PERIODIC REVIEW REPORT
NOV. 2, 2021 TO NOV. 2, 2022

353 MCKIBBIN STREET
BROOKLYN, NEW YORK
NYSDEC BCP SITE NO. C224102

Submitted To
New York State Department of Environmental Conservation
41-40 21st Street
Long Island City, New York 11101

Prepared For:
Bogart Plaza, LLC
589 Johnson Avenue
Brooklyn, NY 11237

Prepared By:
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March 6, 2023

CERTIFICATION

For each institutional or engineering control identified for the site, I John A. Rhodes, P.E., certify that all of the following statements are true:

(a) 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 DER;

(b) Nothing has occurred that would impair the ability of such control to protect public health and the environment;

(c) Nothing has occurred that would constitute a violation or failure to comply with any Site Management Plan for this control;

(d) Access to the site will continue to be provided to DER to evaluate the remedy, including access to evaluate the continued maintenance of this control; and

(e) If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for their intended purpose under the document.

Signature

John A. Rhodes, P.E.
NYS Professional License # 84423
Date 3/6/2023

FIGURES

TABLES

APPENDICES

1 INTRODUCTION AND EXECUTIVE SUMMARY

John Rhodes P.E. prepared this Periodic Review Report ("PRR") and IC/EC Certification for the 2022 period after implementation of corrective measures in accordance with the approved Corrective Measures Work Plan dated June 30, 2021 (CMWP). The IC/EC Certification covers November 2, 2021, through November 2, 2022.

This PRR and IC/EC Certification is on behalf of the current owner, Bogart Plaza, LLC, (Bogart Plaza), an affiliated company of Adam's European Contracting Inc. It is in accordance with the approved December 2011 Site Management Plan (SMP) as modified by the Corrective Measures Work Plan (CMWP) dated December 15, 2014; the New York State Department of Environmental Conservation (NYSDEC) CMWP approval dated December 19, 2014; the NYSDEC Site Management and PRR Response Letter dated June 1, 2015; the Proposal to Evaluate Modifications to AS/SVE System dated November 15, 2016; the NYSDEC approval letter dated January 25, 2017; the McKibbin Street Briefing, Evaluation of AS/SVE Shutdown dated February 7, 2018, a phone conference with the NYSDEC and NYSDOH on May 16, 2018; a meeting with the NYSDEC and NYSDOH on August 1, 2018, and the CMWP dated June 30, 2020.

A periodic review and certification of all institutional and engineering controls (IC/EC) and monitoring results is a requirement for fulfillment of the remedial action at 353 McKibbin Street (Tax Block 3083, Lots 16 and 30, the "Site") under the New York State (NYS) Brownfield Cleanup Program (BCP), administered by the NYSDEC. IC/EC Certification is provided in Appendix E.

Remedy Performance, Effectiveness, and Protectiveness

The performance, effectiveness and protectiveness of the remedy is confirmed to be acceptable. In summary:

- Groundwater and vapor sampling and testing indicate that the excavation of soil/fill exceeding 6 NYCRR Part 375 Commercial Use SCOs was effective.
- The soil cover system is undamaged and continues to perform as intended.
- When operating, the soil vapor extraction (SVE) system continued to prevent off-site migration of contaminated soil vapors. A broken SVE header pipe (1B) that caused "low pressure" alarms and repeated system shutdowns was repaired.
- With the approval of the NYSDEC, the air sparging (AS) system remains off.
- The Environmental Easement to restrict land use remains in place and continues to perform as intended.
- Both the soil vapor and groundwater monitoring networks are functioning properly after corrective measures were made.

Compliance

All components of the IC/EC and Monitoring Plans are in substantial compliance with the SMP. IC/EC Certification is provided in Appendix E.

Recommendations/Proposals

The following recommendations have been or are being implemented:

- The remote warning system installed in the prior reporting period (AD-2000 Automatic Voice/Pager Dialer manufactured by United Securities Products) improved up-time, with some lapses in timely responses. Improvements in responsiveness are recommended.
- With Rich Levato's passing (ASR), the monitoring function performed by ASR fell short of target in the beginning of the reporting period. Personnel modifications are required.

2 SITE OVERVIEW

The Site occupies a 43,495-square-foot (SF) parcel in the Bushwick neighborhood of Brooklyn, New York. The Site is comprised of Tax Block 3083, Lots 16 and 30 and is bordered by McKibbin Street to the south, Bogart Street to the east, Boerum Street to the north, and a cement mixing facility (United Transit Mix) to the west. A city park is located south of the Site opposite McKibbin Street, and commercial and light manufacturing facilities are located farther north and east of the Site opposite the bordering streets. The property is graded and covered with imported backfill meeting 6 NYCRR Part 375 Commercial Use Soil Cleanup Objectives (SCO). Adam's European Contracting Inc., an affiliated company of Bogart Plaza, operates the Site as a storage yard for construction materials.

A 2007 Remedial Investigation (RI) identified elevated concentrations of volatile organic compounds (VOCs), including tetrachloroethene (PCE), trichloroethene (TCE), and non-chlorinated petroleum compounds in soil, soil vapor and groundwater. Remediation under the BCP was conducted between June 2010 and June 2011. Remediation included removal of soil exceeding 6 NYCRR Part 375 Commercial Use Soil Cleanup Objectives (SCO) from four hotspot locations, construction of a soil cover system consisting of 18 inches of imported fill, and installation of an air sparging/soil vapor extraction (AS/SVE) system. The previous Site owner and affiliates received a BCP Certificate of Completion (COC) for cleanup of the Site on December 30, 2011. The COC was transferred to Bogart Plaza on March 14, 2012.

A Site Management Plan ("SMP") required the operation, maintenance, and monitoring of an AS/SVE system, and monitoring of groundwater and soil vapor. A draft PRR dated June 2014, by Langan Environmental Services reported that the AS/SVE system had failed due to mechanical difficulties by at least February 2014. In the fall of 2014, a Corrective Measures Work Plan was submitted and approved by the NYSDEC leading to the refurbishing and implementation of the AS/SVE system in late December 2014 (for the SVE portion) and early January 2015 (for the AS portion). The AS/SVE system was operated in substantial compliance with the SMP thereafter through the AS system failure in March 2016, and the planned SVE shutdown between March 2017 and May 2018. The SVE was restarted in May 2018 and remains in operation. The AS component of the system remains off with NYSDEC approval.

3 REMEDY PERFORMANCE, EFFECTIVENESS, AND PROTECTIVENESS

The performance, effectiveness and protectiveness of the remedy was evaluated and is summarized as follows:

- **Excavation of soil/fill exceeding 6 NYCRR Part 375 Commercial Use SCOs:** groundwater and vapor sampling and testing indicated that this portion of the remedy was effective.
- **Construction and maintenance of a soil cover system**: the soil cover system is undamaged and continues to perform as intended; however, the increased infiltration from the cover system as designed may be affecting contaminant migration. Recent corrective measures alleviated the impact on the monitoring network and all required monitoring is provided in this PRR.
- **Installation and operation of an air sparging/soil vapor extraction (AS/SVE) system**: the AS/SVE system was to remediate groundwater contamination, prevent off-site migration of contaminated soil vapor, and mitigate soil vapor impacts to future on-site buildings (based on construction plans by the former Site owner).
    - With the approval of the NYSDEC, the AS component of the system has been decommissioned.
    - The SVE remains operational. In the 2020/2021 review period numerous automatic shutdowns were caused by a severed SVE header pipe (1B) causing “Low Pressure” alarms. The pipe was repaired resulting in acceptable negative pressures (suction) returning to all lines.
    - When operating, the soil vapor extraction (SVE) system continued to prevent off-site migration of contaminated soil vapors.
- The remote warning system installed in at the beginning of this reporting period (AD-2000 Automatic Voice/Pager Dialer manufactured by United Securities Products) improved system up-times. Responsiveness to remote warnings was problematic, however.
- **Execution of an Environmental Easement to restrict land use**: this portion of the remedy remains in place and continues to perform as intended.
- **Development and implementation of a SMP**: The SMP included specifications for managing the Institutional and Engineering Controls (IC/ECs), monitoring, operation and maintenance of the IC/ECs, and reporting. With the completion of corrective measures, current performance, effectiveness, and protectiveness of the monitoring network are adequate. The SVE system remains adequate to prevent off-site migration of contaminated soil vapor although repairs and improved system status communications were required and implemented.

SVE System Up-Time

The repair of SVE Line 1B improved system up-times. However, responsiveness to telephonic warnings of system automatic shutoffs were problematic especially early in the reporting period. Managerial changes have been made to improve responsiveness.

Soil Vapor Migration

Concentrations in vapor probes were dependent on groundwater levels and system operations. SG-8 in the source area increased contaminant concentration with rising groundwater levels, for example.

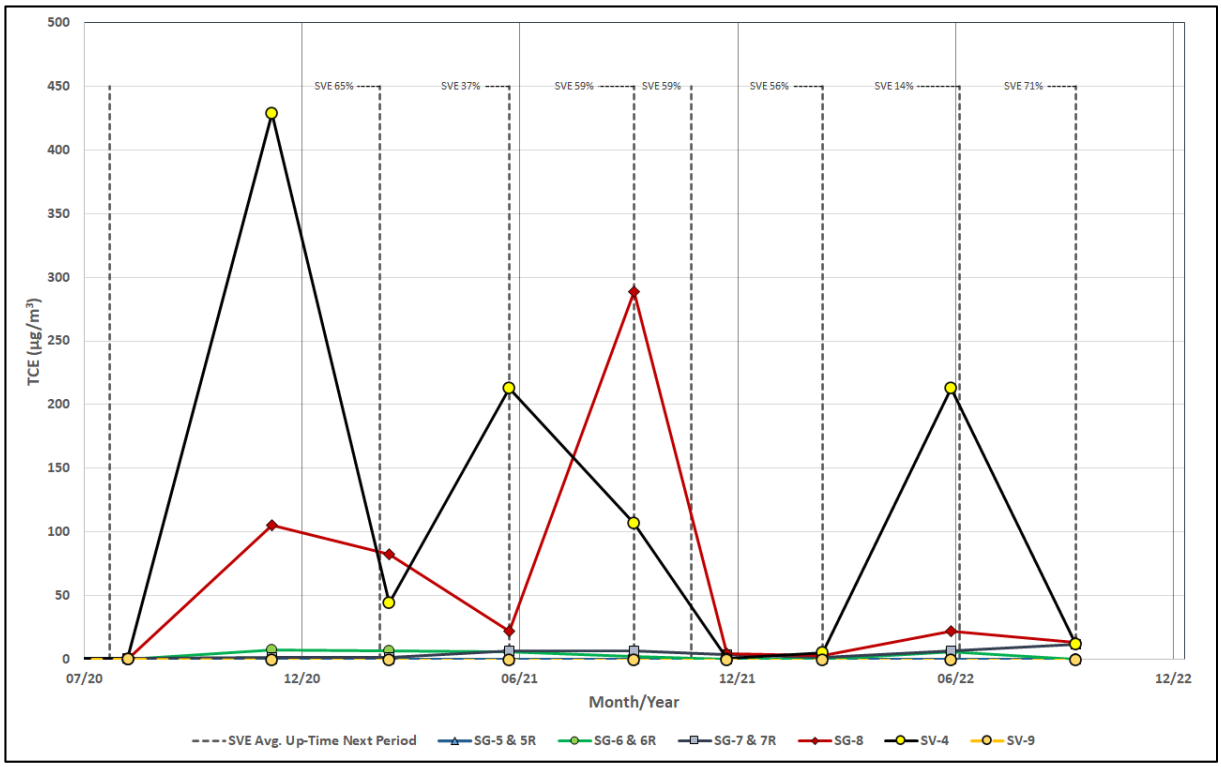


Figure 1 TCE in Soil Vapor

SV-4 located just off the property was more responsive to SVE system operations with the highest concentration of TCE occurring in December 2020, June 2021 and June 2022 after periods of low up-times. Concentrations returned to low levels after system up-times were restored. No contaminants were found in off-site probe SV-9.

While the SVE system prevents off-site migration of contaminated vapors when operating, a better up-time record is needed.

Groundwater Migration

TCE is the bellwether of groundwater contaminants. Figure 2 shows the trends of TCE concentrations in groundwater in wells MW-11 (source area), MW-10DR and MW-7 (downgradient and off-site). Other wells are also shown but their trends are equivalent to and indistinguishable from MW-7. Monthly rainfall amounts (inches) are also shown. As groundwater levels are correlated with rainfall, monthly rainfall gives an indication of groundwater levels during the period of testing.

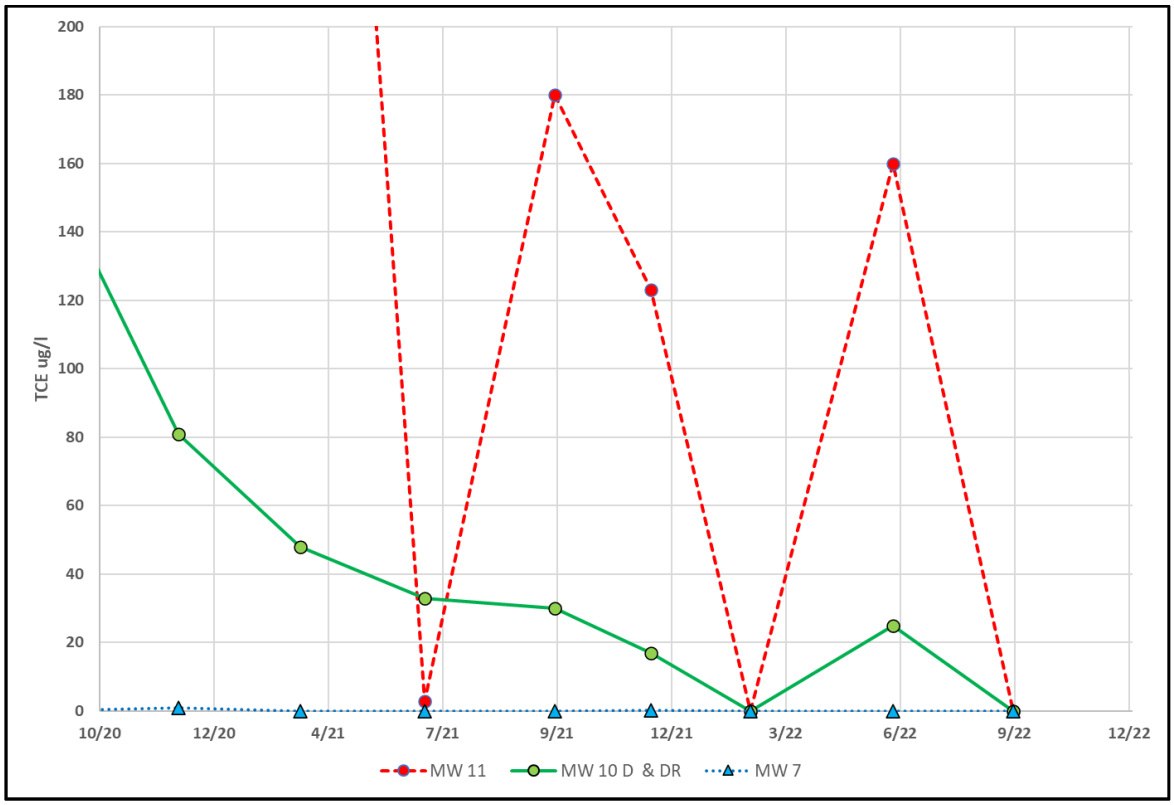


Figure 2 TCE in Groundwater

Contaminants in the MW-11 area may be responsive to groundwater levels because of transfer from the smear zone. Contaminated groundwater near MW-11 moves toward MW-10DR. Degradation, dispersion and soil vapor extraction reduce the concentration before the groundwater reaches 10-DR and in turn MW-7 located just off the property. Therefore, the remedy is preventing the migration of contaminated groundwater off the property, and slowly reducing the concentrations.

4 IC/EC PLAN COMPLIANCE REPORT

4.1 IC/EC Requirements and Compliance

A summary of the IC/ECs implemented at the site, the goals and status of each IC/EC to reach that goal, and related conclusions and recommendations follow. The locations of the ECs are shown on Figure 3 in Appendix A.

<u>Cover system consisting of 18 inches of clean imported fill</u>
The cover system remains intact. There are no signs of penetration of the cover by the current occupant of the Site.

<u>AS/SVE system</u>
The AS/SVE system operated from late December 2014 through:

- March 25, 2016, for the AS, at which time the AS portion of the system mechanically failed. An evaluation of conditions after this failure compared to conditions before demonstrated that the AS system was no longer needed. The AS system remains off with NYSDEC approval.
- March 8, 2017, for the SVE, at which time the system was shut-down to evaluate conditions after shut-down. Due to a rebound in contaminated vapor concentrations, the SVE system was returned to service on May 17, 2018. The SVE was then operated and monitored into and through the 2021/2022 reporting period, with mechanical failures and repairs as identified elsewhere is this report.

Groundwater, soil vapor, and other environmental or public health monitoring as defined in the SMP
Groundwater, soil vapor, and other environmental or public health monitoring were done in substantial compliance with the SMP as modified by the NYSDEC. The corrective measures implemented in August 2020 have been successful.

Reporting of data and information pertinent to Site management at a frequency and in a manner defined in the SMP
Monitoring was in substantial compliance with the SMP as modified by the NYSDEC and reporting is in substantial compliance with the SMP.

Protection of on-site environmental monitoring devices
With the completion of the corrective measures in August 2020, groundwater monitoring wells and soil vapor probes were maintained in compliance with the SMP as modified by the NYSDEC.

Adherence to the Site use restrictions specified in the Environmental Easement
These restrictions included prohibitions on groundwater usage, gardening, Site use other than restricted commercial or industrial, and implementation of an Excavation Work Plan in the event of disturbance of contaminated material. These restrictions have been met in this reporting period.

4.2 Conclusions and Recommendations

The monitoring network was successfully upgraded and brought into compliance with the SMP for this reporting period. The SVE remains operational. In the 2021/2022 review period automatic shutdowns are better managed, but improvements are needed. Recommendations are being implemented:

- Better responsiveness to the remote warning system.
- Managerial changes to replace ASR.

4.3 IC/EC Certification

The IC/EC Certification Form is provided in Appendix E.

5 MONITORING PLAN COMPLIANCE REPORT

5.1 Monitoring Plan Components and Compliance

The components of the Monitoring Plan in the SMP as modified by later documents are:

- Annual Site-wide inspection
- Inspection of the composite cover system
- Quarterly groundwater sampling of monitoring wells
- Installation of a vapor barrier prior to placement of concrete or other materials for the foundation of future building(s)
- Quarterly sampling and testing of four on-Site vapor probes. Additionally, off site probes SV-9 and SV-4 were located, refurbished, and are now sampled quarterly.

5.2 Summary of Monitoring Completed

Annual Site Wide Inspection
The Annual Site Wide Inspection was done by John Rhodes, PE, on October 28, 2022. (See Appendix C.)

Composite Cover System Inspection
As described in the NYSDEC-approved December 2011 FER and SMP, the composite cover system consists of a demarcation barrier overlain by 18 inches of New York State Department of Transportation (NYSDOT) Item 4 (subbase) material imported from Pebble Lane Associates in Maspeth, New York. The material complied with the 6 NYCRR Part 375-6.8(b) SCOs, based on the December 2011 FER. Additional soil was placed on top of the composite cover system for protection.

There was no damage and/or breach of the composite cover system based on the inspections made this reporting period. The inspection reports and photographs are provided in Appendices C and D, respectively.

AS/SVE System Inspection
The AS system remains off with NYSDEC approval. A remote monitoring system was added last reporting period to improve awareness of system alarms that shut down the SVE system. Managerial changes have been made to improve responsiveness to the automatic shutdown warnings.

Soil Vapor Monitoring
Soil vapor monitoring was conducted on all four quarters of this reporting period. Data tabulations are in Appendix B. Laboratory summary sheets are provided under separate cover.

Groundwater Elevation Monitoring
Groundwater flow is to the north which is consistent with prior measurements. Non-uniform infiltration due to the Site's porous cover and lack of drainage cause differential infiltration rates and variable groundwater potentials. Therefore, groundwater levels within the confines of the Site are sensitive to rain events and associated infiltration. However, evaluation of the numerous measurements since 2015 and comparisons with infiltration data demonstrate resultant flow to the north. Figure 6 provides groundwater contours which are representative of the reporting period.

These data and contours show the general flow toward the north consistent with prior groundwater flow conclusions.

Groundwater Sampling and Testing

Groundwater samples were obtained on all four quarters this reporting period. Phoenix Environmental Laboratories Inc. Laboratory analytical results are compared to NYSDEC TOGS 1.1.1 AWQS for Class GA groundwater. The tabulated analytical results summaries for key compounds are presented in Appendix B. A summary of the results is provided on Figure 5. Laboratory ASP Category B results and the Data Usability Summary Report are provided under separate cover.

5.3 Conclusions and Comparison with Remedial Objectives

The CMWP in August 2020 corrected the failure of the monitoring network resulting in adequate monitoring in accordance with the SMP this reporting period.

5.4 Recommendations/Proposals

No recommendations are being made at this time.

6 OPERATIONS & MANAGEMENT PLAN COMPLIANCE REPORT

6.1 SVE System Operations

The SVE has been difficult to maintain. It was designed by the Responsible Party prior to the current Site owner who bought the property expecting that the SMP would be adequate for their use of the property. However, the Responsible Party did not consider (1) the conditions of the Site after remediation, (2) the change in Site development after the Site was sold, (3) the nature of the operations of the buyer, and (4) the limited life expectancy of the AS/SVE system.

Automatic system shutdowns that were frequent during the prior reporting period were improved by the repair of the break in SVE Line 1B. The system was on and operating for the following periods and percentages of time in the periods.

From	To	Avg. Up-Time
9/28/2021	11/15/2021	59%
11/15/2021	3/3/2022	56%
3/3/2022	6/24/2022	14%
6/24/2022	9/28/2022	71%

The remote warning system (AD-2000 Automatic Voice/Pager Dialer manufactured by United Securities Products) functioned well during this reporting period. However, responsiveness to the warnings was poor at times.

6.2 Zone of Influence

The zone of influence of the SVE system remains adequate. A differential pressure of 0.035 *iwc* was recorded in MW-7 located off-site. This is consistent with past measurements. SV-4 also located off-site was further cleaned by air surging as a follow-up to refurbishing in August 2020. A reading of 0.022 *iwc* was obtained from SV-4 after cleaning, a result of SVE system operation. The off-site readings are consistent with on-site readings showing the extension of suction (negative) pressures outward from the SVE underground perforated piping.

7 OVERALL CONCLUSIONS AND RECOMMENDATIONS

7.1 SMP Compliance

With the implementation of the corrective measures, all components of the IC/EC and Monitoring Plans are in substantial compliance with the SMP.

7.2 Performance and Effectiveness of the Remedy

The remedy is performing as designed, effective in achieving the remediation goals, and protective of the public health and environment. Repairs and improvements in the automatic warning of system interruptions were required and implemented.

7.3 Recommendations, Proposals and Future Submittals

The following recommendation have been or are being implemented:

- Better responsiveness to the remote warning system. This will be accomplished through the installation of a new telemetry system that will notify the site owner as well as a designated site/project manager at ASR/Laurel, who will be responsible for confirming the site owner has checked and re-started the soil vapor extraction system. If the system cannot be re-started then the ASR/Laurel assigned project manager will make the appropriate arrangement to have a qualified person perform the necessary repairs.
- Managerial changes to replace ASR. In October of 2022, ASR merged with Laurel Environmental Geosciences D.P.C., as a result of this merger ASR/Laurel has been able to assign a dedicated project manager to oversee the operation of the remedial system at the site. The project manager is in the process of evaluating the current AS/SVE system with the site owner and engineer to determine if the system is still appropriate to meet the current and future development requirements for the site. A new telemetry system is being evaluated to ensure that the operation of the system can be monitored and re-started in a timely manner to minimize down time.

APPENDIX A

FIGURES

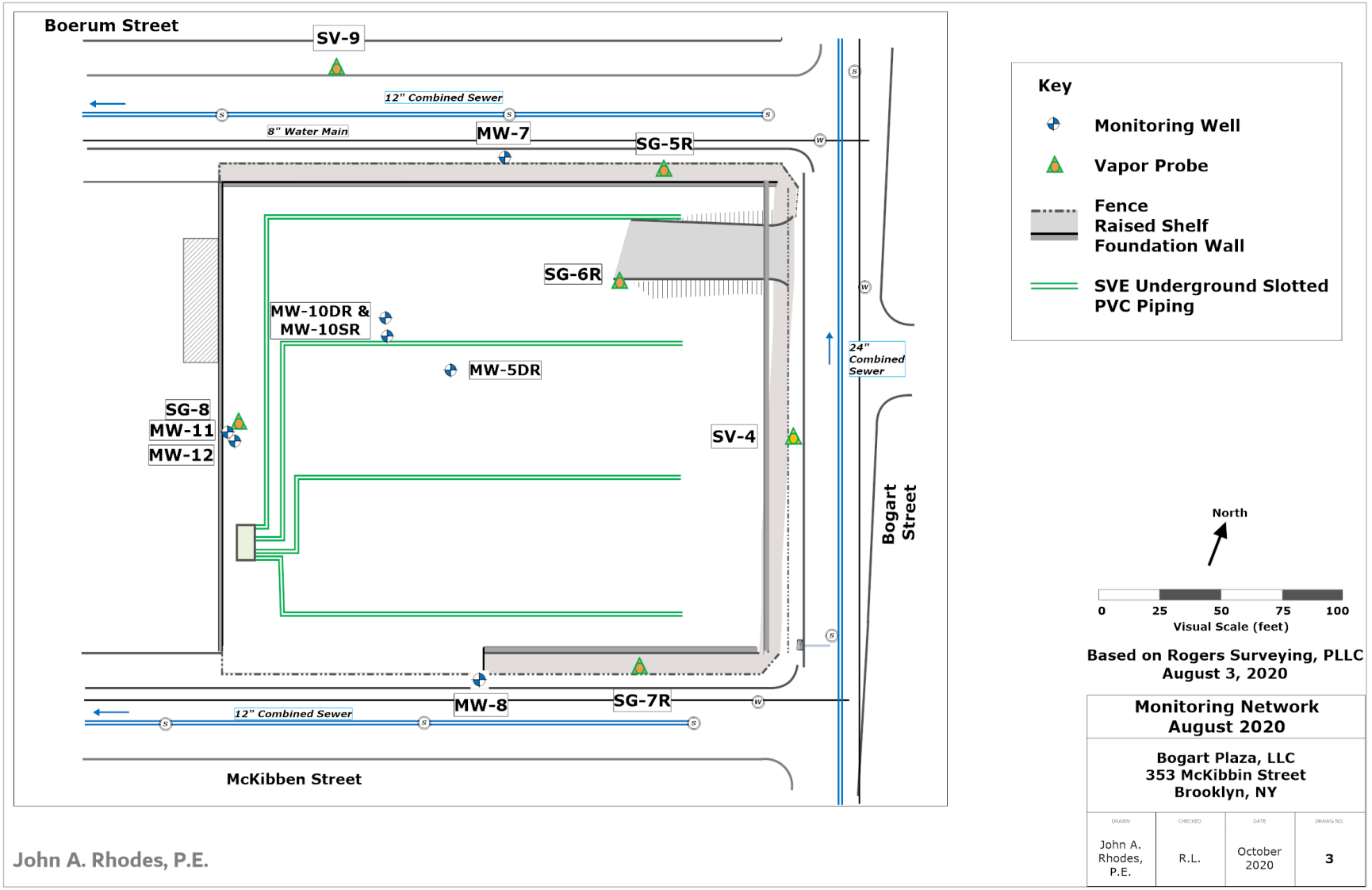
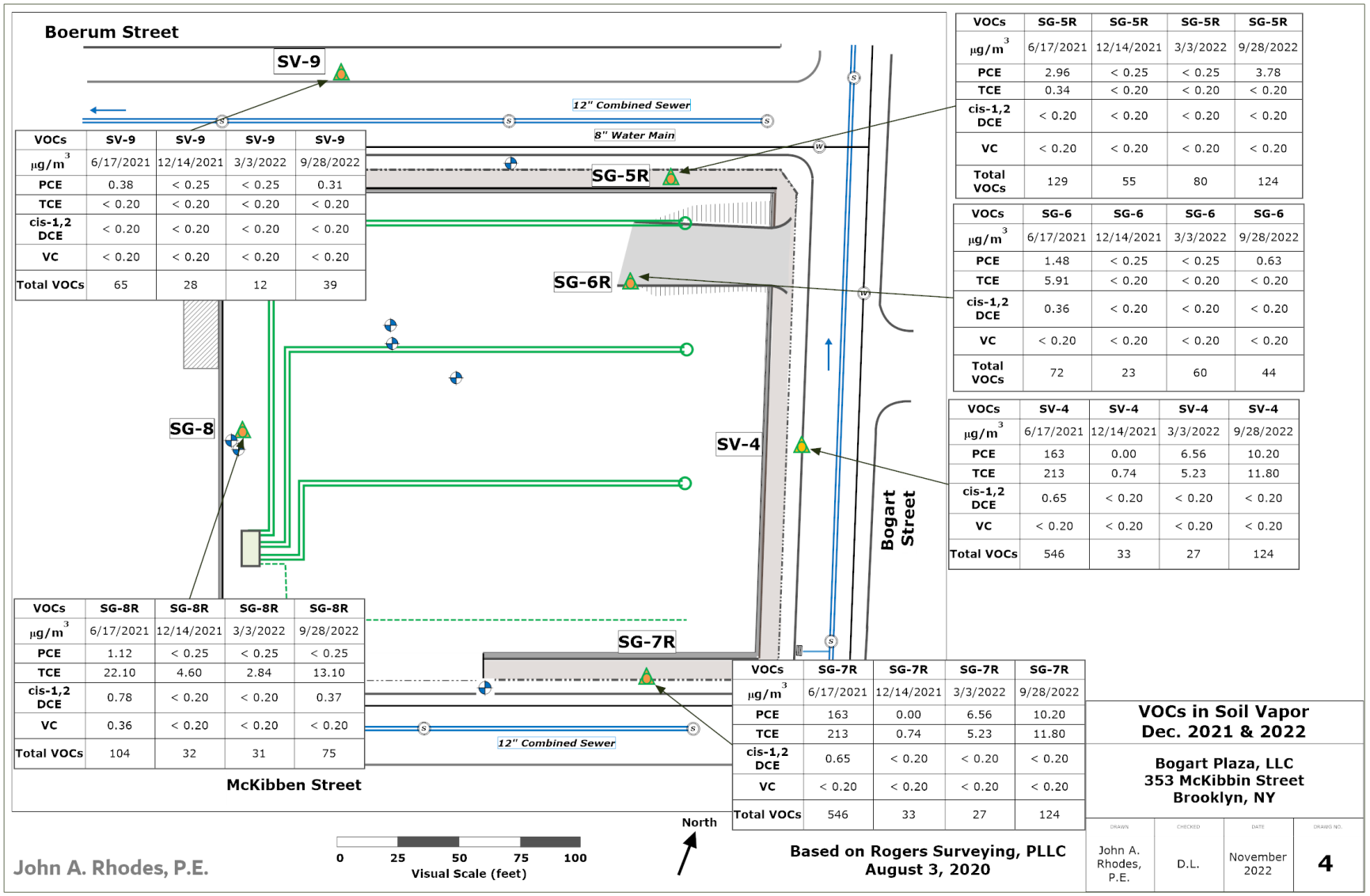


Figure 3 Site Plan & Monitoring Network



VOCs	SV-9	SV-9	SV-9	SV-9
µg/m³	6/17/2021	12/14/2021	3/3/2022	9/28/2022
PCE	0.38	< 0.25	< 0.25	0.31
TCE	< 0.20	< 0.20	< 0.20	< 0.20
cis-1,2 DCE	< 0.20	< 0.20	< 0.20	< 0.20
VC	< 0.20	< 0.20	< 0.20	< 0.20
Total VOCs	65	28	12	39

VOCs	SG-5R	SG-5R	SG-5R	SG-5R
µg/m³	6/17/2021	12/14/2021	3/3/2022	9/28/2022
PCE	2.96	< 0.25	< 0.25	3.78
TCE	0.34	< 0.20	< 0.20	< 0.20
cis-1,2 DCE	< 0.20	< 0.20	< 0.20	< 0.20
VC	< 0.20	< 0.20	< 0.20	< 0.20
Total VOCs	129	55	80	124

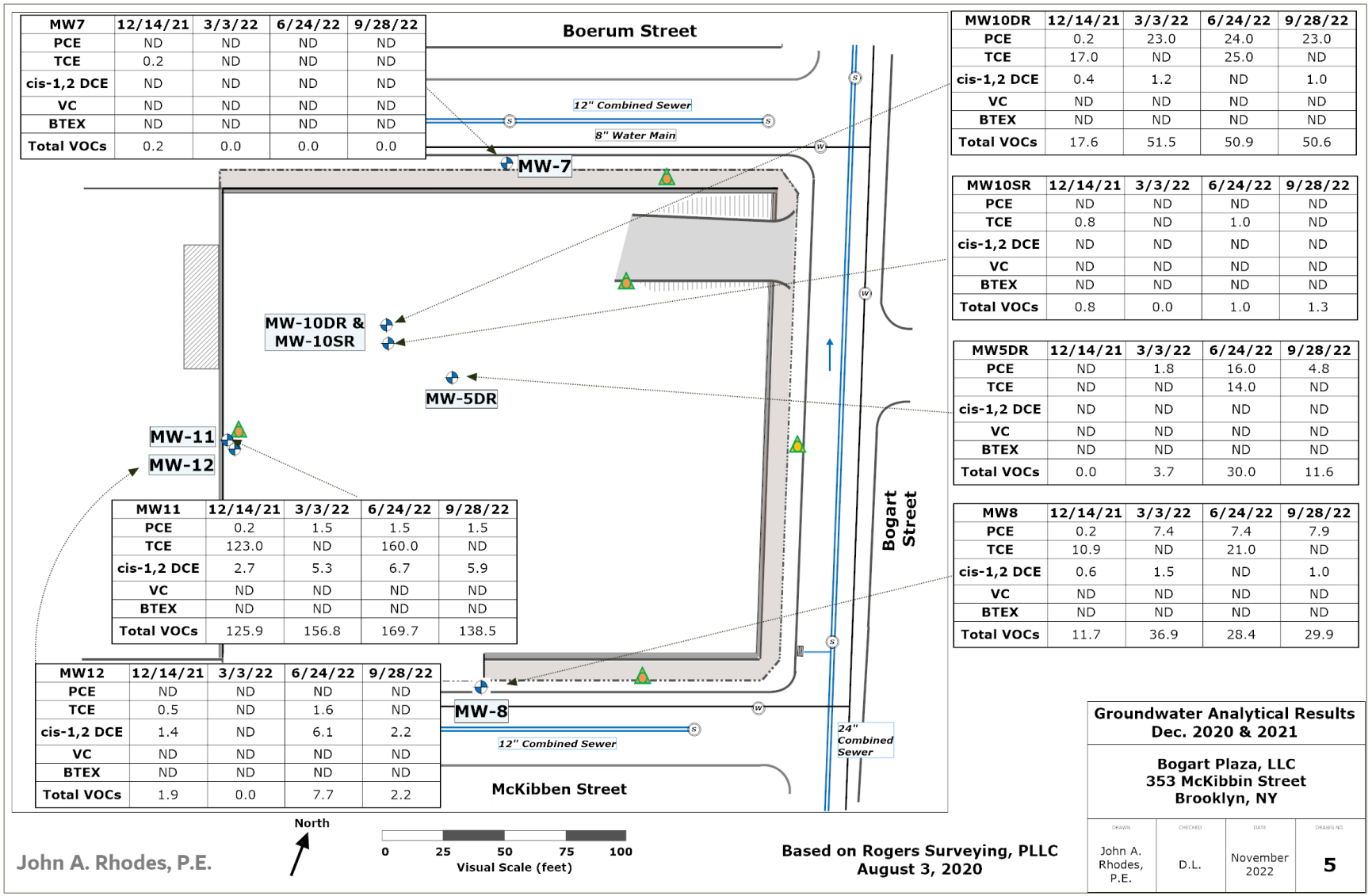
VOCs	SG-6	SG-6	SG-6	SG-6
µg/m³	6/17/2021	12/14/2021	3/3/2022	9/28/2022
PCE	1.48	< 0.25	< 0.25	0.63
TCE	5.91	< 0.20	< 0.20	< 0.20
cis-1,2 DCE	0.36	< 0.20	< 0.20	< 0.20
VC	< 0.20	< 0.20	< 0.20	< 0.20
Total VOCs	72	23	60	44

VOCs	SV-4	SV-4	SV-4	SV-4
µg/m³	6/17/2021	12/14/2021	3/3/2022	9/28/2022
PCE	163	0.00	6.56	10.20
TCE	213	0.74	5.23	11.80
cis-1,2 DCE	0.65	< 0.20	< 0.20	< 0.20
VC	< 0.20	< 0.20	< 0.20	< 0.20
Total VOCs	546	33	27	124

VOCs	SG-8R	SG-8R	SG-8R	SG-8R
µg/m³	6/17/2021	12/14/2021	3/3/2022	9/28/2022
PCE	1.12	< 0.25	< 0.25	< 0.25
TCE	22.10	4.60	2.84	13.10
cis-1,2 DCE	0.78	< 0.20	< 0.20	0.37
VC	0.36	< 0.20	< 0.20	< 0.20
Total VOCs	104	32	31	75

VOCs	SG-7R	SG-7R	SG-7R	SG-7R
µg/m³	6/17/2021	12/14/2021	3/3/2022	9/28/2022
PCE	163	0.00	6.56	10.20
TCE	213	0.74	5.23	11.80
cis-1,2 DCE	0.65	< 0.20	< 0.20	< 0.20
VC	< 0.20	< 0.20	< 0.20	< 0.20
Total VOCs	546	33	27	124

Figure 4 Soil Vapor Analytical Results August 2021 & 2022



MW7	12/14/21	3/3/22	6/24/22	9/28/22
PCE	ND	ND	ND	ND
TCE	0.2	ND	ND	ND
cis-1,2 DCE	ND	ND	ND	ND
VC	ND	ND	ND	ND
BTEX	ND	ND	ND	ND
Total VOCs	0.2	0.0	0.0	0.0

MW10DR	12/14/21	3/3/22	6/24/22	9/28/22
PCE	0.2	23.0	24.0	23.0
TCE	17.0	ND	25.0	ND
cis-1,2 DCE	0.4	1.2	ND	1.0
VC	ND	ND	ND	ND
BTEX	ND	ND	ND	ND
Total VOCs	17.6	51.5	50.9	50.6

MW10SR	12/14/21	3/3/22	6/24/22	9/28/22
PCE	ND	ND	ND	ND
TCE	0.8	ND	1.0	ND
cis-1,2 DCE	ND	ND	ND	ND
VC	ND	ND	ND	ND
BTEX	ND	ND	ND	ND
Total VOCs	0.8	0.0	1.0	1.3

MW5DR	12/14/21	3/3/22	6/24/22	9/28/22
PCE	ND	1.8	16.0	4.8
TCE	ND	ND	14.0	ND
cis-1,2 DCE	ND	ND	ND	ND
VC	ND	ND	ND	ND
BTEX	ND	ND	ND	ND
Total VOCs	0.0	3.7	30.0	11.6

MW11	12/14/21	3/3/22	6/24/22	9/28/22
PCE	0.2	1.5	1.5	1.5
TCE	123.0	ND	160.0	ND
cis-1,2 DCE	2.7	5.3	6.7	5.9
VC	ND	ND	ND	ND
BTEX	ND	ND	ND	ND
Total VOCs	125.9	156.8	169.7	138.5

MW8	12/14/21	3/3/22	6/24/22	9/28/22
PCE	0.2	7.4	7.4	7.9
TCE	10.9	ND	21.0	ND
cis-1,2 DCE	0.6	1.5	ND	1.0
VC	ND	ND	ND	ND
BTEX	ND	ND	ND	ND
Total VOCs	11.7	36.9	28.4	29.9

MW12	12/14/21	3/3/22	6/24/22	9/28/22
PCE	ND	ND	ND	ND
TCE	0.5	ND	1.6	ND
cis-1,2 DCE	1.4	ND	6.1	2.2
VC	ND	ND	ND	ND
BTEX	ND	ND	ND	ND
Total VOCs	1.9	0.0	7.7	2.2

Figure 5 Groundwater Analytical Results 2021 & 2022

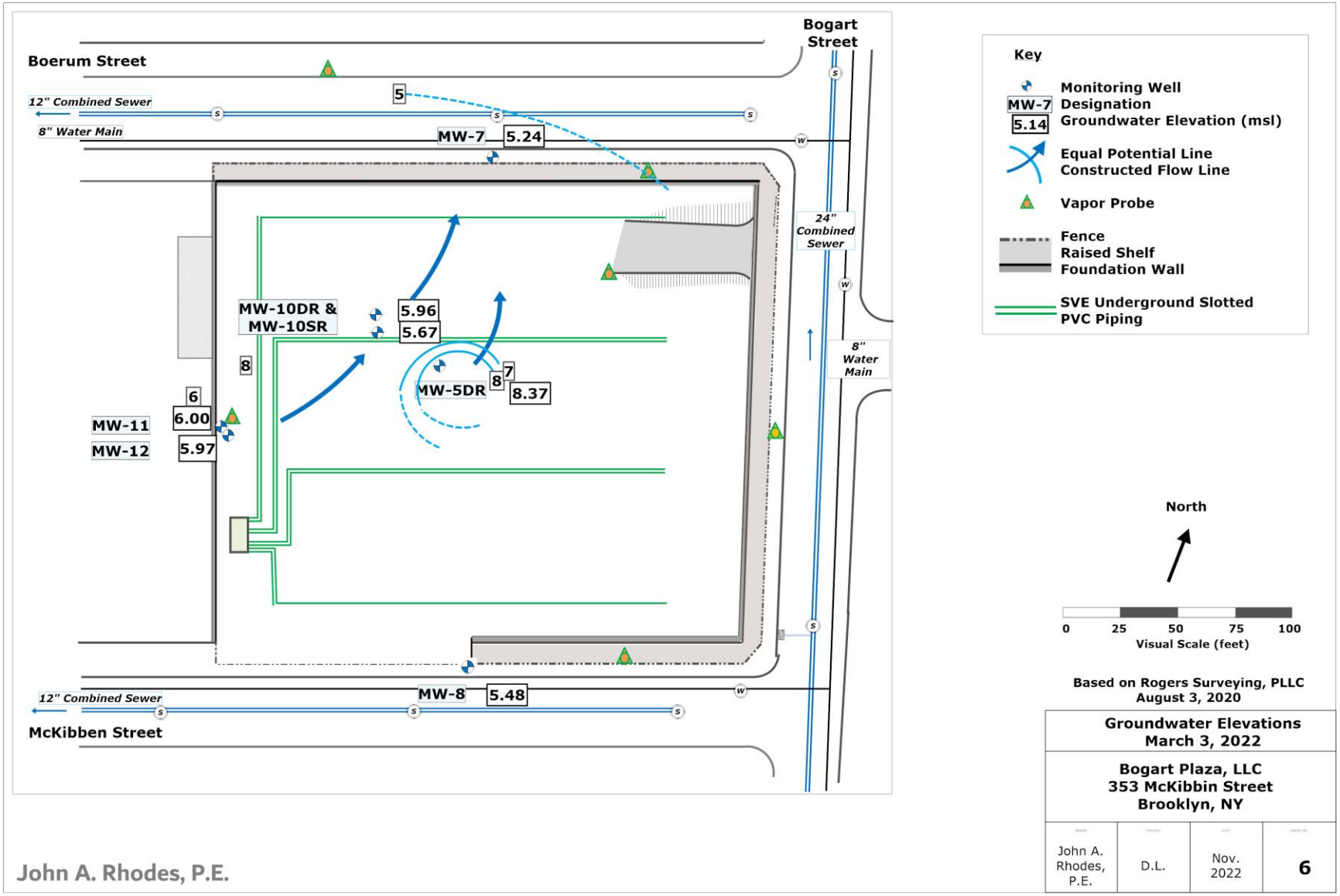


Figure 6 Groundwater Contours March 3, 2022

APPENDIX B

Data Tabulations

Table 1 Groundwater Gauging 2021/2022

Well	No.		Date	Reference Elevation (ft MSL)	Depth to GW (ft)	GW Elevation (ft MSL)	Field Technician's Notes
MW	12		9/28/2022	16.87	11.30	5.57	
MW	11		9/28/2022	17.21	11.44	5.77	
MW	10	DR	9/28/2022	14.61	8.90	5.71	
MW	10	SR	9/28/2022	14.47	8.72	5.75	
MW	8		9/28/2022	17.33	12.10	5.23	
MW	7		9/28/2022	17.05	11.98	5.07	
MW	5	DR	9/28/2022	18.42	10.26	8.16	
MW	12		6/24/2022	16.87	10.85	6.02	
MW	11		6/24/2022	17.21	11.13	6.08	
MW	10	DR	6/24/2022	14.61	8.6	6.01	
MW	10	SR	6/24/2022	14.47	8.71	5.76	
MW	8		6/24/2022	17.33	11.8	5.53	
MW	7		6/24/2022	17.05	11.7	5.35	
MW	5	DR	6/24/2022	18.42	9.99	8.43	
MW	12		3/3/2022	16.87	10.9	5.97	
MW	11		3/3/2022	17.21	11.21	6.00	
MW	10	DR	3/3/2022	14.61	8.65	5.96	
MW	10	SR	3/3/2022	14.47	8.8	5.67	
MW	8		3/3/2022	17.33	11.85	5.48	
MW	7		3/3/2022	17.05	11.81	5.24	
MW	5	DR	3/3/2022	18.42	10.05	8.37	

Table 2 PCE, TCE, cis-1,2 DCE, VC & Total VOCs in Soil Vapor Samples (µg/m³)

Probe	Date	PCE	TCE	cis-1,2 DCE	VC	Total VOCs
SV4	12/14/2021	0.00	0.74	< 0.20	< 0.20	33
SG5R	12/14/2021	< 0.25	< 0.20	< 0.20	< 0.20	55
SG6R	12/14/2021	< 0.25	< 0.20	< 0.20	< 0.20	23
SG7R	12/14/2021	2.30	3.90	< 0.20	< 0.20	55
SG8R	12/14/2021	< 0.25	4.60	< 0.20	< 0.20	32
SV9	12/14/2021	< 0.25	< 0.20	< 0.20	< 0.20	28
SV4	3/3/2022	6.56	5.23	< 0.20	< 0.20	27
SG5R	3/3/2022	< 0.25	< 0.20	< 0.20	< 0.20	80
SG6R	3/3/2022	< 0.25	< 0.20	< 0.20	< 0.20	60
SG7R	3/3/2022	1.13	1.79	< 0.20	< 0.20	46
SG8R	3/3/2022	< 0.25	2.84	< 0.20	< 0.20	31
SV9	3/3/2022	< 0.25	< 0.20	< 0.20	< 0.20	12
SV4	6/17/2021	163	213	0.65	< 0.20	546
SG5	6/17/2021	2.96	0.34	< 0.20	< 0.20	129
SG6	6/17/2021	1.48	5.91	0.36	< 0.20	72
SG7	6/17/2021	5.10	6.55	< 0.20	0.34	228
SG8	6/17/2021	1.12	22.10	0.78	0.36	104
SV9	6/17/2021	0.38	< 0.20	< 0.20	< 0.20	65
SG7R	9/28/2022	2.76	11.90	< 0.20	< 0.20	167
SV4	9/28/2022	10.20	11.80	< 0.20	< 0.20	124
SG8R	9/28/2022	< 0.25	13.10	0.37	< 0.20	75
SV9	9/28/2022	0.31	< 0.20	< 0.20	< 0.20	39
SG5R	9/28/2022	3.78	< 0.20	< 0.20	< 0.20	124
SG6R	9/28/2022	0.63	< 0.20	< 0.20	< 0.20	44

Table 3 Groundwater Concentrations of Key Compounds (µg/l)

Well No.	Designation	Date	PCE	TCE	cis-1,2 DCE	VC	BTEX	Total VOCs
5	**DR**	12/14/2021	*ND*	*ND*	*ND*	*ND*	*ND*	*0.0*
7		12/14/2021	*ND*	*0.2*	*ND*	*ND*	*ND*	*0.2*
8		12/14/2021	*0.2*	*10.9*	*0.6*	*ND*	*ND*	*11.7*
10	**DR**	12/14/2021	*0.2*	*17.0*	*0.4*	*ND*	*ND*	*17.6*
10	**SR**	12/14/2021	*ND*	*0.8*	*ND*	*ND*	*ND*	*0.8*
11		12/14/2021	*0.2*	*123.0*	*2.7*	*ND*	*ND*	*125.9*
12		12/14/2021	*ND*	*0.5*	*1.4*	*ND*	*ND*	*1.9*
5	**DR**	3/3/2022	*1.8*	*ND*	*ND*	*ND*	*ND*	*3.7*
7		3/3/2022	*ND*	*ND*	*ND*	*ND*	*ND*	*0.0*
8		3/3/2022	*7.4*	*ND*	*1.5*	*ND*	*ND*	*36.9*
10	**DR**	3/3/2022	*23.0*	*ND*	*1.2*	*ND*	*ND*	*51.5*
10	**SR**	3/3/2022	*ND*	*ND*	*ND*	*ND*	*ND*	*0.0*
11		3/3/2022	*1.5*	*ND*	*5.3*	*ND*	*ND*	*156.8*
12		3/3/2022	*ND*	*ND*	*ND*	*ND*	*ND*	*0.0*
5	**DR**	6/24/2022	16.0	14.0	ND	ND	ND	30.0
7		6/24/2022	ND	ND	ND	ND	ND	0.0
8		6/24/2022	7.4	21.0	ND	ND	ND	28.4
10	**DR**	6/24/2022	24.0	25.0	ND	ND	ND	50.9
10	**SR**	6/24/2022	ND	1.0	ND	ND	ND	1.0
11		6/24/2022	1.5	160.0	6.7	ND	ND	169.7
12		6/24/2022	ND	1.6	6.1	ND	ND	7.7
5	**DR**	9/28/2022	4.8	ND	ND	ND	ND	11.6
7		9/28/2022	ND	ND	ND	ND	ND	0.0
8		9/28/2022	7.9	ND	1.0	ND	ND	29.9
10	**DR**	9/28/2022	23.0	ND	1.0	ND	ND	50.6
10	**SR**	9/28/2022	ND	ND	ND	ND	ND	1.3
11		9/28/2022	1.5	ND	5.9	ND	ND	138.5
12		9/28/2022	ND	ND	2.2	ND	ND	2.2

Appendix C

Inspection Reports and AS/SVE Operations Log

Date:	11/15/2021	Technician:	Rhodes	Recent Weather:		Cloudy 40	
SVE System Line Readings	**Static Pressure on Gauge (iwc)**	**Differential Pressure from Pitot Tube (iwc)**	**Adjusted Line Flow (scfm)**	**Valve Position (% Open)**	**Air Sparge System Line Readings**	**Valve Position (% Open)**	**Flow (scfm)**
SVE Line 1A	24	0.1	32.6	50%	**AS Line 1**		
SVE Line 1B	0	0.6	82.9	50%	**AS Line 2**		
SVE Line 2A	22	0.05	23.1	50%	**AS Line 3**		
SVE Line 2B	20	0.1	32.8	50%	**AS Line 4**		
SVE Line 3A	18	0.6	80.7	50%	**AS Line 5**		
SVE Line 3B	18	0.3	57.1	50%	**AS Line 6**		
SVE Line 4A	0.0	0.0		Closed	**AS Line 7**		
SVE Line 4B	0.0	0.0		Closed	**AS Line 8**		
Discharge Line	36.0	2.0	**309.3**		**AS Total Flow**		
Blower 1 ON/OFF:	ON	**Line A/B Valve:**		Both	**Operating Hours AS:**		
Blower 2 ON/OFF:	ON	**Operating Hours SVE-1:**		3913.2	**Operating Hours SVE-2:**		3913.8
		Period Up-Time		59%			59%
Notes:	**System off on arrival, Low Vac tripped; Readings before broken Pipe closure; 1B broken and open to atmosphere =>tripping Low Vac**						

Date:	11/15/2021	Technician:	Rhodes	Recent Weather:		Cloudy 40	
SVE System Line Readings	**Static Pressure on Gauge (iwc)**	**Differential Pressure from Pitot Tube (iwc)**	**Adjusted Line Flow (scfm)**	**Valve Position (% Open)**	**Air Sparge System Line Readings**	**Valve Position (% Open)**	**Flow (scfm)**
SVE Line 1A	30	0.15	40.6	50%	**AS Line 1**		
SVE Line 1B		0	0.0	90%	**AS Line 2**		
SVE Line 2A	30	0.15	40.6	50%	**AS Line 3**		
SVE Line 2B	32	0.15	40.5	50%	**AS Line 4**		
SVE Line 3A	20	0.8	95.3	50%	**AS Line 5**		
SVE Line 3B	24	0.7	88.6	50%	**AS Line 6**		
SVE Line 4A	0.0	0.0		Closed	**AS Line 7**		
SVE Line 4B	0.0	0.0		Closed	**AS Line 8**		
Discharge Line	44.0	1.9	**305.7**		**AS Total Flow**		
Blower 1 ON/OFF:	ON	**Line A/B Valve:**		Both	**Operating Hours AS:**		
Blower 2 ON/OFF:	ON	**Operating Hours SVE-1:**		3913.2	**Operating Hours SVE-2:**		3913.8
Notes:	**After broken Pipe 1B closed at break; (valve is frozen); readings made after SV-4 cleaned out**						

Date:	3/3/2022	Technician:	Murano	Recent Weather:		Cloudy 40	
SVE System Line Readings	**Static Pressure on Gauge (iwc)**	**Differential Pressure from Pitot Tube (iwc)**	**Adjusted Line Flow (scfm)**	**Valve Position (% Open)**	**Air Sparge System Line Readings**	**Valve Position (% Open)**	**Flow (scfm)**
SVE Line 1A	10	0.5	89.3	50%	**AS Line 1**		
SVE Line 1B	1		0.0	90%	**AS Line 2**		
SVE Line 2A	10	0.02	17.9	50%	**AS Line 3**		
SVE Line 2B	12	0.05	28.2	50%	**AS Line 4**		
SVE Line 3A	10	0.05	28.2	50%	**AS Line 5**		
SVE Line 3B	12	0.05	28.2	50%	**AS Line 6**		
SVE Line 4A	0.0	0.0		Closed	**AS Line 7**		
SVE Line 4B	0.0	0.0		Closed	**AS Line 8**		
Discharge Line					**AS Total Flow**		
Blower 1 ON/OFF:	ON	**Line A/B Valve:**		Both	**Operating Hours AS:**		
Blower 2 ON/OFF:	ON	**Operating Hours SVE-1:**		5370.1	**Operating Hours SVE-2:**		5370.7
		Period Up-Time		56%			56%
Notes:	**Error measuring overall flow**						

Date:	6/24/2022	Technician:	Murano	Recent Weather:		Cloudy 40	
SVE System Line Readings	**Static Pressure on Gauge (iwc)**	**Differential Pressure from Pitot Tube (iwc)**	**Adjusted Line Flow (scfm)**	**Valve Position (% Open)**	**Air Sparge System Line Readings**	**Valve Position (% Open)**	**Flow (scfm)**
SVE Line 1A	30	0.5	86.6	50%	**AS Line 1**		
SVE Line 1B	25	0.5	87.3	90%	**AS Line 2**		
SVE Line 2A	30	0.6	94.9	50%	**AS Line 3**		
SVE Line 2B	30	0.4	77.4	50%	**AS Line 4**		
SVE Line 3A	20	1	124.4	50%	**AS Line 5**		
SVE Line 3B	21	1.1	130.3	50%	**AS Line 6**		
SVE Line 4A	0.0	0.0		Closed	**AS Line 7**		
SVE Line 4B	0.0	0.0		Closed	**AS Line 8**		
Discharge Line					**AS Total Flow**		
Blower 1 ON/OFF:	ON	**Line A/B Valve:**		Both	**Operating Hours AS:**		
Blower 2 ON/OFF:	ON	**Operating Hours SVE-1:**		5760.0	**Operating Hours SVE-2:**		5761.0
		Period Up-Time		14%			14%
Notes:	**Error measuring overall flow, effort made to improve response to system off alerts**						

Date:	**9/28/2022**	**Technician:**	**Murano/ Rhodes**	**Recent Weather:**		**Sunny 75° F**	
SVE System Line Readings	**Static Pressure on Gauge (iwc)**	**Differential Pressure from Pitot Tube (iwc)**	**Adjusted Line Flow (scfm)**	**Valve Position (% Open)**	**Air Sparge System Line Readings**	**Valve Position (% Open)**	**Flow (scfm)**
SVE Line 1A	20	0.4	34.7	50%	**AS Line 1**		
SVE Line 1B	17	0.2	24.7	25%	**AS Line 2**		
SVE Line 2A	19	0.3	30.1	50%	**AS Line 3**		
SVE Line 2B	17	0.8	49.3	75%	**AS Line 4**		
SVE Line 3A	17	0.9	52.3	75%	**AS Line 5**		
SVE Line 3B	17	0.5	39.0	75%	**AS Line 6**		
SVE Line 4A	0.0	Closed		Closed	**AS Line 7**		
SVE Line 4B	0.0	Closed		Closed	**AS Line 8**		
Discharge Line	38.0	1.1	**230.2**		**AS Total Flow**		
Blower 1 ON/OFF:	ON	**Line A/B Valve:**		Both	**Operating Hours AS:**		
Blower 2 ON/OFF:	ON	**Operating Hours SVE-1:**		7405.9	**Operating Hours SVE-2:**		7406.6
		Period Up-Time		71%			71%
Notes:							

Annual Site Inspection
353 McKibbin Street
Brooklyn, New York

Date: **9/28/2022** **Weather:** **50 degrees and Clear**

Inspector(s): **John Rhodes** **Signature(s):** 

Site Perimeter:

Fence **Good**
Leaks: **None**
Sidewalk **Bogart is in fair condition, McKibbin is in fair condition with trash piles, and Boerum is improved after heavy construction across the street. MW-8 is in good condition. MW-7 needs a cover replacement and to be cleaned of debris. Doors in fence to reach vapor probes are functional.**

Monitoring **Monitoring wells now accessible and protected.**
Ponding: **Ponding water was evident (see photos).**
Air Sparging **Air Sparging was off**
SVE System **SVE System was on and functioning properly. Measurements of system operations were made. New technician was trained to make measurements.**
Cover System **Cover remains at original placed thickness and has not been penetrated. However, site is depressed so rainwater and snow melt infiltrate through the cover. Standing water was observed.**
Equip. **Shed is in good condition.**
Ramps **Ramp is in good condition.**
Equipment
Blower No. 1 7405.9
Blower No. 2 7406.6
Compressor **off**

See Operations log for details

Appendix D
Site Photographs

SVE System functioning

SVE Lines 1 through 3 open

Monitoring Wells 7 and 8

Vapor Probe SG-8

MW-10D and MW-5S

MW-5S

VP-6

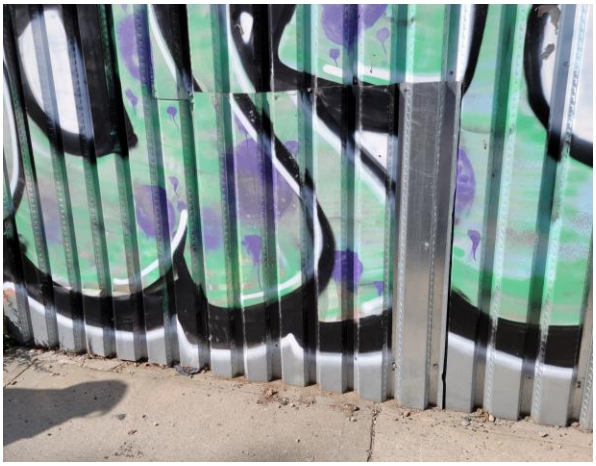
SG-5R behind vapor probe gate

MW-7 needing cover replacement and cleaning

SG-9

MW-8

SV-7 behind vapor probe gate in fence



SG-4

Standing water in yard

Appendix E

IC/EC Certification