***PERIODIC REVIEW REPORT***
***June 2011 - June 2014***

# Roxy Cleaners (442024)
# North Greenbush, Rensselaer County, New York


***Prepared for:***

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau E, Section D

***Prepared by:***

EA ENGINEERING, P.C. and Its Affiliate
EA SCIENCE and TECHNOLOGY

December 2014

# Periodic Review Report
# Roxy Cleaners (442024)
# North Greenbush, New York

*Prepared for*

New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233

*Prepared by*

EA Engineering, P.C. and Its Affiliate
EA Science and Technology
6712 Brooklawn Parkway, Suite 104
Syracuse, New York 13211
(315) 431-4610

December 2014
Version: FINAL
EA Project No. 14907.14

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(315) 431-4610

12/2/2014

Christopher J. Canonica, P.E. — Date
Program Manager

12/2/2014

James C. Hayward, P.E. — Date
EA Science and Technology

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## LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| µg/L | Microgram(s) per liter |
| AWQS | Ambient Water Quality Standard |
| COC | Contaminant of concern |
| DCE | Dichloroethene |
| EA | EA Engineering, P.C. and Its Affiliate EA Science and Technology |
| EC | Engineering control |
| EN | Environmental Notice |
| EPA | U.S. Environmental Protection Agency |
| gpm | Gallon(s) per minute |
| IC | Institutional control |
| LTMP | Long-Term Monitoring Plan |
| NYSDEC | New York State Department of Environmental Conservation |
| OM&M | Operations, Maintenance, and Monitoring |
| PCE | Tetrachloroethene |
| PRR | Periodic Review Report |
| ROD | Record of Decision |
| RSO | Remedial System Optimization |
| SSDS | Subslab depressurization system |
| TCE | Trichloroethene |
| VOC | Volatile organic compound |

# EXECUTIVE SUMMARY

EA Engineering, P.C. and its affiliate EA Science and Technology (EA) have prepared this Periodic Review Report for the Roxy Cleaners site in the town of North Greenbush, Rensselaer County, New York. This work was performed for the New York State Department of Environmental Conservation (NYSDEC) under Work Assignment D007624 of EA's Superfund Standby Contract with NYSDEC. The NYSDEC has assigned the site ID No. 4-42-024. An active groundwater extraction and treatment system is in operation. This report describes activities and results at the site from 16 June 2011 to 16 June 2014.

In March 1994, a Record of Decision was completed for the site. According to the Record of Decision, the remedy includes a groundwater extraction system consisting of three pumping wells. The primary goals of the groundwater extraction and treatment system are to:

- Reduce the mass and concentration of contaminants in the groundwater
- Control migration of the groundwater contamination.

Comparative analysis of historical and recent groundwater data suggests that the overall mass concentrations of chlorinated volatile organic compounds in the groundwater plume at the vicinity of the site are being reduced and the migration of the groundwater contamination is being controlled by the extraction well network.

It is recommended that a desktop review of the Periodic Review Report be conducted every 3 years to evaluate the performance, effectiveness, and protectiveness of the pump and treat system at the site.

# 1. SITE OVERVIEW

This Periodic Review Report (PRR) has been prepared to document the ongoing performance, effectiveness, and protectiveness of the selected remedy at the Roxy Cleaners site as required by 6 New York Code of Rules and Regulations Part 375. The Roxy Cleaners site (New York State Department of Environmental Conservation [NYSDEC] Site No. 4-42-024) is located in a suburban portion of Rensselaer County, in East Greenbush, New York (Figure 1). Roxy Cleaners, Inc. operated a dry cleaning establishment at this site and allegedly spilled dry cleaning solvents, resulting in contamination of the site's soil and groundwater. Contaminants were found to be tetrachloroethene (PCE), trichloroethene (TCE), and 1,2-dichloroethene (DCE).

## 1.1 OBJECTIVES OF THE PERIODIC REVIEW

The periodic review process is used for determining if a remedy continues to be properly managed, as set forth in the Site Management Plan. The objectives of the periodic review for sites in the State Superfund Program are as follows:

- Determine if the remedy remains in place, is performing properly and effectively, and is protective of public health and the environment
- Evaluate compliance with the decision document(s) and, if available, the Site Management Plan
- Evaluate all treatment units, and recommend repairs or changes, if necessary.
- Evaluate the condition of the remedy
- Certify, if appropriate, that the intent of institutional controls (IC) continues to be met and that engineering controls (EC) remain in place, and are effective and protective of public health and the environment
- Evaluate costs.

## 1.2 REMEDIAL HISTORY

From 1959 to 1998, Roxy Cleaners, Inc. operated a dry cleaning establishment at this site and allegedly spilled dry cleaning solvents, which resulted in contamination of the site's soil and groundwater. In 1990, NYSDEC initiated a Remedial Investigation/Feasibility Study to determine the extent of the contamination. Contaminants were found to be PCE, TCE, and DCE. In January 1992, a vacuum extraction system was installed at the site as an interim remedial measure. Approximately 350 pounds of PCE were extracted from the soil above the groundwater using this system.

In March 1994, a Record of Decision (ROD)[1] was issued for the site. The ROD called for:

- Installation of onsite overburden and bedrock extraction wells
- Installation of offsite overburden extraction wells
- Operation and maintenance of a groundwater treatment system onsite and offsite
- Discharge of treated wastewater to Wynantskill Creek
- Extend the existing public water supply system to service the effected private water supply wells
- Institute a long-term monitoring program for the site.

In June 1995, a Long-Term Monitoring Plan (LTMP) was prepared for the site and was subsequently updated in December 2004. Groundwater samples have been collected during 17 sampling events from October 1989 to July 2013 by several contractors.

A vapor intrusion evaluation investigation was completed in April 2006 to assess whether or not soil vapor contamination existed in the vicinity of the site. The assessment evaluated the extent to which the vapors, if detected, posed a threat to human health or the environment. As a result of the investigation, three subslab depressurization systems (SSDS) were installed and are currently in operation.

From October 2007 to present, Aztech Environmental has performed weekly operation and maintenance visits. Influent and effluent samples are collected on a monthly basis to determine system efficiency and mass removal of contaminants. During that same period, EA Engineering, Science, and Technology, Inc. (EA) has performed oversight and quarterly reporting of operation and maintenance activities.

1. NYSDEC. 1994. Roxy Cleaners Site, Site No. 4-42-024, Town of North Greenbush, Rensselaer County, New York. Record of Decision. March.

# 2. REMEDY PERFORMANCE, EFFECTIVENESS, AND PROTECTIVENESS

Based on the site visit and a review of the January 1998 Operation, Monitoring, and Maintenance (OM&M) Plan[2], this treatment system consists of the following primary elements:

- Three extraction wells
- Treatment equipment building
- Water treatment system equipment
- Groundwater discharge system.

## 2.1 OPERATION, MONITORING, AND MAINTENANCE PLAN COMPLIANCE REPORT

The following summarizes the current OM&M program:

- The treatment system is currently operated and maintained by technicians from Aztech Environmental's Ballston Spa, New York office.

- Weekly visits are typically required to maintain the system. The system is not equipped with remote monitoring capabilities.

- Groundwater treatment system sampling (influent and effluent) is performed monthly for volatile organic compounds (VOCs).

- Twenty-three monitoring wells are currently sampled on a 15-month basis and analyzed for VOCs.

- Inspection of three SSDS was performed by Yu & Associates.

### 2.1.1 Operation, Monitoring, and Maintenance Plan Compliance Report

From June 2011 to June 2014, the State Pollutant Discharge Elimination System values for the effluent samples were below the stated discharge limitations during the reporting period for VOCs.

During the 36-month period from June 2011 to June 2014, the following OM&M compliance activities were accomplished as described in the table below.

2. Malcolm Pirnie. 1998. Operation, Monitoring, and Maintenance Plan Report. January.

| CONFIRM COMPLIANCE WITH OM&M ACTIVITIES | | | | | | |
|---|---|---|---|---|---|---|
| | Required Frequency (X) | | | | | |
| Activity | Weekly | Monthly | Quarterly | Five-Quarter | As Needed | Compliance Dates |
| Preventative Maintenance | X | | | | | June 2011 – Present |
| Groundwater (influent and effluent) Sampling | | X | | | | June 2011 – Present |
| Monitoring Well Sampling | | | | X | | June 2011 – Present |
| Air Stripper and Pump Cleaning | | | | | X | June 2011 – Present |
| Sediment Filters | | | | | X | June 2011 – Present |

### 2.1.2 Evaluation of Operation, Monitoring, and Maintenance Activities

#### 2.1.2.1 Flow Rates

From June 2011 to June 2014, the groundwater extraction and treatment system treated 16,714,909 gallons of groundwater. The individual pumping rates varied from well to well. During the period, RW-1 averaged a flow rate of approximately 0.04 gallons per minute (gpm) and RW-3 averaged a flow rate of approximately 9 gpm[3]. During the period that RW-2 was operational, the average flow rate was approximately 2 gpm. The average flow rates are calculated using the total operational time for the period, divided by the total gallons pumped during that time period. Therefore, actual operational flow rates may be higher due to treatment system down time.

#### 2.1.2.2 Groundwater Levels

During the groundwater sampling event completed in July 2013, groundwater elevations were monitored from the well network to ensure that the cones of influence created by the recovery wells were maintained (Figure 2). Recovery wells RW-2 and RW-3 are overburden wells. As shown in Figure 3A (interpolated overburden groundwater contour map), when RW-3 averages approximately 9 gpm, there is a cone of influence created by the well. A cone of influence was not maintained by RW-1 or RW-2, and is likely due to the low average flow rate for RW-1 and the downtime experienced by RW-2. Figure 3B (interpolated bedrock groundwater contour map) shows no cone of influence created by RW-1 in the bedrock groundwater table. Water levels suggest upwardly vertical hydraulic gradient from bedrock to overburden at this location and others, and downward in the vicinity of Roxy Cleaners.

3. Based on the Final OM&M, dated December 1998, the designed flow rates are as follows: 0.5 gpm for RW-01, 5 gpm for RW-02, and 16 gpm for RW-03.

#### 2.1.2.3 Influent Analytical

Monthly samples were collected from the influent lines from each of the three extraction wells in conjunction with the treatment system effluent samples. These samples provide a basis for determining the mass of contaminants recovered from the groundwater at the three wells and are also used in determining the removal efficiency of the air stripper system. The results of these analyses are summarized in Table 1.

#### 2.1.2.4 Effluent Analytical

The treatment system effluent met the discharge criteria throughout the period. Sample results in the effluent samples for several months showed concentrations of PCE ranging from 1.1 to 3.2 micrograms per liter (μg/L), which is below the maximum effluent limitation of 10 μg/L.

#### 2.1.2.5 System Maintenance

From June 2011 to June 2014, Aztech Environmental, the remedial contractor onsite, performed weekly operation and maintenance visits. Representatives from EA were onsite periodically to discuss system operation and performance, as well as any recurring issues. From June 2011 to June 2014, the system ran continuously and upgrades were needed as described below.

Between June 2011 and June 2014, the groundwater treatment system removed 16,714,909 gallons of contaminated water. During the quarterly operation and maintenance reports, mass removal was calculated for the three contaminants of concern (COCs) (PCE, TCE, and DCE). During this 36-month period, the treatment system removed 0.69 pounds of PCE, TCE, and DCE in the process.

A treatment system remedial site optimization (RSO) study and report are in progress at this time. The RSO report will include current system efficiency and improvements or upgrades necessary to optimize treatment system performance.

## 2.2 MONITORING PLAN COMPLIANCE REPORT

The 1995 LTMP, 1998 OM&M Plan[1], and updated LTMP (2004) are the available elements of the Site Management Plan for the site. The 1995 LTMP required initial monthly samples for selected wells, followed by quarterly sampling. Other select wells required sampling on a semi-annual and/or annual basis. The OM&M manual required quarterly groundwater sampling from the monitoring well network. The 2004 updated LTMP required annual sampling for 2 years. Following the 2 years of sampling, the sampling frequency could be reduced as directed by the NYSDEC. Currently, as directed by the NYSDEC, the monitoring wells are sampled on a five-quarter basis (every 15 months) as directed under DER-10. The most recent event was completed in July 2013. Therefore, the monitoring plan compliance section of this PRR assesses whether the site has been managed accordingly.

### 2.2.1 Groundwater Sampling

The site includes a network of 23 groundwater monitoring wells that are currently used to monitor plume migration and provide a line of evidence necessary to demonstrate the effectiveness of the groundwater remediation. A total of 29 groundwater monitoring wells was originally included in the groundwater sampling program; however, 6 wells either cannot be located or the integrity of the well has been compromised: MW-101A, MW-102, MW-103, MW-104A, MW-107, and MW-109. Two new monitoring wells (MW-112A and MW-113A) were installed in March 2012 to monitor the leading edge of the groundwater plume. In order to provide the data for compliance monitoring, groundwater sampling is performed on a five-quarter basis (every 15 months) to capture seasonal changes in groundwater elevation.

The monitoring well network consists of overburden and bedrock monitoring wells. Interpreted overburden and bedrock groundwater monitoring well elevation maps illustrating the direction of groundwater flow for the July 2013 gauging event are detailed in Table 2 and shown in Figures 3A and 3B. Hydraulic groundwater gradient across the site was determined to be 0.0073 in the overburden wells and 0.010 in the bedrock wells. The observed groundwater flow direction in the overburden and bedrock wells was is in a westerly direction, which follows the same general direction as topography.

During the July 2013 sampling event, all monitoring wells were inspected prior to gauging and sampling, and their condition was noted on the groundwater purge forms. During the well inspections, 25 monitoring wells were found and inspected. Two monitoring wells (MW-1 and MW-110B) were not located, and MW-104A and MW-109 were dry. During the July 2013 sampling event, the following well conditions were noted:

- MW-1 was unable to be located.
- MW-111 bolts on the well cover and the well cap were missing.
- MW-105A was missing the well cap.
- MW-106 well cover was broken.
- TW-5 J-plug and well cover were broken.

Currently, groundwater samples are analyzed for VOCs by U.S. Environmental Protection Agency (EPA) Method 8260B. The following sections detail analytical results for the overburden and bedrock monitoring wells.

### 2.2.2 Overburden Monitoring Wells

Historically, 5 overburden monitoring wells (MW-2, MW-101A, MW-103A, MW-107A, and MW-111) have had concentrations of COCs ( PCE, TCE, and DCE) above the Ambient Water Quality Standard (AWQS) of 5 μg/L. Since initial sampling in October 1989, the general concentrations of these analytes have decreased in these monitoring wells. A sixth well (TW-5) has been sampled five times since May 2008, with consistent concentrations above the 5 μg/L standard. PCE was the most prevalent analyte and was detected greater than the AWQS of

5 μg/L in 4 overburden wells ranging in concentration from 6.7 μg/L (MW-2) to 310 μg/L (MW-103A). *Cis*-1,2-DCE was detected at MW-103A with a concentration of 19 μg/L, which is greater than the AWQS of 5 μg/L. TCE was detected at MW-103A at a concentration of 11.0 μg/L which is greater than the corresponding AWQS of 5 μg/L.

Groundwater analytical data for the July 2013 sampling event are summarized in Table 3 and shown on Figure 4. Isopleths for PCE in the overburden wells are depicted on Figure 5. The available historical data for the COCs (TCE, PCE, and DCE) are presented in Table 4. These data include 17 groundwater sampling events completed from October 1989 to July 2013. Trend graphs for available historical analytical data are provided in Figures 6A through 6F.

### 2.2.3 Bedrock Monitoring Wells

Three bedrock monitoring wells (MW-101, MW-103, and MW-107) have historically had concentrations of one or more analyte (PCE, TCE, and DCE) over the AWQS. In July 2013, MW-101 was the only bedrock monitoring well with detections of PCE over the AWQS. MW-101 located in the source area had a PCE detection of 10 μg/L above the AWQS of 5 μg/L.

### 2.2.4 Confirm Compliance with Monitoring Plan

During the 36-month period from June 2011 to June 2014, the following monitoring plan compliance activities were accomplished:

| | Required Frequency (X) | | | | | |
|---|---|---|---|---|---|---|
| **Activity** | **Semi-Annual** | **Monthly** | **Quarterly** | **Five-Quarter** | **As Needed** | **Compliance Dates** |
| Groundwater Sampling | | | | X | | June 2011-Present |

### 2.2.5 Confirm Performance Standards Are Being Met

Both present and available historical data (Table 4) were reviewed to determine if there are any notable trends in the data concentrations. Previous investigations at this site indicate that the primary COCs are PCE, TCE, and DCE. Historical data reveal that 8 monitoring wells (MW-2, MW-101, MW-101A, MW-103, MW-103A, MW-107, MW-107A, and MW-111) have had concentrations of one or more analyte (PCE, TCE, and DCE) over the AWQS standard of 5 μg/L. Based on historical trend graphs (Figures 6A through 6F), the general concentrations of these analytes have decreased in these monitoring wells since initial sampling in October 1989. Historical analytical data reveal that various wells have not had VOC analytes above the AQWS since initial sampling in October 1989: MW-1, MW-1B, MW-3, MW-4, MW-4B, MW-102, MW-102A, MW-104, MW-105, MW-106, MW-104A, MW-106A, MW-108A, and MW-109.

PCE was detected at a concentration above the AWQS of 5 μg/L in monitoring well MW-105A (21 μg/L) beginning in the May 2008 sampling event. As a result of the detection in MW-105A, the extraction rate at RW-3 was increased and monitoring well MW-113A was installed.

Concentrations of PCE in MW-105A (8.1 µg/L) decreased since the increase in the extraction rate from RW-3 but remained above the AWQS during the July 2013 sampling event (8.1 µg/L). MW-113A did not reveal a detection of PCE during the July 2013 sampling event and is the furthest hydraulically downgradient well from the site as well as MW-105A and RW-3.

## 2.3 SUBSLAB DEPRESSURIZATION SYSTEM

As a result of the vapor intrusion investigation, three SSDSs were installed in January 2008. In November 2009, an initial inspection was complete on the three SSDSs and determined to be in working order. Following the initial inspection, the NYSDEC sends out annual letters to the owners reminding them to, and how, to check their systems and to call in if they suspect any problems. If they report a problem, the NYSDEC will have a contractor inspection and complete any repairs that are needed. As of late, there have not been any issues reported with the SSDS systems.

## 2.4 INSTITUTIONAL CONTROL/ENGINEERING CONTROL CERTIFICATION PLAN REPORT

IC/ECs at the site currently consist of:

- The Environmental Notice (EN) prepared for the site by NYSDEC, dated November 22, 2013
- Maintenance of restricted access and posted warning notifications
- Operation and maintenance of groundwater extraction and treatment system
- Environmental monitoring to determine effectiveness of the remedy
- Operation of three SSDSs.

### 2.4.1 Institutional Control/Engineering Control Requirements and Compliance

Determination of compliance with the IC/EC at the site is made based on the following criteria:

- The IC/EC(s) applied at the site are in place and unchanged from the previous certification (presented in the OM&M manual).
- Nothing has occurred that would impair the ability of such controls to protect the public health and the environment, or constitute a violation or failure to comply with any element of the OM&M plan for such controls.
- Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of such controls.

- Future access cannot be guaranteed; however, access for maintenance and inspections has not been an issue to date and is not anticipated to change.

### 2.4.2 Institutional Control/Engineering Control Certification Form

The completed IC/EC Certification Form is provided as Appendix A.

# 3. COST EVALUATION

## 3.1 SUMMARY OF COSTS

The costs incurred between June 2011 and June 2014 were for the site management field activities, which included, but were not limited to, the following:

- Two 15-month groundwater sampling events occurred: March 2012 and July 2015 (former contract) at 23 monitoring wells. Two duplicate samples were collected at MW-103A and MW-105A. Groundwater samples were analyzed for VOCs by EPA Method 8260B. Historically, groundwater samples were analyzed by EPA Method 624.

- Weekly system inspections were completed by Aztech Environmental between June 2011 and June 2014. Aztech Environmental completed weekly site visits to perform system operation checks and routine equipment maintenance. Monthly treatment system sampling was completed by Aztech Environmental.

- Two annual summary report describing laboratory analytical results were prepared and submitted to the NYSDEC. All reported data and analysis were in tabular form and graphical form (e.g., figures with interpretive isopleths and temporal line graphs of COCs) and were used for characterizing the site. Reporting included Category A deliverables for laboratory data with an internal quality assurance/quality control report from the laboratory.

- Twelve quarterly operations and maintenance reports were prepared detailing the treatment system's operation.

- An additional sub-slab soil sampling event was completed at the site in January 2014

- A Site Management Plan was completed.

- A Draft Remedial Site Optimization plan is pending.

- Site management also included preparation of this PRR. At a minimum, the PRR will be used to verify that IC/ECs are still in effect and performing as designed.

Total operating costs over this reporting period (36 months) were approximately $167,257. The cost breakdown is as follows:

- EA: $106,000
- Aztech Environmental: $59,000
- Laboratories: $2,257

The average contaminant removal during the reporting period was 0.020 pounds/month and the average monthly cost for system operations is approximately $4,646. For this reporting period, the average contaminant removal cost per pound is approximately $23,230.

# 4. CONCLUSIONS/RECOMMENDATIONS

## 4.1 CONCLUSIONS

As described in the March 1994 ROD, the primary goals of the groundwater pump and treat system are:

- Reduce the mass and concentration of contaminants in the groundwater
- Control migration of the groundwater contamination.

Based on historical analytical trend graphs (Figures 6A through 6F), analytical data suggest that the overall mass concentrations of chlorinated VOCs in the groundwater at the vicinity of the site are being reduced.

The increase in the extraction rate at RW-3, reduction of PCE in MW-105A, and the non-detect sample results in MW-113A (the furthest downgradient monitoring well) suggest the treatment system is effectively reducing concentration mass and preventing migration of the plume.

## 4.2 RECOMMENDATIONS

During the 36-month performance period, there were periods when the treatment system was turned off for repairs. The treatment system currently requires weekly operations and maintenance in order to ensure the performance objectives of the ROD are met. An RSO assessment is currently being completed for the site. The RSO will evaluate alternative technologies and possible system upgrades to reduce operation durations and cost.


LEGEND

★ Site Location

Miles

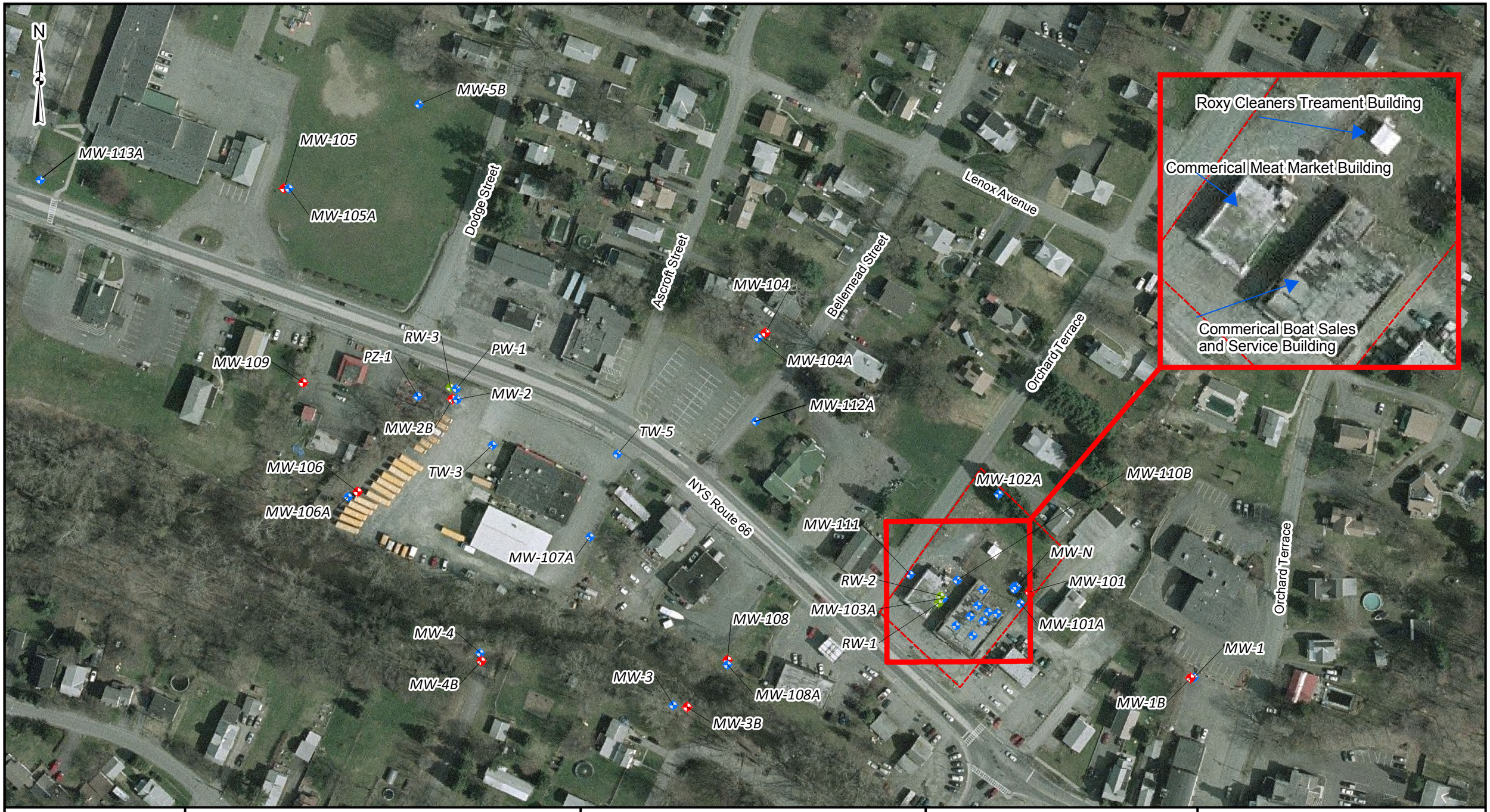
0 0.125 0.25 0.5

Source: ESRI Street Maps 2010

ROXY CLEANERS SITE (Site No. 4-42-024)
PERIODIC REVIEW REPORT
NORTH GREENBUSH, NEW YORK

FIGURE 1
SITE LOCATION MAP

| PROJECT MGR: JCH | DESIGNED BY: JCP | CREATED BY: JCP | CHECKED BY: JCH | SCALE: AS SHOWN | DATE: DECEMBER 2014 | PROJECT NO: 1490714 | FILE NO: GIS/PROJECTS/ FIGURE1.MXD |
|---|---|---|---|---|---|---|---|




**Legend**

- Overburden Monitoring Well
- Bedrock Monitoring Well
- Recovery Well
- Roxy Cleaners

Source: NYS GIS Clearing House

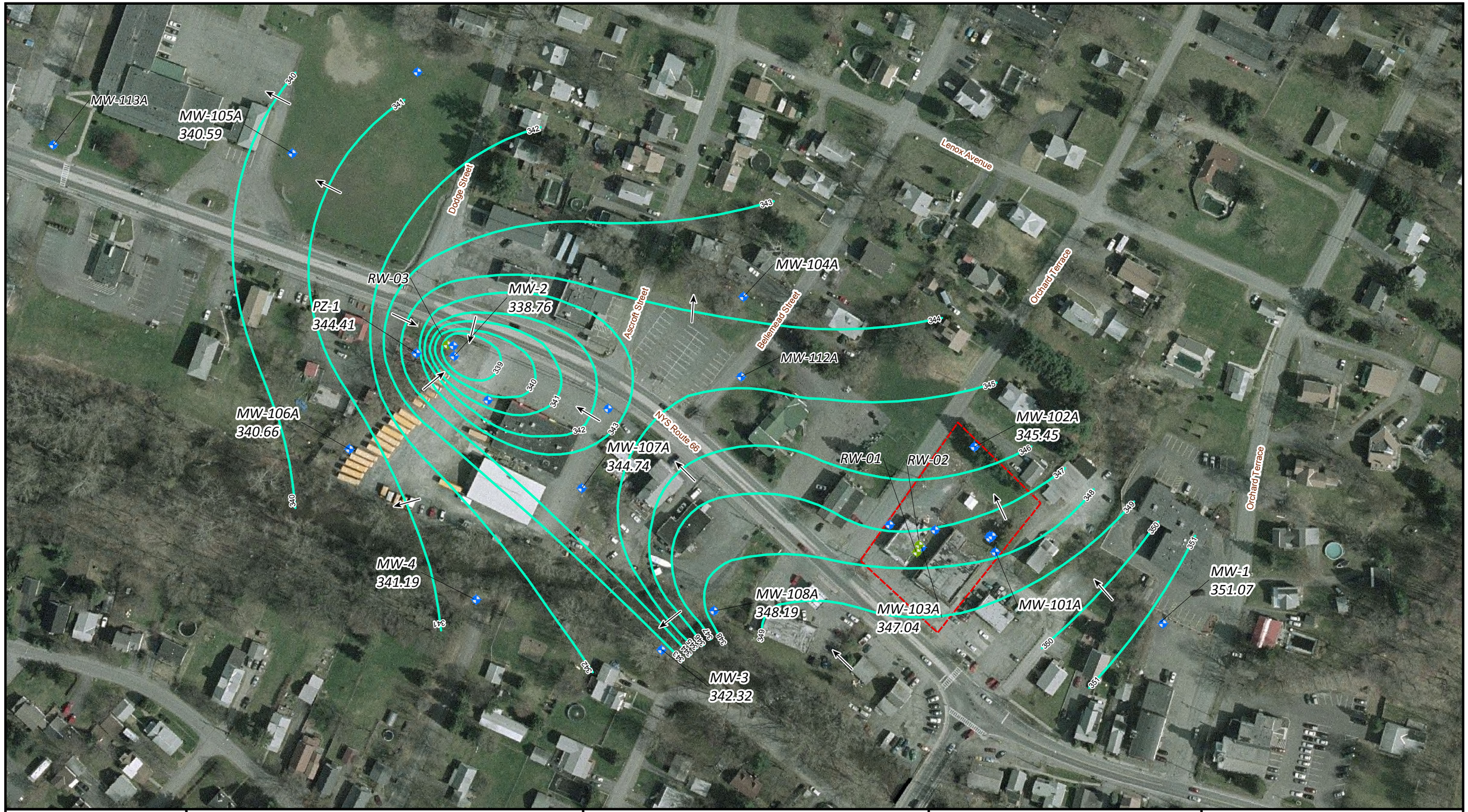
ROXY CLEANERS SITE (Site No. 4-42-024)
PERIODIC REVIEW REPORT
NORTH GREENBUSH, NEW YORK

FIGURE 2
MONITORING WELL
LOCATIONS

0 125 250
Feet

1 inch = 125 feet

| PROJECT MGR: | DESIGNED BY: | CREATED BY: | CHECKED BY: | SCALE: | DATE: | PROJECT NO: | FILE NO: |
|---|---|---|---|---|---|---|---|
| JCH | MJS | MJS | JAV | AS SHOWN | DECEMBER 2014 | 1490714 | GIS/PROJECTS/ FIGURE2.MXD |




**Legend**

- Overburden Monitoring Well
- Recovery Well
- Groundwater Contour 1-ft Interval Above Mean Sea Level (AMSL)
- Interpreted Groundwater Flow Direction
- Roxy Cleaners
- 999 Groundwater Elevation Ft Above Mean Level (AMSL)

Source: NYS GIS Clearinghouse/ USGS DEM
*Not used in interpolation of groundwater contours

ROXY CLEANERS SITE (Site No. 4-42-024)
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NORTH GREENBUSH, NEW YORK

FIGURE 3A
INTERPOLATED OVERBURDEN GROUNDWATER CONTOUR MAP
22 JULY 2013

0 130 260
Feet

1 inch = 130 feet

| PROJECT MGR: | DESIGNED BY: | CREATED BY: | CHECKED BY: | SCALE: | DATE: | PROJECT NO: | FILE NO: |
|---|---|---|---|---|---|---|---|
| JCH | JCP | JCP | JAV | AS SHOWN | DECEMBER 2014 | 1490714 | GIS/PROJECTS/ FIGURE4A.MXD |


**Legend**

- Bedrock Monitoring Well
- Recovery Well
- Groundwater Contour 1-ft Interval Above Mean Sea Level (AMSL)
- Interpreted Groundwater Flow Direction
- Roxy Cleaners
- 999 Groundwater Elevation Ft Above Mean Level (AMSL)

Source: NYS GIS Clearinghouse/ USGS DEM
*Not used in interpolation of groundwater contours

ROXY CLEANERS SITE (Site No. 4-42-024)
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NORTH GREENBUSH, NEW YORK

FIGURE 3B
INTERPOLATED BEDROCK GROUNDWATER CONTOUR MAP
22 JULY 2013

0 150 300
Feet
1 inch = 130 feet

| PROJECT MGR: | DESIGNED BY: | CREATED BY: | CHECKED BY: | SCALE: | DATE: | PROJECT NO: | FILE NO: |
|---|---|---|---|---|---|---|---|
| JCH | JCP | JCP | JAV | AS SHOWN | DECEMBER 2014 | 1490714 | GIS/PROJECTS/ FIGURE4B.MXD |


**Legend**

- Overburden Monitoring Well
- Bedrock Monitoring Well
- Recovery Well
- Other Monitoring Well
- ProposedWellLocations

PCE = Tetrachloroethene
TCE = Trichloroethene
DCE = cis-1,2 Dichloroethene

| NYSDEC AWQS | (µg/L) |
|---|---|
| PCE | 5 |
| TCE | 5 |
| DCE | 5 |

**Bold**: Concentration exceeded 6 New York State Department of Environmental Conservation (NYSDEC) Ambient Water Quality Standard (AWQS)

J = Analyte detected, estimated concentration
D = Diluted sample
E = Exceeded calibration range

Source: NYS GIS Clearing House

# ROXY CLEANERS SITE (Site No. 4-42-024)
# PERIODIC REVIEW REPORT
# NORTH GREENBUSH, NEW YORK

## FIGURE 4
## CVOC CONCENTRATIONS
## JULY 2013

0 125 250
Feet

1 inch = 125 feet

| PROJECT MGR: | DESIGNED BY: | CREATED BY: | CHECKED BY: | SCALE: | DATE: | PROJECT NO: | FILE NO: |
|---|---|---|---|---|---|---|---|
| JCH | JCP | JCP | JAV | AS SHOWN | DECEMBER 2014 | 1490714 | GIS/PROJECTS/ FIGURE5.MXD |


**Legend**

- Overburden Monitoring Well
- Recovery Well
- Other Monitoring Well
- Roxy Cleaners
- CVOC Isopleth

MW-99
PCE 999

----- Well ID

----- Tetrachloroethene (µg/L)

Source: NYS GIS Clearinghouse/ USGS DEM

*Not used in interpolation of groundwater contours

Note:
J = Analyte detected, estimated concentration
E = Exceeded calibration range

# ROXY CLEANERS SITE (Site No. 4-42-024)
# PERIODIC REVIEW REPORT
# NORTH GREENBUSH, NEW YORK

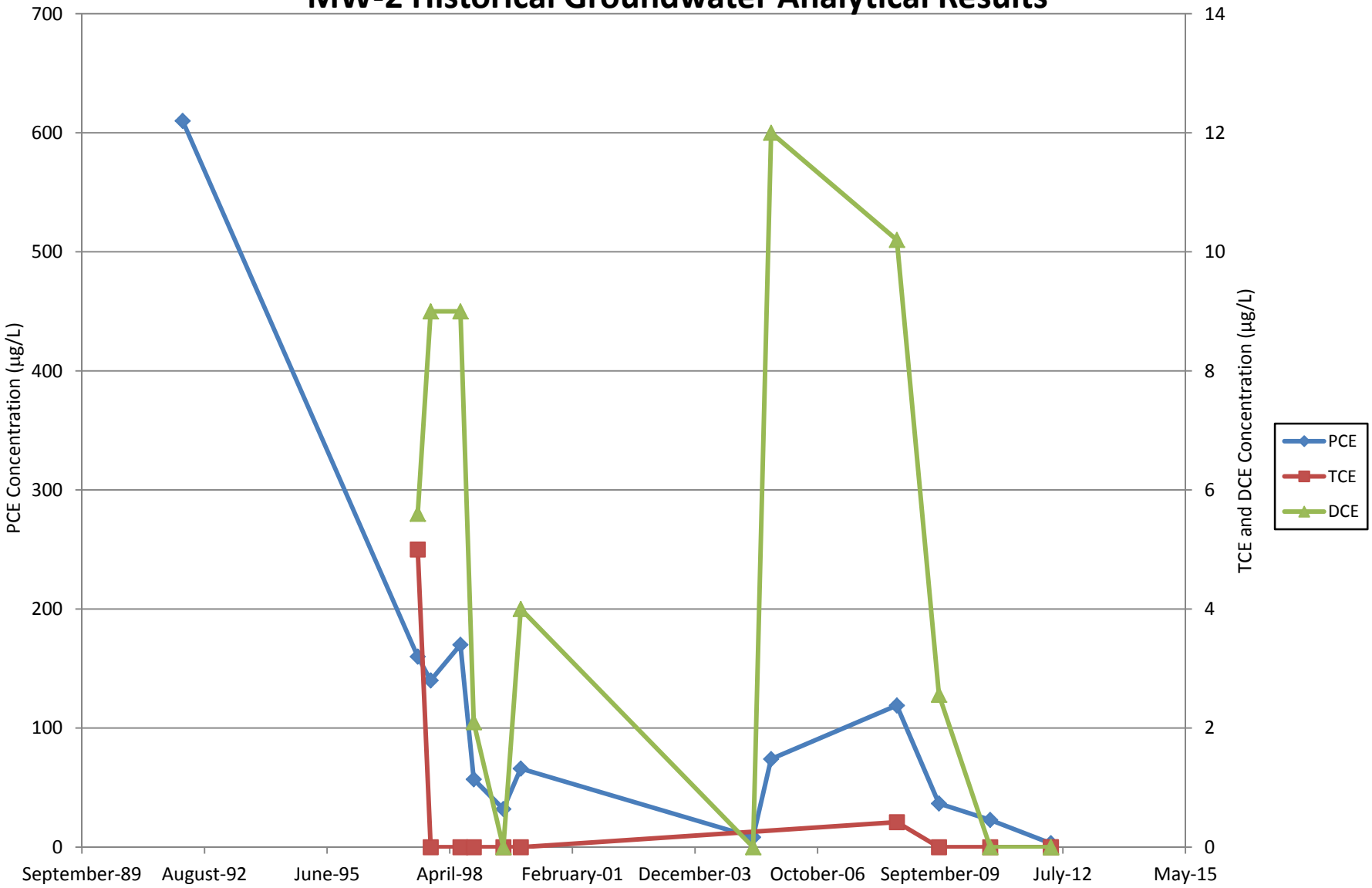
## FIGURE 5
## OVERBURDEN PCE ISOPLETH MAP
## JULY 2013

0 160 320
Feet

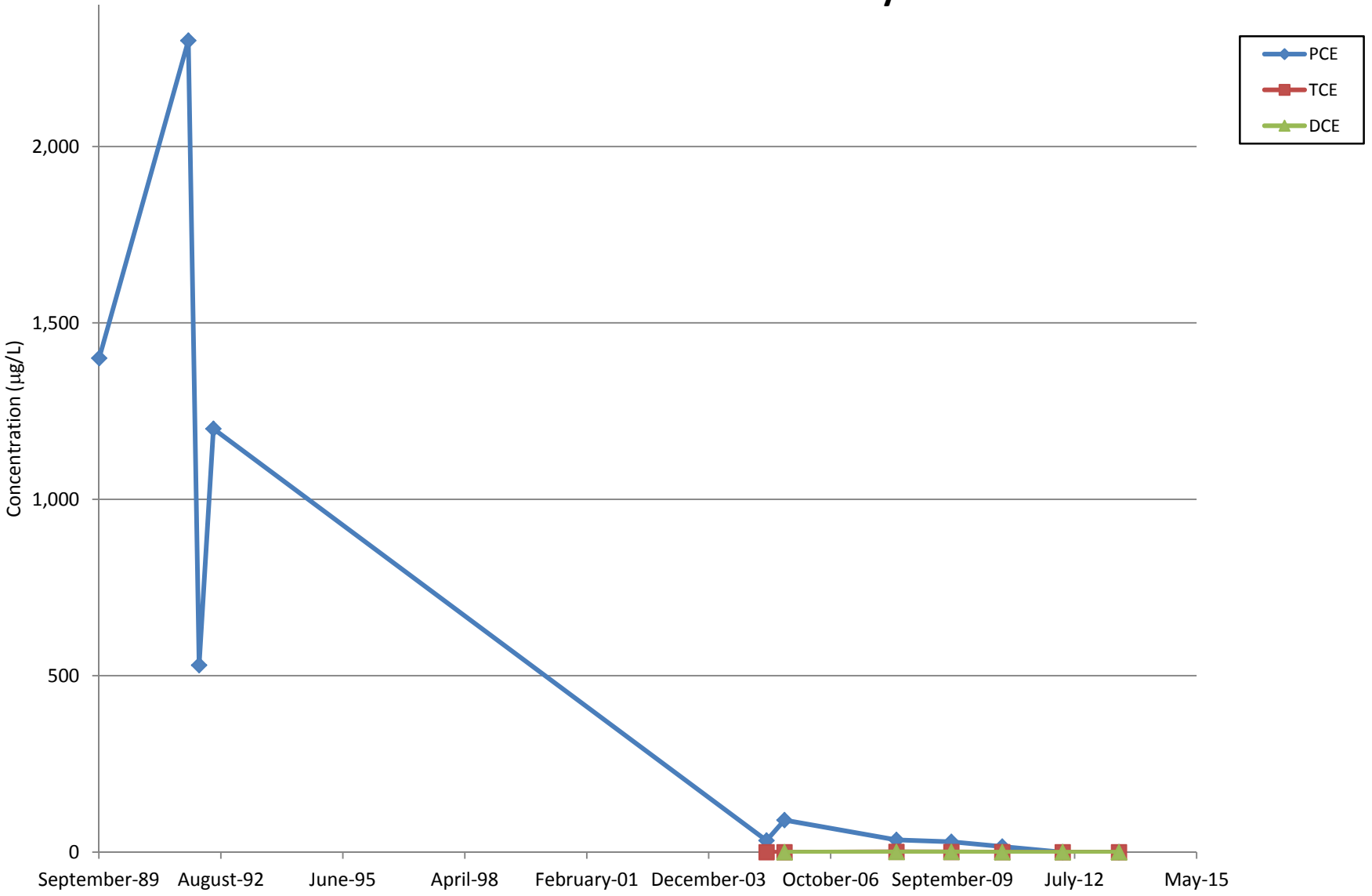
1 inch = 160 feet

| PROJECT MGR: | DESIGNED BY: | CREATED BY: | CHECKED BY: | SCALE: | DATE: | PROJECT NO: | FILE NO: |
|---|---|---|---|---|---|---|---|
| JCH | JCP | JCP | JAV | AS SHOWN | DECEMBER 2014 | 1490714 | GIS/PROJECTS/ FIGURE5.MXD |

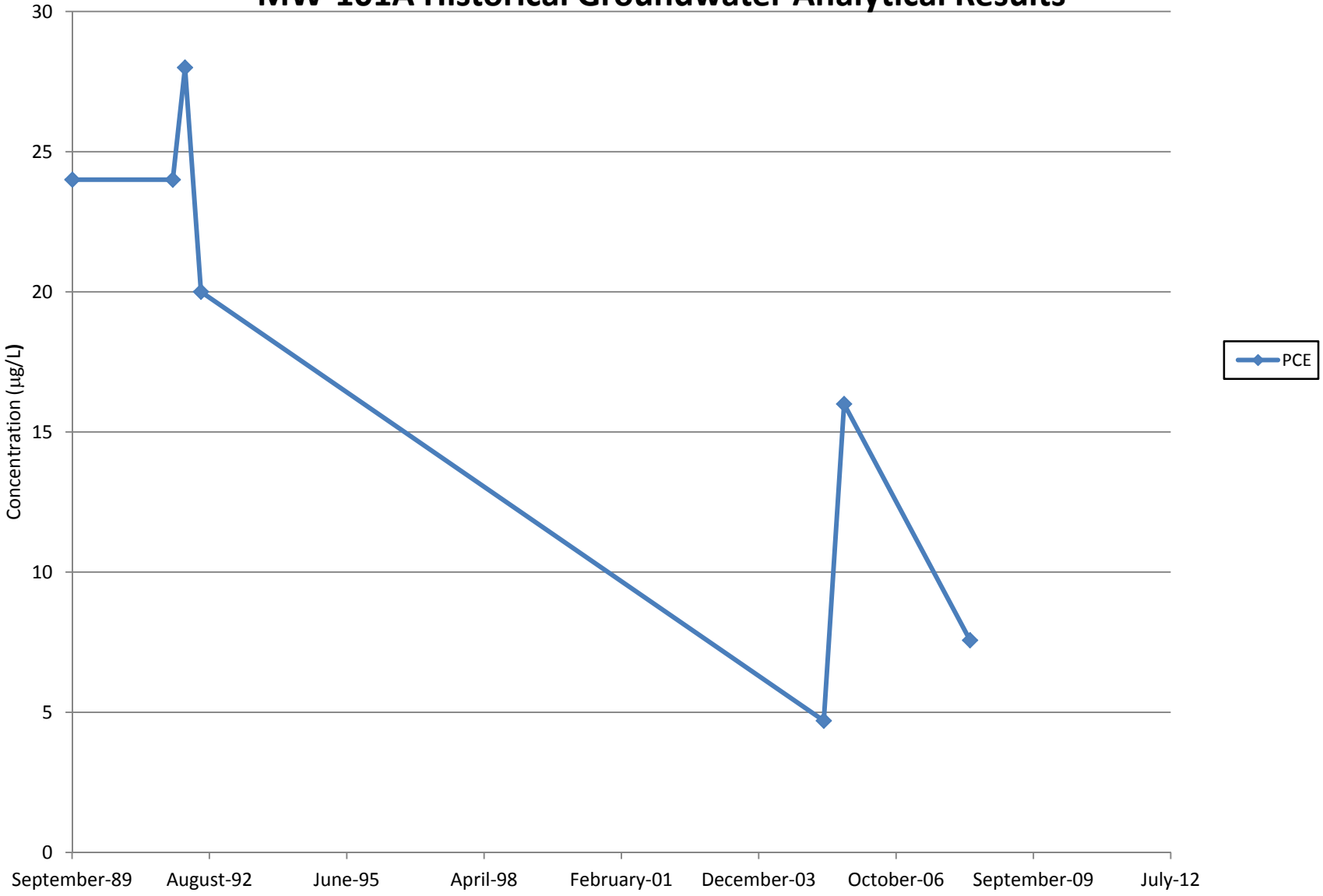
# Figure 6A
## MW-2 Historical Groundwater Analytical Results



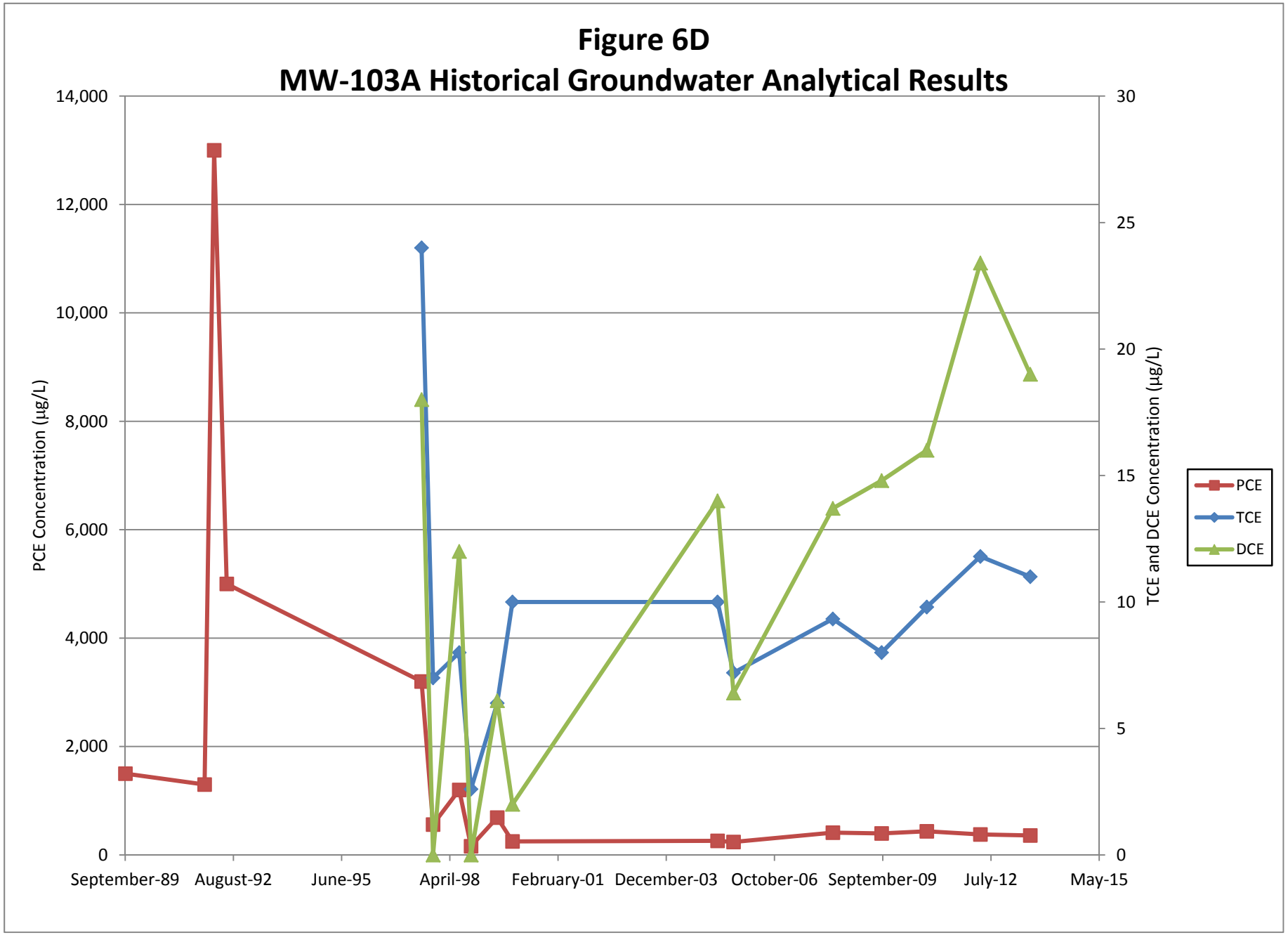
# Figure 6B
# MW-101 Historical Groundwater Analytical Results



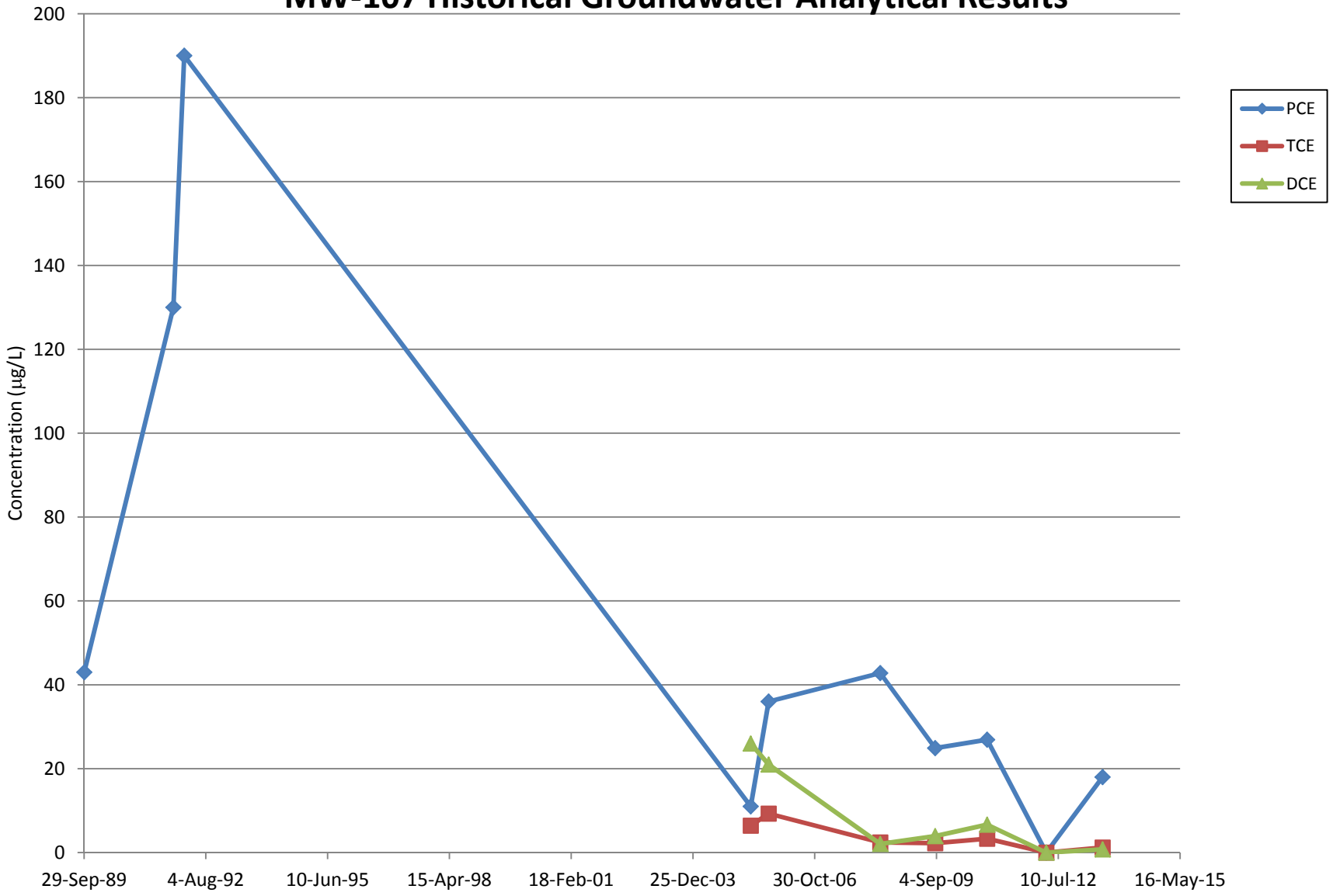
# Figure 6C
# MW-101A Historical Groundwater Analytical Results



# Figure 6D
## MW-103A Historical Groundwater Analytical Results



# Figure 6E
## MW-107 Historical Groundwater Analytical Results



# Figure 6F
# MW-107A Historical Groundwater Analytical Results

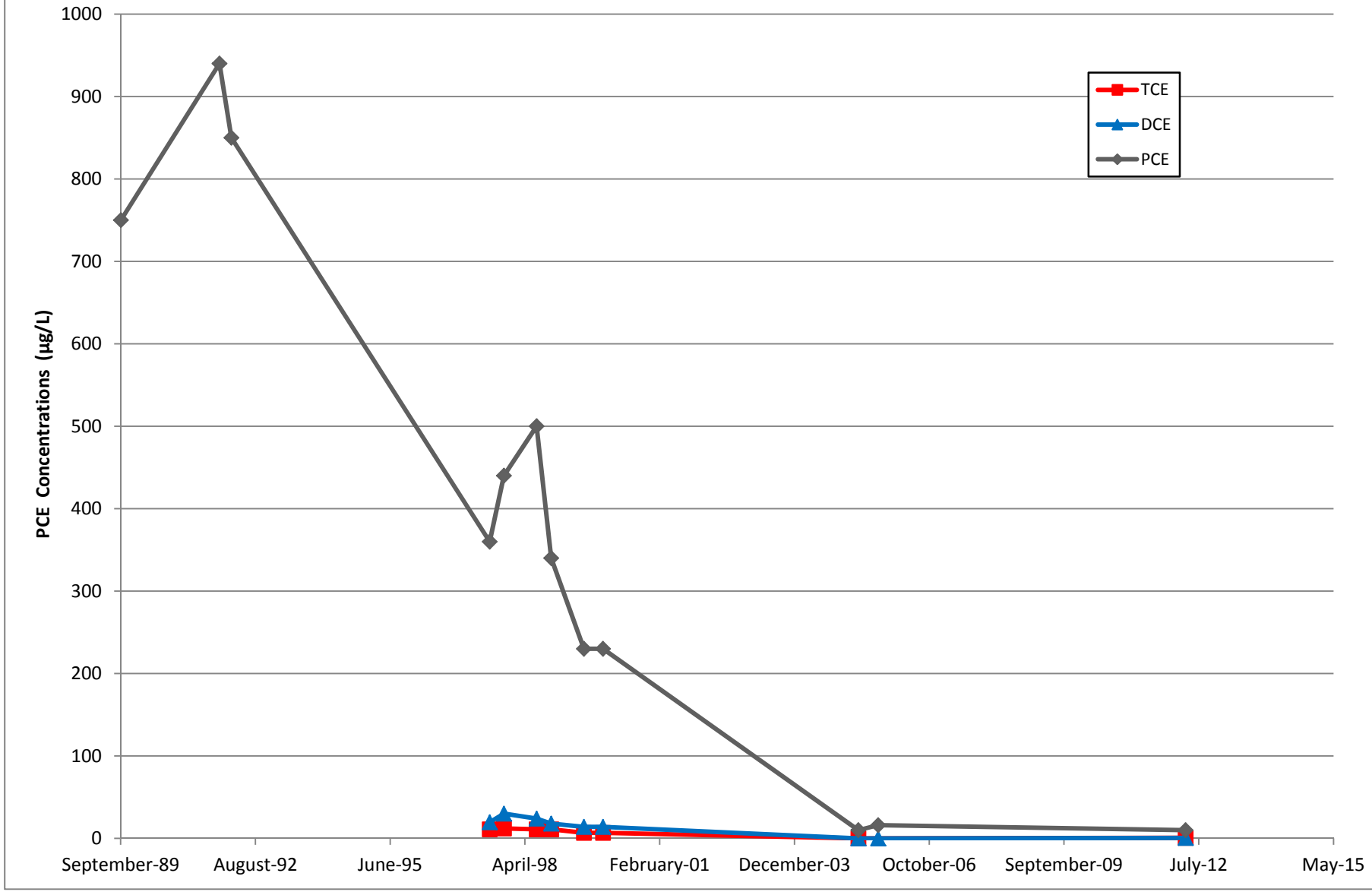


TABLE 1 SUMMARY OF DETECTED VOLATILE ORGANIC COMPOUNDS FOR TREATMENT SYSTEM SAMPLES (JUNE 2011 THROUGH JUNE 2014)

| Parameter | RW-01 | | | | | | | | | | | NYSDEC AWQS Values (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **17-Jun-11** | **22-Jul-11** | **19-Aug-11** | **16-Sep-11** | **14-Oct-11** | **18-Nov-11** | **16-Dec-11** | **27-Jan-12** | **24-Feb-12** | **30-Mar-12** | **27-Apr-12** | |
| Tetrachloroethene | | **360** | **350** | **350** | | | | | | **350** | **360** | 5 |
| Trichloroethene | | **37.0** | **33.0** | **32.0** | | | | | | **24.0** | **30** | 5 |
| *cis* 1,2-dichloroethene | | **95.0** | **82.0** | **82.0** | | | | | | **53.0** | **74** | 5 |
| Totalizer Reading (gal) | 488,270 | 490,660 | 492,530 | 495,100 | 496,270 | 497,940 | 498,940 | 500,810 | 501,640 | 503,810 | 505,060 | |
| Total Flow (gal) | 1,989,660 | 1,992,050 | 1,993,920 | 1,996,490 | 1,997,660 | 1,999,330 | 2,000,330 | 2,002,200 | 2,003,030 | 2,005,200 | 2,006,450 | |
| Gallons between samples | | 2,390 | 1,870 | 2,570 | 1,170 | 1,670 | 1,000 | 1,870 | 830 | 2,170 | 1,250 | |

| Parameter | RW-02 | | | | | | | | | | | NYSDEC AWQS Values (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **17-Jun-11** | **22-Jul-11** | **19-Aug-11** | **16-Sep-11** | **14-Oct-11** | **18-Nov-11** | **16-Dec-11** | **27-Jan-12** | **24-Feb-12** | **30-Mar-12** | **27-Apr-12** | |
| Tetrachloroethene | | **190** | **170** | **170** | | | | | | **150** | **180** | 5 |
| Trichloroethene | | **5.2** | ND | ND | | | | | | ND | ND | 5 |
| *cis* 1,2-dichloroethene | | **15.0** | **12.0** | **12.0** | | | | | | ND | **9.9** | 5 |
| Totalizer Reading (gal) | 6,294,230 | 6,426,580 | 6,522,940 | 6,525,190 | 6,580,260 | 6,716,330 | 6,824,210 | 6,983,980 | 7,088,930 | 7,219,110 | 7,321,640 | |
| Total Flow (gal) | 27,083,790 | 27,216,140 | 27,312,500 | 27,314,750 | 27,369,820 | 27,505,890 | 27,613,770 | 27,827,320 | 27,932,270 | 28,062,450 | 28,164,980 | |
| Gallons between samples | | 132,350 | 96,360 | 2,250 | 55,070 | 136,070 | 107,880 | 213,550 | 104,950 | 130,180 | 102,530 | |

| Parameter | RW-03 | | | | | | | | | | | NYSDEC AWQS Values (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **17-Jun-11** | **22-Jul-11** | **19-Aug-11** | **16-Sep-11** | **14-Oct-11** | **18-Nov-11** | **16-Dec-11** | **27-Jan-12** | **24-Feb-12** | **30-Mar-12** | **27-Apr-12** | |
| Tetrachloroethene | | **190** | **170** | **170** | | | | | | **170** | **170** | 5 |
| Trichloroethene | | **5.2** | ND | ND | | | | | | ND | ND | 5 |
| *cis* 1,2-dichloroethene | | **15.0** | **12.0** | **12.0** | | | | | | **9.2** | **8.5** | 5 |
| Totalizer Reading (gal) | 1,226,910 | 1,606,230 | 1,950,670 | 2,363,030 | 2,762,850 | 3,255,370 | 3,644,990 | 39 | 438,500 | 976,740 | 1,395,100 | |
| Total Flow (gal) | 1,226,910 | 1,606,230 | 1,950,670 | 2,363,030 | 2,762,850 | 3,255,370 | 3,644,990 | 3,645,029 | 4,083,529 | 5,060,269 | 5,478,629 | |
| Gallons between samples | | 379,320 | 344,440 | 412,360 | 399,820 | 492,520 | 389,620 | 39 | 438,461 | 538,240 | 418,360 | |

| Parameter | SYSTEM EFFLUENT | | | | | | | | | | | Effluent Limitations Daily Max. Load [a] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **17-Jun-11** | **22-Jul-11** | **19-Aug-11** | **16-Sep-11** | **14-Oct-11** | **18-Nov-11** | **16-Dec-11** | **27-Jan-12** | **24-Feb-12** | **30-Mar-12** | **27-Apr-12** | |
| Tetrachloroethene | | ND | ND | ND | | | | | | | ND | 10 |
| Trichloroethene | | ND | ND | ND | | | | | | | ND | 10 |
| *cis* 1,2-dichloroethene | | ND | ND | ND | | | | | | | ND | 10 |
| Totalizer Reading (gal) | 8,009,410 | 8,523,470 | 8,966,140 | 9,383,320 | 9,839,380 | 10,469,640 | 10,968,140 | 0 | 0 | 359 | 369 | |
| Total Flow (gal) | 30,546,099 | 31,060,159 | 31,502,829 | 31,920,009 | 32,376,069 | 33,006,329 | 33,504,829 | 33,720,288 | 34,264,529 | 34,935,119 | 35,457,259 | |
| Gallons between samples | | 514,060 | 442,670 | 417,180 | 456,060 | 630,260 | 498,500 | 215,459 | 544,241 | 670,590 | 522,140 | |

(a) Treatment effluent limitations and monitoring requirements set forth in the Treatment System Operations and Maintenance Manual Dated July 1997

NOTE:
NYSDEC = New State Department of Environmental Conservation
AWQS = Ambient Water Quality Standard
µg/L = Micrograms per liter
ND = Non-detect.
All samples are reported in µg/L.
All samples analyzed by U.S. Environmental Protection Agency Method 624.
**Bold** values indicate that the analyte was detected greater than the NYSDEC AWQS.
Analytical data results provided by NYSDEC Laboratories.

TABLE 1 (Continued)

| Parameter | 25-May-12 | 29-Jun-12 | 13-Jul-12 | 24-Aug-12 | 21-Sep-12 | 19-Oct-12 | 16-Nov-12 | 14-Dec-12 | 25-Jan-13 | 15-Feb-13 | 22-Mar-13 | NYSDEC AWQS Values (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **RW-01** | | | | | | | | | | | |
| Tetrachloroethene | | | **320** | **310** | **310** | **200** | **380** | **440** | **460** | **400** | **340** | 5 |
| Trichloroethene | | | **29** | **33** | **31** | **24** | **28** | **31** | **38** | **32** | **28** | 5 |
| *cis* 1,2-dichloroethene | | | **71** | **85** | **76** | **34** | **63** | **62** | **80** | **65** | **63** | 5 |
| Totalizer Reading (gal) | 506,350 | 507,840 | 507,930 | 509,760 | 511,790 | 513,160 | 514,970 | 515,940 | 518,000 | 519,150 | 520,920 | |
| Total Flow (gal) | 2,007,740 | 2,009,230 | 2,009,990 | 2,011,820 | 2,013,850 | 2,015,220 | 2,017,030 | 2,018,000 | 2,020,060 | 2,021,210 | 2,022,980 | |
| Gallons between samples | 1,290 | 1,490 | 90 | 1,830 | 2,030 | 1,370 | 1,810 | 970 | 2,060 | 1,150 | 1,770 | |
| | **RW-02** | | | | | | | | | | | |
| Parameter | **25-May-12** | **29-Jun-12** | **13-Jul-12** | **24-Aug-12** | **21-Sep-12** | **19-Oct-12** | **16-Nov-12** | **14-Dec-12** | **25-Jan-13** | **15-Feb-13** | **22-Mar-13** | NYSDEC AWQS Values (µg/L) |
| Tetrachloroethene | | | **160** | **170** | **210** | **140** | **220** | **260** | **220** | **200** | **180** | 5 |
| Trichloroethene | | | ND | **6.5** | ND | **5.4** | **5.7** | **6.6** | **7.6** | **5.8** | 4.6 | 5 |
| *cis* 1,2-dichloroethene | | | **9.6** | **11** | **5.9** | **7.8** | **11** | **9.8** | **9.8** | **8.1** | **7.6** | 5 |
| Totalizer Reading (gal) | 7,381,430 | 7,473,530 | 7,522,520 | 7,681,280 | 7,794,460 | 7,896,260 | 7,991,600 | 8,044,520 | 8,195,480 | 8,246,560 | 8,359,150 | |
| Total Flow (gal) | 28,224,770 | 28,316,870 | 28,365,860 | 28,524,620 | 28,637,800 | 28,739,600 | 28,834,940 | 28,887,860 | 29,038,820 | 29,089,900 | 29,202,490 | |
| Gallons between samples | 59,790 | 92,100 | 48,990 | 158,760 | 113,180 | 101,800 | 95,340 | 52,920 | 150,960 | 51,080 | 112,590 | |
| | **RW-03** | | | | | | | | | | | |
| Parameter | **25-May-12** | **29-Jun-12** | **13-Jul-12** | **24-Aug-12** | **21-Sep-12** | **19-Oct-12** | **16-Nov-12** | **14-Dec-12** | **25-Jan-13** | **15-Feb-13** | **22-Mar-13** | NYSDEC AWQS Values (µg/L) |
| Tetrachloroethene | | | **150** | **180** | **170** | **200** | **170** | **220** | **220** | **180** | **180** | 5 |
| Trichloroethene | | | ND | ND | ND | 4.1 | 3.9 | 1.9 | **5.7** | 4.2 | 4.5 | 5 |
| *cis* 1,2-dichloroethene | | | **8.8** | **5.9** | **9.8** | **7.9** | **8.9** | **7.3** | **11** | **8.1** | **7.9** | 5 |
| Totalizer Reading (gal) | 1,813,380 | 2,317,920 | 2,575,700 | 3,095,920 | 3,476,030 | 3,856,040 | 4,239,400 | 4,425,350 | 5,009,650 | 5,221,270 | 5,705,660 | |
| Total Flow (gal) | 5,896,909 | 6,401,449 | 6,465,759 | 6,985,979 | 7,366,089 | 7,746,099 | 8,129,459 | 8,315,409 | 8,899,709 | 9,111,329 | 9,595,719 | |
| Gallons between samples | 418,280 | 504,540 | 257,780 | 520,220 | 380,110 | 380,010 | 383,360 | 185,950 | 584,300 | 211,620 | 484,390 | |
| | **SYSTEM EFFLUENT** | | | | | | | | | | | Effluent Limitations Daily Max. |
| Parameter | **25-May-12** | **29-Jun-12** | **13-Jul-12** | **24-Aug-12** | **21-Sep-12** | **19-Oct-12** | **16-Nov-12** | **14-Dec-12** | **25-Jan-13** | **15-Feb-13** | **22-Mar-13** | Load [a] |
| Tetrachloroethene | | | 1.3 | ND | ND | 1.6 | ND | 1.3 | 1.1 | ND | 1.1 | 10 |
| Trichloroethene | | | ND | ND | ND | ND | ND | ND | ND | ND | ND | 10 |
| *cis* 1,2-dichloroethene | | | ND | ND | ND | ND | ND | ND | ND | ND | ND | 10 |
| Totalizer Reading (gal) | 0 | 0 | 10,606,150 | 11,286,960 | 11,782,280 | 12,265,460 | 12,745,970 | 12,985,810 | 13,723,130 | 13,986,980 | 14,585,730 | |
| Total Flow (gal) | 35,936,619 | 36,534,749 | 36,841,609 | 37,522,419 | 38,017,739 | 38,500,919 | 38,981,429 | 39,221,269 | 39,958,589 | 40,222,439 | 40,821,189 | |
| Gallons between samples | 479,360 | 598,130 | 306,860 | 680,810 | 495,320 | 483,180 | 480,510 | 239,840 | 737,320 | 263,850 | 598,750 | |

TABLE 1 (Continued)

| Parameter | RW-01 | | | | | | | | | | | | NYSDEC AWQS Values (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **19-Apr-13** | **17-May-13** | **21-Jun-13** | **19-Jul-13** | **23-Aug-13** | **27-Sep-13** | **24-Jan-14** | **28-Feb-14** | **21-Mar-14** | **18-Apr-14** | **16-May-14** | **13-Jun-14** | |
| Tetrachloroethene | **340** | **350** | **83** | **400** | **400** | **410** | **170** | **340** | **350** | **280** | **310** | **320** | 5 |
| Trichloroethene | **30** | **28** | **6.3** | **33** | **32** | **35** | 3.6 | **33** | **30.0** | 29 | **28** | **30** | 5 |
| *cis* 1,2-dichloroethene | **57** | **42** | **9** | **72** | **61** | **65** | **6.3** | **70** | **61** | **58** | **66** | **62** | 5 |
| Totalizer Reading (gal) | 522,080 | 524,140 | 526,360 | 527,690 | 530,470 | 532,410 | 539,336 | 541,150 | 542,590 | 544,320 | 545,990 | 546,820 | |
| Total Flow (gal) | 2,024,140 | 2,026,200 | 2,028,420 | 2,029,750 | 2,032,530 | 2,034,470 | 2,041,396 | 2,043,210 | 2,044,650 | 2,046,380 | 2,048,050 | 2,048,880 | |
| Gallons between samples | 1,160 | 2,060 | 2,220 | 1,330 | 2,780 | 1,940 | 1,146 | 1,814 | 1,440 | 1,730 | 1,670 | 830 | |
| Parameter | RW-02 | | | | | | | | | | | | NYSDEC AWQS Values (µg/L) |
| | **19-Apr-13** | **17-May-13** | **21-Jun-13** | **19-Jul-13** | **23-Aug-13** | **27-Sep-13** | **24-Jan-14** | **28-Feb-14** | **21-Mar-14** | **18-Apr-14** | **16-May-14** | **13-Jun-14** | |
| Tetrachloroethene | **170** | **190** | **77** | **160** | **240** | **270** | **130** | **140** | **250** | **160** | **170** | **210** | 5 |
| Trichloroethene | 4.7 | **5.3** | 2 | 5.0 | **7.7** | **10** | 2.3 | **10** | **7.3** | **5.6** | 4.8 | 7 | 5 |
| *cis* 1,2-dichloroethene | **7.3** | **6.7** | 2.2 | **6.8** | **13** | **13** | 1.5 | **19** | **12** | **8.2** | **7.9** | **12** | 5 |
| Totalizer Reading (gal) | 8,436,690 | 8,508,390 | 8,605,720 | 8,653,510 | 8,780,640 | 8,780,640 | 9,084,303 | 365 | 48,782 | 84,773 | 137,880 | 189,376 | |
| Total Flow (gal) | 29,280,030 | 29,351,730 | 29,449,060 | 29,496,850 | 29,623,980 | 29,623,980 | 29,927,643 | 29,928,008 | 29,976,425 | 30,012,416 | 30,065,523 | 30,117,019 | |
| Gallons between samples | 77,540 | 71,700 | 97,330 | 47,790 | 76,090 | 51,040 | 84,423 | 365 | 48,417 | 35,991 | 53,107 | 51,496 | |
| Parameter | RW-03 | | | | | | | | | | | | NYSDEC AWQS Values (µg/L) |
| | **19-Apr-13** | **17-May-13** | **21-Jun-13** | **19-Jul-13** | **23-Aug-13** | **27-Sep-13** | **24-Jan-14** | **28-Feb-14** | **21-Mar-14** | **18-Apr-14** | **16-May-14** | **13-Jun-14** | |
| Tetrachloroethene | **170** | **160** | **99** | **190** | **210** | **200** | **220** | **170** | **180** | **150** | **170** | **200** | 5 |
| Trichloroethene | 4.3 | 3.8 | 2.2 | 4.8 | 4.9 | **6.2** | **22** | 4.2 | 4.4 | 4 | 3.8 | 3.8 | 5 |
| *cis* 1,2-dichloroethene | **7.5** | **5.9** | 3.2 | **8.0** | **8.7** | **8.5** | **54.0** | **6.9** | **7.4** | **6.5** | **6.4** | **8.1** | 5 |
| Totalizer Reading (gal) | 6,087,300 | 6,461,840 | 6,934,420 | 7,213,160 | 7,753,270 | 8,106,580 | 9,671,068 | 9,933,200 | 193,240 | 543,650 | 880,390 | 1,205,050 | |
| Total Flow (gal) | 9,977,359 | 10,351,899 | 10,824,479 | 11,103,219 | 11,643,329 | 11,996,639 | 13,561,127 | 13,823,259 | 14,083,299 | 14,433,709 | 14,770,449 | 15,095,109 | |
| Gallons between samples | 381,640 | 374,540 | 472,580 | 278,740 | 540,110 | 353,310 | 438,954 | 262,132 | 260,040 | 350,410 | 336,740 | 324,660 | |
| Parameter | SYSTEM EFFLUENT | | | | | | | | | | | | Effluent Limitations Daily Max. Load [a] |
| | **19-Apr-13** | **17-May-13** | **21-Jun-13** | **19-Jul-13** | **23-Aug-13** | **27-Sep-13** | **24-Jan-14** | **28-Feb-14** | **21-Mar-14** | **18-Apr-14** | **16-May-14** | **13-Jun-14** | |
| Tetrachloroethene | ND | 1.9 | ND | 3.2 | 2.6 | ND | 2.6 | ND | 1.9 | 1.2 | ND | 1.3 | 10 |
| Trichloroethene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 10 |
| *cis* 1,2-dichloroethene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 10 |
| Totalizer Reading (gal) | 15,046,070 | 15,494,370 | 16,066,500 | 16,394,360 | 17,013,340 | 17,419,630 | 19,294,707 | 19,559,018 | 19,868,915 | 21,041,658 | 21,433,175 | 1,941,246 | |
| Total Flow (gal) | 41,281,529 | 41,729,829 | 42,301,959 | 42,629,819 | 43,248,799 | 43,655,089 | 45,530,166 | 45,794,477 | 46,104,374 | 46,492,505 | 46,884,022 | 47,261,008 | |
| Gallons between samples | 460,340 | 448,300 | 572,130 | 321,810 | 618,980 | 406,290 | 524,523 | 264,311 | 309,897 | 388,131 | 391,517 | 376,986 | |

TABLE 2 SUMMARY OF GROUNDWATER TABLE ELEVATIONS (22 JULY 2013)

| Well Number | TOIC Elevation (ft/amsl) | Depth to Water Level (ft) | Groundwater Table Elevation (ft AMSL) |
|---|---|---|---|
| OVERBURDEN MONITORING WELLS | | | |
| MW-1 | 363.51 | WELL NOT GAUGED | |
| MW-2 | 352.41 | 13.65 | 338.76 |
| MW-3 | 350.93 | 8.61 | 342.32 |
| MW-4 | 348.77 | 7.58 | 341.19 |
| MW-101A | 357.41 | WELL NOT GAUGED | |
| MW-102A | 355.94 | 10.49 | 345.45 |
| MW-103A | 356.61 | 9.57 | 347.04 |
| MW-104A | 368.47 | WELL NOT GAUGED | |
| MW-105A | 346.12 | 5.53 | 340.59 |
| MW-106A | 351.68 | 11.02 | 340.66 |
| MW-107A | 352.74 | 8 | 344.74 |
| MW-108A | 351.19 | 3 | 348.19 |
| MW-111 | 356.15 | 9.18 | 346.97 |
| MW-112A | Not surveyed | 14.6 | NA |
| MW-113A | Not surveyed | 7.15 | NA |
| BEDROCK MONITORING WELLS | | | |
| MW-1B | 363.77 | 12.51 | 351.26 |
| MW-2B | 352.21 | 10.15 | 342.06 |
| MW-3B | 349.92 | 7.24 | 342.68 |
| MW-4B | 348.75 | 7.45 | 341.30 |
| MW-5B | 349.91 | WELL NOT GAUGED | |
| MW-101 | 356.75 | 7.16 | 349.59 |
| MW-102 | 356.44 | WELL NOT GAUGED | |
| MW-104 | 368.12 | 23.26 | 344.86 |
| MW-105 | 346.94 | 5.21 | 341.73 |
| MW-106 | 351.91 | 11.37 | 340.54 |
| MW-107 | 353.43 | WELL NOT GAUGED | |
| MW-108 | 351.02 | 7.13 | 343.89 |
| MW-109 | 345.80 | WELL NOT GAUGED | |
| MW-110B | 354.09 | WELL NOT GAUGED | |
| RECOVERY WELLS | | | |
| RW-1 | 351.58 | RECOVERY WELL - NOT GAUGED | |
| RW-2 | 348.75 | RECOVERY WELL - NOT GAUGED | |
| RW-3 | 348.03 | RECOVERY WELL - NOT GAUGED | |
| TW, PIEZOMETER, AND UNKNOWN WELLS | | | |
| TW-1 | --- | WELL NOT GAUGED | |
| TW-2 | --- | WELL NOT GAUGED | |
| TW-3 | --- | WELL NOT GAUGED | |
| TW-4 | 356.39 | WELL NOT GAUGED | |
| TW-5 | Not surveyed | 10.17 | --- |
| PZ-1 | 352.17 | 7.76 | 344.41 |
| PZ-2 | 361.96 | WELL NOT GAUGED | |
| PZ-3 | --- | WELL NOT GAUGED | |
| PZ-4 | --- | WELL NOT GAUGED | |
| PW-1 | --- | WELL NOT GAUGED | |
| SSI | --- | WELL NOT GAUGED | |
| MW-N | --- | WELL NOT GAUGED | |
| UNKN1 | --- | WELL NOT GAUGED | |

NOTE: TOIC = Top of inner casing.
amsl = Above mean sea level.

TABLE 3 SUMMARY OF DETECTED VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER SAMPLES COLLECTED 23-24 JULY 2013

**VOLATILE ORGANIC COMPOUNDS BY U.S. ENVIRONMENTAL PROTECTION AGENCY METHOD 8260B (µg/L)**

| Parameters List | MW-1 (Not Sampled) | | MW-1B | | MW-2 | | MW-2B | | MW-3 | | MW-3B | | MW-4 | | MW-4B | | NYSDEC AWQS (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-Hexanone | | | | U | | U | | U | | U | | U | | U | | U | |
| Acetone | | | | U | | U | | U | | U | 2 | J | | U | | U | 50 (g) |
| Carbon Disulfide | | | | U | | U | | U | | U | | U | | U | | U | |
| Chloroform | | | | U | | U | | U | | U | | U | | U | | U | 7 |
| cis-1,2 Dichloroethene | | | | U | 0.5 | J | | U | | U | 0.87 | J | | U | | U | 5 |
| trans-1,2 Dichloroethene | | | | U | | U | | U | | U | | U | | U | | U | 5 |
| Methyl tert-butyl ether | | | | U | 0.41 | J | | U | | U | | U | | U | | U | 10 (g) |
| Methylene Chloride | | | | U | | U | | U | | U | | U | | U | | U | 5 |
| Tetrachloroethene | | | | U | **6.7** | | 1.3 | J | | U | | U | | U | | U | 5 |
| Toluene | | | 0.33 | J | | U | | U | | U | 0.28 | J | | U | 0.4 | J | 5 |
| Trichloroethene | | | | U | | U | | U | | U | | U | | U | | U | 5 |
| Vinyl chloride | | | | U | | U | | U | | U | 0.59 | J | | U | | U | 2 |

| Parameters List | TW-5 | | PZ-01 | | MW-101 | | MW-102A | | MW-103A [b] | | MW-104 | | MW-105 | | MW-105A | | NYSDEC AWQS (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-Hexanone | | U | | J | | U | | U | | U | | U | | U | | U | |
| Acetone | | U | 2 | J | | U | | U | | U | | U | 2.7 | J | 1.7 | J | 50 (g) |
| Carbon Disulfide | | U | | U | | U | 0.25 | J | | U | | U | | U | | U | |
| Chloroform | | U | | U | | U | 2.5 | J | 0.29 | J | | U | | U | | U | 7 |
| cis-1,2 Dichloroethene | 1.2 | J | 4 | J | | U | | U | **19** | | | U | | U | 0.76 | J | 5 |
| trans-1,2 Dichloroethene | | U | 0.6 | J | | U | | U | | U | | U | | U | | U | 5 |
| Methyl tert-butyl ether | | U | | U | | U | | U | | U | | U | | U | | U | 10 (g) |
| Methylene Chloride | | U | | U | | U | | U | | U | | U | | U | | U | 5 |
| Tetrachloroethene | **33** | | | U | **10** | | 0.72 | J | **310** | D | | U | | U | **8.1** | | 5 |
| Toluene | | U | 0.22 | J | 0.32 | J | | U | | U | | U | 0.38 | J | | U | 5 |
| Trichloroethene | 2.5 | J | | U | | U | | U | **11** | | | U | | U | | U | 5 |
| Vinyl chloride | | U | 0.4 | J | | U | | U | | U | | U | | U | | U | 2 |

| Parameters List | MW-106 | | MW-106A | | MW-107A | | MW-108 | | MW-108A | | MW-109 (Not Sampled) | | MW-111 | | DUPLICATE [a] | | NYSDEC AWQS (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-Hexanone | | U | | U | | U | | U | | U | | | | U | | U | |
| Acetone | | U | | U | | U | | U | | U | | | | U | | U | 50 (g) |
| Carbon Disulfide | | U | | U | | U | | U | | U | | | | U | | U | |
| Chloroform | | U | | U | | U | | U | | U | | | 1.2 | J | 2.6 | J | 7 |
| cis-1,2 Dichloroethene | | U | | U | 0.77 | J | | U | | U | | | | U | | U | 5 |
| trans-1,2 Dichloroethene | | U | | U | | U | | U | | U | | | | U | | U | 5 |
| Methyl tert-butyl ether | | U | | U | | U | | U | | U | | | | U | | U | 10 (g) |
| Methylene Chloride | | U | | U | | U | | U | | U | | | | U | | U | 5 |
| Tetrachloroethene | | U | | U | **18** | | 1.4 | J | | U | | | 4.3 | J | 0.75 | J | 5 |
| Toluene | | U | | U | | U | | U | | U | | | | U | | U | 5 |
| Trichloroethene | | U | | U | 1.2 | J | | U | | U | | | | U | | U | 5 |
| Vinyl chloride | | U | | U | | U | | U | | U | | | | U | | U | 2 |

| Parameters List | MW-112A | | MW-113A | | NYSDEC AWQS (µg/L) |
|---|---|---|---|---|---|
| 2-Hexanone | | U | | U | |
| Acetone | | U | | U | 50 (g) |
| Carbon Disulfide | | U | | U | |
| Chloroform | | U | | U | 7 |
| cis-1,2 Dichloroethene | | U | | U | 5 |
| trans-1,2 Dichloroethene | | U | | U | 5 |
| Methyl tert-butyl ether | | U | | U | 10 (g) |
| Methylene Chloride | | U | | U | 5 |
| Tetrachloroethene | | U | | U | 5 |
| Toluene | | U | | U | 5 |
| Trichloroethene | | U | | U | 5 |
| Vinyl chloride | | U | | U | 2 |

(a) Duplicate sample was collected from MW-102A

(b) MW-103A was reanalyzed at larger dilutions to bring target analytes within the calibration range of the method

NOTE: NYSDEC = New York State Department of Environmental Conservation
AWQS = Ambient Water Quality Standard
µg/L = Micrograms per liter
D = Concentration is a result of a dilution due to exceeding the calibration range for that specific analysis
J = Analyte detected below the PQL
U = Analyte was analyzed for, but not detected below the laboratory reporting limit
(g) = NYSDEC Ambient Water Quality Standards guidance value
Analytical data results provided by Chemtech Consulting Group.
Bold values indicate that the analyte was detected greater than the NYSDEC Ambient Water Quality Standards.

TABLE 4 HISTORICAL GROUNDWATER ANALYTICAL RESULTS

| | MW-1 | | | MW-1B | | | MW-2 | | | MW-2B | | | MW-3 | | | MW-3B | | | MW-4 | | | MW-4B | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | PCE | TCE | DCE | PCE | TCE | DCE | PCE | TCE | DCE | PCE | TCE | DCE | PCE | TCE | DCE | PCE | TCE | DCE | PCE | TCE | DCE | PCE | TCE | DCE |
| October 1989 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| November 1991 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| February 1992 | <1 | --- | --- | <1 | --- | --- | **610** | --- | --- | <1 | --- | --- | <1 | --- | --- | 6 | --- | --- | <1 | --- | --- | <1 | --- | --- |
| June 1992 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 5 | --- | --- | --- | --- | --- | --- | --- | --- |
| 17 July 1997 | --- | --- | --- | --- | --- | --- | **160** | **5** | **5.6** | ND | ND | ND | ND | ND | ND | ND | ND | ND | --- | --- | --- | --- | --- | --- |
| 4 November 1997 | --- | --- | --- | --- | --- | --- | **140** | ND | **9** | 1 | ND | ND | NS | NS | NS | NS | NS | NS | --- | --- | --- | --- | --- | --- |
| 14 July 1998 | --- | --- | --- | --- | --- | --- | **170** | ND | **9** | ND | ND | 0.3 | ND | ND | ND | 0.6 | ND | ND | --- | --- | --- | --- | --- | --- |
| 4 November 1998 | --- | --- | --- | --- | --- | --- | **57** | ND | 2.1 | ND | ND | ND | NS | NS | NS | NS | NS | NS | --- | --- | --- | --- | --- | --- |
| 14 July 1999 | --- | --- | --- | --- | --- | --- | **32** | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | --- | --- | --- | --- | --- | --- |
| 8 December 1999 | --- | --- | --- | --- | --- | --- | **66** | ND | 4 | ND | ND | 1 | NS | NS | NS | NS | NS | NS | --- | --- | --- | --- | --- | --- |
| May 2005 | --- | --- | --- | --- | --- | --- | **8.3** | --- | 1.0J | --- | --- | 1.7 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| October 2005 | --- | --- | --- | --- | --- | --- | **74** | --- | **12** | --- | --- | 1.2 | --- | --- | --- | 0.3 J | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 September 2008 | ND | ND | ND | ND | ND | ND | **119** | 0.42 | **10.2** | ND | ND | 3.85 | ND | ND | ND | 0.38 | ND | ND | ND | ND | ND | ND | ND | ND |
| 24 August 2009 | ND | ND | ND | ND | ND | ND | **36.7** | ND | 2.56 | ND | ND | 4.62 | ND | ND | ND | 0.22 J | ND | ND | ND | ND | ND | ND | ND | ND |
| 22-23 November 2010 | ND | ND | ND | ND | ND | ND | **22.9** | ND | 1.4 | ND | ND | 4.44 | ND | ND | ND | ND | ND | 0.68 | ND | ND | ND | ND | ND | ND |
| 21-22 March 2012 | ND | ND | ND | ND | ND | ND | 3.12 | ND | ND | ND | ND | 0.43 J | 0.15 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 23-24 July 2013 | NS | NS | NS | ND | ND | ND | **6.7** | ND | 0.5 J | 1.3 J | ND | ND | ND | ND | ND | ND | ND | 0.87 J | ND | ND | ND | ND | ND | ND |

| | MW-101 | | | MW-101A | | | MW-102 | | | MW-102A | | | MW-103 | | | MW-103A | | | MW-104 | | | MW-104A | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | PCE | TCE | DCE | PCE | TCE | DCE | PCE | TCE | DCE | PCE | TCE | DCE | PCE | TCE | DCE | PCE | TCE | DCE | PCE | TCE | DCE | PCE | TCE | DCE |
| October 1989 | **1,400** | --- | --- | **24** | --- | --- | <5 | --- | --- | <5 | --- | --- | **450** | --- | --- | **1,500** | --- | --- | <5 | --- | --- | <5 | --- | --- |
| November 1991 | **2,300** | --- | --- | **24** | --- | --- | <5 | --- | --- | <5 | --- | --- | **370** | --- | --- | **1,300** | --- | --- | <5 | --- | --- | <5 | --- | --- |
| February 1992 | **530** | --- | --- | **28** | --- | --- | <1 | --- | --- | 2 | --- | --- | **610** | --- | --- | **13,000** | --- | --- | <1 | --- | --- | <1 | --- | --- |
| June 1992 | **1,200** | --- | --- | **20** | --- | --- | --- | --- | --- | --- | --- | --- | **800** | --- | --- | **5,000** | --- | --- | --- | --- | --- | --- | --- | --- |
| 17 July 1997 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | **3,200** | **24** | **18** | ND | ND | ND | --- | --- | --- |
| 4 November 1997 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | **560** | **7** | ND | ND | ND | ND | --- | --- | --- |
| 14 July 1998 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | **1,200** | **8** | **12** | ND | ND | ND | --- | --- | --- |
| 4 November 1998 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | **160** | 2.6 | ND | ND | ND | ND | --- | --- | --- |
| 14 July 1999 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | **690** | **6** | **6.1** | ND | ND | ND | --- | --- | --- |
| 8 December 1999 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | **250** | **10** | 2 | NS | NS | NS | --- | --- | --- |
| May 2005 | **33** | 1.1 J | | 4.7 J | --- | --- | --- | --- | --- | 0.83 J | --- | --- | --- | --- | --- | **260 D** | **10** | **14** | --- | --- | --- | --- | --- | --- |
| October 2005 | **91** | 4.4 J | 4.4 J | **16** | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | **240 D** | **7.2** | **6.4** | --- | --- | --- | --- | --- | --- |
| 12 and 13 May 2008 | **34.5** | 0.81 | 0.54 | **7.57** | ND | ND | 1.65 | ND | ND | --- | --- | --- | --- | --- | --- | **412** | **9.33** | **13.7** | ND | 0.13 | ND | --- | --- | --- |
| 24 August 2009 | **29.3** | 0.37 J | 0.40 J | --- | --- | --- | NS | NS | NS | 1.29 | ND | ND | --- | --- | --- | **397** | **8.00 J** | **14.8** | ND | ND | ND | --- | --- | --- |
| 22-23 November 2010 | **15.7** | 0.13 | ND | NS | NS | NS | N S | NS | NS | 1.14 | ND | ND | NS | NS | NS | **437** | **9.8** | **16** | ND | ND | ND | NS | NS | NS |
| 21-22 March 2012 | NS | NS | NS | NS | NS | NS | NS | NS | NS | 1.22 | ND | ND | NS | NS | NS | **379** | **11.8** | **23.4** | ND | ND | ND | NS | NS | NS |
| 23-24 July 2013 | ND | ND | ND | NS | NS | NS | NS | NS | NS | 0.72 J | ND | ND | NS | NS | NS | **360 E** | **11** | **19** | ND | ND | ND | NS | NS | NS |

| | MW-105 | | | MW-105A | | | MW-106 | | | MW-106A | | | MW-107 | | | MW-107A | | | MW-108 | | | MW-108A | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | PCE | TCE | DCE | PCE | TCE | DCE | PCE | TCE | DCE | PCE | TCE | DCE | PCE | TCE | DCE | PCE | TCE | DCE | PCE | TCE | DCE | PCE | TCE | DCE |
| October 1989 | <5 | --- | --- | <5 | --- | --- | <5 | --- | --- | <5 | --- | --- | **43** | --- | --- | **750** | --- | --- | **9** | --- | --- | <5 | --- | --- |
| November 1991 | <5 | --- | --- | <5 | --- | --- | <5 | --- | --- | <5 | --- | --- | **130** | --- | --- | **940** | --- | --- | <5 | --- | --- | <5 | --- | --- |
| February 1992 | <1 | --- | --- | <1 | --- | --- | <1 | --- | --- | <1 | --- | --- | **190** | --- | --- | **850** | --- | --- | 4 | --- | --- | <1 | --- | --- |
| June 1992 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 17 July 1997 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | --- | --- | --- | **360** | **11** | **19.5** | ND | ND | ND | ND | ND | ND |
| 4 November 1997 | ND | ND | ND | ND | ND | ND | NS | NS | NS | NS | NS | NS | --- | --- | --- | **440** | **12** | **30** | 3 | ND | ND | ND | ND | ND |
| 14 July 1998 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | --- | --- | --- | **500** | **11** | **24** | 5 | ND | ND | ND | ND | ND |
| 4 November 1998 | ND | ND | ND | ND | ND | ND | NS | NS | NS | NS | NS | NS | --- | --- | --- | **340** | **11** | **18** | 2 | ND | ND | ND | ND | ND |
| 14 July 1999 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | --- | --- | --- | **230** | **6.7** | **14** | 2.2 | ND | ND | ND | ND | ND |
| 8 December 1999 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | --- | --- | --- | **230** | **6.7** | **14** | 3 | ND | ND | ND | ND | ND |
| May 2005 | --- | --- | 0.3 J | 1.1 J | --- | --- | --- | --- | --- | --- | --- | --- | **11** | **6.4** | **26** | **10** | 1.4 J | 1.6 J | 2.9 | --- | --- | --- | --- | --- |
| October 2005 | --- | --- | --- | 1.4 J | --- | 12 | --- | --- | --- | --- | --- | --- | **36** | **9.3** | **21** | **16** | --- | 4.1 J | 1.2 | --- | --- | --- | --- | --- |
| 12 and 13 May 2008 | 0.11 | ND | 0.29 | **21** | 0.15 | 4.08 | ND | 0.13 | ND | ND | ND | ND | --- | --- | --- | **42.8** | 2.42 | 2.07 | 3.01 | ND | ND | ND | ND | ND |
| 24 August 2009 | ND | ND | ND | **15.3** | 0.14 J | 3.02 | ND | ND | ND | ND | ND | ND | --- | --- | --- | **24.9** | 2.23 | 3.94 | 1.58 | ND | ND | ND | ND | 0.19 J |
| 22-23 November 2010 | ND | ND | ND | **7.98** | ND | 1.22 | ND | ND | ND | ND | ND | ND | --- | --- | --- | **26.9** | 3.3 | **6.66** | 1.25 | ND | ND | ND | ND | 0.17 J |
| 21-22 March 2012 | ND | ND | ND | ND | ND | 1.78 | ND | ND | ND | ND | ND | ND | NS | NS | NS | **9.95** | 0.71 | 0.56 | 1.64 | ND | ND | ND | ND | 0.14 J |
| 23-24 July 2013 | ND | ND | ND | **8.1** | ND | 0.76 J | ND | ND | ND | ND | ND | ND | NS | NS | NS | **18** | 1.2 J | 0.77 J | 1.4 J | ND | ND | ND | ND | ND |

| | MW-109 | | | MW-111 | | | TW-5 | | | MW-112A | | | MW-113A | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | PCE | TCE | DCE | PCE | TCE | DCE | PCE | TCE | DCE | PCE | TCE | DCE | PCE | TCE | DCE |
| October 1989 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| November 1991 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| February 1992 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| June 1992 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 17 July 1997 | ND | ND | ND | **8.9** | 0.7 | 0.5 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 4 November 1997 | NS | NS | NS | **58** | 4 | **8** | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 14 July 1998 | ND | ND | ND | **19** | 2 | 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 4 November 1998 | NS | NS | NS | **57** | **5.2** | **5.3** | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 14 July 1999 | ND | ND | ND | **22** | ND | ND | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 December 1999 | NS | NS | NS | **40** | 4 | 4 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| May 2005 | --- | --- | --- | 1.4 J | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| October 2005 | --- | --- | --- | **7.7** | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 12 and 13 May 2008 | ND | ND | ND | 4.1 | 0.15 | ND | **40.4** | 2.73 | 1.5 | --- | --- | --- | --- | --- | --- |
| 24 August 2009 | ND | ND | ND | 4.45 | 0.16 J | ND | **34.7** | 2.88 | 1.68 | --- | --- | --- | --- | --- | --- |
| 22-23 November 2010 | ND | ND | ND | 5.02 | 0.23 J | ND | **39.4** | 3.02 | 2.13 | --- | --- | --- | --- | --- | --- |
| 21-22 March 2012 | ND | ND | ND | 3.82 | 0.11 J | ND | **41.6** | 2.44 | 1.23 | --- | --- | --- | --- | --- | --- |
| 23-24 July 2013 | NS | NS | NS | 4.3 J | ND | ND | **33** | 2.5 J | 1.2 J | ND | ND | ND | ND | ND | ND |

NOTE: PCE = Tetrachloroethene.
TCE = Trichloroethene.
DCE = cis 1,2-dichloroethene.
ND = The analyte was analyzed for, but was not detected above the sample reporting limit.
NS = Monitoring well not sampled.
Samples are reported in micrograms per liter (µg/L)
**Bold** values indicate that the analyte was detected greater than the NYSDEC AWQS of 5 µg/L per each analyte .

# Appendix A

# Institutional Control/Engineering Control Certification Form

**Enclosure 1**
**Engineering Controls - Standby Consultant/Contractor Certification Form**

**Site Details** **Box 1**

**Site No.** **442024**

**Site Name Roxy Cleaners**

Site Address: Main Avenue (Route 66 at Route 150) Zip Code: 12198
City/Town: North Greenbush
County: Rensselaer
Site Acreage: 0.5

Reporting Period: June 16, 2011 to June 16, 2014

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

**Box 2**

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

**IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and contact the DEC PM regarding the development of a Corrective Measures Work Plan to address these issues.**

Signature of Standby Consultant/Contractor Date

**SITE NO. 442024**

**Box 3**

**Description of Institutional Controls**

| Parcel | Owner | Institutional Control |
|---|---|---|
| **124.6-8-12.2** | Estate of Joseph Mardigan | Environmental Notice (dated 11/22/2013)<br>Monitoring Plan<br>O&M Plan |

Monitoring Plan consisting of sampling a comprehensive network of monitoring wells.

**Box 4**

**Description of Engineering Controls**

| Parcel | Engineering Control |
|---|---|
| **124.6-8-12.2** | Groundwater Treatment System<br>Vapor Mitigation |

Groundwater treatment system
whereby contaminated groundwater is collected from the on-site bedrock and overburden aquifers via extraction wells RW-1 and RW-2, and off-site overburden aquifer via extraction well (RW-3), treated by air stripping with vapor phase carbon adsorption and discharged to the Wynantskill Creek.

**Box 5**

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

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

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification, including data and material prepared by previous contractors for the current certifying period, if any;

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

| YES | NO |
|---|---|
| ☒ | ☐ |

2. 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) nothing has occurred that would constitute a failure to comply with the Site Management Plan, or equivalent if no Site Management Plan exists.

| YES | NO |
|---|---|
| ☒ | ☐ |

**IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and contact the DEC PM regarding the development of a Corrective Measures Work Plan to address these issues.**

Signature of Standby Consultant/Contractor

Date

**IC/EC CERTIFICATIONS**

**Box 6**

**Professional Engineer Signature**

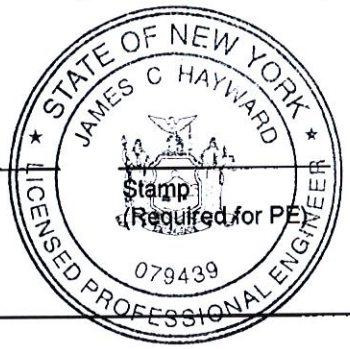
I certify that all information in Boxes 2 through 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I JAMES C. HAYWARD at 6712 BROOKLAWN PARKWAY
print name

SUITE 104

SYRACUSE, NY 13211
(print business address)

am certifying as a Professional Engineer.




James C. Hayward
Signature of Professional Engineer

Stamp
(Required for PE)

12/2/2014
Date