



February 15, 2017

Mr. Daniel R. Lanners, P.E.  
Project Manager  
New York State Department of Environmental Conservation  
Division of Environmental Remediation  
625 Broadway, 11<sup>th</sup> Floor  
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Subject: Former M. Argueso and Company, Inc.  
441 & 442 Waverly Avenue, Mamaroneck, NY  
Site #C360108  
Periodic Review Report  
STERLING File #28012

Dear Mr. Lanners,

Sterling Environmental Engineering, P.C. provides the attached Periodic Review Report for the above referenced site. This report covers the period January 14, 2016 to January 14, 2017. A hard copy of the certification forms will follow.

Please contact me should you have any questions.

Very truly yours,

STERLING ENVIRONMENTAL ENGINEERING, P.C.

Mark P. Millspaugh, P.E.  
President

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MPM/bc  
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Attachments

cc: T.J. Milo, New Waverly Avenue Associates, LLC (Email Only)  
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**PERIODIC REVIEW REPORT  
(January 14, 2016 – January 14, 2017)  
FORMER M. ARGUESO AND CO., INC. SITE**

**TOWN OF MAMARONECK  
WESTCHESTER CO., NEW YORK  
SITE #C360108**

***Prepared for:***

New Waverly Avenue Associates, LLC  
566 Westchester Avenue  
Rye Brook, New York 10573

***Prepared by:***

Sterling Environmental Engineering, P.C.  
24 Wade Road  
Latham, New York 12110

February 13, 2017

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**PERIODIC REVIEW REPORT**  
**(January 14, 2016 – January 14, 2017)**

**FORMER M. ARGUESO AND CO., INC. SITE**

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Appendix B: Site-Wide Inspection and Asphalt and Soil Cover System Inspection Forms and Photographs

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## CERTIFICATION

I, Mark P. Millspaugh, P.E., certify that I am a New York State registered professional engineer and that this Periodic Review Report (PRR) was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the Division of Environmental Remediation (DER) Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities will be performed in accordance with the DER-approved work plan and any DER-approved modifications.



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Mark P. Millspaugh, P.E.

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2/13/17

Date



## **1.0 INTRODUCTION**

Sterling Environmental Engineering, P.C. (STERLING) prepared this Periodic Review Report (PRR) on behalf of New Waverly Avenue Associates, LLC for the Brownfield Cleanup Program (BCP) Site No. C360108 ("the Site"). The subject of this PRR is the Former M. Argueso and Co., Inc. (Argueso) Site located at 441, 442, 501 and 513 Waverly Avenue, Town and Village of Mamaroneck, Westchester County, New York. The location of the Site is shown on Figure 1. The Site has been investigated and remediated under the New York State Department of Environmental Conservation's (NYSDEC's) BCP.

This PRR covers the period January 14, 2016 to January 14, 2017.

A Site Management Plan (SMP), dated October 2013, is in place for ongoing remedial activities. This PRR presents the results of monitoring activities outlined in the SMP.

### **1.1 Summary of Site Contamination and Remedial History**

The Site was previously used in the wax manufacturing process. Volatile Organic Compounds (VOCs) and Semi-Volatile Organic Compounds (SVOCs) have been detected in the soil and groundwater at the site, and in offsite monitoring wells.

An Interim Remedial Measure (IRM) was conducted in 2009 and 2010 to remove several underground storage tanks (USTs), wastewater tanks and associated piping, and contaminated soil.

The Site was remediated in accordance with the NYSDEC-approved Remedial Action and Interim Remedial Measure Work Plan dated July 29, 2009 and the Remedial Action Work Plan (RAWP) dated October 9, 2012.

Remedial activities were completed at the Site in August and September 2009, October 2010 and June 2013 as detailed in Section 2.2.

### **1.2 Effectiveness of the Remedial Program and Compliance**

The remedial activities completed at the Site have been effective, based on the results of groundwater monitoring.

No areas of non-compliance with the SMP have been identified.

### **1.3 Recommendations**

The NYSDEC approved a reduction in the frequency of groundwater monitoring to biannually by letter dated April 29, 2015.

As described in Section 5.3, VOC levels in monitoring well B6-OWD have consistently been reported at levels below standards. Similarly, well OSMW-4 has shown VOC levels below or near standards. Therefore, STERLING recommends sampling of these two wells be discontinued.

No additional changes to the primary elements of the SMP or to the frequency for submitting this PRR are recommended at this time. Monitoring will continue according to the requirements of the SMP and the modifications approved by the NYSDEC April 29, 2015 letter.

The requirements for discontinuing site management have not been met.

## **2.0 SITE OVERVIEW**

### **2.1 Site Description**

The Site is comprised of two (2) separate properties located in the Village and Town of Mamaroneck, Westchester County, New York. 441 Waverly Avenue includes the parcels of 441, 501 and 513 Waverly Avenue which are identified by the Town of Mamaroneck Tax Map 28-37 (Section/Block/Lot) as 8/25/278, 8/25/273 and 8/25/268.2, respectively. 442 Waverly Avenue is identified as 8/25/33. The Site is an approximate 1.04-acre area bounded by commercial and residential properties to the north, Railroad Way to the south and commercial and residential properties to the east and west (see Figure 1).

441 Waverly Avenue was originally a residential property until 1934, when a store was constructed. Argueso purchased the property in the 1960s and constructed the existing two (2) story office building and former storage/parking garage.

442 Waverly Avenue was a lumber planing mill in 1912. Subsequent uses include Mamaroneck Sash, Trim and Door, followed by the Mamaroneck Chemical Company. The property was purchased by Argueso in the 1930s.

The Site features at 442 Waverly Avenue included a one (1) story manufacturing building (former Argueso facility) and multiple USTs. The building has been demolished and all known USTs have been removed.

A Remedial Investigation (RI) was performed in 2009-2012 to characterize the nature and extent of contamination at the Site. The results of the RI are described in detail in the following report:

- Interim Remedial Measures/Remedial Investigation (IRM/RI) Report prepared by STERLING dated September 7, 2012.

Below is a summary of Site conditions prior to remediation.

#### Soil

Several soil samples reported parameter concentrations that exceed Part 375-6.8(a) Unrestricted Soil Cleanup Objectives (SCOs) for VOCs.

#### Site-Related Groundwater

Groundwater samples collected from groundwater monitoring wells onsite and offsite contained several VOCs; specifically, Tetrachloroethylene (PCE) and Trichloroethylene (TCE) were detected above groundwater standards.

#### Site-Related Soil Vapor Intrusion

A Soil Vapor Intrusion Investigation (SVII) was conducted on March 28 and 29, 2013 for the existing two-story building located at 441 Waverly Avenue. The SVII was performed in accordance with the Soil Vapor Intrusion Investigation Work Plan, submitted by STERLING for the Site on March 18, 2013, and approved by the NYSDEC on March 22, 2013.

The analytical data for samples collected at the Site detected organic vapors in the sub-slab vapor, the indoor and the outdoor air.

## **2.2 Remedial History**

The Site was remediated in accordance with the NYSDEC-approved Remedial Action and Interim Remedial Measure Work Plan dated July 29, 2009 and the Remedial Action Work Plan (RAWP) dated October 9, 2012.

The following is a summary of the Remedial Actions performed at the Site:

1. Excavation of soil/fill exceeding 6 NYCRR Part 375 Commercial SCOs.
2. Construction and maintenance of an asphalt pavement and soil cover system to prevent human exposure to contaminated soil/fill remaining at the Site.
3. Hydrogen Release Compound (HRC) injection into two (2) areas surrounding wells GZ-22D and GZ-23D for treatment of groundwater.
4. Execution and recording of an Environmental Easement to restrict land use and prevent future exposure to any contamination remaining at the Site.
5. Development and implementation of a SMP for long term management of remaining contamination as required by the Environmental Easement, which includes plans for: (1) Institutional and Engineering Controls (ICs/ECs), (2) monitoring, and (3) reporting.

Remedial activities were completed at the Site in August and September 2009, October 2010 and June 2013.

## **3.0 EVALUATION OF REMEDY PERFORMANCE, EFFECTIVENESS AND PROTECTIVENESS**

This section provides an evaluation of the extent to which the implemented remedy meets the remedial objective to minimize or eliminate exposure pathways or significant risks to the public or the environment under the conditions of the contemplated use of the Site (i.e. Restricted Commercial). The implemented remedy includes source removal, construction and maintenance of a soil cover system, in-situ remediation (HRC injection), and groundwater monitoring.

### **3.1 Performance**

The results of analysis of soil samples collected during the source removal action indicate that soil impacted with VOCs and petroleum was excavated and disposed, thereby removing a potential continuing source of groundwater contamination. Injection of hydrogen release compound (HRC) provided a means of continued, long-term degradation of residual VOCs in groundwater. The majority of the VOCs analyzed in groundwater samples meet the applicable groundwater Standards, Criteria and Guidance (SCGs), as described in Section 5.0.



### **3.2 Effectiveness**

The selected remedy (source removal, cover system, in-situ remediation (HRC injection), and groundwater monitoring) is an effective short-term remedial measure. The remedy immediately removed contaminated soil, oxidized remaining contaminants and eliminated the potential for human exposure. Groundwater sampling and analysis monitors the effectiveness of the remedy and impacts from residual contaminants. There are no known risks to workers, the community, or the environment from the selected remedy.

The soil removal action, cover system, injection of HRC, and groundwater monitoring are effective long-term remedial measures. The soil removal action permanently removed contaminants from the Site, and the asphalt and soil cover system eliminates the potential for exposure to remaining Site contaminants. HRC is designed to remain active and continue to degrade chlorinated compounds over a period of several years. The long-term effect of the HRC is to eliminate or reduce the concentration of VOCs in the groundwater. Groundwater monitoring is an accepted method of monitoring the long-term effectiveness of remediation.

### **3.3 Protectiveness**

The implemented remedy achieves the remedial action objective to protect human health and the environment. The impacted soil removed during the source removal action was transported offsite for disposal at a permitted disposal facility. This action of removing the impacted material from the Site effectively removed the source of contamination from the environment and eliminated human exposure.

Groundwater sampling and analysis is performed to monitor the concentration of residual compounds in groundwater at the Site. The results of the sampling and analysis indicate the area of contamination is localized to the Site, and the residual compounds in the groundwater are not a threat to offsite receptors.

The results further indicate the concentrations of VOCs in groundwater have been substantially reduced compared to historical levels. These conditions indicate it is unlikely that VOCs have migrated, or will migrate offsite. Human exposure is not an issue due to the absence of a pathway for human contact with, or use of, the impacted groundwater under the conditions of the contemplated Restricted Commercial Use of the Site.

## **4.0 IC/EC COMPLIANCE REPORT**

### **4.1 Institutional Controls**

The Institutional Control (IC) for the Site consists of an Environmental Easement (EE) that includes groundwater use restrictions, land use restrictions, a SMP, and certification reporting. The EE prohibits the use of the property for any means other than the contemplated Restricted Commercial Use of the Site. The EE also restricts groundwater use and requires that any impacted soil encountered during future intrusive activities be managed and disposed according to State regulations. Finally, the EE requires compliance with the SMP, including the periodic reporting covered by this report. The EE for the property that outlines the use restrictions was filed in Westchester County (Document No. 523243327).

The potential for vapor intrusion must be evaluated for any buildings developed on the Site property and prior to the leasing of 441 Waverly Avenue for human occupation (as compared to storage) and any

potential impacts that are identified must be monitored or mitigated.

## **4.2 Engineering Controls**

Exposure to remaining contamination in soil/fill at the Site is prevented by an asphalt and soil cover system placed over the Site, including the existing structure located at 441 Waverly Avenue. This cover system is comprised of a minimum asphalt layer of five (5) inches thick, underlain by a compacted sub-base eight to eighteen (8 to 18) inches thick and 12 inches of clean backfill soil. The Excavation Work Plan (EWP) provided in the SMP outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection and maintenance of this cover system are provided in the Monitoring Plan included in the SMP.

## **4.3 Corrective Measures**

The IC/EC described above are fully in place and effective. Therefore, no corrective measures are proposed at this time.

## **4.4 IC/EC Certification**

The NYSDEC Institutional and Engineering Controls (IC/EC) Certification Form is provided as Appendix A.

# **5.0 MONITORING PLAN COMPLIANCE REPORT**

## **5.1 Components of the Monitoring Plan**

The SMP contains details of the Site Monitoring Plan. Components of the monitoring plan are summarized below.

<b>Monitoring/Inspection Schedule</b>			
<b>Monitoring Program</b>	<b>Frequency*</b>	<b>Matrix</b>	<b>Analysis</b>
Soil and Asphalt Cover Inspection	Annual	Soil and Asphalt Cover System.	Inspection.
Groundwater Monitoring	Quarterly for the first year; Currently biannual	Groundwater	VOCs Method 8260C 6 NYCRR Part 375 Parameters.
Site-Wide Inspection	Annual	Monitoring Wells Condition. Stormwater Drainage Catch Basins Condition.	Inspection.

\* The frequency of events will be conducted as specified until otherwise approved by the NYSDEC and NYSDOH. NYSDEC by letter dated April 29, 2015 reduced the frequency of groundwater monitoring to biannual.

### 5.1.1 Soil and Asphalt Cover System Monitoring

The asphalt cover will be visually inspected for cracks wider than one-quarter (1/4) inch and potholes. Soil cover will be visually inspected for signs of erosion and areas of bare soil. Routine asphalt maintenance will be conducted by the property owner.

The condition of the building slab at the existing structure located at 441 Waverly Avenue will be visually inspected for cracks and penetrations.

### 5.1.2 Groundwater Monitoring

Groundwater monitoring was initially performed on a quarterly basis to assess the performance of the remedy. NYSDEC reduced the frequency of groundwater monitoring to biannual by letter dated April 29, 2015.

A network of existing monitoring wells allows monitoring of both upgradient and downgradient groundwater conditions at the Site.

Monitoring Wells		
Screened Portion of Overburden Aquifer	Monitoring Well ID	Placement Criteria
Deep	B6-OWD	Upgradient well on 441 Waverly Avenue.
Deep	GZ-21D	Downgradient well on 441 Waverly Avenue.
Deep	GZ-22D	In vicinity of oil/water separator tank and dry wells location at 441 Waverly Avenue.
Deep	OSMW-3	Offsite.
Deep	OSMW-4	Offsite.
Deep	GZ-23D	Well with the initial highest TCE concentration at 442 Waverly Avenue.

The wells listed above are sampled for Part 375 VOCs by Method 8260C.

The SMP will be modified as needed to reflect any changes in sampling plans approved by the NYSDEC.

### 5.1.3 Site-Wide Inspection

Site-wide inspections are performed on a regular schedule at a minimum of once a year.

## 5.2 Summary of Monitoring Data

### 5.2.1 Summary of Groundwater Monitoring

Groundwater monitoring data for 2016 and prior sampling events is summarized in Table 1. Four (4)

onsite and two (2) offsite monitoring wells were sampled via peristaltic pump and analyzed for Part 375 VOCs. The results are compared to Part 703.5 Groundwater Standards and NYSDEC TOGS 1.1.1 Water Quality Standards and Guidance Values. Figure 2 shows the monitoring well locations.

Initially, wells GZ-22D and GZ-23D contained the highest concentrations of PCE and TCE of the onsite wells and were therefore chosen for treatment.

Since the injections, levels of Tetrachloroethylene (PCE) and Trichloroethylene (TCE) have decreased in monitoring wells B6-OWD, GZ-21D, GZ-22D, GZ-23D, and OSMW-4. The graphs attached to Table 1 depict the decreasing levels of PCE and TCE in these wells for 2016.

### **5.2.2 Inspections**

In accordance with the SMP, a comprehensive annual site-wide inspection and asphalt and soil cover system inspection were conducted on October 12, 2016. The building slab at 441 Waverly Avenue was also inspected on that date. The Site-Wide Inspection Form and Asphalt and Soil Cover System Inspection Form are provided as Appendix B. Photographs taken during the inspection are provided in Appendix B. Photograph locations are presented on Figure 2.

The site-wide inspection determined all items to be in acceptable condition. The asphalt and soil cover was found to be in excellent condition. The concrete surface at 441 Waverly Avenue had minor cracks, but no potholes or penetrations were observed. The building slab at 441 Waverly Avenue was in good condition, with no major cracks or penetrations observed. Some floor tiles are missing; however, the floor slab is in acceptable condition. As such, no corrective actions or repairs are needed to the cover system at this time.

### **5.3 Comparison with Remedial Objectives**

The following discussion details the trends in each well. A separate groundwater monitoring report for the second biannual monitoring event was submitted to the NYSDEC on December 7, 2016, which details the results of the October 2016 monitoring event. The discussion below describes trends in each well over time.

#### **B6-OWD**

Initially, levels of several VOCs increased in this well after the injections. During the five (5) most recent events (since 2014), levels of all VOCs in this well have decreased to below standards.

#### **GZ-21D**

Initially, levels of several VOCs increased in this well. During the most recent event, levels of all VOCs in this well have decreased to below standards with the exception of 1,2-Dichloroethane and Vinyl Chloride. VOC levels in this well have been consistent over the past three (3) events.

#### **GZ-22D**

PCE and TCE levels in this well have decreased to below standards for the four most recent monitoring events. All other VOCs have decreased to levels below standards with the exception of 1,2-Dichloroethane, Benzene, Vinyl Chloride, and trans-1,2-Dichloroethene. These VOCs have remained

relatively level for the past three (3) events.

### **GZ-23D**

Both PCE and TCE concentrations decreased significantly through 2014. TCE concentrations have increased since the end of 2014 and PCE concentrations have fluctuated. Vinyl chloride, a daughter compound of PCE and TCE, increased following the injections and has decreased since 2014. Both cis-1,2-dichloroethene and trans-1,2-dichloroethene increased following the injections, and remain above standards.

### **OSMW-3 & OSMW-4**

Offsite wells OSMW-3 and OSMW-4 were installed in 2011 upgradient of the site wells to determine upgradient groundwater conditions. These well installations are upgradient of the treatment zone and may not reflect the same decreasing levels of VOCs observed at the site.

In OSMW-3, both PCE and TCE levels increased following the injections, however, both compounds have been decreasing for the four most recent events. The levels of PCE and TCE remain above standards. Cis-1,2-dichloroethene also increased, and has been decreasing in the five most recent events.

With respect to OSMW-4, all VOCs have decreased to below standards in 2016, with the exception of one exceedance of Benzene at 1.2 ug/l during the May 2016 event, slightly above the 1.0 ug/l standard.

## **5.4 Monitoring Deficiencies**

Monitoring activities fully complied with the approved monitoring plan.

## **5.5 Conclusions and Recommendations for Changes**

A review of the groundwater monitoring data since the injections indicates an overall decrease in the level of VOCs in all wells. Therefore, the remedy continues to achieve remedial goals at this Site. STERLING recommended groundwater monitoring continue at a reduced frequency of biannual sampling. This recommendation was approved by NYSDEC on April 29, 2015.

As VOC levels in monitoring wells B6-OWD and OSMW-4 have consistently been reported at levels below standards, STERLING recommends sampling of these two wells be discontinued.

## **6.0 OVERALL PRR CONCLUSIONS AND RECOMMENDATIONS**

### **6.1 Compliance with SMP**

All requirements of the SMP (IC/EC, monitoring) have been complied with for the reporting period.

### **6.2 Performance and Effectiveness of the Remedy**

The results of the groundwater monitoring suggest that overall groundwater quality is improving and that concentrations of VOCs are decreasing with time. The data indicate that concentrations of VOCs decreased substantially in the source area. Groundwater analytical results further suggest that the remedial

objective to minimize or eliminate exposure pathways or significant risks to the public or the environment under the conditions of the contemplated use of the Site (i.e. Restricted Commercial) have been satisfied.

Therefore, the remedy continues to achieve remedial goals established for this Site.

### **6.3 Future PRR Submittals**

The frequency of submittal of future PRRs will remain on an annual basis.

## **7.0 IC AND EC CERTIFICATION FORM**

The NYSDEC Institutional and Engineering Control Certification Form for the Site is presented in Appendix A.

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## **TABLES & GRAPHS**

Table 1  
Summary of Groundwater Analytical Data Results to Title 6 Part 703.5 Groundwater Standards and NYSDEC TOGS 1.1.1 Guidance Values  
441 and 442 Waverly Avenue  
Volatile Organic Compounds  
Site #C360108

Location		Water Quality Standard*	441 Waverly Avenue																									
Sample ID			GZ-21D											DUP-1 [4]	DUP-1 [10]	GZ-22D											DUP-1 [2]	DUP-1 [1]
Unit			µg/L											µg/L	µg/L	µg/L											ug/L	µg/L
Sample Date			08/20/09	01/11/12	10/15/13	03/24/14	06/18/14	09/24/14	11/05/14	06/23/15	12/16/15	05/12/16	10/12/16	06/18/14	10/12/16	08/19/09	01/11/12	10/15/13	03/24/14	06/18/14	09/24/14	11/05/14	06/23/15	12/16/15	05/12/16	10/12/16	03/24/14	10/15/13
Parameter	CAS#																											
Volatile Organic Compounds:																												
1,1-Dichloroethane	75-34-3	5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<1.0	<0.38	<0.70	<0.70	<0.70	<0.70	<4.0	<0.70	<5.0	<5.0	<5.0	<25	<25	<1.0	<0.38	<0.70	<0.70	<0.70	<0.70	<25	<0.5
1,1-Dichloroethene	75-35-4	5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<1.0	<0.29	<0.14	<0.14	<0.14	<0.17	<4.0	<0.17	<5.0	<5.0	<5.0	<25	<25	<1.0	<0.29	<0.14	<0.14	<0.14	<0.17	<25	<0.5
1,2,3-Trichlorobenzene	87-61-6	5.0	<5.0	NA	NA	NA	NA	NA	NA	<0.70	<0.70	<0.70	<0.70	NA	<0.70	<5.0	NA	NA	NA	NA	NA	NA	<0.70	<0.70	<0.70	<0.70	NA	NA
1,2,4-Trichlorobenzene	120-82-1	5.0	<5.0	NA	NA	NA	NA	NA	NA	<0.70	<0.70	<0.70	<0.70	NA	<0.70	<5.0	NA	NA	NA	NA	NA	NA	<0.70	<0.70	<0.70	<0.70	NA	NA
1,2-Dichloroethane	107-06-2	0.6	170 D	5.3	<5.0	190 D	190	4.1	0.4 J	54	55	28	48	190	56	22	17	16	24 J	<25	1.3	0.64 J	5.4	14	15	18	22 J	16
cis-1,2-Dichloroethene	156-59-2	5.0	270 D	10	7.6	310 D	290	5.6	<0.81	100	<0.70	0.83 J	3.5	350	2.9	8.4	6.5	12	110	<25	1.9	1.7	4.5	6.8	5.2	3.5	100	12
trans-1,2-Dichloroethene	156-60-5	5.0	6.6	<5.0	<5.0	3.8	<5.0	<1.0	<0.9	0.99 J	0.86 J	<0.70	0.81 J	<4.0	0.75 J	<5.0	1.3 J	4.2 J	<25	<25	5.8	5.5	9.4	21	28	40	<25	4.4 J
2-Butanone (MEK)	78-93-3	50 GV	<5.0	<5.0	<5.0	<10	<50	<10	<1.3	2.5 J	<1.9	<1.9	<1.9	<40	<1.9	<5.0	<5.0	<5.0	<250	1400	190	12	<1.9	<1.9	<1.9	<1.9	<250	<5.0
Acetone	67-64-1	50 GV	<50.0	<5.0	<5.0	<10	<50	<10	<3.0	20	4.4 J	<1.5	7.1 U	<40	4.5 U,J	<50.0	<5.0	<5.0	<250	370 J	270	51	2.4 J	2.0 J	<1.5	8.3 U	<250	<5.0
Benzene	71-43-2	1.0	61	<5.0	<5.0	8.2	<5.0	<1.0	<0.41	1.2	1.0	<0.16	0.84	<4.0	0.79	2.6 J	1.3 J	1.2 J	<25	<25	1.6	1.7	2.2	1.9	2.3	2.2	<25	1.2 J
n-Butylbenzene	104-51-8	5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<1.0	<0.64	NA	NA	NA	NA	<4.0	NA	<5.0	<5.0	<5.0	<25	<25	<1.0	<0.64	NA	NA	NA	NA	<25	<5.0
sec-Butylbenzene	135-98-8	5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<1.0	<0.75	NA	NA	NA	NA	<4.0	NA	1.2 J	<5.0	<5.0	<25	<25	<1.0	<0.75	NA	NA	NA	NA	<25	<5.0
tert-Butylbenzene	98-06-6	5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<1.0	<0.81	NA	NA	NA	NA	<4.0	NA	<5.0	<5.0	<5.0	<25	<25	<1.0	<0.81	NA	NA	NA	NA	<25	<5.0
Carbon disulfide	75-15-0	---	<5.0	NA	NA	NA	NA	NA	NA	4.2 J	2.0 J	<1.0	<1.0	NA	<1.0	<5.0	NA	NA	<25	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	NA	NA
Ethylbenzene	100-41-4	5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<1.0	<0.74	<0.70	<0.70	<0.70	<0.70	<4.0	<0.70	<5.0	<5.0	<5.0	<25	<25	<1.0	<0.74	<0.70	<0.70	<0.70	<0.70	<25	<5.0
Hexachlorobutadiene	87-68-3	0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5.0	NA	NA	<25	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	5.0	<5.0	NA	NA	NA	NA	NA	NA	<0.70	<0.70	<0.70	<0.70	NA	<0.70	1.5 J	NA	NA	<25	NA	NA	NA	<0.70	<0.70	<0.70	<0.70	NA	NA
Methyl tert-butyl ether (MTBE)	1634-04-4	10 GV	<5.0	<5.0	<5.0	0.27 J	<5.0	<1.0	<0.16	<0.70	<0.70	<0.70	<0.7	<4.0	<0.70	14	31	42	34	25	33	25	16	14	12	7.7	36	43
n-Propylbenzene	103-65-1	5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<1.0	<0.64	NA	NA	NA	NA	<4.0	NA	4.4 J	<5.0	<5.0	<25	<25	<1.0	<0.69	NA	NA	NA	NA	<25	<5.0
Tetrachloroethene	127-18-4	5.0	41	1.7 J	<5.0	9.8	3.4 J	0.89 J	1.0	0.18 J	<0.18	<0.18	<0.18	2.9 J	<0.18	120	97	62	14 J	<25	2.1	0.88 J	0.69	<0.18	<0.18	<0.18	21 J	60
Trichloroethene	79-01-6	5.0	33	0.58 J	<5.0	7.8	15	0.82 J	2.3	<0.18	<0.18	<0.18	<0.18	13	<0.18	110	92	89	29	<25	2.5	5.5	1.2	0.33 J	0.46 J	0.29 J	34	88
Toluene	108-88-3	5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<1.0	<0.51	<0.70	<0.70	<0.70	<0.70	<4.0	<0.70	<5.0	<5.0	<5.0	<25	<25	<1.0	<0.51	<0.70	<0.70	<0.70	<25	<5.0	
Vinyl chloride	75-01-4	2.0	4 J	<5.0	<5.0	4.3	<5.0	<1.0	<0.90	1.7	<0.07	0.43 J	2.3	<4.0	2.8	<5.0	<5.0	<5.0	<25	<25	<1.0	<0.9	1.8	6.5	5.7	3.1	<25	<5.0

Notes:

**BOLD** Indicates exceedance of groundwater standard

\* Groundwater Standards are obtained from Title 6 Part 703.5, and Guidance Values (GV) are obtained from NYSDEC TOGS (1.1.1) "Ambient Water Quality Standards and Guidance Values".

< Indicates the parameter was not detected at the laboratory detection limit shown.

NA Not Analyzed.

--- No standard or not applicable.

- [1], [2] DUP-1 samples collected from monitoring well location GZ-22D.
- [3] DUP-1 samples collected from offsite monitoring well location OSMW-4.
- [4] DUP-1 samples collected from monitoring well location GZ-21D.
- [5] DUP-1 samples collected from monitoring well location OSMW-4.
- [6] DUP-1 samples collected from monitoring well location OSMW-3
- [7] DUP-1 samples collected from monitoring well location OSMW-4.
- [8] DUP-1 samples collected from monitoring well location B6-OWD.
- [9] DUP-1 samples collected from monitoring well location OSMW-4.
- [10] DUP-1 samples collected from monitoring well location GZ-21D.

**Laboratory Qualifiers:**

D Indicates the undiluted analysis exceeded the equipment calibration range. The concentration shown is obtained from a diluted analysis.

J Indicates the concentration shown is an estimated value because the compound was detected below the reporting limit.

**Data Usability Summary Report (DUSR) Qualifiers:**

j Reported value may be associated with a higher level of uncertainty than is normally expected with the analytical method.

U Not detected. The associated number indicates the approximate sample concentration necessary to be detected significantly greater than the level of the highest associated blank.



Table 1  
Summary of Groundwater Analytical Data Results to Title 6 Part 703.5 Groundwater Standards and NYSDEC TOGS 1.1.1 Guidance Values  
441 and 442 Waverly Avenue  
Volatile Organic Compounds  
Site #C360108

Location		442 Waverly Avenue												441 Waverly Avenue													
Well ID		Water Quality Standard*	GZ-23D												B6-OWD												DUP-1 [8]
Unit			µg/L	µg/L												µg/L											
Sample Date			08/20/09	01/11/12	10/15/13	03/25/14	06/19/14	09/25/14	11/05/14	06/24/15	12/17/15	05/12/16	10/12/16	08/21/09	01/11/12	10/15/13	03/24/14	06/18/14	09/24/14	11/05/14	06/23/15	12/16/15	05/12/16	10/12/16	12/16/15		
Parameter	CAS#																										
Volatile Organic Compounds																											
1,1-Dichloroethane	75-34-3	5.0	<5.0	<5.0	<100	<1.0	<20	<20	<7.6	<7.0	<14	<7.0	<18	<5.0	<5.0	<5.0	<1.0	<4.0	<4.0	<3.0	<0.70	<0.70	<0.70	<0.70	<0.70		
1,1-Dichloroethene	75-35-4	5.0	5.5	1.6 J	<100	1.7	<20	<20	<5.8	1.9 J	<2.8	<1.4	<4.2	<5.0	<5.0	<5.0	<1.0	<4.0	<4.0	<2.3	<0.14	<0.14	<0.14	<0.17	<0.14		
1,2,3-Trichlorobenzene	87-61-6	5.0	<5.0	NA	NA	NA	NA	NA	NA	<7.0	<14	<7.0	<18	NA	NA	NA	NA	NA	NA	NA	<0.70	<0.70	<0.70	<0.70	<0.70		
1,2,4-Trichlorobenzene	120-82-1	5.0	<5.0	NA	NA	NA	NA	NA	NA	<7.0	<14	<7.0	<18	NA	NA	NA	NA	NA	NA	NA	<0.70	<0.70	<0.70	<0.70	<0.70		
1,2-Dichloroethane	107-06-2	0.6	13	9	<100	7.8	6.6 J	7.6 J	<4.2	3.6 J	<2.6	4.3 J	4.2 J	9.7	<5.0	1.9 J	2.8	8.0	9.1	<1.7	0.36 J	<0.13	0.31 J	0.32 J	<0.13		
cis-1,2-Dichloroethene	156-59-2	5.0	10	780 D	380	2200 D	930	1100	1100	780	1000 j	400	320	390 D	1.5 J	76	180 D	330	430 D	<6.5	1.3 J	1.1 J	2.4 J	2.1 J	1.2 J		
trans-1,2-Dichloroethene	156-60-5	5.0	<5.0	9.1	<100	41	<20	<20	18 J	22 J	37 J j	32	36 J	150	<5.0	6.8	7.2	8.4	14	<7.2	<0.70	<0.70	<0.70	<0.70	<0.70		
2-Butanone (MEK)	78-93-3	50 GV	<5.0	<5.0	260	46	190 J	770	37 J	20 J	<39	<19	<48	<5.0	<5.0	<5.0	<10	<40	<40	<11	<1.9	<1.9	<1.9	<1.9	<1.9		
Acetone	67-64-1	50 GV	<50.0	200	<100	9.8 J	81 J	480	<60	19 J	<29	<15	<36	<50.0	<5.0	<5.0	<10	<40	<40	<24	<1.5	<1.5	<1.5	6.7 U	<1.5		
Benzene	71-43-2	1.0	11	4 J	<100	2.7	<20	<20	<8.2	3.2 J	<3.2	2.8 J	<4.0	<5.0	0.51 J	<5.0	<1.0	<4.0	<4.0	<3.3	0.38 J	0.28 J	0.28 J	0.65	0.29 J		
n-Butylbenzene	104-51-8	5.0	<5.0	<5.0	<100	<1.0	<20	<20	<13	NA	NA	NA	NA	<5.0	<5.0	<5.0	<1.0	<4.0	<4.0	<5.1	NA	NA	NA	NA	NA		
sec-Butylbenzene	135-98-8	5.0	<5.0	<5.0	<100	<1.0	<20	<20	<15	NA	NA	NA	NA	<5.0	<5.0	<5.0	<1.0	<4.0	<4.0	<6.0	NA	NA	NA	NA	NA		
tert-Butylbenzene	98-06-6	5.0	<5.0	<5.0	<100	<1.0	<20	<20	<16	NA	NA	NA	NA	<5.0	<5.0	<5.0	<1.0	<4.0	<4.0	<6.5	NA	NA	NA	NA	NA		
Carbon disulfide	75-15-0	---	<5.0	NA	NA	NA	NA	NA	NA	<10	<20	<10	<25	NA	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0			
Ethylbenzene	100-41-4	5.0	<5.0	<5.0	<100	<1.0	<20	<20	<15	<7.0	<14	<7.0	<18	<5.0	<5.0	<5.0	<1.0	<4.0	<4.0	<5.9	<0.70	<0.70	<0.70	<0.70	<0.70		
Hexachlorobutadiene	87-68-3	0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Isopropylbenzene	98-82-8	5.0	<5.0	NA	NA	NA	NA	NA	<7.0	<7.0	<14	<7.0	<18	NA	NA	NA	NA	NA	NA	NA	<0.70	<0.70	<0.70	<0.70	<0.70		
Methyl tert-butyl ether (MTBE)	1634-04-4	10 GV	2.1 J	1.6 J	<100	<1.0	<20	<20	<3.2	<7.0	<14	<7.0	<18	<5.0	<5.0	<5.0	<1.0	<4.0	<4.0	<1.3	<0.70	<0.70	<0.70	<0.70	<0.70		
n-Propylbenzene	103-65-1	5.0	<5.0	<5.0	<100	<1.0	<20	<20	<14	NA	NA	NA	NA	<5.0	<5.0	<5.0	<1.0	<4.0	<4.0	<5.5	NA	NA	NA	NA	NA		
Tetrachloroethene	127-18-4	5.0	9700 D	4300 D	3100	1500 D	880	720	94	750	110 j	1300	1000	23	6.2	18	59	47	110	<2.9	2.4	2.1	2.4	2.6	2.2		
Trichloroethene	79-01-6	5.0	450 DJ	1600 D	1000	240 D	310	350	160	420	600 j	960	1000	43	2.1 J	41	170 D	180	330	<3.7	1.3	1.4	1.7	1.7	1.4		
Toluene	108-88-3	5.0	<5.0	<5.0	<100	<1.0	<20	<20	<10	<7.0	<14	<7.0	<18	<5.0	<5.0	<5.0	<1.0	<4.0	<4.0	<4.1	<0.70	<0.70	<0.70	<0.70	<0.70		
Vinyl chloride	75-01-4	2.0	<5.0	1.2 J	28 J	200 D	250	390	320	230 j	<1.4	200	82	<5.0	<5.0	<5.0	<1.0	<4.0	<4.0	<7.2	<0.07	<0.07	0.27 J	0.28 J	<0.07		

Notes:

**BOLD** Indicates exceedance of groundwater standard

\* Groundwater Standards are obtained from Title 6 Part 703.5, and Guidance Values (GV) are obtained from NYSDEC TOGS (1.1.1) "Ambient Water Quality Standards and Guidance Values".

< Indicates the parameter was not detected at the laboratory detection limit shown.

NA Not Analyzed.

--- No standard or not applicable.

- [1], [2] DUP-1 samples collected from monitoring well location GZ-22D.
- [3] DUP-1 samples collected from offsite monitoring well location OSMW-4.
- [4] DUP-1 samples collected from monitoring well location GZ-21D.
- [5] DUP-1 samples collected from monitoring well location OSMW-4.
- [6] DUP-1 samples collected from monitoring well location OSMW-3
- [7] DUP-1 samples collected from monitoring well location OSMW-4.
- [8] DUP-1 samples collected from monitoring well location B6-OWD.
- [9] DUP-1 samples collected from monitoring well location OSMW-4.
- [10] DUP-1 samples collected from monitoring well location GZ-21D.

Laboratory Qualifiers:

D Indicates the undiluted analysis exceeded the equipment calibration range. The concentration shown is obtained from a diluted analysis.

J Indicates the concentration shown is an estimated value because the compound was detected below the reporting limit.

Data Usability Summary Report (DUSR) Qualifiers:

j Reported value may be associated with a higher level of uncertainty than is normally expected with the analytical method.

U Not detected. The associated number indicates the approximate sample concentration necessary to be detected significantly greater than the level of the highest associated blank.

Table 1  
Summary of Groundwater Analytical Data Results to Title 6 Part 703.5 Groundwater Standards and NYSDEC TOGS 1.1.1 Guidance Values  
441 and 442 Waverly Avenue  
Volatile Organic Compounds  
Site #C360108

Location			Water Quality Standard*	OSMW-3												DUP-1 [6]	OSMW-4												DUP-1 [9]	DUP-1 [5]	DUP-1 [3]	DUP-1 [7]
Well ID		µg/L		µg/L										µg/L	µg/L										µg/L	µg/L	µg/L	µg/L				
Unit		µg/L	01/10/12	10/16/13	03/24/14	06/19/14	09/24/14	11/05/14	06/24/15	12/17/15	05/12/16	10/12/16	11/05/14	01/10/12	10/16/13	03/25/14	06/18/14	09/24/14	11/05/14	06/24/15	12/17/15	05/12/16	10/12/16	05/12/16	09/24/14	01/10/12	06/24/15					
Sample Date																																
Parameter																																
Volatile Organic Compounds	CAS#																															
1,1-Dichloroethane	75-34-3	5.0	<5.0	<80	<1.0	<20	<20	<19	<14	<28	<3.5	<0.70	<0.38	<5.0	<5.0	<25	<25	<1.0	<0.38	<0.70	<0.70	<0.70	<0.70	<0.70	<1.0	<5.0	<0.70					
1,1-Dichloroethene	75-35-4	5.0	<5.0	<80	<1.0	<20	<20	<15	<2.8	<5.7	<0.71	<1.7	1.4	<5.0	<5.0	<25	<25	<1.0	<0.29	<0.14	<0.14	<0.14	<0.17	<0.14	<1.0	<5.0	<0.14					
1,2,3-Trichlorobenzene	87-61-6	5.0	NA	NA	NA	NA	NA	NA	<14	<28	<3.5	<0.70	NA	NA	NA	NA	NA	NA	NA	<0.70	<0.70	<0.70	<0.70	<0.70	NA	NA	<0.70					
1,2,4-Trichlorobenzene	120-82-1	5.0	NA	NA	NA	NA	NA	NA	<14	<28	<3.5	<0.70	NA	NA	NA	NA	NA	NA	NA	<0.70	<0.70	<0.70	<0.70	<0.70	NA	NA	<0.70					
1,2-Dichloroethane	107-06-2	0.6	4.4 J	<80	4.7	<20	<20	<11	<2.6	<5.3	3.8	4.2 J	3.5	1.1 J	<5.0	<25	<25	<1.0	<0.21	<0.13	<0.13	<0.13	<0.13	<0.13	<1.0	1.1 J	<0.13					
cis-1,2-Dichloroethene	156-59-2	5.0	14	31 J	46	100	220	210	180	120 j	92	63	210 D	29	3.8 J	<25	<25	6.2	6.0	1.2 J	<0.70	<0.70	<0.70	<0.70	5.2	29	1.2 J					
trans-1,2-Dichloroethene	156-60-5	5.0	1.7 J	<80	3.7	<20	28	<45	25 J	<28	21	14 J	26	6.9	1 J	<25	<25	<1.0	<0.9	<0.70	<0.70	<0.70	<0.70	<0.70	<1.0	7.2	<0.70					
2-Butanone (MEK)	78-93-3	50 GV	<5.0	<5.0	<10	<200	<200	<66	46 J	<78	<9.7	<19	<1.3	<5.0	<5.0	<250	<250	<1.0	<1.3	<1.9	<1.9	<1.9	<1.9	<1.9	<1.0	<5.0	<1.9					
Acetone	67-64-1	50 GV	<5.0	<80	<10	<200	<200	<150	39 J	<58	<7.3	<15	<3.0	<5.0	<5.0	<250	<250	3.2 J	<3.0	<1.5	<1.5	<1.5	6.6 U	<1.5	3.0 J	<5.0	<1.5					
Benzene	71-43-2	1.0	<5.0	<80	1	<20	<20	<21	<3.2	<6.4	<0.80	<1.6	1.6	45	<5.0	<25	<25	2.8	0.86 J	<0.16	0.38 J j	1.2	<0.16	1.2	2.9	47	<0.16					
n-Butylbenzene	104-51-8	5.0	<5.0	<80	<1.0	<20	<20	<32	NA	NA	NA	NA	<0.64	<5.0	<5.0	<25	<25	<1.0	<0.64	NA	NA	NA	NA	NA	<1.0	<5.0	NA					
sec-Butylbenzene	135-98-8	5.0	<5.0	<80	<1.0	<20	<20	<38	NA	NA	NA	NA	<0.75	1.5 J	<5.0	<25	<25	<1.0	<0.75	NA	NA	NA	NA	NA	<1.0	1.5 J	NA					
tert-Butylbenzene	98-06-6	5.0	<5.0	<80	<1.0	<20	<20	<41	NA	NA	NA	NA	<0.81	<5.0	<5.0	<25	<25	<1.0	<0.81	NA	NA	NA	NA	NA	<1.0	<5.0	NA					
Carbon disulfide	75-15-0	---	NA	NA	NA	NA	NA	NA	<20	<40	<5.0	<10	NA	NA	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0					
Ethylbenzene	100-41-4	5.0	<5.0	<80	<1.0	<20	<20	<37	<14	<28	<3.5	<7.0	<0.74	<5.0	<5.0	<25	<25	<1.0	<0.74	<0.70	<0.70	<0.70	<0.70	<0.70	<1.0	<5.0	<0.70					
Hexachlorobutadiene	87-68-3	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Isopropylbenzene	98-82-8	5.0	NA	NA	NA	NA	NA	NA	<14	<28	<3.5	<7.0	<14	NA	NA	NA	NA	NA	NA	<0.70	<0.70	<0.70	<0.70	<0.70	NA	NA	<0.70					
Methyl tert-butyl ether (MTBE)	1634-04-4	10 GV	<5.0	<80	0.4 J	<20	<20	<8.0	<14	<28	<3.5	<7.0	0.48 J	0.78 J	<5.0	<25	<25	0.57 J	0.59 J	<0.70	<0.70	<0.70	0.73 J	<0.70	0.63 J	<5.0	<0.70					
n-Propylbenzene	103-65-1	5.0	<5.0	<80	<1.0	<20	<20	<35	NA	NA	NA	NA	<0.69	1.6 J	<5.0	<25	<25	<1.0	<0.69	NA	NA	NA	NA	NA	<1.0	1.7 J	NA					
Tetrachloroethene	127-18-4	5.0	760 D	1900	2400 D	1300	2600 D	3400	1500	1200 j	670	470	2900 D	790 D	11	<25	<25	3.4	3.2	0.44 J	<0.18	0.2 J j	2.0	0.19 J j	3.4	730 D	0.48 J					
Trichloroethene	79-01-6	5.0	120	280	330 D	440	1000	1000	610	480 j	290	230	900 D	230 D	15	<25	<25	6.0	4.5	1.0	0.56	0.53	1.1	0.58	5.5	220 D	1.1					
Toluene	108-88-3	5.0	<5.0	<80	<1.0	<20	<20	<26	<14	<28	<3.5	<7.0	<0.51	<5.0	<5.0	<25	<25	<1.0	<0.51	<0.70	<0.70	<0.70	<0.70	<0.70	<1.0	0.67 J	<0.70					
Vinyl chloride	75-01-4	2.0	<5.0	<80	<1.0	<20	<20	<45	<1.4 j	<2.8	0.44 J	<0.71	<0.9	<5.0	<5.0	<25	<25	<1.0	<0.9	<0.07 j	<0.07	<0.07	<0.07	<0.07	<1.0	<5.0	<0.07 j					

Notes:

- BOLD** Indicates exceedance of groundwater standard
- + Groundwater Standards are obtained from Title 6 Part 703.5, and Guidance Values (GV) are obtained from NYSDEC TOGS (1.1.1) "Ambient Water Quality Standards and Guidance Values".
- < Indicates the parameter was not detected at the laboratory detection limit shown.
- NA Not Analyzed.
- No standard or not applicable.

- [1], [2] DUP-1 samples collected from monitoring well location GZ-22D.
- [3] DUP-1 samples collected from offsite monitoring well location OSMW-4.
- [4] DUP-1 samples collected from monitoring well location GZ-21D.
- [5] DUP-1 samples collected from monitoring well location OSMW-4.
- [6] DUP-1 samples collected from monitoring well location OSMW-3
- [7] DUP-1 samples collected from monitoring well location OSMW-4.
- [8] DUP-1 samples collected from monitoring well location B6-OWD.
- [9] DUP-1 samples collected from monitoring well location OSMW-4.
- [10] DUP-1 samples collected from monitoring well location GZ-21D.

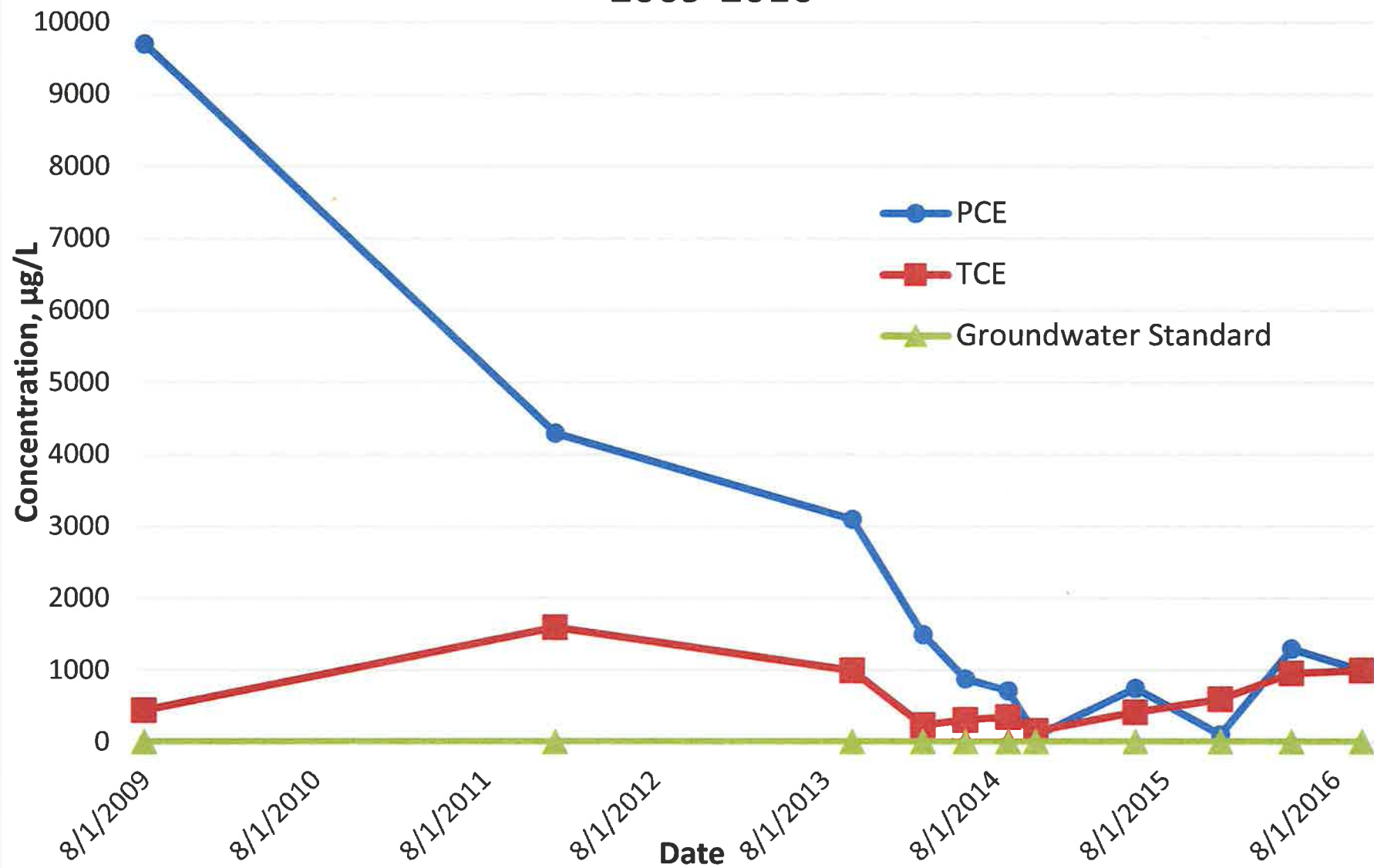
Laboratory Qualifiers:

- D Indicates the undiluted analysis exceeded the equipment calibration range. The concentration shown is obtained from a diluted analysis.
- J Indicates the concentration shown is an estimated value because the compound was detected below the reporting limit.

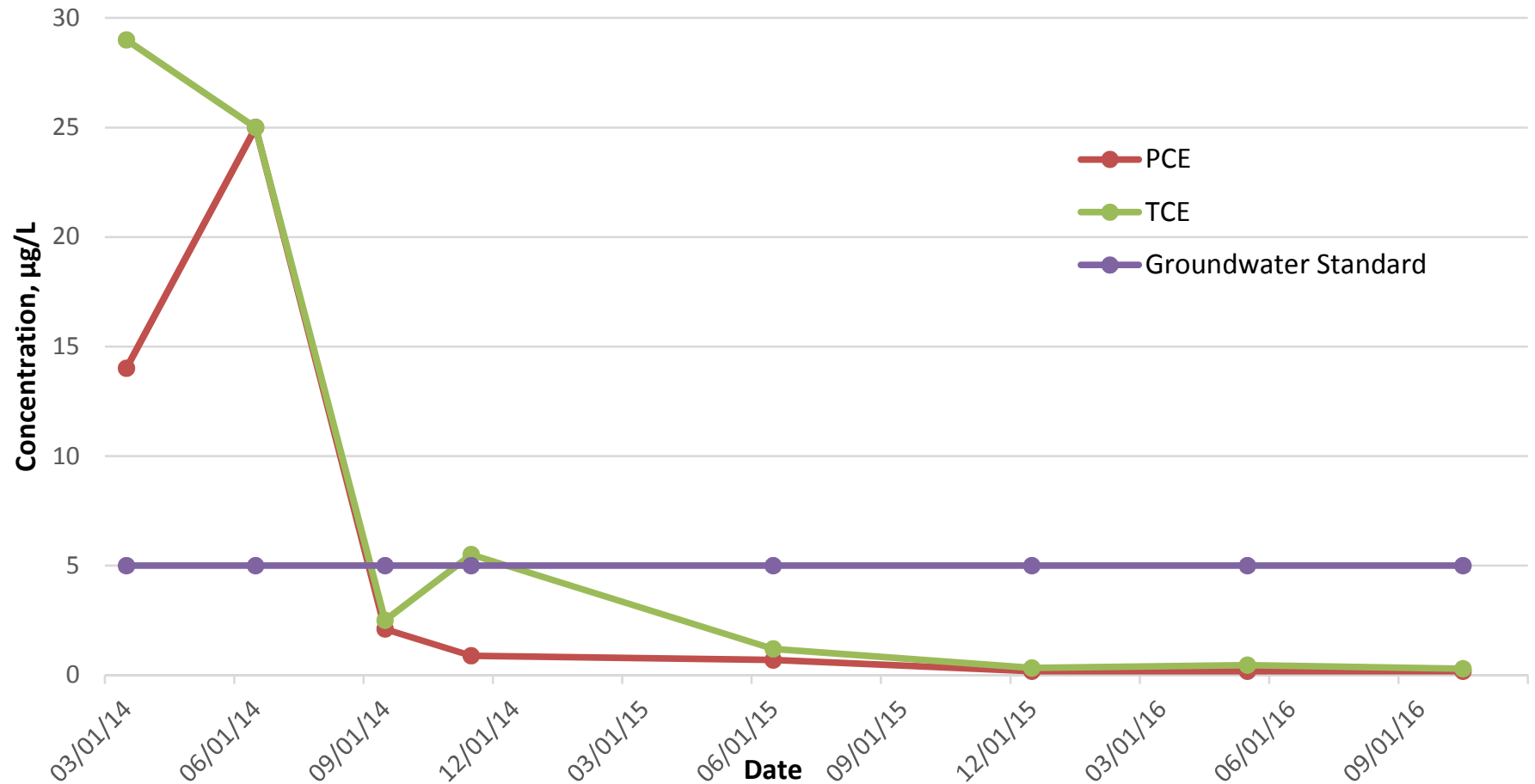
Data Usability Summary Report (DUSR) Qualifiers:

- j Reported value may be associated with a higher level of uncertainty than is normally expected with the analytical method.
- U Not detected. The associated number indicates the approximate sample concentration necessary to be detected significantly greater than the level of the highest associated blank.

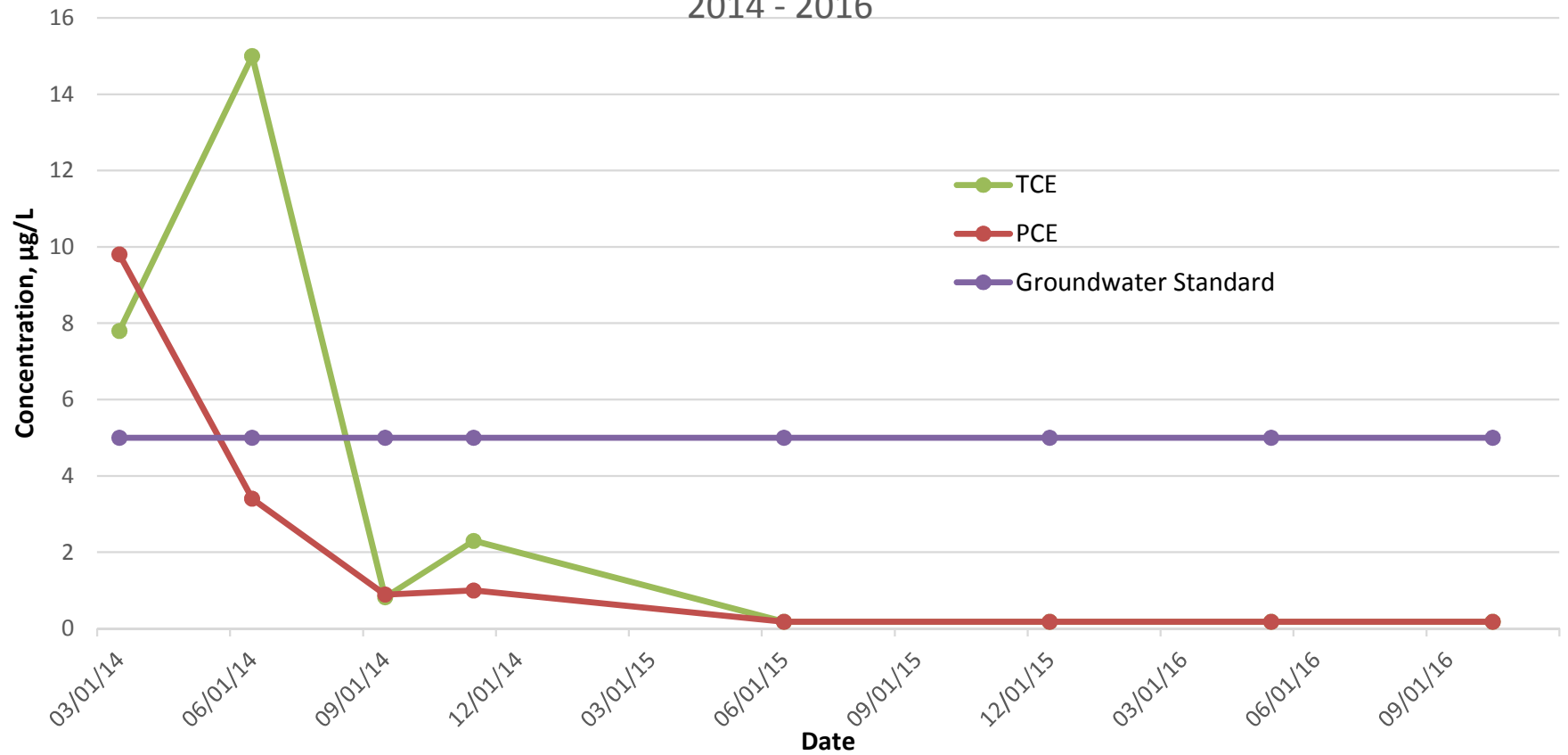
## PCE and TCE Concentrations in MW GZ-23D 2009-2016



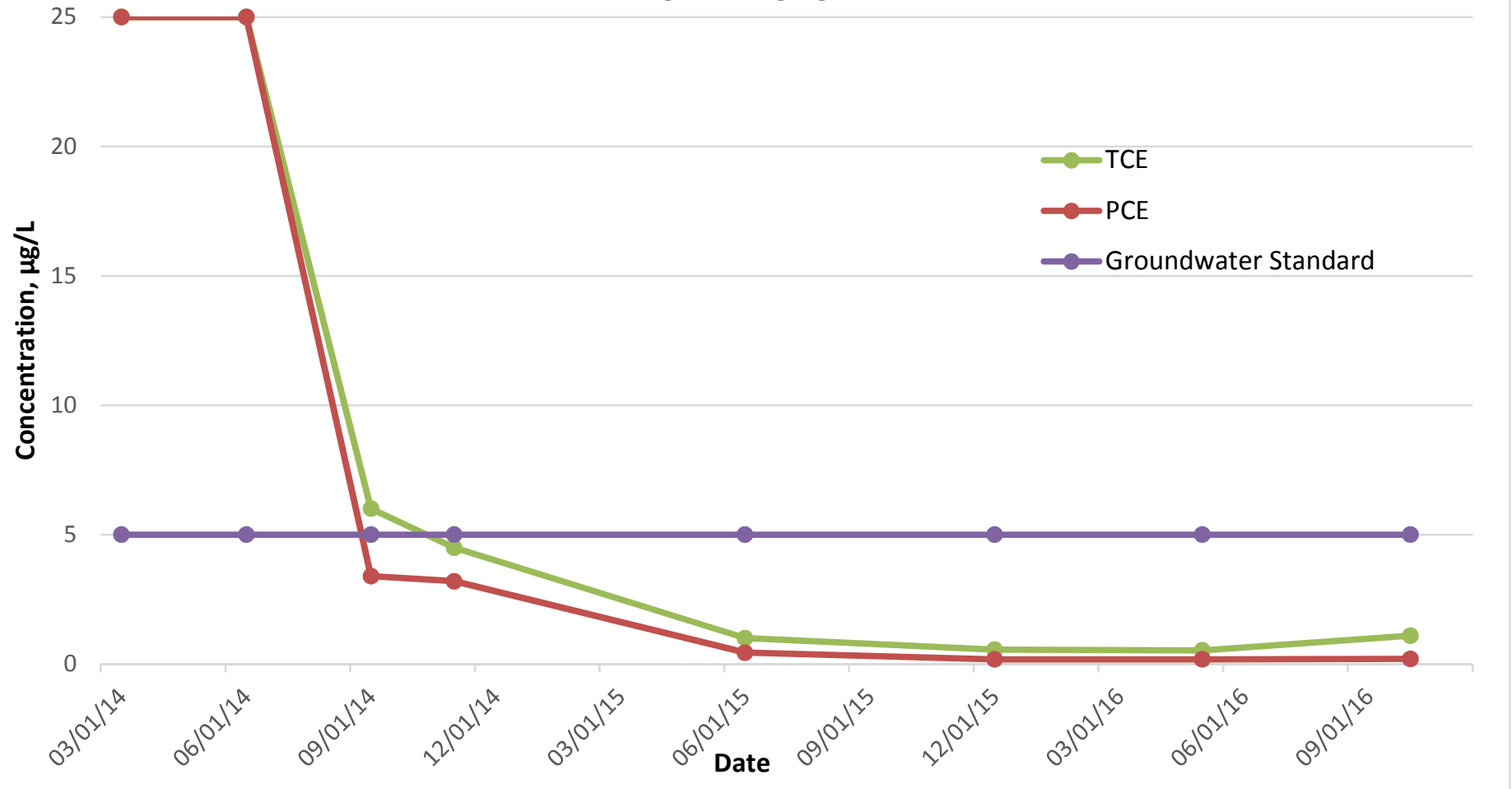
# PCE and TCE Concentrations in MW GZ-22D 2014 - 2016



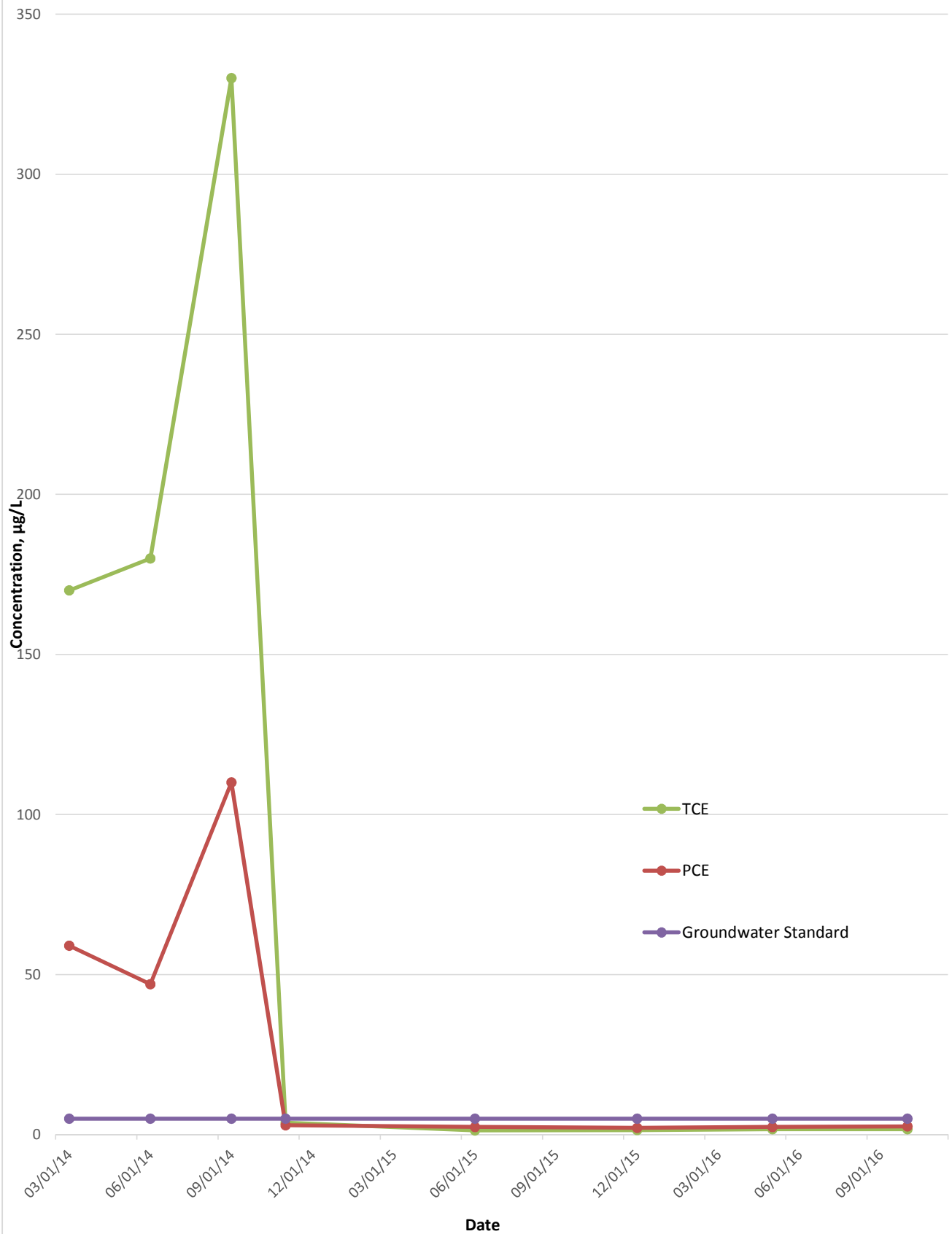
PCE and TCE Concentrations in MW GZ-21D  
2014 - 2016



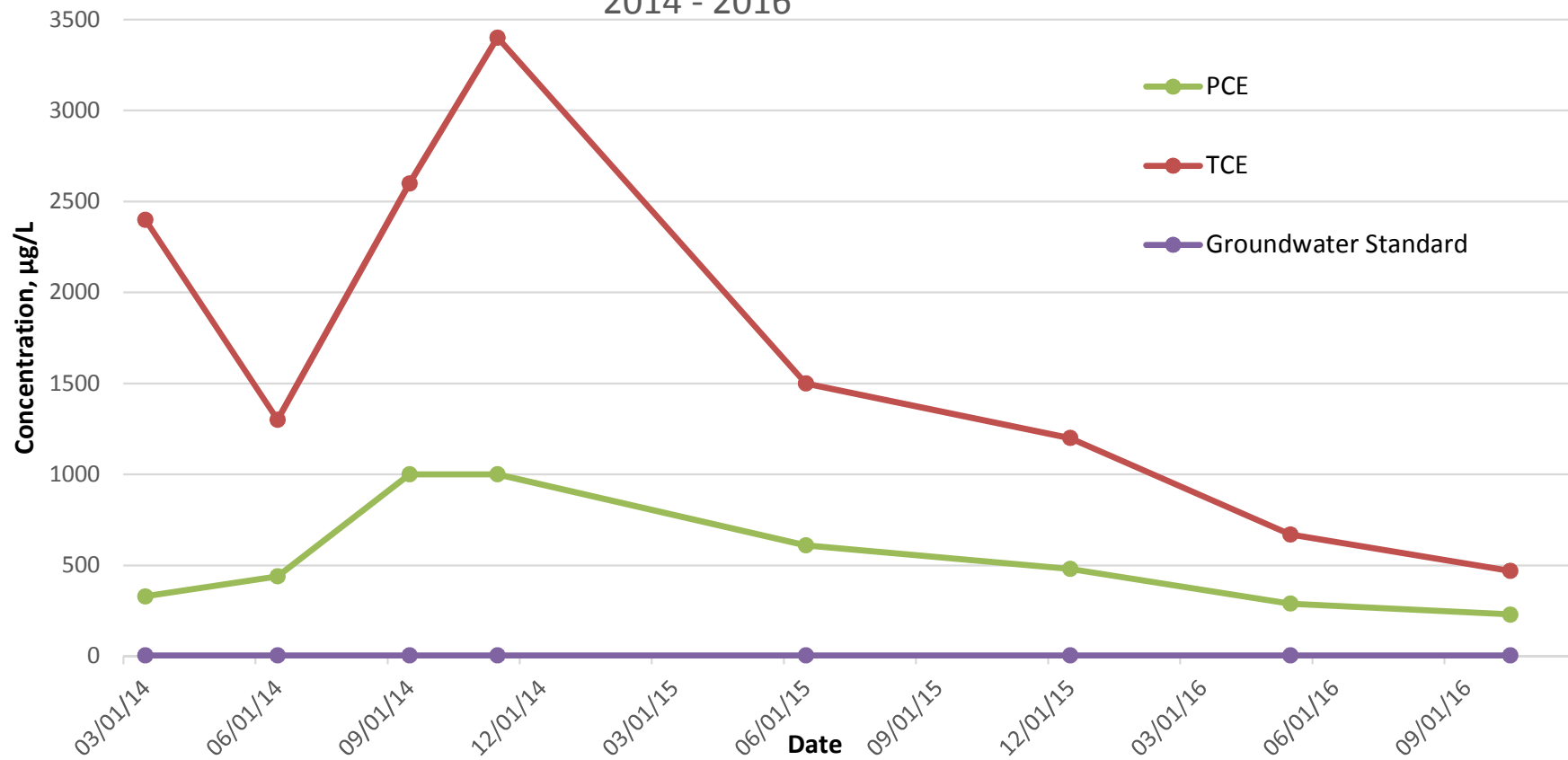
# PCE and TCE Concentrations in OSMW-4 2014 - 2016



# PCE and TCE Concentrations in B6-OWD 2014 - 2016



PCE and TCE Concentrations in OSMW-3  
2014 - 2016





## FIGURES



FIGURE 1

**STERLING**

Sterling Environmental Engineering, P.C.

24 Wade Road • Latham, New York 12110

PROJECT SITE MAP

SITE # C360108

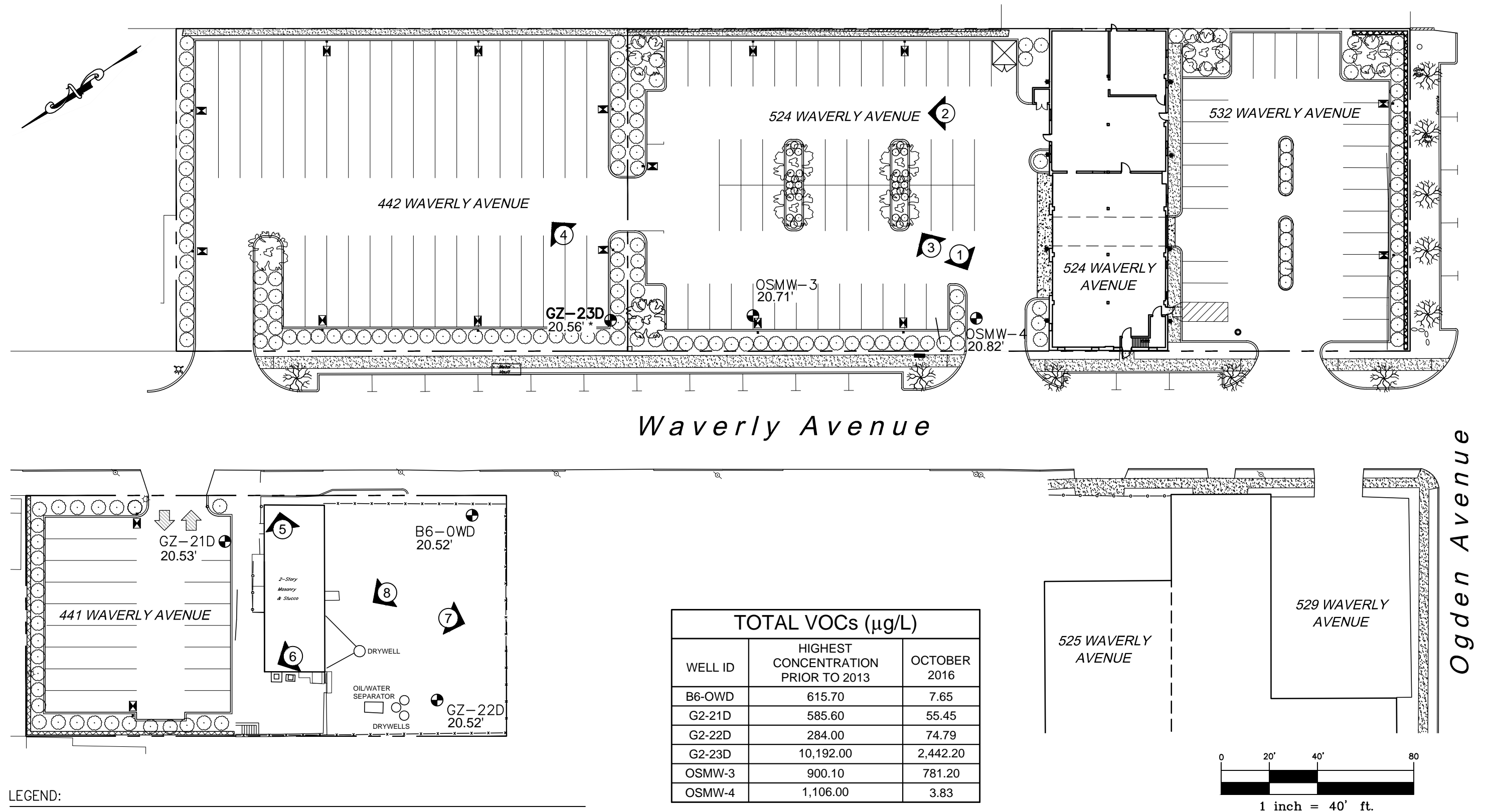
NEW WAVERLY AVENUE ASSOCIATES, LLC

V/T OF MAMARONECK

WESTCHESTER CO., N.Y.

PROJ. No.: 28012 | DATE: 9-13-11 | SCALE: 1" = 2000' | DWG. NO. 28012034 | FIGURE 1

S:\Drawings\28012 - 441 & 442 Waverly Avenue\28012098\_F-2 - MW & Photo Log 10-2016.dwg SWEETT 1/16/2017 3:04 PM



**STERLING**

Sterling Environmental Engineering, P.C.

24 Wade Road • Latham, New York 12110

MONITORING WELL AND  
PHOTO LOG LOCATION MAP OCTOBER 12, 2016

SITE# C360108

**NEW WAVERLY AVENUE ASSOCIATES, LLC**

V/T OF MAMARONECK

WESTCHESTER CO., N.Y.

PROJ. No.: 28012 | DATE: 1/16/2017 | SCALE: 1" = 40' | DWG. NO. 28012098 | FIGURE 2

**APPENDIX A**

**NYSDEC INSTITUTIONAL AND ENGINEERING  
CONTROLS CERTIFICATION FORM**



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



**Site No.** C360108 **Site Details** **Box 1**

**Site Name** Former M. Argueso and Co., Inc

Site Address: 441, 442, 501, 513 Waverly Avenue Zip Code: 10543  
City/Town: Mamaroneck  
County: Westchester  
Site Acreage: 1.0

Reporting Period: January 14, 2016 to January 14, 2017

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

**Box 2**

- |  | YES                                 | NO                       |
|--|-------------------------------------|--------------------------|
| 6. Is the current site use consistent with the use(s) listed below?<br>Commercial and Industrial | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 7. Are all ICs/ECs in place and functioning as designed?   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

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

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

\_\_\_\_\_  
Signature of Owner, Remedial Party or Designated Representative

\_\_\_\_\_  
Date

**Box 2A**

YES NO

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

☐ ☒

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

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

☒ ☐

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

**SITE NO. C360108****Box 3****Description of Institutional Controls**

The institutional control for the site consists of an Environmental Easement (EE) that includes groundwater use restrictions, land use restrictions, a SMP, and certification reporting. The EE prohibits the use of the property for any means other than the contemplated restricted commercial use of the Site. The EE also restricts groundwater use and requires that any impacted soil encountered during future intrusive activities be managed and disposed according to State regulations. Finally, the EE requires compliance with the SMP, including the periodic reporting covered by this report. The EE for the property that outlines these use restriction was filed in Westchester County (Document No. 523243327).

The potential for vapor intrusion must be evaluated for any buildings developed on the Site property and prior to the leasing of 441 Waverly Avenue for human occupation (as compared to storage) and any potential impacts that are identified must be monitored or mitigated.

<u>Parcel</u>	<u>Owner</u>	<u>Institutional Control</u>
<b>8-25-268.2</b>	New Waverly Avenue Associates, LLC	Ground Water Use Restriction Soil Management Plan Landuse Restriction Monitoring Plan Site Management Plan IC/EC Plan
<p>(1) The controlled property may be used for commercial use as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and industrial use as described in 6 NYCRR Part 375-1.8(g)(2)(iv);</p> <p>(2) All engineering controls must be operated and maintained as specified in the Site Management Plan (SMP);</p> <p>(3) All engineering controls must be inspected at a frequency and in a manner defined in the SMP;</p> <p>(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Westchester County Department of Health to render it safe for use as drinking water or for industrial purposed, and the user must first notify and obtain written approval to do so from the Department;</p> <p>(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;</p> <p>(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;</p> <p>(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;</p> <p>(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;</p> <p>(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP; and</p> <p>(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement.</p>		
<b>8-25-273</b>	New Waverly Avenue Associates, LLC	Ground Water Use Restriction Soil Management Plan Landuse Restriction Monitoring Plan Site Management Plan IC/EC Plan
<p>(1) The controlled property may be used for commercial use as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and industrial use as described in 6 NYCRR Part 375-1.8(g)(2)(iv);</p> <p>(2) All engineering controls must be operated and maintained as specified in the Site Management Plan (SMP);</p> <p>(3) All engineering controls must be inspected at a frequency and in a manner defined in the SMP;</p> <p>(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Westchester County Department of Health to render it safe for use as drinking water or for industrial purposed, and the user must first notify and obtain written approval to do so from the Department;</p> <p>(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;</p> <p>(6) Data and information pertinent to Site Management of the Controlled Property must be reported at</p>		



the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP; and

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement.

**8-25-278**

New Waverly Avenue Associates, LLC

Ground Water Use Restriction  
Soil Management Plan  
Landuse Restriction  
Monitoring Plan  
Site Management Plan  
IC/EC Plan

(1) The controlled property may be used for commercial use as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and industrial use as described in 6 NYCRR Part 375-1.8(g)(2)(iv);

(2) All engineering controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All engineering controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Westchester County Department of Health to render it safe for use as drinking water or for industrial purposed, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP; and

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement.

**8-25-33**

New Waverly Avenue Associates, LLC

Ground Water Use Restriction  
Soil Management Plan  
Monitoring Plan  
Site Management Plan  
IC/EC Plan

Landuse Restriction

(1) The controlled property may be used for commercial use as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and industrial use as described in 6 NYCRR Part 375-1.8(g)(2)(iv);

(2) All engineering controls must be operated and maintained as specified in the Site Management



Plan (SMP);

- (3) All engineering controls must be inspected at a frequency and in a manner defined in the SMP;
- (4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Westchester County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;
- (5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;
- (6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;
- (7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;
- (8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;
- (9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP; and
- (10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement.

**Box 4**

**Description of Engineering Controls**

<u>Parcel</u>	<u>Engineering Control</u>
<b>8-25-268.2</b>	Cover System
- asphalt/soil cover system over the site	
<b>8-25-273</b>	Cover System
- asphalt/soil cover system over the site	
<b>8-25-278</b>	Cover System
- asphalt/soil cover system over the site	
<b>8-25-33</b>	Cover System
- asphalt/soil cover system over the site	

**Periodic Review Report (PRR) Certification Statements**

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

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

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

YES NO

☒

☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

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

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

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

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

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

YES NO

☒

☐

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

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

\_\_\_\_\_  
Signature of Owner, Remedial Party or Designated Representative

\_\_\_\_\_  
Date

IC CERTIFICATIONS  
SITE NO. C360108

Box 6

**SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE**

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

I TS Milo at 566 Westchester Ave  
print name print business address  
am certifying as Owner Rte 888K NY 10573  
(Owner or Remedial Party)

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

24m  
Signature of Owner, Remedial Party, or Designated Representative  
Rendering Certification

2/10/17  
Date

IC/EC CERTIFICATIONS

Box 7

Professional Engineer Signature

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

I Mark P. Millspaugh, P.E. at Sterling Environmental Engineering, P.C.  
24 Wade Road, Latham, NY 12110  
print name print business address

am certifying as a Professional Engineer for the New Waverly Avenue Associates, LLC  
(Owner or Remedial Party)



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



Stamp  
(Required for PE)

2/13/17

Date

## **APPENDIX B**

### **SITE-WIDE INSPECTION AND ASPHALT AND SOIL COVER SYSTEM INSPECTION FORMS AND PHOTOGRAPHS**

**441/442 WAVERLY AVENUE, MAMARONECK, NEW YORK  
SITE #C360108**

**SITE-WIDE INSPECTION FORM**

Date: 10/12/16

Inspected By: Cody Sargood (Sterling Environmental Engineering, P.C.)

Site Property Item	Condition		Remarks
	Acceptable	Not Acceptable	
1. Asphalt Cover	<b>X</b>		
2. Building slab (441 Waverly Ave.)	<b>X</b>		
3. Light Pole Islands / Soil Cover	<b>X</b>		
4. Stormwater Catch Basins	<b>X</b>		
5. Entrance/Exit Ramps	<b>X</b>		
6. Retaining Walls	<b>X</b>		
7. Fences and Gates	<b>X</b>		

**441/442 WAVERLY AVENUE, MAMARONECK, NEW YORK  
SITE #C360108**

**ASPHALT AND SOIL COVER SYSTEM INSPECTION FORM**

Inspector: Cody Sargood (Sterling Environmental Engineering, P.C)

Date: October 12, 2016

1. Describe cover system condition and list needed repairs (note location and photograph\*).

a. Asphalt – Inspect for cracks, potholes, and other penetrations:

Asphalt is in great condition. Concrete surface at 441 Waverly Avenue was observed with minor cracks but still acceptable.  
STERLING will continue to monitor minor cracks. No potholes or penetrations observed. See photographs # 1, 2, 4, 7, 8

b. Curbed lighting areas, retaining walls, and other miscellaneous areas – Inspect for signs of erosion

Curbed lighting areas and retaining walls are in excellent condition. No obvious signs of erosion. See photograph # 3

c. Building Slab at 441 Waverly Avenue – Inspect for cracks and penetrations

Building slab was in good condition. Multiple locations where tile was missing from the flooring.. Two (2) sump pumps were  
observed in the northern and southern corners respectively. No major deficiencies were observed. See photographs # 5, 6

2. Indicate corrective actions to be taken for any and all above noted deficiencies. Note who completed the repair and date completed:

NA

\*Photograph log attached



Photograph 1: Entrance/exit ramp of 524 Waverly Avenue is in great condition with no evidence of penetrations or major cracks (looking east to west).



Photograph 2: Pavement across 524 Waverly Avenue is in great condition with no evidence of penetrations or major cracks (looking southwest to northeast).





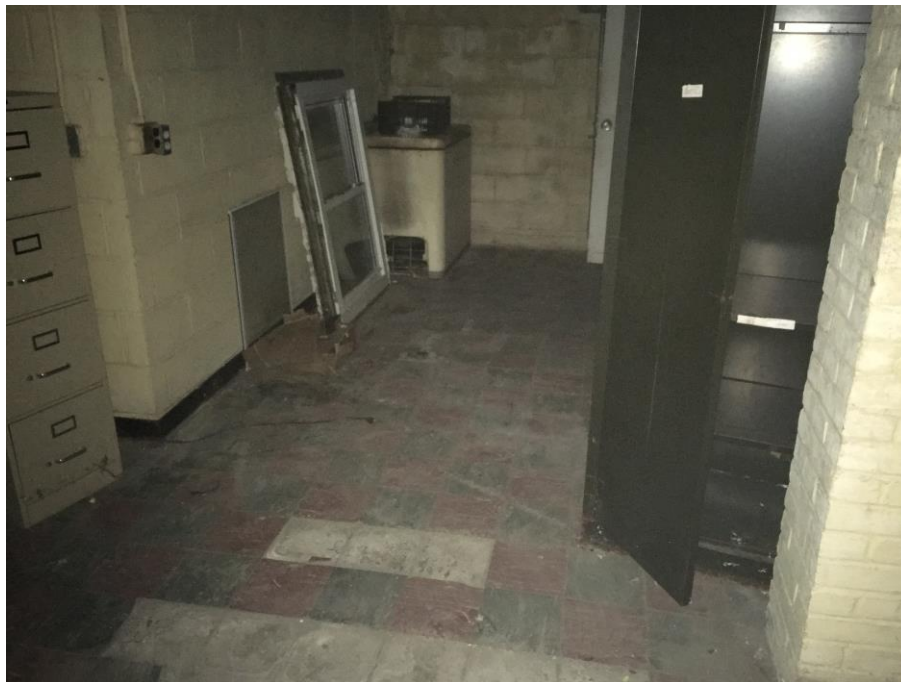
Photograph 3: Curbed lighting areas and retaining walls are in great condition with no evidence of erosion (looking west to east).



Photograph 4: Pavement across 442 Waverly Avenue is in great condition with no evidence of penetrations or cracks (looking west to east).



Photograph 5: Some tiles are missing from the floor at 441 Waverly Avenue; however, floor is still in acceptable condition. No evidence of cracks or penetrations were observed (looking northwest to southeast).



Photograph 6: Some tiles are missing from the floor at 441 Waverly Avenue; however, floor is still in acceptable condition. No evidence of cracks or penetrations were observed (looking south to north).





Photograph 7: Concrete surface of the western lot of 441 Waverly Avenue was observed to have minor cracks, but still acceptable (looking northeast to southwest).



Photograph 8: Concrete surface of the western lot of 441 Waverly Avenue was observed to have minor cracks, but still acceptable (looking south to north).