YU & Associates
Geotechnical, Environmental and Civil Engineering

March 6, 2020

Mr. Javier Perez-Maldonado
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233

Re: Chemical Injection Work Plan
131-05 & 131-15 Fowler Avenue
Queens, New York
BCP Site ID: C241161

Dear Mr. Perez-Maldonado:

YU & Associates, Inc. (YU) has prepared this chemical injection work plan for a 0.53-acre property located at the 131-05 & 131-15 Fowler Avenue, Flushing, Queens, New York (see Figure 1 for site location). The purpose of the proposed work is to address on-site residual groundwater chlorinated volatile organic compound (CVOC) contamination through in-situ chemical injection of zero-valent iron (ZVI) agent in previously installed monitoring/injection wells on site.

Site Background

The remediation had been performed at the 131-05 & 131-15 Fowler Avenue, Flushing, NY (the Site) from January 2017 to January 2018, in accordance with the New York State Department of Environmental Conservation (NYSDEC) approved Remedial Action Work Plan (RAWP) and a conditional Track 1 cleanup was achieved. On-site soil had been remediated through excavation to groundwater level and meet Track 1 Unrestricted Use SCOs. In-Situ chemical treatment of on-site groundwater was also implemented to treat the on-site CVOCs groundwater contamination. A chemical reduction agent, zero-valent iron (ZVI) powder was directly applied on the saturated soil at the bottom of the excavation and mixed with the 2 feet of saturated soils below groundwater level using conventional moving equipment (e.g. backhoe). A network of nine new and one existing groundwater monitoring wells are installed to monitor up-gradient, on-site, side-gradient, and down-gradient groundwater conditions at the Site. The location of the ten monitoring wells is shown in Figure 2. Follow up quarterly groundwater operation & maintenance (O&M) monitoring activities of the chlorinated volatile organic compound (CVOC) were performed to confirm the effectiveness of the application.

Historical Groundwater O&M Monitoring Events

A total of 7 groundwater O&M monitoring events had been conducted at the Site from January 2018 to October 2019. Based on the review of the 7 rounds of groundwater sample results, the concentration of CVOCs had shown a general downtrend and a bulk reduction of the CVOC

contamination had been achieved for most area of the Site. The figures depicting the trend of CVOC concentrations of all O&M events are shown in Figure 3 and 4. During the last three sampling event, the PCE and TCE concentrations of groundwater samples collected from MW-1, MW-2, MW-3, MW-4, MW-8, MW-9 and MW-10 were generally below the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards (AWQS) of 5 ppb or were only marginally exceeded the TOGS 1.1.1 AWQS with and a PCE concentration range of 5.52 to 19.4 ppb and a TCE concentration range of 6.66 to 12.9 ppb, respectively. Tables summarizing the results of all groundwater samples at the site after completion of the remediation are included in Attachment A and Attachment B.

However, relatively elevated CVOCs contamination still remained in the northeast portion of the Site after 7 rounds of groundwater O&M events. Samples collected from monitoring/injection wells MW- 5, MW- 6, and MW- 7 exhibited relatively high levels of CVOC contamination, specifically with 105 ppb PCE concentration detected in MW-6, 28 ppb PCE concentration detected in MW-5 and 36.3 ppb TCE concentration detected in MW-7. In order to achieve bulk reduction of the CVOCs contamination in the northeast portion and to have site-wide groundwater achieve the criteria, an in-situ chemical injection is proposed to be conducted through on-site monitoring/injection wells. The following sections of this work plan outline methodologies for design and implementation of the chemical injection at the Site.

Proposed Chemical Injection Wells and Reagent

A total of 10 monitoring/injection wells had been installed at the Site, with the screen interval at approximately 20-25 feet below ground surface (ft bgs). Reduction agent ZVI will be applied through the on-site injection wells to achieve bulk reduction of groundwater contamination. Considering the injection well screening size, emulsified micron-scale ZVI (eZVI) will be used to increase the efficiency and effectiveness of the injection and reductive reactions. The eZVI specification is provided in Attachment B.

Chemical Injection in Wells with Elevated CVOC Levels

To address the elevated CVOC contamination in the northeast portion of the Site, the three monitoring/injection wells MW- 5, MW-6, and MW- 7 will be injected with eZVI. In order to achieve an in-situ treatment zone covering the northeast portion of the Site, an average Radius of Influence (ROI) of the chemical injection needs to be approximately 25 feet per injection well. as depicted in Figure 5. The radius occupied by the injected fluid immediately after the injection process can be calculated as:

$$r_{inj} = \sqrt{\frac{V_{inj}}{\pi \times h \times \theta_m}} \qquad (*)$$

where

r_{inj} is the radius occupied by the injected fluid after the injection process (ROI)

h is the injection zone thickness (which is 5 feet in this case based on well screen interval)

θ_m is the mobile fraction, pore filled volume ratio multiplied by soil porosity

V_{inj} is the injected volume

* The equation is from Remediation Engineering (Suthersan et al., 2017), Chapter 6

Based on the manufacturer's recommendation, through replacing approximately 30% of the pore space volume of the soil in the treatment zone with injected water and chemical mixture can achieve the sufficient contact between chemical reagent and groundwater contaminants. Based on the geotechnical report prepared by YU dated August 8, 2014, the stratum of the soil in the 20-25 ft bgs interval is classified as medium dense silty sand. The typical porosity of silty sand is between 0.25 to 0.49(**). In this case we use the porosity assumption of 0.32. Thus, the mobile fraction θ_m in the referred equation above can be calculated as $30\% \times 0.32 = 9.6\%$. Based on these estimations and the referred equation above, each well's injection volume is 7,030 gallons. Based on the manufacturer's recommendation, volume and density application rates for the eZVI to soil is 0.004. Approximately 5,330 lbs of eZVI and 6,590 gallons of water should be mixed and injected into each injection well. Detailed calculations including the eZVI and water injection volume are included in Table 1.

** Note: The typical porosity of silty sand is referred from Characteristic Coefficients of Soils (Swiss Standard SN 670 010b, 1999) and Advanced Soil Mechanics (Das, B., 2008)

Chemical Injection in Wells with Relatively Low CVOC Levels

Chemical injection will also be conducted for the rest of the monitoring/injection wells with relatively lower levels of CVOCs in order to apply additional chemical treatment to the groundwater and expedite the degradation of the CVOCs so that the site-wide groundwater could achieve the TOGS 1.1.1 AWQS criteria. The assumed ROI of this injection is 10 feet as depicted in Figure 5. Using the same parameter estimations and assumptions above, approximately 840 lbs of eZVI and 1,050 gallons of water will be injected through each injection well. Detailed calculation is included in Table 1.

In-situ Chemical Injection Method

The eZVI will be delivered in 55-gallon drums and stored in the building basement. Potable water from the municipal hydrant or facets will be used to thoroughly mix with eZVI powder prior to injection. After the mixing, the eZVI chemical solution will be injected into the monitoring well using viton double diaphragm pumps at the presumed rate of 10 gallon per minute (gpm) to the depth of well screen opening. The pump pressure and rate will be monitored and controlled to prevent fluid backflow and well damage. The whole chemical injection process will take approximately 4-5 days to complete..

Field inspection will be performed to evaluate the implementation of the chemical injection. The depth to water in each injection well will be gauged by interface probe prior to and during the

injection to reflect any increment of the water level. Bailer will be used to bail out groundwater in nearby wells during injection to confirm the presence of eZVI.

Post-Injection Groundwater Sampling Plan

To evaluate the effectiveness of the chemical injection, YU will perform post-injection groundwater sampling in all 10 monitoring/injection wells. A baseline sampling event had been implemented concurrently with the last round of O&M monitoring event before the chemical injection. Three follow-on sampling events will be implemented 1 month, 3 month, and 6 month after the injection event to determine the short-term and long-term effectiveness of the treatment. The required analytical parameters and schedule are provided in Table 2 – Post-Injection Groundwater Sampling Plan. During the sampling events, field parameters including DO, ORP, PH, and conductivity will be measured and recorded.

Groundwater sampling will be performed in compliance with DER-10 (NYSDEC, May 2010). Immediately prior to the groundwater sampling, the depth to water in each monitoring well will be gauged to provide information on groundwater flow in the vicinity of the Site. Prior to sampling, approximately three to five times the volume of standing water within the wells will be purged. Groundwater samples will be collected in laboratory supplied pre-cleaned sampling container, placed in storage/transportation coolers, preserved with ice, and shipped under proper chain of custody procedures to a certified laboratory. Purged water will be contained in 55-gallon drums labeled as non-hazardous waste and staged at Site for disposal.

In the event that monitoring data indicates a bulk reduction of the CVOC contamination in groundwater and the groundwater RAOs are achieved, a proposal to discontinue the system will be submitted to the Department. Monitoring will continue until permission to discontinue is granted in writing by the NYSDEC. If groundwater contaminant levels become asymptotic at a level that is not acceptable to the NYSDEC, additional source removal, treatment and/or control measures will be evaluated.

Reporting

A report will be prepared following completion of the field activities and receipt of the laboratory data of the post-injection groundwater samples. The report will include the following:

- Description of field activities and methodologies.
- Photographic documentation.
- Summary of the post-injection groundwater sampling analytical results with a comparison to appropriate regulations.
- Data tables and figures summarizing the post-injection groundwater sampling analytical results
- Conclusions and recommendations.

If you have any questions or need further information, please do not hesitate to contact me at (201)-773-9038.

Sincerely,

YU & ASSOCIATES,

Sixuan Wang

Sixuan Wang, P.E.
Project Manager

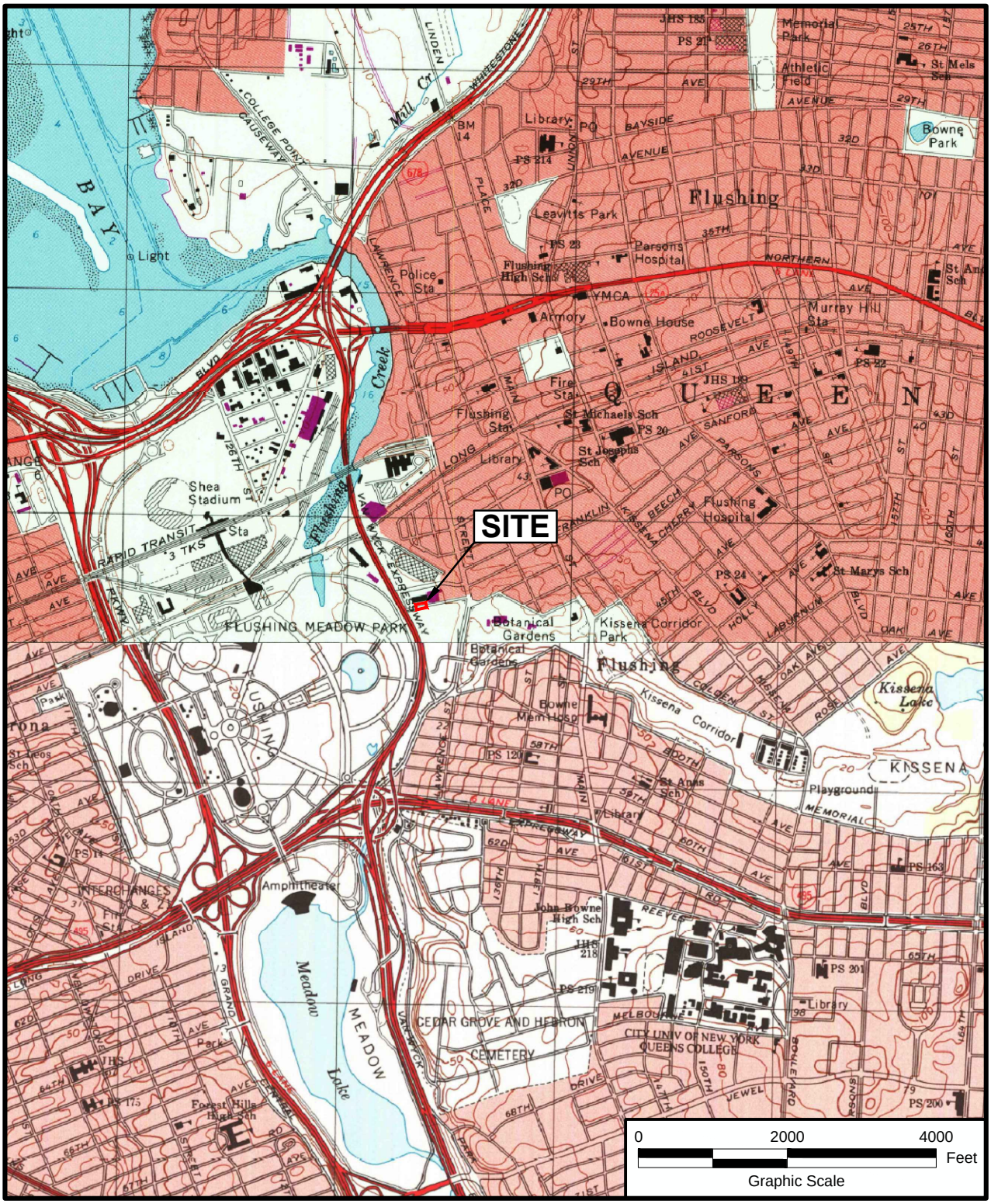
Andrew Leung, P.E.
Principal

Figure 1 – Site Location Map
Figure 2 – Groundwater Monitoring Well Location Map
Figure 3 – PCE Concentration Trends
Figure 4 – TCE Concentration Trends
Figure 5 – Schematic Chemical Injection Plan

Table 1 – Calculation of the ZVI Dosage for Each Injection Well
Table 2 – Post-Injection Groundwater Sampling Plan

Attachment A – Groundwater O&M Report
Attachment B – Groundwater Sample Analytical Results in Previous O&M Monitoring Events
Attachment C – EZVI Specifications

FIGURE



MAP REFERENCE: U.S. Geological Survey Topographic Map - Flushing Quadrangle 1995, Jamaica Quadrangle 1994.

YU & Associates Engineers, P.C.
Geotechnical, Environmental and Civil Engineering

200 Riverfront Blvd
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SITE LOCATION MAP

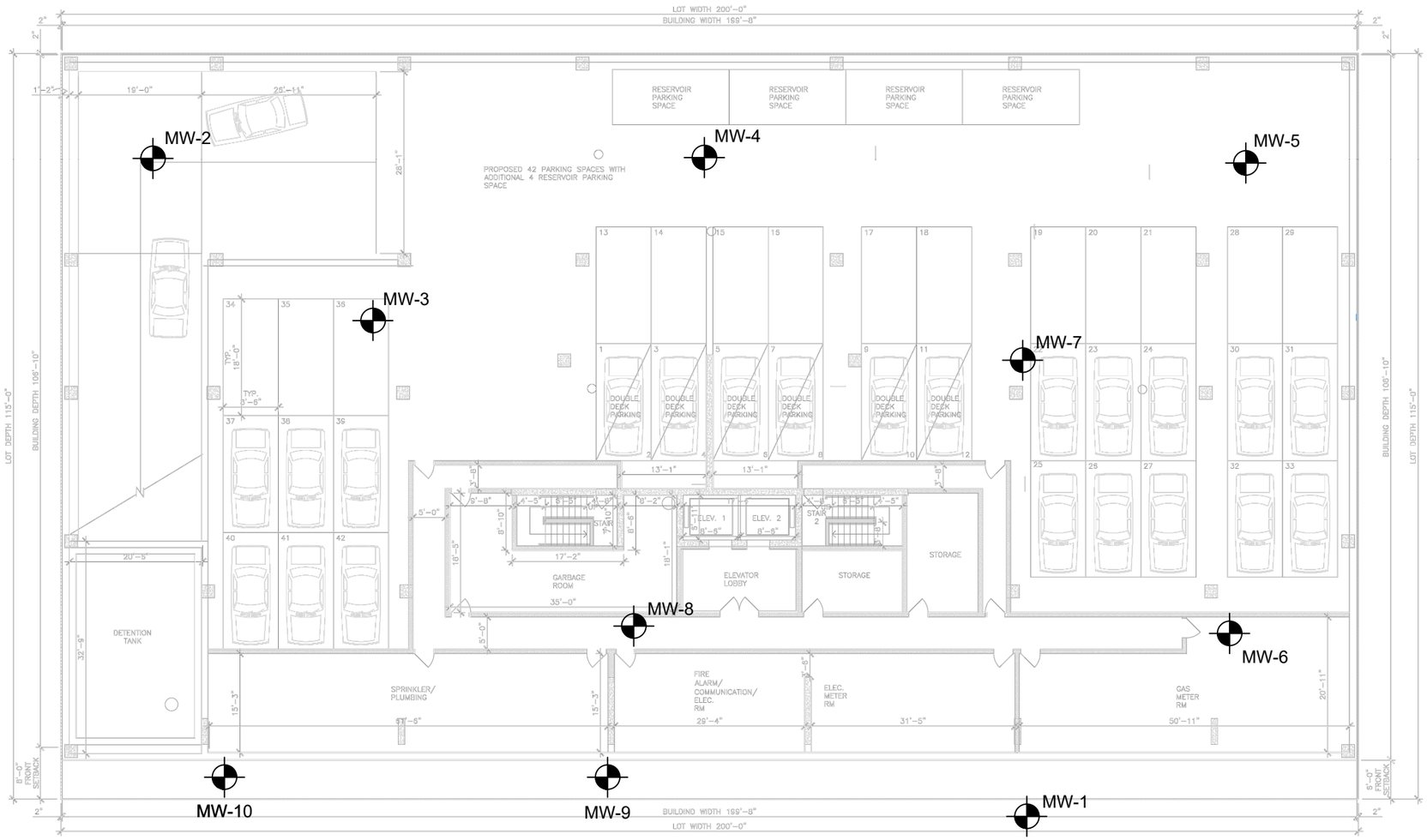
131-05 & 131-15 FOWLER AVENUE
SITE ID: C241161

QUEENS

FLUSHING NEW YORK

JOB NO.: 14164	SCALE: As Shown	DATE: 03/03/15	FIG. 1

P:\14\14164 131-05 Fowler Ave\Environmental\RAP\dwg\ Fig 1 - Site Location Map.dwg Apr 14, 2015 - 4:52pm szhang



Legend:

As-Built Monitoring Well Locations/Groundwater Injection Locations

Note:

1. The base map is from the Cellar Plan for 131-05 Fowler Avenue Development prepared by MY Architect PC on February 14, 2016.

0 10 20 40 Feet

Graphic Scale

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GROUNDWATER MONITORING WELL LOCATION MAP
131-05 & 131-15 FOWLER AVENUE
SITE ID: C241161
QUEENS
FLUSHING NEW YORK

JOB NO.: 14164	SCALE: As Shown	DATE: 12/13/2017	FIG. 2

P:\14\14164 131-05 Fowler Ave\Environmental\O&M\1st Round Groundwater Sampling 2018\DWG\ Fig 8 - Groundwater Network Map.dwg Apr 13, 2018 - 5:50pm chang

Figure 3
PCE Concentration Trends
131-05 & 131-15 Fowler Avenue, Queens, New York
Project No. 14164

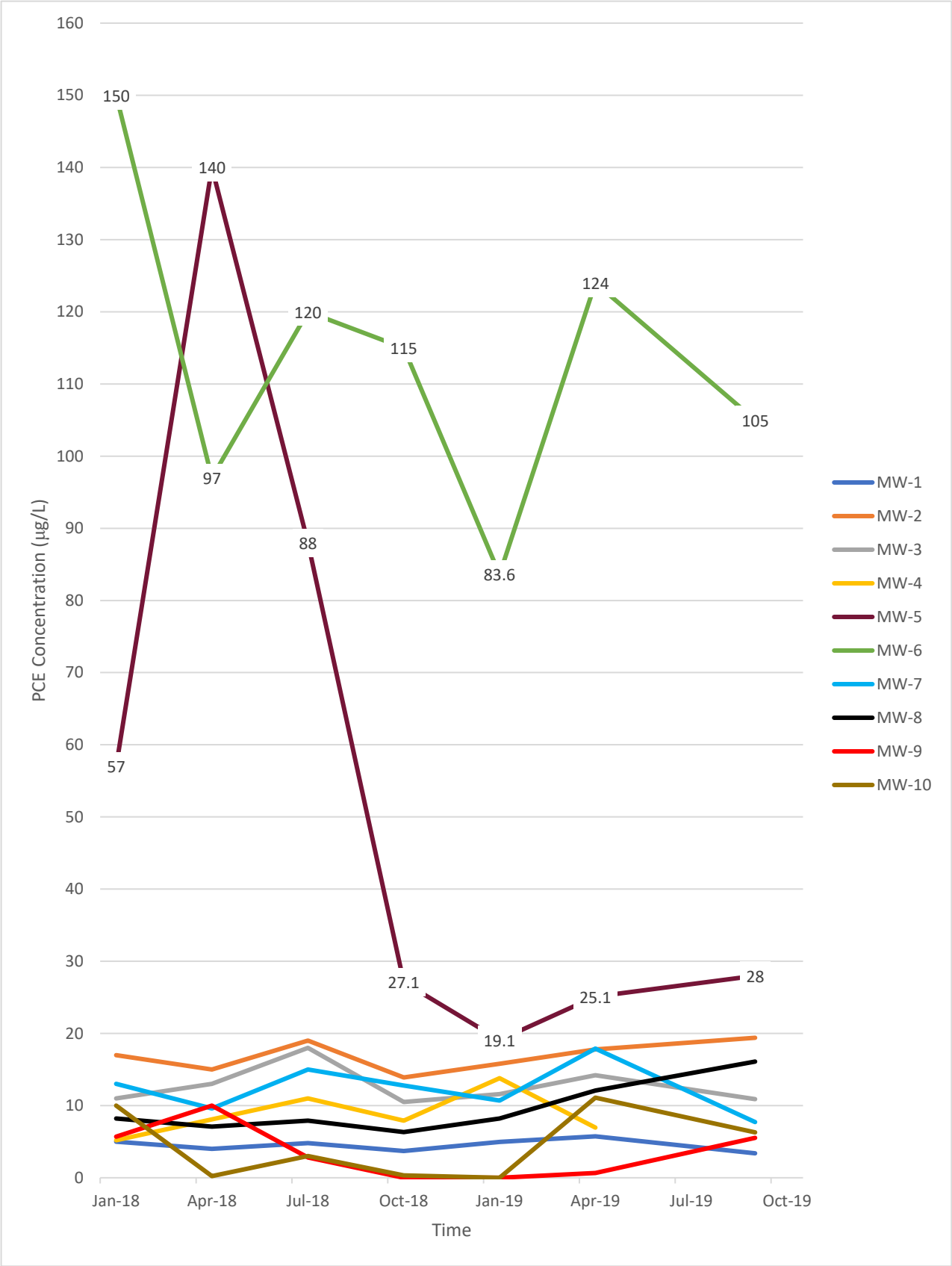
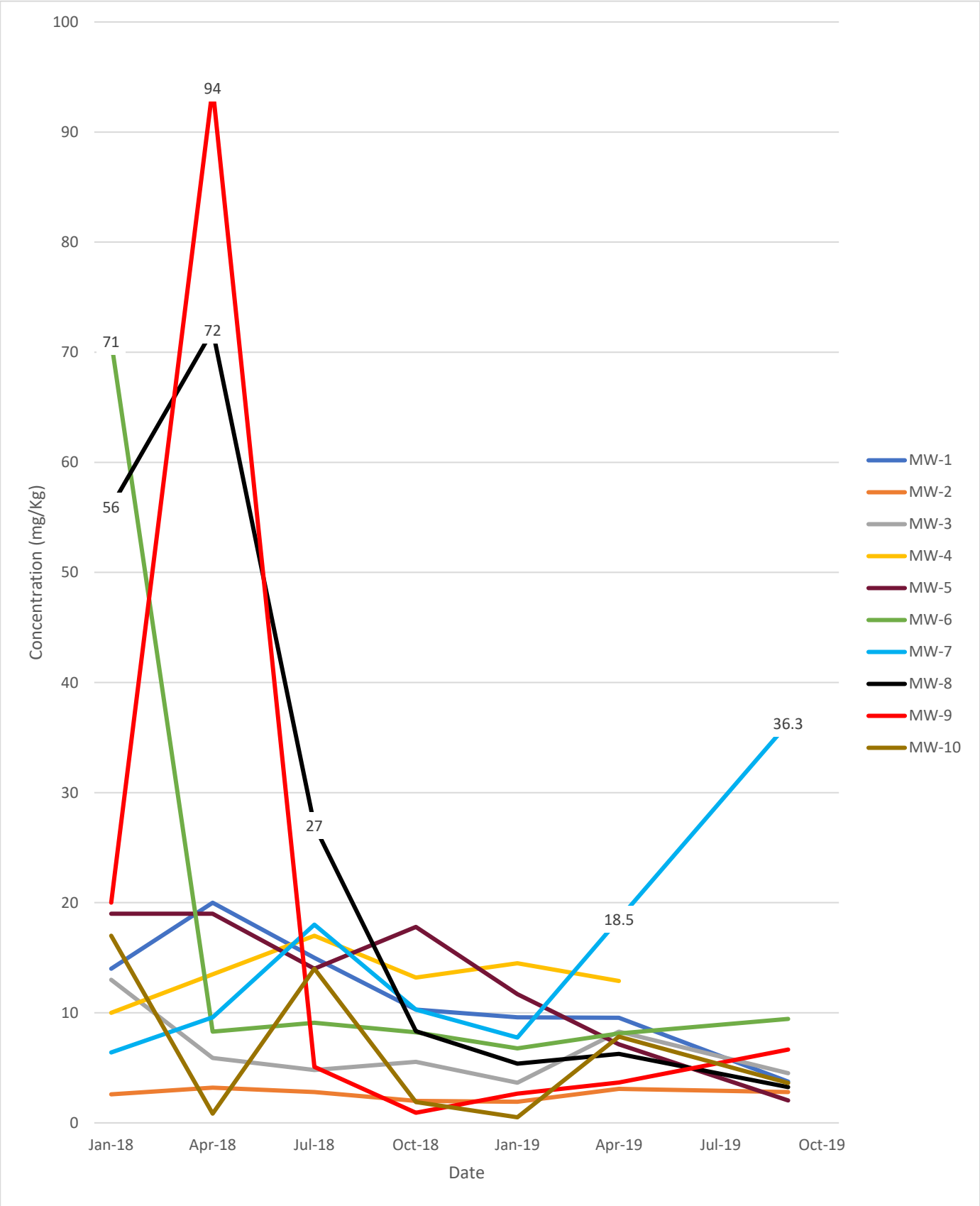
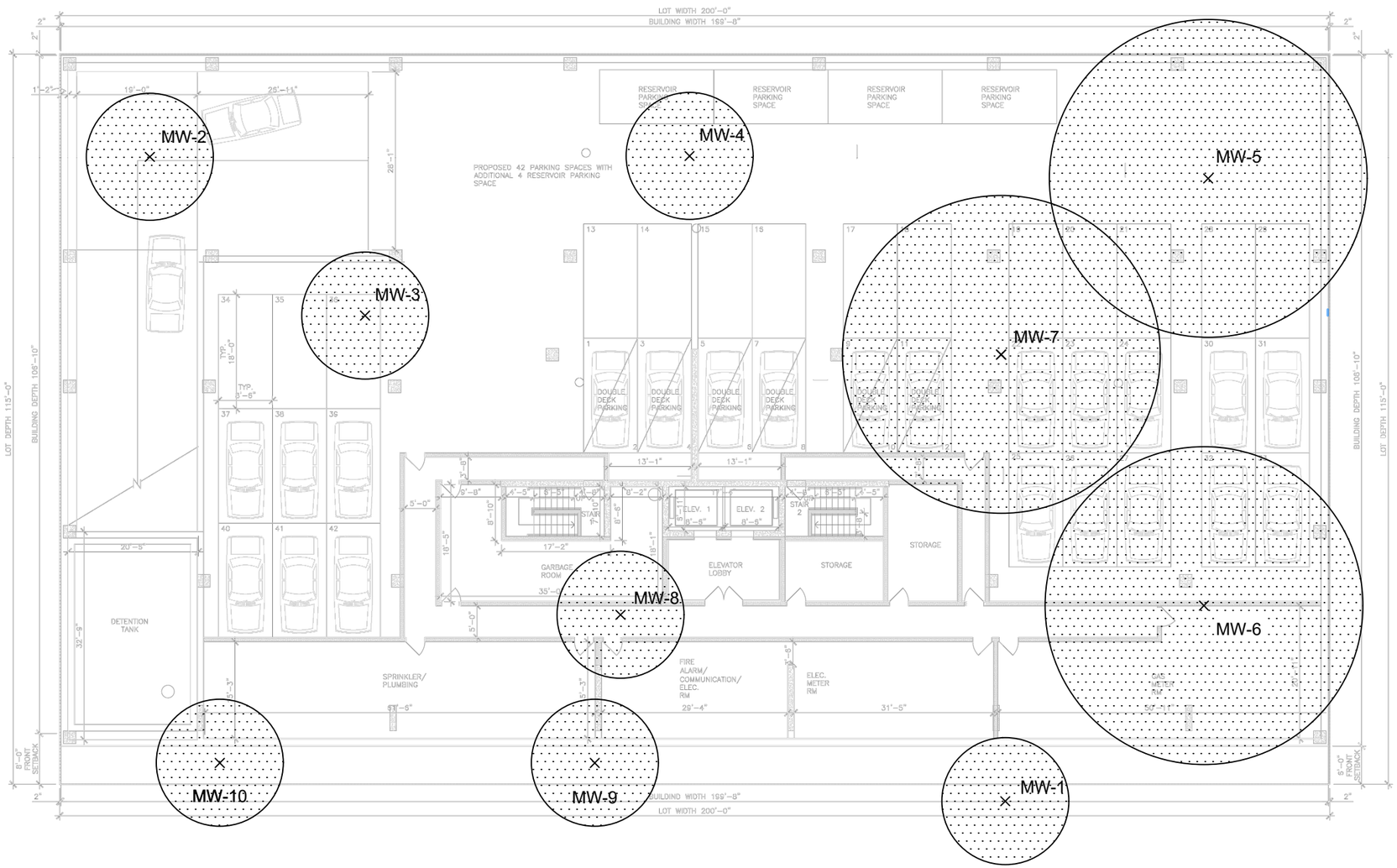


Figure 4
TCE Concentration Trends
131-05 & 131-15 Fowler Avenue, Queens, New York
Project No. 14164





Legend:

MW-X
× As-Built Monitoring Well Locations/Groundwater Injection Locations

ZVI Injection Area Based on Radius of Influences.

Note:

1. The base map is from the Cellar Plan for 131-05 Fowler Avenue Development prepared by MY Architect PC on February 14, 2016.

0 10 20 40 Feet
Graphic Scale

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SCHEMATIC CHEMICAL INJECTION PLAN
131-05 & 131-15 FOWLER AVENUE
SITE ID: C241161
QUEENS
FLUSHING NEW YORK

JOB NO.: 14164	SCALE: As Shown	DATE: 03/03/2020	FIG. 5

TABLE

Table 1
Calculation of the ZVI Dosage for Each Injection Well
131-05 & 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Treatment Zone Information	Chemical Injection in Wells with Elevated CVOC Levels	Chemical Injection in Wells with Relatively Low CVOC Levels
Radius of Influence (ROI) (ft)	25	10
Treatment Area (ft^2)	1,960	310
Treatment Zone Thickness (ft)	5	5
Treatment Zone Volume (ft^3)	9,800	1,550
Treatment Zone Soil Weight (lbs)	1,332,800	210,800
Estimated Acquifer Pore Space (ft^3)	3,140	500
Injection Mixture Information		
Required Injection Volume (ft^3)	940	150
Required Injection Volume (gallon)	7,030	1,120
Required eZVI weight (lbs)	**5,330**	**840**
Required eZVI volume (gallon)	443	70
Required water volume (gallon)	**6,590**	**1,050**

Notes:

Soil Type:	Silty Sand & Gravel
Soil Porosity:	0.32
Pore Fill Volume Ratio:	30%
Mobile Fraction (θ_m):	9.6%
Soil Density (lbs/ft^3):	136
ZVI/soil weight ratio:	0.004
eZVI Density (lbs/gallon):	12.02

Table 2
Post-Injection Groundwater Sampling Plan
131-05 & 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Sampling Location	Analytical Parameters	Field Parameters					Schedule
	CVOCs (EPA Method 8260)	Dissolved Oxygen (mg/L)	Oxygen Reduction Potential (mg/L)	pH	Temperature (°C)	Specific Conductivity (µS/cm)	
MW-1	X	X	X	X	X	X	1 month, 3 month, 6 month
MW-2	X	X	X	X	X	X	1 month, 3 month, 6 month
MW-3	X	X	X	X	X	X	1 month, 3 month, 6 month
MW-4	X	X	X	X	X	X	1 month, 3 month, 6 month
MW-5	X	X	X	X	X	X	1 month, 3 month, 6 month
MW-6	X	X	X	X	X	X	1 month, 3 month, 6 month
MW-7	X	X	X	X	X	X	1 month, 3 month, 6 month
MW-8	X	X	X	X	X	X	1 month, 3 month, 6 month
MW-9	X	X	X	X	X	X	1 month, 3 month, 6 month
MW-10	X	X	X	X	X	X	1 month, 3 month, 6 month

ATTACHMENT

ATTACHMENT A – Groundwater O&M Report

YU & Associates
Geotechnical, Environmental and Civil Engineering

October 11, 2019

Mr. Javier Perez-Maldonado
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233

Re: Groundwater Monitoring Report
131-05 & 131-15 Fowler Avenue Site
NYSDEC BCP# C241161
131-05 & 131-15 Fowler Avenue
Queens, NY 11355

Dear Mr. Perez:

YU & Associates (YU) has prepared the attached *Groundwater Monitoring Report* for the above-referenced site on behalf of 131-05 Holding LLC. This report includes the summary of the activities completed at the above-referenced site during the 3rd quarter of 2019.

A total of nine (9) groundwater monitoring wells were gauged and sampled during the 3rd quarter of 2019 on September 26, 2019. MW-4 was not sampled due to low groundwater recharge (refer to Comment 3). Tetrachloroethene (PCE) was detected in the samples collected from 8 monitoring wells at concentration exceeding the NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA criteria and Trichloroethene (TCE) was detected in samples collected from 8 monitoring wells exceeding the NYSDEC TOGS Class GA criteria. Polychlorinated biphenyls (PCBs) were detected in groundwater sample collected from 3 monitoring wells at concentration exceeding the NYSDEC TOGS Class GA criteria. Since the last reporting period, concentration of PCE has decreased in MW-1, MW-10, MW-6, MW-3, and MW-7 and has increased in MW-2, MW-5, MW-8, and MW-9. The concentration of TCE has decreased in MW-1, MW-10, MW-8, MW-3, MW-5, and MW-2, and has increased in MW-6, MW-7, and MW-9 since the last reporting period. PCBs were not detected in the samples collected from most of the monitoring wells except in MW-10. The groundwater analytical results for 3rd quarter of 2019 are summarized in **Figure 1** and **Table 1.**

Groundwater flow direction is inconclusive based on the O&M gauging data collected during the 3rd quarter of 2019. Groundwater Elevation Map based on the O&M gauging data collected during the 2nd quarter of 2019 is given in **Figure 2**.

Liquid-phase hydrocarbons were not detected in the monitoring wells gauged during 3rd quarter of 2019.

YU & Associates
Geotechnical, Environmental and Civil Engineering

If you have any questions or need further information, please do not hesitate to contact me at (201)-773-9621.

Sincerely,

YU & ASSOCIATES,

Sixuan Wang
Project Manager

cc: Andrew Leung, YU & Associates

YU & Associates
Geotechnical, Environmental and Civil Engineering

Groundwater Monitoring Report
October 2019

131-05 & 131-15 Fowler Avenue Site
NYSDEC BCP # C241161
131-05 & 131-15 Fowler Avenue
Queens, NY 11355

Prepared for:

131-05 Holding LLC
21 Howard Street, Suite 203
New York, NY 10013

Prepared by:

YU & Associates
Geotechnical, Environmental and Civil Engineering
YU & Associates
200 Riverfront Boulevard, 2nd Floor
Elmwood Park, New Jersey 07407

YU & Associates
Geotechnical, Environmental and Civil Engineering

131-05 Holding LLC

GROUNDWATER MONITORING REPORT

SITE ADDRESS:	131-05 & 131-15 Fowler Ave Queens, New York 11355	**REGULATORY AGENCY:**	NYSDEC
		REGULATORY CONTACT:	Javier Perez-Maldonado
		NYSDEC BCP #:	C241161
		CONSULTANT:	YU & Associates
OWNER CONTACT:	Philip Chong	**PROJECT MANAGER:**	Andrew Leung

REPORT DATE: October 11, 2019

SITE NAME: 131-05 & 131-15 Fowler Avenue

MONITORING PERIOD: 3rd quarter of 2019

WORK PERFORMED:

- During the 3rd quarter of 2019, a total of 9 groundwater monitoring wells were gauged and sampled on September 26, 2019. Groundwater analytical data is summarized in **Table 1** and **Figure 1**. The laboratory analytical report provided by YORK Analytical Laboratory is included as **Appendix A**.

GROUNDWATER MONITORING FOR 3rd QUARTER OF 2019:

Number of Wells:	Nine monitoring wells
Gauging Frequency:	Quarterly
Liquid Phase Hydrocarbons (LPH):	None
Sampling Frequency:	Quarterly
Reporting Frequency:	Quarterly
Groundwater Depth:	-2.84 feet (ft) (MW-4) to -3.69 ft (MW-8)
Trichloroethylene (TCE)Concentrations:	2.04 micrograms per liter (µg/L) (MW-5) to 36.3 µg/L (MW-7)
Tetrachloroethylene (PCE) Concentrations:	3.39 ug/L (MW-1) to 105 µg/L (MW-6).
Polychlorinated biphenyls (PCBs) Concentrations:	1.41 µg/L (MW-10), Not detected at rest of the sampled locations.

SITE SPECIFIC GEOLOGY/HYDROGEOLOGY:

- Based on available geological records, the site lies in the Atlantic Coastal Plains Physiographic Province and is underlain by basal till, which consists of a variable, poorly-sorted mix of boulders, sands, silts, and clays left behind by cycles of glaciation. Bedrock lies at approximately 200 feet below ground surface (ft bgs).

REMEDIAL ACTIVITIES:

- Soil excavation was performed across the entire site up to the groundwater level of approximately 20 ft bgs;
- End-point sampling was conducted following soil excavations and the samples were compared to two criteria: NYSDEC Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCO) and NYSDEC Part 375 Restricted use Soil Cleanup Objectives – Residential (RUSCO). Over excavation was performed at the areas where the end-point sample results indicated exceedance of UUSCO criteria;
- In-Situ chemical treatment of on-site groundwater was implemented to treat the on-site CVOCs groundwater contamination. Ferox Zero Valent Iron (ZVI), a chemical reduction agent, was directly applied on the contaminated saturated soil at the bottom of the excavation and mixed with the 2 feet of soils underneath; and
- Vapor barrier was installed across the entire site followed by concrete capping.

COMMENTS:

1. Well points were surveyed by Perfect Point Land Surveying Rt. on April 26, 2018

ATTACHMENTS:

Figure:	Figure 1 – Groundwater Sample Results for 3rd Quarter of 2019 Figure 2 – Groundwater Contour and Elevation Map for 3rd Quarter of 2019
Tables:	Table 1 – Groundwater Analytical Results Summary for 3rd Quarter of 2019 Table 2 – Groundwater Well Monitoring & Gauging Data Table 3 – General Groundwater Chemistry Field Parameters
Appendix:	Appendix A – Laboratory Analytical Reports for 3rd Quarter of 2019 Appendix B – Well Purging and Sampling Form for 3rd Quarter of 2019

Prepared By:

10/11/2019

Chengyu Hang Date
Senior Staff Engineer

Reviewed By:

10/11/2019

Sixuan Wang Date
Project Manager

FIGURES

TABLES

APPENDIX A - LABORATORY ANALYTICAL REPORTS FOR 3rd QUARTER OF 2019

APPENDIX B – WELL PURGING AND SAMPLING FORM FOR 3rd QUARTER OF 2019

ATTACHMENT B – Groundwater Sample Analytical Results in Previous O&M Monitoring Events

Table 1
Groundwater Analytical Results Summary for 1st Quarter of 2018
131-05 & 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Sample ID Sampling Date Client Matrix		NYSDEC TOGS Standards and Guidance Values - GA	MW-1 1/25/2018 Water	MW-2 1/24/2018 Water	MW-3 1/25/2018 Water	MW-4 1/24/2018 Water	MW-5 1/25/2018 Water	MW-6 1/25/2018 Water	MW-7 1/24/2018 Water	MW-8 1/24/2018 Water	MW-9 1/24/2018 Water	MW-10 1/24/2018 Water	MW-60 1/24/2018 Water	EB-012518 1/25/2018 Water	TB-012518 1/25/2018 Water
Compound	**CAS Number**	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Volatile Organics, 8260 Halogenated - Low Level															
1,1,1,2-Tetrachloroethane	630-20-6	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	71-55-6	5	ND	0.41J	0.69	ND	ND	ND	0.56	0.4J	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	79-34-5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1	5	1.1	1.9	2.4	ND	ND	ND	ND	0.34J	4.8	**5.5**	**5.1**	ND	ND
1,1,2-Trichloroethane	79-00-5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	75-34-3	5	1.8	**6.7**	**6.6**	1.8	ND	1.8	**7.5**	1.8	0.3J	0.51	0.49J	ND	ND
1,1-Dichloroethylene	75-35-4	5	0.55	2.6	2.3	ND	ND	0.62	1.5	0.39J	ND	ND	ND	ND	ND
1,1-Dichloropropylene	563-58-6	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	87-61-6	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	96-18-4	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	120-82-1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	96-12-8	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	95-50-1	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	107-06-2	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	78-87-5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	541-73-1	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	142-28-9	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	106-46-7	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	594-20-7	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	95-49-8	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	106-43-4	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	74-97-5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	75-27-4	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	56-23-5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	108-90-7	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	75-00-3	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	67-66-3	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	74-87-3	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	156-59-2	5	1.7	2.6	4.3	**6**	2.5	1.9	**9.3**	4.4	5	**5.1**	4.8	ND	ND
cis-1,3-Dichloropropylene	10061-01-5	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	124-48-1	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	75-71-8	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	87-68-3	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	75-09-2	5	ND	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	127-18-4	5	5	**17**	**11**	**5.2**	**57**	**150**	**13**	**8.2**	**5.7**	**10**	**9.6**	ND	ND
trans-1,2-Dichloroethylene	156-60-5	5	ND	ND	0.3J	ND	ND	ND	0.21J	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropylene	10061-02-6	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene	79-01-6	5	**14**	2.6	**13**	**10**	**19**	**7.1**	**6.4**	**56**	**20**	**17**	**16**	ND	ND
Trichlorofluoromethane	75-69-4	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	75-01-4	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Polychlorinated Biphenyls (PCB)															
Aroclor 1016	12674-11-2	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Aroclor 1221	11104-28-2	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Aroclor 1232	11141-16-5	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Aroclor 1242	53469-21-9	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Aroclor 1248	12672-29-6	~	ND	ND	ND	0.664P	ND	ND	ND	ND	ND	2.38	2.38	ND	NA

Table 1
Groundwater Analytical Results Summary for 1st Quarter of 2018
131-05 & 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Sample ID Sampling Date Client Matrix		NYSDEC TOGS Standards and Guidance Values - GA	MW-1 1/25/2018 Water	MW-2 1/24/2018 Water	MW-3 1/25/2018 Water	MW-4 1/24/2018 Water	MW-5 1/25/2018 Water	MW-6 1/25/2018 Water	MW-7 1/24/2018 Water	MW-8 1/24/2018 Water	MW-9 1/24/2018 Water	MW-10 1/24/2018 Water	MW-60 1/24/2018 Water	EB-012518 1/25/2018 Water	TB-012518 1/25/2018 Water
Compound	**CAS Number**	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aroclor 1254	11097-69-1	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Aroclor 1260	11096-82-5	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Total PCBs	1336-36-3	0.09	ND	ND	ND	**0.664**	ND	ND	ND	ND	ND	**2.38**	**2.38**	ND	NA

Key

J=analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit) - data is estimated

P=this flag is used for pesticide and PCB (Aroclor) target compounds when there is a % difference for detected concentrations that exceed method dictated limits between the two GC columns used for analysis

ND=this indicates the analyte was detected for this sample

NA=this indicates the analyte was not a target for this sample

~=this indicates that no regulatory limit has been established for this analyte

Shading indicates NYSDEC TOGS Guidance Value exceedance

Table 3
Groundwater Analytical Results Summary for 2nd Quarter of 2018
131-05 & 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Sample ID Sampling Date Client Matrix		NYSDEC TOGS Standards and Guidance Values- GA	MW-1 4/2/2018 Water	MW-2 4/2/2018 Water	MW-3 4/2/2018 Water	MW-5 4/2/2018 Water	MW-6 4/2/2018 Water	MW-7 4/2/2018 Water	MW-8 4/2/2018 Water	MW-9 4/2/2018 Water	MW-10 4/2/2018 Water	EB040218 4/2/2018 Water	TB040218-1 4/2/2018 Water	TB040218-2 4/2/2018 Water	MW-51 4/2/2018 Water
Compound	**CAS Number**	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Volatile Organics, 8260 Halogenated List															
1,1,1,2-Tetrachloroethane	630-20-6	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	71-55-6	5	0.23J	0.37J	0.45J	ND	0.46J	0.52	0.42J	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	79-34-5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1	5	0.65	2.4	2	0.26J	0.95	ND	0.47J	**10**	ND	ND	ND	ND	0.55
1,1,2-Trichloroethane	79-00-5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	75-34-3	5	2	**6.4**	**6.2**	0.34J	4.8	**7.7**	1.9	0.49J	ND	ND	ND	ND	1.6
1,1-Dichloroethylene	75-35-4	5	0.66	3	2.5	ND	1.7	1.6	0.51	ND	ND	ND	ND	ND	0.56
1,1-Dichloropropylene	563-58-6	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	87-61-6	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	96-18-4	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	120-82-1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	96-12-8	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	106-93-4	0.0006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	95-50-1	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	107-06-2	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	78-87-5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	541-73-1	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	142-28-9	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	106-46-7	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	594-20-7	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	95-49-8	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	106-43-4	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromobenzene	108-86-1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	74-97-5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	75-27-4	50	ND	ND	ND	ND	ND	ND	ND	ND	3	ND	ND	ND	ND
Bromoform	75-25-2	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	74-83-9	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	56-23-5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	108-90-7	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	75-00-3	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	67-66-3	7	0.29J	0.47J	0.54	0.27J	0.44J	0.3J	0.35J	0.45J	**37**	ND	ND	ND	0.3J
Chloromethane	74-87-3	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	156-59-2	5	1.5	2.6	3.6	1.6	2.4	**12**	4.4	**8.8**	ND	ND	ND	ND	1.3
cis-1,3-Dichloropropylene	10061-01-5	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	124-48-1	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	74-95-3	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	75-71-8	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	87-68-3	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	75-09-2	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	127-18-4	5	4	**15**	**13**	**140**	**97**	**9.6**	**7.1**	**10**	0.22J	ND	ND	ND	3.4
trans-1,2-Dichloroethylene	156-60-5	5	ND	ND	ND	ND	ND	0.29J	0.26J	0.22J	ND	ND	ND	ND	ND
trans-1,3-Dichloropropylene	10061-02-6	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene	79-01-6	5	**20**	3.2	**5.9**	**19**	**8.3**	**9.6**	**72**	**94**	0.84	ND	ND	ND	**16**
Trichlorofluoromethane	75-69-4	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	75-01-4	2	ND	ND	ND	ND	ND	0.24J	ND	ND	ND	ND	ND	ND	ND

Table 3
Groundwater Analytical Results Summary for 2nd Quarter of 2018
131-05 & 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Sample ID Sampling Date Client Matrix		NYSDEC TOGS Standards and Guidance Values- GA	MW-1 4/2/2018 Water	MW-2 4/2/2018 Water	MW-3 4/2/2018 Water	MW-5 4/2/2018 Water	MW-6 4/2/2018 Water	MW-7 4/2/2018 Water	MW-8 4/2/2018 Water	MW-9 4/2/2018 Water	MW-10 4/2/2018 Water	EB040218 4/2/2018 Water	TB040218-1 4/2/2018 Water	TB040218-2 4/2/2018 Water	MW-51 4/2/2018 Water
Compound	**CAS Number**	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Polychlorinated Biphenyls (PCB)															
Aroclor 1016	12674-11-2	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND
Aroclor 1221	11104-28-2	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND
Aroclor 1232	11141-16-5	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND
Aroclor 1242	53469-21-9	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND
Aroclor 1248	12672-29-6	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND
Aroclor 1254	11097-69-1	~	ND	ND	ND	0.292	ND	ND	0.0882	2.86	1.88	ND	NA	NA	ND
Aroclor 1260	11096-82-5	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND
Total PCBs	1336-36-3	0.09	ND	ND	ND	**0.292**	ND	ND	0.0882	**2.86**	**1.88**	ND	NA	NA	ND

Key

J=analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit) - data is estimated

ND=this indicates the analyte was detected for this sample

NA=this indicates the analyte was not a target for this sample

~=this indicates that no regulatory limit has been established for this analyte

Shading indicates NYSDEC TOGS Guidance Value exceedance

Table 1
Groundwater Analytical Results Summary for 3rd Quarter of 2018
131-05 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Sample ID Sampling Date Client Matrix		NYSDEC TOGS Standards and Guidance Values - GA	MW-1 7/11/2018 Water	MW-2 7/11/2018 Water	MW-3 7/11/2018 Water	MW-4 7/11/2018 Water	MW-5 7/11/2018 Water	MW-6 7/11/2018 Water	MW-7 7/11/2018 Water	MW-8 7/11/2018 Water
Compound	**CAS Number**	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Volatile Organics, 8260 Halogenated - Low Level										
1,1,1,2-Tetrachloroethane	630-20-6	5	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	71-55-6	5	ND	0.48J	0.22J	ND	ND	0.49J	0.23	0.37J
1,1,2,2-Tetrachloroethane	79-34-5	5	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1	5	1	1.8	1.3	ND	ND	0.99	ND	0.99
1,1,2-Trichloroethane	79-00-5	1	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	75-34-3	5	2.1	**7.1**	4.1	1	ND	**6.6**	3.7	2.4
1,1-Dichloroethylene	75-35-4	5	0.8	3	1.9	ND	ND	2.4	0.82	0.82
1,1-Dichloropropylene	563-58-6	5	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	87-61-6	5	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	96-18-4	0.04	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	120-82-1	5	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	96-12-8	0.04	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	95-50-1	3	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	107-06-2	0.6	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	78-87-5	1	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	541-73-1	3	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	142-28-9	5	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	106-46-7	3	ND	ND	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	594-20-7	5	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	95-49-8	5	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	106-43-4	5	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	74-97-5	5	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	75-27-4	50	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	56-23-5	5	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	108-90-7	5	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	75-00-3	5	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	67-66-3	7	0.3J	0.44J	0.63	0.23J	0.23J	0.53	0.36J	0.29J
Chloromethane	74-87-3	5	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	156-59-2	5	1.4	2.5	3.8	2.7	2.4	2.9	**54**	2.9
cis-1,3-Dichloropropylene	10061-01-5	0.4	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	124-48-1	50	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	75-71-8	5	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	87-68-3	0.5	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	75-09-2	5	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	127-18-4	5	4.8	**19**	**18**	**11**	**88**	**120**	**15**	**7.9**
trans-1,2-Dichloroethylene	156-60-5	5	ND	ND	0.22J	ND	ND	ND	1.7	ND
trans-1,3-Dichloropropylene	10061-02-6	0.4	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene	79-01-6	5	**15**	2.8	4.8	**17**	**14**	**9.1**	**18**	**27**
Trichlorofluoromethane	75-69-4	5	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	75-01-4	2	ND	ND	ND	ND	ND	ND	ND	ND
Polychlorinated Biphenyls (PCB)										
Aroclor 1016	12674-11-2	~	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1221	11104-28-2	~	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1232	11141-16-5	~	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1242	53469-21-9	~	ND	ND	ND	ND	ND	ND	ND	ND

Table 1
Groundwater Analytical Results Summary for 3rd Quarter of 2018
131-05 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Sample ID Sampling Date Client Matrix		NYSDEC TOGS Standards and Guidance Values - GA	MW-1 7/11/2018 Water	MW-2 7/11/2018 Water	MW-3 7/11/2018 Water	MW-4 7/11/2018 Water	MW-5 7/11/2018 Water	MW-6 7/11/2018 Water	MW-7 7/11/2018 Water	MW-8 7/11/2018 Water
Compound	**CAS Number**	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aroclor 1248	12672-29-6	~	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1254	11097-69-1	~	ND	ND	ND	2.1	0.125	ND	ND	0.0663
Aroclor 1260	11096-82-5	~	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	1336-36-3	0.09	ND	ND	ND	**2.1**	**0.125**	ND	ND	0.0663

Key
J=analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit) - data is estimated
ND=this indicates the analyte was detected for this sample
NA=this indicates the analyte was not a target for this sample
~=this indicates that no regulatory limit has been established for this analyte
Shading indicates NYSDEC TOGS Guidance Value exceedance

Table 1
Groundwater Analytical Results Summary for 3rd Quarter of 2018
131-05 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Sample ID Sampling Date Client Matrix		NYSDEC TOGS Standards and Guidance Values - GA	MW-9 7/11/2018 Water	MW-10 7/11/2018 Water	MW-60 7/11/2018 Water	EB071118 7/11/2018 Water	TB071118-1 7/11/2018 Water	TB071118-2 7/11/2018 Water	TB071118-3 7/11/2018 Water
Compound	**CAS Number**	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Volatile Organics, 8260 Halogenated - Low Level									
1,1,1,2-Tetrachloroethane	630-20-6	5	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	71-55-6	5	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	79-34-5	5	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1	5	ND	2.3	2.4	ND	ND	ND	ND
1,1,2-Trichloroethane	79-00-5	1	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	75-34-3	5	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	75-35-4	5	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloropropylene	563-58-6	5	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	87-61-6	5	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	96-18-4	0.04	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	120-82-1	5	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	96-12-8	0.04	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	95-50-1	3	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	107-06-2	0.6	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	78-87-5	1	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	541-73-1	3	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	142-28-9	5	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	106-46-7	3	ND	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	594-20-7	5	ND	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	95-49-8	5	ND	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	106-43-4	5	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	74-97-5	5	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	75-27-4	50	0.39	1.5	1.6	ND	ND	ND	ND
Carbon tetrachloride	56-23-5	5	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	108-90-7	5	ND	ND	ND	ND	ND	ND	ND
Chloroethane	75-00-3	5	ND	ND	ND	ND	ND	ND	ND
Chloroform	67-66-3	7	6.3	**20**	**22**	ND	ND	ND	ND
Chloromethane	74-87-3	5	ND	ND	0.54	ND	ND	ND	ND
cis-1,2-Dichloroethylene	156-59-2	5	1.6	2.7	2.6	ND	ND	ND	ND
cis-1,3-Dichloropropylene	10061-01-5	0.4	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	124-48-1	50	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	75-71-8	5	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	87-68-3	0.5	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	75-09-2	5	ND	ND	ND	1.1J	1	1	ND
Tetrachloroethylene	127-18-4	5	2.8	3	3.2	ND	ND	ND	ND
trans-1,2-Dichloroethylene	156-60-5	5	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropylene	10061-02-6	0.4	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene	79-01-6	5	**5.1**	**14**	**14**	ND	ND	ND	ND
Trichlorofluoromethane	75-69-4	5	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	75-01-4	2	ND	ND	ND	ND	ND	ND	ND
Polychlorinated Biphenyls (PCB)									
Aroclor 1016	12674-11-2	~	ND	ND	ND	ND	NA	NA	NA
Aroclor 1221	11104-28-2	~	ND	ND	ND	ND	NA	NA	NA
Aroclor 1232	11141-16-5	~	ND	ND	ND	ND	NA	NA	NA
Aroclor 1242	53469-21-9	~	ND	ND	ND	ND	NA	NA	NA

Table 1
Groundwater Analytical Results Summary for 3rd Quarter of 2018
131-05 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Sample ID Sampling Date Client Matrix		NYSDEC TOGS Standards and Guidance Values - GA	MW-9 7/11/2018 Water	MW-10 7/11/2018 Water	MW-60 7/11/2018 Water	EB071118 7/11/2018 Water	TB071118-1 7/11/2018 Water	TB071118-2 7/11/2018 Water	TB071118-3 7/11/2018 Water
Compound	**CAS Number**	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aroclor 1248	12672-29-6	~	ND	ND	ND	ND	NA	NA	NA
Aroclor 1254	11097-69-1	~	2.06	2.9	3.24	ND	NA	NA	NA
Aroclor 1260	11096-82-5	~	ND	ND	ND	ND	NA	NA	NA
Total PCBs	1336-36-3	0.09	**2.06**	**2.9**	**3.24**	ND	NA	NA	NA

Key
J=analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit) - d
ND=this indicates the analyte was detected for this sample
NA=this indicates the analyte was not a target for this sample
~=this indicates that no regulatory limit has been established for this analyte
Shading indicates NYSDEC TOGS Guidance Value

Table 1
Groundwater Analytical Results Summary for 4th Quarter of 2018
131-05 & 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Sample ID Sampling Date Client Matrix		NYSDEC TOGS Standards and Guidance Values - GA	MW-1 10/18/2018 Water	MW-51 (MW-1 Duplicate) 10/18/2018 Water	MW-2 10/18/2018 Water	MW-3 10/18/2018 Water	MW-4 10/18/2018 Water	MW-5 10/18/2018 Water	MW-6 10/18/2018 Water
Compound	**CAS Number**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
VOA, 8260 LOW MASTER									
1,1,1,2-Tetrachloroethane	630-20-6	5	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	71-55-6	5	ND	ND	0.23 J	0.21 J	ND	ND	ND
1,1,2,2-Tetrachloroethane	79-34-5	5	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1	5	1.33	1.23	0.36 J	0.62	ND	ND	0.27 J
1,1,2-Trichloroethane	79-00-5	1	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	75-34-3	5	1.25	1.22	**6.19**	3.99	1.14	ND	2.38
1,1-Dichloroethylene	75-35-4	5	0.44 J	0.42 J	2.53	1.28	ND	ND	0.9
1,1-Dichloropropylene	563-58-6	5	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	87-61-6	5	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	96-18-4	0.04	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	120-82-1	5	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	96-12-8	0.04	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	95-50-1	3	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	107-06-2	0.6	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	78-87-5	1	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	541-73-1	3	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	142-28-9	5	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	106-46-7	3	ND	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	594-20-7	5	ND	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	95-49-8	5	ND	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	106-43-4	5	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	74-97-5	5	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	75-27-4	50	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	56-23-5	5	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	108-90-7	5	ND	ND	ND	ND	ND	ND	ND
Chloroethane	75-00-3	5	ND	ND	ND	ND	ND	ND	ND
Chloroform	67-66-3	7	2.14	2.13	0.78	0.64	0.21 J	0.5	0.49 J
Chloromethane	74-87-3	5	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	156-59-2	5	1.4	1.3	1.6	3.51	1.88	3.81	2.11
cis-1,3-Dichloropropylene	10061-01-5	0.4	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	124-48-1	50	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	75-71-8	5	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	87-68-3	0.5	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	75-09-2	5	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	127-18-4	5	3.72	3.51	**13.9**	**10.5**	**7.9**	**27.1**	**115**
trans-1,2-Dichloroethylene	156-60-5	5	ND	ND	ND	0.22 J	ND	0.21 J	ND
trans-1,3-Dichloropropylene	10061-02-6	0.4	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene	79-01-6	5	**10.3**	**10**	2	**5.55**	**13.2**	**17.8**	**8.22**
Trichlorofluoromethane	75-69-4	5	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	75-01-4	2	ND	ND	ND	ND	ND	ND	ND
Polychlorinated Biphenyls (PCB)									
Aroclor 1016	12674-11-2	~	ND	ND	ND	ND	ND	ND	ND
Aroclor 1221	11104-28-2	~	ND	ND	ND	ND	ND	ND	ND
Aroclor 1232	11141-16-5	~	ND	ND	ND	ND	ND	ND	ND
Aroclor 1242	53469-21-9	~	ND	ND	ND	ND	ND	ND	ND

Table 1
Groundwater Analytical Results Summary for 4th Quarter of 2018
131-05 & 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Sample ID Sampling Date Client Matrix		NYSDEC TOGS Standards and Guidance Values - GA	MW-1 10/18/2018 Water	MW-51 (MW-1 Duplicate) 10/18/2018 Water	MW-2 10/18/2018 Water	MW-3 10/18/2018 Water	MW-4 10/18/2018 Water	MW-5 10/18/2018 Water	MW-6 10/18/2018 Water
Compound	**CAS Number**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Aroclor 1248	12672-29-6	~	ND	ND	ND	ND	ND	ND	ND
Aroclor 1254	11097-69-1	~	ND	ND	ND	ND	1.28	ND	ND
Aroclor 1260	11096-82-5	~	ND	ND	ND	ND	ND	ND	ND
Total PCBs	1336-36-3	0.09	ND	ND	ND	ND	**1.28**	ND	ND

Key
J=analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit) - data is estimated
ND=this indicates the analyte was detected for this sample
NA=this indicates the analyte was not a target for this sample
~=this indicates that no regulatory limit has been established for this analyte
Shading indicates NYSDEC TOGS Guidance Value exceedance

Table 1
Groundwater Analytical Results Summary for 4th Quarter of 2018
131-05 & 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Sample ID Sampling Date Client Matrix		NYSDEC TOGS Standards and Guidance Values - GA	MW-7 10/18/2018 Water	MW-8 10/18/2018 Water	MW-9 10/18/2018 Water	MW-10 10/18/2018 Water	TB-10182018 10/18/2018 Water	TB-10182018-2 10/18/2018 Water	EB-10182018 10/18/2018 Water
Compound	**CAS Number**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
VOA, 8260 LOW MASTER									
1,1,1,2-Tetrachloroethane	630-20-6	5	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	71-55-6	5	ND	0.35 J	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	79-34-5	5	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1	5	ND	0.48 J	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	79-00-5	1	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	75-34-3	5	1.64	2.3	ND	ND	ND	ND	ND
1,1-Dichloroethylene	75-35-4	5	0.23 J	0.64	ND	ND	ND	ND	ND
1,1-Dichloropropylene	563-58-6	5	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	87-61-6	5	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	96-18-4	0.04	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	120-82-1	5	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	96-12-8	0.04	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	95-50-1	3	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	107-06-2	0.6	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	78-87-5	1	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	541-73-1	3	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	142-28-9	5	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	106-46-7	3	ND	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	594-20-7	5	ND	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	95-49-8	5	ND	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	106-43-4	5	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	74-97-5	5	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	75-27-4	50	ND	ND	2	ND	ND	ND	ND
Carbon tetrachloride	56-23-5	5	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	108-90-7	5	0.21 J	ND	ND	ND	ND	ND	ND
Chloroethane	75-00-3	5	ND	ND	ND	ND	ND	ND	ND
Chloroform	67-66-3	7	0.53	0.35 J	**34**	0.73	ND	ND	ND
Chloromethane	74-87-3	5	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	156-59-2	5	**53.2**	2.06	ND	ND	ND	ND	ND
cis-1,3-Dichloropropylene	10061-01-5	0.4	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	124-48-1	50	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	75-71-8	5	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	87-68-3	0.5	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	75-09-2	5	ND	ND	ND	ND	ND	ND	1
Tetrachloroethylene	127-18-4	5	**12.8**	**6.33**	ND	0.34 J	ND	ND	ND
trans-1,2-Dichloroethylene	156-60-5	5	1.42	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropylene	10061-02-6	0.4	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene	79-01-6	5	**10.3**	**8.34**	0.92	1.9	ND	ND	ND
Trichlorofluoromethane	75-69-4	5	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	75-01-4	2	ND	ND	ND	ND	ND	ND	ND
Polychlorinated Biphenyls (PCB)									
Aroclor 1016	12674-11-2	~	ND	ND	ND	ND	NA	NA	ND
Aroclor 1221	11104-28-2	~	ND	ND	ND	ND	NA	NA	ND
Aroclor 1232	11141-16-5	~	ND	ND	ND	ND	NA	NA	ND
Aroclor 1242	53469-21-9	~	ND	ND	ND	ND	NA	NA	ND

Table 1
Groundwater Analytical Results Summary for 4th Quarter of 2018
131-05 & 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Sample ID Sampling Date Client Matrix		NYSDEC TOGS Standards and Guidance Values - GA	MW-7 10/18/2018 Water	MW-8 10/18/2018 Water	MW-9 10/18/2018 Water	MW-10 10/18/2018 Water	TB-10182018 10/18/2018 Water	TB-10182018-2 10/18/2018 Water	EB-10182018 10/18/2018 Water
Compound	**CAS Number**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Aroclor 1248	12672-29-6	~	ND	ND	ND	ND	NA	NA	ND
Aroclor 1254	11097-69-1	~	ND	ND	3.24	3.06	NA	NA	ND
Aroclor 1260	11096-82-5	~	ND	ND	ND	ND	NA	NA	ND
Total PCBs	1336-36-3	0.09	ND	ND	**3.24**	**3.06**	NA	NA	ND

Key
J=analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit) - data is estimated
ND=this indicates the analyte was detected for this sample
NA=this indicates the analyte was not a target for this sample
~=this indicates that no regulatory limit has been established for this analyte
Shading indicates NYSDEC TOGS Guidance Value exceedance

Table 1
Groundwater Analytical Results Summary for 1st Quarter of 2019
131-05 & 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Sample ID Sampling Date Client Matrix		NYSDEC TOGS Standards and Guidance Values - GA	MW-1 1/23/2019 Water	MW-51 (MW-1 Duplicate) 1/23/2019 Water	MW-2 1/23/2019 Water	MW-3 1/23/2019 Water	MW-4 1/23/2019 Water	MW-5 1/23/2019 Water	MW-6 1/23/2019 Water
Compound	**CAS Number**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
VOA, 8260 LOW MASTER									
1,1,1,2-Tetrachloroethane	630-20-6	5	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	71-55-6	5	0.26 J	ND	ND	0.32 J	ND	ND	ND
1,1,2,2-Tetrachloroethane	79-34-5	5	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1	5	0.98	0.68	0.72	0.57	ND	ND	ND
1,1,2-Trichloroethane	79-00-5	1	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	75-34-3	5	2.92	1.35	2.24	**8.15**	1.75	ND	1.79
1,1-Dichloroethylene	75-35-4	5	0.72	0.49 J	1.09	2.94	ND	ND	0.68
1,1-Dichloropropylene	563-58-6	5	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	87-61-6	5	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	96-18-4	0.04	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	120-82-1	5	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	96-12-8	0.04	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	95-50-1	3	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	107-06-2	0.6	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	78-87-5	1	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	541-73-1	3	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	142-28-9	5	ND	ND	ND	ND	p	ND	ND
1,4-Dichlorobenzene	106-46-7	3	ND	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	594-20-7	5	ND	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	95-49-8	5	ND	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	106-43-4	5	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	74-97-5	5	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	75-27-4	50	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	56-23-5	5	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	108-90-7	5	ND	ND	ND	ND	ND	ND	ND
Chloroethane	75-00-3	5	ND	ND	ND	ND	ND	ND	ND
Chloroform	67-66-3	7	0.97	1.3	0.55	0.59	0.35 J	0.41 J	0.45 J
Chloromethane	74-87-3	5	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	156-59-2	5	1.83	1.04	2.37	2.06	3.01	**6.53**	1.81
cis-1,3-Dichloropropylene	10061-01-5	0.4	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	124-48-1	50	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	75-71-8	5	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	87-68-3	0.5	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	75-09-2	5	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	127-18-4	5	4.97	2.99	**15.8**	**11.6**	**13.8**	**19.1**	**83.6**
trans-1,2-Dichloroethylene	156-60-5	5	ND	ND	ND	ND	ND	0.34 J	ND
trans-1,3-Dichloropropylene	10061-02-6	0.4	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene	79-01-6	5	**9.58**	**6.46**	1.92	3.65	**14.5**	**11.7**	**6.77**
Trichlorofluoromethane	75-69-4	5	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	75-01-4	2	ND	ND	ND	ND	ND	ND	ND
Polychlorinated Biphenyls (PCB)									
Aroclor 1016	12674-11-2	~	ND	ND	ND	ND	ND	ND	ND
Aroclor 1221	11104-28-2	~	ND	ND	ND	ND	ND	ND	ND
Aroclor 1232	11141-16-5	~	ND	ND	ND	ND	ND	ND	ND

Table 1
Groundwater Analytical Results Summary for 1st Quarter of 2019
131-05 & 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Sample ID Sampling Date Client Matrix		NYSDEC TOGS Standards and Guidance Values - GA	MW-1 1/23/2019 Water	MW-51 (MW-1 Duplicate) 1/23/2019 Water	MW-2 1/23/2019 Water	MW-3 1/23/2019 Water	MW-4 1/23/2019 Water	MW-5 1/23/2019 Water	MW-6 1/23/2019 Water
Compound	**CAS Number**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Aroclor 1242	53469-21-9	~	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	12672-29-6	~	ND	ND	ND	ND	ND	ND	ND
Aroclor 1254	11097-69-1	~	ND	ND	ND	ND	ND	0.0716	ND
Aroclor 1260	11096-82-5	~	ND	ND	ND	ND	ND	ND	ND
Total PCBs	1336-36-3	0.09	ND	ND	ND	ND	ND	0.0716	ND

Key
J=analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit) - data is estimated
ND=this indicates the analyte was detected for this sample
NA=this indicates the analyte was not a target for this sample
~=this indicates that no regulatory limit has been established for this analyte
Shading indicates NYSDEC TOGS Guidance Value exceedance

Table 1
Groundwater Analytical Results Summary for 1st Quarter of 2019
131-05 & 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Sample ID Sampling Date Client Matrix		NYSDEC TOGS Standards and Guidance Values - GA	MW-7 1/23/2019 Water	MW-8 1/23/2019 Water	MW-9 1/23/2019 Water	MW-10 1/23/2019 Water	EB-012319 1/23/2019 Water	TB-012319 1/23/2019 Water
Compound	**CAS Number**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
VOA, 8260 LOW MASTER								
1,1,1,2-Tetrachloroethane	630-20-6	5	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	71-55-6	5	ND	0.32 J	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	79-34-5	5	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1	5	ND	0.96	ND	ND	ND	ND
1,1,2-Trichloroethane	79-00-5	1	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	75-34-3	5	1.81	3.29	ND	ND	ND	ND
1,1-Dichloroethylene	75-35-4	5	ND	1.11	ND	ND	ND	ND
1,1-Dichloropropylene	563-58-6	5	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	87-61-6	5	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	96-18-4	0.04	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	120-82-1	5	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	96-12-8	0.04	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	95-50-1	3	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	107-06-2	0.6	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	78-87-5	1	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	541-73-1	3	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	142-28-9	5	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	106-46-7	3	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	594-20-7	5	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	95-49-8	5	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	106-43-4	5	ND	ND	ND	ND	ND	ND
Bromochloromethane	74-97-5	5	ND	ND	ND	ND	ND	ND
Bromodichloromethane	75-27-4	50	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	56-23-5	5	ND	ND	ND	ND	ND	ND
Chlorobenzene	108-90-7	5	ND	ND	ND	ND	ND	ND
Chloroethane	75-00-3	5	ND	ND	ND	ND	ND	ND
Chloroform	67-66-3	7	0.35 J	0.37 J	4.13	0.87	ND	ND
Chloromethane	74-87-3	5	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	156-59-2	5	**35.5**	2.7	ND	ND	ND	ND
cis-1,3-Dichloropropylene	10061-01-5	0.4	ND	ND	ND	ND	ND	ND
Dibromochloromethane	124-48-1	50	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	75-71-8	5	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	87-68-3	0.5	ND	ND	ND	ND	ND	ND
Methylene chloride	75-09-2	5	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	127-18-4	5	**10.7**	**8.22**	ND	ND	ND	ND
trans-1,2-Dichloroethylene	156-60-5	5	0.8	ND	ND	ND	ND	ND
trans-1,3-Dichloropropylene	10061-02-6	0.4	ND	ND	ND	ND	ND	ND
Trichloroethylene	79-01-6	5	**7.75**	**5.38**	2.65	0.51	ND	ND
Trichlorofluoromethane	75-69-4	5	ND	ND	ND	ND	ND	ND
Vinyl Chloride	75-01-4	2	ND	ND	ND	ND	ND	ND
Polychlorinated Biphenyls (PCB)								
Aroclor 1016	12674-11-2	~	ND	ND	ND	ND	ND	NA
Aroclor 1221	11104-28-2	~	ND	ND	ND	ND	ND	NA
Aroclor 1232	11141-16-5	~	ND	ND	ND	ND	ND	NA

Table 1
Groundwater Analytical Results Summary for 1st Quarter of 2019
131-05 & 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Sample ID Sampling Date Client Matrix		NYSDEC TOGS Standards and Guidance Values - GA	MW-7 1/23/2019 Water	MW-8 1/23/2019 Water	MW-9 1/23/2019 Water	MW-10 1/23/2019 Water	EB-012319 1/23/2019 Water	TB-012319 1/23/2019 Water
Compound	**CAS Number**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Aroclor 1242	53469-21-9	~	ND	ND	ND	ND	ND	NA
Aroclor 1248	12672-29-6	~	ND	ND	ND	ND	ND	NA
Aroclor 1254	11097-69-1	~	ND	ND	ND	2.25	ND	NA
Aroclor 1260	11096-82-5	~	ND	ND	ND	ND	ND	NA
Total PCBs	1336-36-3	0.09	ND	ND	ND	**2.25**	ND	NA

Key
J=analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit) - data is estimated
ND=this indicates the analyte was detected for this sample
NA=this indicates the analyte was not a target for this sample
~=this indicates that no regulatory limit has been established for this analyte
Shading indicates NYSDEC TOGS Guidance Value exceedance

Table 1
Groundwater ANalytical Results Summary for 2nd Quarter of 2019
131-05 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Sample ID Sampling Date Sample Matrix		NYSDEC TOGS Standards and Guidance Values - GA	MW-1 4/11/2019 Water	MW-51 4/11/2019 Water	MW-2 4/11/2019 Water	MW-3 4/11/2019 Water	MW-4 4/11/2019 Water	MW-5 4/11/2019 Water	MW-6 4/11/2019 Water
Compound	**CAS Number**	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
VOA, 8260 LOW MASTER									
1,1,1,2-Tetrachloroethane	630-20-6	5	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	71-55-6	5	0.24J	0.21J	ND	ND	ND	ND	0.34J
1,1,2,2-Tetrachloroethane	79-34-5	5	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1	5	1.520	1.390	1.080	0.28J	ND	ND	ND
1,1,2-Trichloroethane	79-00-5	1	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	75-34-3	5	2.700	2.580	1.660	2.330	0.980	ND	**5.860**
1,1-Dichloroethylene	75-35-4	5	0.950	0.900	0.920	0.900	ND	ND	2
1,1-Dichloropropylene	563-58-6	5	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	87-61-6	5	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	96-18-4	0.04	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	120-82-1	5	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	96-12-8	0.04	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	95-50-1	3	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	107-06-2	0.6	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	78-87-5	1	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	541-73-1	3	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	142-28-9	5	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	106-46-7	3	ND	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	594-20-7	5	ND	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	95-49-8	5	ND	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	106-43-4	5	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	74-97-5	5	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	75-27-4	50	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	56-23-5	5	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	108-90-7	5	ND	ND	ND	ND	ND	ND	ND
Chloroethane	75-00-3	5	ND	ND	ND	ND	ND	ND	ND
Chloroform	67-66-3	7	0.750	0.750	0.620	0.880	0.25J	0.610	0.600
Chloromethane	74-87-3	5	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	156-59-2	5	2.500	2.380	3.230	**8.27**	2.850	**10.6**	2.650
cis-1,3-Dichloropropylene	10061-01-5	0.4	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	124-48-1	50	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	75-71-8	5	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	87-68-3	0.5	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	75-09-2	5	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	127-18-4	5	**5.74**	**5.76**	**17.8**	**14.2**	**6.95**	**25.1**	**124**
trans-1,2-Dichloroethylene	156-60-5	5	ND	ND	ND	0.710	ND	0.580	ND
trans-1,3-Dichloropropylene	10061-02-6	0.4	ND	D	ND	ND	ND	ND	ND
Trichloroethylene	79-01-6	5	**9.54**	**9.1**	3.100	**8.28**	**12.9**	**7.13**	**8.13**
Trichlorofluoromethane	75-69-4	5	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	75-01-4	2	ND	ND	ND	ND	ND	ND	ND
Polychlorinated Biphenyls (PCB)									
Aroclor 1016	12674-11-2	~	ND	ND	ND	ND	ND	ND	ND
Aroclor 1221	11104-28-2	~	ND	ND	ND	ND	ND	ND	ND
Aroclor 1232	11141-16-5	~	ND	ND	ND	ND	ND	ND	ND

Table 1
Groundwater ANalytical Results Summary for 2nd Quarter of 2019
131-05 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Aroclor 1242	53469-21-9	~	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	12672-29-6	~	ND	ND	ND	ND	ND	ND	ND
Aroclor 1254	11097-69-1	~	ND	ND	ND	ND	ND	0.183	ND
Aroclor 1260	11096-82-5	~	ND	ND	ND	ND	ND	ND	ND
Total PCBs	1336-36-3	0.09	ND	ND	ND	ND	ND	**0.183**	ND

Table 1
Groundwater ANalytical Results Summary for 2nd Quarter of 2019
131-05 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Sample ID Sampling Date Sample Matrix		NYSDEC TOGS Standards and Guidance Values - GA	MW-7 4/11/2019 Water	MW-8 4/11/2019 Water	MW-9 4/11/2019 Water	MW-10 4/11/2019 Water	EB041119 4/11/2019 Water	TB041119 4/11/2019 Water
Compound	**CAS Number**	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
VOA, 8260 LOW MASTER								
1,1,1,2-Tetrachloroethane	630-20-6	5	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	71-55-6	5	ND	0.31J	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	79-34-5	5	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1	5	ND	2.250	0.41J	**6.230**	ND	ND
1,1,2-Trichloroethane	79-00-5	1	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	75-34-3	5	3.460	4.360	ND	4.350	ND	ND
1,1-Dichloroethylene	75-35-4	5	0.750	1.820	ND	1.040	ND	ND
1,1-Dichloropropylene	563-58-6	5	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	87-61-6	5	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	96-18-4	0.04	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	120-82-1	5	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	96-12-8	0.04	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	95-50-1	3	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	107-06-2	0.6	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	78-87-5	1	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	541-73-1	3	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	142-28-9	5	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	106-46-7	3	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	594-20-7	5	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	95-49-8	5	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	106-43-4	5	ND	ND	ND	ND	ND	ND
Bromochloromethane	74-97-5	5	ND	ND	ND	ND	ND	ND
Bromodichloromethane	75-27-4	50	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	56-23-5	5	ND	ND	ND	ND	ND	ND
Chlorobenzene	108-90-7	5	ND	ND	ND	ND	ND	ND
Chloroethane	75-00-3	5	ND	ND	ND	ND	ND	ND
Chloroform	67-66-3	7	0.510	0.38J	3.420	0.22J	ND	ND
Chloromethane	74-87-3	5	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	156-59-2	5	**57.3**	3.270	0.540	**5.03**	ND	ND
cis-1,3-Dichloropropylene	10061-01-5	0.4	ND	ND	ND	ND	ND	ND
Dibromochloromethane	124-48-1	50	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	75-71-8	5	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	87-68-3	0.5	ND	ND	ND	ND	ND	ND
Methylene chloride	75-09-2	5	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	127-18-4	5	**17.9**	**12.1**	0.650	**11.1**	ND	ND
trans-1,2-Dichloroethylene	156-60-5	5	1.750	ND	ND	ND	ND	ND
trans-1,3-Dichloropropylene	10061-02-6	0.4	ND	ND	ND	ND	ND	ND
Trichloroethylene	79-01-6	5	**18.5**	**6.27**	3.670	**7.83**	ND	ND
Trichlorofluoromethane	75-69-4	5	ND	ND	ND	ND	ND	ND
Vinyl Chloride	75-01-4	2	ND	ND	ND	ND	ND	ND
Polychlorinated Biphenyls (PCB)								
Aroclor 1016	12674-11-2	~	ND	ND	ND	ND	ND	NA
Aroclor 1221	11104-28-2	~	ND	ND	ND	ND	ND	NA
Aroclor 1232	11141-16-5	~	ND	ND	ND	ND	ND	NA

Table 1
Groundwater ANalytical Results Summary for 2nd Quarter of 2019
131-05 131-15 Fowler Avenue, Queens, New York
Project No. 14164

Aroclor 1242	53469-21-9	~	ND	ND	ND	ND	ND	NA
Aroclor 1248	12672-29-6	~	ND	ND	ND	ND	ND	NA
Aroclor 1254	11097-69-1	~	ND	ND	1.700	0.866	ND	NA
Aroclor 1260	11096-82-5	~	ND	ND	ND	ND	ND	NA
Total PCBs	1336-36-3	0.09	ND	ND	**1.7**	**0.866**	ND	NA

Key
J=analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limi
ND=this indicates the analyte was detected for this sample
NA=this indicates the analyte was not a target for this sample
~=this indicates that no regulatory limit has been established for this analyte

Table 1
Groundwater Analytical Results Summary for 3nd Quarter of 2019
131-05 & 131-15 Fowler Avenue, Queens, New York
Project No.14164

Sample ID Sampling Date Client Matrix		NYSDEC TOGS Standards and Guidance Values - GA (ug/L)	MW-1 9/26/2019 Water	MW-51 9/26/2019 Water	MW-2 9/26/2019 Water	MW-3 9/26/2019 Water	MW-5 9/26/2019 Water	MW-6 9/26/2019 Water	MW-7 9/26/2019 Water	MW-8 9/26/2019 Water	MW-9 9/26/2019 Water	MW-10 9/26/2019 Water	EB092619 9/26/2019 Water	TB092619 9/26/2019 Water
Compound	**CAS Number**		**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
VOA, 8260 LOW MASTER														
1,1,1,2-Tetrachloroethane	630-20-6	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	71-55-6	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.29 J	ND	ND
1,1,2,2-Tetrachloroethane	79-34-5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1	5	0.59	0.61	0.57	ND	ND	ND	ND	0.49 J	4.32	4.14	ND	ND
1,1,2-Trichloroethane	79-00-5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	75-34-3	5	1.15	1.32	0.84	0.45 J	ND	0.64	0.52	4.46	0.73	**5.16**	ND	ND
1,1-Dichloroethylene	75-35-4	5	0.43 J	0.52	0.5	ND	ND	0.3 J	ND	2.05	0.24 J	1.08	ND	ND
1,1-Dichloropropylene	563-58-6	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	87-61-6	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	96-18-4	0.04	ND	ND	**0.96**	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	120-82-1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	96-12-8	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	95-50-1	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	107-06-2	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	78-87-5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	541-73-1	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	142-28-9	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	106-46-7	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	594-20-7	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	95-49-8	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	106-43-4	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	74-97-5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	75-27-4	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	56-23-5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	108-90-7	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	75-00-3	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	67-66-3	7	0.3 J	0.32 J	0.39 J	0.52	0.31 J	0.47 J	ND	0.33 J	0.56	ND	ND	ND
Chloromethane	74-87-3	5	0.8	0.53	0.32 J	0.75	1.2	0.35 J	0.62	0.56	0.34 J	0.4 J	0.49 J	0.45 J
cis-1,2-Dichloroethylene	156-59-2	5	1.06	1.2	2.55	4.51	**10.4**	2.43	**76.1**	1.94	3.3	3.28	ND	ND
cis-1,3-Dichloropropylene	10061-01-5	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	124-48-1	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	75-71-8	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	87-68-3	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	75-09-2	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	127-18-4	5	3.39	3.86	**19.4**	**10.9**	**28**	**105**	**7.72**	**16.1**	**5.52**	**6.29**	ND	ND
trans-1,2-Dichloroethylene	156-60-5	5	ND	ND	ND	0.35 J	0.61	ND	2.52	ND	ND	ND	ND	ND
trans-1,3-Dichloropropylene	10061-02-6	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene	79-01-6	5	3.75	3.64	2.81	4.51	2.04	**9.44**	**36.3**	3.25	**6.66**	3.63	ND	ND
Trichlorofluoromethane	75-69-4	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 1
Groundwater Analytical Results Summary for 3nd Quarter of 2019
131-05 & 131-15 Fowler Avenue, Queens, New York
Project No.14164

Sample ID Sampling Date Client Matrix		NYSDEC TOGS Standards and Guidance Values - GA (ug/L)	MW-1 9/26/2019 Water	MW-51 9/26/2019 Water	MW-2 9/26/2019 Water	MW-3 9/26/2019 Water	MW-5 9/26/2019 Water	MW-6 9/26/2019 Water	MW-7 9/26/2019 Water	MW-8 9/26/2019 Water	MW-9 9/26/2019 Water	MW-10 9/26/2019 Water	EB092619 9/26/2019 Water	TB092619 9/26/2019 Water
Compound	**CAS Number**		**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Vinyl Chloride	75-01-4	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Polychlorinated Biphenyls (PCB)														
Aroclor 1016	12674-11-2	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.41	ND	NA
Aroclor 1221	11104-28-2	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Aroclor 1232	11141-16-5	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Aroclor 1242	53469-21-9	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Aroclor 1248	12672-29-6	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Aroclor 1254	11097-69-1	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Aroclor 1260	11096-82-5	~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Total PCBs	1336-36-3	0.09	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.41**	ND	NA

ATTACHMENT C – EZVI Specifications

INNOVATIVE ENVIRONMENTAL
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FEROX PLUS

Emulsified Zero Valent Iron

Hepure's Ferox Plus is an enhanced eZVI product that combines Ferox ZVI reactive iron particles and emulsified vegetable oil (EVO) with other nutrients in a stable suspension which:

- Increases the reaction efficiency of both the direct beta-elimination and reductive dehalogenation pathways
- Comes in a site-ready format that simplifies injection
- Is an effective and efficient in situ chemical reduction amendment

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www.hepure.com

PRODUCT BACKGROUND FEROX PLUS

Reductive reactions involving micron-scale zero valent iron (ZVI) have been proven effective and cost-efficient for in-situ remediation of sites containing chlorinated solvents and certain reducible metals and radionuclides. The use of biodegradable organic liquids, such as vegetable oils as an additive, has more recently proven to extend the effectiveness and efficiency of ZVI.

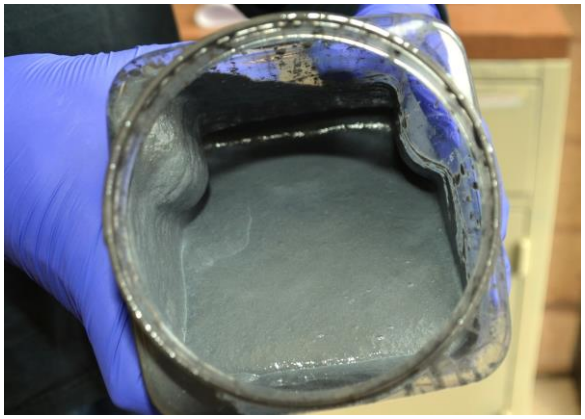
The EVO performs several functions in Ferox Plus. First, it solubilizes the chlorinated volatile organic compounds (CVOCs), enhancing their availability in the aqueous phase. Secondly, it creates an environment that maximizes contact between ZVI particles and solubilized CVOCs. Finally, biodegradation of the EVO promotes biological reductive dehalogenation.

The emulsified system consists of a surfactant-stabilized oil-in-water emulsion with the iron particles contained within the aqueous interior of the emulsion droplet. The smallest iron particles produce the most stable iron-emulsion system; thus, it is desirable in these systems to use micron-scale iron particles.

Ferox Plus is ideal for source areas where chlorinated dense non-aqueous phase liquids (DNAPL) and/or high dissolved concentrations of CVOC's are present. Similar eZVI mixtures have shown to be very effective in vadose zone as well as saturated zone applications. Hepure's Ferox ZVI has proven to be a market leader in reactivity and effectiveness. Combining our high quality Ferox ZVI with EVO produces an eZVI product with superior reactivity and longevity at a cost effective price.

PRODUCT SPECIFICATIONS

INGREDIENTS
Ferox ZVI
Food grade edible soy bean oil
Emulsifiers, thickeners, and a proprietary nutrient package containing nitrogen, phosphorus, and vitamin B12
Sodium lactate



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Ferox Plus

SAFETY DATA SHEET

According to OSHA and ANSI

Reviewed on 11/15/2017

1. Identification of Substance

Trade Name: Ferox Plus

Supplier: Hepure Technologies, Inc.
P.O. Box 5784,
Hillsborough, NJ 08844-5784

Emergency Information: 302 798 9553 Dr. Michael Lee

2. Composition/Data on Components

Ingredient	CAS #	Weight%	Hazardous
Food grade edible soy bean oil	8001-22-7	30-40%	No
Iron	7439-89-6	10-40%	No
Emulsifiers, thickeners, and proprietary nutrient package containing nitrogen, phosphorus and vitamin B_{12}	Mixture	3 - 6%	No
Sodium Lactate	867-56-1	2 - 4%	Yes
Water	7732-18-5	10 - 55%	No

3. Hazards Identification

Hazard Description:
Information pertaining to particular dangers for man and environment

R 36/37 Irritating to eyes and respiratory system.

4. First Aid Measures

After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek medical advice.
After skin contact
Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.
After eye contact
Rinse opened eye for several minutes under running water. Then consult a doctor.
After swallowing
Seek immediate medical advice.
Information for doctor
The following symptoms may occur: Nausea, Cramp, Gastric or intestinal disorders

5. Fire Fighting Measures

Suitable extinguishing agents: Extinguishing powder, dry chemical, sand, or graphite to smother fire. Use water only in mist/fog application to avoid spreading power/acclimated dust in surrounding area.

For safety reasons unsuitable extinguishing agents: Water, Carbon dioxide, Halogenated extinguisher

Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit.

6. Accidental Release Measures

Person-related safety precautions:
Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources.

Measures for cleaning/collecting:
Ensure adequate ventilation.
Keep away from ignition sources.

Additional information:
See section 7 for information on safe handling.
See section 8 for information on personal protection equipment.
See section 13 for disposal information.

7. Handing and Storage

Handling
Information for safe handling:
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.

Information about protection against explosions and fires:
Keep ignition sources away.

Storage
Requirements to be met by storerooms and receptacles:
No special requirements.

Information about storage in one common facility:
Do not store together with oxidizing and acidic materials.
Store away from halogens.
Further information about storage containers:
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.

8. Exposure Controls and Personal Protection

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per mile.

Components with limit values that require monitoring at the workplace: None required.

Additional Information: No data

Personal protective equipment

General protective and hygienic measures
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages, and feed.

Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

Breathing Equipment: Use suitable respirator when high concentrations are present.

Protection of hands: Impervious gloves

Eye protection: Safety glasses, full face protection.

Body protection: Protective work clothing.

9. Physical and Chemical Properties

Form: Viscous Liquid
Color: Grey
Odor: Odorless

Change in condition
Melting point / Melting range: - 20º C
Boiling point / Boiling range: >300º C
Sublimation temperature / start: Not determined
Flash point: >250º C
Ignition temperature: Not determined
Decomposition temperature: Not determined

Explosion limits:
Lower: Not determined
Upper: Not determined

Vapor pressure at 20º C: 1 mm Hg
Density at 20º C (68º F): 1.44 g/cc

Solubility in / Miscibility with water: Insoluble

10. Stability and Reactivity

Thermal decomposition / conditions to be avoided:
Decomposition will not occur if used and stored according to specifications.
Materials to be avoided:
Acids, Water / moisture, Oxidizing agents, Halogens

Reacts with strong oxidizing agents
Dangerous products of decomposition: Metal oxide fume

11. Toxicological Information

Acute toxicity:

LD / LC50 values that are relevant for classification:		
Oral	LD50	20000 mg/kg (gpg) 30000 mg/kg (rat)
	LDLo	20 mg/kg (rbt)

Primary irritant effect:

On the skin: Irritant to skin and mucous membranes.
On the eye: Irritating effect.
Sensitization: No sensitizing effects known.

Other information (about experimental toxicity):

Tumorigenic effects have been observed with laboratory animals.

Subacute to chronic toxicity:

Iron compounds may cause vomiting, diarrhea, pink urine, black stool, and liver damage. May cause damage to the kidneys. Irritating to the respiratory tract, they may cause pulmonary fibrosis if dusts are inhaled.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for components in this product.
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA, or ACGIH.

12. Ecological Information

General notes:

Do not allow material to be released to the environment without proper governmental permits.

13. Disposal Considerations

Product:
Recommendation:

Consult state, local or national regulations for proper disposal.

Uncleaned Packagings:
Recommendation:

Disposal must be made according to official regulations.

14. Transport Information

Shipping Information:
Not regulated as a hazardous material by DOT, IMO, or IATO.
Proper shipping-name (technical name): Emulsified Zero Valent Iron

15. Regulations

Product related hazard information:

Hazard symbols:
IX Irritant
Risk phrases:
36 / 37 Irritating to eyes and respiratory system.

Safety phrases:
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory.

Information about limitation of use:
For use only by technically qualified individuals.

16. Other Information

Employees should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the healthy and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.