Historic site use also included a steel facility/warehouse, and a metalworking foundry. A mix of commercial and residential properties are located across 26th Avenue to the south. Two former buildings (referred to as Buildings 1 and 2), which covered about 48,500 square feet of the site, were demolished

in 2018 in accordance with the Self-Implementing polychlorinated biphenyl (PCB) Work Plan prepared by Stantec. Prior to implementation of the remedy, the site was a fenced, vacant parcel of land.

Between August 5, 2019 and December 19, 2019, the site was remediated in accordance with the NYSDEC-approved Remedial Action Work Plan (RAWP) and Decision Document (DD). Following completion of the remediation in December 2019, the site achieved a Track 4 Restricted Residential cleanup; therefore, long-term ECs and ICs are required to control exposures to remaining contamination present in media including soil, groundwater and soil vapor.

This report is organized as follows:

- Section 2 – Periodic Review Report Certification – Summarizes the annual certification documenting that ECs/ICs were operated, maintained and monitored in accordance with the SMP.
- Section 3 – SMP Inspections and Annual Groundwater Monitoring – Describes the annual site inspection and groundwater monitoring event completed in June 2023.
- Sections 4 through 6 – SMP Compliance and Operations – Describes SMP operations associated with the annual site inspection and groundwater monitoring performed on-site during the reporting period.

2.0 PERIODIC REVIEW REPORT CERTIFICATION

2.1 Institutional Controls

The IC for the site is an EE to restrict land use and prevent future exposure to contamination remaining at the site. There have been no changes or actions since the COC that require modification to the EE. A copy of the EE is included as Appendix A.

2.2 Engineering Controls

The ECs for the site include:

- Cover System: A site-wide cover system was installed that is comprised of impervious cover or a minimum of 18 inches of RCA topped with a minimum 6 inches of topsoil meeting the soil quality requirements in Part 375-6.7(d)(ii)(b) (i.e., lower of Protection of Groundwater Soil Cleanup Objectives [SCO] or Restricted Use Restricted-Residential [RURR] SCOs). In addition, new shoreline erosion and sedimentation control improvements were installed, consisting of rip-rap, hay bales, silt fencing, and a filter sock. A high visibility demarcation barrier (i.e., orange snow fence) underlies the engineered cover system to clearly establish the Residual Management Zone.
- Monitoring Well Network: Seventeen post-remedy performance monitoring wells were installed within former contaminant source areas, transition areas and downgradient areas to monitor groundwater conditions and remaining contaminants of concern.

ECs were inspected during the annual site inspection on June 27, 2023. Observations are described in Section 3. The site-wide cover system is shown on Figure 3 and the monitoring well network is shown on Figure 4.

2.3 Institutional and Engineering Controls Certificate

The certification period covered by this report is April 24, 2022 through April 24, 2023. Annual inspection and groundwater monitoring, as described in Section 3, were completed in accordance with the requirements of the BCP as certified by the owner and Professional Engineer in the EC/IC Certificate Form. The completed and signed EC/IC Certificate Form is provided as Appendix B.

3.0 PERIODIC REVIEW REPORT - ANNUAL INSPECTIONS AND MONITORING

In accordance with the revised SMP, Langan completed: 1) an annual site inspection, and 2) an annual groundwater monitoring event during this reporting period. The site inspection and groundwater monitoring activities are described in the following sections.

3.1 Site Inspection

In accordance with the SMP monitoring requirements, Langan conducted an annual site inspection on June 27, 2023. The site-wide cover system and monitoring well network were intact and in compliance with the SMP. Isolated sections of the silt fence fabric along the shoreline stormwater trench in the northern region of the site and along the northeastern site boundary were detached from stakes, and hay bales were degraded. The silt fence in the northern region of the site is part of the shoreline erosion and sedimentation control measures installed as part of the remedy. Sections of the construction fence along the site's perimeter were also detached. Ownership was notified and the silt fence, construction fence, and hay bales were repaired/replaced in August 2023. The site inspection form and photographs from the annual site inspection are provided in Appendices C and D, respectively.

3.2 Groundwater Treatment and Previous Monitoring

3.2.1 Groundwater Remedy - Background

Prior to implementation of the in-situ groundwater treatment, and in accordance with the Remedial Action Work Plan (RAWP), Langan performed baseline groundwater sampling of select monitoring wells previously installed by Stantec (MW-118, MW-128, MW-132, MW-138, MW-147, MW-165, and MW-167) between August 5 and 7, 2019. Baseline analytical results are presented in Table 1. Following NYSDEC review of the analytical results, the quantity of injection points was reduced from 40 to 21 locations in the central-west region of the site, as shown on Figure 4.

In accordance with the RAWP, a two-phase groundwater treatment system was implemented to treat chlorinated volatile organic compounds (CVOC) and petroleum-impacted groundwater. The treatment design included in-situ enhanced reductive dechlorination (ERD) via direct-injection of sodium lactate (to treat CVOCs), followed by enhanced in-situ biodegradation (EISB) application of agricultural-grade gypsum (calcium sulfate dehydrate [CaSO4·2H2O]) to treat petroleum-related contaminants of concern.

3.2.2 Monitoring Well Network Description

Three monitoring wells (MW-128, MW-165 and MW-167) were protected and maintained during implementation of the remedy and were sampled following the in-situ groundwater treatments

to evaluate the effectiveness of the groundwater remedy. Following ERD injections, monitoring wells MW-128, MW-165, and MW-167 were sampled on a monthly basis for three months in September 2019, October 2019, and November 2019 (first quarterly event post in-situ groundwater treatment). An additional 14 post-remedy performance monitoring wells were re-installed between December 19 and 20, 2019 to monitor groundwater conditions following ERD injections and EISB application.

A summary of monitoring wells installed across the site and groundwater elevation data is provided in Table 2. Monitoring well locations are shown on Figure 4. Results of the baseline and monthly monitoring events performed between September and November 2019 are summarized in the December 19, 2019 SMP (revised March 4, 2022) and Section 4.6.2 of the December 19, 2019 Final Engineering Report (FER).

3.2.3 Post-Remedy Groundwater Sampling and Analysis

In accordance with the SMP, groundwater monitoring was required on a quarterly basis for a period of one year following ERD injections and EISB application. During the reporting period, three quarterly groundwater monitoring events were performed in accordance with the SMP in March 2020 (second quarterly event), May 2020 (third quarterly event), and August 2020 (fourth quarterly event). The sampling methodology, analysis, observations and results from the three quarterly events are summarized in reports submitted to NYSDEC for review that were dated July 10, 2020, October 23, 2020, and February 10, 2021.

Select groundwater samples from monitoring wells MW-118, MW-126, MW-132, MW-138, MW-165, MW-166 and MW-167 were also analyzed for *dehalococcoides* and the vinyl chloride reductase gene during the second and fourth quarterly events by Microbial Insights of Knoxville, Tennessee[1].

3.2.4 Groundwater Results and Conclusions

During the fourth quarterly sampling event in August 2020, CVOCs were not detected at concentrations above NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values (collectively known as the NYSDEC SGVs) within the CVOC transition zones or in downgradient areas of the site. Overall concentrations of CVOCs have decreased at the site over time. Within the CVOC source area, daughter products including cis-1,2-dichloroethene and vinyl chloride were detected above NYSDEC SGVs. The presence of

[1] Per the NYSDEC-approved RAWP, prepared by Stantec, monitoring wells MW-112, MW-118, MW-126, MW-128, MW-132, MW-138, MW-147, MW-165, MW-166, and MW-167 were proposed to be sampled for biological parameters, *dehalococcoides* and vinyl chloride reductase gene. Following the NYSDEC-approved injection scope revision, monitoring wells MW-112, MW-128, and MW-147 are no longer located within an ERD treatment area and therefore do not require biological sampling.

these compounds indicates the breakdown of the target compound, tetrachloroethene (PCE). PCE was not detected in the fourth quarterly event groundwater samples above the NYSDEC SGVs. Trichloroethene (TCE) was only detected in one monitoring well, MW-167 (in the CVOC source area) at a concentration of 5.5 micrograms per liter (µg/L), slightly above the NYSDEC SGV of 5.0 µg/L, and was likely produced through biodegradation of PCE. Continued degradation of CVOCs within the CVOC source area was anticipated due to the following observations:

- The presence of ferrous iron and dissolved manganese within the CVOC source area
- Increased concentrations of acetone suggesting continued organic substrate distribution and biodegradation occurrence
- Low to moderate levels of both the vinyl chloride reductase gene and *dehalococcoides* detected in the CVOC source area

Petroleum-related SVOCs above NYSDEC SGVs were not identified in groundwater samples collected throughout the site during the 2020 fourth quarterly sampling event. The EISB application paired with source removal of petroleum-impacted soil during implementation of the remedy removed petroleum impacts to groundwater at the site.

As evidenced by the results of the 2020 fourth quarterly monitoring event, petroleum impacts are no longer present in groundwater, PCE has been reduced to below the NYSDEC SGV, and degradation of CVOCs were expected to continue over time. Based on the findings of the Q4 2020 sampling event, the NYSDEC approved a revision to the annual groundwater monitoring scope in an email correspondence dated November 4, 2021. Annual groundwater sampling in 2022 and 2023 only included the collection of groundwater samples from wells where groundwater did not meet the SGVs (MW-138, MW-165, and MW-167). Per NYSDEC approval, future samples will only be analyzed for volatile organic compounds (VOCs). The December 19, 2019 SMP was revised and submitted to the NYSDEC on March 4, 2022.

3.3 Annual Groundwater Monitoring

Langan collected groundwater samples from monitoring wells MW-138, MW-165, and MW-167 on June 27, 2023 during the annual groundwater monitoring event in compliance with the revised SMP. A summary of the sampling methodology and analysis performed is provided below:

3.3.1 Groundwater Sampling Methodology

Prior to sampling, each monitoring well was visually inspected to confirm there was no evidence of tampering or damage, an initial headspace VOC reading (parts per million [ppm]) was recorded with a photoionization detector (PID), and depth to groundwater was measured using a Solinst® oil/water interface probe.

Before sampling, each of the three monitoring wells were purged using the low-flow method developed by the United States Environmental Protection Agency (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 all wells. 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.

3.3.2 Groundwater Sampling Analysis

All monitoring wells were sampled with a peristaltic pump and dedicated tubing immediately following purging. Groundwater samples were collected into laboratory-prepared containers, tightly sealed, uniquely labeled, stored on ice for transport under standard chain-of-custody procedures and analyzed by York Analytical Laboratories, Inc. in Stratford, Connecticut. One trip blank, one field blank, one matrix spike/matrix spike duplicate (MS/MSD), and one duplicate sample were included for quality assurance/quality control (QA/QC) purposes. The groundwater and QA/QC samples were analyzed for Target Compound List (TCL) VOCs only. Photographs from the annual groundwater monitoring event is provided in Appendix D. Groundwater sampling logs are provided in Appendix E.

3.3.3 Groundwater Sampling Results

Cis-1,2-dichloroethene, was detected above the NYSDEC SGV in all three monitoring wells. Vinyl chloride was detected above the NYSDEC SGV in two monitoring wells (MW-138 and MW-165); vinyl chloride was not detected above the NYSDEC SGV in MW-167. When compared to the Q4 groundwater results from 2020, concentrations of cis-1,2-dichloroethene have reduced in all three monitoring wells between 22% and 63%. Vinyl chloride concentrations reduced between 62% to 66% in monitoring wells MW-167 and MW-138 but increased by 12% in monitoring well MW-165. When compared to the March 2022 groundwater results, concentrations of cis-1,2-dichloroethene have increased between 28% to 66% in monitoring wells MW-167 and MW-138, but have decreased by 13% in monitoring well MW-165. Vinyl chloride concentrations increased in monitoring wells MW-138 and MW-165 between 37% and 64%, but remained within the same order of magnitude as the March 2022 concentrations. The slight increases in cis-1,2-dichloroethene and vinyl chloride are likely due to the continued biodegradation of TCE. TCE was only detected in one monitoring well, MW-167 (in the CVOC source area) above the NYSDEC SGV at a concentration of 11 µg/L. As concluded during the Q4 groundwater monitoring event, TCE was likely produced through biodegradation of PCE.

Continued degradation of CVOCs within the CVOC source area may occur in monitoring wells MW-138, MW-165, and MW-167; however, based on the relatively low concentrations

remaining, and relative consistency with the Q4 levels, groundwater monitoring no longer appears to be warranted. Results of the annual groundwater sampling event are presented in Table 3. The laboratory analytical results are included in Appendix F.

3.3.4 Data Validation Overview

A copy of the Analytical Services Protocol (ASP) Category B laboratory report for the annual groundwater monitoring event were validated in accordance with the USEPA validation guidelines for organic and inorganic data. The data usability review confirmed that the data presented in this report is of an appropriate quality for its intended usage. Data reduction, validation, and reporting procedures were completed in accordance with the Quality Assurance Project Plan (QAPP) provided in Appendix I of the SMP. The Data Usability Summary Report (DUSR) is included as Appendix G.

4.0 COMPLIANCE WITH SMP

Specific SMP measures implemented during the annual site inspection and groundwater monitoring event are described in the following sections.

4.1 Construction Health and Safety Plan

The annual site inspection and groundwater monitoring event were performed in compliance with the site-specific Construction Health and Safety Plan (CHASP) and applicable laws and regulations. The health and safety program manager for Langan was William Bohrer, PG.

4.2 Community Air Monitoring Plan

Ground intrusive activities were not conducted during this reporting period; therefore, the SMP Community Air Monitoring Plan (CAMP) was not implemented.

4.3 Soil/Materials Management Plan

The Soil/Materials Management Plan (SMMP) provides details for managing soil/fill at the site, including excavation, material handling, stockpile management, transport and disposal. The plan includes controls to guide effective remedial activities in compliance with applicable laws and regulations. Ground intrusive activities were not conducted during this reporting period; therefore, the SMMP was not implemented.

4.4 Stormwater Pollution Prevention

No ground intrusive construction activities were conducted during this reporting period. Stormwater pollution prevention measures, including the silt fence and hay bales along the stormwater trench in the northern region of the site, were maintained and repaired as needed.

4.5 Deviations from the Site Management Plan

During the annual site inspection, the site-wide cover system and monitoring well network appeared to be intact and in compliance with the SMP; however, isolated sections of the silt fence fabric along the shoreline stormwater trench in the northern region of the site and along the northeastern site boundary were detached from stakes, and hay bales were degraded. Ownership was notified and the silt fence, construction fence, and hay bales were repaired/replaced in August 2023. The remainder of the shoreline erosion and sedimentation control improvements were in compliance with the SMP. No additional deviations from the SMP were identified during this reporting period.

5.0 SMP OPERATION DESCRIPTION

The annual groundwater monitoring event was performed on June 27, 2023. No ground intrusive construction activities were performed on-site during the reporting period. The following sections describe SMP operations performed during this reporting period.

5.1 Site Controls

5.1.1 Erosion and Dust Control

No ground intrusive activities took place on-site during this reporting period; therefore, erosion and dust control measures were not required. Isolated sections of detached silt fence and degraded hay bales observed during the annual site inspection were repaired/replaced in August 2023.

5.1.2 Soil Screening

Residual material beneath the demarcation layer was not disturbed during this reporting period; therefore, soil screening for staining, odors, and elevated PID readings was not implemented.

5.1.3 Stockpile Management

Stockpiles were not constructed during this reporting period.

5.1.4 Fluids Management

During the annual groundwater monitoring event performed during this reporting period, purged groundwater was added to an existing 55-gallon drum containing non-hazardous purged groundwater from the previous groundwater monitoring event in March 2022. The drum was staged in the southwest portion of the site, alongside two drums containing purged groundwater from previous groundwater monitoring events, pending future off-site transport and disposal. No other fluids requiring off-site disposal were generated during this reporting period.

5.1.5 Truck Inspection

Soil was not excavated for off-site disposal from the site during this reporting period; therefore, truck inspections were not necessary.

5.1.6 Site Security

Sections of the construction fence along the site's perimeter were detached. Ownership was notified and the construction fence was repaired and secured in August 2023 to prevent public access to the site.

5.1.7 Nuisance Control

Community nuisance complaints were not received during this reporting period.

5.1.8 Reporting

Langan was on-site during the annual site inspection and groundwater monitoring event. Observations were recorded in field books that included:

- Project number;
- Statement of the activities and locations of work performed; and
- Photographs of notable site conditions and activities.

Digital photographs of site activities documented during this reporting period are provided in Appendix D.

5.2 Material Handling and Excavation

Residual soil/fill beneath the demarcation layer was not disturbed during this reporting period.

5.3 Material Characterization

Material characterization was not conducted during this reporting period; however, groundwater results are sufficient for future groundwater disposal.

5.4 Transport and Off-Site Disposal

No material was transported off-site for disposal during this reporting period.

5.5 Imported Backfill

No material was imported to the site for use as backfill during this reporting period.

6.0 POST-OPERATION ENGINEERING CONTROL STATUS

Engineering Control Status:

- Site Cover System – ***Intact***
- Monitoring Well Network - ***Intact***

This report provides documentation that the ECs are operating in accordance with the SMP. Isolated sections of detached silt fence and degraded hay bales observed during the annual site inspection were repaired/replaced in August 2023. An IC/EC certification is included in Appendix B. The signed certification for this PRR is included as Appendix B.

7.0 CLOSURE

Based on the results of the annual groundwater sampling, the Volunteer requests discontinuation of the annual groundwater monitoring and decommissioning of the monitoring well network.

TABLES

Table 1
Baseline Groundwater Treatment Analytical Results
Periodic Review Report

Astoria Steel
Queens, New York
BCP Site No.: C241155
Langan Project No.: 170581301

Location	NYSDEC	MW112		MW118		MW126		MW128		MW132		MW138		MW138		MW147		MW165		MW166		MW167	
Sample ID	SGVs	MW112_080519		MW118_080619		MW126_080719		MW128_080619		MW132_081919		MW138_080519		GWDUP01_080519		MW147_080619		MW165_080519		MW166_080719		MW167_080719	
Laboratory ID		L1934855-01\018QH-1		L1935076-02		L1935319-01		L1935076-01\018QH-3		L1937343-01\070QH-1		L1934855-03		L1934855-04		L1935076-03		L1934855-02\018QH-2		L1935319-02		L1935319-03	
Sample Date		8/5/2019		8/6/2019		8/7/2019		8/6/2019		8/19/2019		8/5/2019		8/5/2019		8/6/2019		8/5/2019		8/7/2019		8/7/2019	
Volatile Organic Compounds (µg/L)																							
1,1-Dichloroethene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.25	J
Acetone	50	1.8	J	3.5	J	3.9	J	3.2	J	3.2	J	3.5	J	3.8	J	4.5	J	2.6	J	1.6	J	2.8	J
Carbon Disulfide	60	5	U	5	U	5	U	5	U	5	U	1.2	J	1	J	5	U	5	U	5	U	5	U
Cis-1,2-Dichloroethene	5	2.5	U	1.1	J	**20**		1.3	J	2.5	U	2.5	U	2.5	U	0.71	J	**20**		2.5	U	**72**	
Tetrachloroethene (PCE)	5	0.18	J	0.5	U	0.5	U	1.1		0.5	U	0.5	U	0.5	U	2		0.5	U	0.5	U	0.5	U
Total 1,2-Dichloroethene (Cis and Trans)	~	2.5	U	1.1	J	20		1.3	J	2.5	U	2.5	U	2.5	U	0.71	J	20		2.5	U	72	
Trichloroethene (TCE)	5	0.5	U	0.27	J	0.65		0.81		0.5	U	0.5	U	0.5	U	0.58		1.4		0.5	U	4.7	
Vinyl Chloride	2	1	U	1	U	0.21	J	1	U	0.13	J	0.39	J	0.32	J	1	U	1.6		1	U	**3.1**	
Inorganics (µg/L)																							
Arsenic	25	0.52	J	1.88		2.55		0.28	J	9.95		0.98	J	0.96	J	0.23	J	0.75	J	0.67		1.73	
Arsenic (Dissolved)	25	0.69		1.65	U	1.5		0.5	U	9.35		1.12		1		0.5	U	0.8		0.4	J	1.53	
Manganese	300	**329.4**	J	**451.1**		**335.2**		**764.7**		**1,864**		**957.3**	J	**994.3**	J	**618.8**		**604.8**	J	202.4		**766.4**	
Manganese (Dissolved)	300	**431.2**	J	**485.6**		267.6		**776.6**		**1,846**		**975.6**	J	**1,002**	J	**479.3**		**626.1**	J	172.4		**667.6**	
Sodium	20,000	**94,500**		**136,000**		**459,000**		**83,800**		**5,480,000**		**2,600,000**		**2,650,000**		**48,400**		**103,000**		**170,000**		**324,000**	
Sodium (Dissolved)	20,000	**93,400**		**141,000**		**357,000**		**84,700**		**5,480,000**		**2,610,000**		**2,500,000**		**49,100**		**110,000**		**139,000**		**288,000**	
General Chemistry (µg/L)																							
Ferrous Iron	~	500	U	640		680		500	U	2,300		3,600		3,100		500	U	360	J	210	J	1,100	
Total Organic Carbon	~	1,700	J	6,900		6,300		3,900		330	J	1,500	J	1,600	J	3,000		3,200	J	6,500		3,200	
Other (cells/mL)																							
Dehalococcoides	~	5.3		NA		NA		81.8		94.3		NA		NA		NA		598		NA		NA	
tceA Reductase	~	0.5	U	NA		NA		0.4	U	2.9		NA		NA		NA		0.8		NA		NA	
Vinyl Chloride Reductase	~	0.5	U	NA		NA		0.6		128		NA		NA		NA		59		NA		NA	

Notes:
1. Groundwater sample analytical results are compared to the New York State Department of Environmental Conservation (NYSDEC) Title 6 of the Official Compilation of New York Codes, Rules and Regulations (NYCRR) Part 703.5 and the NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values for Class GA Water (herein collectively referenced as "NYSDEC SGVs").
2. Only detected analytes are shown in the table.
3. Detected analytical results above NYSDEC SGVs are bolded and shaded.
4. Analytical results with reporting limits (RL) above NYSDEC SGVs are italicized.
5. Sample GWDUP01_080519 is a duplicate sample of MW138_080519.
6. ~ = Regulatory limit for this analyte does not exist
7. ug/l = micrograms per liter
8. NA = Not analyzed
9. Select groundwater samples from monitoring wells MW-118, MW-126, MW-132, MW-138, MW-165, MW-166 and MW-167 were also analyzed for dehalococcoides and the VC reductase gene by Microbial Insights of Knoxville, Tennessee.

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.

Table 2
Groundwater Monitoring Well Summary
Periodic Review Report

Astoria Steel
Astoria, New York
NYSDEC BCP No. C241155
Langan Project No. 170581301

Well ID	Well Location on Site	Groundwater Contaminant of Concern	Date of Installation	Latitude	Longitude	Depth to Water (feet bgs)
MW-112	South-Central Region	Petroleum	12/20/2019	40.776626	-73.933137	9.59
MW-118	Central-West Region	Petroleum	12/20/2019	40.777087	-73.933181	6.98
MW-126R	Northwest Region	CVOC	12/19/2019	40.777544	-73.932931	9.73
MW-128*	Central-East Region	Petroleum	12/22/2014	40.777356	-73.932305	11.04
MW-132	Northwest Region	CVOC	12/19/2019	40.777665	-73.932738	11.04
MW-138	Central-West Region	CVOC	12/20/2019	40.777425	-73.93301	9.87
MW-147	Central-East Region	Petroleum	12/19/2019	40.777127	-73.932436	10.62
MW-165RA*	Central-West Region	CVOC	12/22/2014	40.777241	-73.933098	9.50
MW-166	Central-West Region	CVOC/ Petroleum	12/20/2019	40.777382	-73.932822	10.54
MW-167*	Central-West Region	CVOC	12/22/2014	40.777482	-73.933027	9.25
MW-168	South-Central Region	Petroleum	12/20/2019	40.77674	-73.932967	10.21
MW-169	Southwest Region	Petroleum	12/20/2019	40.776974	-73.933309	8.01
MW-170	Central Region	Petroleum	12/19/2019	40.777241	-73.932642	10.33
MW-171	Central-East Region	Petroleum	12/19/2019	40.777739	-73.932271	11.16
MW-172	Northeast Region	Petroleum	12/19/2019	40.777343	-73.931941	13.61
MW-173	Northeast Region	Petroleum + CVOCs	12/19/2019	40.77764	-73.931832	10.25
MW-174	North-Central Region	Petroleum + CVOCs	12/19/2019	40.77725	-73.932209	11.01

Notes:

1. Elevations are relative to the North American Vertical Datum of 1988 (NAVD88).
2. bgs = Below grade surface
3. Monitoring wells installed in 2014 were installed by Stantec.
4. Monitoring wells installed in 2019 were installed by Langan.
5. * = Denotes monitoring well was protected and maintained during implementation of the Remedial Action Work Plan (RAWP), prepared by Stantec.
6. Depth to water readings were recorded during the fourth quarterly groundwater monitoring event in August 2020. Depth to water readings at MW-165, MW-167, and MW-138 were measured during the annual groundwater monitoring event in June 2023.

Table 3
Baseline, Quarterly, and Annual Groundwater Monitoring Event Analytical Results for MW-138, MW-165, and MW-167
Periodic Review Report

Astoria Steel
Queens, New York
NYSDEC BCP Site No.: C241155
Langan Project No.: 170581301

Analyte	CAS Number	NYSDEC SGVs	Sampling Event	BASELINE		Q2	Q3	Q4	March 2022		June 2023
			Location	MW138	MW138	MW138	MW138	MW138	MW138	MW138	MW138
			Sample Name	MW138_080519	GWDUP01_080519	MW-138_030520	MW138_052720	MW-138_081120	MW-138_030822	DUP01_030822	MW-138_062723
			Sample Date	08/05/2019	08/05/2019	03/05/2020	05/27/2020	08/11/2020	03/08/2022	03/08/2022	06/27/2023
			Unit	Result	Result	Result	Result	Result	Result	Result	Result
Volatile Organic Compounds											
1,1,1,2-Tetrachloroethane	630-20-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 UJ	<0.2 U	<0.2 U	<0.5 U
1,1,1-Trichloroethane	71-55-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
1,1,2,2-Tetrachloroethane	79-34-5	5	ug/l	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	5	ug/l	NA	NA	NA	NA	<0.2 U	<0.2 U	<0.2 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	<0.2 U	<0.2 U	<0.2 U	<0.5 U
1,1-Dichloroethane	75-34-3	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
1,1-Dichloroethene	75-35-4	5	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.2 U	<0.2 U	<0.2 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	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 UJ	<0.2 U	<0.2 U	<0.5 U
1,2,3-Trichloropropane	96-18-4	0.04	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
1,2,4,5-Tetramethylbenzene	95-93-2	5	ug/l	<2 U	<2 U	1.3 J	<2 U	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 UJ	<0.2 U	<0.2 U	<0.5 U
1,2,4-Trimethylbenzene	95-63-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	0.32 J	<0.2 U	<0.2 U	<0.5 U
1,2-Dibromo-3-Chloropropane	96-12-8	0.04	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 UJ	<0.2 UJ	<0.2 U	<0.2 U	<0.5 U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	0.0006	ug/l	<2 U	<2 U	<2 U	<2 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
1,2-Dichlorobenzene	95-50-1	3	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
1,2-Dichloroethane	107-06-2	0.6	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
1,2-Dichloropropane	78-87-5	1	ug/l	<1 U	<1 U	<1 U	<1 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
1,3-Dichlorobenzene	541-73-1	3	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
1,3-Dichloropropane	142-28-9	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	3	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
1,4-Diethyl Benzene	105-05-5	NS	ug/l	<2 U	<2 U	<2 U	<2 U	NA	NA	NA	NA
1,4-Dioxane (P-Dioxane)	123-91-1	0.35	ug/l	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<40 UJ	<40 U	<40 U	<80 U
2,2-Dichloropropane	594-20-7	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	NA	NA	NA	NA
2-Chlorotoluene	95-49-8	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	NA	NA	NA	NA
2-Hexanone (MBK)	591-78-6	50	ug/l	<5 U	<5 U	<5 UJ	<5 UJ	<0.2 U	0.21 J	0.24 J	<0.5 U
4-Chlorotoluene	106-43-4	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	NA	NA	NA	NA
4-Ethyltoluene	622-96-8	NS	ug/l	<2 U	<2 U	<2 U	<2 U	NA	NA	NA	NA
Acetone	67-64-1	**50**	ug/l	3.5 J	3.8 J	47 J	**98**	**257 BD**	**105**	**96.6**	14.8 J
Acrolein	107-02-8	5	ug/l	NA	NA	NA	NA	<0.2 UJ	<0.2 U	<0.2 U	<0.5 U
Acrylonitrile	107-13-1	5	ug/l	<5 U	<5 U	<5 U	<5 UJ	<0.2 U	<0.2 U	<0.2 U	<0.5 U
Benzene	71-43-2	1	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.46 J	<0.2 UJ	<0.2 UJ	<0.5 U
Bromobenzene	108-86-1	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	NA	NA	NA	NA
Bromochloromethane	74-97-5	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
Bromodichloromethane	75-27-4	50	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
Bromoform	75-25-2	50	ug/l	<2 U	<2 U	<2 U	<2 U	<0.2 UJ	<0.2 U	<0.2 U	<0.5 U
Bromomethane	74-83-9	5	ug/l	<2.5 U	<2.5 U	<2.5 U	4.1	0.47 J	<0.5 U	<0.5 U	<0.5 UJ
Carbon Disulfide	75-15-0	60	ug/l	1.2 J	1 J	<5 U	<5 U	0.41 J	<0.2 U	<0.2 U	<0.5 U
Carbon Tetrachloride	56-23-5	5	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
Chlorobenzene	108-90-7	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	0.21 J	<0.2 U	<0.2 U	<0.5 U
Chloroethane	75-00-3	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
Chloroform	67-66-3	7	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
Chloromethane	74-87-3	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	0.46 J	0.57 J	0.59 J	<0.5 U
Cis-1,2-Dichloroethene	156-59-2	**5**	ug/l	<2.5 U	<2.5 U	**40**	**47**	**38.9**	**8.55**	**10.8**	**14.2**
Cis-1,3-Dichloropropene	10061-01-5	0.4	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
Cyclohexane	110-82-7	NS	ug/l	NA	NA	NA	NA	<0.2 U	<0.2 U	<0.2 U	<0.5 UJ
Cymene	99-87-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	NA	NA	NA	NA
Dibromochloromethane	124-48-1	50	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.2 UJ	<0.2 U	<0.2 U	<0.5 U
Dibromomethane	74-95-3	5	ug/l	<5 U	<5 U	<5 U	<5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
Dichlorodifluoromethane	75-71-8	5	ug/l	<5 UJ	<5 UJ	<5 UJ	<5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
Diethyl Ether (Ethyl Ether)	60-29-7	NS	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	NA	NA	NA	NA
Ethylbenzene	100-41-4	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
Hexachlorobutadiene	87-68-3	0.5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 UJ	<0.2 U	<0.2 U	<0.5 U
Isopropylbenzene (Cumene)	98-82-8	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
M,P-Xylene	179601-23-1	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U
Methyl Acetate	79-20-9	NS	ug/l	NA	NA	NA	NA	<0.2 U	<0.2 U	<0.2 U	<0.5 U
Methyl Ethyl Ketone (2-Butanone)	78-93-3	50	ug/l	<5 U	<5 U	3.9 J	9.4 J	33.2	5.4	5.34	<0.5 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	NS	ug/l	<5 U	<5 U	<5 UJ	1.5 J	5.16	0.67	0.62	<0.5 U
Methylcyclohexane	108-87-2	NS	ug/l	NA	NA	NA	NA	<0.2 UJ	<0.2 U	<0.2 U	<0.5 U
Methylene Chloride	75-09-2	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<1 U	<1 U	<1 U	<2 U
Naphthalene	91-20-3	10	ug/l	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U	NA	NA	NA	NA
n-Butylbenzene	104-51-8	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
n-Propylbenzene	103-65-1	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
o-Xylene (1,2-Dimethylbenzene)	95-47-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
p-Cymene (p-Isopropyltoluene)	CYMP	NS	ug/l	NA	NA	NA	NA	<0.2 U	<0.2 U	<0.2 U	<0.5 U
Sec-Butylbenzene	135-98-8	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
Styrene	100-42-5	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
T-Butylbenzene	98-06-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 UJ	<0.2 UJ	<0.2 UJ	<0.5 U
Tert-Butyl Alcohol	75-65-0	NS	ug/l	NA	NA	NA	NA	<0.5 UJ	<0.5 U	<0.5 U	<1 U
Tert-Butyl Methyl Ether	1634-04-4	10	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
Tetrachloroethene (PCE)	127-18-4	5	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
Toluene	108-88-3	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	0.74	0.64	0.61	<0.5 U
Total 1,2-Dichloroethene (Cis and Trans)	540-59-0	NS	ug/l	<2.5 U	<2.5 U	40	47	NA	NA	NA	NA
Total Xylenes	1330-20-7	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.6 U	<0.6 U	<0.6 U	<1.5 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	NA	NA	NA	NA
Trans-1,2-Dichloroethene	156-60-5	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	0.43 J	<0.2 U	<0.2 U	0.31 J
Trans-1,3-Dichloropropene	10061-02-6	0.4	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.2 UJ	<0.2 U	<0.2 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	NA	NA	NA	NA
Trichloroethene (TCE)	79-01-6	**5**	ug/l	<0.5 U	<0.5 U	3.2	4.4	3.81	0.56	0.52	0.32 J
Trichlorofluoromethane	75-69-4	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.2 U	<0.5 U
Vinyl Acetate	108-05-4	NS	ug/l	<5 U	<5 U	<5 U	<5 U	NA	NA	NA	NA
Vinyl Chloride	75-01-4	**2**	ug/l	0.39 J	0.32 J	**17**	**18**	**17.1**	**2.7 J**	**3.67 J**	**5.87**
Metals - Dissolved											
Arsenic	7440-38-2	25	ug/l	1.12	1	1.59	1.54	<16.7 U	NA	NA	NA
Iron	7439-89-6	**300**	ug/l	**5,910**	**6,160**	NA	NA	**631**	NA	NA	NA
Manganese	7439-96-5	**300**	ug/l	**975.6 J**	**1,002 J**	<1 U	0.68 J	<5.56 U	NA	NA	NA
Sodium	7440-23-5	**20000**	ug/l	**2,610,000**	**2,500,000**	**745,000**	**138,000**	**791,000 J**	NA	NA	NA
Metals - Total											
Arsenic	7440-38-2	25	ug/l	0.98 J	0.96 J	NA	NA	NA	NA	NA	NA
Iron	7439-89-6	**300**	ug/l	**5,440**	**5,730**	NA	NA	NA	NA	NA	NA
Manganese	7439-96-5	**300**	ug/l	**957.3 J**	**994.3 J**	NA	NA	NA	NA	NA	NA
Sodium	7440-23-5	**20000**	ug/l	**2,600,000**	**2,650,000**	NA	NA	NA	NA	NA	NA
General Chemistry											
Ferrous Iron	15438-31-0	NS	ug/l	3,600	3,100	280 J	160 J	200	NA	NA	NA
Total Organic Carbon	TOC	NS	ug/l	1,500 J	1,600 J	17,000	28,000	42,600 D	NA	NA	NA
Other											
BAV1 Vinyl Chloride Reductase	BVC	NS	Cells/ml	NA	NA	<0.4 U	NA	<0.6 U	NA	NA	NA
cerA Reductase	CER	NS	CELLS/ML	NA	NA	NA	NA	NA	NA	NA	NA
Dehalococcoides	DHC	NS	Cells/ml	NA	NA	<0.4 U	NA	0.4 J	NA	NA	NA
toeA Reductase	TCE	NS	Cells/ml	NA	NA	<0.4 U	NA	<0.6 U	NA	NA	NA
Vinyl Chloride Reductase	VCR	NS	Cells/ml	NA	NA	<0.4 U	NA	3.19	NA	NA	NA

Table 3
Baseline, Quarterly, and Annual Groundwater Monitoring Event Analytical Results for MW-138, MW-165, and MW-167
Periodic Review Report

Astoria Steel
Queens, New York
NYSDEC BCP Site No.: C241155
Langan Project No.: 170581301

Analyte	CAS Number	NYSDEC SGVs	Sampling Event	BASELINE	MONTH 1	MONTH 2	MONTH 3 / Q1	Q2	Q3	Q4	March 2022	June 2023
			Location	MW165	MW165	MW165	MW165	MW165	MW165	MW165	MW165	MW165
			Sample Name	MW165_080519	MW-165_092619	MW165_10232019	MW165_112219	MW-165_030420	MW165_052720	MW-165_081120	MW-165_030822	MW-165_062723
			Sample Date	08/05/2019	09/26/2019	10/23/2019	11/22/2019	03/04/2020	05/27/2020	08/11/2020	03/08/2022	06/27/2023
			Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	630-20-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 UJ	<0.2 U	<0.5 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	<0.2 U	<0.2 U	<0.5 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	<0.2 U	<0.2 U	<0.5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	5	ug/l	NA	NA	NA	NA	NA	NA	<0.2 U	<0.2 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	<0.2 U	<0.2 U	<0.5 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	<0.2 U	<0.2 U	<0.5 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	<0.2 U	<0.2 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	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	5	ug/l	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	<0.2 UJ	<0.2 U	<0.5 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	<0.2 U	<0.2 U	<0.5 U
1,2,4,5-Tetramethylbenzene	95-93-2	5	ug/l	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	5	ug/l	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	<0.2 UJ	<0.2 U	<0.5 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	<0.2 U	<0.2 U	<0.5 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 UJ	<0.2 UJ	<0.2 U	<0.5 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	<0.2 U	<0.2 U	<0.5 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	<0.2 U	<0.2 U	<0.5 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	<0.2 U	<0.2 U	<0.5 U
1,2-Dichloropropane	78-87-5	1	ug/l	<1 U	<1 U	<1 UJ	<1 U	<1 U	<1 U	<0.2 U	<0.2 U	<0.5 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	<0.2 U	<0.2 U	<0.5 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	<0.2 U	<0.2 U	<0.5 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	NA	NA	NA
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	<0.2 U	<0.2 U	<0.5 U
1,4-Diethyl Benzene	105-05-5	NS	ug/l	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	NA	NA	NA
1,4-Dioxane (P-Dioxane)	123-91-1	0.35	ug/l	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<40 UJ	<40 U	<80 U
2,2-Dichloropropane	594-20-7	5	ug/l	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U	NA	NA	NA
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	NA	NA	NA
2-Hexanone (MBK)	591-78-6	50	ug/l	<5 U	<5 U	<5 UJ	<5 U	<5 UJ	<5 UJ	<0.2 U	<0.2 U	<0.5 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	NA	NA	NA
4-Ethyltoluene	622-96-8	NS	ug/l	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	NA	NA	NA
Acetone	67-64-1	**50**	ug/l	2.6 J	2.2 J	<5 UJ	<5 UJ	<5 UJ	3.2 J	<11.3 U	2.77 J	<2 U
Acrolein	107-02-8	5	ug/l	NA	NA	NA	NA	NA	NA	<0.2 UJ	<0.2 U	<0.5 U
Acrylonitrile	107-13-1	5	ug/l	<5 U	<5 UJ	<5 UJ	<5 U	<5 UJ	<5 UJ	<0.2 U	<0.2 U	<0.5 U
Benzene	71-43-2	1	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.2 U	<0.2 UJ	<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	NA	NA	NA
Bromochloromethane	74-97-5	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U	<0.2 U	<0.2 U	<0.5 U
Bromodichloromethane	75-27-4	50	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	<0.5 U	<0.2 U	<0.2 U	<0.5 U
Bromoform	75-25-2	50	ug/l	<2 U	<2 U	<2 UJ	<2 UJ	<2 U	<2 U	<0.2 UJ	<0.2 U	<0.5 U
Bromomethane	74-83-9	5	ug/l	<2.5 U	<2.5 UJ	<2.5 UJ	<2.5 U	<2.5 UJ	<2.5 U	<0.2 UJ	<0.5 U	<0.5 UJ
Carbon Disulfide	75-15-0	60	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<0.2 U	<0.2 U	<0.5 U
Carbon Tetrachloride	56-23-5	5	ug/l	<0.5 U	<0.5 UJ	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.2 U	<0.2 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	<0.2 U	<0.2 U	<0.5 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	<0.2 U	<0.2 U	<0.5 U
Chloroform	67-66-3	7	ug/l	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.5 U
Chloromethane	74-87-3	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.5 U
Cis-1,2-Dichloroethene	156-59-2	**5**	ug/l	**20**	**23**	**31**	**39 J**	**52**	**68**	**48.2**	**42.5**	**37.1**
Cis-1,3-Dichloropropene	10061-01-5	0.4	ug/l	<0.5 U	<0.5 UJ	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.2 U	<0.2 U	<0.5 U
Cyclohexane	110-82-7	NS	ug/l	NA	NA	NA	NA	NA	NA	<0.2 U	<0.2 U	<0.5 UJ
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	NA	NA	NA
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	<0.2 UJ	<0.2 U	<0.5 U
Dibromomethane	74-95-3	5	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<0.2 U	<0.2 U	<0.5 U
Dichlorodifluoromethane	75-71-8	5	ug/l	<5 UJ	<5 UJ	<5 UJ	<5 UJ	<5 U	<5 U	<0.2 U	<0.2 U	<0.5 U
Diethyl Ether (Ethyl Ether)	60-29-7	NS	ug/l	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	NA	NA	NA
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	<0.2 U	<0.2 U	<0.5 U
Hexachlorobutadiene	87-68-3	0.5	ug/l	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.5 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	<0.2 U	<0.2 U	<0.5 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	<0.5 U	<0.5 U	<1 U
Methyl Acetate	79-20-9	NS	ug/l	NA	NA	NA	NA	NA	NA	<0.2 U	<0.2 U	<0.5 U
Methyl Ethyl Ketone (2-Butanone)	78-93-3	50	ug/l	<5 U	<5 UJ	<5 UJ	<5 UJ	<5 UJ	<5 UJ	<0.2 U	<0.2 U	<0.5 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	NS	ug/l	<5 U	<5 UJ	<5 U	<5 UJ	<5 UJ	<5 UJ	<0.2 U	<0.2 U	<0.5 U
Methylcyclohexane	108-87-2	NS	ug/l	NA	NA	NA	NA	NA	NA	<0.2 UJ	<0.2 U	<0.5 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	<1 U	<1 U	<2 U
Naphthalene	91-20-3	10	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	NA	NA	NA
n-Butylbenzene	104-51-8	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.5 U
n-Propylbenzene	103-65-1	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.5 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	<0.2 U	<0.2 U	<0.5 U
p-Cymene (p-Isopropyltoluene)	CYMP	NS	ug/l	NA	NA	NA	NA	NA	NA	<0.2 U	<0.2 U	<0.5 U
Sec-Butylbenzene	135-98-8	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.5 U
Styrene	100-42-5	5	ug/l	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.5 U
T-Butylbenzene	98-06-6	5	ug/l	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 UJ	<0.2 UJ	<0.5 U
Tert-Butyl Alcohol	75-65-0	NS	ug/l	NA	NA	NA	NA	NA	NA	<0.5 UJ	<0.5 U	<1 U
Tert-Butyl Methyl Ether	1634-04-4	10	ug/l	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	<2.5 U	0.24 J	<0.2 U	<0.5 U
Tetrachloroethene (PCE)	127-18-4	5	ug/l	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	<0.5 U	<0.5 U	<0.2 U	<0.2 U	<0.5 U
Toluene	108-88-3	5	ug/l	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.5 U
Total 1,2-Dichloroethene (Cis and Trans)	540-59-0	NS	ug/l	20	23	31	39	52	68	NA	NA	NA
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	<0.6 U	<0.6 U	<1.5 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	NA	NA	NA
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	0.42 J	0.62	0.34 J
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	<0.2 UJ	<0.2 U	<0.5 U
Trans-1,4-Dichloro-2-Butene	110-57-6	5	ug/l	<2.5 U	<2.5 UJ	<2.5 UJ	<2.5 UJ	<2.5 U	<2.5 U	NA	NA	NA
Trichloroethene (TCE)	79-01-6	**5**	ug/l	1.4	<0.5 U	0.18 J	1.1	<0.5 U	0.28 J	<0.2 U	0.45 J	<0.5 U
Trichlorofluoromethane	75-69-4	5	ug/l	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.5 U
Vinyl Acetate	108-05-4	NS	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	NA	NA	NA
Vinyl Chloride	75-01-4	**2**	ug/l	1.6	**2.3**	**4.2**	**3.6**	**9.6**	**9**	**18.8**	**11**	**21.1**
Metals - Dissolved												
Arsenic	7440-38-2	25	ug/l	0.8	0.26 J	0.68	0.61	0.76	<0.5 U	<16.7 U	NA	NA
Iron	7439-89-6	**300**	ug/l	**937**	NA	**860**	NA	NA	NA	**718**	NA	NA
Manganese	7439-96-5	**300**	ug/l	**626.1 J**	**572.5**	**838.6**	**635.7**	**887 J**	**710.7 J**	**540**	NA	NA
Sodium	7440-23-5	**20000**	ug/l	**110,000**	**119,000**	**192,000**	**121,000**	**118,000**	**84,400**	**117,000 J**	NA	NA
Metals - Total												
Arsenic	7440-38-2	25	ug/l	0.75 J	NA	NA	NA	NA	NA	NA	NA	NA
Iron	7439-89-6	**300**	ug/l	**628**	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	7439-96-5	**300**	ug/l	**604.8 J**	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	7440-23-5	**20000**	ug/l	**103,000**	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry												
Ferrous Iron	15438-31-0	NS	ug/l	360 J	NA	150 J	400 J	530	200 J	<200 U	NA	NA
Total Organic Carbon	TOC	NS	ug/l	3,200 J	4,400	4,700	4,900	4,700	4,200	5,130	NA	NA
Other												
BAV1 Vinyl Chloride Reductase	BVC	NS	Cells/ml	<0.5 U	NA	NA	<0.5	0.2 J	NA	<0.5 U	NA	NA
cerA Reductase	CER	NS	CELLS/ML	NA	NA	NA	64.3	NA	NA	NA	NA	NA
Dehalococcoides	DHC	NS	Cells/ml	598	NA	NA	352	352	NA	1.45	NA	NA
tceA Reductase	TCE	NS	Cells/ml	0.8	NA	NA	0.6	0.9	NA	3.8	NA	NA
Vinyl Chloride Reductase	VCR	NS	Cells/ml	59	NA	NA	45.3	86.5	NA	17.7	NA	NA

Table 3
Baseline, Quarterly, and Annual Groundwater Monitoring Event Analytical Results for MW-138, MW-165, and MW-167
Periodic Review Report

Astoria Steel
Queens, New York
NYSDEC BCP Site No.: C241155
Langan Project No.: 170581301

Analyte	CAS Number	NYSDEC SGVs	Sampling Event	BASELINE	MONTH 1	MONTH 2	MONTH 3 / Q1	Q2	Q3	Q4	March 2022	June 2023	
			Location	MW167	MW167	MW167	MW167	MW167	MW167	MW167	MW167	MW167	MW167
			Sample Name	MW167_080719	MW-167_092619	MW167_10232019	MW167_112219	MW-167_030520	MW167_052720	MW-167_081120	MW-167_030822	MW-167_062723	DUP01_062723
			Sample Date	08/07/2019	09/26/2019	10/23/2019	11/22/2019	03/05/2020	05/27/2020	08/11/2020	03/08/2022	06/27/2023	06/27/2023
			Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Volatile Organic Compounds													
1,1,1,2-Tetrachloroethane	630-20-6	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 UJ	<0.2 U	<0.5 U	<0.5 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	<0.2 U	<0.2 U	<0.5 U	<0.5 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 UJ	<0.5 U	<0.2 U	<0.2 U	<0.5 U	<0.5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	5	ug/l	NA	NA	NA	NA	NA	NA	<0.2 U	<0.2 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	<0.2 U	<0.2 U	<0.5 U	<0.5 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	<0.2 U	<0.2 U	<0.5 U	<0.5 U
1,1-Dichloroethene	75-35-4	5	ug/l	0.25 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.2 U	<0.2 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	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87-61-6	5	ug/l	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	<0.2 UJ	<0.2 U	<0.5 U	<0.5 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	<0.2 U	<0.2 U	<0.5 U	<0.5 U
1,2,4,5-Tetramethylbenzene	95-93-2	5	ug/l	<2 U	<2 U	<2 U	<2 UJ	<2 U	<2 U	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	5	ug/l	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	<0.2 UJ	<0.2 U	<0.5 U	<0.5 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	<0.2 U	<0.2 U	<0.5 U	<0.5 U
1,2-Dibromo-3-Chloropropane	96-12-8	0.04	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U	<2.5 UJ	<0.2 UJ	<0.2 U	<0.5 U	<0.5 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	<0.2 U	<0.2 U	<0.5 U	<0.5 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	<0.2 U	<0.2 U	<0.5 U	<0.5 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	<0.2 U	<0.2 U	<0.5 U	<0.5 U
1,2-Dichloropropane	78-87-5	1	ug/l	<1 U	<1 U	<1 UJ	<1 U	<1 U	<1 U	<0.2 U	<0.2 U	<0.5 U	<0.5 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	<0.2 U	<0.2 U	<0.5 U	<0.5 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	<0.2 U	<0.2 U	<0.5 U	<0.5 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	NA	NA	NA	NA
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	<0.2 U	<0.2 U	<0.5 U	<0.5 U
1,4-Diethyl Benzene	105-05-5	NS	ug/l	<2 U	<2 U	<2 U	<2 UJ	<2 U	<2 U	NA	NA	NA	NA
1,4-Dioxane (P-Dioxane)	123-91-1	0.35	ug/l	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<40 UJ	<40 U	<80 U	<80 U
2,2-Dichloropropane	594-20-7	5	ug/l	<2.5 U	<2.5 UJ	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	NA	NA	NA	NA
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	NA	NA	NA	NA
2-Hexanone (MBK)	591-78-6	50	ug/l	<5 U	<5 U	<5 UJ	<5 U	<5 UJ	<5 UJ	<0.2 U	<0.2 U	<0.5 U	<0.5 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	NA	NA	NA	NA
4-Ethyltoluene	622-96-8	NS	ug/l	<2 U	<2 U	<2 U	<2 UJ	<2 U	<2 U	NA	NA	NA	NA
Acetone	67-64-1	**50**	ug/l	2.8 J	<5 UJ	2.1 J	<5 UJ	<5 UJ	<5 U	<2 U	<1 U	<2 U	<2 U
Acrolein	107-02-8	5	ug/l	NA	NA	NA	NA	NA	NA	<0.2 UJ	<0.2 U	<0.5 U	<0.5 U
Acrylonitrile	107-13-1	5	ug/l	<5 U	<5 UJ	<5 UJ	<5 U	<5 U	<5 UJ	<0.2 U	<0.2 U	<0.5 U	<0.5 U
Benzene	71-43-2	1	ug/l	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.2 U	<0.2 UJ	<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	NA	NA	NA	NA
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	<0.2 U	<0.2 U	<0.5 U	<0.5 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	<0.2 U	<0.2 U	<0.5 U	<0.5 U
Bromoform	75-25-2	50	ug/l	<2 U	<2 U	<2 UJ	<2 U	<2 U	<2 U	<0.2 UJ	<0.2 U	<0.5 U	<0.5 U
Bromomethane	74-83-9	5	ug/l	<2.5 U	<2.5 UJ	<2.5 UJ	<2.5 UJ	<2.5 U	<2.5 U	<0.2 UJ	<0.2 U	<0.5 UJ	<0.5 UJ
Carbon Disulfide	75-15-0	60	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<0.2 U	<0.2 U	<0.5 U	<0.5 U
Carbon Tetrachloride	56-23-5	5	ug/l	<0.5 U	<0.5 UJ	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.2 U	<0.2 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	<0.2 U	<0.2 U	<0.5 U	<0.5 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	<0.2 U	<0.2 U	<0.5 U	<0.5 U
Chloroform	67-66-3	7	ug/l	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.5 U	<0.5 U
Chloromethane	74-87-3	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<0.2 U	<0.5 U	<0.5 U	<0.5 U
Cis-1,2-Dichloroethene	156-59-2	**5**	ug/l	**72**	**49**	**50**	**35 J**	**40**	**42**	**34**	**20.6**	**26.3**	**27.2**
Cis-1,3-Dichloropropene	10061-01-5	0.4	ug/l	<0.5 U	<0.5 UJ	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.2 U	<0.2 U	<0.5 U	<0.5 U
Cyclohexane	110-82-7	NS	ug/l	NA	NA	NA	NA	NA	NA	<0.2 U	<0.2 U	<0.5 UJ	<0.5 UJ
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	NA	NA	NA	NA
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	<0.2 UJ	<0.2 U	<0.5 U	<0.5 U
Dibromomethane	74-95-3	5	ug/l	<5 U	<5 U	<5 U	<5 UJ	<5 U	<5 U	<0.2 U	<0.2 U	<0.5 U	<0.5 U
Dichlorodifluoromethane	75-71-8	5	ug/l	<5 UJ	<5 UJ	<5 UJ	<5 UJ	<5 UJ	<5 U	<0.2 U	<0.2 U	<0.5 U	<0.5 U
Diethyl Ether (Ethyl Ether)	60-29-7	NS	ug/l	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	NA	NA	NA	NA
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	<0.2 U	<0.2 U	<0.5 U	<0.5 U
Hexachlorobutadiene	87-68-3	0.5	ug/l	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.5 U	<0.5 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	<0.2 U	<0.2 U	<0.5 U	<0.5 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	<0.5 U	<0.5 U	<1 U	<1 U
Methyl Acetate	79-20-9	NS	ug/l	NA	NA	NA	NA	NA	NA	<0.2 U	<0.2 U	<0.5 U	<0.5 U
Methyl Ethyl Ketone (2-Butanone)	78-93-3	50	ug/l	<5 UJ	<5 UJ	<5 UJ	<5 UJ	<5 U	<5 UJ	<0.2 U	<0.2 U	<0.5 U	<0.5 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	NS	ug/l	<5 U	<5 UJ	<5 U	<5 UJ	<5 UJ	<5 UJ	<0.2 U	<0.2 U	<0.5 U	<0.5 U
Methylcyclohexane	108-87-2	NS	ug/l	NA	NA	NA	NA	NA	NA	<0.2 UJ	<0.2 U	<0.5 U	<0.5 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	<1 U	<1 U	<2 U	<2 U
Naphthalene	91-20-3	10	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U	NA	NA	NA	NA
n-Butylbenzene	104-51-8	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.5 U	<0.5 U
n-Propylbenzene	103-65-1	5	ug/l	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.5 U	<0.5 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	<0.2 U	<0.2 U	<0.5 U	<0.5 U
p-Cymene (p-Isopropyltoluene)	CYMP	NS	ug/l	NA	NA	NA	NA	NA	NA	<0.2 U	<0.2 U	<0.5 U	<0.5 U
Sec-Butylbenzene	135-98-8	5	ug/l	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.5 U	<0.5 U
Styrene	100-42-5	5	ug/l	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.5 U	<0.5 U
T-Butylbenzene	98-06-6	5	ug/l	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 UJ	<0.2 UJ	<0.5 U	<0.5 U
Tert-Butyl Alcohol	75-65-0	NS	ug/l	NA	NA	NA	NA	NA	NA	<0.5 UJ	<0.5 U	<1 U	<1 U
Tert-Butyl Methyl Ether	1634-04-4	10	ug/l	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.5 U	<0.5 U
Tetrachloroethene (PCE)	127-18-4	5	ug/l	<0.5 U	<0.5 U	<0.5 UJ	<0.5 U	<0.5 U	<0.5 U	<0.2 U	<0.2 U	<0.5 U	<0.5 U
Toluene	108-88-3	5	ug/l	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.5 U	<0.5 U
Total 1,2-Dichloroethene (Cis and Trans)	540-59-0	NS	ug/l	72	49	50	35	40	42	NA	NA	NA	NA
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	<0.6 U	<0.6 U	<1.5 U	<1.5 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	NA	NA	NA	NA
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	0.57	0.25 J	<0.5 U	<0.5 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	<0.2 UJ	<0.2 U	<0.5 U	<0.5 U
Trans-1,4-Dichloro-2-Butene	110-57-6	5	ug/l	<2.5 U	<2.5 UJ	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	NA	NA	NA	NA
Trichloroethene (TCE)	79-01-6	**5**	ug/l	4.7	<0.5 U	0.62	0.72	**8**	**6.2**	**5.5**	**6.01**	**11**	**11**
Trichlorofluoromethane	75-69-4	5	ug/l	<2.5 U	<2.5 UJ	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<0.2 U	<0.2 U	<0.5 U	<0.5 U
Vinyl Acetate	108-05-4	NS	ug/l	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	NA	NA	NA	NA
Vinyl Chloride	75-01-4	**2**	ug/l	**3.1**	**7.8**	**13**	**8 J**	**4.2**	**4.6**	**4.94**	**3.8**	1.87	1.96
Metals - Dissolved													
Arsenic	7440-38-2	25	ug/l	1.53	2.48	2.73	7.05	0.98	0.4 J	<16.7 U	NA	NA	NA
Iron	7439-89-6	**300**	ug/l	**1,840**	NA	**2,000**	NA	NA	NA	**1,450**	NA	NA	NA
Manganese	7439-96-5	**300**	ug/l	**667.6**	**658.5**	**707.3**	**990**	**644.6**	**546.7 J**	**573**	NA	NA	NA
Sodium	7440-23-5	**20000**	ug/l	**288,000**	**718,000**	**241,000**	**647,000**	**205,000 J**	**157,000**	**162,000 J**	NA	NA	NA
Metals - Total													
Arsenic	7440-38-2	25	ug/l	1.73	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	7439-89-6	**300**	ug/l	**2,570**	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	7439-96-5	**300**	ug/l	**766.4**	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	7440-23-5	**20000**	ug/l	**324,000**	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry													
Ferrous Iron	15438-31-0	NS	ug/l	1,100	NA	2,700	2,800	1,300	570	900	NA	NA	NA
Total Organic Carbon	TOC	NS	ug/l	3,200	2,600	4,400	3,100	3,900	3,800	2,220	NA	NA	NA
Other													
BAV1 Vinyl Chloride Reductase	BVC	NS	Cells/ml	NA	NA	NA	0.2 J	<0.5 U	NA	0.3 J	NA	NA	NA
cerA Reductase	CER	NS	CELLS/ML	NA	NA	NA	1,130	NA	NA	NA	NA	NA	NA
Dehalococcoides	DHC	NS	Cells/ml	NA	NA	NA	458	97.8	NA	326	NA	NA	NA
tceA Reductase	TCE	NS	Cells/ml	NA	NA	NA	0.5 J	0.5 J	NA	1.3	NA	NA	NA
Vinyl Chloride Reductase	VCR	NS	Cells/ml	NA	NA	NA	1,790	51.3	NA	692	NA	NA	NA

Table 3
Baseline, Quarterly, and Annual Groundwater Monitoring Event Analytical Results for MW-138, MW-165, and MW-167
Periodic Review Report

Astoria Steel
Queens, New York
NYSDEC BCP Site No.: C241155
Langan Project No.: 170581301

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").

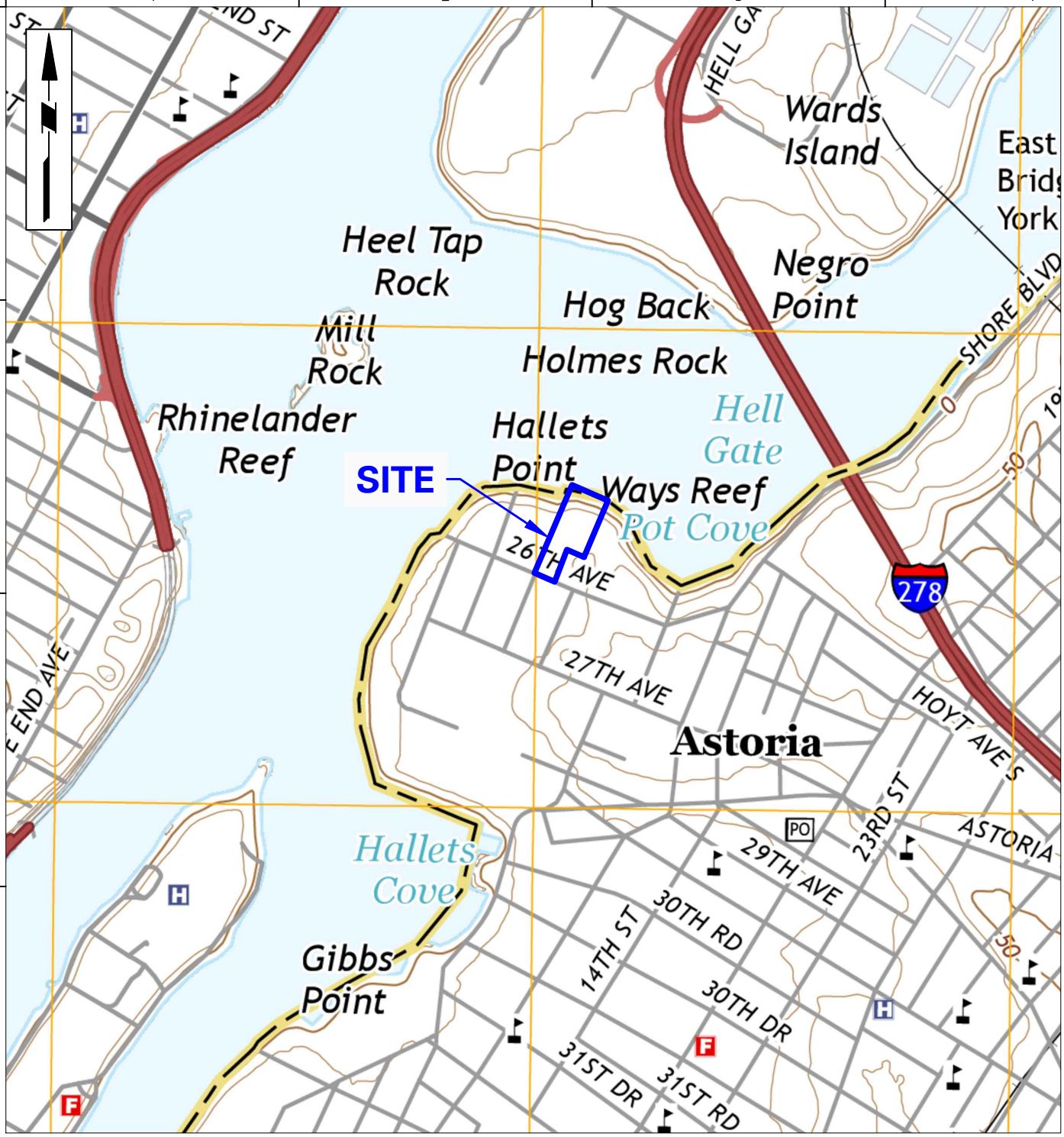
Qualifiers:

D - The concentration reported is a result of a diluted sample.
B - The analyte was found in the associated analysis batch blank.
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

FIGURES



NOTE:

BASE MAPS ADAPTED FROM UNITED STATES GEOLOGICAL SURVEY (USGS) 7.5-MINUTE CENTRAL PARK TOPOGRAPHIC QUADRANGLE, DATED 2016.

1000 0 500 1000

SCALE IN FEET

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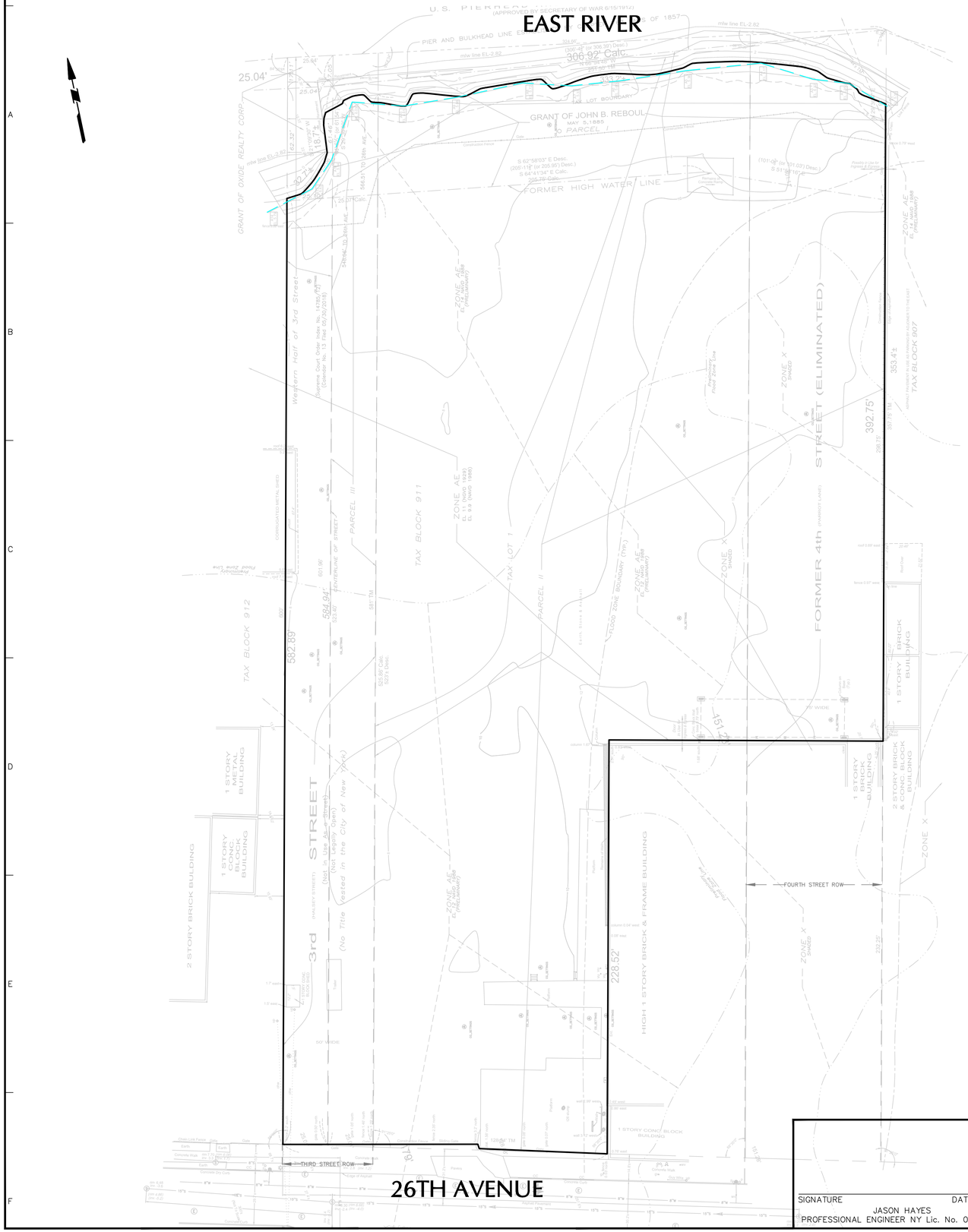
Project	ASTORIA STEEL 3-15 26TH AVENUE NYSDEC BCP SITE No. C241155 BLOCK No. 911, LOT No. 1 QUEENS NEW YORK
Figure Title	SITE LOCATION MAP
Project No.	170581301
Date	04/30/2021
Drawn By	NEK
Checked By	ES
Figure No.	1



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SIGNATURE DATE SIGNED
JASON HAYES
PROFESSIONAL ENGINEER NY Lic. No. 089491-1

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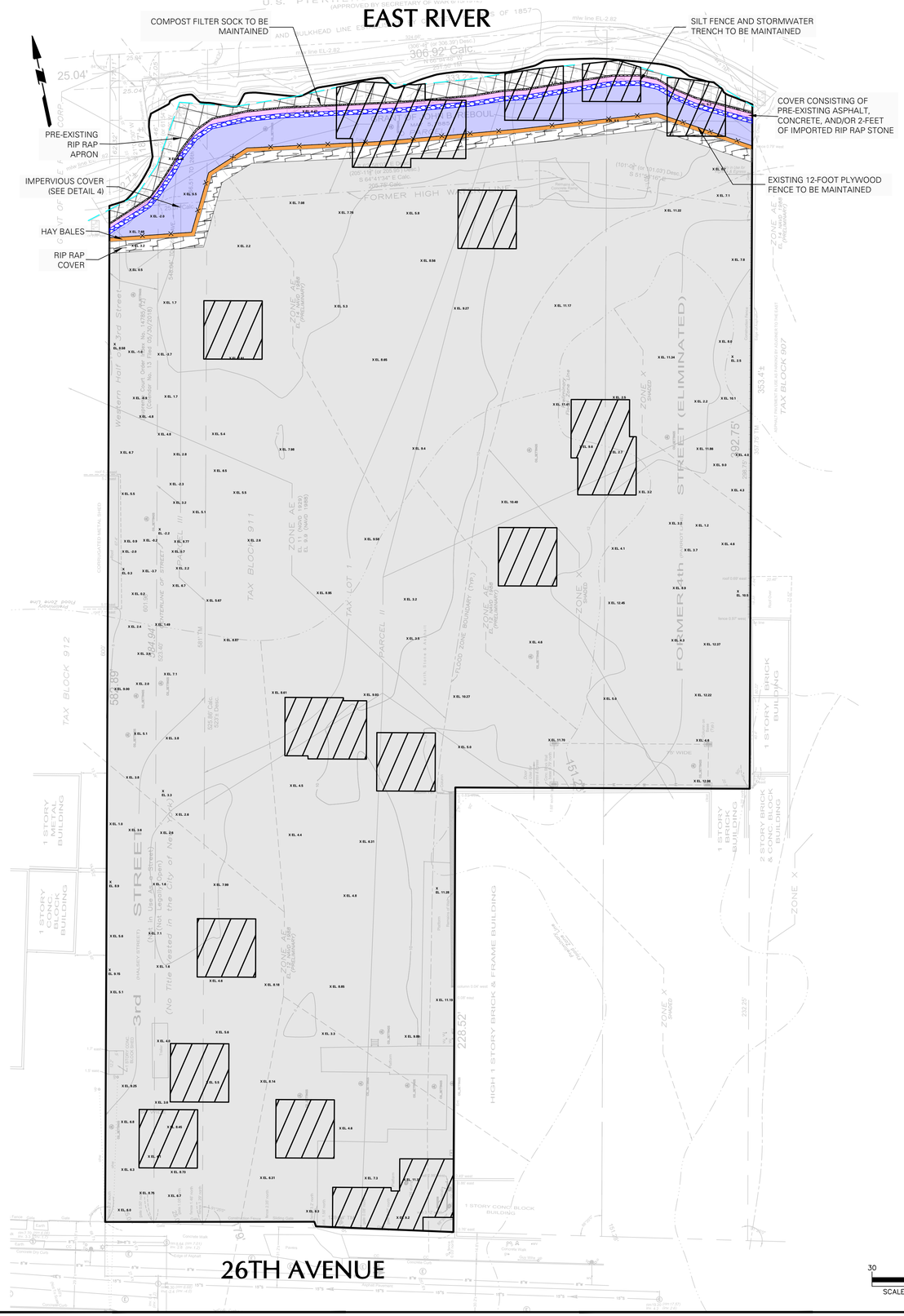
Project
ASTORIA STEEL
3-15 26TH AVENUE
NYSDEC BCP SITE No. C241155
BLOCK No. 911, LOT No. 1
QUEENS NEW YORK

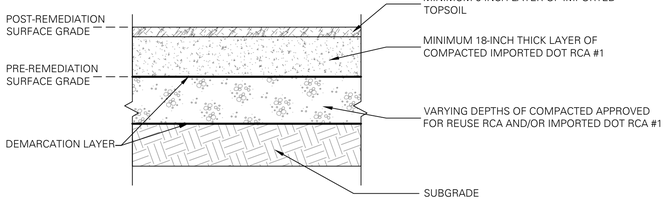
Figure Title
SITE LAYOUT PLAN

Project No.	170581301
Date	04/30/2021
Drawn By	NEK
Checked By	ELS
Figure No.	2

LANGAN
PROJECT NO. 170581301

Filename: \\langan.com\data\NYC\data3\170581301\Project Data\CAD\01\SheetFiles\Environmental\PRR 2021\Figure 2 - Site Layout Plan.dwg Date: 4/30/2021 Time: 09:39 User: jcambeiro Style Table: Langan.stb Layout: ARCHD-BL

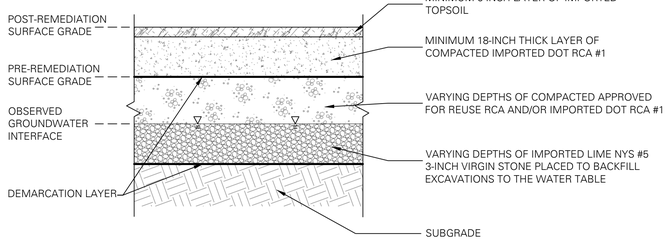




NOTES:

1. DEPARTMENT OF TRANSPORTATION (DOT) RCA #1 CONTAINS LESS THAN 10% BY WEIGHT MATERIAL WHICH WOULD PASS THROUGH A SIZE 80 SIEVE

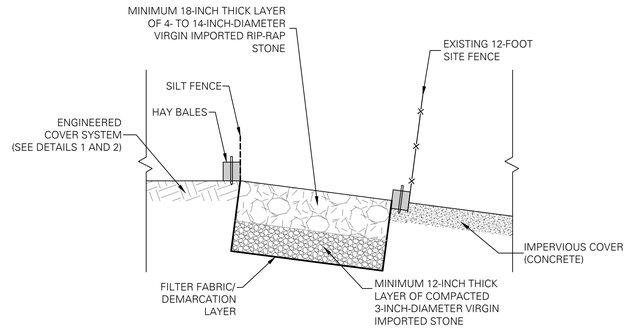
1 SITE COVER SYSTEM - REMEDIAL EXCAVATIONS ABOVE GROUNDWATER TABLE
N.T.S.



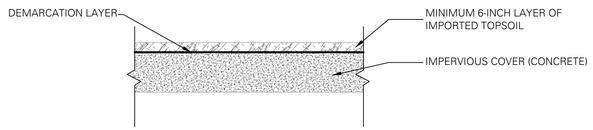
NOTES:

1. DEPARTMENT OF TRANSPORTATION (DOT) RCA #1 AND LIME NYS #5 3-INCH VIRGIN STONE CONTAINS LESS THAN 10% BY WEIGHT MATERIAL WHICH WOULD PASS THROUGH A SIZE 80 SIEVE

2 SITE COVER SYSTEM - REMEDIAL EXCAVATIONS EXTENDING INTO GROUNDWATER TABLE
N.T.S.



3 RIP-RAP COVER
N.T.S.



4 IMPERVIOUS COVER
N.T.S.

LEGEND:

- APPROXIMATE SITE BOUNDARY
- NYSDEC TIDAL WETLAND LINE
- APPROXIMATE SITE COVER SYSTEM EXTENT
- SILT FENCE AND STORMWATER TRENCH TO BE MAINTAINED
- COMPOST FILTER SOCK TO BE MAINTAINED
- IMPERVIOUS COVER (SEE DETAIL 4)
- IMPERVIOUS COVER CONSISTING OF PRE-EXISTING ASPHALT, CONCRETE, AND/OR 2-FEET OF IMPORTED RIP RAP STONE
- HAY BALES
- RIP RAP COVER (SEE DETAIL 3)
- PRE-EXISTING RIP RAP APRON
- EXISTING 12-FOOT PLYWOOD FENCE TO BE MAINTAINED
- X EL. 6.31 — APPROXIMATE ELEVATION AT CONTACT WITH RESIDUAL MANAGEMENT ZONE
- AREA WITH RESTRICTED RESIDENTIAL SCO EXCEEDANCES BENEATH THE SITE COVER SYSTEM AND DEMARCATION LAYER

NOTES:

1. BASEMAP IS REFERENCED FROM THE TOPOGRAPHICAL SURVEY, PREPARED BY MONTROSE SURVEYING CO., LLP, CITY & LAND SURVEYORS, DATED MARCH 15, 2019.
2. ALL ELEVATIONS (EL.) SHOWN ARE RELATIVE TO THE UNITED STATES GEOLOGICAL SURVEY (USGS) NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. NYSDEC = NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
4. ALL BORING LOCATIONS SHOWN ARE LOCATIONS WITH RESTRICTED USE RESIDENTIAL (RR) SOIL CLEANUP OBJECTIVES (SCO) EXCEEDANCES. RED BORING LOCATIONS EXHIBIT RR SCO EXCEEDANCES WITHIN THE THE TOP TWO FEET, THEREBY REQUIRING A COVER SYSTEM AS AN ENGINEERING CONTROL.
5. THE SITE COVER SYSTEM IS COMPRISED OF AND IMPERVIOUS COVER OR AT LEAST 18-INCHES OF RCA, TOPPED WITH AT LEAST 6-INCHES OF IMPORTED TOPSOIL MEETING THE SOIL QUALITY REQUIREMENTS IN PART 375-6.7(D)(III)(B) (I.E., LOWER OF PROTECTION OF GROUNDWATER SCOs AND RR SCOs).
6. THE DEMARCATION LAYER PLACED AT THE BASE OF THE REMEDIAL EXCAVATIONS CONSTITUTES THE TOP OF THE "RESIDUAL MANAGEMENT ZONE", THE ZONE THAT REQUIRES ADHERENCE TO SPECIAL CONDITIONS FOR DISTURBANCE OF POTENTIALLY CONTAMINATED RESIDUAL SOIL DEFINED IN THE SITE MANAGEMENT PLAN.

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30 0 15 30
SCALE: 1 INCH = 30 FEET

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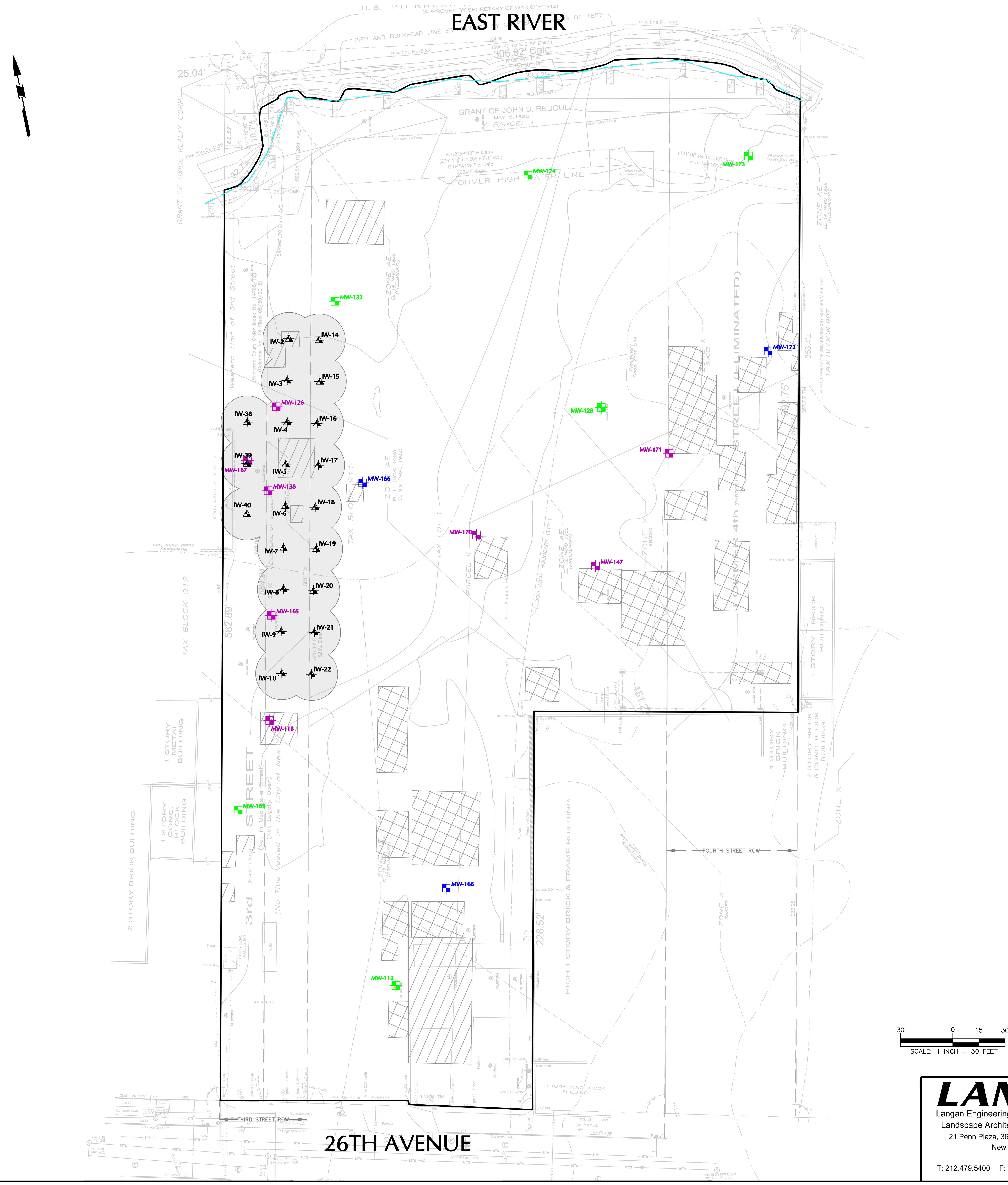
Project
ASTORIA STEEL
3-15 26TH AVENUE
NYSDEC BCP SITE No. C241155
BLOCK No. 911, LOT No. 1
QUEENS NEW YORK

Figure Title
BACKFILL AREA AND ENGINEERING CONTROL LOCATION MAP

Project No.	Figure No.
170581301	3
Date: 04/30/2021	
Drawn By: NEK	
Checked By: ELS	

LANGAN
PROJECT NO. 170581301

Filename: \\langan.com\data\NYC\data3\170581301\Project Data\CAD\01\SheetFiles\Environmental\PRR 2021\Figure 3 - Backfill Area and Engineering Control Location Map.dwg Date: 5/28/2021 Time: 11:31 User: nkung Style Table: Langan.stb Layout: Engineering Controls Plan



LEGEND:

- APPROXIMATE SITE BOUNDARY
- NYSDEC TIDAL WETLAND LINE
- TEMPORARY GROUNDWATER TREATMENT INJECTION POINT LOCATION
- APPROXIMATE LOCATION OF MONITORING WELL FOR SOURCE (CVOC OR PETROLEUM) MONITORING
- APPROXIMATE LOCATION OF MONITORING WELL IN CVOC OR PETROLEUM SOURCE TRANSITION AREAS
- APPROXIMATE LOCATION OF MONITORING WELL DOWNGRADEINT OF SOURCE AREAS / PERIMETER SENTINEL MONITORING WELLS
- APPROXIMATE INJECTION NETWORK INFLUENCE AREA (15-FOOT RADIUS CENTERED AROUND EACH TEMPORARY INJECTION POINT)
- APPROXIMATE LOCATION OF GYPSUM APPLICATION AREA (30 - 37.5 POUNDS PER SQUARE FOOT)
- APPROXIMATE LOCATION OF GYPSUM APPLICATION AREA (20 - 25 POUNDS PER SQUARE FOOT)

NOTES:

1. BASEMAP IS REFERENCED FROM THE TOPOGRAPHICAL SURVEY, PREPARED BY MONTROSE SURVEYING CO., LLP. CITY & LAND SURVEYORS, DATED MARCH 15, 2019.
2. NYSDEC = NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
3. CVOC = CHLORINATED VOLATILE ORGANIC COMPOUNDS
4. A TOTAL OF 21 TEMPORARY INJECTION POINTS WERE INSTALLED VIA DIRECT PUSH INJECTION (DPI) TECHNOLOGY. ABOUT 75,600 GALLONS OF SODIUM LACTATE (20,000 MILLIGRAMS PER LITER [MG/L] SOLUTION) WAS DIRECT-INJECTED WITHIN SATURATED SOIL BETWEEN AUGUST 20 AND 27, 2019 TO TREAT IMPACTED GROUNDWATER.

WARNING:
IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.

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Project	Figure Title	Project No.	Figure No.
ASTORIA STEEL 3-15 26TH AVENUE NYSDEC BCP SITE No. C241155 BLOCK No. 911, LOT No. 1 QUEENS NEW YORK	GROUNDWATER TREATMENT AND MONITORING WELL LOCATION PLAN	170581301 Date: 04/30/2021 Drawn By: NEK Checked By: ELS	4

PROJECT NO. 170581301

Filename: \\langan.com\data\NYC\data3\170581301\Project Data\CAD\01\SheetFiles\Environmental\PRR 2021\Figure 4 - Groundwater Treatment Plan.dwg Date: 4/30/2021 Time: 10:05 User: jcambeiro Style Table: Langan.stb Layout: ARCHD-BL

APPENDIX A

SITE MANAGEMENT PLAN AND
ENVIRONMENTAL EASEMENT

SITE MANAGEMENT PLAN

For

ASTORIA STEEL

Block 911, Lot 1
Astoria, Queens County, New York
NYSDEC BCP No. C241155
USEPA ID No. NYR000219048

Prepared For:

Astoria Owners LLC
43 West 47th Street, Suite 203
New York, NY 10036

Prepared By:

Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
21 Penn Plaza
360 West 31st Street, 8th Floor
New York, New York 10001

Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date
1	03/04/2022	Annual Groundwater Sampling Protocol	

December 19, 2019
Revised March 04, 2022

LANGAN

Langan Project No. 170581301

CERTIFICATION

I, Jason J. Hayes, certify that I am currently a NYS registered professional engineer as in defined in 6 NYCRR Part 375 and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

_____ [P.E.]

_____DATE

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LIST OF ACRONYMS

ACM	Asbestos Containing Material
AGV	Air Guidance Value
AOC	Area of Concern
AST	Above-ground Storage Tank
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
Bgs	Below Grade Surface
CAMP	Community Air Monitoring Plan
CCR	Construction Completion Report
C&D	Construction and Demolition
CFR	Code of Federal Regulation
COC	Certificate of Completion
CP	Commissioner Policy
Cr+6	Hexavalent Chromium
CVOC	Chlorinated Volatile Organic Compound
DER	Division of Environmental Remediation
DO	Dissolved Oxygen
DUSR	Data Usability Summary Report
EC	Engineering Control
ECL	Environmental Conservation Law
EDD	Electronic Data Deliverable
EE	Environmental Easement
EISB	Enhanced In-Situ Biodegradation
ELAP	Environmental Laboratory Approval Program
ERD	Enhanced Reductive Dechlorination
ESA	Environmental Site Assessment
EWP	Excavation Work Plan
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FOC	Fraction of Organic Carbon
HASP	Health and Safety Plan
HREC	Historic Recognized Environmental Condition
IC	Institutional Control
IRM	Interim Remedial Measure
Langan	Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.

LB&G	Leggette, Brashears & Graham, Inc.
MG/KG	Milligrams per Kilogram
MK ASSOCIATES	MK Associates Ltd.
NAPL	Non-Aqueous Phase Liquid
NYCDEP	New York City Department of Environmental Protection
NYCDOB	New York City Department of Buildings
NYCDOHMH	New York City Department of Health and Mental Hygiene
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules and Regulations
O&M	Operation and Maintenance
ORP	Oxidation-Reduction Potential
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PCE	Tetrachloroethene
PFAS	Per- And Polyfluoroalkyl Substances
PGW	Protection of Groundwater
PID	Photoionization Detector
PRR	Periodic Review Report
QAPP	Quality Assurance Project Plan
QEP	Qualified Environmental Professional
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RCA	Recycled Concrete Aggregate
REC	Recognized Environmental Condition
RI	Remedial Investigation
RIR	Remedial Investigation Report
RIWP	Remedial Investigation Work Plan
ROW	Right Of Way
RP	Remedial Party
RR	Restricted Residential
RSO	Remedial System Optimization
RURR	Restricted Use Restricted-Residential
SCG	Standards, Criteria and Guidelines
SCO	Soil Cleanup Objective
SGV	Standards and Guidance Values
SMP	Site Management Plan
SOE	Support of Excavation

SRI	Supplemental Remedial Investigation
SRIR	Supplemental Remedial Investigation Report
SSDS	Sub-slab Depressurization System
Stantec	Stantec Consulting Services, Inc.
SVMS	Soil Vapor Mitigation System
SVOC	Semivolatile Organic Compound
TCE	Trichloroethene
TCLP	Toxicity Characteristic Leachate Procedure
TIC	Tentatively Identified Compound
TOGS	Technical and Operational Guidance Series
TSCA	Toxic Substances Control Act
µg/L	Micrograms per Liter
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
UU	Unrestricted Use
VOC	Volatile Organic Compound
TCE	Trichloroethene
TCLP	Toxicity Characteristic Leaching Procedure
TOC	Total Organic Carbon
TOGS	Technical Operation Guidance Series
TSCA	Toxic Substance Control Act
µg/m^3	Micrograms per cubic meter
US Ecology York	US Ecology – York Facility
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
UU	Unrestricted Use
VOC	Volatile Organic Compound
WM Fairless	Waste Management of Fairless LLC Landfill
WM Grand Central	Waste Management Grand Central Sanitary Landfill

SITE MANAGEMENT PLAN

EXECUTIVE SUMMARY

This Site Management Plan (SMP) was prepared for the Astoria Steel Site located at 3-15 26th Avenue in the Hallets Point neighborhood of Astoria, Queens, New York (the site). The site was remediated pursuant to the March 28, 2014 Brownfield Cleanup Agreement (BCA) and subsequent September 4, 2018 amendment between the New York State Department of Environmental Conservation (NYSDEC) and Astoria Owners LLC (the Volunteer) for New York State Brownfield Cleanup Program (BCP) site No. C241155. The following provides a brief summary of the controls implemented for the site, as well as the inspections, monitoring, maintenance and reporting activities required by this SMP:

Site Identification: C241155 Astoria Steel (3-15 26th Avenue, Astoria, New York)

Institutional Controls:	Imposition of an Institutional Control (IC) in the form of an Environmental Easement (EE) for the controlled property which:
	Requires the remedial party or site owner to complete and submit to the Department a periodic certification of IC and Engineering Controls (EC) in accordance with Part 375-1.8 (h)(3)
	Allows the use and development of the controlled property for restricted-residential, commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws
	Restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the New York State Department of Health (NYSDOH) or the New York City Department of Health and Mental Hygiene (NYCDOHMH), and
	Requires compliance with the NYSDEC approved SMP.

Engineering Controls:	Cover System
	Vapor Mitigation System
Inspections:	**Frequency:**
1. Site-Wide Inspections	Annually and after severe weather events
2. Site Cover System Inspections	Annually and after severe weather events
Monitoring:	
Groundwater Monitoring Wells: MW-112, MW-118RA, MW-126R, MW-128, MW-132, MW-138, MW-147RA, MW-165RA, MW-166, MW-167, MW-168, MW-169, MW-170, MW-171, MW-172, MW-173, and MW-174.	Quarterly monitoring for the first year following groundwater treatment, then annually thereafter. Only groundwater monitoring wells MW-138, MW-165RA, and MW-167 will be sampled annually for volatile organic compounds (VOC).
Vapor Mitigation System consisting of a sub-slab depressurization system in each building	Prior to construction of any new building(s).
Maintenance:	
Site Cover System	As needed but at least annually.
Monitoring Well Network	As needed but at least annually.
Vapor Mitigation System	As needed but at least annually.
Reporting:	
Groundwater Monitoring Data	Quarterly reporting for first year, then annually thereafter.
Periodic Review Report	Annually

Further descriptions of the above requirements are provided in detail in the latter sections of this SMP.

1.0 INTRODUCTION

1.1 General

This Site Management Plan (SMP) is a required element of the remedial program for the Astoria Steel Site located at 3-15 26th Avenue in Astoria, Queens, New York (hereinafter referred to as the "site") and was prepared by Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C (Langan), on behalf of Astoria Owners LLC (the Volunteer), in accordance with the requirements in New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER)-10 Technical Guidance for Site Investigation and Remediation, dated May 3, 2010. See Figure 1 for a site location map. This SMP details the means for implementing and demonstrating compliance with the engineering controls and institutional controls (EC and IC) required by the Environmental Easement (EE). The EE, included in Appendix A, was granted to the NYSDEC and recorded with the Queens County Clerk.

The site was remediated pursuant to the March 28, 2014 Brownfield Cleanup Agreement (BCA) and subsequent September 4, 2018 amendment between NYSDEC and Astoria Owners LLC (the Volunteer) for New York State Brownfield Cleanup Program (BCP) site No. C241155. The site achieved a Track 4 Restricted Residential remedy; therefore, long-term ECs and ICs are required to control exposures to remaining contamination present in media including soil, groundwater and soil vapor. A figure showing the site location and boundaries of this site is provided in Figure 2. The boundaries of the site are more fully described in the metes and bounds site description that is part of the EE provided in Appendix A.

After completion of the remedial work, some contamination was left at this site, which is hereafter referred to as "remaining contamination". ECs and ICs have been incorporated into the site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. An EE granted to the NYSDEC, and recorded with the Queens County Clerk, requires compliance with this SMP and all ECs and ICs placed on the site.

This SMP was prepared to manage remaining contamination at the site until the EE is extinguished in accordance with Environmental Conservation Law (ECL) Article 71, Title 36. This SMP was approved by the NYSDEC and compliance with the SMP is required by the grantor of the EE and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the EE. Failure to properly implement the SMP is a violation of the EE, which is grounds for revocation of the Certificate of Completion (COC)
- Failure to comply with this SMP is also a violation of Environmental Conservation Law,

BCA, Title 6 New York Codes, Rules, and Regulations (6 NYCRR) Part 375 and the BCA (BCA Index #C241155) for the site, and thereby subject to applicable penalties.

Reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State. A list of contacts for persons involved with the site is provided in Appendix B of this SMP.

1.2 Revisions

Revisions to this plan will be proposed, as necessary, in writing to the NYSDEC's project manager. Revisions will be necessary upon, but not limited to, the following occurring: the installation of an sub-slab depressurization system (SSDS) in each future building, a change in media monitoring requirements, upgrades to or shut-down of a remedial system, post-remedial removal of contaminated sediment or soil, or other significant change to the site conditions. In accordance with the EE for the site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.3 Notifications

Notifications will be submitted by the property owner to the NYSDEC, as needed, in accordance with NYSDEC DER – 10 under the following scenarios:

- 60-day advance notice of any proposed changes in site use that are required under the terms of the 6 NYCRR Part 375 and/or Environmental Conservation Law.
- 7-day advance notice of any field activity associated with the remedial program.
- 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan (EWP).
- Notice within 48-hours of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.
- Verbal notice by 12pm (noon) of the following day of any emergency, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

A change in the ownership of the site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the

proposed change. This will include a certification that the prospective purchaser/Remedial Party (RP) has been provided with a copy of the BCA and all approved work plans and reports, including this SMP.

- Within 15 days after the transfer of all or part of the site, the new owner's name, contact representative, and contact information will be confirmed in writing to the NYSDEC.

The following table includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix B. Responsibilities of the Owner and Remedial Party are provided as Appendix C.

Notifications*

Name:	**Contact Information:**
Remedial Engineer: Jason Hayes, P.E.	Phone: (212) 479-5427 jhayes@langan.com
Program Manager: Michael Burke, PG, CHMM	Phone: (212)479-5413 mburke@langan.com
Project Manager: Brian Gochenaur, QEP	Phone: (212) 479-5479 bgochenaur@langan.com
NYSDOH Project Manager: Renata Ockerby	Phone: (518) 402-7860 renata.ockerby@health.ny.gov
NYSDEC Project Manager: Javier Perez-Maldonado	Phone: (518) 402-8172 Javier.perez-maldonado@dec.ny.gov
NYSDEC Site Control: Kelly Lewandowski	Phone No.: (518) 402-9543 kelly.lewandowski@dec.ny.gov
Owner Representative: Thomas M. Masucci, Ph.D.	Phone: (212) 302-1700 thomas@jrjmetro.com

* Note: Notifications are subject to change and will be updated as necessary.

2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

2.1 Site Location, Description, and History

The site is located at 3-15 26th Avenue in the Hallets Point neighborhood of Astoria, Queens County, New York and is identified as Block 911 and Lot 1 on the Queens County Tax Map (see Figure 2). The site is located on the East River waterfront, encompassing an approximately 3.67077-acre area bound by the East River to the north, 26th Avenue to the south, an industrial/manufacturing property (8-01 26th Avenue) to the east, and industrial/manufacturing properties (3-17 26th Avenue and 4-05 26th Avenue) to the west (see Figure 2 – Site Layout Map). A mix of commercial and residential properties are located across 26th Avenue to the south. The boundaries of the site are more fully described in Appendix A – Environmental Easement. The owner of the site parcel at the time of issuance of this SMP is Astoria Owners LLC.

The site was developed as early as 1906 for industrial and manufacturing uses. During the early 1900s, the site was occupied by the Astoria Steel Company, Brooklyn Foundry Company, and the Weisberg-Baer Company. The Brooklyn Foundry Company operated on site for about 30 years. The Weisberg-Baer Company operated a lumber yard in former Building 1. The Gas Purifying Materials Company operated in former Building 1 from the 1930s through 1970; although it is unclear when the company closed and when Connelly GPM Inc. (an iron aggregate supplier) took over site operations. JPR Construction Corp. Inc. (also noted as JRC Lumber Corp and JRC Mill Works in City Directories), a lumber company that specialized in wood molding and lumber storage, occupied the site until 2012. LeNoble Lumber Company occupied the site for lumber storage until 2014 when the site was sold to the Volunteer, Astoria Owners LLC. The two former site Buildings 1 and 2, which covered about 48,500 square feet of the site, were demolished in 2018 in accordance with a Polychlorinated Biphenyl (PCB) Work Plan prepared by Stantec. Prior to the remedial action, the site was a fenced, vacant parcel of land.

Former Building 1 was located closest to the East River. Prior to demolition in 2018, the first of two tenant spaces in this former building were most recently used for prop storage by three television production companies. The second tenant space was used from the 1980's until 2014 by various lumber companies. The most recent tenant, LeNoble Lumber Company Inc., used the space to store various wood sheeting units. Former Building 2 was closest to 26th Avenue. Two tenants operated on the first floor until 2014. The first tenant, 24/7 Electric, stored forklifts and various equipment, but the company's daily operations are unknown. The second tenant, Eagle One, was a truck repair shop that stored tires and petroleum drums inside and outside its tenant space.

2.2 Physical Setting

2.2.1 Land Use

The site is zoned for manufacturing (M1-1) according to New York City Zoning Map 9a and is currently vacant.

The site is located in an urban area of historical industrial usage that has recently undergone residential and commercial development. The properties adjoining the site and in the neighborhood surrounding the site primarily include residential, mixed-use, industrial and vacant properties. The properties immediately south of the site include residential, industrial and parking properties; the properties immediately east of the site include industrial properties; and the properties to the west of the site include industrial properties and vacant lots. The East River adjoins the site to the north.

2.2.2 Geology

Pre-development site cover included discontinuous concrete slabs, RCA, and vegetation. Historic fill extends from beneath the pre-development surface cover to depths of approximately 1.2 to 16 feet below grade surface (bgs), where it is underlain by native soil. Historic fill generally consists of fine to coarse sand containing varying amounts of silt, gravel, clay, slag, ash, cinders, metal, brick, glass, and concrete. Organic-rich deposits underlie the historic fill material. In the western part of the site, these organic-rich deposits consist of gray to black peat with varying amounts of clay, silt, and organic matter. These peat deposits are located from about 5.4 to 10 feet bgs and range in thickness from about 0.8 to 6.3 feet. A natural sand deposit containing silt, crushed bedrock and fine gravel is located below the fill and peat layers. Bedrock, consisting of Fordham Gneiss, is located beneath the sand layer at about 27 feet bgs. Site specific boring logs and previous reports are provided in Appendix D.

2.2.3 Hydrogeology

Groundwater is tidally influenced throughout the site. Groundwater flows north-northwest toward the East River during low tide and between tidal influences. During high tide, flow in the southern part of the site follows the same pattern with flow to the north, while groundwater in the northern part of the site flows away from the river and then to the east and west, creating a broad area of shallow gradient flow. During the Remedial Investigation (RI) and multiple Supplemental RIs (SRIs) performed by Stantec Consulting Services, Inc. (Stantec), groundwater was observed at depths of 0 to 5 feet bgs at high tide. Between tides, groundwater was observed at depths of 2 to 5 feet bgs. At low tide, groundwater was observed at depths of 3 to 5 feet bgs.

There are wetlands on, and immediately adjacent to the site to the north along the East River. Groundwater in New York City is not used as a potable (drinking) water source. New York City residents receive their drinking water supply from surface reservoirs located in upstate New York.

A groundwater contour map is shown in Figure 3. Groundwater elevation data recorded by Stantec during prior investigations is provided in Table 1. Historical groundwater contour maps, groundwater elevation data, and monitoring well construction logs from previous investigations completed by Stantec are included in Appendices D and F.

2.3 Investigation and Remedial History

The following narrative provides a remedial history timeline and a brief summary of the available project records to document key investigative and remedial milestones for the site. The site was the subject of multiple subsurface investigations completed by various consultants between 1997 and 2019. Stantec completed an RI in 2014 and implemented a series of SRIs from October 2014 through January 2015, May 2015 through September 2015, December 2016 through January 2017 and July 2018 to January 2019. The results of these previous investigations and the RI were documented in Stantec's Remedial Investigation Report (RIR), dated July 2018. The SRI's implemented by Stantec are documented in a Supplemental Remedial Investigation Report (SRIR) dated April 2019 and a Construction Completion Report (CCR) dated November 19, 2019. Full titles for each of the reports referenced below are provided in Section 8.0 - References. Copies of these reports are provided in Appendix D.

A summary of the following environmental reports are provided below:

- *July 8, 1997, Phase I Environmental Site Assessment (ESA) for 3-15 26th Avenue in Queens, New York, prepared by MK Associates Ltd. (MK Associates)*
- *March 2006 Phase II ESA for 3-15 26th Avenue, Queens, New York, Prepared by Leggette, Brashears & Graham, Inc. (LB&G)*
- *July 2007 Due Diligence Geotechnical Study, Proposed Development, 3-15 26th Avenue, Queens, New York, prepared by Langan*
- *August 28, 2013 Phase I ESA, 3-15 26th Avenue, Astoria, Queens County, New York, prepared by Stantec*
- *September 5, 2013 Limited Phase II ESA, 3-15 26th Avenue, Astoria, Queens County, New York, prepared by Stantec*
- *October 2014 Asbestos Abatement (further documented in the CCR prepared by Stantec), 3-15 26th Avenue, Astoria, Queens County, New York, prepared by the New York City Department of Environmental Protection (NYCDEP)*
- *January 2015 Interim Remedial Measure (IRM) Work Plan, Astoria Steel Site, prepared by Stantec*
- *March 2015 IRM Work Plan, Astoria Steel Site, prepared by Stantec*
- *July 2015 Supplemental Remedial Investigation Work Plan (SRIWP), 3-15 26th Avenue, Astoria, Queens County, New York, prepared by Stantec*

- *August 2015 Proposed SRI and IRM Activities, 3-15 26th Avenue, Astoria, Queens County, New York, prepared by Stantec*
- *June 2016 Rescind Notice and Emergency Measures Implementation Letter, Astoria Steel Site, 3-15 26th Avenue, Astoria, Queens County, New York, prepared by Stantec*
- *March 2017 Sewer Plugging (further documented in the CCR prepared by Stantec), 3-15 26th Avenue, Astoria, Queens County, New York, prepared by Stantec*
- *July 20, 2018 RIR, 3-15 26th Avenue, Astoria, Queens County, New York, prepared by Stantec*
- *May 17, 2019, Remedial Action Work Plan (RAWP), 3-15 26th Avenue, Astoria, Queens County, New York, prepared by Stantec*
- *April 2019, SRIR, 3-15 26th Avenue, Astoria, Queens County, New York, prepared by Stantec*
- *November 19, 2019 CCR, prepared by Stantec*

July 8, 1997, Phase I ESA for 3-15 26th Avenue in Queens, New York, prepared by MK Associates

A Phase I ESA was performed at the site in June 1997 by MK Associates. The Phase I ESA identified the following recognized environmental conditions (REC):

- Historic Site Use: In 1906, the site was occupied by the Astoria Steel Facility, which included a large, single-story industrial warehouse type building. Following closure of the Astoria Steel Facility, the site was utilized by the Brooklyn Foundry Company. These metalworking industrial businesses used several large boiler units to heat scrap iron for reprocessing. Oil for these units was stored in underground storage tanks (UST) on site.
- Hazardous Materials Storage: During the site reconnaissance, 10, 55-gallon drums and seven, 5 gallon pails of oil were observed throughout the site in various locations. MK Associated recommended that these be removed.
- Bulk Petroleum Storage: A review of available building files indicated three, 3,000-gallon USTs and a 550-gallon gasoline storage tank were present at the site. The fill ports for the three, 3,000-gallon USTs were reportedly filled with concrete and were observed to be sealed. Building department files also identified a potential 1,500-gallon UST for the storage of heating fuel. During the site reconnaissance, a 275-gallon above-ground storage tank (AST) was identified, and contents were unknown.

March 2006 Phase II ESA for 3-15 26th Avenue, Queens, New York, Prepared by LB&G

This Phase II ESA dated March 2006 was prepared by LB&G. The Phase II details work performed to investigate the findings of the Phase I ESA dated July 8, 1997. The investigation included a geophysical survey, collection of samples to confirm the presence of asbestos-

containing materials (ACM) and collection of soil and groundwater samples. The Phase II ESA identified the following:

- The geophysical survey identified a subsurface anomaly consistent with a former UST that was reportedly closed in place.
- ACM were confirmed (<1%) in 14 different building materials and two additional building materials were assumed to contain asbestos. LB&G recommended removal of all ACM prior to demolition activities at the site.
- Soil analytical results identified several areas of the site subsurface was impacted by metals (e.g. arsenic, chromium and mercury), petroleum-related VOCs, and semivolatile organic compounds (SVOC). Select soil samples were analyzed for Toxicity Characteristic Leachate Procedure (TCLP); hazardous material was not identified.
- Groundwater was impacted with elevated concentrations of metals (e.g. arsenic, barium, chromium, lead, and mercury), SVOCs, and benzene. Groundwater was not analyzed for PCBs or pesticides. LB&G recommended further assessment of site soil and groundwater.
- LB&G recommended additional investigation in relation to the UST, removal of a UST if identified, removal of contaminated soil from the site, implementation of a groundwater remedy if soil removal is insufficient, installation of a site-wide asphalt cap, installation of a hydraulic barrier along the northern site extent, and upgrading the existing bulkhead system.

July 2007 Due Diligence Geotechnical Study, Proposed Development, 3-15 26th Avenue, Queens, New York, prepared by Langan

Langan prepared a Due Diligence Geotechnical Study in July 2007 to determine geotechnical conditions at the site for future foundation design constraints. The investigation included installation of three geotechnical soil borings and two monitoring wells throughout the site. Findings from the investigation are summarized below:

- Site stratigraphy beneath the existing old concrete surface overlaying a surficial layer of fill underlain by sand with organic sand, cobbles, boulders, and bedrock. There was an 8-10 inch concrete slab in good to poor condition covering the entire site.
- A layer of uncontrolled fill was identified below the concrete surface, and consisted of fine to coarse grain sand with varying amounts of silt, clay, gravel, construction debris, and wood, at thicknesses varying from 5 to 7 feet. It was visually classified as SP, poorly graded sand. Fine to coarse grain sand with trace silt was identified below the layer of uncontrolled fill.
- Groundwater was observed between 5 and 7 feet bgs.

- A chemical odor was observed in boring B-3 at a depth of 3 feet bgs; further environmental assessment was not conducted.
- Langan recommended bulkhead restoration and waterproofing of new building structures due to the site's proximity to the 100-year floodplain.

August 28, 2013 Phase I ESA, 3-15 26th Avenue, Astoria, Queens County, New York, prepared by Stantec

Stantec prepared a Phase I ESA in August 2013 to evaluate the presence of RECs at the site. The Phase I ESA identified the following RECS and Historic RECs (HREC):

- Unidentified Chemical Storage: During the site reconnaissance, several 55-gallon drums and 5 gallon pails of unidentified liquids were observed, with noticeable ground staining surrounding them.
- Petroleum Storage: A former UST was observed with visible staining in the vicinity of its storage location above-grade.
- Staining: Floor staining was noticed in one of the on-site structures near a floor drain. Floor staining and liquid pooling were observed in another on-site building.
- HRECs: Site operators JRC Lumber and most recently LeNoble Lumber used part of the site for drum storage. A floor trench not connected to the municipal sewer system was identified during the site reconnaissance. In addition, former USTs were identified in building records associated with the site. The site's former industrial use was also noted as a concern, in addition to the contamination identified in soil and groundwater in the March 2006 Phase II.

September 5, 2013 Limited Phase II ESA, 3-15 26th Avenue, Astoria, Queens County, New York, prepared by Stantec

This Phase II ESA dated September 5, 2013 was conducted by Stantec to investigate the findings of the Phase I ESA dated August 28, 2013. The investigation included advancement of eight soil borings, collection of eight soil samples for laboratory analysis, completion of a treatability study for soil reductant demand analysis, installation of four temporary groundwater monitoring wells, and collection of four groundwater samples for laboratory analysis. The Phase II ESA identified the following:

- Soil Contamination: One VOC, acetone, was identified in one soil sample from 1 to 5 feet bgs above regulatory criteria. According to Stantec, acetone was considered a common laboratory contaminant, and the concentration detected above regulatory criteria was not representative of site conditions. One soil boring advanced in the vicinity of the UST (B-101) contained polycyclic aromatic hydrocarbon (PAH) concentrations above NYSDEC SCOs. PCBs were identified above NYSDEC Track 1 Unrestricted Use (UU) SCOs in

boring B-105 from 1 to 5 feet bgs at a concentration of 0.17 milligrams per kilogram (mg/kg). Metals including aluminum, arsenic, barium, calcium, copper, trivalent chromium, iron, lead, magnesium, mercury, nickel, potassium, selenium, silver, and zinc were identified throughout the site at concentrations exceeding NYSDEC UU SCOs and Restricted Residential (RR) Use SCOs.

- Groundwater Contamination: No VOCs, PCBs, or pesticides were detected in groundwater samples above regulatory criteria. SVOCs including naphthalene and nitrobenzene were detected in two monitoring wells (MW-103 and MW-104) at concentrations exceeding groundwater standards. Five metals were reported in groundwater at concentrations exceeding groundwater standards: iron, lead, magnesium, manganese, and sodium.
- Trivalent Chromium Contamination: Based on the elevated total chromium concentrations previously reported in the 2006 Phase II ESA, laboratory bench-scale testing was conducted to evaluate soil geochemical parameters to assess potential options for implementation of a remedial program to address hexavalent chromium impacts (Cr+6), if present. The Walkley-Black analytical method was used to determine the fraction of organic carbon (FOC) and total Cr+6 reducing capacity for the site soils. Four soil samples were shipped to Stantec's Treatability Laboratory in Sylvania, Ohio for the soil reductant analysis. Results indicate that Cr+6, if present, could be mitigated by chemical oxidation based on the observed soil conditions. However, based on the Phase II soil and groundwater data, hexavalent chromium is not present; therefore, Stantec noted remediation for Cr+6 using chemical oxidation should not be necessary.

October 2014 Asbestos Abatement (further documented in the CCR prepared by Stantec), 3-15 26th Avenue, Astoria, Queens County, New York, prepared by the NYCDEP

In addition to the IRMs and PCB Emergency Measures listed above, ACM abatement was required for on-site structures prior to demolition and remediation activities. Between October and December 2014, 40,100 square feet of roofing material and 120 linear feet of window caulking were abated pursuant to contracts with the Owner. After the site preparation abatement efforts, the NYCDEP issued asbestos assessment reports dated February 2017 stating that the "entire building is free of asbestos containing material".

January 2015 IRM Work Plan, Astoria Steel Site, prepared by Stantec

The IRM Work Plan prepared by Stantec in January 2015 included removal of three soil piles from the site to prevent potential erosion. The soil piles were removed from the site between March 10 and March 18, 2015.

March 2015 IRM Work Plan, Astoria Steel Site, prepared by Stantec

The IRM Work Plan prepared by Stantec in March 2015 included removal of pooled water

observed in a concrete vault along the northern end of former Building 1 and removal of miscellaneous debris from the site. The debris included construction and demolition debris, scrap metal, tires, and plastic tarps previously used to cover soil piles.

July 2015 SRIWP, 3-15 26th Avenue, Astoria, Queens County, New York, prepared by Stantec

The SRIWP prepared by Stantec in July 2015 included removal of debris and vegetation from the site and the installation of erosion controls along the edge of the East River. The debris included steel road plates, concrete curbs, and miscellaneous trash, and vegetation from the eastern half of the former 3rd Street Right-of-Way (ROW) and from the former 4th Street ROW to facilitate additional investigations in these areas. Debris originating from the 4th Street ROW was classified as hazardous due to the presence of PCBs in exposed surface soils in that area. Hay bales were installed as an erosion control measure along the edge of the East River.

August 2015 SRI and IRM Work Plan, 3-15 26th Avenue, Astoria, Queens County, New York, prepared by Stantec

The IRM prepared by Stantec in August 2015 included installation of snow fencing and warning signs around areas suspected to contain PCBs. The fenced areas included the former 3rd Street ROW, the former 4th Street ROW, and the former Buildings 1 and 2. Warning signs were installed at entrances to the site, buildings and along the snow fence surrounding areas suspected to contain PCBs.

June 2016 Rescind Notice and PCB Emergency Measures Implementation Letter, 3-15 26th Avenue, Astoria, Queens County, New York, prepared by Stantec

This letter served to rescind the "Self-Implementing Cleanup and Disposal of PCB Remediation Waste and PCB Investigation Work Plan" that had been submitted to the United States Environmental Protection Agency (USEPA) on May 2016 and to propose PCB Emergency Cleanup Measures, which were implemented from August 29, 2016 through February 1, 2017. The cleanup measures included the collection of debris and surficial soil accumulated at the site, clearing of vegetation and debris, and removal of on-site trees.

March 2017 Sewer Plugging (further documented in the CCR prepared by Stantec), 3-15 26th Avenue, Astoria, Queens County, New York, prepared by Stantec

This work performed by Stantec in March 2017 included the re-excavation of three test pits installed as part of a previous sewer investigation to decommission the pipes by filling with concrete in accordance with New York City Department of Buildings (NYCDOB) regulations. Work was completed in the presence of a NYCDOB inspector.

July 20, 2018 RIR, 3-15 26th Avenue, Astoria, Queens County, New York, prepared by Stantec

Stantec conducted the RI from May 2014 through August 2014 in accordance with the Remedial

Investigation Work Plan (RIWP), which was approved by NYSDEC on May 30, 2014. As investigative activities were completed during the RI and preliminary results were received, the scope of the investigation was expanded as necessary beyond the RIWP scope to further delineate the extent of contamination. The expanded investigation was performed as a series of SRIs, which were conducted from October 2014 through January 2015, May 2015 through September 2015, and December 2016 through January 2017. Following approval of the 2018 BCA Amendment, additional SRIs were implemented between November 2018 and January 2019. PCB Site characterization was conducted in accordance with the Supplemental PCB Site Characterization Work Plan dated September 13, 2016, which was approved by NYSDEC on September 19, 2016.

The scope of the RI, SRIs, and PCB Site Characterization implemented prior to the 2018 BCA Amendment adding 3rd Street ROW to the BCP Site included the following primary activities:

- Installation of 362 soil borings and 25 groundwater monitoring wells
- Excavation of 12 test pits
- Collection of surface soil/fill samples and subsurface soil/fill samples from soil borings and test pits, including 185 soil/fill samples analyzed for VOCs, 169 soil/fill samples analyzed for SVOCs, 187 soil/fill samples analyzed for pesticides, 125 soil/fill samples analyzed for metals, and 1,569 soil/fill samples analyzed for PCBs
- Collection of three rounds of groundwater samples, with the initial sample from each well analyzed for VOCs, SVOCs, metals, pesticides, and PCBs (full-suite parameters) and subsequent rounds analyzed for VOCs and/or PCBs
- Performance of a geophysical survey to evaluate potential locations of historical USTs and other subsurface anomalies
- Exploration, cleanout, and/or sampling of a UST, floor drains, a trench drain, two manholes, and a 150 cubic yard concrete vault containing two open-top steel tanks filled with water
- Sampling and disposal of three existing soil piles
- Bench-scale testing to evaluate the potential for enhanced reductive dechlorination to remediate groundwater
- Monitoring of long-term groundwater elevation and evaluation of tidal variation
- Testing of hydraulic conductivity
- Investigation of the on-site sewer system, and
- Sampling of building materials, debris, and the ground surface for PCBs in accordance with Toxic Substances Control Act (TSCA) regulations

A summary of the RI findings with relation to contaminated soil, groundwater, and building/other materials is provided below:

- Soil Contamination: VOCs, SVOCs, pesticides, metals, and PCBs were identified in soil samples at concentrations above UU and/or RURR SCOs across the site. Photoionization detector (PID) readings above background levels and nuisance odors were also noted in many locations across the site. Soil containing VOCs at concentrations exceeding the UU and RURR SCOs include petroleum-related VOCs and acetone. SVOCs, primarily PAHs were identified across the site at concentrations exceeding both the UU and RURR SCOs. Total SVOC concentrations were identified up to 2,903 mg/kg. Soils containing pesticide concentrations above UU and RURR SCOs were found at several locations across the site, with higher detections identified in the eastern half of the former 3rd Street ROW. Metals were identified across the site at concentrations typical of historic fill. Some metals may have originated from past industrial operations at the site. PCBs were identified at concentrations that exceed both UU and RURR SCOs in several locations across the site, including the former 3rd Street ROW along the western perimeter of the site and within the former 4th Street ROW along the eastern perimeter of the site. Total PCB concentrations ranged from non-detect to 420,000 mg/kg.
- Groundwater Contamination: Groundwater was identified at concentrations exceeding NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1. Class GA groundwater standards and guidance values (SGVs) for chlorinated VOCs (CVOCs) in three areas of the site at concentrations up to 222 micrograms per liter (µg/L). These areas include the former 3rd Street ROW along the western perimeter of the site, along the western wall of former Building 1 in the central portion of the site, and in one monitoring well at the southern end of the site. Petroleum-related VOCs, SVOCs, and metals were also identified at concentrations exceeding the TOGS SGVs.
- Structure and Other Materials Contamination: Structures and other materials identified at the site include a UST, two manholes, two floor drains and associated piping, a trench drain, a concrete vault, the on-site sewer system, building materials, debris, and the asphalt and concrete ground surfaces. These structures and materials were sampled during the 2013 Phase II ESA, RI, SRIs, and PCB Site Characterizations and found to contain VOCs, SVOCs, pesticides, metals, and/or PCBs. Some structures and soils adjacent to buried structures were found to exhibit petroleum-related nuisance characteristics accompanied by elevated PID readings.
- Based on the analytical results and field observations, 12 Areas of Concern (AOC) were identified at the site to be addressed in the RAWP:
- AOC-1 encompasses soil/fill with VOC impacts, including soil with elevated PID readings and nuisance petroleum odors

- AOC-2 encompasses soil/fill with SVOC impacts
- AOC-3 encompasses soil/fill with pesticide impacts
- AOC-4 encompasses soil/fill with metal impacts
- AOC-5 encompasses soil/fill with PCB impacts
- AOC-6 encompasses groundwater with CVOC impacts
- AOC-7 includes a UST, its contents, and adjacent soil, which may have exceedances of the PCB Cleanup Level
- AOC-8 includes sewers and related structures, including two floor drains, a trench drain with a sump, two manholes, and adjacent soil, which may have exceedances of the PCB Cleanup Level
- AOC-9 encompasses the on-site buildings, debris and soil within them, and the portions of the building floors with exceedances of the PCB Cleanup Level
- AOC-10 includes the exterior ground surfaces with exceedances of the PCB Cleanup Level, including the debris present on those surfaces
- AOC-11 includes three soil piles, which were removed from the site during an IRM in 2014
- AOC-12 includes water inside the concrete Vault to the north of former Building 1, which was pumped and removed from the site during an IRM in 2014

May 17, 2019, RAWP, 3-15 26th Avenue, Astoria, Queens County, New York, prepared by Stantec

A RAWP and Decision Document were issued in May 2019, for a Track 4 Restricted Residential remedy. The selected remedy included the following components:

- Site preparation demolition, removal, and disposal of other materials documented to be impacted by PCBs exceeding the PCB Cleanup Level per the USEPA-approved PCB Work Plan, including above-grade structures, asphalt and concrete, pipes, manholes, floor drains, a trench drain, a UST, various debris, and wastes generated during proposed remediation and investigation activities
- Site preparation demolition, removal and disposal of all on-site buildings, other materials, including concrete and asphalt, and any removed groundwater, decontamination water, and other materials generated during the remediation and investigation activities
- Installation and operation of additional site preparation items including erosion and sedimentation controls, stabilized construction entrances, utility mark-outs, equipment and materials staging area, decontamination and truck wash area, site fencing, shoring and bracing of adjacent off-site structures, and potential support of excavation (SOE)

- Excavation and appropriate off-site disposal of:
    - Soils documented to be impacted by PCBs exceeding the PCB Cleanup Level per the USEPA-approved PCB Work Plan
    - Unsaturated soils found to be impacted by nuisance characteristics
    - Unsaturated soils documented to be impacted by petroleum VOCs, petroleum-related SVOCs, and pesticides exceeding Restricted Residential SCOs, and
    - Exposed surface soils to a depth of 2 feet having concentrations exceeding Restricted Residential SCOs
- Use of enhanced reductive dechlorination (ERD) to remediate groundwater documented to be impacted by CVOCs above TOGS 1.1.1 groundwater standards and guidance value combined with a post injection groundwater monitoring program to evaluate remedial effectiveness
- Use of enhanced in-situ biodegradation (EISB), in the form of agricultural-grade gypsum application, to the bottom of each petroleum VOC, petroleum-related SVOC, and nuisance characteristic excavation, as a polishing step and to treat impacts below the water table combined with a post injection groundwater monitoring program to evaluate remedial effectiveness
- Screening for indications of contamination (by visual means, odor, and monitoring with PID) of excavated soil and material during intrusive site work
- Collection and analysis of endpoint samples to evaluate the performance of the remedy with respect to applicable SCOs
- Appropriate off-site disposal of materials removed from the site in accordance with Federal, State, and local rules and regulations for handling, transport, and disposal
- Backfilling of the excavated volume with imported RCA, crushed stone, and/or structural fill that contains less than 10% by weight which passes through a size 80 sieve, as well as Federal, State, and local rules and regulations for handling and transport of material
- Construction and maintenance of a site cover system with some shoreline erosion and sedimentation control improvements to prevent cover system erosion consisting of either 2 feet of RCA, crushed stone, and/or structural fill with a seeded topsoil layer, or placement of RCA, crushed stone, and/or structural fill or asphalt at existing grade in areas not otherwise covered by asphalt or concrete to prevent human exposure to residual contaminated soil
- Installation in future buildings of a 20-mil vapor barrier/waterproofing membrane and sub-slab depressurization system, or other acceptable measures, to mitigate the migration of vapors into the buildings

- Recording of an EE to require all future owners and operators to comply with the ECs and other Site Management requirements in the SMP and ICs in the easement restricting use, and
- Preparation and implementation of a SMP for long-term management of residual contamination as required by the EE, including plans for ICs and ECs, monitoring, operation and maintenance, and reporting.

April 2019, SRIR, 3-15 26th Avenue, Astoria, Queens County, New York, prepared by Stantec

The former 3rd Street ROW is a 50-foot wide strip of land running north-south along the western boundary of the site. The eastern half of the former 3rd Street ROW has been part of the site since the original BCA approval. The Volunteer obtained ownership of the western half of the former 3rd Street ROW through a court order issued in May 2018, and the Volunteer submitted a BCA Amendment request to include the western half of the former 3rd Street ROW within the BCP site boundaries in July 2018 so it could be further investigated and remediated pursuant the BCP. The 2018 BCA Amendment Application was approved by NYSDEC on September 4, 2018.

The SRI for the western half of the former 3rd Street ROW was performed in 2018 and 2019 by Stantec and consisted of two parts:

1. Characterization of the western portion of the former 3rd Street ROW (which was recently added to the BCA at the time), and
2. Additional site characterization of locations that could not be sampled during previous RIs due to unsafe building conditions.

The scope of work included the installation of one test pit, installation of three groundwater monitoring wells, installation of three soil vapor monitoring points and collection of 116 soil borings. A summary of the findings are provided below:

- Soil Impacts: PCBs were found in excess of Restricted Residential SCOs. Six boring locations had total PCB concentrations above mg/kg, with a maximum concentration of 230 mg/kg. Petroleum constituents were found in excess of Restricted Residential SCOs within the vicinity of the former Building 2 and within the western portion of the former 3rd Street ROW. In addition, one sample which contained several semi-volatile base neutral exceedances exhibited a creosote-like odor. Elevated PID readings and nuisance petroleum odors were noted during the field investigation. According to Stantec, analytical results generally did not demonstrate exceedances for petroleum-related compounds in the corresponding soil samples, however tentatively identified compounds (TIC) were detected and the results were indicative of weathered petroleum.
- Groundwater Impacts: Exceedances of NYSDEC groundwater standards were found for CVOCs. Per- and polyfluoroalkyl substances (PFAS) were detected in the five wells tested but were found below the USEPA lifetime health advisory for drinking water.

- Soil Vapor Impacts: CVOCs were detected in two of the three vapor monitoring points and low levels of petroleum compounds were detected in one soil vapor monitoring point. The concentrations were below the New York State Department of Health (NYSDOH) indoor air guidance values.

November 19, 2019 CCR, prepared by Stantec

Several IRMs were completed at the site and documented in Stantec's November 19, 2019 CCR, including the 2016 PCB Emergency Measures, which was required to be implemented by USEPA when surficial PCBs were found on building surfaces and in surficial soils and other materials. Additionally, asbestos abatement was completed in 2014. Each IRM, the 2016-2018 PCB Emergency Measures, and the asbestos abatement are discussed in a CCR dated November 19, 2019 and prepared by Stantec (Appendix C of the RAWP). The individual IRMs are described in the sections above.

2.4 Remedial Action Objectives

The Remedial Action Objectives (RAO) for the site as listed in the Decision Document dated May 2019 are as follows:

Groundwater

RAOs for Public Health Protection

Prevent ingestion of groundwater containing contaminant levels exceeding drinking water standards.

Prevent contact with, or inhalation of, volatiles emanating from contaminated groundwater.

RAOs for Environmental Protection

Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.

Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

Prevent ingestion/direct contact with contaminated soil.

Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

Prevent migration of contaminants that would result in groundwater or surface water contamination.

Soil Vapor

RAOs for Public Health Protection

Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

2.5 Remaining Contamination

2.5.1 Soil

Documentation soil samples collected from remedial excavations were analyzed for Part 375 VOCs, SVOCs, metals, pesticides, and PCBs by an NYSDOH an Environmental Laboratory Approval Program (ELAP)-certified laboratory. Additional endpoint soil samples were collected from the sidewalls and bases of remedial excavations that included PCB-contaminated soil/fill. These samples were analyzed for PCBs by an NYSDOH ELAP-certified laboratory. In addition, prior to remedial excavation activities, Stantec performed an RI and SRI that included collection of soil samples within, and outside of the remedial excavation extents. RI and SRI samples were compared to the Part 375 UU and RURR SCOs for VOCs, SVOCs, PCBs, pesticides, and metals and analyzed by an NYSDOH ELAP-certified laboratory. Despite the extensive remedial actions implemented to remove soil source areas, the residual remaining soil still exceeds the Restricted Residential SCOs following remediation in the top two feet of soils throughout the site and will be managed in place with the engineered site cover system pursuant to the SMP. Figure 10 presents the areas where the site cover system is considered an EC because underlying soil within the top 2 feet of the Residual Management Zone exceeds the RR SCOs. Documentation, endpoint and sidewall soil sample locations and results are shown in Figures 4, 5, 6, and 7.

The following constituents were detected in soil from post-remedy documentation and/or endpoint samples and RI/ SRI samples (in areas outside of the remedial excavation extents) at concentrations that exceed the UU and/or RURR SCOs:

VOCs

- 1,2,4-Trimethylbenzene concentration of 56 mg/kg (UU SCO of 3.6 mg/kg, RURR SCO of 52 mg/kg)
- 1,3,5-Trimethylbenzene concentration of 22 mg/kg (UU SCO of 8.4 mg/kg, RURR SCO of 52 mg/kg)
- Acetone concentrations ranging from 0.0547 mg/kg to 0.20 mg/kg (UU SCO of 0.05 mg/kg, RURR SCO of 100 mg/kg)
- Benzene concentrations of 0.22 mg/kg to 3.7 mg/kg (UU SCO of 0.06 mg/kg, RURR SCO of 4.8 mg/kg)
- Ethylbenzene concentration of 4.7 mg/kg (UU SCO of 1 mg/kg, RURR SCO of 41 mg/kg)

- N-Propylbenzene concentration of 6.4 mg/kg (UU SCO of 3.9 mg/kg, RURR SCO of 100 mg/kg)
- Toluene concentrations of 0.75 mg/kg to 3.3 mg/kg (UU SCO of 0.7 mg/kg, RURR SCO of 100 mg/kg)
- Total Xylenes concentrations of 0.63 mg/kg to 88 mg/kg (UU SCO of 0.26 mg/kg, RURR SCO of 100 mg/kg)

SVOCs

- Benzo(a)Anthracene concentrations ranging from 1.2 mg/kg to 40 mg/kg (UU SCO of 1 mg/kg, RURR SCO of 1 mg/kg)
- Benzo(a)Pyrene concentrations ranging from 1.1 mg/kg to 36 mg/kg (UU SCO of 1 mg/kg, RURR SCO of 1 mg/kg)
- Benzo(b)Fluoranthene concentrations ranging from 1.1 mg/kg to 71 mg/kg (UU SCO of 1 mg/kg, RURR SCO of 1 mg/kg)
- Benzo(k)Fluoranthene concentrations ranging from 0.91 mg/kg to 19 mg/kg (UU SCO of 0.8 mg/kg, RURR SCO of 3.9 mg/kg)
- Chrysene concentrations ranging from 1.1 mg/kg to 47 mg/kg (UU SCO of 1 mg/kg, RURR SCO of 3.9 mg/kg)
- Dibenzo(a,h)anthracene concentrations ranging from 0.34 mg/kg to 2.9 mg/kg (UU SCO of 0.33 mg/kg, RURR SCO of 0.33 mg/kg)
- Indeno(1,2,3-c,d)pyrene concentrations ranging from 0.52 mg/kg to 16 mg/kg (UU SCO of 0.50 mg/kg, RURR SCO of 0.50 mg/kg)
- Naphthalene concentrations ranging from 14 mg/kg to 18 mg/kg (UU SCO of 12 mg/kg, RURR SCO of 100 mg/kg)
- Phenol concentration of 0.46 mg/kg (UU SCO of 0.33 mg/kg, RURR SCO of 100 mg/kg)

Metals

- Arsenic concentrations ranging from 13.4 mg/kg to 96.1 mg/kg (UU SCO of 13 mg/kg, RURR SCO of 16 mg/kg)
- Barium concentrations ranging from 354 mg/kg to 434 mg/kg (UU SCO of 350 mg/kg, RURR SCO of 400 mg/kg)
- Cadmium concentrations ranging from 2.51 mg/kg to 8.99 mg/kg (UU SCO of 2.5 mg/kg, RURR SCO of 4.3 mg/kg)
- Trivalent Chromium concentrations ranging from 30.9 mg/kg to 140 mg/kg (UU SCO of 30 mg/kg, RURR SCO of 180 mg/kg)

- Copper concentrations ranging from 50.1 mg/kg to 1,330 mg/kg (UU SCO of 50 mg/kg, RURR SCO of 270 mg/kg)
- Lead concentrations ranging from 63.4 mg/kg to 2,480 mg/kg (UU SCO of 63 mg/kg, RURR SCO of 400 mg/kg)
- Manganese concentrations ranging from 1,710 mg/kg to 6,550 mg/kg (UU SCO of 1,600 mg/kg, RURR SCO of 2,000 mg/kg)
- Mercury concentrations ranging from 0.183 mg/kg to 2.4 mg/kg (UU SCO of 0.18 mg/kg, RURR SCO of 0.81 mg/kg)
- Nickel concentrations ranging from 30.9 mg/kg to 129 mg/kg (UU SCO of 30 mg/kg, RURR SCO of 310 mg/kg)
- Selenium concentrations ranging from 4.1 mg/kg to 5.4 mg/kg (UU SCO of 3.9 mg/kg, RURR SCO of 180 mg/kg)
- Zinc concentrations ranging from 111 mg/kg to 391 mg/kg (UU SCO of 109 mg/kg, RURR SCO of 10,000 mg/kg)

Pesticides

- 4,4'-DDE concentrations ranging from 0.0046 mg/kg to 0.0219 mg/kg (UU SCO of 0.0033 mg/kg, RURR SCO of 8.9 mg/kg)
- 4,4'-DDT concentrations ranging from 0.0084 mg/kg to 0.0427 mg/kg (UU SCO of 0.0033 mg/kg, RURR SCO of 7.9 mg/kg)
- 4,4'-DDD concentrations ranging from 0.00409 mg/kg to 0.019 mg/kg (UU SCO of 0.0033 mg/kg, RURR SCO of 13 mg/kg)
- Aldrin concentration of 0.021 mg/kg (UU SCO of 0.005 mg/kg, RURR SCO of 0.097 mg/kg)
- Dieldrin concentrations ranging from 0.014 mg/kg to 0.024 mg/kg (UU SCO of 0.005 mg/kg, RURR SCO of 0.2 mg/kg)

PCBs

- Total PCB concentrations ranging from 0.108 mg/kg to 8.49 mg/kg (UU SCO of 0.1 mg/kg, RURR SCO of 1 mg/kg)
- Note that three sidewall endpoint soil samples collected by Langan during implementation of the remedy, and one sidewall soil sample collected by Stantec in 2015, analyzed for total PCBs exceeded the Track 4 SCO of 1 mg/kg. Soil sample SG-B441_SW01_3.5, located along the southwest property line was collected at 3.5 feet bgs and has a total PCB concentration of 4.86 mg/kg. Soil sample SG-B175_SW01_2, located along the southeast property line was collected at 2 feet bgs and has a total PCB concentration of 8.49 mg/kg. Soil sample SG-B141_SW01_2, located along the northeast property line

was collected at 2 feet bgs and has a total PCB concentration of 3.99 mg/kg. Soil sample AS-SG-B175-0_1-S_480-85169-1, located along the southeast property line was collected from 0 to 0.2 feet bgs and has a total PCB concentration of 2.03 mg/kg (collected by Stantec in 2015). Off-site excavation was not required as part of implementation of the remedy, and these total PCB results document remaining contamination in place along the eastern and western BCP site boundaries. All PCB endpoint samples collected within the BCP site achieved the remedial objective of 1 mg/kg.

A documentation sample detection summary is shown in Table 2A, PCB endpoint and sidewall sample detection summaries are shown in Tables 2B and 2C, and remaining contamination throughout the site from the Stantec investigations is shown on Tables 3A and 3B. Maps showing sample locations and results that exceeded the UU and RURR SCOs are presented as Figures 4, 5, 6, and 7.

Exposure to remaining soil contamination throughout the site and in the top two feet of soil is prevented by the EC site cover system, consisting of impervious cover or a minimum of 18-inches of RCA topped with a minimum of 6-inches of imported topsoil meeting the soil quality requirements in Part 375-6.7(d)(ii)(b) (i.e., lower of PGW SCOs or RURR SCOs). In addition, new shoreline erosion and sedimentation control improvements were installed, consisting of rip-rap, hay bales, silt fencing, and a filter sock. The cover system is considered an EC only in areas where soil within the top two feet of the Residual Management Zone exceeds the Restricted Residential SCOs. In addition, a physical demarcation layer was placed along the base of each remedial excavation prior to backfilling to identify the top of the Residual Management Zone. An additional demarcation layer was placed immediately below the engineered composite cover system. The extent of the Residual Management Zone is provided as Figure 10.

2.5.2 Groundwater

The following groundwater monitoring wells were protected during the remedial excavation work and were sampled following implementation of the in-situ groundwater treatments to evaluate the effectiveness of the in situ groundwater treatment: MW-128, MW-165RA and MW-167. The following is a summary of the monitoring wells that will be installed as part of on-going site management and will be monitored to evaluate the effectiveness of the in-situ ERD and EISB: MW-112, MW-118RA, MW-126R, MW-132, MW-138, MW-147RA, MW-166, MW-168, MW-169, MW-170, MW-171, MW-172, MW-173, and MW-174.

In accordance with the RAWP, the monitoring wells MW-165, MW-167 and MW-128 were monitored monthly for the first 3 months after the ERD injection operations were completed (sampling dates of September 26, 2019, October 23, 2019, and November 22, 2019 from monitoring wells MW-128, MW-165RA, and MW-167) and will be monitored on a quarterly basis for a period of 1 year to evaluate the efficacy of the remedy. Additional samples of groundwater will be collected from designated wells (MW-112, W-118RA, MW-126R, MW-128, MW-132,

MW-138, MW-147RA, MW-165RA, MW-166, MW-167) for analysis of *dehalococcoides* and the VC reductase gene at 3 months (collected on November 22, 2019 from monitoring wells MW-128, MW-165RA, and MW-167), 6 months, and 1 year following completion of electron donor injection operations.

The following summarizes the groundwater contaminants identified above the TOBS Class GA SGVs during the first three monthly monitoring events:

<u>September 2019 Monthly Groundwater Monitoring Event</u>

On September 26, 2019, the first monthly groundwater performance sampling event following implementation of the in-situ ERD groundwater treatment was completed. Langan collected groundwater samples from existing monitoring wells MW-128, MW-165, and MW-167 (previously installed by Stantec) using low-flow methodologies. Groundwater samples were analyzed for VOC, TOC, NA+, Fe2+, Mn2+, and As by Alpha, an NYSDOH ELAP laboratory. Results detected above the SGVs are summarized below:

- *CVOCs:*
    - The targeted CVOCs (tetrachloroethene [PCE] and trichloroethene [TCE]) were not detected in groundwater samples above the NYSDEC SGVs. Daughter products including cis-1,2-dichloroethene and vinyl chloride were detected above NYSDEC SGVs, indicating that ERD treatment is successfully reducing CVOC concentrations in groundwater.
    - cis-1,2-Dichloroethene – ranging from 23 µg/L in MW-165 to 49 µg/L in MW-167 (SGV of 5 µg/L), compared to baseline concentrations of 5.8 µg/L to 84 µg/L throughout the site (2014-2015 Stantec sampling events)
    - Vinyl chloride – ranging from 2.3 µg/L in MW-165 to 7.8 µg/L in MW-167 (SGV of 2 µg/L), compared to baseline concentration of 7.8 µg/L (2015 Stantec sampling event)
    - CVOCs were not detected above NYSDEC SGVs for groundwater in monitoring well MW-128
- *Metals:*
    - Dissolved manganese – 572.5 µg/L in MW-165 to 683.8 µg/L in MW-128 (SGV of 300 µg/L)
    - Dissolved sodium – 90,500 µg/L in MW-128 to 718,000 µg/L in MW-167 (SGV of 20,000 µg/L)

<u>October 2019 Monthly Groundwater Monitoring Event</u>

On October 23, 2019, the second monthly groundwater performance sampling event following implementation of the in-situ ERD groundwater treatment was performed.

Groundwater samples were collected from existing monitoring wells MW-128, MW-165, and MW-167 (previously installed by Stantec) using low-flow methodologies and were analyzed for VOC, TOC, NA+, Fe2+, Mn2+, and As by Alpha. Results are summarized below:

- C*VOCs:*
    - The targeted CVOCs (PCE and TCE) were not detected in groundwater samples above the NYSDEC SGVs. Daughter products including cis-1,2-dichloroethene and vinyl chloride were detected above NYSDEC SGVs, indicating that ERD treatment is successfully reducing CVOC concentrations in groundwater.
    - cis-1,2-dichloroethene – ranging from 31 µg/L in MW-165 to 50 µg/L in MW-167 (SGV of 5 µg/L), compared to baseline concentrations of 5.8 µg/L to 84 µg/L throughout the site (2014-2015 Stantec sampling events)
    - Vinyl chloride – ranging from 4.2 µg/L in MW-165 to 13 µg/L in MW-167 (SGV of 2 µg/L), compared to baseline concentration of 7.8 µg/L (2015 Stantec sampling event)
    - CVOCs were not detected above NYSDEC SGVs for groundwater in monitoring well MW-128
- *Metals:*
    - Dissolved manganese – 707.3 µg/L in MW-167 to 720.3 µg/L in MW-128 (SGV of 300 µg/L)
    - Dissolved sodium – 76,600 µg/L in MW-128 to 241,000 µg/L in MW-167 (SGV of 20,000 µg/L)
    - Dissolved iron – 860 µg/L in MW-165 to 2,000 µg/L in MW-167 (SGV of 300 µg/L)

<u>November 2019 Monthly Groundwater Monitoring Event</u>

On November 22, 2019, the third monthly groundwater performance sampling event was performed following implementation of the in-situ ERD groundwater treatment. Groundwater samples were collected from existing monitoring wells MW-128, MW-165, and MW-167 (previously installed by Stantec) using low-flow methodologies and were analyzed for VOC, TOC, NA+, Fe2+, Mn2+, and As by Alpha. Groundwater samples were also analyzed for *dehalococcoides* and the VC reductase gene by Microbial Insights. Results are summarized below:

- *CVOCs:*
    - The targeted CVOCs (PCE and TCE) were not detected in groundwater samples above the NYSDEC SGVs. Daughter products including cis-1,2-dichloroethene and vinyl chloride were detected above NYSDEC SGVs, indicating that ERD treatment is successfully reducing CVOC concentrations in groundwater.
    - cis-1,2-dichloroethene – ranging from 35 µg/L in MW-167 to 39 µg/L in MW-165 (SGV of 5 µg/L), compared to baseline concentrations of 5.8 µg/L to 84 µg/L throughout the site (2014-2015 Stantec sampling events)
    - Vinyl chloride – ranging from 3.6 µg/L in MW-165 to 8 µg/L in MW-167 (SGV of 2 µg/L), compared to baseline concentration of 7.8 µg/L (2015 Stantec sampling event)
    - CVOCs were not detected above NYSDEC SGVs for groundwater in monitoring well MW-128
- *Metals:*
    - Dissolved manganese – ranging from 622.8 µg/L in MW-128 to 990 µg/L in MW-167 (SGV of 300 µg/L)
    - Dissolved sodium – ranging from 71,600 µg/L in MW-128 to 647,000 µg/L in MW-167 (SGV of 20,000 µg/L)
    - Ferrous iron – ranging from non-detect in MW-128 to 2,800 µg/L in MW-167
- *dehalococcoides and the VC reductase gene*

  Concentrations of *dehalococcoides* in groundwater samples collected on November 22, 2019 ranged from non-detect (MW-128) to 458 cells per milliliter (cells/mL). The *dehalococcoides* concentrations detected in monitoring wells MW-165 and MW-167 suggests reductive dechlorination of PCE and TCE to ethene is occurring. The VC reductase gene was also detected in MW-165 (45.3 cells/mL) and MW-167 (17.9 cells/mL) which indicates that reductive dechlorination of the cis-1,2-dichloroethene and vinyl chloride to ethene in groundwater is feasible. The VC reductase gene was not detected in monitoring well MW-128 where CVOCs were not detected above the Class GA SGVs.

Overall, CVOC concentrations in groundwater have decreased by about one to two orders of magnitude in the source area compared to data collected during the RI performed by Stantec in 2014. Microbial analytical results indicate the potential for further reductive dechlorination of CVOCs near the potential source area of the site. Table 4 and Figure 8

summarize the results of the baseline and monitoring groundwater sample results completed through December 2019.

Three quarterly groundwater sampling events (Q2, Q3, and Q4) were completed between March 2020 and August 2020. The analytical results of the quarterly groundwater sampling were summarized in quarterly groundwater monitoring event reports for each event that were submitted to the NYSDEC. Based on the findings of the Q4 sampling event, the NYSDEC approved a revision to the annual groundwater monitoring scope in an email correspondence dated November 4, 2021. Annual groundwater sampling in 2022 and onwards will only include the collection of groundwater samples from monitoring wells MW-138, MW-165, and MW-167. Samples will only be analyzed for VOCs.

2.5.3 Soil Vapor

During the 2018-2019 SRI performed by Stantec, three soil vapor samples (VP-1, VP-2, and VP-3) were collected to evaluate the concentrations of VOCs in soil vapor. The soil vapor samples were placed along the western half of the former 3rd Street ROW in areas that were excavated as part of the remedy. No additional soil vapor data outside of the remedial excavation areas were collected during previous investigations.

The following VOCs were detected in soil vapor during the SRI:

- Eight VOCs: Benzene, cyclohexane, n-Hexane, 2-butanone, PCE, trichloroethene TCE, Freon 11, and m-, p- and o-Xylenes.

Sub-slab depressurization systems to address potential vapor intrusion will be incorporated into the design of all future buildings constructed at the site to mitigate any residual vapors present.

Table 5 and Figure 9 summarize the results of all samples of soil vapor that exceed the SCGs after completion of the remedial action.

3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

3.1 General

Since remaining contamination exists at the site, ICs and ECs are required to protect human health and the environment. This IC/EC Plan describes the procedures for the implementation and management of all IC/ECs at the site. The IC/EC Plan is one component of the SMP and is subject to revision by the NYSDEC.

This section provides the following:

- A description of all IC/ECs on the site
- The basic implementation and intended role of each IC/EC
- A description of the key components of the ICs set forth in the EE
- A description of the controls to be evaluated during each required inspection and periodic review
- A description of plans and procedures to be followed for implementation of IC/ECs, such as the implementation of the EWP (as provided in Appendix G) for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the site, and
- Any other provisions necessary to identify or establish methods for implementing the IC/ECs required by the site remedy, as determined by the NYSDEC.

3.2 Institutional Controls

A series of ICs is required by the Decision Document to: (1) implement, maintain and monitor EC systems; (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the site to Restricted Residential, Commercial or Industrial uses only. Adherence to these ICs on the site is required by the EE and will be implemented under this SMP. ICs identified in the EE may not be discontinued without an amendment to or extinguishment of the EE. The IC boundaries are shown on Appendix A. These ICs are:

- Compliance with the EE by the Grantee and the Grantee's successors and adherence of all elements of the SMP is required
- All ECs must be operated and maintained as specified in this SMP
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP
- Inspection and certification of all ECs on the Controlled Property at a frequency and in a manner defined in this SMP - Grantor agrees to submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled

Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow. This statement must be certified by a New York State-licensed professional engineer.

- Inspection, maintenance and certification of a composite site-wide cover system as required by this SMP
- Data and information pertinent to site management of the Controlled Property must be reported at the frequency and in a manner as defined in this SMP.
- No allowance for the discontinuance of any ECs without an amendment or extinguishment of the EE
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Queens County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department
- The property may be used for: Restricted Residential use as described in 6 NYCRR Part 375-1.8(g)(2)(iii), Commercial use as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial use as described in 6 NYCRR Part 375-1.8(g)(2)(iv), subject to applicable zoning restrictions
- Use of the Controlled Property for Restricted Residential, Commercial and Industrial uses only, provided the long-term ECs and ICs specified in this SMP are in effect
- No allowance for the use of the Controlled Property for a higher level of use (i.e., Unrestricted Use) without an amendment or extinguishment of the EE
- All ECs on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP
- All future activities that will disturb remaining contaminated material are prohibited unless they are conducted in accordance with this SMP
- Groundwater monitoring must be performed as defined in this SMP
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP

- Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the EE
- The sub-slab depressurization systems in any buildings developed in the area within the IC boundaries noted on Figure 5A, must be monitored
- Vegetable gardens and farming on the site are prohibited

3.3 Engineering Controls

3.3.1 Site Cover System

Exposure to remaining contaminated soil (i.e., soil that exceeds Restricted Residential SCOs) is prevented by an engineered site cover system, comprised of impervious cover or a minimum of 18-inches of RCA and topped with a minimum 6-inches of topsoil meeting the soil quality requirements in Part 375-6.7(d)(ii)(b) (i.e., lower of PGW SCOs or RURR SCOs). In addition, new shoreline erosion and sedimentation control improvements were installed, consisting of rip-rap, hay bales, silt fencing, and a filter sock. This cover system extends to areas of the site that were not actively remediated, but contain soil concentrations in excess of Restricted Residential SCOs. With the exception of the new shoreline erosion and sedimentation control improvements along the northern site extent, the RCA layer extends across the entire site for grading purposes, but is not considered part of the engineering control cover system where it overlies areas where soil complies with the Restricted Residential SCOs within the top two feet of the Residual Management Zone. A high visibility demarcation barrier (i.e., orange snow fence) underlies the engineered cover system to clearly establish the Residual Management Zone. A map presenting the extent of the engineered site cover system as it relates to areas where remaining soil contamination exceeding the Restricted Residential SCOs within the top two feet of the Residual Management Zone is presented in Figure 10. Figure 10 also presents the location of the cover system and applicable demarcation layers.

Any breach in the composite site cover during future development will be repaired or newly constructed in accordance with the SMP. The EWP provided in Appendix G outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection of this cover are provided in the Monitoring and Sampling Plan included in Section 4.0 of this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and associated Community Air Monitoring Plan (CAMP) prepared for the site and provided in Appendix G and H, respectively. The HASP complies with DER-10, and 29 Code of Federal Regulation (CFR) 1910, 29 CFR 1926, and other applicable federal, state and local regulations.

The EC plan and EC details are presented on Figure 10.

3.3.2 Criteria for Completion of Remediation/Termination of Remedial Systems

Remedial processes are generally considered completed when monitoring indicates that the remedy has achieved the remedial action objectives identified by the Decision Document. The framework for determining when remedial processes are complete is provided in Section 6.4 of NYSDEC DER-10.

3.3.2.1 Site Cover System Inspections

The site cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in accordance with this SMP in perpetuity. On this site, the initial site cover system will be replaced when site development occurs in accordance with the requirements in this SMP.

3.3.3 Vapor Mitigation System

Any future on-site buildings will be required to have a sub-slab depressurization system incorporated into the foundation design, or other acceptable measures, to mitigate the migration of vapors into the building(s) from contaminated soil and/or contaminated groundwater.

The vapor mitigation system will consist of a sub-slab depressurization system installed within a gas permeable aggregate layer beneath the slab and will be ventilated to the building's exteriors. The system will be sealed with a continuous vapor barrier that is integrally bonded to poured concrete for the future building foundation. The vapor barrier is not considered an Engineering Control. The bond between the vapor barrier and poured concrete allows for the system to be minimally affected by differential settlement of the new structure and effectively provides a barrier between the new buildings and the underlying residual contamination. The designs for the vapor mitigation system will be prepared during design of the new buildings and will be mandated by compliance with the SMP and the EE.

Additionally, to incorporate green principles and techniques to the extent feasible in the future development at this site, for any future on-site buildings the applicant will consider, at a minimum, the installation of a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

4.0 MONITORING AND SAMPLING PLAN

4.1 General

This Monitoring and Sampling Plan describes the measures for evaluating the overall performance and effectiveness of the remedy. This Monitoring and Sampling Plan may only be revised with the approval of the NYSDEC. Details regarding the sampling/monitoring procedures, data quality usability objectives, analytical methods, etc. for all samples collected, as necessary, as part of site management for the site are included in the Quality Assurance Project Plan (QAPP) provided in Appendix I.

This section provides information on the following:

- Sampling and analysis of all appropriate media (e.g., groundwater, indoor air, soil vapor)
- Assessing compliance with applicable NYSDEC and NYSDOH standards, criteria and guidance (SCG), particularly groundwater standards and NYSDOH Air Guideline Values (AGVs) and the Decision Matrices contained in the Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH, 2006) and subsequent updates (2017), and
- Schedules for annual inspections and periodic certifications, which will be performed to confirm that the remedy continues to be effective in protecting public health and the environment

To adequately address these issues, this Monitoring and Sampling Plan provides information on:

- Sampling locations, protocol and frequency
- Information on all designed monitoring systems
- Analytical sampling program requirements
- Inspection and maintenance requirements for monitoring wells
- Monitoring well decommissioning procedures, and
- Annual inspection and periodic certification

Reporting requirements are provided in Section 7.0 of this SMP.

4.2 Site-Wide Inspections

Site-wide inspections will be performed annually. Modification to the frequency or duration of the inspections will require approval from the NYSDEC. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs. During these inspections, an inspection form will be completed as provided in Appendix J – Site Inspection Forms. The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage
- An evaluation of the condition and continued effectiveness of ECs
- General site conditions at the time of the inspection
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection, and
- Confirm that site records are up to date

Inspections of all remedial components installed at the site will be conducted. A comprehensive site-wide inspection will be conducted and documented according to the SMP schedule,

regardless of the frequency of the Periodic Review Report (PRR). The inspections will determine and document the following:

- Whether ECs continue to perform as designed
- If these controls continue to be protective of human health and the environment
- Compliance with requirements of this SMP and the EE
- Achievement of remedial performance criteria
- If site records are complete and up to date

Reporting requirements are outlined in Section 7.0 of this plan.

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the site, verbal notice to the NYSDEC must be given by 12 pm noon of the following day. In addition, an inspection of the site will be conducted by a qualified environmental professional (QEP) or an individual under the supervision of the QEP within 5 days of the event to verify the effectiveness of the ECs. Written confirmation must be provided to the NYSDEC within 7 days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

4.3 Post-Remediation Media Monitoring and Sampling

4.3.1 Groundwater Sampling

The following groundwater monitoring wells were protected during the remedial excavation work and were sampled following implementation of the in-situ groundwater treatments to evaluate the effectiveness of the in situ groundwater treatment: MW-128, MW-165RA and MW-167. The following is a summary of the monitoring wells that will be installed as part of on-going site management and will be monitored to evaluate the effectiveness of the in-situ ERD and EISB: MW-112, MW-118RA, MW-126R, MW-132, MW-138, MW-147RA, MW-166, MW-168, MW-169, MW-170, MW-171, MW-172, MW-173, and MW-174.

In accordance with the RAWP, the monitoring wells MW-165, MW-167 and MW-128 were monitored monthly for the first 3 months after the ERD injection operations were completed (sampling dates of September 26, 2019, October 23, 2019, and November 22, 2019 from monitoring wells MW-128, MW-165RA, and MW-167) and will be monitored on a quarterly basis for a period of 1 year to evaluate the efficacy of the remedy. Additional samples of groundwater will be collected from designated wells (MW-112, W-118RA, MW-126R, MW-128, MW-132, MW-138, MW-147RA, MW-165RA, MW-166, MW-167) for analysis of *dehalococcoides* and the VC reductase gene at 3 months (collected on November 22, 2019 from monitoring wells MW-128, MW-165RA, and MW-167) and 6 months following completion of electron donor injection operations. In 2022 and onwards, groundwater samples will be collected from monitoring wells

MW-138, MW-165, and MW-167 for VOC analysis annually. Sampling locations and required analytical parameters are provided below. Modification to the frequency or sampling requirements will require approval from the NYSDEC.

Post Remediation Sampling Requirements and Schedule

Sampling Location	Analytical Parameters							Schedule
	VOC	SVOC	TOC	*dehalococcoides* and VC reductase	Dissolved Metals (NA^{+}, FE^{2+}, Mn^{2+}, and As)	Sulfate	Field Parameters	
MW-112	X		X		X		X	Quarterly for the first year following groundwater treatment*
MW-118RA	X		X	X	X		X	
MW-126R	X		X	X	X		X	
MW-128	X		X		X		X	
MW-132	X		X	X	X		X	
MW-138	X		X	X	X		X	
MW-147RA	X	X	X		X	X	X	
MW-165RA	X		X	X	X		X	
MW-166	X	X	X	X	X	X	X	
MW-167	X		X	X	X		X	
MW-168	X	X	X		X	X	X	
MW-169	X	X	X		X	X	X	
MW-170	X	X	X		X	X	X	
MW-171	X	X	X		X	X	X	
MW-172	X	X	X		X	X	X	
MW-173	X	X	X		X	X	X	
MW-174	X	X	X		X	X	X	
MW-138	X							Annually*
MW-165	X							
MW-167	X							

* Additional samples of groundwater will be collected from designated wells for analysis of *dehalococcoides* and the VC reductase gene at 3 months (completed November 22, 2019) and 6 months following completion of electron donor injection operations (from MW-112, W-118RA, MW-126R, MW-128, MW-132, MW-138, MW-147RA, MW-165RA, MW-166, and MW-167). In 2022 and onwards, groundwater samples will be collected annually from monitoring wells MW-138, MW-165, and MW-167 for VOC analysis.

Detailed sample collection and analytical procedures and protocols are provided in Appendix I – Quality Assurance Project Plan. Locations of the on-site monitoring wells are shown on Figure 11.

The network of monitoring wells has been installed to evaluate the effectiveness of the in situ groundwater treatment. The network of on-site wells has been designed based on the following criteria:

- Proximity to the groundwater treatment areas,
- Presence of residual contamination below the remedial excavation depth.

Fifteen monitoring wells were reinstalled throughout the site (three were protected and maintained - MW-165, MW-167 and MW-128), in areas targeted for the in-situ groundwater remediation. Monitoring wells will be gauged with an oil/water interface probe and sampled with a submersible pump and dedicated polyethylene tubing by an engineer, scientist or geologist under the direction of a QEP or professional engineer. Depth to water readings, and water quality parameters (including temperature, conductivity, pH dissolved oxygen (DO), oxidation-reduction potential [ORP] and ferrous iron) will be monitored during the sampling. The table provided below summarizes the wells identification number, as well as the purpose, location, depths, diameter and screened intervals of the wells.

Monitoring Well Construction Details

Monitoring Well ID	Well Location on Site	Proposed Coordinates (latitude/ longitude)	Well Diameter (inches)	Elevation (NAVD88)			
				Casing	Surface	Screen Top	Screen Bottom
MW-112	South-Central Region	40.776626/-73.933137	2	[TBD]	[TBD]	[TBD]	[TBD]
MW-118RA	Central-West Region	40.777087/-73.933181	2	[TBD]	[TBD]	[TBD]	[TBD]
MW-126R	Northwest Region	40.777544/-73.932931	2	[TBD]	[TBD]	[TBD]	[TBD]
MW-128	Central-East Region	40.777356/-73.932305	2	[TBD]	[TBD]	[TBD]	[TBD]
MW-132	Northwest Region	40.777665/-73.932738	2	[TBD]	[TBD]	[TBD]	[TBD]
MW-138	Central-West Region	40.777425/-73.93301	2	[TBD]	[TBD]	[TBD]	[TBD]
MW-147RA	Central-East Region	40.777127/-73.932436	2	[TBD]	[TBD]	[TBD]	[TBD]
MW-165RA	Central-West Region	40.777241/-73.933098	2	[TBD]	[TBD]	[TBD]	[TBD]
MW-166	Central-West Region	40.777382/-73.932822	2	[TBD]	[TBD]	[TBD]	[TBD]
MW-167	Central-West Region	40.777482/-73.933027	2	[TBD]	[TBD]	[TBD]	[TBD]
MW-168	South-Central Region	40.77674/-73.932967	2	[TBD]	[TBD]	[TBD]	[TBD]

Monitoring Well ID	Well Location on Site	Proposed Coordinates (latitude/ longitude)	Well Diameter (inches)	Elevation (NAVD88)			
				Casing	Surface	Screen Top	Screen Bottom
MW-169	Southwest Region	40.776974/-73.933309	2	[TBD]	[TBD]	[TBD]	[TBD]
MW-170	Central Region	40.777241/-73.932642	2	[TBD]	[TBD]	[TBD]	[TBD]
MW-171	Central-East Region	40.77725/-73.932209	2	[TBD]	[TBD]	[TBD]	[TBD]
MW-172	Northeast Region	40.777343/-73.931941	2	[TBD]	[TBD]	[TBD]	[TBD]
MW-173	Northeast Region	40.77764/-73.931832	2	[TBD]	[TBD]	[TBD]	[TBD]
MW-174	North-Central Region	40.777739/-73.932271	2	[TBD]	[TBD]	[TBD]	[TBD]

Monitoring well construction logs for MW-128, MW-165RA and MW-167 (protected and maintained during implementation of the remedy) are included in Appendix E of this document. Monitoring well construction logs for the remaining wells to be installed as part of site management to evaluate the effectiveness of the in-situ ERD and EISB (MW-112, MW-118RA, MW-126R, MW-132, MW-138, MW-147RA, MW-166, MW-168, MW-169, MW-170, MW-171, MW-172, MW-173, and MW-174) will be provided to NYSDEC upon completion.

If biofouling or silt accumulation occurs in the on-site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced, if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of any monitoring well for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent PRR. Well decommissioning without replacement will be done only with the prior approval of the NYSDEC. Well abandonment will be performed in accordance with the NYSDEC CP-43 Policy. Monitoring wells that are decommissioned because they have been rendered unusable will be replaced in kind in the nearest available location, unless otherwise approved by the NYSDEC.

The sampling frequency may only be modified with the approval of the NYSDEC. This SMP will be modified to reflect changes in sampling plans approved by the NYSDEC.

Deliverables for the groundwater monitoring program are specified in Section 7.0 – Reporting Requirements.

4.3.2 Soil Vapor Mitigation Systems (SVMS)

Any future on-site buildings will be required to have a sub-slab depressurization system incorporated into the foundation design, or other acceptable measures, to mitigate the migration of vapors into the building(s) from contaminated soil and/or contaminated groundwater.

The vapor mitigation system will consist of a sub-slab depressurization system installed within a gas permeable aggregate layer beneath the slab and will be ventilated to the building's exteriors. The system will be sealed with a continuous vapor barrier that is integrally bonded to poured concrete for the future building foundation. The vapor barrier is not considered an EC. The bond between the vapor barrier and poured concrete allows for the system to be minimally affected by differential settlement of the new structure and effectively provides a barrier between the new buildings and the underlying residual contamination. The designs for the vapor mitigation system will be prepared during design of the new buildings and submitted to NYSDEC for approval prior to installation. The proposed sampling protocol and frequency will submitted to the NYSDEC for review. Modification to the frequency of sampling requirements, if needed, will require approval from the NYSDEC.

4.3.3 Monitoring and Sampling Protocol

All sampling activities will be recorded in a field book and associated sampling log as provided in Appendix J - Site Inspection Forms. Other observations (e.g., groundwater monitoring well integrity, etc.) will be noted on the sampling log. The sampling log will serve as the inspection form for the monitoring network. Additional detail regarding monitoring and sampling protocols are provided in the QAPP provided as Appendix I of this document.

4.4 Engineering Controls Monitoring

Monitoring programs are summarized in the following table and outlined in detail below.

Monitoring/Inspection Schedule

Monitoring Program	Frequency*	Analysis
Site Cover System Inspections	Annually and after severe weather events or emergency (natural disaster or fire) conditions	Visual inspection of Site Cover System components
Site-Wide Inspections	Annually and after severe weather events or emergency (natural disaster or fire) conditions	Visual inspection of general Site conditions and ECs
Groundwater Monitoring	Quarterly monitoring for the first year following groundwater treatment, then annually thereafter**	Visual inspection of monitoring wells, gauging wells for groundwater levels and sampling per work plan.

Monitoring Program	Frequency*	Analysis
Soil Vapor Mitigation Systems (SVMSs)	After installation in buildings constructed at the Site annually or upon need of repair	Inspection of SVMSs required for any new buildings

* The frequency of events will be conducted as specified until otherwise approved by NYSDEC and NYSDOH

**Additional samples of groundwater will be collected from designated wells for analysis of *dehalococcoides* and the VC reductase gene at 3 months (completed November 22, 2019) and 6 months following completion of electron donor injection operations (from MW-112, W-118RA, MW-126R, MW-128, MW-132, MW-138, MW-147RA, MW-165RA, MW-166, and MW-167). In 2022 and onwards, groundwater samples will be collected annually from monitoring wells MW-138, MW-165, and MW-167 for VOC analysis only.

4.4.1 Site Cover System Monitoring

Exposure to remaining contaminated soil (i.e., soil that exceeds Restricted Residential SCOs) is prevented by an engineered site cover system, comprised of impervious cover or a minimum of 18-inches of RCA and topped with a minimum 6-inches of topsoil meeting the soil quality requirements in Part 375-6.7(d)(ii)(b) (i.e., lower of PGW SCOs or RURR SCOs). In addition, new shoreline erosion and sedimentation control improvements were installed, consisting of rip-rap, hay bales, silt fencing, and a filter sock. This cover system extends to areas of the site that were not actively remediated, but contain soil concentrations in excess of the Restricted Residential SCOs within the top two feet of the Residual Management Zone. With the exception of the new shoreline erosion and sedimentation control improvements along the northern site extent, the RCA layer extends across the entire site for grading purposes, but is not considered part of the cover system where it overlies areas where soil complies with the Restricted Residential SCOs. A high visibility demarcation barrier (i.e., orange snow fence) underlies the engineered cover system to clearly establish the Residual Management Zone (Figure 10). Any breach in the site cover during future development will be repaired or newly constructed in accordance with the SMP.

This initial site cover system will be replaced upon site development. The site cover system plan and details of each cover type are shown in Figure 10. Inspection of the site cover system by an engineer, scientist or geologist under the direction of a professional engineer, is required on a regular schedule at a minimum of once per year and following any severe weather or other conditions that could affect the cover. During these inspections, a site cover system inspection form will be completed (Appendix J). The inspection requires sufficient information to certify the integrity of all elements of the cover system described above and should document any cover system disturbances. Any damage to the site cover system identified during the inspection will be repaired in kind and in compliance with this SMP.

4.4.2 Site-Wide Inspections

Site-wide inspections will be performed annually and after all severe weather conditions that may affect ECs. Inspections of all remedial components installed at the site will be conducted. Results

of the annual inspection will be reported in the annual PRR reports. Additional details regarding the site-wide inspections are provided in Section 4.2 of the SMP.

4.4.3 Groundwater Monitoring

Groundwater monitoring will be performed periodically to evaluate the effectiveness of the in-situ groundwater treatment. Results of the periodic gauging events will be reported to NYSDEC and included in the annual PRR reports. Additional details regarding the groundwater monitoring are provided in Section 4.3 of the SMP. If non-aqueous phase liquid (NAPL) is identified in any well, the NYSDEC project manager identified in Section 1.3 – Notifications Contact Table (and Table 6 of this SMP) will be notified within 2 hours of such discovery.

4.4.4 Soil Vapor Mitigation Systems Inspections

SVMS inspections will be performed annually or as needed after buildings are constructed on the site to determine the effectiveness of the soil vapor mitigation measures incorporated into the new building design. A visual inspection of the above-ground components of the system will be conducted during each inspection. SMDS components to be monitored include, but are not limited to, the following:

- Vacuum blowers
- Pressure gauges
- Rates of discharge
- General system piping

A complete list of components to be inspected will be provided following system design and installation. If any equipment readings are not within their typical range, any equipment is observed to be malfunctioning, or the system is not performing within specifications, maintenance and repair as per the forthcoming Operation and Maintenance (O&M) Plan will be implemented. Results of the inspections will be included in the annual PRR reports.

5.0 OPERATION AND MAINTENANCE PLAN

5.1 General

The site remedy will ultimately rely on mechanical systems, such as groundwater treatment systems, sub-slab depressurization systems or air sparge/soil vapor extraction systems to protect public health and the environment. Therefore, the operation and maintenance of such components will be included in this SMP in the future when such systems are designed and installed. Prior to any new building construction, this SMP will be revised to document the operation and maintenance requirements of the SSDSs. The EWP provided in Appendix F outlines the procedure for handling, transport and disposal of soil excavated below the site cover system, which will be implemented during future redevelopment of the site.

6.0 PERIODIC ASSESSMENTS/EVALUATIONS

6.1 Climate Change Vulnerability Assessment

Increases in both the severity and frequency of storms/weather events, increases in sea level elevations and the occurrence of floods, and shifting precipitation and temperature patterns resulting from global climate change and instability have the potential to significantly impact the performance, effectiveness and protectiveness of remediation sites and ECs. Vulnerability assessments can prepare remediation sites for the potential impacts resulting from the increased frequency and intensity of severe weather events, including flooding.

This section provides a summary of a vulnerability assessment completed for the site, and briefly summarizes the vulnerability of the site and its ECs to severe weather events, including flooding.

The East River adjoins the site to the north, and the site is within a flood zone (Zone AE) according to the Preliminary National Flood Insurance Rate Maps (FIRM) for the City of New York published by the Federal Emergency Management Agency (FEMA) in December 2013. The Zone AE special flood hazard areas are subject to inundation by 1 percent annual chance flood (i.e., the 100-year storm).

Significant site erosion is not expected during severe weather or precipitation events because residual soil is overlain by an engineered site cover system, comprised of impervious cover or a minimum of 18-inches of RCA and topped with a minimum 6-inches of topsoil meeting the soil quality requirements in Part 375-6.7(d)(ii)(b) (i.e., lower of PGW SCOs or RURR SCOs), and an additional 9-feet of soil cover, which will be imported to the site to raise the Site out of the floodplain prior to any building construction. In addition, new shoreline erosion and sedimentation control improvements were installed, consisting of rip-rap, hay bales, silt fencing, and a filter sock to protect the existing shoreline from erosion. No plans for future chemical or petroleum bulk storage is planned for the site; therefore, chemical and petroleum spills are not anticipated. ECs including the site cover system, which will be changed once development occurs in compliance with this SMP, future SVMSs, and monitoring well network will be inspected after severe weather or other emergency conditions (natural disasters or fires) and repaired, as necessary.

Overall, the site ECs should not be vulnerable to the effects of global climate change, including severe weather and flooding events, given the height increase of the site, but to the extent a severe weather event does impact the ECs, the SMP inspection requirements will ensure that impacted ECs are identified and remedied, if they are altered by severe weather or flooding.

6.2 Green Remediation Evaluation

NYSDEC policy document DER-31 *Green Remediation* requires that green remediation concepts and techniques be considered during all stages of the remedial program including site management, with the goal of improving the sustainability of the cleanup and summarizing any net environmental benefits. This section of the SMP provides a summary of any green

remediation evaluations to be completed for the site during site management. By raising the grade of the site, and performing a Track 4 remedy, significant truck trips associated with hauling contaminated soil were avoided.

6.2.1 Inspections, Maintenance and Other Routine Activities

Transportation to and from the site and use of consumables during annual inspections, performance monitoring events, and routine and non-routine maintenance have direct and/or inherent energy costs. The schedule for the annual inspections, performance monitoring events, and routine maintenance activities was devised so as to not negatively impact the protectiveness of remedial systems and/or engineering controls but reduce expenditure of energy and/or non-renewable resources.

6.2.2 Metrics and Reporting

As discussed in Section 7.0 and as shown in Appendix J – Site Management Forms, information on energy usage, solid waste generation, transportation and shipping, water usage and land use and ecosystems will be recorded to facilitate and document consistent implementation of green remediation during Site management and to identify corresponding benefits; a set of metrics has been developed.

6.3 Remedial System Optimization

A Remedial System Optimization (RSO) study will be conducted any time that the NYSDEC or the remedial party requests in writing that an in-depth evaluation of the remedy is needed. An RSO may be appropriate if any of the following occur:

- The remedial actions have not met or are not expected to meet RAOs in the time frame estimated in the Decision Document
- The management and operation of the remedial system is exceeding the estimated costs
- The remedial system is not performing as expected or as designed
- Previously unidentified source material may be suspected
- Plume shift has potentially occurred
- Site conditions change because of development activities, change of use, change in groundwater use
- Site management obligations will be transferred to another remedial party or regulatory agency, or
- A new and viable remedial technology becomes available to remediate contaminants that are identified in the future as new contaminants of concern.

The RSO study will evaluate the conceptual model, summarize past remedial actions, document

current site conditions, evaluate additional performance or media-specific data and information, and provide recommendations and justifications for improving the engineering controls or changing the approved remedy. The RSO study should focus on assessing and improving remedial strategy, optimization, and management to increase efficiency, improve cost effectiveness, and reduce estimated remediation schedules. Sustainable remediation practices should also be considered during RSO studies. RSO reporting obligations are described in more detail in Section 7.0.

7.0 REPORTING REQUIREMENTS

7.1 Periodic Review Report

A PRR will be submitted to the NYSDEC beginning sixteen months after the COC is issued. After submittal of the initial PRR, the next PRR shall be submitted annually to the NYSDEC or at another frequency as may be required by the NYSDEC. In the event that the site is subdivided into separate parcels with different ownership, a single PRR will still be prepared that addresses the site described in Appendix A – EE. The report will be prepared in accordance with NYSDEC DER-10 and submitted within 30 days of the end of each certification period.

All site management inspection, maintenance and monitoring events will be recorded on the appropriate site management forms provided in Appendix J. These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of the table below and summarized in the PRR.

Schedule of Interim Monitoring/Inspection Reports

Task/Report	Reporting Frequency*
Site Cover System and Monitoring Well Network Inspections	Annually, included in PRR
Groundwater Monitoring and Gauging	Quarterly for the first year following groundwater treatment, then annually thereafter**
Soli Vapor Mitigation Systems	Annually or as needed for repair
PRR	Annually, or as otherwise determined by the Department

* The frequency of events will be conducted as specified until otherwise approved by the NYSDEC.

**Additional samples of groundwater will be collected from designated wells for analysis of *dehalococcoides* and the VC reductase gene at 3 months (completed November 22, 2019) and 6 months following completion of electron donor injection operations (from MW-112, W-118RA, MW-126R, MW-128, MW-132, MW-138, MW-147RA, MW-165RA, MW-166 and MW-167). In 2022 and onwards, groundwater samples will be collected annually from monitoring wells MW-138, MW-165, and MW-167 for VOC analysis only.

The PRR will include:

- Date of event or reporting period
- Name, company, and position of person(s) conducting monitoring/inspection activities
- Description of the activities performed

- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet)
- Type of samples collected (e.g., groundwater, sub-slab vapor, indoor air, outdoor air, etc.)
- Copies of all annual site inspection forms, groundwater monitoring forms, non-routine maintenance reports, and other pertinent records generated for the site during the reporting period;
- Scaled drawings and figures
- Tabulated analytical data, preparation of data usability summary reports (DUSR), submission of electronic data deliverables (EDD) using the NYSDEC EQuIS database, and laboratory data packages
- Any observations, conclusions, or recommendations
- A determination as to whether contaminant conditions have changed since the last reporting event, and
- Identification and certification of ECs and ICs required by the remedy, including an assessment of the following:
    - If ECs employed at the site continue to perform as designed and continue to be protective of human health and the environment
    - If anything has occurred that impairs the ability of the ECs to protect human health and the environment
    - If changes are needed to the remedial systems or engineering controls
    - Compliance with all ICs, including site uses, the SMP, and the EE
    - Achievement of remedial performance criteria, if applicable

      If site records are complete, maintained at the site, and are current/up-to-date

Data will be reported in digital format as determined by the NYSDEC. Currently, data is to be supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link http://www.dec.ny.gov/chemical/62440.html.

7.1.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a New York State–licensed Professional Engineer include in the PRR, the following certification as per NYSDEC DER-10:

"*For each institutional or engineering control identified for the site, I certify that all of the following statements are true:*

- *The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction*
- *The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department*
- *Nothing has occurred that would impair the ability of the control to protect the public health and environment*
- *Nothing has occurred that would constitute a violation or failure to comply with the site management plan for this control*
- *Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control*
- *If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document*
- *Use of the site is compliant with the environmental easement*
- *The engineering control systems are performing as designed and are effective*
- *To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and generally accepted engineering practices, and*
- *The information presented in this report is accurate and complete*

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I, Jason J. Hayes, P.E., of Langan, have been authorized and designated by the site owner to sign this certification for the site."

At the end of each certifying period, as determined by the NYSDEC, the following certification will be provided to the Department:

"For each institutional identified for the site, I certify that all of the following statements are true:

- *The institutional control employed at this site is unchanged from the date the control was put in place, or last approved by the Department*
- *Nothing has occurred that would impair the ability of the control to protect the public health and environment*

- *Nothing has occurred that would constitute a violation or failure to comply with the site management plan for this control*
- *Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control*
- *If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document*
- *Use of the site is compliant with the environmental easement. The information presented in this report is accurate and complete*
- *I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner's Designated Site Representative] (and if the site consists of multiple properties): [and I have been authorized and designated by all site owners to sign this certification] for the site."*

Every five years the following certification will be added to the PRR:

- *The assumptions made in the qualitative exposure assessment remain valid*

The signed certification will be included in the PRR.

The PRR Review Report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the site is located and the NYSDOH Bureau of Environmental Exposure Investigation. The PRR may need to be submitted in hard-copy format, as requested by the NYSDEC project manager.

7.2 Corrective Measures Work Plan

If there is evidence that a component of the remedy has failed, or if the periodic certification cannot be provided due to the failure of an IC or EC, a Corrective Measures Work Plan will be submitted to the NYSDEC and NYSDOH for review and approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the Corrective Measures Work Plan until it has been approved by the NYSDEC and NYSDOH.

7.3 Remedial Site Optimization Report

If an RSO study is completed consistent with Section 6.3, an RSO report must be submitted to the NYSDEC and NYSDOH for review and approval. The RSO report should document the research/ investigation and data collection efforts, evaluate the results and facts obtained, present a revised conceptual site model and present recommendations for further action. It is the expectation that RSO recommendations will be implemented upon approval from the

NYSDEC and NYSDOH. Additional work plans, design documents, and reports (including, but not limited to, engineering reports, updates to the SMP, etc.), if required to implement the recommended actions, will also be submitted to the NYSDEC and NYSDOH for review and approval.

The RSO report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the site is located, Site Control and the NYSDOH Bureau of Environmental Exposure Investigation.

8.0 REFERENCES

1) *MK Associates Ltd. (MK Associates), Phase I Environmental Site Assessment (ESA) for 3-15 26th Avenue in Queens, New York, July 8, 1997.*

2) *Leggette, Brashears & Graham, Inc. (LB&G), Phase II ESA for 3-15 26th Avenue, Queens, New York, March 2006*

3) *Langan, Due Diligence Geotechnical Study, Proposed Development, 3-15 26th Avenue, Queens, New York, July 2007*

4) *Stantec, Phase I ESA, 3-15 26th Avenue, Astoria, Queens County, New York, August 28, 2013*

5) *Stantec, Limited Phase II ESA, 3-15 26th Avenue, Astoria, Queens County, New York, September 5, 2013*

6) *New York City Department of Environmental Protection (NYCDEP), Asbestos Abatement (further documented in the CCR prepared by Stantec), 3-15 26th Avenue, Astoria, Queens County, New York, October 2014*

7) *Stantec, Interim Remedial Measure (IRM) Work Plan, Astoria Steel Site, January 2015*

8) *Stantec, IRM Work Plan, Astoria Steel Site, March 2015*

9) *Stantec, Supplemental Remedial Investigation Work Plan (SRIWP), 3-15 26th Avenue, Astoria, Queens County, New York July 2015*

10) *Stantec, SRI and IRM Work Plan, 3-15 26th Avenue, Astoria, Queens County, New York, August 2015*

11) *Stantec, Rescind Notice and PCB Emergency Measures Implementation Letter, Astoria Steel Site, 3-15 26th Avenue, Astoria, Queens County, New York, June 2016*

12) *Stantec, Sewer Plugging (further documented in the CCR prepared by Stantec), 3-15 26th Avenue, Astoria, Queens County, New York, 3-15 26th Avenue, Astoria, Queens County, New York, March 2017*

13) *Stantec, RIR, 3-15 26th Avenue, Astoria, Queens County, New York, July 20, 2018*

14) *Stantec, RAWP, 3-15 26th Avenue, Astoria, Queens County, New York, May 17, 2019*

15) *Stantec, 3-15 26th Avenue, Astoria, Queens County, New York, Supplemental Remedial Investigation Report (SRIR), April 2019*

16) *Stantec, CCR, November 19, 2019*

17) *New York State Department of Health, Final Guidance for the Evaluation of Soil Vapor Intrusion in the State of New York, dated October 2006.*

18) New York State Department of Environmental Conservation, Division of Environmental Remediation, Draft Brownfield Cleanup Program Guide, dated May 2004.

19) New York State Department of Environmental Conservation, DER-10 Technical Guidance for Site Investigation and Remediation, issued May 3, 2010; effective June 18, 2010.

20) New York State Division of Water Technical and Operational Guidance Series (TOGS) (1.1.1) dated June 1998.

21) New York State Department of Environmental Conservation, Part 375 of Title 6 of the New York Compilation of Codes, Rules, and Regulations, Effective December 14, 2006.

APPENDIX B
INSTITUTIONAL AND ENGINEERING CONTROLS CERTIFICATION FORM

Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. C241155

Site Name Astoria Steel Site

Site Address: 3-15 26th Avenue Zip Code: 11102
City/Town: Astoria
County: Queens
Site Acreage: 3.670

Reporting Period: April 24, 2022 to April 24, 2023

	YES	NO
1. Is the information above correct?	☒	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☒

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Restricted-Residential, Commercial, and Industrial	☒	☐
7. Are all ICs in place and functioning as designed?	☒	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

_____ _____
Signature of Owner, Remedial Party or Designated Representative Date

Box 2A

	YES	NO
8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid?	❑	☒

If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.

9. Are the assumptions in the Qualitative Exposure Assessment still valid? (The Qualitative Exposure Assessment must be certified every five years)	☒	❑

If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.

SITE NO. C241155 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
911-1	Astoria Owners LLC	Ground Water Use Restriction Soil Management Plan Landuse Restriction Monitoring Plan Site Management Plan IC/EC Plan

- require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for restricted-residential, commercial or industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or NYCDOH; and
- require compliance with the Department approved Site Management Plan.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
911-1	Cover System Monitoring Wells

- Site Cover
- Monitoring wells

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the Engineering Control certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☒	❑

2. For each Engineering control listed in Box 4, I certify by checking "YES" below that all of the following statements are true:

   (a) The Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☒	❑

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

_____ _____

Signature of Owner, Remedial Party or Designated Representative — Date

IC CERTIFICATIONS
SITE NO. C241155

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Boris Arkov at 43 West 47th Street, Suite 203, NY, NY 10036,
print name print business address

am certifying as Astoria Owners LLC (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

9/22/23
Date

EC CERTIFICATIONS

Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Jason Hayes (print name) at 21 Penn Plaza, 360 West 31st Street, 8th Floor, New York, NY (print business address),

am certifying as a Professional Engineer for the OWNER (Owner or Remedial Party)

Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

9/20/2023
Date

APPENDIX C
ANNUAL SITE INSPECTION FORM

LANGAN

SITE WIDE INSPECTION CHECKLIST

Site Name: Astoria Steel Location: 3-15 26th Avenue , Astoria, Queens, NY Project Number: 170581301

Inspector Name: Andrew Ashley Date: 06/27/2023 Weather Conditions: Rain. 60s - 70s °F

Reason for Inspection (i.e., routine, maintenance, severe condition, etc.): Annual Inspection

Check one of the following: **Y:** Yes **N:** No **NA**: Not Applicable

		Y	N	NA	Normal Situation	Remarks
	General					
1	What are the current site conditions?				--	The lot appears to be covered with vegetation and fenced along each site boundary. The site cover system and monitoring wells were observed to be intact. The construction fencing towards the waterfront and silt fence need to be repaired. See additional remarks section below.
2	Are all applicable site records (e.g., documentation of construction activity, site cover system maintenance and repair, most current easement, etc.) complete and up to date?	x			Y	Langan retains copies of these documents.
	Easement					
3	Has site use remained the same?	x			Y	
4	Does it appear that all environmental easement restrictions have been followed?	x			Y	
	Site Cover System					
5	Are there any indications of a breach in the capping system at the time of this inspection?		x		N	
6	Is there any construction activity, or indication of any construction activity within the past certification year (including any tenant improvements), that included the breaching of the capping system, on-site at the time of this inspection?		x		N	
7	If YES to number 6, is there documentation that the Soil Management Plan, HASP, and CAMP for the site was/is being followed?			x	NA if N to 6/ Y if Y to 6	
	Groundwater Monitoring Well Network					
8	Are all wells within the groundwater monitoring network intact and secured at the time of this inspection?	x			Y	
9	Have the minimum number of groundwater monitoring events been counducted for the certification year (i.e., quarterly for first year)?	x			Y	

If the answer to any of the above questions indicate non-compliance with any IC/ECs for the site, additional remarks must be provided and, where applicable, documentation attached to this checklist detailing additional inspection and repair activities.

Additional remarks: The site cover system appears to be intact throughout the site. The site is currently covered with vegetation. No evidence of a breach in the capping system was observed. The construction fencing along the site perimeter is intact, but missing panels and needing repair in one location. The hay bales, silt fencing, and rip rap stone were observed along the northern site boundary and along the edge of the East River, but the silt fencing fabric appears to be detatched from its associated stakes and will require repair. In addition, some hay bales were degraded along the northeastern corner of the site and need replacement.

Minimum Inspection Schedule: Site-wide inspections will be conducted annually, per certification year, at a minimum. Additional inspections will also be conducted at times of severe condition events. All inspection events will utilize this checklist.

APPENDIX D
PHOTOGRAPH LOG

PHOTOGRAPH LOG

Photo 1: View of site cover system during annual inspection, facing south (taken on 06/27/2023)

Photo 2: View of site cover system during annual inspection, facing north (taken on 06/27/2023)

Photo 3: View of rip rap cover and damaged perimeter fencing along the northern site boundary, facing west (taken on 06/27/2023)

Photo 4: View of gravel construction entrance and drum storage area, facing northwest (taken on 06/27/2023)

Photo 5: View of annual groundwater sampling at MW-167, facing west (taken on 06/27/2023)

Photo 6: View of damaged sediment/erosion fence and degraded hay bales along the northeastern site boundary, facing north (taken on 06/27/23)

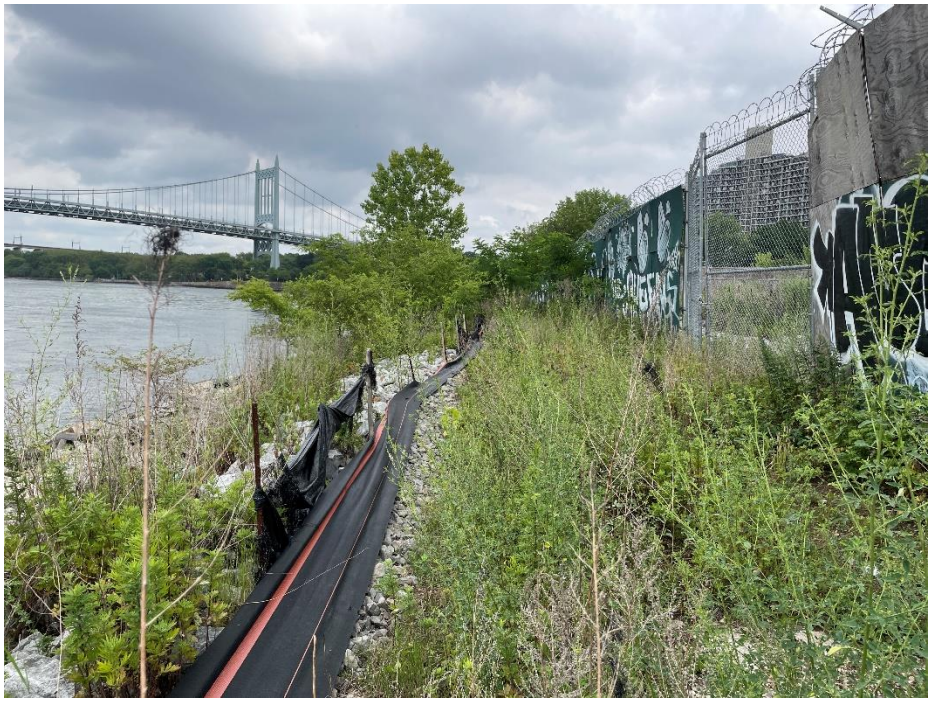

Photo 7: View of detached silt fencing along the river edge, facing east (taken on 06/27/23)

Photo 9: View of repaired perimeter fencing along the northern site boundary, facing northeast (taken on 08/25/2023)

Photo 9: View of repaired sediment/erosion fence and replaced hay bales along northeastern site boundary, facing east (taken on 08/25/23)

Photo 10: View of repaired silt fence on along the river edge, facing east (taken on 08/25/23)

APPENDIX E
GROUNDWATER SAMPLING LOGS

Project Information		Well Information		Equipment Information		Sampling Conditions		Sampling Information	
Project Name:	Astoria Steel	**Well No:**	MW-138	**Water Quality Device Model:**	Horiba	**Weather:**	Rain, 66-75 °F		
Project Number:	170581301	**Well Depth:**	19.2'	**Pine Number:**	213186	**Background PID (ppm):**	0.0	**Sample(s):**	MW-138_062723
Site Location:	Astoria, NY	**Well Diameter:**	2"	**Pump Make and Model:**	Peristaltic	**PID Beneath Inner Cap (ppm):**	0.0		
Sampling Personnel:	Andrew Ashley	**Well Screen Interval:**	9-19'	**Pine Number:**	11023	**Pump Intake Depth:**	13.00	**Sample Date:**	6/27/2023
				Tubing Diameter:	1/4"	**Depth to Water Before Purge:**	9.87	**Sample Time:**	12:15

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											
11:10	16.21	10.13	-111	2.010	22.4	0.00	9.87	N/A	0.0		**N/A**
11:15	15.83	10.31	-141	2.150	21.6	0.00	10.32	0.1	0.5		**N/A**
11:20	15.99	10.99	-160	3.030	26.3	0.00	10.30	0.1	1.0		**N**
11:25	16.07	12.02	-176	3.960	25.0	0.00	10.30	0.1	1.5		**N**
11:30	15.91	13.00	-194	4.720	20.2	0.00	10.30	0.1	2.0		**N**
11:35	16.11	13.21	-202	5.110	22.4	0.00	10.32	0.1	2.5		**N**
11:40	16.25	13.40	-205	5.510	20.8	0.00	10.32	0.1	3.0	Brown tint	**N**
11:45	16.19	13.45	-206	5.640	19.8	0.00	10.30	0.1	3.5		**N**
11:50	16.26	13.53	-203	5.790	18.9	0.00	10.35	0.1	4.0		**N**
11:55	16.24	13.60	-200	5.930	15.3	0.00	10.30	0.1	4.5		**N**
12:00	16.23	13.66	-198	6.180	14.1	0.00	10.32	0.1	5.0		**N**
12:05	16.29	13.70	-193	6.270	13.2	0.00	10.30	0.1	5.5		**N**
12:10	16.32	13.75	-189	6.440	12.5	0.00	10.32	0.1	6.0		**N**

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

Project Information		Well Information		Equipment Information		Sampling Conditions		Sampling Information	
Project Name:	Astoria Steel	**Well No:**	MW-165	**Water Quality Device Model:**	Horiba	**Weather:**	Rain, 66-75 °F	**Sample(s):**	MW-165_062723
Project Number:	170581301	**Well Depth:**	15.1'	**Pine Number:**	213186	**Background PID (ppm):**	0.0		
Site Location:	Astoria, NY	**Well Diameter:**	2"	**Pump Make and Model:**	Peristaltic	**PID Beneath Inner Cap (ppm):**	0.0		
Sampling Personnel:	Andrew Ashley	**Well Screen Interval:**	5-15'	**Pine Number:**	11023	**Pump Intake Depth:**	12.00	**Sample Date:**	6/27/2023
				Tubing Diameter:	1/4"	**Depth to Water Before Purge:**	9.50	**Sample Time:**	13:45

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											
13:05	15.99	9.07	-128	0.498	15.4	0.00	9.50	N/A	0.0		**N/A**
13:10	16.12	8.25	-100	0.488	17.6	0.08	9.65	0.1	0.5		**N/A**
13:15	16.35	7.90	-83	0.487	15.3	0.00	9.65	0.1	1.0	Brown tint	**N**
13:20	16.37	7.77	-77	0.489	11.1	0.00	9.66	0.1	1.5		**N**
13:25	16.84	7.70	-74	0.492	9.4	0.00	9.66	0.1	2.0		**N**
13:30	17.02	7.68	-74	0.495	9.7	0.00	9.60	0.1	2.5		**N**
13:35	17.11	7.67	-72	0.501	9.5	0.00	9.65	0.1	3.0	Brown tint	**Y**

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

Project Information		Well Information		Equipment Information		Sampling Conditions		Sampling Information	
Project Name:	Astoria Steel	**Well No:**	MW-167	**Water Quality Device Model:**	Horiba	**Weather:**	Rain, 66-75 °F	**Sample(s):**	MW-167_062723 DUP01_062723
Project Number:	170581301	**Well Depth:**	19.89'	**Pine Number:**	213186	**Background PID (ppm):**	0.0		
Site Location:	Astoria, NY	**Well Diameter:**	2"	**Pump Make and Model:**	Peristaltic	**PID Beneath Inner Cap (ppm):**	0.0		
Sampling Personnel:	Andrew Ashley	**Well Screen Interval:**	10-20'	**Pine Number:**	11023	**Pump Intake Depth:**	12.00	**Sample Date:**	6/27/2023
				Tubing Diameter:	1/4"	**Depth to Water Before Purge:**	9.25	**Sample Time:**	10:30

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											
10:00	16.33	7.28	25	0.743	8.2	0.00	9.25	N/A	0.0		**N/A**
10:05	15.64	7.22	14	0.739	3.9	0.00	10.20	0.1	0.5		**N/A**
10:10	15.59	7.19	12	0.741	6.1	0.00	10.25	0.1	1.0	Brown tint	**N**
10:15	15.45	7.14	10	0.738	3.6	0.00	10.30	0.1	1.5		**N**
10:20	15.86	7.08	9	0.738	2.8	0.00	10.30	0.1	2.0		**N**
10:25	15.45	7.05	8	0.742	3.5	0.00	10.30	0.1	2.5	Brown tint	**Y**

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

APPENDIX F
LABORATORY ANALYTICAL REPORT

LANGAN

Technical Report

prepared for:

Langan Engineering & Environmental Services (NYC)
21 Penn Plaza, 360 West 31st Street
New York NY, 10001
Attention: Lamees Esmail

Report Date: 06/30/2023
Client Project ID: 170581301
York Project (SDG) No.: 23F1737

Report Date: 06/30/2023
Client Project ID: 170581301
York Project (SDG) No.: 23F1737

Langan Engineering & Environmental Services (NYC)
21 Penn Plaza, 360 West 31st Street
New York NY, 10001
Attention: Lamees Esmail

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on June 27, 2023 and listed below. The project was identified as your project: **170581301**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Sample and Analysis Qualifiers section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the Sample and Data Qualifiers Relating to This Work Order section of this report and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
23F1737-01	MW-167_062723	Water	06/27/2023	06/27/2023
23F1737-02	MW-138_062723	Water	06/27/2023	06/27/2023
23F1737-03	MW-165_062723	Water	06/27/2023	06/27/2023
23F1737-04	DUP01_062723	Water	06/27/2023	06/27/2023
23F1737-05	TB01_062723	Water	06/27/2023	06/27/2023
23F1737-06	FB01_062723	Water	06/27/2023	06/27/2023

General Notes for York Project (SDG) No.: 23F1737

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All analyses conducted met method or Laboratory SOP requirements. See the Sample and Data Qualifiers Section for further information.
6. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
7. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.
8. Analyses conducted at York Analytical Laboratories, Inc. Stratford, CT are indicated by NY Cert. No. 10854; those conducted at York Analytical Laboratories, Inc., Richmond Hill, NY are indicated by NY Cert. No. 12058.

Approved By  **Date:** 06/30/2023

Cassie L. Mosher
Laboratory Manager

Sample Information

Client Sample ID: MW-167_062723 **York Sample ID:** 23F1737-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 10:30 am	06/27/2023

VOA, 8260 LOW MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/L	0.216	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
71-55-6	1,1,1-Trichloroethane	ND		ug/L	0.266	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/L	0.256	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/L	0.286	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-00-5	1,1,2-Trichloroethane	ND		ug/L	0.249	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-34-3	1,1-Dichloroethane	ND		ug/L	0.272	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-35-4	1,1-Dichloroethylene	ND		ug/L	0.327	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
87-61-6	1,2,3-Trichlorobenzene	ND		ug/L	0.222	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
96-18-4	1,2,3-Trichloropropane	ND		ug/L	0.273	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
120-82-1	1,2,4-Trichlorobenzene	ND		ug/L	0.138	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
95-63-6	1,2,4-Trimethylbenzene	ND		ug/L	0.310	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/L	0.432	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
106-93-4	1,2-Dibromoethane	ND		ug/L	0.215	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
95-50-1	1,2-Dichlorobenzene	ND		ug/L	0.270	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
107-06-2	1,2-Dichloroethane	ND		ug/L	0.377	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
78-87-5	1,2-Dichloropropane	ND		ug/L	0.327	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/L	0.347	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
541-73-1	1,3-Dichlorobenzene	ND		ug/L	0.283	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
106-46-7	1,4-Dichlorobenzene	ND		ug/L	0.311	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
123-91-1	1,4-Dioxane	ND		ug/L	35.3	80.0	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
78-93-3	2-Butanone	ND		ug/L	0.421	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		

Sample Information

Client Sample ID: MW-167_062723 **York Sample ID:** 23F1737-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 10:30 am	06/27/2023

VOA, 8260 LOW MASTER **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
591-78-6	2-Hexanone	ND		ug/L	0.320	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-10-1	4-Methyl-2-pentanone	ND		ug/L	0.365	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
67-64-1	**Acetone**	**1.38**		ug/L	1.34	2.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
107-02-8	Acrolein	ND		ug/L	0.447	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
107-13-1	Acrylonitrile	ND		ug/L	0.422	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
71-43-2	Benzene	ND		ug/L	0.279	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-97-5	Bromochloromethane	ND		ug/L	0.354	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-27-4	Bromodichloromethane	ND		ug/L	0.245	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-25-2	Bromoform	ND		ug/L	0.163	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-83-9	Bromomethane	ND	CCVE	ug/L	0.119	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-15-0	Carbon disulfide	ND		ug/L	0.362	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
56-23-5	Carbon tetrachloride	ND		ug/L	0.204	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-90-7	Chlorobenzene	ND		ug/L	0.284	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-00-3	Chloroethane	ND		ug/L	0.448	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
67-66-3	Chloroform	ND		ug/L	0.243	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-87-3	Chloromethane	ND		ug/L	0.372	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
156-59-2	**cis-1,2-Dichloroethylene**	**26.3**		ug/L	0.294	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/L	0.262	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
110-82-7	Cyclohexane	ND	QL-02	ug/L	0.491	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
124-48-1	Dibromochloromethane	ND		ug/L	0.146	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-95-3	Dibromomethane	ND		ug/L	0.203	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-71-8	Dichlorodifluoromethane	ND	CCVE	ug/L	0.451	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		

Sample Information

Client Sample ID: MW-167_062723 **York Sample ID:** 23F1737-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 10:30 am	06/27/2023

VOA, 8260 LOW MASTER **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-41-4	Ethyl Benzene	ND		ug/L	0.290	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
87-68-3	Hexachlorobutadiene	ND		ug/L	0.241	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-82-8	Isopropylbenzene	ND		ug/L	0.405	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-20-9	Methyl acetate	ND		ug/L	0.442	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	0.244	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-87-2	Methylcyclohexane	ND		ug/L	0.477	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-09-2	Methylene chloride	ND		ug/L	0.397	2.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
104-51-8	n-Butylbenzene	ND		ug/L	0.399	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
103-65-1	n-Propylbenzene	ND		ug/L	0.384	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
95-47-6	o-Xylene	ND		ug/L	0.261	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP		
179601-23-1	p- & m- Xylenes	ND		ug/L	0.578	1.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP		
99-87-6	p-Isopropyltoluene	ND		ug/L	0.377	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
135-98-8	sec-Butylbenzene	ND		ug/L	0.444	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
100-42-5	Styrene	ND		ug/L	0.255	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-65-0	tert-Butyl alcohol (TBA)	ND		ug/L	0.608	1.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-06-6	tert-Butylbenzene	ND		ug/L	0.367	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
127-18-4	Tetrachloroethylene	ND		ug/L	0.239	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-88-3	Toluene	ND		ug/L	0.346	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
156-60-5	trans-1,2-Dichloroethylene	ND		ug/L	0.279	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/L	0.229	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-01-6	**Trichloroethylene**	**11.0**		ug/L	0.249	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-69-4	Trichlorofluoromethane	ND		ug/L	0.337	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		

Sample Information

Client Sample ID: MW-167_062723 **York Sample ID:** 23F1737-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 10:30 am	06/27/2023

VOA, 8260 LOW MASTER **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-01-4	**Vinyl Chloride**	**1.87**		ug/L	0.469	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
1330-20-7	Xylenes, Total	ND		ug/L	0.836	1.50	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:30	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*109 %*	*69-130*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*93.4 %*	*81-117*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*89.0 %*	*79-122*

Sample Information

Client Sample ID: MW-138_062723 **York Sample ID:** 23F1737-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 12:15 pm	06/27/2023

VOA, 8260 LOW MASTER **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/L	0.216	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
71-55-6	1,1,1-Trichloroethane	ND		ug/L	0.266	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/L	0.256	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/L	0.286	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-00-5	1,1,2-Trichloroethane	ND		ug/L	0.249	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-34-3	1,1-Dichloroethane	ND		ug/L	0.272	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-35-4	1,1-Dichloroethylene	ND		ug/L	0.327	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
87-61-6	1,2,3-Trichlorobenzene	ND		ug/L	0.222	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
96-18-4	1,2,3-Trichloropropane	ND		ug/L	0.273	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
120-82-1	1,2,4-Trichlorobenzene	ND		ug/L	0.138	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
95-63-6	1,2,4-Trimethylbenzene	ND		ug/L	0.310	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/L	0.432	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
106-93-4	1,2-Dibromoethane	ND		ug/L	0.215	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
95-50-1	1,2-Dichlorobenzene	ND		ug/L	0.270	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
107-06-2	1,2-Dichloroethane	ND		ug/L	0.377	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
78-87-5	1,2-Dichloropropane	ND		ug/L	0.327	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/L	0.347	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
541-73-1	1,3-Dichlorobenzene	ND		ug/L	0.283	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
106-46-7	1,4-Dichlorobenzene	ND		ug/L	0.311	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
123-91-1	1,4-Dioxane	ND		ug/L	35.3	80.0	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
78-93-3	2-Butanone	ND		ug/L	0.421	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
591-78-6	2-Hexanone	ND		ug/L	0.320	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		

Sample Information

Client Sample ID: MW-138_062723 **York Sample ID:** 23F1737-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 12:15 pm	06/27/2023

VOA, 8260 LOW MASTER **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-10-1	4-Methyl-2-pentanone	ND		ug/L	0.365	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
67-64-1	**Acetone**	**14.8**		ug/L	1.34	2.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
107-02-8	Acrolein	ND		ug/L	0.447	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
107-13-1	Acrylonitrile	ND		ug/L	0.422	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
71-43-2	Benzene	ND		ug/L	0.279	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-97-5	Bromochloromethane	ND		ug/L	0.354	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-27-4	Bromodichloromethane	ND		ug/L	0.245	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-25-2	Bromoform	ND		ug/L	0.163	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-83-9	Bromomethane	ND	CCVE	ug/L	0.119	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-15-0	Carbon disulfide	ND		ug/L	0.362	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
56-23-5	Carbon tetrachloride	ND		ug/L	0.204	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-90-7	Chlorobenzene	ND		ug/L	0.284	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-00-3	Chloroethane	ND		ug/L	0.448	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
67-66-3	Chloroform	ND		ug/L	0.243	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-87-3	Chloromethane	ND		ug/L	0.372	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
156-59-2	**cis-1,2-Dichloroethylene**	**14.2**		ug/L	0.294	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/L	0.262	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
110-82-7	Cyclohexane	ND	QL-02	ug/L	0.491	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
124-48-1	Dibromochloromethane	ND		ug/L	0.146	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-95-3	Dibromomethane	ND		ug/L	0.203	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-71-8	Dichlorodifluoromethane	ND	CCVE	ug/L	0.451	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
100-41-4	Ethyl Benzene	ND		ug/L	0.290	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		

Sample Information

Client Sample ID: MW-138_062723 **York Sample ID:** 23F1737-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 12:15 pm	06/27/2023

VOA, 8260 LOW MASTER **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
87-68-3	Hexachlorobutadiene	ND		ug/L	0.241	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-82-8	Isopropylbenzene	ND		ug/L	0.405	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-20-9	Methyl acetate	ND		ug/L	0.442	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	0.244	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-87-2	Methylcyclohexane	ND		ug/L	0.477	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-09-2	Methylene chloride	ND		ug/L	0.397	2.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
104-51-8	n-Butylbenzene	ND		ug/L	0.399	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
103-65-1	n-Propylbenzene	ND		ug/L	0.384	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
95-47-6	o-Xylene	ND		ug/L	0.261	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP		
179601-23-1	p- & m- Xylenes	ND		ug/L	0.578	1.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP		
99-87-6	p-Isopropyltoluene	ND		ug/L	0.377	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
135-98-8	sec-Butylbenzene	ND		ug/L	0.444	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
100-42-5	Styrene	ND		ug/L	0.255	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-65-0	tert-Butyl alcohol (TBA)	ND		ug/L	0.608	1.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-06-6	tert-Butylbenzene	ND		ug/L	0.367	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
127-18-4	Tetrachloroethylene	ND		ug/L	0.239	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-88-3	Toluene	ND		ug/L	0.346	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
156-60-5	**trans-1,2-Dichloroethylene**	**0.310**		ug/L	0.279	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/L	0.229	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-01-6	**Trichloroethylene**	**0.320**		ug/L	0.249	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-69-4	Trichlorofluoromethane	ND		ug/L	0.337	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-01-4	**Vinyl Chloride**	**5.87**		ug/L	0.469	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		

Sample Information

Client Sample ID: MW-138_062723 **York Sample ID:** 23F1737-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 12:15 pm	06/27/2023

VOA, 8260 LOW MASTER **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1330-20-7	Xylenes, Total	ND		ug/L	0.836	1.50	1	EPA 8260C	06/28/2023 06:53	06/28/2023 19:21	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*108 %*	*69-130*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*92.0 %*	*81-117*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*87.3 %*	*79-122*

Sample Information

Client Sample ID: MW-165_062723 **York Sample ID:** 23F1737-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 1:45 pm	06/27/2023

VOA, 8260 LOW MASTER **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/L	0.216	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
71-55-6	1,1,1-Trichloroethane	ND		ug/L	0.266	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/L	0.256	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/L	0.286	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-00-5	1,1,2-Trichloroethane	ND		ug/L	0.249	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-34-3	1,1-Dichloroethane	ND		ug/L	0.272	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-35-4	1,1-Dichloroethylene	ND		ug/L	0.327	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
87-61-6	1,2,3-Trichlorobenzene	ND		ug/L	0.222	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
96-18-4	1,2,3-Trichloropropane	ND		ug/L	0.273	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
120-82-1	1,2,4-Trichlorobenzene	ND		ug/L	0.138	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
95-63-6	1,2,4-Trimethylbenzene	ND		ug/L	0.310	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/L	0.432	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
106-93-4	1,2-Dibromoethane	ND		ug/L	0.215	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
95-50-1	1,2-Dichlorobenzene	ND		ug/L	0.270	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
107-06-2	1,2-Dichloroethane	ND		ug/L	0.377	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
78-87-5	1,2-Dichloropropane	ND		ug/L	0.327	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/L	0.347	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
541-73-1	1,3-Dichlorobenzene	ND		ug/L	0.283	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
106-46-7	1,4-Dichlorobenzene	ND		ug/L	0.311	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
123-91-1	1,4-Dioxane	ND		ug/L	35.3	80.0	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
78-93-3	2-Butanone	ND		ug/L	0.421	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
591-78-6	2-Hexanone	ND		ug/L	0.320	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		

Sample Information

Client Sample ID: MW-165_062723 **York Sample ID:** 23F1737-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 1:45 pm	06/27/2023

VOA, 8260 LOW MASTER **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-10-1	4-Methyl-2-pentanone	ND		ug/L	0.365	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
67-64-1	**Acetone**	**1.38**		ug/L	1.34	2.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
107-02-8	Acrolein	ND		ug/L	0.447	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
107-13-1	Acrylonitrile	ND		ug/L	0.422	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
71-43-2	Benzene	ND		ug/L	0.279	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-97-5	Bromochloromethane	ND		ug/L	0.354	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-27-4	Bromodichloromethane	ND		ug/L	0.245	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-25-2	Bromoform	ND		ug/L	0.163	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-83-9	Bromomethane	ND	CCVE	ug/L	0.119	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-15-0	Carbon disulfide	ND		ug/L	0.362	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
56-23-5	Carbon tetrachloride	ND		ug/L	0.204	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-90-7	Chlorobenzene	ND		ug/L	0.284	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-00-3	Chloroethane	ND		ug/L	0.448	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
67-66-3	Chloroform	ND		ug/L	0.243	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-87-3	Chloromethane	ND		ug/L	0.372	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
156-59-2	**cis-1,2-Dichloroethylene**	**37.1**		ug/L	0.294	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/L	0.262	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
110-82-7	Cyclohexane	ND	QL-02	ug/L	0.491	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
124-48-1	Dibromochloromethane	ND		ug/L	0.146	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-95-3	Dibromomethane	ND		ug/L	0.203	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-71-8	Dichlorodifluoromethane	ND	CCVE	ug/L	0.451	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
100-41-4	Ethyl Benzene	ND		ug/L	0.290	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		

Sample Information

Client Sample ID: MW-165_062723 **York Sample ID:** 23F1737-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 1:45 pm	06/27/2023

VOA, 8260 LOW MASTER **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
87-68-3	Hexachlorobutadiene	ND		ug/L	0.241	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-82-8	Isopropylbenzene	ND		ug/L	0.405	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-20-9	Methyl acetate	ND		ug/L	0.442	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	0.244	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-87-2	Methylcyclohexane	ND		ug/L	0.477	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-09-2	Methylene chloride	ND		ug/L	0.397	2.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
104-51-8	n-Butylbenzene	ND		ug/L	0.399	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
103-65-1	n-Propylbenzene	ND		ug/L	0.384	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
95-47-6	o-Xylene	ND		ug/L	0.261	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP		
179601-23-1	p- & m- Xylenes	ND		ug/L	0.578	1.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP		
99-87-6	p-Isopropyltoluene	ND		ug/L	0.377	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
135-98-8	sec-Butylbenzene	ND		ug/L	0.444	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
100-42-5	Styrene	ND		ug/L	0.255	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-65-0	tert-Butyl alcohol (TBA)	ND		ug/L	0.608	1.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-06-6	tert-Butylbenzene	ND		ug/L	0.367	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
127-18-4	Tetrachloroethylene	ND		ug/L	0.239	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-88-3	Toluene	ND		ug/L	0.346	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
156-60-5	**trans-1,2-Dichloroethylene**	**0.340**		ug/L	0.279	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/L	0.229	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-01-6	Trichloroethylene	ND		ug/L	0.249	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-69-4	Trichlorofluoromethane	ND		ug/L	0.337	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-01-4	**Vinyl Chloride**	**21.1**		ug/L	0.469	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		

Sample Information

Client Sample ID: MW-165_062723 **York Sample ID:** 23F1737-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 1:45 pm	06/27/2023

VOA, 8260 LOW MASTER **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1330-20-7	Xylenes, Total	ND		ug/L	0.836	1.50	1	EPA 8260C	06/28/2023 06:53	06/28/2023 20:11	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*109 %*	*69-130*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*93.4 %*	*81-117*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*89.7 %*	*79-122*

Sample Information

Client Sample ID: DUP01_062723 **York Sample ID:** 23F1737-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 12:01 am	06/27/2023

VOA, 8260 LOW MASTER **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/L	0.216	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
71-55-6	1,1,1-Trichloroethane	ND		ug/L	0.266	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/L	0.256	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/L	0.286	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-00-5	1,1,2-Trichloroethane	ND		ug/L	0.249	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-34-3	1,1-Dichloroethane	ND		ug/L	0.272	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-35-4	1,1-Dichloroethylene	ND		ug/L	0.327	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
87-61-6	1,2,3-Trichlorobenzene	ND		ug/L	0.222	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
96-18-4	1,2,3-Trichloropropane	ND		ug/L	0.273	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
120-82-1	1,2,4-Trichlorobenzene	ND		ug/L	0.138	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
95-63-6	1,2,4-Trimethylbenzene	ND		ug/L	0.310	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/L	0.432	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
106-93-4	1,2-Dibromoethane	ND		ug/L	0.215	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
95-50-1	1,2-Dichlorobenzene	ND		ug/L	0.270	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
107-06-2	1,2-Dichloroethane	ND		ug/L	0.377	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
78-87-5	1,2-Dichloropropane	ND		ug/L	0.327	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/L	0.347	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
541-73-1	1,3-Dichlorobenzene	ND		ug/L	0.283	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
106-46-7	1,4-Dichlorobenzene	ND		ug/L	0.311	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
123-91-1	1,4-Dioxane	ND		ug/L	35.3	80.0	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
78-93-3	2-Butanone	ND		ug/L	0.421	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
591-78-6	2-Hexanone	ND		ug/L	0.320	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		

Sample Information

Client Sample ID: DUP01_062723 **York Sample ID:** 23F1737-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 12:01 am	06/27/2023

VOA, 8260 LOW MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-10-1	4-Methyl-2-pentanone	ND		ug/L	0.365	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
67-64-1	**Acetone**	**1.48**		ug/L	1.34	2.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
107-02-8	Acrolein	ND		ug/L	0.447	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
107-13-1	Acrylonitrile	ND		ug/L	0.422	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
71-43-2	Benzene	ND		ug/L	0.279	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-97-5	Bromochloromethane	ND		ug/L	0.354	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-27-4	Bromodichloromethane	ND		ug/L	0.245	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-25-2	Bromoform	ND		ug/L	0.163	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-83-9	Bromomethane	ND	CCVE	ug/L	0.119	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-15-0	Carbon disulfide	ND		ug/L	0.362	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
56-23-5	Carbon tetrachloride	ND		ug/L	0.204	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-90-7	Chlorobenzene	ND		ug/L	0.284	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-00-3	Chloroethane	ND		ug/L	0.448	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
67-66-3	Chloroform	ND		ug/L	0.243	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-87-3	Chloromethane	ND		ug/L	0.372	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
156-59-2	**cis-1,2-Dichloroethylene**	**27.2**		ug/L	0.294	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/L	0.262	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
110-82-7	Cyclohexane	ND	QL-02	ug/L	0.491	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
124-48-1	Dibromochloromethane	ND		ug/L	0.146	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-95-3	Dibromomethane	ND		ug/L	0.203	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-71-8	Dichlorodifluoromethane	ND	CCVE	ug/L	0.451	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
100-41-4	Ethyl Benzene	ND		ug/L	0.290	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		

Sample Information

Client Sample ID: DUP01_062723 **York Sample ID:** 23F1737-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 12:01 am	06/27/2023

VOA, 8260 LOW MASTER **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
87-68-3	Hexachlorobutadiene	ND		ug/L	0.241	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-82-8	Isopropylbenzene	ND		ug/L	0.405	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-20-9	Methyl acetate	ND		ug/L	0.442	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	0.244	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-87-2	Methylcyclohexane	ND		ug/L	0.477	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-09-2	Methylene chloride	ND		ug/L	0.397	2.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
104-51-8	n-Butylbenzene	ND		ug/L	0.399	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
103-65-1	n-Propylbenzene	ND		ug/L	0.384	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
95-47-6	o-Xylene	ND		ug/L	0.261	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP		
179601-23-1	p- & m- Xylenes	ND		ug/L	0.578	1.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP		
99-87-6	p-Isopropyltoluene	ND		ug/L	0.377	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
135-98-8	sec-Butylbenzene	ND		ug/L	0.444	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
100-42-5	Styrene	ND		ug/L	0.255	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-65-0	tert-Butyl alcohol (TBA)	ND		ug/L	0.608	1.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-06-6	tert-Butylbenzene	ND		ug/L	0.367	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
127-18-4	Tetrachloroethylene	ND		ug/L	0.239	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-88-3	Toluene	ND		ug/L	0.346	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
156-60-5	trans-1,2-Dichloroethylene	ND		ug/L	0.279	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/L	0.229	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-01-6	**Trichloroethylene**	**11.0**		ug/L	0.249	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-69-4	Trichlorofluoromethane	ND		ug/L	0.337	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-01-4	**Vinyl Chloride**	**1.96**		ug/L	0.469	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		

Sample Information

Client Sample ID: DUP01_062723 **York Sample ID:** 23F1737-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 12:01 am	06/27/2023

VOA, 8260 LOW MASTER **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1330-20-7	Xylenes, Total	ND		ug/L	0.836	1.50	1	EPA 8260C	06/28/2023 06:53	06/28/2023 21:02	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*110 %*	*69-130*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*93.3 %*	*81-117*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*90.9 %*	*79-122*

Sample Information

Client Sample ID: TB01_062723 **York Sample ID:** 23F1737-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 2:00 pm	06/27/2023

VOA, 8260 LOW MASTER **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/L	0.216	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
71-55-6	1,1,1-Trichloroethane	ND		ug/L	0.266	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/L	0.256	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/L	0.286	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-00-5	1,1,2-Trichloroethane	ND		ug/L	0.249	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-34-3	1,1-Dichloroethane	ND		ug/L	0.272	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-35-4	1,1-Dichloroethylene	ND		ug/L	0.327	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
87-61-6	1,2,3-Trichlorobenzene	ND		ug/L	0.222	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
96-18-4	1,2,3-Trichloropropane	ND		ug/L	0.273	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
120-82-1	1,2,4-Trichlorobenzene	ND		ug/L	0.138	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
95-63-6	1,2,4-Trimethylbenzene	ND		ug/L	0.310	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/L	0.432	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
106-93-4	1,2-Dibromoethane	ND		ug/L	0.215	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
95-50-1	1,2-Dichlorobenzene	ND		ug/L	0.270	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
107-06-2	1,2-Dichloroethane	ND		ug/L	0.377	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
78-87-5	1,2-Dichloropropane	ND		ug/L	0.327	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/L	0.347	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
541-73-1	1,3-Dichlorobenzene	ND		ug/L	0.283	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
106-46-7	1,4-Dichlorobenzene	ND		ug/L	0.311	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
123-91-1	1,4-Dioxane	ND		ug/L	35.3	80.0	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
78-93-3	2-Butanone	ND		ug/L	0.421	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
591-78-6	2-Hexanone	ND		ug/L	0.320	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		

Sample Information

Client Sample ID: TB01_062723 **York Sample ID:** 23F1737-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 2:00 pm	06/27/2023

VOA, 8260 LOW MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-10-1	4-Methyl-2-pentanone	ND		ug/L	0.365	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
67-64-1	**Acetone**	**3.33**		ug/L	1.34	2.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
107-02-8	Acrolein	ND		ug/L	0.447	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
107-13-1	Acrylonitrile	ND		ug/L	0.422	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
71-43-2	Benzene	ND		ug/L	0.279	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-97-5	Bromochloromethane	ND		ug/L	0.354	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-27-4	Bromodichloromethane	ND		ug/L	0.245	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-25-2	Bromoform	ND		ug/L	0.163	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-83-9	Bromomethane	ND	CCVE	ug/L	0.119	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-15-0	Carbon disulfide	ND		ug/L	0.362	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
56-23-5	Carbon tetrachloride	ND		ug/L	0.204	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-90-7	Chlorobenzene	ND		ug/L	0.284	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-00-3	Chloroethane	ND		ug/L	0.448	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
67-66-3	Chloroform	ND		ug/L	0.243	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-87-3	Chloromethane	ND		ug/L	0.372	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
156-59-2	cis-1,2-Dichloroethylene	ND		ug/L	0.294	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/L	0.262	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
110-82-7	Cyclohexane	ND	QL-02	ug/L	0.491	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
124-48-1	Dibromochloromethane	ND		ug/L	0.146	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-95-3	Dibromomethane	ND		ug/L	0.203	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-71-8	Dichlorodifluoromethane	ND	CCVE	ug/L	0.451	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
100-41-4	Ethyl Benzene	ND		ug/L	0.290	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		

Sample Information

Client Sample ID: TB01_062723 **York Sample ID:** 23F1737-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 2:00 pm	06/27/2023

VOA, 8260 LOW MASTER **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
87-68-3	Hexachlorobutadiene	ND		ug/L	0.241	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-82-8	Isopropylbenzene	ND		ug/L	0.405	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-20-9	Methyl acetate	ND		ug/L	0.442	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	0.244	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-87-2	Methylcyclohexane	ND		ug/L	0.477	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-09-2	**Methylene chloride**	**1.09**		ug/L	0.397	2.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
104-51-8	n-Butylbenzene	ND		ug/L	0.399	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
103-65-1	n-Propylbenzene	ND		ug/L	0.384	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
95-47-6	o-Xylene	ND		ug/L	0.261	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP		
179601-23-1	p- & m- Xylenes	ND		ug/L	0.578	1.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP		
99-87-6	p-Isopropyltoluene	ND		ug/L	0.377	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
135-98-8	sec-Butylbenzene	ND		ug/L	0.444	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
100-42-5	Styrene	ND		ug/L	0.255	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-65-0	tert-Butyl alcohol (TBA)	ND		ug/L	0.608	1.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-06-6	tert-Butylbenzene	ND		ug/L	0.367	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
127-18-4	Tetrachloroethylene	ND		ug/L	0.239	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-88-3	Toluene	ND		ug/L	0.346	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
156-60-5	trans-1,2-Dichloroethylene	ND		ug/L	0.279	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/L	0.229	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-01-6	Trichloroethylene	ND		ug/L	0.249	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-69-4	Trichlorofluoromethane	ND		ug/L	0.337	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-01-4	Vinyl Chloride	ND		ug/L	0.469	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		

Sample Information

Client Sample ID: TB01_062723 **York Sample ID:** 23F1737-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 2:00 pm	06/27/2023

VOA, 8260 LOW MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1330-20-7	Xylenes, Total	ND		ug/L	0.836	1.50	1	EPA 8260C	06/28/2023 06:53	06/28/2023 16:22	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*104 %*	*69-130*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*93.4 %*	*81-117*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*96.1 %*	*79-122*

Sample Information

Client Sample ID: FB01_062723 **York Sample ID:** 23F1737-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 2:00 pm	06/27/2023

VOA, 8260 LOW MASTER **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/L	0.216	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
71-55-6	1,1,1-Trichloroethane	ND		ug/L	0.266	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/L	0.256	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/L	0.286	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-00-5	1,1,2-Trichloroethane	ND		ug/L	0.249	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-34-3	1,1-Dichloroethane	ND		ug/L	0.272	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-35-4	1,1-Dichloroethylene	ND		ug/L	0.327	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
87-61-6	1,2,3-Trichlorobenzene	ND		ug/L	0.222	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
96-18-4	1,2,3-Trichloropropane	ND		ug/L	0.273	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
120-82-1	1,2,4-Trichlorobenzene	ND		ug/L	0.138	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
95-63-6	1,2,4-Trimethylbenzene	ND		ug/L	0.310	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/L	0.432	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
106-93-4	1,2-Dibromoethane	ND		ug/L	0.215	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
95-50-1	1,2-Dichlorobenzene	ND		ug/L	0.270	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
107-06-2	1,2-Dichloroethane	ND		ug/L	0.377	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
78-87-5	1,2-Dichloropropane	ND		ug/L	0.327	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/L	0.347	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
541-73-1	1,3-Dichlorobenzene	ND		ug/L	0.283	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
106-46-7	1,4-Dichlorobenzene	ND		ug/L	0.311	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
123-91-1	1,4-Dioxane	ND		ug/L	35.3	80.0	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
78-93-3	2-Butanone	ND		ug/L	0.421	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
591-78-6	2-Hexanone	ND		ug/L	0.320	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		

Sample Information

Client Sample ID: FB01_062723 **York Sample ID:** 23F1737-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 2:00 pm	06/27/2023

VOA, 8260 LOW MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-10-1	4-Methyl-2-pentanone	ND		ug/L	0.365	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
67-64-1	Acetone	ND		ug/L	1.34	2.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
107-02-8	Acrolein	ND		ug/L	0.447	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
107-13-1	Acrylonitrile	ND		ug/L	0.422	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
71-43-2	Benzene	ND		ug/L	0.279	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-97-5	Bromochloromethane	ND		ug/L	0.354	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-27-4	Bromodichloromethane	ND		ug/L	0.245	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-25-2	Bromoform	ND		ug/L	0.163	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-83-9	Bromomethane	ND	CCVE	ug/L	0.119	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-15-0	Carbon disulfide	ND		ug/L	0.362	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
56-23-5	Carbon tetrachloride	ND		ug/L	0.204	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-90-7	Chlorobenzene	ND		ug/L	0.284	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-00-3	Chloroethane	ND		ug/L	0.448	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
67-66-3	Chloroform	ND		ug/L	0.243	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-87-3	Chloromethane	ND		ug/L	0.372	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
156-59-2	cis-1,2-Dichloroethylene	ND		ug/L	0.294	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/L	0.262	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
110-82-7	Cyclohexane	ND	QL-02	ug/L	0.491	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
124-48-1	Dibromochloromethane	ND		ug/L	0.146	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
74-95-3	Dibromomethane	ND		ug/L	0.203	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-71-8	Dichlorodifluoromethane	ND	CCVE	ug/L	0.451	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
100-41-4	Ethyl Benzene	ND		ug/L	0.290	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		

Sample Information

Client Sample ID: FB01_062723 **York Sample ID:** 23F1737-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 2:00 pm	06/27/2023

VOA, 8260 LOW MASTER **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
87-68-3	Hexachlorobutadiene	ND		ug/L	0.241	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-82-8	Isopropylbenzene	ND		ug/L	0.405	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-20-9	Methyl acetate	ND		ug/L	0.442	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	0.244	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-87-2	Methylcyclohexane	ND		ug/L	0.477	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-09-2	**Methylene chloride**	**1.45**		ug/L	0.397	2.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
104-51-8	n-Butylbenzene	ND		ug/L	0.399	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
103-65-1	n-Propylbenzene	ND		ug/L	0.384	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
95-47-6	o-Xylene	ND		ug/L	0.261	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP		
179601-23-1	p- & m- Xylenes	ND		ug/L	0.578	1.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,PADEP		
99-87-6	p-Isopropyltoluene	ND		ug/L	0.377	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
135-98-8	sec-Butylbenzene	ND		ug/L	0.444	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
100-42-5	Styrene	ND		ug/L	0.255	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-65-0	tert-Butyl alcohol (TBA)	ND		ug/L	0.608	1.00	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-06-6	tert-Butylbenzene	ND		ug/L	0.367	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
127-18-4	Tetrachloroethylene	ND		ug/L	0.239	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
108-88-3	Toluene	ND		ug/L	0.346	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
156-60-5	trans-1,2-Dichloroethylene	ND		ug/L	0.279	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/L	0.229	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
79-01-6	Trichloroethylene	ND		ug/L	0.249	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-69-4	Trichlorofluoromethane	ND		ug/L	0.337	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		
75-01-4	Vinyl Chloride	ND		ug/L	0.469	0.500	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP,PAI		

Sample Information

Client Sample ID: FB01_062723 **York Sample ID:** 23F1737-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
23F1737	170581301	Water	June 27, 2023 2:00 pm	06/27/2023

VOA, 8260 LOW MASTER

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1330-20-7	Xylenes, Total	ND		ug/L	0.836	1.50	1	EPA 8260C	06/28/2023 06:53	06/28/2023 18:04	JTG
								Certifications:	CTDOH-PH-0723,NELAC-NY10854,NELAC-NY12058,NJDEP		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*105 %*	*69-130*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*94.6 %*	*81-117*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*96.0 %*	*79-122*

Analytical Batch Summary

Batch ID: BF32051 **Preparation Method:** EPA 5030B **Prepared By:** JTG

YORK Sample ID	Client Sample ID	Preparation Date
23F1737-01	MW-167_062723	06/28/23
23F1737-02	MW-138_062723	06/28/23
23F1737-03	MW-165_062723	06/28/23
23F1737-04	DUP01_062723	06/28/23
23F1737-05	TB01_062723	06/28/23
23F1737-06	FB01_062723	06/28/23
BF32051-BLK1	Blank	06/28/23
BF32051-BS1	LCS	06/28/23
BF32051-BSD1	LCS Dup	06/28/23
BF32051-MS1	Matrix Spike	06/28/23
BF32051-MSD1	Matrix Spike Dup	06/28/23

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BF32051 - EPA 5030B											
Blank (BF32051-BLK1) Blank									Prepared & Analyzed: 06/28/2023		
1,1,1,2-Tetrachloroethane	ND	0.500	ug/L								
1,1,1-Trichloroethane	ND	0.500	"								
1,1,2,2-Tetrachloroethane	ND	0.500	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.500	"								
1,1,2-Trichloroethane	ND	0.500	"								
1,1-Dichloroethane	ND	0.500	"								
1,1-Dichloroethylene	ND	0.500	"								
1,2,3-Trichlorobenzene	ND	0.500	"								
1,2,3-Trichloropropane	ND	0.500	"								
1,2,4-Trichlorobenzene	ND	0.500	"								
1,2,4-Trimethylbenzene	ND	0.500	"								
1,2-Dibromo-3-chloropropane	ND	0.500	"								
1,2-Dibromoethane	ND	0.500	"								
1,2-Dichlorobenzene	ND	0.500	"								
1,2-Dichloroethane	ND	0.500	"								
1,2-Dichloropropane	ND	0.500	"								
1,3,5-Trimethylbenzene	ND	0.500	"								
1,3-Dichlorobenzene	ND	0.500	"								
1,4-Dichlorobenzene	ND	0.500	"								
1,4-Dioxane	ND	80.0	"								
2-Butanone	ND	0.500	"								
2-Hexanone	ND	0.500	"								
4-Methyl-2-pentanone	ND	0.500	"								
Acetone	ND	2.00	"								
Acrolein	ND	0.500	"								
Acrylonitrile	ND	0.500	"								
Benzene	ND	0.500	"								
Bromochloromethane	ND	0.500	"								
Bromodichloromethane	ND	0.500	"								
Bromoform	ND	0.500	"								
Bromomethane	ND	0.500	"								
Carbon disulfide	ND	0.500	"								
Carbon tetrachloride	ND	0.500	"								
Chlorobenzene	ND	0.500	"								
Chloroethane	ND	0.500	"								
Chloroform	ND	0.500	"								
Chloromethane	ND	0.500	"								
cis-1,2-Dichloroethylene	ND	0.500	"								
cis-1,3-Dichloropropylene	ND	0.500	"								
Cyclohexane	ND	0.500	"								
Dibromochloromethane	ND	0.500	"								
Dibromomethane	ND	0.500	"								
Dichlorodifluoromethane	ND	0.500	"								
Ethyl Benzene	ND	0.500	"								
Hexachlorobutadiene	ND	0.500	"								
Isopropylbenzene	ND	0.500	"								
Methyl acetate	ND	0.500	"								
Methyl tert-butyl ether (MTBE)	ND	0.500	"								
Methylcyclohexane	ND	0.500	"								
Methylene chloride	ND	2.00	"								

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BF32051 - EPA 5030B											
Blank (BF32051-BLK1) Blank									Prepared & Analyzed: 06/28/2023		
n-Butylbenzene	ND	0.500	ug/L								
n-Propylbenzene	ND	0.500	"								
o-Xylene	ND	0.500	"								
p- & m- Xylenes	ND	1.00	"								
p-Isopropyltoluene	ND	0.500	"								
sec-Butylbenzene	ND	0.500	"								
Styrene	ND	0.500	"								
tert-Butyl alcohol (TBA)	ND	1.00	"								
tert-Butylbenzene	ND	0.500	"								
Tetrachloroethylene	ND	0.500	"								
Toluene	ND	0.500	"								
trans-1,2-Dichloroethylene	ND	0.500	"								
trans-1,3-Dichloropropylene	ND	0.500	"								
Trichloroethylene	ND	0.500	"								
Trichlorofluoromethane	ND	0.500	"								
Vinyl Chloride	ND	0.500	"								
Xylenes, Total	ND	1.50	"								
Surrogate: SURR: 1,2-Dichloroethane-d4	*10.0*		*"*	*10.0*		*100*	*69-130*				
Surrogate: SURR: Toluene-d8	*9.34*		*"*	*10.0*		*93.4*	*81-117*				
Surrogate: SURR: p-Bromofluorobenzene	*9.74*		*"*	*10.0*		*97.4*	*79-122*				
LCS (BF32051-BS1) LCS									Prepared & Analyzed: 06/28/2023		
1,1,1,2-Tetrachloroethane	9.63		ug/L	10.0		96.3	82-126				
1,1,1-Trichloroethane	10.1		"	10.0		101	78-136				
1,1,2,2-Tetrachloroethane	8.95		"	10.0		89.5	76-129				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.4		"	10.0		104	54-165				
1,1,2-Trichloroethane	8.96		"	10.0		89.6	82-123				
1,1-Dichloroethane	9.88		"	10.0		98.8	82-129				
1,1-Dichloroethylene	10.3		"	10.0		103	68-138				
1,2,3-Trichlorobenzene	8.13		"	10.0		81.3	76-136				
1,2,3-Trichloropropane	9.07		"	10.0		90.7	77-128				
1,2,4-Trichlorobenzene	8.35		"	10.0		83.5	76-137				
1,2,4-Trimethylbenzene	10.6		"	10.0		106	82-132				
1,2-Dibromo-3-chloropropane	8.55		"	10.0		85.5	45-147				
1,2-Dibromoethane	9.21		"	10.0		92.1	83-124				
1,2-Dichlorobenzene	9.73		"	10.0		97.3	79-123				
1,2-Dichloroethane	9.18		"	10.0		91.8	73-132				
1,2-Dichloropropane	9.86		"	10.0		98.6	78-126				
1,3,5-Trimethylbenzene	10.8		"	10.0		108	80-131				
1,3-Dichlorobenzene	10.2		"	10.0		102	86-122				
1,4-Dichlorobenzene	10.0		"	10.0		100	85-124				
1,4-Dioxane	153		"	210		73.1	10-349				
2-Butanone	9.29		"	10.0		92.9	49-152				
2-Hexanone	6.39		"	10.0		63.9	51-146				
4-Methyl-2-pentanone	6.34		"	10.0		63.4	57-145				
Acetone	7.47		"	10.0		74.7	14-150				
Acrolein	6.94		"	10.0		69.4	10-153				
Acrylonitrile	9.29		"	10.0		92.9	51-150				
Benzene	10.5		"	10.0		105	85-126				
Bromochloromethane	9.12		"	10.0		91.2	77-128				
Bromodichloromethane	8.58		"	10.0		85.8	79-128				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BF32051 - EPA 5030B											
LCS (BF32051-BS1) LCS							Prepared & Analyzed: 06/28/2023				
Bromoform	8.90		ug/L	10.0		89.0	78-133				
Bromomethane	9.31		"	10.0		93.1	43-168				
Carbon disulfide	10.1		"	10.0		101	68-146				
Carbon tetrachloride	10.3		"	10.0		103	77-141				
Chlorobenzene	10.3		"	10.0		103	88-120				
Chloroethane	9.74		"	10.0		97.4	65-136				
Chloroform	9.87		"	10.0		98.7	82-128				
Chloromethane	9.67		"	10.0		96.7	43-155				
cis-1,2-Dichloroethylene	10.2		"	10.0		102	83-129				
cis-1,3-Dichloropropylene	9.81		"	10.0		98.1	80-131				
Cyclohexane	4.95		"	10.0		49.5	63-149	Low Bias			
Dibromochloromethane	9.26		"	10.0		92.6	80-130				
Dibromomethane	8.52		"	10.0		85.2	72-134				
Dichlorodifluoromethane	7.68		"	10.0		76.8	44-144				
Ethyl Benzene	10.7		"	10.0		107	80-131				
Hexachlorobutadiene	9.14		"	10.0		91.4	67-146				
Isopropylbenzene	11.4		"	10.0		114	76-140				
Methyl acetate	8.30		"	10.0		83.0	51-139				
Methyl tert-butyl ether (MTBE)	9.12		"	10.0		91.2	76-135				
Methylcyclohexane	10.4		"	10.0		104	72-143				
Methylene chloride	8.97		"	10.0		89.7	55-137				
n-Butylbenzene	9.87		"	10.0		98.7	79-132				
n-Propylbenzene	10.8		"	10.0		108	78-133				
o-Xylene	10.9		"	10.0		109	78-130				
p- & m- Xylenes	21.2		"	20.0		106	77-133				
p-Isopropyltoluene	10.6		"	10.0		106	81-136				
sec-Butylbenzene	10.8		"	10.0		108	79-137				
Styrene	10.6		"	10.0		106	67-132				
tert-Butyl alcohol (TBA)	22.4		"	50.0		44.7	25-162				
tert-Butylbenzene	9.70		"	10.0		97.0	77-138				
Tetrachloroethylene	10.3		"	10.0		103	82-131				
Toluene	10.0		"	10.0		100	80-127				
trans-1,2-Dichloroethylene	10.3		"	10.0		103	80-132				
trans-1,3-Dichloropropylene	9.01		"	10.0		90.1	78-131				
Trichloroethylene	9.82		"	10.0		98.2	82-128				
Trichlorofluoromethane	8.89		"	10.0		88.9	67-139				
Vinyl Chloride	9.62		"	10.0		96.2	58-145				
Surrogate: SURR: 1,2-Dichloroethane-d4	*9.09*		*"*	*10.0*		*90.9*	*69-130*				
Surrogate: SURR: Toluene-d8	*9.74*		*"*	*10.0*		*97.4*	*81-117*				
Surrogate: SURR: p-Bromofluorobenzene	*10.1*		*"*	*10.0*		*101*	*79-122*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Batch BF32051 - EPA 5030B

LCS Dup (BF32051-BSD1) LCS Dup — Prepared & Analyzed: 06/28/2023

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1,1,2-Tetrachloroethane	9.47		ug/L	10.0		94.7	82-126		1.68	30	
1,1,1-Trichloroethane	9.78		"	10.0		97.8	78-136		3.12	30	
1,1,2,2-Tetrachloroethane	9.08		"	10.0		90.8	76-129		1.44	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.0		"	10.0		100	54-165		3.14	30	
1,1,2-Trichloroethane	9.36		"	10.0		93.6	82-123		4.37	30	
1,1-Dichloroethane	9.62		"	10.0		96.2	82-129		2.67	30	
1,1-Dichloroethylene	9.75		"	10.0		97.5	68-138		5.19	30	
1,2,3-Trichlorobenzene	7.98		"	10.0		79.8	76-136		1.86	30	
1,2,3-Trichloropropane	9.22		"	10.0		92.2	77-128		1.64	30	
1,2,4-Trichlorobenzene	7.80		"	10.0		78.0	76-137		6.81	30	
1,2,4-Trimethylbenzene	9.43		"	10.0		94.3	82-132		11.6	30	
1,2-Dibromo-3-chloropropane	8.74		"	10.0		87.4	45-147		2.20	30	
1,2-Dibromoethane	9.90		"	10.0		99.0	83-124		7.22	30	
1,2-Dichlorobenzene	9.19		"	10.0		91.9	79-123		5.71	30	
1,2-Dichloroethane	9.57		"	10.0		95.7	73-132		4.16	30	
1,2-Dichloropropane	9.64		"	10.0		96.4	78-126		2.26	30	
1,3,5-Trimethylbenzene	9.42		"	10.0		94.2	80-131		13.2	30	
1,3-Dichlorobenzene	9.32		"	10.0		93.2	86-122		9.31	30	
1,4-Dichlorobenzene	9.32		"	10.0		93.2	85-124		7.54	30	
1,4-Dioxane	199		"	210		94.8	10-349		25.9	30	
2-Butanone	10.9		"	10.0		109	49-152		16.2	30	
2-Hexanone	7.71		"	10.0		77.1	51-146		18.7	30	
4-Methyl-2-pentanone	7.59		"	10.0		75.9	57-145		17.9	30	
Acetone	8.76		"	10.0		87.6	14-150		15.9	30	
Acrolein	7.72		"	10.0		77.2	10-153		10.6	30	
Acrylonitrile	10.2		"	10.0		102	51-150		9.73	30	
Benzene	10.3		"	10.0		103	85-126		1.93	30	
Bromochloromethane	9.56		"	10.0		95.6	77-128		4.71	30	
Bromodichloromethane	8.56		"	10.0		85.6	79-128		0.233	30	
Bromoform	9.90		"	10.0		99.0	78-133		10.6	30	
Bromomethane	6.68		"	10.0		66.8	43-168		32.9	30	Non-dir.
Carbon disulfide	9.52		"	10.0		95.2	68-146		5.62	30	
Carbon tetrachloride	9.86		"	10.0		98.6	77-141		4.75	30	
Chlorobenzene	10.1		"	10.0		101	88-120		2.35	30	
Chloroethane	9.43		"	10.0		94.3	65-136		3.23	30	
Chloroform	9.63		"	10.0		96.3	82-128		2.46	30	
Chloromethane	8.21		"	10.0		82.1	43-155		16.3	30	
cis-1,2-Dichloroethylene	9.98		"	10.0		99.8	83-129		1.98	30	
cis-1,3-Dichloropropylene	10.0		"	10.0		100	80-131		2.02	30	
Cyclohexane	4.81		"	10.0		48.1	63-149	Low Bias	2.87	30	
Dibromochloromethane	9.65		"	10.0		96.5	80-130		4.12	30	
Dibromomethane	8.93		"	10.0		89.3	72-134		4.70	30	
Dichlorodifluoromethane	7.11		"	10.0		71.1	44-144		7.71	30	
Ethyl Benzene	10.2		"	10.0		102	80-131		5.28	30	
Hexachlorobutadiene	8.15		"	10.0		81.5	67-146		11.5	30	
Isopropylbenzene	10.0		"	10.0		100	76-140		13.2	30	
Methyl acetate	9.82		"	10.0		98.2	51-139		16.8	30	
Methyl tert-butyl ether (MTBE)	10.4		"	10.0		104	76-135		13.1	30	
Methylcyclohexane	9.86		"	10.0		98.6	72-143		5.52	30	
Methylene chloride	8.89		"	10.0		88.9	55-137		0.896	30	
n-Butylbenzene	8.75		"	10.0		87.5	79-132		12.0	30	

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BF32051 - EPA 5030B											
LCS Dup (BF32051-BSD1) LCS Dup								Prepared & Analyzed: 06/28/2023			
n-Propylbenzene	9.40		ug/L	10.0		94.0	78-133		13.9	30	
o-Xylene	10.4		"	10.0		104	78-130		4.22	30	
p- & m- Xylenes	20.2		"	20.0		101	77-133		5.22	30	
p-Isopropyltoluene	9.41		"	10.0		94.1	81-136		12.4	30	
sec-Butylbenzene	9.56		"	10.0		95.6	79-137		12.1	30	
Styrene	10.4		"	10.0		104	67-132		2.20	30	
tert-Butyl alcohol (TBA)	28.1		"	50.0		56.3	25-162		22.8	30	
tert-Butylbenzene	8.54		"	10.0		85.4	77-138		12.7	30	
Tetrachloroethylene	9.77		"	10.0		97.7	82-131		5.38	30	
Toluene	9.55		"	10.0		95.5	80-127		5.10	30	
trans-1,2-Dichloroethylene	9.99		"	10.0		99.9	80-132		3.15	30	
trans-1,3-Dichloropropylene	9.42		"	10.0		94.2	78-131		4.45	30	
Trichloroethylene	9.34		"	10.0		93.4	82-128		5.01	30	
Trichlorofluoromethane	8.46		"	10.0		84.6	67-139		4.96	30	
Vinyl Chloride	8.88		"	10.0		88.8	58-145		8.00	30	
Surrogate: SURR: 1,2-Dichloroethane-d4	*9.85*		*"*	*10.0*		*98.5*	*69-130*				
Surrogate: SURR: Toluene-d8	*9.49*		*"*	*10.0*		*94.9*	*81-117*				
Surrogate: SURR: p-Bromofluorobenzene	*9.55*		*"*	*10.0*		*95.5*	*79-122*				
Matrix Spike (BF32051-MS1) Matrix Spike *Source sample: 23F1737-02 (MW-138_062723)								Prepared & Analyzed: 06/28/2023			
1,1,1,2-Tetrachloroethane	9.96		ug/L	10.0	0.00	99.6	45-161				
1,1,1-Trichloroethane	10.7		"	10.0	0.00	107	70-146				
1,1,2,2-Tetrachloroethane	9.04		"	10.0	0.00	90.4	74-121				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	11.2		"	10.0	0.00	112	21-217				
1,1,2-Trichloroethane	10.0		"	10.0	0.00	100	59-146				
1,1-Dichloroethane	10.2		"	10.0	0.00	102	54-146				
1,1-Dichloroethylene	11.0		"	10.0	0.00	110	44-165				
1,2,3-Trichlorobenzene	7.70		"	10.0	0.00	77.0	40-161				
1,2,3-Trichloropropane	9.06		"	10.0	0.00	90.6	74-127				
1,2,4-Trichlorobenzene	7.34		"	10.0	0.00	73.4	41-161				
1,2,4-Trimethylbenzene	8.99		"	10.0	0.00	89.9	72-129				
1,2-Dibromo-3-chloropropane	8.54		"	10.0	0.00	85.4	31-151				
1,2-Dibromoethane	10.2		"	10.0	0.00	102	75-125				
1,2-Dichlorobenzene	8.69		"	10.0	0.00	86.9	63-122				
1,2-Dichloroethane	10.7		"	10.0	0.00	107	68-131				
1,2-Dichloropropane	9.77		"	10.0	0.00	97.7	77-121				
1,3,5-Trimethylbenzene	9.06		"	10.0	0.00	90.6	69-126				
1,3-Dichlorobenzene	8.68		"	10.0	0.00	86.8	74-119				
1,4-Dichlorobenzene	8.59		"	10.0	0.00	85.9	70-124				
1,4-Dioxane	151		"	210	0.00	71.9	10-310				
2-Butanone	15.9		"	10.0	0.00	159	10-193				
2-Hexanone	7.86		"	10.0	0.00	78.6	53-133				
4-Methyl-2-pentanone	7.80		"	10.0	0.00	78.0	38-150				
Acetone	26.2		"	10.0	14.8	113	13-149				
Acrolein	7.28		"	10.0	0.00	72.8	10-195				
Acrylonitrile	10.3		"	10.0	0.00	103	37-165				
Benzene	10.7		"	10.0	0.00	107	38-155				
Bromochloromethane	10.3		"	10.0	0.00	103	75-121				
Bromodichloromethane	9.02		"	10.0	0.00	90.2	70-129				
Bromoform	9.95		"	10.0	0.00	99.5	66-136				
Bromomethane	5.75		"	10.0	0.00	57.5	30-158				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BF32051 - EPA 5030B											
Matrix Spike (BF32051-MS1) Matrix Spike	*Source sample: 23F1737-02 (MW-138_062723)							Prepared & Analyzed: 06/28/2023			
Carbon disulfide	10.5		ug/L	10.0	0.170	103	10-138				
Carbon tetrachloride	11.4		"	10.0	0.00	114	71-146				
Chlorobenzene	10.6		"	10.0	0.00	106	81-117				
Chloroethane	9.91		"	10.0	0.00	99.1	51-145				
Chloroform	10.4		"	10.0	0.00	104	80-124				
Chloromethane	8.16		"	10.0	0.00	81.6	16-163				
cis-1,2-Dichloroethylene	25.2		"	10.0	14.2	109	76-125				
cis-1,3-Dichloropropylene	9.06		"	10.0	0.00	90.6	58-131				
Cyclohexane	5.17		"	10.0	0.00	51.7	70-130	Low Bias			
Dibromochloromethane	10.2		"	10.0	0.00	102	71-129				
Dibromomethane	9.60		"	10.0	0.00	96.0	76-120				
Dichlorodifluoromethane	7.78		"	10.0	0.00	77.8	30-147				
Ethyl Benzene	10.7		"	10.0	0.00	107	72-128				
Hexachlorobutadiene	8.77		"	10.0	0.00	87.7	34-166				
Isopropylbenzene	9.15		"	10.0	0.00	91.5	66-139				
Methyl acetate	8.01		"	10.0	0.00	80.1	10-200				
Methyl tert-butyl ether (MTBE)	10.1		"	10.0	0.00	101	75-128				
Methylcyclohexane	10.5		"	10.0	0.00	105	70-130				
Methylene chloride	9.69		"	10.0	0.00	96.9	57-128				
n-Butylbenzene	8.61		"	10.0	0.00	86.1	61-138				
n-Propylbenzene	9.08		"	10.0	0.00	90.8	66-134				
o-Xylene	11.1		"	10.0	0.00	111	69-126				
p- & m- Xylenes	21.6		"	20.0	0.00	108	67-130				
p-Isopropyltoluene	9.02		"	10.0	0.00	90.2	64-137				
sec-Butylbenzene	9.25		"	10.0	0.00	92.5	53-155				
Styrene	8.98		"	10.0	0.00	89.8	69-125				
tert-Butyl alcohol (TBA)	26.3		"	50.0	0.00	52.6	10-130				
tert-Butylbenzene	8.12		"	10.0	0.00	81.2	65-139				
Tetrachloroethylene	10.3		"	10.0	0.00	103	64-139				
Toluene	10.2		"	10.0	0.210	100	76-123				
trans-1,2-Dichloroethylene	10.9		"	10.0	0.310	106	79-131				
trans-1,3-Dichloropropylene	9.09		"	10.0	0.00	90.9	55-130				
Trichloroethylene	9.92		"	10.0	0.320	96.0	53-145				
Trichlorofluoromethane	10.7		"	10.0	0.00	107	61-142				
Vinyl Chloride	15.7		"	10.0	5.87	98.4	31-165				
Surrogate: SURR: 1,2-Dichloroethane-d4	*11.1*		*"*	*10.0*		*111*	*69-130*				
Surrogate: SURR: Toluene-d8	*9.52*		*"*	*10.0*		*95.2*	*81-117*				
Surrogate: SURR: p-Bromofluorobenzene	*8.49*		*"*	*10.0*		*84.9*	*79-122*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Batch BF32051 - EPA 5030B

Matrix Spike Dup (BF32051-M Matrix Spike Dup Source sample: 23F1737-02 (MW-138_062723) Prepared & Analyzed: 06/28/2023

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1,1,2-Tetrachloroethane	9.60		ug/L	10.0	0.00	96.0	45-161		3.68	30	
1,1,1-Trichloroethane	10.6		"	10.0	0.00	106	70-146		1.32	30	
1,1,2,2-Tetrachloroethane	9.05		"	10.0	0.00	90.5	74-121		0.111	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.9		"	10.0	0.00	109	21-217		3.35	30	
1,1,2-Trichloroethane	9.82		"	10.0	0.00	98.2	59-146		2.32	30	
1,1-Dichloroethane	10.1		"	10.0	0.00	101	54-146		1.08	30	
1,1-Dichloroethylene	10.7		"	10.0	0.00	107	44-165		2.68	30	
1,2,3-Trichlorobenzene	8.00		"	10.0	0.00	80.0	40-161		3.82	30	
1,2,3-Trichloropropane	8.99		"	10.0	0.00	89.9	74-127		0.776	30	
1,2,4-Trichlorobenzene	7.61		"	10.0	0.00	76.1	41-161		3.61	30	
1,2,4-Trimethylbenzene	9.07		"	10.0	0.00	90.7	72-129		0.886	30	
1,2-Dibromo-3-chloropropane	8.29		"	10.0	0.00	82.9	31-151		2.97	30	
1,2-Dibromoethane	9.86		"	10.0	0.00	98.6	75-125		3.19	30	
1,2-Dichlorobenzene	8.66		"	10.0	0.00	86.6	63-122		0.346	30	
1,2-Dichloroethane	10.4		"	10.0	0.00	104	68-131		3.32	30	
1,2-Dichloropropane	9.68		"	10.0	0.00	96.8	77-121		0.925	30	
1,3,5-Trimethylbenzene	9.16		"	10.0	0.00	91.6	69-126		1.10	30	
1,3-Dichlorobenzene	8.82		"	10.0	0.00	88.2	74-119		1.60	30	
1,4-Dichlorobenzene	8.67		"	10.0	0.00	86.7	70-124		0.927	30	
1,4-Dioxane	219		"	210	0.00	105	10-310		36.9	30	Non-dir.
2-Butanone	15.7		"	10.0	0.00	157	10-193		1.77	30	
2-Hexanone	7.93		"	10.0	0.00	79.3	53-133		0.887	30	
4-Methyl-2-pentanone	7.79		"	10.0	0.00	77.9	38-150		0.128	30	
Acetone	24.5		"	10.0	14.8	97.0	13-149		6.39	30	
Acrolein	6.94		"	10.0	0.00	69.4	10-195		4.78	30	
Acrylonitrile	10.2		"	10.0	0.00	102	37-165		0.976	30	
Benzene	10.5		"	10.0	0.00	105	38-155		2.07	30	
Bromochloromethane	10.0		"	10.0	0.00	100	75-121		2.26	30	
Bromodichloromethane	8.61		"	10.0	0.00	86.1	70-129		4.65	30	
Bromoform	9.63		"	10.0	0.00	96.3	66-136		3.27	30	
Bromomethane	6.49		"	10.0	0.00	64.9	30-158		12.1	30	
Carbon disulfide	10.3		"	10.0	0.170	101	10-138		2.12	30	
Carbon tetrachloride	11.0		"	10.0	0.00	110	71-146		3.49	30	
Chlorobenzene	10.2		"	10.0	0.00	102	81-117		4.14	30	
Chloroethane	10.1		"	10.0	0.00	101	51-145		1.90	30	
Chloroform	10.1		"	10.0	0.00	101	80-124		2.74	30	
Chloromethane	9.05		"	10.0	0.00	90.5	16-163		10.3	30	
cis-1,2-Dichloroethylene	25.4		"	10.0	14.2	112	76-125		0.949	30	
cis-1,3-Dichloropropylene	8.94		"	10.0	0.00	89.4	58-131		1.33	30	
Cyclohexane	5.12		"	10.0	0.00	51.2	70-130	Low Bias	0.972	30	
Dibromochloromethane	9.73		"	10.0	0.00	97.3	71-129		4.62	30	
Dibromomethane	9.37		"	10.0	0.00	93.7	76-120		2.42	30	
Dichlorodifluoromethane	7.76		"	10.0	0.00	77.6	30-147		0.257	30	
Ethyl Benzene	10.5		"	10.0	0.00	105	72-128		2.64	30	
Hexachlorobutadiene	8.91		"	10.0	0.00	89.1	34-166		1.58	30	
Isopropylbenzene	9.26		"	10.0	0.00	92.6	66-139		1.20	30	
Methyl acetate	8.07		"	10.0	0.00	80.7	10-200		0.746	30	
Methyl tert-butyl ether (MTBE)	10.5		"	10.0	0.00	105	75-128		3.80	30	
Methylcyclohexane	10.4		"	10.0	0.00	104	70-130		1.25	30	
Methylene chloride	9.56		"	10.0	0.00	95.6	57-128		1.35	30	
n-Butylbenzene	8.86		"	10.0	0.00	88.6	61-138		2.86	30	

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc. - Stratford

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BF32051 - EPA 5030B											
Matrix Spike Dup (BF32051-M Matrix Spike Dup	*Source sample: 23F1737-02 (MW-138_062723)								Prepared & Analyzed: 06/28/2023		
n-Propylbenzene	9.20		ug/L	10.0	0.00	92.0	66-134		1.31	30	
o-Xylene	10.7		"	10.0	0.00	107	69-126		3.48	30	
p- & m- Xylenes	20.9		"	20.0	0.00	104	67-130		3.25	30	
p-Isopropyltoluene	9.12		"	10.0	0.00	91.2	64-137		1.10	30	
sec-Butylbenzene	9.38		"	10.0	0.00	93.8	53-155		1.40	30	
Styrene	8.64		"	10.0	0.00	86.4	69-125		3.86	30	
tert-Butyl alcohol (TBA)	29.2		"	50.0	0.00	58.3	10-130		10.2	30	
tert-Butylbenzene	8.22		"	10.0	0.00	82.2	65-139		1.22	30	
Tetrachloroethylene	9.96		"	10.0	0.00	99.6	64-139		3.55	30	
Toluene	9.94		"	10.0	0.210	97.3	76-123		2.88	30	
trans-1,2-Dichloroethylene	11.0		"	10.0	0.310	106	79-131		0.0914	30	
trans-1,3-Dichloropropylene	8.77		"	10.0	0.00	87.7	55-130		3.58	30	
Trichloroethylene	9.81		"	10.0	0.320	94.9	53-145		1.12	30	
Trichlorofluoromethane	10.2		"	10.0	0.00	102	61-142		5.08	30	
Vinyl Chloride	16.2		"	10.0	5.87	104	31-165		3.19	30	
Surrogate: SURR: 1,2-Dichloroethane-d4	*11.0*		*"*	*10.0*		*110*	*69-130*				
Surrogate: SURR: Toluene-d8	*9.37*		*"*	*10.0*		*93.7*	*81-117*				
Surrogate: SURR: p-Bromofluorobenzene	*8.65*		*"*	*10.0*		*86.5*	*79-122*				

Volatile Analysis Sample Containers

Lab ID	Client Sample ID	Volatile Sample Container
23F1737-01	MW-167_062723	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C
23F1737-02	MW-138_062723	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C
23F1737-03	MW-165_062723	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C
23F1737-04	DUP01_062723	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C
23F1737-05	TB01_062723	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C
23F1737-06	FB01_062723	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C

Sample and Data Qualifiers Relating to This Work Order

QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
ICVE	The value reported is ESTIMATED. The value is estimated due to its behavior during initial calibration verification (recovery exceeded 30% of expected value).
CCVE	The value reported is ESTIMATED. The value is estimated due to its behavior during continuing calibration verification (>20% Difference for average Rf or >20% Drift for quadratic fit).

Definitions and Other Explanations

*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two. For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

For analyses by EPA SW-846-8270D, the Limit of Quantitation (LOQ) reported for benzidine is based upon the lowest standard used for calibration and is not a verified LOQ due to this compound's propensity for oxidative losses during extraction/concentration procedures and non-reproducible chromatographic performance.

Field Chain-of-Custody Record

YORK ANALYTICAL LABORATORIES INC

York Analytical Laboratories, Inc. (YORK)'s Standard Terms & Conditions are listed on the back side of this document.
This document serves as your written authorization for YORK to proceed with the analyses requested below.
Your signature binds you to YORK's Standard Terms & Conditions.

YORK Project No. 23F1737

120 Research Drive Stratford, CT 06615 132-02 89th Ave Queens, NY 11418 56 Church Hill Rd. #2 Newtown, CT 06470 clientservices@yorklab.com www.yorklab.com 800-306-YORK Page 1 of 1

YOUR Information	Report To:	Invoice To:
Company: LANGAN DPC	Company:	Company:
Address: 360 West 31st St.	Address:	Address:
Phone.: 212-479-5400	Phone.:	Phone.:
Contact: Lamees Email	Contact:	Contact:
E-mail: lesmail@langan.com	E-mail:	E-mail:

YOUR Project Number: 170581301

YOUR Project Name: ASTORIA STEEL

YOUR PO#:

Turn-Around Time

- RUSH - Next Day
- RUSH - Two Day
- RUSH - Three Day
- RUSH - Four Day
- RUSH - Five Day
- Standard (6-9 Day) ✓

PFAS Standard is 7-10 Days

Please print clearly and legibly. All information must be complete. Samples will not be logged in and the turn-around-time clock will not begin until any questions by YORK are resolved.

Andrew Ashley

Samples Collected by: (print AND sign your name)

Matrix Codes

S - soil / solid
GW - groundwater
DW - drinking water
WW - wastewater
O - Oil | Other

Samples From

New York ✓
New Jersey
Connecticut
Pennsylvania
Other:

Report / EDD Type (circle selections)

Summary Report | CT RCP | EQuIS (Standard)
QA Report | CT RCP DQA/DUE | NYSDEC EQuIS
CMDP | NJDEP Reduced Deliverables | NJDKQP
Standard Excel EDD | NJDEP SRP HazSite
NY ASP B Package | Other:

YORK Reg. Comp.

Compared to the following Regulation(s): (please fill in)

Sample Identification	Sample Matrix	Date/Time Sampled	Analyses Requested	Container Type	No.
MW-167-062723	GW	06/27/23 1030	VOCs ~~MS/MSD~~		
~~MW-138-062723~~ AA 06/27/23					
MW-138-062723	GW	1215	MS/MSD		
~~MW-~~ MW-165-062723	GW	1345			
DUP01-062723	GW	—			
TBC1-062723	Water	06/27/23 —	VOCs		
FBC1-062723	↓	↓ 1300	↓		

Comments: Please cc. datamanagement@langan.com and thaley@langan.com

Samples iced/chilled at time of lab pickup? circle Yes or No

Preservation: (check all that apply)

HCl ___ MeOH ___ HNO3 ___ H2SO4 ___ NaOH ___
ZnAc ___ Ascorbic Acid ___ Other: ___

Special Instruction

Field Filtered
Lab to Filter

1. Samples Relinquished by / Company	Date/Time	1. Samples Received by / Company	Date/Time	2. Samples Relinquished by / Company	Date/Time
Andrew Ashley/Langan	06/27/23 1437		6/27/23 1437		
2. Samples Received by / Company	Date/Time	3. Samples Relinquished by / Company	Date/Time	3. Samples Received by / Company	Date/Time
Victor D. York	6/27/23 18:00	Victor D. York	6/27/23 2005		
4. Samples Relinquished by / Company	Date/Time	4. Samples Received by / Company	Date/Time	Samples Received in LAB by	Date/Time / Temperature
				GF	6/27/23 2005 5.9 Degrees C

APPENDIX G
DATA USABILITY SUMMARY REPORT

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

Technical Memorandum

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

To: Lamees Esmail, Langan Project Engineer

From: Joe Conboy, Langan Senior Staff Chemist

Date: July 18, 2023

Re: Data Usability Summary Report
For Astoria Steel
June 2023 Groundwater Samples
Langan Project No.: 170581301

This memorandum presents the findings of an analytical data validation from the analysis of groundwater samples collected in June 2023 by Langan Engineering and Environmental Services at the Astoria Steel Site. The samples were analyzed by York Analytical Laboratories, Inc. (NYSDOH NELAP registration # 10854 and 12058) for volatile organic compounds (VOCs) by the methods specified below.

- VOCs by SW-846 Method 8260C

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.

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 sample delivery group (SDG) 23F1737 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).

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 8260C

23F1737

The TB (TB01_062723) exhibited a detection of acetone (3.33 ug/l). The associated results in samples DUP01_062723, MW-138_062723, MW-165_062723, and MW-167_062723 are qualified as J or as U at the sample concentration because of potential blank contamination.

The LCS/LCSD for batch BF32051 exhibited a percent recovery below the LCL for cyclohexane (49.5%, 48.1%). The associated results in samples DUP01_062723, MW-138_062723, MW-165_062723, and MW-167_062723 are qualified as UJ because of potential low bias.

The LCS/LCSD for batch BF32051 exhibited a RPD above the control limit for bromomethane (32.9%). The associated results in samples DUP01_062723, MW-138_062723, MW-165_062723, and MW-167_062723 are qualified as UJ because of potential indeterminate 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 8260C

23F1737

The FB (FB01_062723) exhibited a detection of methylene chloride (1.45 ug/l). The associated results are non-detect. No qualification is necessary.

The TB (TB01_062723) exhibited a detection of methylene chloride (1.09 ug/l). The associated results are non-detect. No qualification is necessary.

The MS/MSD performed on sample MW-138_062723 exhibited a percent recovery below the LCL for cyclohexane (51.7%, 51.2%) and also exhibited a RPD above the control limit for 1,4-dioxane (36.9%). Organic results are not qualified on the basis of MS/MSD recoveries or RPDs alone. No qualification is necessary.

FIELD DUPLICATE:

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% for groundwater. The following field duplicate and parent sample pair was compared to and met the precision criteria:

- DUP01_062723 and MW-167_062723

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:

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