On-Base Groundwater Remediation
Performance Monitoring
Former Griffiss Air Force Base
Rome, New York

Final
SPRING 2012
ANNUAL REPORT
PERFORMANCE MONITORING

Contract No. W912DQ-06-D-0012

Revision 0.0
January 2014

FPM group

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DEPARTMENT OF THE AIR FORCE
AIR FORCE CIVIL ENGINEER CENTER

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1. Attached please find the Final Spring 2012 Annual Report for the Performance Monitoring for the On-Base Groundwater Areas of Concern dated January 2014 on CD. Replacement pages for the draft report dated August 2013 are also provided. USEPA and NYSDEC elected not to comment on the draft report.

2. If you have any questions, please contact Ms. Cathy Jerrard at (315) 356-0810, ext. 204.

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Final
Spring 2012 Annual Report
Performance Monitoring
On Base Groundwater Remediation
Former Griffiss Air Force Base
Rome, New York
January 2014

Contract No. W912DQ-06-D-0012
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FINAL

SPRING 2012
ANNUAL REPORT
PERFORMANCE MONITORING

Prepared for:

On-Base Groundwater Remediation
On-Base Groundwater Areas of Concern
Former Griffiss Air Force Base
Rome, New York

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A Daily Chemical Quality Control Reports
B Validated Data
C Raw Lab Data
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LIST OF ACRONYMS AND ABBREVIATIONS

AFB	Air Force Base
AFCEE	Air Force Center for Engineering and the Environment
AOC	Area of Concern
bgs	Below ground surface
CoC	Chain of Custody
CQCR	Chemical Quality Control Report
DCA	Dichloroethane
DCE	Dichloroethene
DO	Dissolved Oxygen
DOC	Dissolved Organic Carbon
EEEPC	Ecology and Environment Engineering, P.C.
EPA	Environmental Protection Agency
FPM	FPM Group. Ltd.
FSP	Field Sampling Plan
ft.	Feet
gpm	Gallon per minute
ISCO	In-situ chemical oxidation
LF6 TCE	Landfill 6 Trichloroethene
LTM	Long Term Monitoring
MDL	Method Detection Limit
MEE	Methane/Ethane/Ethene
mg/L	Milligram per liter
MNA	Monitored natural attenuation
MTBE	Methyl Tert Butyl Ether
mV	Millivolt
µg/L	Microgram per liter
NTU	Nephelometric Turbidity Unit
NYS	New York State
OBGW	On-Base Groundwater
ORP	Oxygen Reduction Potential

Parsons	Parsons Government Services
PCE	Perchloroethylene
PDI	Pre Design Investigation
PM	Performance Monitoring
PMWP	Performance Monitoring Work Plan
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RDWP	Remedial Design Work Plan
RL	Reporting Limit
ROD	Record of Decision
SAP	Sampling and Analysis Plan
SMC	Six Mile Creek
sq. ft.	square feet
SSHP	Site Safety and Health Plan
TCA	Trichloroethane
TCE	Trichloroethene
TMC	Three Mile Creek
TOC	Total Organic Carbon
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VC	Vinyl chloride
VOC	Volatile Organic Compound
WP	Work Plan
WPCF	Water Pollution Control Facility
WSA	Weapon Storage Area

1 Introduction

This Annual Performance Monitoring (PM) Report has been prepared by FPM Group, Ltd. (FPM) in association with Parsons Government Services (Parsons), under contract to the United States Army Corps of Engineers (USACE), Kansas City District, Contract No. W912DQ-06-D-0012. FPM is conducting performance monitoring at the following on-base groundwater (OBGW) Areas of Concern (AOCs) at the former Griffiss Air Force Base (AFB):

- Landfill 6 Trichloroethene (Landfill 6 TCE) Site,
- Building 817/ Weapon Storage Area (WSA) Site,
- Building 775/Pumphouse 3, and
- The Nosedocks/ Apron 2 Chlorinated Plume.

The above sites will be referred to in the text as Landfill 6 TCE, Building 817/WSA, Building 775 and Apron 2 Chlorinated Plume, respectively (Figure 1-1). This report provides all site activities and groundwater monitoring data from the Fall 2011 PM and Spring 2012 PM sampling rounds. This Annual PM Report includes the sampling results of the eleven rounds of PM sampling from the Landfill 6 TCE, Building 817/WSA, and Apron 2 Chlorinated Plume Sites and the ten rounds of PM sampling from the Building 775 Site. Discussion of the previous PM sampling rounds has been removed from the text for readability; only the last two sampling rounds (Fall 2011 and Spring 2012) are included in the discussions.

1.1 Objectives

The objective of performance monitoring is to collect groundwater data to support decision making and assessment of the implemented remedy. This assessment will be made based on the results from performance sampling while applying the criteria as discussed in the Final Remedial Design Work Plan (RDWP) and Design Drawings (Ecology and Environment Engineering, P.C. [EEEPC], February 2008). The performance monitoring networks follow the RDWP. A more detailed history of each of the sites is provided in separate sections below, along with a brief synopsis of the implemented remedial action.

The Annual PM Report is intended to summarize the sampling results of the PM sampling rounds in tabular format. Discussions are limited to the last two sampling rounds (Fall 2011 and Spring 2012). This report contains the following required information:

- Summary of field sampling activities (including field documentation logs known as Chemical Quality Control Reports [CQCRs] in Appendix A);
- Data assessment information (including data validation reports (Appendix B) and raw laboratory results (Appendix C);
- A comparison between current data, historic data, and relevant performance criteria;
- Updated plume and water level contour maps;
- Summary of analytical results; and

- Trend charts.

The above requirements are addressed in the following site-specific sections. Each site-specific section contains the following subsections:

- Site Background;
- Remedial Action Summary;
- PM Sampling Plan;
- Field Activities;
- PM Results;
- Analysis and Discussion; and
- Conclusion.

A summary of Remedial Action Objectives (RAOs) for each site is provided in Table 1-1.

1.2 Applicable Requirements

FPM performed the sampling as detailed in the Final PM Work Plan [PMWP] (FPM, September 2008).

Groundwater samples were generally collected using bladder pumps, but bailers were used at 1-inch direct-push wells at the Landfill 6 TCE Site due to the size of the bladder pumps being larger than the diameter of the direct-push wells. Sampling was performed in accordance with United States Environmental Protection Agency (USEPA) recommended practices [USEPA, March 1998] (bladder pump sampling only) and the Field Sampling Plan (FSP), Long-Term Monitoring Program (FPM, March 2005). Details on the sampling methodology are described in Section 6 of the PMWP (FPM, September 2008). All data obtained from the sampling events were reviewed and evaluated in accordance with the Basewide Air Force Center for Engineering and the Environment (AFCEE) Quality Assurance Project Plan (QAPP) Version 4.0, Long-Term Monitoring Program (FPM, October 2006), with AFCEE- and USACE-approved variances, and the AFCEE QAPP 4.0 qualifiers.

During sampling, CQCRs were prepared to log all daily activities and to provide a record of any deviations from the approved SAP. These CQCRs contain all completed field sampling forms (from Appendix B of the Final PMWP [FPM, September 2008]), calibration data, signed Chains of Custody (CoCs), and applicable health and safety forms (Appendix A of the final PMWP). The CQCRs are included in this Annual PM report in Appendix A.

Groundwater sampling was completed in accordance with the Site Safety and Health Plan (SSHP), Long-Term Monitoring Program (FPM, June 2003), Accident Prevention Plan (Parsons, June 2006), and operating requirements from the Remedial Action Work Plan (RAWP) (Parsons, July 2008) to ensure that the most conservative approach towards workers' health, site safety and

protection of the environment is utilized. Project health and safety forms were completed during sampling and are included in the daily CQCRs.

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2 Landfill 6 TCE Site

2.1 Site Background

The Landfill 6 TCE Site plume is located downgradient to the west of Landfill 6. The most contaminated portion of the plume is located southwest of the landfill beneath the floodplain of Three Mile Creek (TMC). Contaminants exceeding New York State (NYS) Class GA Groundwater Standards (NYSDEC, June 1998) are TCE, dichloroethene (DCE), and vinyl chloride (VC). In March 2004, the maximum TCE concentration was 2,140 micrograms per liter (µg/L) and the maximum DCE concentration was 346 µg/L. Both of these maximums were detected in wells located within a 1,600-square-foot (sq. ft.) area centered around well LF6MW-12 as shown on Figure 2-1 (EEEPC, February 2008).

The contaminated aquifer is comprised of silty sands with an average saturated thickness of 61 ft. Contamination is not present in the bedrock. Due to a flat gradient, groundwater velocities at this site have been estimated at less than 4 ft. per year. In general, the direction of groundwater flow at the site is southwest. Groundwater studies at the site found relatively aerobic conditions and low dissolved organic carbon (DOC) within the TCE/DCE plume. There is evidence that reductive dechlorination is occurring in a limited downgradient section of the plume (LF6VMW-26 and LF6MW-12) (EEEPC, February 2008).

Treatability studies were performed at Landfill 6 TCE Site consisting of a bench-scale study in June 2002 and a field pilot-scale study in November 2002 through November 2003 to evaluate the effectiveness of in-situ chemical oxidation (ISCO). The bench-scale study utilized potassium permanganate as the oxidant, resulting in successful reduction of TCE and DCE. The positive results prompted the field pilot-scale study where two rounds of injections occurred using six injection points located in the vicinity of LF6MW-12. The baseline results compared to the post-treatment analytical results showed that the initial injection had a minimal effect on the reduction of the contaminants and the majority of the oxidant reacted with the natural oxidant demand of the groundwater. The second injection resulted in a 50% total VOC reduction, after the initial sharp drop in VOC concentrations and the rebound in VOC concentrations afterwards. Based on these results, Landfill 6 TCE Site conditions are conducive for contaminants to be treated with ISCO (EEEPC, December 2006).

FPM sampled the Landfill 6 TCE Site on November 16, 2006 in accordance with the final Baseline Letter Work Plan (WP) (FPM, November 2006). FPM sampled six monitoring wells. The samples were analyzed for the following parameters: VOC, sulfate, DOC, and methane/ethane/ ethene (MEE). Field parameters collected were oxygen reduction potential (ORP), dissolved oxygen (DO), pH and water levels. EEEPC installed and sampled seven new monitoring wells. The samples collected by EEEPC were analyzed for VOC only. Results confirmed significant cis-1,2-DCE and TCE detections exceeding the NYS Class GA Groundwater Standards in a relatively small area centered around LF6MW-12. Results are

discussed in detail in the Final Monitoring Report, Baseline and Pre Design Investigation (PDI) 2 Sampling for OBGW AOC (FPM, August 2007).

A groundwater and surface water sampling event was performed from February through April 2007. This sampling event was performed in accordance with the Final WP for PDIs (EEEPC, July 2006). Five additional direct-push wells at Landfill 6 TCE (LF6TW-33 through LF6TW-38) were installed in February 2007 and sampled in April 2007. The results showed a relatively low concentration TCE plume with a smaller central area (hot spot) with much higher TCE concentrations. This hot spot is an approximately 1,600 sq. ft. area around monitoring well LF6MW-12. Detailed monitoring well results can be found in the Final Monitoring Report (FPM, August 2007).

2.2 Remedial Action Summary

The selected remedy for the Landfill 6 TCE Site is enhanced bioremediation. As listed in the final RAWP (Parsons, July 2008), this process is intended to increase biodegradation of the groundwater contaminants by injecting a vegetable oil emulsion. The vegetable oil emulsion increases the natural breakdown of the chemicals, reducing the concentration of contaminants.

The vegetable oil injection was performed at injection wells LF6IW-01 through LF6IW-06 in July 2008 (Figure 2-3) and again in August 2010. These injection wells are located in a cluster slightly upgradient of the cluster of monitoring wells in the hot spot (LF6MW-12, LF6MW-16, LF6MW-17, and LF6MW-20). In July 2008, an emulsion of 7,375 gallons of water, 156 gallons vegetable oil, 72 gallons of lactate, and 102 gallons of buffer solution was injected, as detailed in the table below.

Date	Injection Well	Volume water (gallons)	Volume veg. oil (gallons)	Volume lactate (gallons)	Volume buffer (gallons)
7/24/08	LF6IW-05	1,255	26	12	17
7/25/08	LF6IW-02	1,255	26	12	17
7/28/08	LF6IW-01	1,205	26	12	17
7/28-29/08	LF6IW-03	1,205	26	12	17
7/29/08	LF6IW-06	1,205	26	12	17
7/30-31/08	LF6IW-04	1,250	26	12	17
	Total:	**7,375**	**156**	**72**	**102**

In August 2010, an emulsion of 7,352 gallons of water, 490.8 gallons vegetable oil, and 312 gallons of buffer solution was injected as detailed in the table below.

Date	Injection Well	Volume water (gallons)	Volume veg. oil (gallons)	Volume buffer (gallons)
8/24/2010	LF6IW-01	1,155	79.2	52
8/25/2010	LF6IW-02	1,243	79.2	52
8/25/2010	LF6IW-05	1,243	79.2	52
8/26/2010	LF6IW-06	1,230	80.4	52
8/27/2010	LF6IW-04	1,231	84.6	52
8/27/2010	LF6IW-03	1,250	88.2	52
	Total:	**7,352**	**490.8**	**312**

One additional monitoring well (LF6MW-39) was installed by Parsons at the Landfill 6 TCE Site in July 2008 in accordance with the final RAWP (Parsons, July 2008).

2.3 PM Sampling Plan

Performance monitoring was conducted in accordance with the final PMWP (FPM, September 2008) and includes sampling of eight monitoring wells, five direct-push wells, and one surface water location as listed in Table 2-1 and as shown on Figure 2-1. Additionally, data is used from the Landfill 6 Long Term Monitoring (LTM) program for monitoring well LF6MW-12. All samples are analyzed for VOCs (EPA Method SW8260B), sulfate (EPA Method SW9056), DOC (Standard Method SM5310B), and MEE (EPA Method RSK-175). Field parameters collected are ORP, DO, pH, and water level. Field measurements collected for temperature, conductivity and turbidity are for stability purposes before sample collection, and are not reported in the results Table 2-2. These measurements are provided on the completed well purging and sampling forms in Appendix A. Additional details on the sampling are provided in the PMWP (FPM, September 2008).

All performance monitoring was conducted by FPM personnel and all sampling documentation is provided in Appendix A. Performance monitoring was conducted quarterly for the first year following the initial injection in July 2008 and semi-annually after that. Any deviations from the final PMWP are detailed below.

2.4 Field Activities

Two semi-annual PM sampling rounds were performed in the Fall of 2011 on September 9 and September 12, 2011 and in the Spring of 2012 on April 16 and April 17, 2012. Daily field activities are summarized on CQCRs in Appendix A. Validated data are provided in Appendix B and the raw lab data are provided in Appendix C.

Groundwater samples were collected at the eight monitoring wells (LF6VMW-13R, -13RD, -26, LF6MW-16, -17, -20, -31, and -39) with dedicated bladder pumps in accordance with the USEPA Low Stress (Low Flow) Purging and Sampling Ground Water Sampling Procedure for

Region II (USEPA, March 1998). At the five direct-push wells (LF6TW-33, -34, -35, -36, and -38), groundwater was evacuated with a check valve attached to tubing. Stability readings were collected from the evacuated water. After stability was reached, the tubing was removed and samples were collected with a disposable bailer. The one surface water location was sampled with a disposable plastic sampling bottle. Sediment interference during the surface water sample collection was minimized.

Several observations/deviations were made which are detailed below:

- In the Fall 2011 sampling round, monitoring well LF6MW-20 was sampled. However in the Spring 2012 sampling round, monitoring well LF6MW-20 was not sampled. Based on the analytical results and after discussion with the project team, it was decided that LF6MW-20 will be sampled semi-annually for plume degradation monitoring.
- In the Fall 2011 sampling round, surface water sample LF6-SW1PM was not collected. This sample was collected in the Spring 2012 sampling round.
- In the Spring 2012 sampling round, at monitoring wells LF6VMW-13R, -13RD and LF6MW-31, turbidity did not reach the typically observed value of 50 Nephelometric Turbidity Units (NTUs) or below. It stabilized at 103 NTU, 68.0 NTU, and 60.9 NTU at LF6VMW-13R, -13RD and LF6MW-31, respectively. All other parameters also reached stability and a sample was collected.
- All direct-push wells in both sampling rounds had high turbidity levels and positive DO levels, even if the ORP readings were low or negative. This is not typically observed when conducting low-flow sampling and is likely the result of the purging procedure used on the direct push wells. This procedure raised DO levels rapidly. This is consistent with observations in previous sampling events.

All monitoring wells were inspected and their condition was summarized in the monitoring well maintenance table which is provided in Appendix E.

2.5 PM Results

2.5.1 Fall 2011

The Landfill 6 TCE Site PM sampling results are provided in Table 2-2. These results include the baseline sampling results collected in 2006-2007, the results of the first four quarterly PM sampling rounds and the semi-annual sampling rounds. The results are compared to the prior sampling round. All monitoring and direct-push wells identified in Table 2-1 were sampled in addition to LF6MW-20. As noted above, surface water sample LF6-SW1PM was not collected during this event.

Samples collected from monitoring wells located within the hot spot (LF6MW-16, -17 and -20) showed cis- and, trans-1,2-DCE, and TCE exceedances of the NYS Class GA Groundwater Standards. The reported concentrations for monitoring well LF6MW-16 remained consistent with past results. cis-1,2-DCE decreased from 190 µg/L to 139 µg/L and TCE increased from

694 µg/L to 786 µg/L. The reported concentrations for monitoring well LF6MW-17 showed increasing cis-1,2-DCE (from 290 µg/L to 494 µg/L) and decreasing TCE (from 248 µg/L to 134 µg/L). This monitoring well is located within the influence of the injection points, where a reduction from the parent to the daughter product is expected through enhanced bioremediation. Monitoring well LF6MW-20 continued to show a decrease in TCE concentrations (from 217 µg/L to 39.5 F µg/L [F - Analyte was positively identified above the Method Detection Limit (MDL), but the concentration is below the Reporting Limit (RL)]) and also showed a decrease in cis-1,2-DCE concentrations (from 2,230 µg/L to 1,430 µg/L).

In addition to the chlorinated solvent constituents, monitoring well LF6MW-16 had a methyl tert butyl ether (MTBE) exceedance, monitoring well LF6MW-17 had a benzene exceedance, and monitoring well LF6MW-20 had an acetone exceedance. Also, all three monitoring wells LF6MW-16, -17 and -20 had exceedances for methylene chloride.

Significant methane levels were reported in monitoring wells LF6MW-16, -17 and -20 (3,300 J µg/L, 2,400 µg/L and 4,500 µg/L, respectively). Sulfate decreased at monitoring wells LF6MW-16 and -17, and increased at LF6MW-20. DOC concentrations were between 2.0 milligrams per liter (mg/L) and 5.7 mg/L and appear to be decreasing. ORP levels were negative to strongly negative and DO readings were all 0.00 mg/L.

Monitoring well LF6MW-31 showed stable readings for VOC (two minor detections), methane (4.9 µg/L), DOC (2.7 mg/L), and sulfate (72 mg/L). The VOC detections were acetone at 1.15 FB µg/L and VC at 0.440 F µg/L. ORP increased but remained negative at -158 mV (from -104 mV), DO remained constant at 0.00 mg/L and pH remained constant.

Direct-push well LF6TW-33 results showed cis-1,2-DCE decreasing to 69.1 µg/L from 85.1 µg/L and TCE increasing to 148 µg/L from 133 µg/L. The methane concentration increased to 390 µg/L (from 39 µg/L), DOC decreased to 2.6 mg/L (from 5.0 mg/L) and sulfate increased to 77 mg/L (from 68 mg/L). ORP remained negative at -131 millivolts (mV), DO decreased to 1.85 mg/L (from 10.42 mg/L) and pH remained constant.

Direct-push well LF6TW-34 showed a decreasing exceedance for cis-1,2-DCE (59.6 µg/L from 68.4 µg/L), trans-1,2-DCE (23.1 µg/L from 25.2 µg/L), and TCE (203 µg/L from 272 µg/L). Methane decreased to 5.6 µg/L (from 6.4 µg/L), DOC decreased to 2.3 mg/L (from 6.3 mg/L), and sulfate decreased to 76 mg/L (from 97 mg/L). ORP decreased to -101 mV (from -43 mV), DO decreased to 1.71 mg/L (from 6.36 mg/L) and pH remained constant at 7.22.

Direct-push well LF6TW-35 showed a decreasing cis-1,2-DCE concentration (5.40 µg/L from 8.78 µg/L) and a decreasing TCE concentration (22.2 µg/L from 30.7 µg/L). Methane decreased to 4.8 µg/L (from 11.0 µg/L), DOC decreased to 1.8 mg/L (from 5.7 mg/L) and sulfate increased to 58 mg/L (from 52 mg/L). ORP was negative at -21 mV, DO decreased to 1.8 mg/L (from 5.68 mg/L) and pH remained constant at 7.36.

Direct-push well LF6TW-36 (roughly 60 ft. away from the hot spot) showed a decreasing cis-1,2-DCE exceedance (41.4 µg/L from 47.3 µg/L) and a decreasing TCE exceedance (250 µg/L from 262 µg/L) Methane increased to 6.7µg/L (from 5.7 µg/L), DOC decreased to 1.5 mg/L (from 5.3 mg/L), and sulfate readings increased to 56 mg/L (from 46 mg/L). ORP was negative at -117 mV, DO decreased to 2.15 mg/L (from 5.31 mg/L) and pH remained constant at 7.45.

Monitoring well LF6TW-38 (approximately 120 ft. from the hot spot), showed a decreasing cis-1,2-DCE concentration (at 40.0 µg/L from 45.1 µg/L) and a decrease in TCE at 105 µg/L (from 118 µg/L). Methane decreased to none detected (from 2.1 F µg/L), DOC decreased to 0.88 F mg/L (from 0.92 F mg/L) and sulfate was stable at 53 mg/L. ORP was positive at 33 mV, DO decreased to 0.53 mg/L (from 8.21 mg/L) and pH remained constant at 7.69.

Monitoring well LF6VMW-26 (approximately 180 ft. from the hot spot), showed a decreased cis-1,2-DCE concentration (90.8 µg/L from 94.0 µg/L). Methane was not detected, DOC remained stable at 0.58 F mg/L and sulfate was stable at 48 mg/L. ORP decreased to -140mV from -47 mV, DO remained constant at 0.00 mg/L, and pH decreased to 7.76 (from 8.10).

The downgradient wells (LF6VMW-13R, -13RD, and LF6MW-39) had no VOC detections except for LF6VMW-13R which had one detection for methylene chloride. Methane was not detected, DOC concentrations were low, and sulfate concentrations were well under NYS groundwater standards. ORP readings were negative at all three downgradient wells (ranging from -211 mV to -83 mV). Only monitoring well LF6VMW-13R had a DO reading above 0.00 mg/L (6.70 mg/L) and all three monitoring wells have a pH between 7.47 and 7.81.

Surface water location LF6-SW1PM was not sampled during the Fall 2011 sampling round.

2.5.2 Spring 2012

The Landfill 6 TCE Site PM sampling results are provided in Table 2-2. These results include the baseline sampling results collected in 2006-2007, the results of the first four quarterly PM sampling rounds and the semi-annual sampling rounds. The results are compared to the prior sampling round. All monitoring and direct-push wells identified in Table 2-1 were sampled with addition to LF6MW-12 which was sampled on June 21, 2012 as part of the Landfill 6 LTM program.

Monitoring wells located within the hot spot (LF6MW-12, -16 and -17) showed NYS Class GA Groundwater Standards exceedances for cis-, trans-1,2-DCE, and TCE. Additionally, monitoring well LF6MW-12 showed a VC exceedance which decreased from the previous sampling round (4.1 µg/L from 4.7 µg/L). TCE increased (300 µg/L from 220 µg/L), cis-1,2-DCE decreased (380 µg/L from 530 µg/L) and trans-1,2-DCE slightly increased (7.9 µg/L from 6.2 µg/L).

Monitoring well LF6MW-16 showed increasing concentrations for all three VOCs with cis-1,2-DCE at 171 µg/L (from 139 µg/L), trans-1,2-DCE at 12.0 F µg/L (from 8.40 F µg/L), and TCE at 849 µg/L (from 786 µg/L).

Monitoring well LF6MW-17 showed a decreasing cis-1,2-DCE exceedance at 328 µg/L (from 494 µg/L), but showed an increase in trans-1,2-DCE and TCE concentrations at 132 µg/L and 245 µg/L, respectively. The monitoring wells showed increases in methane concentrations with LF6MW-16 at 4,300 µg/L and LF6MW-17 at 6,700 µg/L (methane was not sampled at LF6MW-12). DOC concentration for LF6MW-12 decreased (3.1 mg/L from 12 mg/L) while the other two monitoring wells were stable at around 2 mg/L. ORP levels were negative with LF6MW-12 at -263 mV, LF6MW-16 at -165 mV and LF6MW-17 at -104 mV, and DO readings were consistently 0.00 mg/L. Monitoring wells LF6MW-12, -16 and -17 have shown similar pH readings at 6.36, 6.85 and 6.40, respectively.

Monitoring well LF6MW-31 showed stable VOC detections (cis-1,2-DCE at 0.150 F µg/L and VC at 0.400 F µg/L). Methane increased to 6.5 µg/L from 4.9 µg/L. DOC remained stable at 2.4 mg/L and sulfate remained stable at 74 mg/L. ORP remained negative at -158 mV, DO remained constant at 0.00 mg/L, and pH remained stable at 6.85.

Direct-push well LF6TW-33 showed an increasing TCE exceedance (204 µg/L from 148 µg/L) and a stable cis-1,2-DCE concentration at 69.5 µg/L. The methane concentration increased to 4,600 µg/L (from 390 µg/L), DOC remained stable at 2.7 mg/L and sulfate remained stable at 79 mg/L. ORP remained negative at -93 mV, DO increased to 11.09 mg/L (from 1.85 mg/L) and pH remained stabled at 7.00.

Direct-push well LF6TW-34 showed a decreasing cis-1,2-DCE exceedance (46.1 µg/L from 59.6 µg/L) and trans-1,2-DCE (17.9 µg/L from 23.1 µg/L). There was also a decreasing TCE exceedance (156 µg/L from 203 µg/L). Methane increased to 7.9 µg/L (from 5.6 µg/L), DOC remained stable at 2.7 mg/L, and sulfate decreased to 59 mg/L (from 76 mg/L). ORP increased to -40 mV (from -101 mV), DO increased to 2.38 mg/L (from 1.71 mg/L), and pH decreased to 6.38 (from 7.22).

Direct-push well LF6TW-35 showed a stable cis-1,2-DCE result of 5.49 µg/L and an increasing TCE exceedance (25.1 µg/L from 22.2 µg/L). Methane remained constant at 4.6 F µg/L, DOC remained stable at 2.1 mg/L and sulfate remained stable at 54 mg/L. ORP increased to 6 mV (from -21 mV), DO increased to 10.20 mg/L (from 1.80 mg/L) and pH increased to 7.42 (from 7.36).

Direct-push well LF6TW-36 (roughly 60 ft. away from the hot spot) showed a decreased cis-1,2-DCE exceedance (36.7 µg/L from 41.4 µg/L) and a decreased TCE exceedance (201 µg/L from 250 µg/L). Methane decreased to 2.1 F µg/L (from 6.7 µg/L), DOC remained stable at 1.6 mg/L, and sulfate remained stable at 51 mg/L. ORP increased to -30 mV (from -117 mV), DO increased to 3.56 mg/L (from 2.15 mg/L) and pH remained stable at 7.54.

Monitoring well LF6TW-38 (approximately 120 ft. from the hot spot), showed a decreasing cis-1,2-DCE concentration (36.8 µg/L from 40.0 µg/L) and a decreased TCE concentration (100 µg/L from 105 µg/L). Methane was not detected, DOC increased to 1.2 mg/L (from 0.88 F mg/L) and sulfate was stable at 41 mg/L. ORP increased to 54 mV (from 33 mV), DO increased to 2.29 mg/L (from 0.53 mg/L) and pH remains stable at 7.75.

Monitoring well LF6VMW-26 (approximately 180 ft. from the hot spot), showed a stable cis-1,2-DCE concentration (95.5 µg/L). Methane and DOC were not detected and sulfate was stable at 41 mg/L. ORP remained stable at -134 mV (from -140 mV), DO increased to 1.31 mg/L (from 0.00 mg/L) and pH decreased to 7.31 (from 7.76).

No VOC detections were reported for the downgradient wells (LF6VMW-13R, -13RD, and LF6MW-39). Methane was not detected, DOC concentrations were low (0.00 mg/L to 0.63 F mg/L) and sulfate concentrations were high (33 to 56 mg/L). ORP readings at LF6VMW-13R, -13RD, and LF6MW-39 were negative (-184 mV, -157 mV, and -147 mV, respectively) and DO readings were between 0.00 mg/L and 5.80 mg/L. All three wells reported stable pH between 7.29 and 7.64.

Two VOCs (acetone at 3.17 F µg/L, and chlorobenzene at 0.170 F µg/L) were detected at surface water location LF6-SW1PM but none exceeded the NYS Class GA Groundwater Standards. Methane decreased to 7.7 µg/L (from 13 µg/L), DOC decreased to 2.7 mg/L (from 3.2 mg/L) and sulfate was stable at 36 mg/L. ORP decreased to 18 mV (from 159 mV), DO decreased to 9.25 mg/L (from 9.64 mg/L) and the pH increased to 7.80 (from 6.24).

2.6 Analysis and Discussion

Figure 2-1 displays a comparison of the baseline June 2006 TCE plume to the September 2009, 2010 and 2011 TCE plume, and Figure 2-2 displays a comparison of the baseline June 2006 cis-1,2-DCE plume to the September 2009, 2010 and 2011 cis-1,2-DCE plume.

Three chlorinated VOCs exceeded the NYS Class GA Groundwater Standards during the Fall 2011 sampling round at the Landfill 6 TCE Site: cis-1,2-DCE, trans-1,2-DCE, and TCE and four chlorinated VOCs exceeded the NYS Class GA Groundwater Standards during the Spring 2012 sampling round at the Landfill 6 TCE Site: cis-1,2-DCE, trans-1,2-DCE, TCE, and VC. A relatively small hot spot exists with concentrations during the Fall 2011 sampling round at approximately 750 µg/L – 1,550 µg/L for the three VOCs combined, and concentrations during the Spring 2012 sampling round at approximately 700 µg/L – 1,000 µg/L for the four VOCs combined.

Chlorinated VOC concentrations have fluctuated and appear to have been reduced to half while showing a significant conversion from TCE to DCE in the hot spot. Methane was reported at high levels in virtually all hot spot monitoring wells with a noticeable increasing trend, where the

highest concentrations were reported for monitoring wells LF6MW-16, -17, -20 and LF6TW-33. Upgradient temporary well LF6TW-33 had observed mounding in the water table most likely due to the August 2010 injection event. The carbon source has influenced this groundwater zone creating highly anaerobic conditions as evidenced by the negative ORP levels and absence of oxygen in the hot spot monitoring wells.

DOC levels for wells within the hot spot (which was the area targeted for emulsified vegetable oil injection) have decreased to pre-injection levels. However, it is believed that enhanced bioremediation is still occurring. This is evidenced by the reported high methane levels in the hot spot. The most rapid enhanced bioremediation rates occur under methanogenic conditions. Also, while sampling LF6MW-12 as part of the Landfill 6 LTM program on June 20, 2012, a substance was observed on the water quality meter probe which originated from the top of water at 4.32 ft. below top of casing. This remaining residual soybean oil material observed in LF6MW-12 likely consists of proteins and long chain fatty acids given the viscosity and sticky nature of this material and the fact that this material appears to be limited to the water table, approximately 40 feet above the treatment interval. This residual soybean oil material makes up a small component of the original injected substrate mass and is what remains after the more easily degradable short chain fatty acids are consumed. The residual material is biodegradable.

Sulfate levels across the site were generally high and stable (33 mg/L - 86 mg/L), which suggests that sulfate as an electron acceptor, is not competing with reductive dechlorination. However, sulfur odor was observed in the hot spot during the Fall 2011 and Spring 2012 sampling round, where it is most likely that sulfate is being reduced due to the vegetable oil injection.

ORP levels were typically negative to strongly negative across the site with the lower readings reported in wells in the hot spot. DO levels were typically low (0.00 – 6.70 mg/L) across the site, except for the direct-push monitoring wells, which showed higher DO levels up to 11.09 mg/L, likely due to the purging/sampling procedure. pH levels varied between 6.36 to 7.81. These levels are optimal for reductive dechlorination.

The VOC concentrations detected in surface water samples were below the NYS Groundwater Standards.

2.6.1 Trend Chart

Trend charts were prepared which included VC, cis-1,2-DCE, and TCE and total VOCs (all three COCs combined plus trans-1,2-DCE) versus time. The trend charts are provided in Figures 2-4 through 2-13. Other VOCs exceeding the NYS Class GA Groundwater Standards were excluded from trending. These VOCs were not deemed COCs because they were products formed during enhanced bioremediation (acetone, 2-butanone), artifacts from well installation (chloroform), reported in the laboratory quality control blank samples (methylene chloride), or one-time minor detections (benzene, MTBE). The trend charts include all analytical results from previous investigations for the monitoring wells at the Landfill 6 Site, dating back to 2002. The trend

charts include DOC, which could assist in explaining possible changes in COC concentrations. Monitoring wells LF6MW-31, -39, LF6VMW-13R, and -13RD are not included in the trend charts because they had no or only minor VOC detections. The trend charts also show the different injection events (permanganate and vegetable oil emulsion) which occurred at the site.

The trend charts in Figures 2-4 through 2-13 show an overall decreasing trend in total VOC results between 2004 and 2012, especially for wells with higher COC levels (LF6MW-12, -16, -17 and -20 inside the hot spot). Typically the wells in the hot spot (LF6MW-12, -17 and -20) show an increase in cis-1,2-DCE concentrations in relation to a decrease in the parent compound, TCE, due to reductive dechlorination.

2.7 Conclusion

The carbon substrate from the injection event in August 2010 created a highly anaerobic groundwater zone of methanogenic conditions. Methanogenic conditions are conducive to the most rapid anaerobic dechlorination rates. Dechlorination is being observed due to increasing levels of cis-1,2-DCE in the hot spot, which is the breakdown product of TCE via reductive dechlorination. Monitoring well LF6MW-12 had a VC exceedance also indicating reductive dechlorination. Overall the site appears to have a slightly decreasing total VOC trend in the injection area.

The goal for the landfill 6 TCE Site is to reduce the hot spot to below 500 µg/L total VOCs. Vegetable oil injections have the desired effect but seem to persist for a limited time. The reported material in LF6MW-12 degrades relatively slowly and does not provide soluble organic carbon at a sufficient rate to support widespread anaerobic conditions and complete reductive dechlorination of chlorinated solvent compounds. Once the injected substrate is reduced to this residual material and the more easily degradable oil components have been consumed, DOC concentrations decline and reductive dechlorination rates slow down. Enhanced bioremediation applications are typically refreshed at this point to add additional easily degradable organic substrate mass to the system. Therefore, a higher-concentration (i.e., less dilute and thus longer lasting) vegetable oil injection is being evaluated for implementation in 2013.

The VOC concentrations detected in surface water samples were below the NYS Groundwater Standards.

Per the Final PMWP (FPM, September 2008), future sampling for the next year at the Landfill 6 TCE Site is planned for semi-annual performance in the Fall of 2012 and the Spring of 2013.

3 Building 817/WSA Site

3.1 Site Background

The Building 817/WSA Site is located on the north side of the main runway between Building 817 and the culverted section of Six Mile Creek (SMC) south of the former weapon storage area (WSA). Building 817 was formerly used for electronic parts maintenance. Perchloroethylene (PCE) and TCE were solvents used in small quantities at this location. The contaminants exceeding NYS Class GA Groundwater Standards are PCE and TCE. In September 2004, the maximum PCE concentration was 72 µg/L and the maximum TCE concentration was 90 µg/L. Site groundwater flows in south-southwesterly direction toward the culverted section of SMC. The contaminated aquifer is composed of relatively uniform fine sands that begin 5 ft. bgs and extend to shale bedrock at approximately 20 to 25 ft. bgs. Contamination is not found in the bedrock. Groundwater velocities at this site have been estimated as high as 110 ft. per year. In September 2004, a TCE concentration of 90 µg/L was detected in downgradient well WSA-VMW17, shown on Figure 3-1. The TCE/PCE plume does not contain other petroleum-based organics to stimulate reductive dechlorination. There is no significant cis-1,2-DCE in the plume (EEEPC, February 2008).

Treatability studies were performed at Building 817/WSA consisting of a bench-scale study in June 2002 and a field pilot-scale study in November 2002 to evaluate ISCO effectiveness. The bench-scale study injected potassium permanganate as the oxidant, resulting in successful reduction of PCE and TCE. The positive results prompted the pilot-scale study including one round of injections in the vicinity of WSA-MW11 (located next to WSAMW-16). The baseline results compared to the post-treatment analytical results indicated an estimated reduction in TCE and PCE of 47% and 36% respectively after rebound. Based on these results Building 817/WSA Site conditions have the presence of a lithological preferential pathway surrounding the injection points, therefore advection occurred through gravely till layers moving the oxidant away from the treatment zone (EEEPC, December 2006).

In October/November 2006, FPM and EEEPC performed sampling at the Building 817/WSA Site in accordance with the final Baseline Letter WP (FPM, November 2006). The sampling was performed so that sampling did not interfere with the planned injection pilot study performed at the same time (October 2006). FPM sampled five monitoring wells. The samples were analyzed for the following parameters: VOC, sulfate, DOC, and MEE. Field parameters collected were ORP, DO, and pH. EEEPC installed and sampled four monitoring wells and Parsons installed and sampled three monitoring wells. The samples collected by EEEPC and Parsons were analyzed for VOC only. Results confirmed the PCE and TCE detections exceeding NYS Class GA Groundwater Standards within the plume. Results are discussed in detail in the Final Monitoring Report (FPM, August 2007).

Additional sampling was performed February 2007, to monitor the effect of an initial soybean oil emulsion/high fructose corn syrup injection in October 2006. This injection was a 1,000-gallon

mixture containing 143 pounds of a 60% soybean oil emulsion, 150 pounds of an 80% high fructose corn syrup, and drinking water. FPM collected four samples at B817-MW-001 through B817-MW-003 and monitoring well WSA-MW18. The analytical results showed PCE and TCE contamination extending from Building 817 to monitoring well WSA-VMW17. Monitoring well results are summarized in Table 3-2 and detailed results are reported in the Final Monitoring Report (FPM, August 2007).

3.2 Remedial Action Summary

The selected remedy for the Building 817/WSA Site is enhanced bioremediation. As listed in the final RAWP (Parsons, July 2008), this process is intended to increase biodegradation of the groundwater contaminants by injecting a vegetable oil emulsion into the ground. The vegetable oil emulsion increases the biological breakdown of the chemicals, thereby reducing the concentration of contaminants.

The vegetable oil was injected at the Building 817/WSA Site in injection wells B817IW-1 through B817IW-8 in July 2008 and again in August 2010. These injections wells are located in a row approximately 10 ft. downgradient of the southwesterly corner of Building 817. In July 2008, an emulsion consisting of 25,834 gallons of water, 720 gallons vegetable oil and 360 gallons of buffer solution was injected as shown below.

Date	Injection Well	Volume water (gallons)	Volume veg. oil (gallons)	Volume buffer (gallons)
7/15-18/08	B817IW-07 and -08	6,733	180	90
7/17-18/08	B817IW-03 and -04	6,293	180	90
7/18-21/08	B817IW-01 and -02	6,501	180	90
7/21-22/08	B817IW-05 and -06	6,307	180	90
	Total:	**25,834**	**720**	**360**

In August 2010, an emulsion of 24,017 gallons of water, 2,066.6 gallons of vegetable oil, and 745.2 gallons of buffer solution was injected as shown below.

Date	Injection Well	Volume water (gallons)	Volume veg. oil (gallons)	Volume buffer (gallons)
8/12/2010	B817IW-01 and -02	6,001	515.6	186.2
8/13/2010	B817IW-03 and -04	6,003	517	186.4
8/16/-19/2010	B817IW-05 and -06	6,004	517	186.2
8/17-18/2010	B817IW-07 and -08	6,009	517	186.4
	Total:	**24,017**	**2,066.6**	**745.2**

3.3 PM Sampling Plan

Performance monitoring was conducted in accordance with the final PMWP (FPM, September 2008) and includes sampling of nine monitoring wells as listed in Table 3-1 and as shown in Figure 3-1. All groundwater samples are analyzed for VOCs (EPA Method SW8260B), sulfate (EPA Method SW9056), DOC (Standard Method SM5310B), and MEE (EPA Method RSK-175). Field parameters collected are ORP, DO, pH, and water level. Field measurements collected for temperature, conductivity and turbidity are for stability purposes before sample collection, and are not reported in the results Table 3-2. These measurements are provided on the completed well purging and sampling forms in Appendix A.

All performance monitoring was conducted by FPM personnel and all sampling documentation is provided in Appendix A. Performance monitoring was conducted quarterly for the first year following the initial injection in July 2008 and semi-annually after that. Any deviations from the final PMWP are detailed below.

3.4 Field Activities

Two semi-annual PM sampling rounds were performed in the Fall of 2011 on September 8 and September 9, 2011 and in the Spring of 2012 on April 13 and April 16, 2012. Daily field activities are summarized on CQCRs which are provided in Appendix A. Validated data are attached in Appendix B and raw lab data are provided in Appendix C.

Groundwater samples were collected at all nine monitoring wells shown in Table 3-1 with dedicated bladder pumps in accordance with the USEPA Low Stress (Low Flow) Purging and Sampling Ground Water Sampling Procedure for Region II (USEPA, March 1998). Additional samples were planned for piezometers B817-MW-001, -002, and -003. These were additional design samples planned for collection whose results would assist in making remedy decisions.

An observation/deviation was made which is detailed below:

- In the Fall of 2011, piezometers B817-MW-001, -002, and -003 were not sampled. In the Spring of 2012, piezometers B817-MW-001, -002, and -003 were sampled.

All monitoring wells were inspected and their condition was summarized in the monitoring well maintenance table which is provided in Appendix E.

3.5 PM Results

3.5.1 Fall 2011

The Building 817/WSA Site sampling results are provided in Table 3-2. These results include the baseline sampling results collected in 2006, the results of the first four quarterly PM sampling rounds and the semi-annual sampling rounds. All wells identified in Table 3-1 were

sampled. Results are discussed from upgradient (WSA-MW8) to downgradient near SMC (WSA-MW9). The results are compared to the prior sampling round.

Monitoring well WSA-MW8 results showed that TCE decreased to 1.82 µg/L (from 6.54 µg/L). PCE decreased from 0.240 F µg/L to 0.150 F µg/L. Chloroform increased slightly from 0.160 F µg/L to 0.380 F µg/L. Methane was not detected, DOC remained stable at 0.63 F mg/L and sulfate was stable at 4.3 mg/L. ORP decreased to 186 mV (from 211 mV), DO increased to 6.71 mg/L (from 5.31 mg/L), and pH increased to 7.46 (from 7.14).

Monitoring well WSA-MW18 had two VOC exceedances: PCE increased to 53.1 µg/L (from 40.1 µg/L) and TCE increased to 55.7 µg/L (from 45.5 µg/L). Two additional VOC detections were reported (cis-1,2-DCE stable at 0.310 F µg/L, and 1,1,1-trichloroethane [TCA] stable at 0.340 F µg/L) but they did not exceed the NYS Class GA Groundwater Standards. Methane was not detected, DOC increased to 1.4 mg/L (from 0.71 F mg/L) and sulfate decreased to 6.3 mg/L (from 9.3 mg/L). ORP increased to 188 mV (from 63 mV), DO decreased to 3.50 mg/L (from 4.82 mg/L), and pH remained stable at 7.34.

Monitoring well WSA-MW16 had two VOC exceedances: PCE increased to 42.6 µg/L (from 36.4 µg/L) and TCE decreased to 35.4 µg/L (from 38.7 µg/L). Two additional VOC detections were reported (1,1,1-TCA at 0.500 F µg/L, and cis-1,2-DCE at 0.190 F µg/L) but none exceeded the NYS Class GA Groundwater Standards. Methane and DOC were not detected, and sulfate decreased to 6.8 mg/L (from 9.1 mg/L). ORP increased to 202 mV (from 111 mV), DO decreased to 3.32 mg/L (from 6.14 mg/L), and pH decreased to 7.20 (from 7.48).

Monitoring well WSA-MW19 had two VOC exceedances: PCE increased to 43.8 µg/L (from 39.5 µg/L) and TCE increased to 55.0 µg/L (from 47.8 µg/L). Three additional VOC detections were reported (chloroform at 0.130 F µg/L, 1,1,1-TCA at 0.290 F µg/L, and cis-1,2-DCE at 0.260 F µg/L) but none exceeded the NYS Class GA Groundwater Standards. Methane was not detected, DOC increased to 1.3 mg/L (from 1.1 mg/L) and sulfate was stable at 9.1 mg/L. ORP increased to 212 mV (from 141 mV), DO increased to 4.50 mg/L (from 0.08 mg/L), and pH decreased to 7.16 (from 7.75).

Monitoring well WSA-VMW17 had two VOC exceedances: PCE increased to 12.8 µg/L (from 10.2 µg/L) and TCE increased to 17.8 µg/L (from 14.0 µg/L). One additional VOC detection was reported (cis-1,2-DCE at 0.320 F µg/L) but it did not exceed the NYS Class GA Groundwater Standards. Methane was not detected, DOC decreased to 1.1 mg/L (from 1.9 mg/L) and sulfate increased to 5.8 mg/L (from 4.9 mg/L). ORP remained stable at 163 mV, DO remained stable at 3.17 mg/L, and pH decreased to 6.57 (from 7.11).

Crossgradient monitoring well LAWMW-9 results showed a decreasing TCE exceedance at 5.03 µg/L (from 6.39 µg/L). One additional VOC was detected (PCE at 0.360 F µg/L) but it did not exceed the NYS Class GA Groundwater Standards. Methane was detected at 2.3 F µg/L, DOC decreased to 1.0 mg/L (from 7.2 mg/L) and sulfate increased to 8.7 mg/L (from 7.4 mg/L). The

ORP reading increased to 185 mV (from 76 mV), DO decreased to 0.94 mg/L (from 5.69 mg/L), and the pH increased to 7.36 (from 7.11).

Crossgradient monitoring well WSA-MW23 had one minor PCE detection at 0.150 F µg/L. Methane decreased to 94 µg/L (from 180 µg/L), DOC remained stable and was not detected and sulfate remained stable at 11 mg/L. ORP decreased to -88 mV (from 52 mV), DO was stable at 0.00 mg/L, and pH increased to 7.85 (from 7.32).

Monitoring well WSA-MW21 had one decreasing TCE exceedance at 12.0 µg/L (from 20.6 µg/L). One additional VOC was detected (PCE at 1.06 µg/L) but it did not exceed the NYS Class GA Groundwater Standards. Methane increased to 6.3 µg/L (from non-detect), DOC decreased to non-detect (from 1.4 mg/L) and sulfate increased to 21 mg/L (from 6.5 mg/L). ORP decreased to 107 mV (from 140 mV), DO decreased to 3.91 mg/L (from 6.36 mg/L), and pH increased to 7.62 (from 7.23).

Downgradient monitoring well WSA-MW9 had no VOC detections. Methane was detected at 3.6 F µg/L, DOC decreased to 1.0 mg/L (from 1.4 mg/L) and sulfate increased to 37 mg/L (from 16 mg/L). ORP reading decreased to -93 mV (from 139 mV), the DO remained stable at 0.00 mg/L and the pH decreased to 7.42 (from 7.91).

3.5.2 Spring 2012

The Building 817/WSA Site sampling results are provided in Table 3-2. These results include the baseline sampling results collected in 2006, the results of the first four quarterly PM sampling rounds and the semi-annual sampling rounds. All wells identified in Table 3-1 were sampled during this sampling round. Results are discussed from upgradient (WSA-MW18) to downgradient near SMC (WSA-MW9). The results are compared to the prior sampling round.

Monitoring well WSA-MW18 had two VOC exceedances: PCE decreased to 29.5 µg/L (from 53.1 µg/L) and TCE decreased to 28.5 µg/L (from 55.7 µg/L). Two additional VOC detections were reported (1,1,1-TCA at 0.110 F µg/L and cis-1,2-DCE at 0.410 F µg/L) which did not exceed the NYS Class GA Groundwater Standards. Methane was not detected, DOC decreased to non-detect (from 1.4 mg/L) and sulfate remained stable at 8.0 mg/L. ORP decreased to 117 mV (from 188 mV), DO increased to 5.91 mg/L (from 3.50 mg/L), and pH remained stable at 7.40.

Monitoring well WSA-MW16 had two VOC exceedances: PCE decreased to 26.7 µg/L (from 42.6 µg/L) and TCE decreased to 22.9 µg/L (from 35.4 µg/L). Two additional VOC detections were reported (1,1,1-TCA at 0.260 F µg/L and cis-1,2-DCE at 0.380 F µg/L) but none exceeded the NYS Class GA Groundwater Standards. Methane and DOC were not detected and sulfate remained stable at 7.0 mg/L. ORP decreased to 129 mV (from 202 mV), DO increased to 5.60 mg/L (from 3.32 mg/L), and pH decreased to 6.99 (from 7.20).

Monitoring well WSA-MW19 had two VOC exceedances: PCE decreased to 31.6 µg/L (from 43.8 µg/L) and TCE decreased to 44.2 µg/L (from 55.0 µg/L). Two additional VOC detections were reported (1,1,1-TCA at 0.280 F µg/L and cis-1,2-DCE at 0.150 F µg/L) but none exceeded the NYS Class GA Groundwater Standards. Methane and DOC were not detected and sulfate remained stable at 8.0 mg/L. ORP increased to 238 mV (from 212 mV), DO increased to 9.54 mg/L (from 4.50 mg/L), and pH decreased to 6.69 (from 7.16).

Monitoring well WSA-VMW17 had two VOC exceedances: PCE decreased to 10.8 µg/L (from 12.8 µg/L) and TCE decreased to 12.1 µg/L (from 17.8 µg/L). One additional VOC detection was reported (cis-1,2-DCE at 0.130 F µg/L) but it did not exceed the NYS Class GA Groundwater Standards. Methane was not detected, DOC decreased to 0.53 F mg/L (from 1.1 mg/L) and sulfate remained stable at 4.7 mg/L. ORP increased to 236 mV (from 163 mV), DO increased to 5.12 mg/L (from 3.17 mg/L), and pH decreased to 6.06 (from 6.57).

Monitoring well WSA-MW21 had one TCE exceedance at 18.6 µg/L. Three additional VOC detections were reported (chloroform at 0.180 F µg/L, cis-1,2-DCE at 0.200 F µg/L and PCE at 1.1 µg/L) but they did not exceed the NYS Class GA Groundwater Standards. Methane and DOC were not detected and sulfate decreased to 9.6 mg/L (from 21 mg/L). ORP increased to 215 mV (from 107 mV), DO increased to 5.66 mg/L (from 3.91 mg/L), and pH decreased to 6.71 (from 7.62).

Downgradient monitoring well WSA-MW9 had no VOC detections. Methane and DOC were not detected, sulfate decreased to 17 mg/L (from 37 mg/L), ORP increased to 152 mV (from -93 mV), DO remained stable at 0.00 mg/L and the pH decreased to 7.27 (from 7.42).

Direct push wells B817-MW-001, -002 and -003 were sampled for DOC analysis only and DOC results were 58 mg/L, 320 mg/L and 2.1 mg/L, respectively. B817-MW-001 had an ORP of -157 mV, a DO concentration of 0.00 mg/L and a pH of 6.50. B817-MW-002 had an ORP of -167 mV, a DO level of 0.00 mg/L and a pH of 6.25. Lastly, B817-MW-003 had an ORP of -126 mV, a DO level of 0.00 mg/L and a pH of 6.64.

3.6 Analysis and Discussion

Figure 3-1 displays a comparison of the baseline November 2006 TCE plume to the September 2009, 2010 and 2011 TCE plume, and Figure 3-2 displays a comparison of the baseline November 2006 PCE plume to the September 2009, 2010 and 2011 PCE plume.

Monitoring wells along the center line of the plume (WSA-MW16, -MW18, -MW19, and -VMW17) had shown consistent exceedances for two VOCs (PCE and TCE) with slightly decreasing concentrations. Concentrations were relatively low (maximum 53.1 µg/L for PCE and 55.7 µg/L for TCE in the Fall 2011 sampling round at monitoring well WSA-MW18). The upgradient well WSA-MW8 did not have any VOC exceedances. Crossgradient monitoring well WSA-MW23 did not have any VOC exceedances, while crossgradient well LAWMW-9 showed

a minor TCE exceedance of 5.03 µg/L during the Fall 2011 sampling round. In addition, downgradient well WSA-MW21 continued to show a TCE exceedance during the Fall 2011 and Spring 2012 sampling rounds. The most downgradient well (WSA-MW9) did not have any VOC exceedances, which suggests that the plume has not reached SMC.

Methane was detected at monitoring wells LAWMW-9, WSA-MW9, -MW21 and -MW23 with the highest concentrations reported in the last well (94 µg/L during the Fall 2011 sampling round). This methane distribution is surprising, as methane was detected at the outer fringes of the plume, but not at the centrally located monitoring wells, where methane would have been expected as a result of the vegetable oil injection causing reducing conditions. At the monitoring wells in and around the plume, ORP levels were generally positive and DO levels were generally elevated, which suggested that reducing conditions were not strong and therefore methane production may be limited. However, the three direct-push piezometers which are located directly up- and downgradient of the injection area (B817-MW-001, -002 and -003) all had a negative ORP and a DO level of 0.00 mg/L indicating that reducing conditions appear only present in the immediate vicinity of the injection wells.

DOC levels were low for all monitoring wells, except for B817-MW-001 at 58 mg/L and B817-MW-002 at 320 mg/L, which are located directly up- and downgradient of the row of injection wells. Sulfate levels were low for all monitoring wells and ranged from 4.3 mg/L to 37 mg/L where WSA-MW9 had the highest level during Fall 2011.

ORP levels were positive and high for all monitoring wells except WSA-MW9 and WSA-MW23 in the Fall 2011 round only. However, ORP levels were negative for the three piezometers (B817-MW-001, -002 and -003). DO levels were between 0.00 mg/L and 9.54 mg/L and pH levels were within the neutral range (6.06 to 7.85), which is conducive to enhanced bioremediation.

3.6.1 Trend Chart

As shown in Table 3-2, two VOCs exceeded the NYS Class GA Groundwater Standards at the Building 817/WSA Site: PCE and TCE. Both VOCs as well as Total VOC (which is the addition of all chlorinated VOCs) are shown in the trend charts in Figures 3-3 through 3-9. These charts include all analytical results from previous investigations for the monitoring wells at the Building 817/WSA Site, dating back to 1994. The different injection events which occurred at the site (permanganate, soybean oil/high fructose corn syrup, and vegetable oil) are also included. DOC concentrations are included to assist in explaining possible changes in COC concentrations.

As shown in Figure 3-1 and Figure 3-2, the highest VOC concentrations are reported in monitoring wells WSA-MW16, -MW18, -MW19 and to a lesser extent in WSA-VMW17. In the trend charts on Figures 3-3 through 3-9, these monitoring wells show an overall decreasing trend.

3.7 Conclusion

Two VOCs (PCE and TCE) have consistently been reported at numerous wells at the Building 817/WSA Site. Concentrations for PCE and TCE decrease downgradient of Perimeter Road and further downgradient PCE ceased to be an exceedance and TCE concentrations only marginally exceeded the NYS Class GA Groundwater Standards. Concentrations were relatively low (maximum approximately 50 µg/L for each VOC). Overall the site has shown a slow decreasing trend in VOC concentrations. The most downgradient well (WSA-MW9) does not have any VOC detections, indicating that SMC is not impacted by the plume.

The three piezometers (B817-MW-001, -002, and -003) had vegetable oil residuals from the injection indicating that the organic carbon was not completely dissolved. These piezometers were sampled by a peristaltic pump. Additionally, the bottom end of the tubing was frozen and inserted through the vegetable oil residuals into the water column. The tubing was left to defrost and a sample was collected from the water column below the vegetable oil residuals for DOC analysis. This prevented vegetable oil residual from entering the tubing and possibly influencing the results of DOC analysis of groundwater.

Per the Final PMWP (FPM, September 2008), sampling for the next year at the Building 817 Site is planned for semi-annual performance in the Fall of 2012 and the Spring of 2013.

4 Building 775 Site

4.1 Site Background

The Building 775 plume is located downgradient of former maintenance facilities in Buildings 774 and 776, and former fuel pump house Building 775. Although the source has not been identified, solvent use in Building 774 was thought to be a primary source of TCE contamination. Solvent use was widespread in these facilities in the 1950s, 1960s and early 1970s. The primary contaminant exceeding NYS Class GA Groundwater Standards is TCE with minor detections of 1,1,1-TCA and PCE. Monitoring well 775VMW-5, located near the corner of Building 776, is the only well that contains significant levels of TCE (99 µg/L in September 2004). Most of the Building 775 plume appears to have migrated south toward Landfill 6 as shown on Figure 4-1. In September 2004, the maximum TCE concentration was 134 µg/L (detected at well 775MW-20, located near the leading edge of the plume near Perimeter Road). TCE was detected at 132 µg/L in well 775VMW-10, which is also located near the leading edge of the plume near Perimeter Road. TCE in both of these wells was detected in the bottom half of the sandy aquifer in screened intervals from 88 to 120 ft. bgs. Monitoring well LF6MW-1 (not shown; located between 775MW-20 and 775VMW-10) is screened in the upper 10 ft. of the aquifer and does not have detectable TCE concentrations.

The contaminated aquifer is comprised of silty sands with an average thickness extending from 60 ft. bgs to 120 ft. bgs where shale bedrock is encountered. Due to a relatively flat gradient, average groundwater velocities at this site are slow and have been estimated at approximately 10 ft. per year. Higher velocities may exist in discontinuous seams of coarse sand and gravel. Contamination is not found in the bedrock. Groundwater studies at nearby Landfill 6 TCE Site found relatively aerobic conditions and low DOC concentrations. The general absence of cis-1,2-DCE in the Building 775 plume confirms that reductive dechlorination is not occurring (EEEPC, February 2008).

FPM and EEEPC sampled the Building 775 Site in November 2006 in accordance with the final Baseline Letter WP (FPM, November 2006). FPM sampled eight monitoring wells which were analyzed for VOC only. EEEPC installed and sampled two new monitoring wells (775MW-27 and 775MW-28). Sampling confirmed that TCE is the main contaminant and that future sampling will monitor VOCs at the site. Detailed results are discussed in the Final Monitoring Report (FPM, August 2007).

4.2 Remedial Action Summary

The final RAWP (Parsons, July 2008) provides details on the selected remedy which is a groundwater extraction system with discharge to an off-site treatment facility. The groundwater extraction system is designed to contain the contaminated plume (> 50 µg/L) and extract the contaminants from the aquifer. Initially, one extraction well (775EW-1) was installed but deemed inappropriate for groundwater extraction. It was replaced by replacement extraction

well (775EW-1R) and an additional extraction well (775EW-3). 775EW-1 was converted to a monitoring well. 775EW-1R and 775EW-3 were connected with a force main and the extracted contaminated groundwater is discharged to the existing sanitary sewer system for treatment at the City of Rome Water Pollution Control Facility (WPCF).

The groundwater extraction and discharge system was started up on January 5, 2009. The system was fine tuned in January through March 2009 and has continued to operate since March 2009. The initial system design extraction pump rate of 4 gallons per minute (gpm) has decreased over the first year of operation and stabilized around 3.4 gpm. Table 4-3 provides an overview of the total volume of groundwater extracted including the average pump rate. Appendix D includes the annual operations and maintenance checklist for the groundwater extraction system. As shown in Figure 4-1, the size of the 50 µg/L TCE plume decreased significantly since 2006, but has remained stable during PM sampling.

One additional monitoring well (775VMW-19R) was installed to monitor the plume remediation, in accordance with the final RAWP (Parsons, July 2008).

4.3 PM Sampling Plan

Performance monitoring according to the Final PMWP (FPM, September 2008) includes sampling of eleven monitoring wells as listed in Table 4-1 and as shown in Figure 4-1 to evaluate the effectiveness of the remedial approach. Additionally, monitoring well 775EW-1 was sampled. All samples are analyzed for VOCs (EPA Method SW8260B). Field parameters according to the Final PMWP are water levels. In addition to the Final PMWP requirements, field measurements are collected for DO, ORP and pH for stability purposes before sample collection. Field measurements are also collected for temperature, conductivity and turbidity for stability purposes before sample collection, but these are not reported in the results Table 4-2. These measurements are provided on the completed well purging and sampling forms in Appendix A.

All PM sampling was conducted by FPM personnel and all sampling documentation was included in the associated CQCR (Appendix A). Performance monitoring was conducted quarterly for the first three quarters after groundwater extraction and discharge system installation in January 2009 and semi-annually after that. As part of the discharge permit, effluent sampling is performed every 90 days at the point of discharge. Any deviations from the work plan are detailed below.

4.4 Field Activities

Two semi-annual PM sampling rounds were performed in the Fall of 2011 on September 6, September 7, September 8 and September 9, 2011 and in the Spring of 2012 on April 12 and April 13, 2012. Daily field activities are summarized on CQCRs which are provided in

Appendix A. Validated data are attached in Appendix B and raw lab data are provided in Appendix C.

During these semi-annual PM sampling rounds, samples were collected via bladder pumps from all monitoring wells. The USEPA Low Stress (Low Flow) Purging and Sampling Ground Water Sampling Procedure for Region II (USEPA, March 1998) was used. The effluent sample was collected in the sewer manhole from the discharge pipe during the pump cycle. This flow was the combined flow from extraction wells 775EW-1R and 775EW-3. All field sampling forms were reviewed and no deviations were noted.

An observation was made which is detailed below:

- In the Fall of 2011, the turbidity did not reach the typically observed value of 50 NTU or below at monitoring well 775EW-1. It stabilized around 63 NTU. All other parameters also reached stability and a sample was collected.
- In the Spring of 2012, the turbidity at monitoring well 775EW-1 did not reach the typically observed value of 50 NTU or below. It stabilized around 61 NTU. All other parameters also reached stability and a sample was collected.

All monitoring wells were inspected and their condition was summarized in the monitoring well maintenance table which is provided in Appendix E.

4.5 PM Results

4.5.1 Fall 2011

All wells identified for semi-annual performance sampling in Table 4-1 were sampled with bladder pumps. The Building 775 sampling results are provided in Table 4-2. The table includes the baseline sampling results collected in 2006-2007, the quarterly PM sampling rounds and the semi-annual sampling rounds. The results are discussed below from upgradient (near Buildings 774 and 776) to downgradient (near Landfill 6). The results are compared to the prior sampling round.

Monitoring well 775VMW-4 had one VOC exceedance: TCE remained stable at 6.24 µg/L. Two additional minor VOC detections were reported for 1,1,1-TCA (0.250 F µg/L) and chloroform (0.750 µg/L). ORP increased to 162 mV (from 143 mV), DO decreased to 0.00 mg/L (from 6.82 mg/L), and pH increased to 7.35 (from 6.83).

Monitoring well 775VMW-5 had one VOC exceedance: TCE increased to 79.2 µg/L (from 71.0 µg/L). Two additional minor VOC detections were reported for 1,1,1-TCA (0.510 F µg/L) and chloroform (0.160 F µg/L). ORP decreased to 108 mV (from 251 mV), the DO increased to 7.70 mg/L (from 6.71 mg/L), and the pH decreased to 7.22 (from 7.47).

Monitoring well 775MW-27 had one decreasing TCE exceedance (18.8 µg/L from 21.0 µg/L) and three minor VOC detections for 1,1,1-TCA (0.410 F µg/L), acetone (3.82 FB µg/L) and chloroform (0.660 µg/L). The ORP decreased to 167 mV (from 197 mV), DO increased to 7.55 mg/L (from 4.75 mg/L), and the pH remained stable at 7.65.

VOC results for monitoring well 775EW-1 showed three minor VOC detections for 1,1,1-TCA (0.450 F µg/L), acetone (7.33 FB µg/L) and chloroform (0.370 F µg/L). The ORP decreased to 132 mV (from 200 mV), the DO decreased to 6.37 mg/L (from 8.01 mg/L), and the pH remained stable at 7.53.

VOC results for monitoring well 775VMW-8 showed one increasing TCE exceedance at 31.0 µg/L (from 15.2 µg/L) and one small VOC detection for 1,1,1-TCA (0.620 F µg/L). ORP remained stabled at 163 mV, DO increased to 3.54 mg/L (from 3.10 mg/L), and the pH decreased to 7.77 (from 8.28).

Downgradient monitoring well 775MW-28 had one minor VOC detection for TCE at 0.640 F µg/L. The ORP decreased to 143 mV (from 220 mV), the DO decreased to 7.09 mg/L (from 7.82 mg/L) and the pH increased to 8.28 (from 8.15).

Downgradient monitoring well 775VMW-19R had one minor VOC detection for acetone at 1.04 FB µg/L. ORP remained stable at 151 mV, DO increased to 8.46 mg/L (from 6.94 mg/L), and the pH decreased to 8.00 (from 8.35).

Downgradient monitoring well 775VMW-10 had one decreasing TCE exceedance at 38.9 µg/L (from 47.7 µg/L) and three small VOC detections for 1,1,1-TCA (0.390 F µg/L), acetone (1.37 F µg/L) and chloroform (0.160 F µg/L). ORP decreased to 194 mV (from 229 mV), DO increased to 7.14 mg/L (from 5.25 mg/L), and pH remained stable at 7.55.

VOC results from downgradient monitoring well 775MW-20 showed one increasing TCE exceedance at54.1 µg/L (from 36.1 µg/L) and seven minor VOC detections below the NYS Class GA Groundwater Standards: 1,1,1-TCA at 0.920 F µg/L, 1,1-dichloro-ethane (DCA) at 1.41 µg/L, 1,1-DCE at 1.31 µg/L, 1,2-DCA at 0.210 F µg/L, acetone at 3.28 F µg/L, chloroform at 0.130 F µg/L, and cis-1,2-DCE at 0.240 F µg/L. ORP decreased (-104 mV from 19 mV), DO increased to 0.44 mg/L (from 0.00 mg/L), and pH decreased to 7.44 (from 7.71).

Downgradient monitoring well 775VMW-20R had one minor VOC detection; acetone was reported at 4.08 F µg/L. ORP decreased to -136 mV (from 55 mV), DO decreased to 0.24 mg/L (from 0.38 mg/L), and the pH remained stable at 7.59.

Crossgradient monitoring well 775MW-6 had one increasing TCE exceedance at 27.3 µg/L (from 15.6 µg/L). Four additional VOC detections below NYS Class GA Groundwater Standards were reported for 1,1,1-TCA (0.300 F µg/L), acetone (1.38 FB µg/L), chloroform

(1.10 µg/L), and trichlorofluoromethane (0.470 F µg/L). ORP increased to 195 mV (from 175 mV), DO increased to 6.39 mg/L (from 3.94 mg/L), and the pH decreased to 7.45 (from 7.89).

Crossgradient monitoring well 775VMW-9 had three minor VOC detections; acetone at 5,00 FB µg/L, chloroform at 0.250 F µg/L, and TCE at 0.470 F µg/L. ORP readings decreased to 15 mV (from 162 mV), the DO decreased to 0.65 mg/L (from 1.11 mg/L), and the pH remained stable at 8.05.

The effluent sample had three VOC detections: TCE at 44.2 µg/L, 1,1,1-TCA at 0.570 F µg/L and chloroform at 0.830 µg/L. ORP increased to 279 mV (from 221 mV), DO decreased to 8.33 mg/L (from 9.20 mg/L), and the pH decreased to 6.26 (from 6.53).

4.5.2 Spring 2012

All wells identified for semi-annual performance sampling in Table 4-1 were sampled with bladder pumps. The Building 775 sampling results are provided in Table 4-2. The table includes the baseline sampling results collected in 2006-2007, the three quarterly PM sampling rounds and the semi-annual sampling rounds. The results are discussed below from upgradient (near Buildings 774 and 776) to downgradient (near Landfill 6). The results are compared to the prior sampling round.

Monitoring well 775VMW-5 had one TCE exceedance which decreased to 62.8 µg/L (from 79.2 µg/L). Three additional minor VOC detections were reported for 1,1,1-TCA (0.400 F µg/L), acetone (1.80 F µg/L) and chloroform (0.140 F µg/L). ORP increased to 161 mV (from 108 mV), the DO decreased to 6.84 mg/L (from 7.70 mg/L), and the pH remained stable at 7.16.

Monitoring well 775MW-27 had one increasing TCE exceedance at 21.1 µg/L (from 18.8 µg/L) and two minor VOC detections for 1,1,1-TCA (0.430 F µg/L) and chloroform (0.940 µg/L). The ORP decreased to 153 mV (from 167 mV), DO decreased to 7.05 mg/L (from 7.55 mg/L), and the pH decreased to 7.51 (from 7.65).

VOC results for monitoring well 775EW-1 showed two minor VOC detections; 1,1,1-TCA was stable at 0.520 F µg/L and chloroform was stable at 0.430 F µg/L. The ORP decreased to 49 mV (from 132 mV), the DO decreased to 5.45 mg/L (from 6.37 mg/L), and the pH remained stable at 7.59.

VOC results for monitoring well 775VMW-8 showed one decreasing TCE exceedance at 12.2 µg/L (from 31.0 µg/L) and one minor VOC detection for 1,1,1-TCA (0.220 F µg/L). ORP remained stable at 163 mV, DO decreased to 2.34 mg/L (from 3.54 mg/L) and the pH decreased to 7.40 (from 7.77).

Downgradient monitoring well 775MW-28 had an increasing TCE detection at 2.1 µg/L (from 0.640 F µg/L). The ORP increased to 180 mV (from 143 mV), the DO increased to 7.67 mg/L (from 7.09 mg/L) and the pH decreased to 7.72 (from 8.28).

Downgradient monitoring well 775VMW-19R did not have any VOC detections. ORP decreased to 98 mV (from 151 mV), DO decreased to 6.73 mg/L (from 8.46 mg/L), and the pH remained stable at 7.95.

Downgradient monitoring well 775VMW-10 had one increasing TCE exceedance at 49.6 µg/L (from 38.9 µg/L) and two minor VOC detections for 1,1,1-TCA (0.440 F µg/L) and chloroform (0.130 F µg/L). ORP decreased to 86 mV (from 194 mV), DO decreased to 6.89 mg/L (from 7.14 mg/L), and pH increased to 7.73.

VOC results from downgradient monitoring well 775MW-20 showed one decreasing TCE exceedance at 39.4 µg/L (from 54.1 µg/L) and six minor VOC detections below NYS Class GA Groundwater Standards: 1,1,1-TCA at 0.900 F µg/L, 1,1-DCA at 1.63 µg/L, 1,1-DCE at 1.24 µg/L, 1,2-DCA at 0.220 F µg/L, acetone at 2.55 F µg/L, and cis-1,2,-DCE at 0.240 F µg/L. ORP increased to -77 mV (from -104 mV), DO decreased to 0.22 mg/L (from 0.44 mg/L), and pH remained stable at 7.30.

Crossgradient monitoring well 775MW-6 had one decreasing TCE exceedance at 18.1 µg/L (from 27.3 µg/L). Three additional minor VOC detections below NYS Class GA Groundwater Standards were reported for 1,1,1-TCA (0.190 F µg/L), chloroform (0.800 µg/L), and trichlorofluoromethane (0.240 F µg/L) ORP decreased to 144 mV (from 195 mV), DO decreased to 5.29 mg/L (from 6.39 mg/L) and the pH remained stable at 7.49.

The effluent sample had three VOC detections: TCE at 40.1 µg/L, 1,1,1-TCA at 0.480 F µg/L and chloroform at 0.500 µg/L. ORP decreased to 74 mV (from 276 mV), DO decreased to 5.81 mg/L (from 8.22 mg/L), and the pH increased to 6.04 (from 5.79).

4.6 Analysis and Discussion

Figure 4-1 displays the baseline November 2006 TCE plume and the September 2009, 2010 and 2011 TCE plumes.

One VOC exceedance was reported for the Building 775 Site: TCE exceeded the NYS Class GA Groundwater Standards at several monitoring wells. Several other VOCs (1,1,1-TCA, 1,1-DCA, 1,1-DCE, 1,2-DCA, acetone, chloroform, cis-1,2-DCE, and trichlorofluoromethane) were reported, but concentrations were low and never exceeded the NYS Class GA Groundwater Standards.

All TCE exceedances are in line with past results with a slightly decreasing trend in monitoring wells 775MW-6, 775VMW-8 and 775MW-27. The exception is monitoring well 775MW-20

where the concentrations fluctuate but overall have a stable trend: the TCE concentration increased from 36.1 µg/L (Spring 2011) to 54.1 µg/L (Fall 2011) and then fell back to 39.4 µg/L (Spring 2012). Monitoring well 775MW-20 is not within the capture zone of the groundwater extraction and discharge system. The TCE concentration in the effluent stayed stable around 40 µg/L for the Fall 2011 and Spring 2012 sampling rounds.

ORP measurements are negative for two monitoring wells and positive for the rest with the readings ranging from -136 mV to 195 mV. The lowest reading was in downgradient monitoring well 775VMW-20R and the highest reading was in upgradient well 775MW-6. DO levels ranged from 0.00 mg/L to 8.46 mg/L. pH levels are within the circumneutral (5-9) range (7.16 to 8.28).

As shown in Table 4-3, the groundwater extraction rate has shown some variation. In the startup phase, the system was fine tuned which caused varying extraction rates. Once the system was optimized in mid January 2009, the extraction rate increased slightly from 3.5 to 4.4 gpm in mid May 2009. After mid May 2009, the extraction rate has shown a steady decrease to 2.8 gpm and then following, after May 2011, the extraction rate has shown a steady increase to 3.4 gpm. After startup, the essentially flat groundwater table allowed for good recharge which was shown by the higher extraction rates in the first few months of operation. After May 2009, it appears that the extraction system reached equilibrium with the resulting cone of depression. Less water is reaching the extraction wells which resulted in lower groundwater extraction rates.

4.6.1 Trend Chart

As shown in Table 4-2, TCE is the only VOC exceeding the NYS Class GA Groundwater Standards at the Building 775 Site. Figures 4-2 through 4-11 show the TCE trend charts for most monitoring wells at the Building 775 Site. These charts include all analytical results from previous investigations for the monitoring wells at the Building 775 Site, dating back to 1997. Monitoring wells 775VMW-19R, 775VMW-20R, and 775EW-1 are not included in the trend charts, because no VOC exceedances were reported in these wells. These charts also show the start date of the groundwater extraction and discharge system. Groundwater elevations are also included, which could assist in explaining possible changes in COC concentrations.

The trend charts in Figures 4-2 through 4-11 show an overall decreasing trend in TCE concentrations between May 2000 and Spring 2012.

4.7 Conclusion

TCE concentrations appear to be decreasing with some fluctuation at some monitoring wells. The Building 775 groundwater extraction and discharge system is operating as designed. Groundwater extraction rates showed a decreasing trend in the first year of operation as a result of the continued system operation and the resulting cone of depression. Extraction rates then

increased to 3.4 gpm. The effluent sample results show that TCE is being effectively extracted from the Building 775 Site.

No changes in the PM sampling are recommended at this time. Continued sampling is recommended to identify trends in the TCE results at the Building 775 Site. Per the Final PMWP (FPM, September 2008), future sampling for the next year at the Building 775 Site is planned for semi-annual performance in Fall 2012 and Spring 2013. Additionally, in Winter 2012 and Summer 2013, a quarterly effluent sample will be collected to fulfill the requirements of the discharge permit.

5 Apron 2 Chlorinated Plume

5.1 Site Background

The chlorinated VOC contamination in the Apron 2 area is present as a plume approximately 2,800 ft. long and 500 ft. wide and appears to originate in the area of the nosedock wash water system near Building 786 (Figure 5-1). Chlorinated solvent use probably occurred in all nosedock facilities and multiple small sources could exist along floor drains, sewer lines, and oil water separators. There are three primary contaminants exceeding NYS Class GA Groundwater Standards: TCE, and its breakdown products cis-1,2-DCE and VC. The plume is commingled with several petroleum fuel plumes originating from the Apron 2 fueling system. At locations where TCE and fuel contaminants are commingled, significant reductive dechlorination is occurring and TCE is almost completely degraded to cis-1,2-DCE and VC. In April 2005, the maximum TCE concentration was 24 µg/L as detected in well 782VMW-97 (not shown). The level of TCE has been steadily decreasing and it appears that no significant source of TCE remains at the site. In April 2005, the maximum cis-1,2-DCE concentration was 54 µg/L in well 782MW-10, located in the plume in an area with commingled fuel contamination. The maximum VC concentration was 130 µg/L at well 782MW-96 which is also located in the center of fuel-contaminated groundwater. The commingled fuel plume is providing significant reductions in TCE and cis-1,2-DCE through well-documented reductive dechlorination processes. At many locations, MTBE and benzene are also present at levels exceeding NYS Class GA Groundwater Standards. MTBE and benzene plumes are being remediated under a separate contract (EEEPC, February 2008).

The contaminated aquifer is located at 9 to 25 ft. bgs with the shallow depth occurring in the vicinity of SMC. The aquifer is composed of several well-defined layers, including a silty-sand layer in the upper 5 ft., a 5 to 15-ft thick coarse sand and gravel layer in the middle of the aquifer, and a 15 to 20 ft. thick layer of till composed of fine sand, silt, and gravel resting on the shale bedrock. The total aquifer thickness ranges from 45 ft. in the source areas to less than 20 ft. in the downgradient areas near SMC. Although the site has a relatively flat gradient, the high hydraulic conductivity of gravel layers has produced an estimated average groundwater velocity of 106 ft. per year. This velocity seems reasonable given the 2,800 ft. the VOC plume has migrated. Monitored Natural Attenuation (MNA) with institutional controls and LTM was the selected remedy as detailed in the Final ROD for the On-Base Groundwater AOC (SD-52) (AFRPA, December 2008). Aerobic degradation of VC is occurring near the leading edge of the plume. However, VC in the southern plume has migrated eastward to well 782VMW-101 within 100 ft. of SMC (EEEPC, February 2008).

FPM sampled the Apron 2 Chlorinated Plume Site in November 2006 in accordance with the final Baseline Letter WP (FPM, November 2006). FPM sampled ten monitoring wells and three surface water locations. The samples were analyzed for the following parameters: VOC, nitrate, chloride, sulfate, DOC, and total alkalinity. Sampling results confirmed the presence of TCE,

cis-1,2-DCE and VC as main contaminants. Ferrous iron was also field measured. Detailed results are discussed in the Final Monitoring Report (FPM, August 2007).

5.2 Remedial Action Summary

The final RAWP (Parsons, July 2008) specifies MNA as the selected remedy using the ongoing physical, chemical, and natural biological process that reduce the contaminants within the aquifer. Based on previous investigations and studies, it has been determined that natural attenuation is evident at the Apron 2 Chlorinated Plume Site. Three additional monitoring wells (782VMW-84D, 782VMW-121, and 782VMW-121D) were installed by Parsons in July 2008 to monitor the plume remediation, in accordance with the final RAWP (Parsons, July 2008).

5.3 PM Sampling Plan

Initially, performance monitoring according to the final PMWP (FPM, September 2008) included sampling of fifteen monitoring wells and three surface water sampling locations as shown on Figure 5-1. These sampling locations are outlined in Table 5-1 and are sampled to monitor the progress of the MNA remedy at the site. During the Fall 2011 sampling round, twelve monitoring wells and three surface water sampling locations were sampled. During the Spring 2012 sampling round, thirteen monitoring wells were sampled; eleven from Table 5-1 and two additional monitoring wells (786MW-15 and -16). All monitoring well samples collected are analyzed for VOC (EPA Method SW8260B), nitrate, chloride, and sulfate (EPA Method SW9056), DOC (Standard Method SM5310B), and total alkalinity (Standard Method SM2320B). Field parameters collected are ORP, temperature, DO, pH, conductivity, turbidity, water levels, and ferrous iron. Field measurements collected for temperature, conductivity and turbidity are for stability purposes before sample collection and are not reported in the results Table 5-2. These measurements are provided on the completed well purging and sampling forms in Appendix A.

All performance monitoring was conducted by FPM personnel and all sampling documentation is included in the associated CQCRs (Appendix A). Performance monitoring was conducted quarterly for the first year starting with the Fall 2008 sampling round and semi-annually after that. Any deviations from the final PMWP are detailed below.

5.4 Field Activities

Two semi-annual PM sampling rounds were performed in Fall 2011 on September 13 and September 14, 2011 and Spring 2012 on April 10 and April 11, 2012. The Fall 2011 sampling round samples were collected from twelve monitoring wells (782VMW-76, -78, -81, -84, -84D, -100, -101, -105B, -121, -121D, 782MW-10, and AP2MW-3) and three surface water sampling locations (782SW-115, -118, and -119). The Spring 2012 sampling round samples were collected from eleven monitoring wells (782VMW-76, -78, -81, -84, -96, -100, -101, -105B, -121, -121D, and 782MW-10). All monitoring well samples were collected with dedicated

bladder pumps according to the USEPA Low Stress (Low Flow) Purging and Sampling Ground Water Sampling Procedure for Region II (USEPA, March 1998). Additionally, monitoring wells 786MW-15 and -16 (as shown on Figure 5-1) were sampled in the Spring 2012 sampling round, as upgradient wells to identify the presence of petroleum in the source area of the Apron 2 Chlorinated Plume. The three surface water locations were sampled in the Fall 2011 sampling round with a disposable plastic sampling bottle. Sediment interference during the surface water sample collection was minimized. Daily field activities are summarized on daily CQCRs which are provided in Appendix A. The validated data are attached in Appendix B and the raw lab data are provided in Appendix C.

Several observations were made which are detailed below:

- In the Fall 2011 sampling round, monitoring well 782VMW-93 was scheduled to be sampled. However, this monitoring well was identified as being undermined during clean-up activities from the landfarm located on Apron 2. Therefore, only twelve monitoring wells were sampled during the Fall 2011 round. During the Spring 2012 sampling round, monitoring well 782VMW-96 was sampled in replacement of 782VMW-93.
- In the Fall 2011 sampling round, the field parameter ferrous iron was accidentally not collected at monitoring well 782VMW-84. In the Spring 2012 sampling round, this field parameter was collected at all monitoring wells.
- In the Fall 2011 sampling round, monitoring wells 782VMW-100, -101, -105B, -121D and 782MW-10 had turbidity levels that did not reach the typically observed value of 50 NTU or below. They stabilized around 800, 800, 112, 73.5 and 733 NTU respectively. All other parameters stabilized and a sample was collected. In the Spring 2012 sampling round, monitoring wells 782VMW-100, -101, -105B, -121 and 782MW-10 had turbidity levels that did not reach the typically observed value of 50 NTU or below. They stabilized around 110, 70.1, 92.4, 72.5 and 142 NTU respectively. All other parameters stabilized and a sample was collected.
- The three surface water sample locations were mistakenly not sampled in the Spring 2012 sampling round.

All monitoring wells were inspected and their condition was summarized in the monitoring well maintenance table which is provided in Appendix E.

5.5 PM Results

5.5.1 Fall 2011

The Apron 2 Chlorinated Plume sampling results are provided in Table 5-2. The table includes the baseline sampling results collected in 2006-2007, the first four quarterly PM sampling round results and the semi-annual sampling round results. The sampling results are listed in order from upgradient (near Building 786) to downgradient (near SMC). The results are compared to the prior sampling round.

The most upgradient monitoring well sampled (782VMW-105B) had one decreasing TCE exceedance at 24.3 µg/L (from 43.6 M µg/L) (M – matrix effect is present). Four additional minor VOC detections below the NYS Class GA Groundwater Standards were reported (cis-1,2-DCE at 2.83 µg/L, isopropylbenzene at 0.130 F µg/L, sec-butylbenzene at 0.300 F µg/L and PCE at 0.360 F µg/L). DOC increased to 11.8 mg/L (from 1.8 mg/L), alkalinity remained stable at 240 mg/L, chloride decreased to 7.0 mg/L (from 11.0 mg/L), nitrate remained stable at non detect and sulfate decreased to 7.3 mg/L (from 8.5 mg/L). Field measurements showed that the ORP decreased to -173 mV (from -120 mV), the DO decreased to 1.32 mg/L (from 8.11 mg/L), the pH decreased to 7.25 (from 7.43) and ferrous iron decreased to 1.7 mg/L (from 3.0 mg/L).

VOC results for further downgradient monitoring well 782VMW-81 showed three exceedances: TCE remained stable at 5.64 µg/L, cis-1,2-DCE decreased to 26.8 µg/L (from 32.4 µg/L) and VC decreased to 3.12 µg/L (from 5.35 µg/L). One minor VOC detection was reported for trans-1,2-DCE at 1.06 µg/L which is below the NYS Class GA Groundwater Standards. DOC remained stable at 1.1 mg/L, alkalinity remained stable at 230 mg/L, chloride remained stable at 16 mg/L, nitrate remained stable at non detect and sulfate decreased to 7.1 mg/L (from 7.7 mg/L). Field measurements showed that the ORP decreased to -141 mV (from -95 mV), the DO decreased to 0.00 mg/L (from 8.32 mg/L), the pH decreased to 7.55 (from 7.80), and ferrous iron decreased to 0.5 mg/L (from 0.8 mg/L).

Further downgradient monitoring well 782VMW-78 had two VOC exceedances: cis-1,2-DCE decreased to 44.8 µg/L (from 56.9 µg/L) and VC decreased to 7.57 µg/L (from 8.78 µg/L). Three minor VOC detections below the NYS Class GA Groundwater Standards were reported for 1,1-DCA (0.140 F µg/L), benzene (0.290 F µg/L) and trans-1,2-DCE (4.57 µg/L). DOC decreased to 1.9 mg/L (from 2.5 mg/L), alkalinity remained stable at 230 mg/L, chloride decreased to 12 mg/L (from 17 mg/L), nitrate remained at non detect, and sulfate decreased to 5.5 mg/L (from 6.5 mg/L). Field measurements showed that the ORP decreased and remained negative at -161 mV (from -102 mV), the DO decreased to 0.00 mg/L (from 7.43 mg/L), the pH decreased to 7.43 (from 7.80), and ferrous iron decreased to 1.1 mg/L (from 1.8 mg/L).

Downgradient monitoring well 782VMW-76 had one VOC exceedance: VC increased to 9.56 µg/L (from 8.05 µg/L). Five additional VOC detections below the NYS Class GA Groundwater Standards were reported for benzene (0.730 µg/L), 2-butanone (2.29 F µg/L), cis-1,2-DCE (0.990 F µg/L), MTBE (4.75 F µg/L), and trans-1,2-DCE (0.550 F µg/L).. DOC decreased to 2.5 mg/L (from 4.2 mg/L), alkalinity increased to 310 mg/L (from 270 mg/L), chloride remained stable at 30 mg/L, nitrate remained at non detect and sulfate increased to 8.0 mg/L (from non-detect). Field measurements showed that the ORP decreased to -263 mV (from -56 mV), the DO remained stable at 0.00 mg/L, the pH increased to 8.26 (from 7.42) and ferrous iron remained stable at 1.6 mg/L.

VOC results for further-downgradient monitoring well 782MW-10 showed two VOC exceedances: cis-1,2-DCE decreased to 28.5 µg/L (from 40.0 µg/L) and VC decreased to 13.8

µg/L (from 20.1 µg/L). Three additional VOCs were detected below the NYS Class GA Groundwater Standards: 1,1-DCA at 0.220 F µg/L, benzene at 0.390 F µg/L and trans-1,2-DCE at 2.39 µg/L. DOC decreased to 5.2 mg/L (from 19 mg/L), alkalinity remained stable at 240 mg/L, chloride decreased to 11 mg/L (from 13 mg/L), nitrate remained at non detect, and sulfate decreased to 1.2 mg/L (from 2.3 mg/L). Field measurements showed that the ORP decreased to -166 mV (from -114 mV), the DO increased to 8.32 mg/L (from 0.00 mg/L), the pH decreased to 6.90 (from 7.07) and ferrous iron increased to 3.2 mg/L (from 1.4 mg/L).

Downgradient, within-plume monitoring well 782VMW-84 had one decreasing VC exceedance at 32.9 µg/L (from 44.6 µg/L). Four additional VOCs were detected below the NYS Class GA Groundwater Standards; benzene at 0.180 F µg/L, cis-1,2-DCE at 0.580 F µg/L, MTBE at 1.90 F µg/L and trans-1,2-DCE at 0.160 F µg/L. DOC decreased to 4.6 mg/L (from 4.8 mg/L), alkalinity remained stable at 290 mg/L, chloride decreased to 27 mg/L (from 35 mg/L), nitrate remained at non detect, and sulfate decreased to non-detect (from 0.73 F mg/L). Field measurements showed that the ORP decreased to -154 mV (from -127 mV), the DO increased to 7.58 mg/L (from 0.00 mg/L), and the pH increased to 6.91 (from 6.86).

Downgradient, within-plume monitoring well 782VMW-84D, located next to 782VMW-84 but with a deeper screen interval, had one decreasing VC exceedance at 22.9 µg/L (from 28.7 µg/L). Four additional minor VOC detections were reported below the NYS Class GA Groundwater Standards: benzene at 0.280 F µg/L, cis-1,2-DCE at 0.330 F µg/L, MTBE at 2.29 F µg/L, and trans-1,2-DCE at 0.170 F µg/L. DOC remained stable at 4.8 mg/L, alkalinity decreased to 290 mg/L (from 310 mg/L), chloride increased to 150 mg/L (from 96 mg/L), nitrate remained at non detect and sulfate decreased to non-detect (from 2.0 mg/L). Field measurements showed that the ORP decreased to -146 mV (from -48 mV), DO remained at 0.00 mg/L, the pH increased to 7.03 (from 6.77), and ferrous iron remained at 3.6 mg/L.

Downgradient monitoring well 782VMW-100 did not have any VOC detections. DOC increased to 4.1 mg/L (from 3.0 mg/L), alkalinity increased to 300 mg/L (from 150 mg/L), chloride increased to 4.5 mg/L (from 2.3 mg/L), nitrate remained at non detect, and sulfate decreased to 15 mg/L (from 21 mg/L). Field measurements showed that the ORP decreased to -52 mV (from -32 mV), DO remained at 0.00 mg/L, pH decreased to 7.00 (from 7.53), and ferrous iron increased to 1.6 mg/L (from 0.6 mg/L).

Adjacent downgradient monitoring well 782VMW-101 did not have any VOC exceedances. Two minor VOC detections were reported for VC at 0.810 F µg/L (from 5.77 µg/L) and MTBE at 3.03 F µg/L (from 8.63 µg/L). DOC decreased to 2.2 mg/L (from 4.2 J mg/L) (J – The quantification is estimated due to the inability to meet certain QA/QC criteria.), alkalinity decreased to 290 mg/L (from 320 mg/L), chloride decreased to 21 B mg/L (B - Analyte detected in the blank sample) (from 41 mg/L), nitrate remained at non detect, and sulfate decreased to 110 mg/L (from 230 mg/L). Field measurements showed that the ORP decreased to -100 mV (from -59 mV), DO remained at 0.00 mg/L, pH remained stable at 7.16, and ferrous iron increased to 1.8 mg/L (from 0.4 mg/L).

Downgradient monitoring well 782VMW-121, located between 782VMW-100 and 782VMW-101, had a decreasing VC exceedance at 15.7 µg/L (from 19.1 µg/L) and one minor VOC detection below the NYS Class GA Groundwater Standards for MTBE (3.09 F µg/L). DOC remained stable at 3.0 mg/L, alkalinity increased to 320 mg/L (from 270 mg/L), chloride increased to 37 mg/L (from 35 mg/L), nitrate remained at non detect, and sulfate decreased to 210 mg/L (from 330 mg/L). Field measurements showed that the ORP decreased to -118 mV (from -13 mV), DO remained at 0.00 mg/L, the pH remained stable at 6.98 and ferrous iron remained stable at 2.5 mg/L.

Downgradient monitoring well 782VMW-121D, located near 782VMW-121 but with a deeper screen interval, had a decreasing VC exceedance at 16.1 µg/L (from 22.3 µg/L) and two additional minor VOC detections (cis-1,2-DCE at 0.120 F µg/L and MTBE at 6.68 µg/L) below the NYS Class GA Groundwater Standards. DOC remained stable at 3.9 mg/L, alkalinity remained stable at 340 mg/L, chloride decreased to 40 mg/L (from 45 mg/L), nitrate remained at non detect, and sulfate decreased to 110 mg/L (from 170 mg/L). Field measurements showed that the ORP decreased to -126 mV (from -76 mV), DO remained at 0.00 mg/L, the pH decreased to 6.89 (from 7.13), and ferrous iron increased to 5.6 mg/L (from 1.2 mg/L).

Downgradient monitoring well AP2MW-3 had two VOC (petroleum constituents) exceedances (1,2,4-trimethylbenzene [10.6 µg/L] and MTBE [53.9 µg/L]). DOC remained stable at 6.2 mg/L, alkalinity remained stable at 360 mg/L, chloride decreased to 58 mg/L (from 68 mg/L), and nitrate and sulfate remained non detect. Field measurements showed that the ORP decreased to -136 mV (from -9 mV), DO remained at 0.00 mg/L, the pH increased to 7.01 (from 6.57), and ferrous iron increased to 3.8 mg/L (from 3.0 mg/L).

The most upgradient surface water location 782SW-115 had three minor VOC detections below the NYS Class GA Groundwater Standards: acetone (3.25 FB µg/L), chloroform (0.500 F µg/L) and TCE (0.180 F µg/L). Field measurements showed that the ORP decreased and became negative at -56 mV (from 113 mV), DO decreased to 6.19 mg/L (from 25.43 mg/L), and the pH decreased to 6.94 (from 7.86).

The middle surface water location 782SW-118 had four minor VOC detections below the NYS Class GA Groundwater Standards: benzene (0.180 F µg/L), chloroform (0.490 F µg/L), MTBE (0.210 F µg/L) and TCE (0.180 F µg/L). Field measurements showed that the ORP decreased and became negative at -50 mV (from 147 mV), DO decreased to 7.57 mg/L (from 8.49 mg/L), and pH decreased to 6.28 (from 7.87).

The most downgradient surface water location 782SW-119 had five minor VOC detections below the NYS Class GA Groundwater Standards: acetone (4.25 FB µg/L), benzene (0.170 F µg/L), chloroform (0.440 F µg/L), MTBE (0.180 F µg/L) and TCE (0.150 F µg/L). Field measurements showed that the ORP decreased to 16 mV (from 165 mV), DO decreased to 8.16 mg/L (from 9.66 mg/L), and the pH decreased to 6.37 (from 7.90).

5.5.2 Spring 2012

The Apron 2 Chlorinated Plume sampling results are provided in Table 5-2. The table includes baseline sampling results collected in 2006-2007, the first four quarterly PM sampling round results and the semi-annual sampling rounds. The sampling results are discussed in order from upgradient (near Building 786) to downgradient (near SMC). The results are compared to the prior sampling round.

The most upgradient monitoring well sampled (782VMW-105B) had one decreasing TCE exceedance at 9.24 M µg/L (from 24.3 µg/L). Three additional minor VOC detections were reported below the NYS Class GA Groundwater Standards: acetone at 1.20 FM µg/L, cis-1,2-DCE at 1.35 µg/L and sec-butylbenzene at 0.250 F µg/L. DOC decreased to 2.2 mg/L (from 11.8 mg/L), alkalinity remained stable at 250 mg/L, chloride decreased to 4.4 mg/L (from 7.0 mg/L), nitrate increased to 0.12 F µg/L (from non-detect), and sulfate remained at 7.3 mg/L. Field measurements showed that the ORP decreased -181 mV (from -173 mV), the DO increased to 6.60 mg/L (from 1.32 mg/L), the pH decreased to 7.00 (from 7.25) and ferrous iron increased to 3.0 mg/L (from 1.7 mg/L).

VOC results for further downgradient monitoring well 782VMW-81 showed two exceedances: cis-1,2-DCE remained stable at 26.3 µg/L and VC remained stable at 3.09 µg/L. Two additional VOCs were detected below the NYS Class GA Groundwater Standards: trans-1,2-DCE at 1.14 µg/L and TCE at 3.77 µg/L. DOC decreased to 0.68 F mg/L (from 1.1 mg/L), alkalinity remained stable at 230 mg/L, chloride remained stable at 16 mg/L, nitrate remained stable at non detect and sulfate decreased to 5.9 mg/L (from 7.1 mg/L). Field measurements showed that the ORP remained stable at -144 mV, the DO increased to 1.52 mg/L (from 0.00 mg/L), the pH decreased to 7.13 (from 7.55) and ferrous iron remained at 0.6 mg/L.

Further downgradient monitoring well 782VMW-78 had two VOC exceedances: cis-1,2-DCE decreased to 40.9 µg/L (from 44.8 µg/L) and VC decreased to 5.57 µg/L (from 7.57 µg/L). Four additional VOC detections below the NYS Class GA Groundwater Standards : 1,1-DCA (0.160 F µg/L), acetone (1.14 F µg/L), benzene (0.280 F µg/L) and trans-1,2-DCE (4.29 µg/L). DOC decreased to 1.4 mg/L (from 1.9 mg/L), alkalinity remained at 230 mg/L, chloride remained stable at 11 mg/L, nitrate was not detect, and sulfate remained stable at 5.7 mg/L. Field measurements showed that the ORP increased to -136 mV (from -161 mV), the DO increased to 2.48 mg/L (from 0.00 mg/L), the pH decreased to 7.13 (from 7.43) and ferrous iron remained stable at 1.2 mg/L.

Downgradient monitoring well 782VMW-76 had one VC exceedance at 9.56 µg/L. Four additional VOC detections below the NYS Class GA Groundwater Standards were reported for benzene (0.230 F µg/L), cis-1,2-DCE (0.870 F µg/L), MTBE (4.45 F µg/L) and trans-1,2-DCE (0.560 F µg/L). DOC increased to 2.9 mg/L (from 2.5 mg/L), alkalinity increased to 350 mg/L (from 310 mg/L), chloride remained stable at 32 mg/L, nitrate remained non detect and sulfate

decreased to non-detect (from 8.0 mg/L). Field measurements showed that the ORP increased to -184 mV (from -263 mV), the DO remained at 0.00 mg/L, the pH decreased to 7.19 (from 8.26) and ferrous iron increased to 3.0 mg/L (from 1.6 mg/L).

Further downgradient monitoring well 782VMW-96 had two VOC exceedances: MTBE increased to 10.7 µg/L (from 7.28 F µg/L) and VC increased to 45.8 µg/L (from 28.3 µg/L). DOC remained stable at 2.7 mg/L, alkalinity remained stable at 330 mg/L, chloride increased to 56 mg/L (from 44 mg/L), nitrate decreased to non-detect (from 0.023 F mg/L), and sulfate decreased to non detect (from 0.11 F mg/L). Field measurements showed that the ORP decreased to -158 mV (from -127 mV), the DO increased to 3.29 mg/L (from 0.00 mg/L), the pH increased to 6.89 (from 6.06), and ferrous iron decreased to 1.0 mg/L (from 3.2 mg/L).

VOC results for further-downgradient monitoring well 782MW-10 showed two exceedances: cis-1,2-DCE increased to 35.4 µg/L (from 28.5 µg/L) and VC increased to 18.4 µg/L (from 13.8 µg/L). Five additional VOCs detections were reported below the NYS Class GA Groundwater Standards: 1,1-DCA at 0.330 F µg/L, acetone at 26.2 µg/L, benzene at 0.470 F µg/L, MTBE at 0.300 F µg/L and trans-1,2-DCE at 3.05 µg/L. DOC remained stable at 5.5 mg/L, alkalinity increased to 260 mg/L (from 240 mg/L), chloride remained at 11 mg/L, nitrate remained at non detect and sulfate decreased to 0.73 F mg/L (from 1.2 mg/L). Field measurements showed that the ORP remained at -166 mV, the DO decreased to 0.00 mg/L (from 8.32 mg/L), the pH remained stable at 6.95 and ferrous iron decreased to 2.0 mg/L (from 3.2 mg/L).

Downgradient, within-plume monitoring well 782VMW-84 had a stable VC exceedance at 33.0 µg/L. Five additional VOCs were detected below the NYS Class GA Groundwater Standards: 1,1-DCA at 0.110 F µg/L, benzene at 0.240 F µg/L, cis-1,2-DCE at 0.610 F µg/L, MTBE at 1.72 F µg/L, and trans-1,2-DCE at 0.160 F µg/L. DOC remained stable at 4.7 mg/L, alkalinity remained stable at 300 mg/L, chloride remained stable at 25 mg/L, nitrate remained at non detect and sulfate remained as non-detect. Field measurements showed that the ORP remained stable at -158 mV, the DO decreased to 0.00 mg/L (from 7.58 mg/L), the pH decreased to 6.78 (from 6.91) and ferrous iron slightly decreased to 3.0 mg/L (from 4.2 mg/L).

No VOCs were detected at downgradient monitoring well 782VMW-100. DOC decreased to 3.1 mg/L (from 4.1 mg/L), alkalinity decreased to 190 mg/L (from 300 mg/L), chloride decreased to 4.0 mg/L (from 4.5 mg/L), nitrate remained at non detect, and sulfate decreased to 11 mg/L (from 15 mg/L). Field measurements showed that the ORP decreased to -62 mV (from -52 mV), DO remained at 0.00 mg/L, pH increased to 7.39 (from 7.00) and ferrous iron decreased to 0.0 mg/L (from 1.6 mg/L).

Adjacent downgradient monitoring well 782VMW-101 did not have any VOC exceedances and only two VOC detections: MTBE at 4.11 F µg/L and VC at 1.02 µg/L. DOC increased to 2.9 mg/L (from 2.2 mg/L), alkalinity remained stable at 280 mg/L, chloride remained at 21 mg/L, nitrate remained non detect, and sulfate increased to 130 mg/L (from 110 mg/L). Field measurements showed that the ORP decreased to -128 mV (from -100 mV), DO remained at

0.00 mg/L, pH decreased to 6.88 (from 7.16) and ferrous iron increased to 3.0 mg/L (from 1.8 mg/L).

Downgradient monitoring well 782VMW-121, located between 782VMW-100 and 782VMW-101, had a decreasing VC exceedance at 11.8 µg/L (from 15.7 µg/L). One additional VOC detection below the NYS Class GA Groundwater Standard was reported for MTBE at 1.38 F µg/L. DOC increased to 3.5 mg/L (from 3.0 mg/L), alkalinity remained stable at 310 mg/L, chloride decreased to 31 mg/L (from 37 mg/L), nitrate remained at non detect, and sulfate decreased to 95 mg/L (from 210 mg/L). Field measurements showed that the ORP increased to -104 mV (from -118 mV), DO increased to 0.99 mg/L (from 0.00 mg/L), the pH remained stable at 7.01 and ferrous iron increased to 4.0 mg/L (from 2.5 mg/L).

Downgradient monitoring well 782VMW-121D, located near 782VMW-121 but with a deeper screen interval, had an decreasing VC exceedance at 14.1 µg/L (from 16.1 µg/L). One additional VOC detection below the NYS Class GA Groundwater Standards was reported for MTBE at 4.92 F µg/L. DOC increased to 5.8 mg/L (from 3.9 mg/L), alkalinity remained stable at 330 mg/L, chloride increased to 45 mg/L (from 40 mg/L), nitrate remained at non detect, and sulfate decreased to 47 mg/L (from 110 mg/L). Field measurements showed that the ORP decreased to -139 mV (from -126 mV), DO remained at 0.00 mg/L, the pH remained stable at 6.91 and ferrous iron increased to 6.0 mg/L (from 5.6 mg/L).

Upgradient petroleum monitoring wells were sampled during the Spring 2012 sampling round to evaluate the presence of petroleum acting as the carbon source to promote natural attenuation of the Apron 2 Chlorinated Plume. Monitoring well 786MW-15 had five VOC detections below the NYS Class GA Groundwater Standards: 1,4-dichlorobenzene (0.300 F µg/L), acetone (2.32 F µg/L), bromomethane (2.08 F µg/L), chloromethane (0.530 F µg/L) and toluene (0.430 F µg/L). Wet chemistry parameters included total organic carbon (TOC) at 5.1 mg/L. Field measurements showed the OPR at 120 mV, DO at 1.97 mg/L, the pH at 6.64 and the ferrous iron at 0.0 mg/L. Monitoring well 786MW-16, located approximately 22 ft. southwest of 786MW-15, had two VOC detections below the NYS Class GA Groundwater Standards: acetone at 2.38 F µg/L and toluene at 0.400 F µg/L. Wet chemistry parameter TOC was detected at 6.1 mg/L. Field parameters showed ORP at 116 mV, DO at 0.00 mg/L, pH at 6.33 and ferrous iron at 0.0 mg/L.

The three surface water locations were not sampled during the Spring 2012 sampling round.

5.6 Analysis and Discussion

Figure 5-1 shows the baseline November 2006 TCE plume and the September 2009, 2010 and 2011 TCE plumes. Figure 5-2 shows the baseline November 2006 cis-1,2-DCE plume and the September 2009, 2010 and 2011 cis-1,2-DCE plumes. Figure 5-3 shows the baseline November 2006 VC plume and the September 2009, 2010 and 2011 VC plumes.

Three VOC have consistently been reported in exceedance of the NYS Class GA Groundwater Standards: TCE and its daughter products cis-1,2-DCE and VC. A TCE exceedance was reported in monitoring well 782VMW-105B during the Fall 2011 and Spring 2012 sampling round and in downgradient monitoring well 782VMW-81 during the Fall 2011 sampling round. cis-1,2-DCE exceedances were reported for monitoring wells 782VMW-78, -81, and 782MW-10. VC exceedances were reported for monitoring wells 782VMW-76, -78, -81, -84, -84D, -96, -121, -121D, and 782MW-10. Additional exceedances were reported for petroleum constituents, including MTBE, in monitoring wells 782VMW-96 and AP2MW-3.

Similarly, petroleum constituent exceedances were reported in the most upgradient well sampled (782VMW-105B) between September 2008 and September 2009. Petroleum VOC concentrations have decreased significantly after September 2009. Nearby monitoring well 786MW-16 previously contained free product and as a remedial effort monthly vacuum truck operation was performed. This free product and groundwater removal likely caused groundwater movement leading to the reduced petroleum VOC detections in 782VMW-105B. The presence of petroleum in this source area of the Apron 2 Chlorinated Plume likely acted as the carbon source that initiated and sustained the reductive dechlorination of the Apron 2 Chlorinated Plume.

During the Spring 2012 round sampling was performed at monitoring wells 786MW-15 and -16, which were historically impacted by petroleum. Sampling results showed low-level petroleum detections of toluene. Wet chemistry parameter TOC was also sampled, but the reported low TOC levels show minimum organic carbon able to act as an electron donor during reductive dechlorination.

DOC results across the site were low (below 6.2 mg/L), except for 782VMW-105B during the Fall 2011 sampling round. The low DOC suggests that little carbon is available to stimulate bioremediation. It is believed that bioremediation is still occurring, even though DOC levels are low. This is evidenced by the reported TCE daughter products in the plume and the sampling results for alkalinity, chloride, nitrate, and sulfate. Alkalinity results across the site ranged from 190 mg/L to 360 mg/L. High alkalinity levels show high buffering capacity and indicate carbon dioxide production through microbial activity through direct oxidation of the petroleum plume. Chloride levels across the site range from 4.0 mg/L to 150 mg/L. Monitoring well 782VMW-100 showed the lowest chloride levels and is a downgradient monitoring well near SMC. Previous investigations show that 782VMW-100 is located in a different groundwater zone than the other downgradient monitoring wells. Chloride is a metabolic product of chlorinated solvent reduction and higher levels are indicative of ongoing metabolic activity. Nitrate levels were low (non-detect to 0.12 F mg/L), signifying that denitrification is occurring at the site, which suggests that bioremediation is occurring at the site. Sulfate levels at the site were typically low (less than 15 mg/L) with the exception of three downgradient monitoring wells: 782VMW-101 (110 mg/L in Fall 2011 and 130 mg/L in Spring 2012), 782VMW-121 (210 mg/L in Fall 2011 and 95 mg/L in Spring 2012), and 782VMW-121D (110 mg/L in Fall 2011 and 47 mg/L in Spring 2012). 782VMW-101 and 782VMW-121 are downgradient, shallow monitoring wells

and sulfate reduction does not appear to occur in these wells. Adjacent monitoring well 782VMW-121D, with a deeper screen interval, has a lower sulfate level. The typically low sulfate levels across the site indicate that sulfate reduction is occurring at the site, which suggests that bioremediation is occurring at the site.

ORP field measurements were negative to strongly negative across the site, which are indicative of a reducing environment which supports natural bioremediation. DO field measurements ranged from 0.00 mg/L to 8.32 mg/L. Elevated DO levels were reported for monitoring wells 782VMW-84 and 782MW-10 in the Fall 2011 sampling round, but both decreased to 0.00 mg/L during the Spring 2012 sampling round, so they are considered anomalies. Low DO levels (< 0.5 mg/L) are typically associated with reducing conditions which support anaerobic bioremediation. pH field measurements were between 6.78 and 8.26, which are within the circumneutral (5-9) range and support bioremediation. The ferrous iron results from the monitoring wells were between 0.0 and 6.0 mg/L. Ferrous iron levels above 1 mg/L are indicative of reducing conditions at the site.

Monitoring wells that have shown a trend of high DO levels (generally above 5 mg/L) include 782VMW-105B, - 81, and -78 (upgradient to downgradient). Well 782VMW-105B is located in the TCE plume, the least degraded chlorinated solvent at the Apron 2 site. The other two wells are located in the cis-1,2-DCE plume and VC plume at the most upgradient outskirts. These upgradient locations at the outskirts of the plumes may result in higher oxygen levels than typically reported in natural attenuation plumes due to the influx of aerobic groundwater. Please note that upgradient well 782VMW-98 was sampled twice and both times the DO level exceeded 5 mg/L suggesting that unimpacted groundwater at the site typically exceeds 5 mg/L.

The reported intermittent low-level VOC detections in surface water samples 782SW-115, -118, and -119 are believed to be related to the Apron 2 Chlorinated Plume and the Apron 2 petroleum plume. However, several detections were reported for COCs which were not related to either plume. Surface water samples located upgradient in SMC near site AOC9 had chlorobenzene detections which likely accounts for the chlorobenzene detection in the surface water samples at the Apron 2 site. The remaining detections are believed to be stormwater runoff, as SMC received stormwater from the southern and eastern section of the former Griffiss AFB, which is considered an industrial watershed. Low level COC detections are not unexpected in an industrial watershed. Please note that all COC detections reported for the surface water samples regardless of source were well below the NYS Class GA Groundwater Standards.

5.6.1 Trend Charts

As shown in Table 2-2, three VOC exceeded the NYS Class GA Groundwater Standards on a regular basis at the Apron 2 Chlorinated Plume Site: TCE, cis-1,2-DCE, and VC. Trend charts were prepared which included the total VOC (sum of all three above referenced VOCs and all other chlorinated VOCs) versus time and are included in Figures 5-4 through 5-15. Petroleum VOC exceeding the NYS Class GA groundwater standards were excluded from trending. These

trend charts include all analytical results from previous investigations for the monitoring wells, dating back to 2000. DOC concentrations are also included, which assist in explaining possible changes in COC concentrations. The surface water sampling locations are not included as their concentrations are low relative to the monitoring wells.

The trend charts in Figures 5-4 through 5-15 show a stable trend for the source area (782VMW-105B), a generally decreasing trend for the plume area from the source to approximately 1,000 ft. downgradient (from 782VMW-81 to 782VMW-96) and a generally stable trend for the plume are from approximately 1,000 ft. downgradient to Six Mile Creek (approximately 1,200 ft. from 782VMW-84 to 782VMW-121D).

5.7 Conclusion

Few changes are reported in the sampling results for the Fall 2011 and Spring 2012 semi-annual sampling rounds. The selected remedy at the Apron 2 Chlorinated Plume Site is MNA, which results in slow changes at the site over a typically extended period of time. Concentrations appear stable at the source, generally decreasing in the first 1,000 ft of the plume and stable in the latter 1,200 ft of the plume.

The MNA remedy is supported by the observance of TCE daughter products cis-1,2-DCE and VC, the high alkalinity, high chloride, low nitrate, and low sulfate across the site; all of which indicate that microbial activity is occurring which reduces COC concentrations across the site. Negative ORP levels and neutral pH levels support this microbial activity and thus the MNA remedy. It should be noted that the fuel oil contamination reported in the source area of the Apron 2 Chlorinated Plume is beneficial to the MNA remedy as it acts as the carbon source that started and continues the reductive dechlorination processes. The fuel oil is essential for the MNA remedy. However, efforts to remediate the fuel oil contamination in the source area have resulted in lower abundance of organic carbon.

No changes in the PM sampling network are recommended at this time. Per the Final PMWP (FPM, September 2008), sampling for the next year at the Apron 2 Chlorinated Plume Site is planned for semi-annual performance in the Fall of 2012 and the Spring of 2013.

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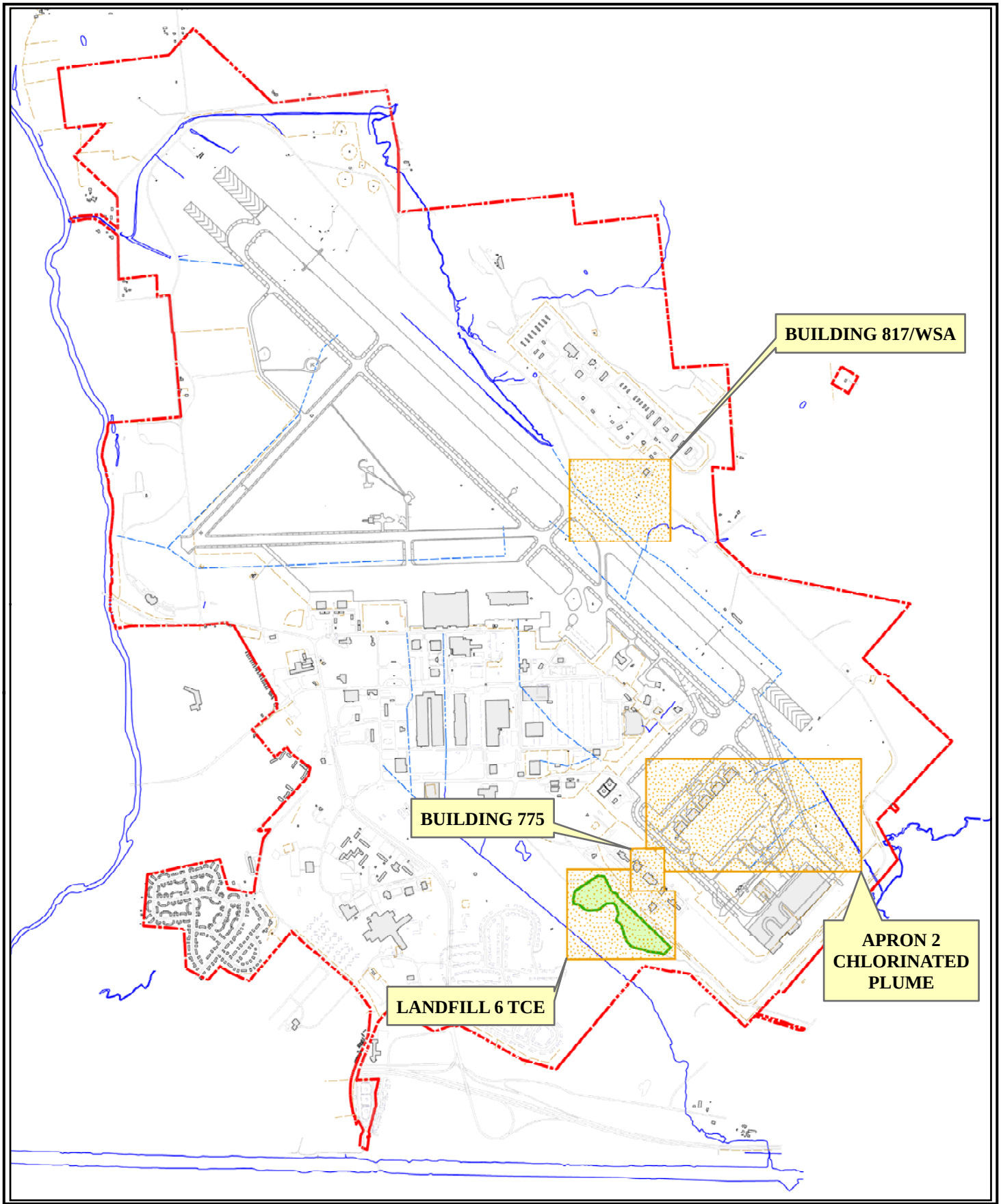
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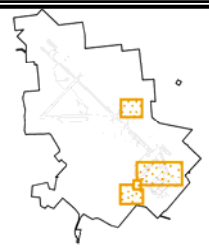
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Figures

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Key to Features

- Road
- Airfield
- Base Boundary
- Fenceline
- Storm Drain
- Surface Water
- Sites
- Landfill
- Existing Facilities
- Demolished Facilities

FIGURE 1-1
On Base Groundwater AOCs
Sites Map

1,200 600 0 1,200 2,400
Feet

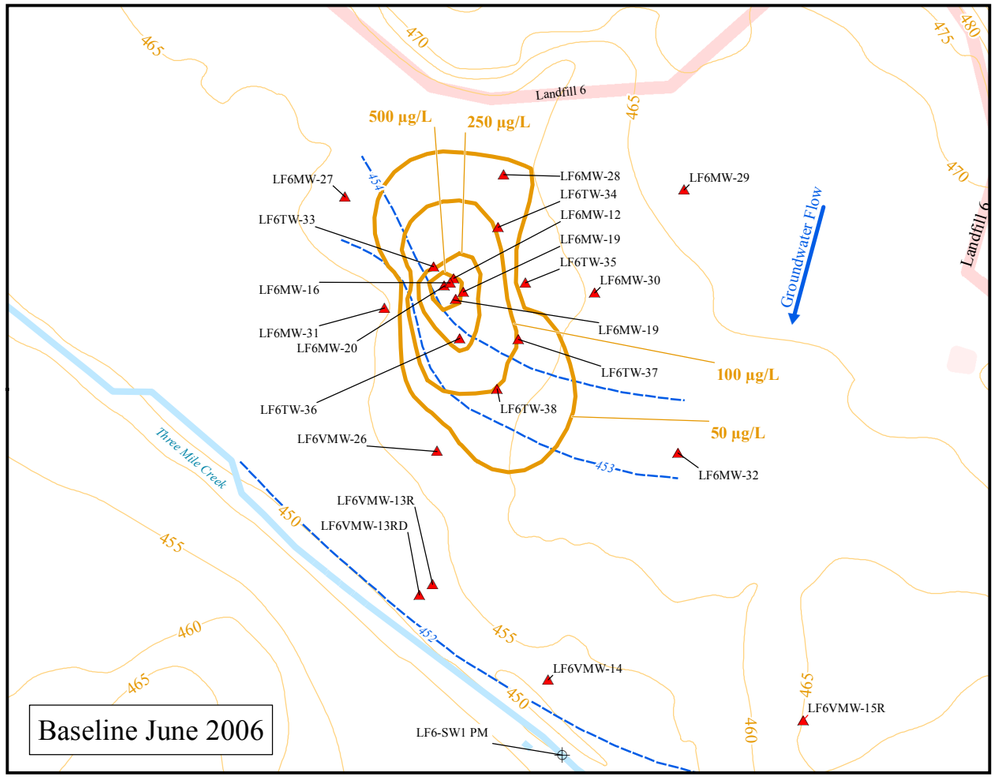
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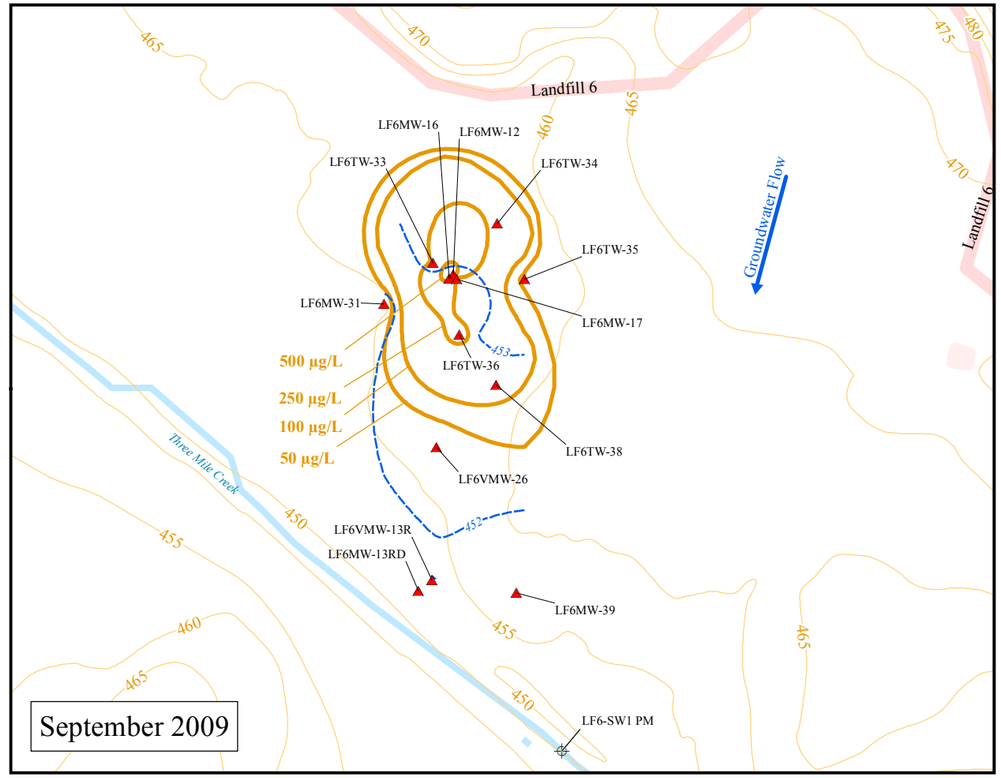
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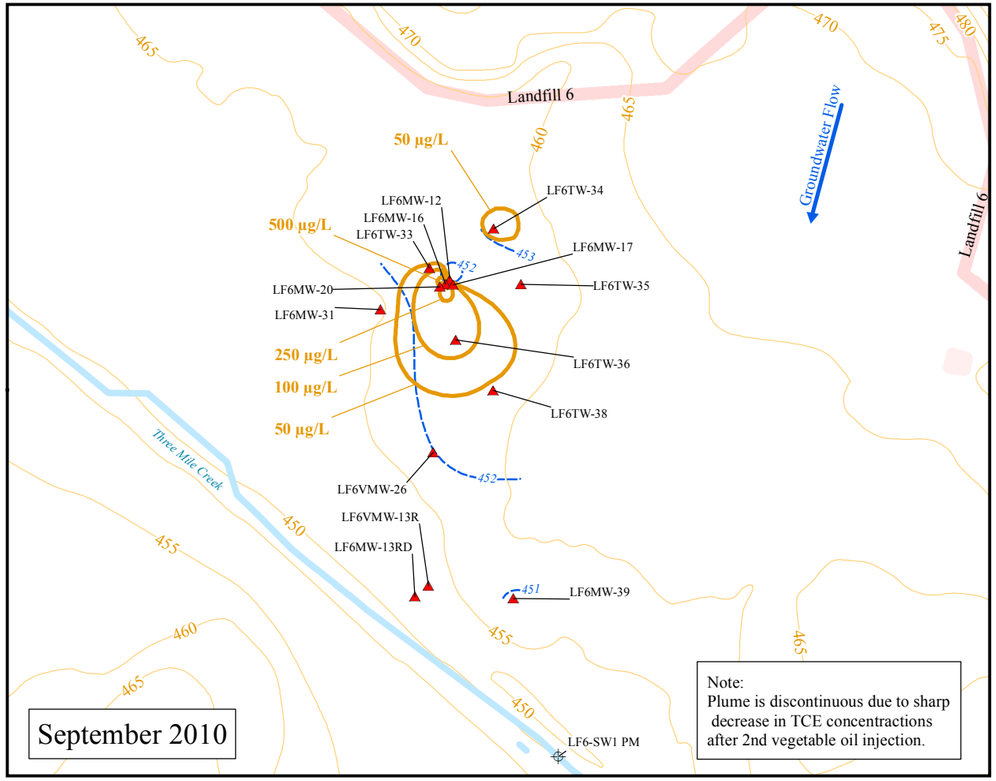
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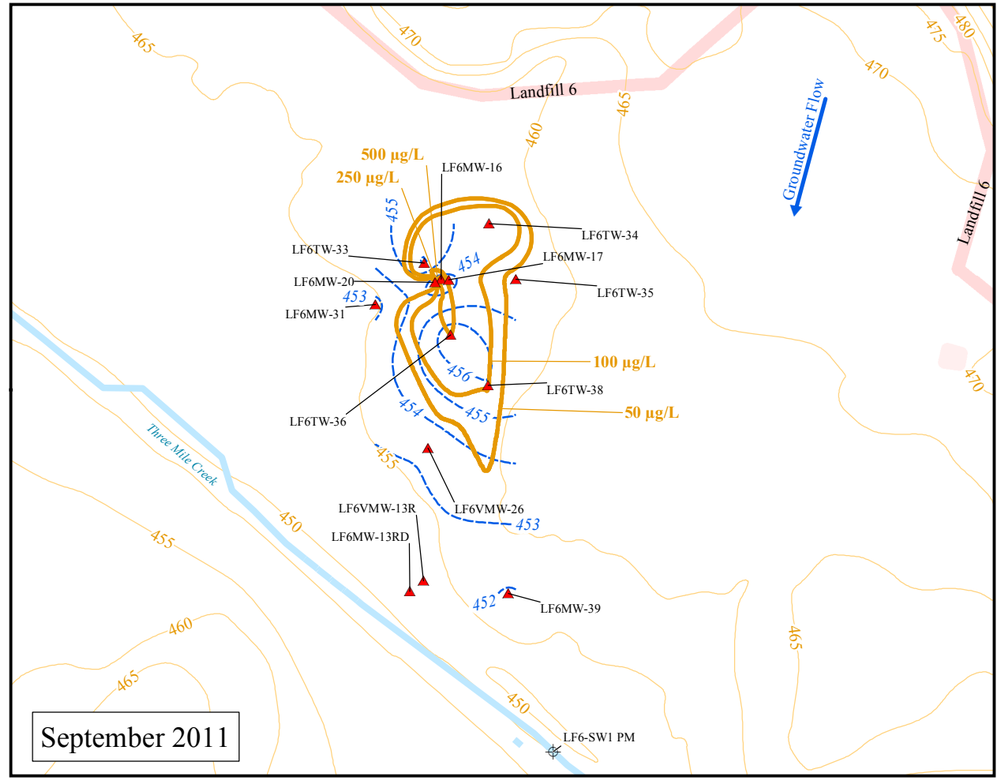
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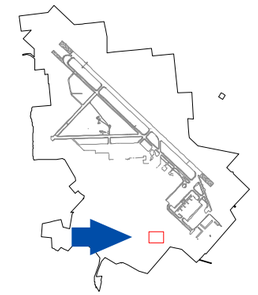












Site Location

Key to Features

- Surface Water Sample Location
- Monitoring Well
- TCE Contour (µg/L)
- Groundwater Contour (ft. AMSL)
- Culvert
- Storm Drain
- Surface Water
- Topography
- LF6 Boundary

Date: March 2013

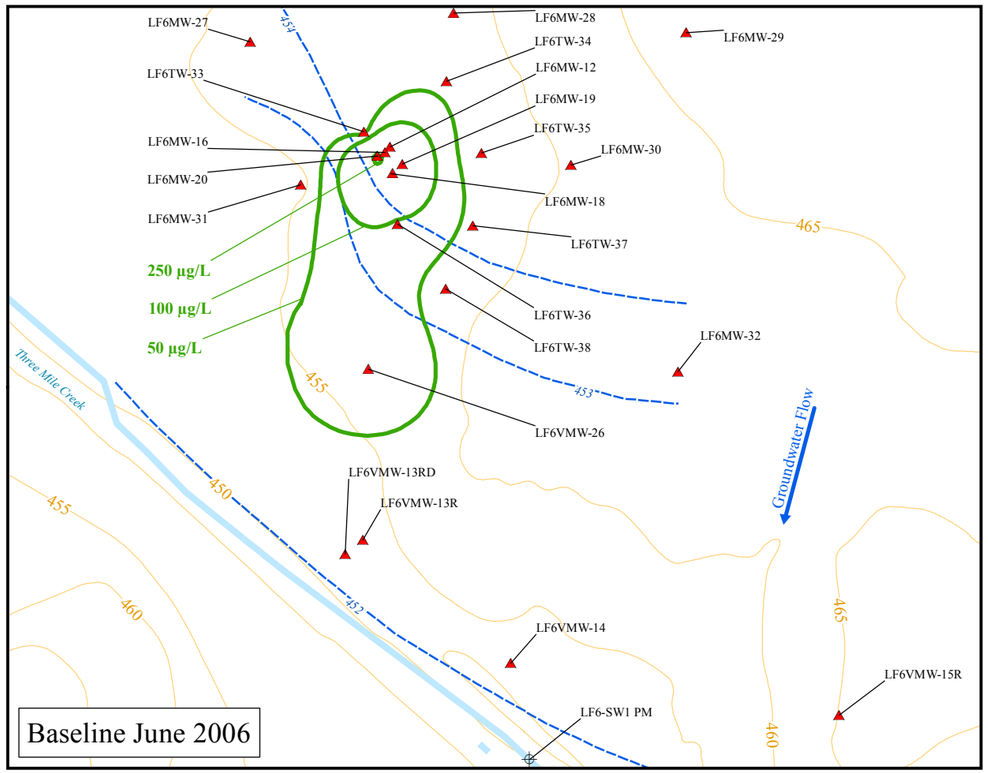
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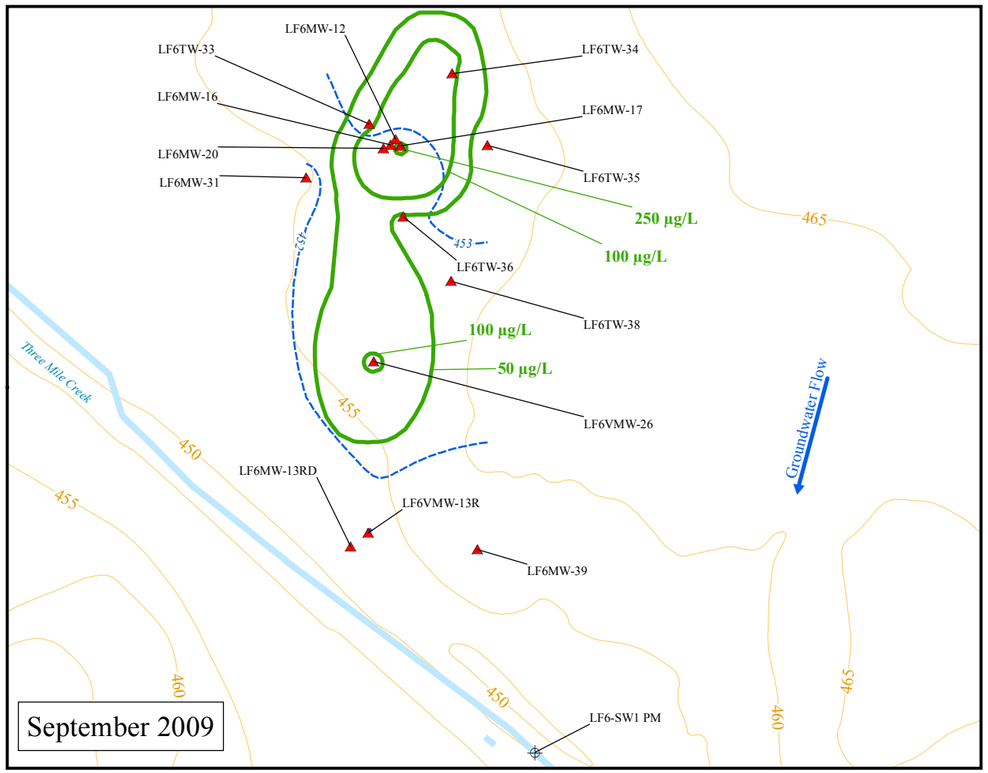
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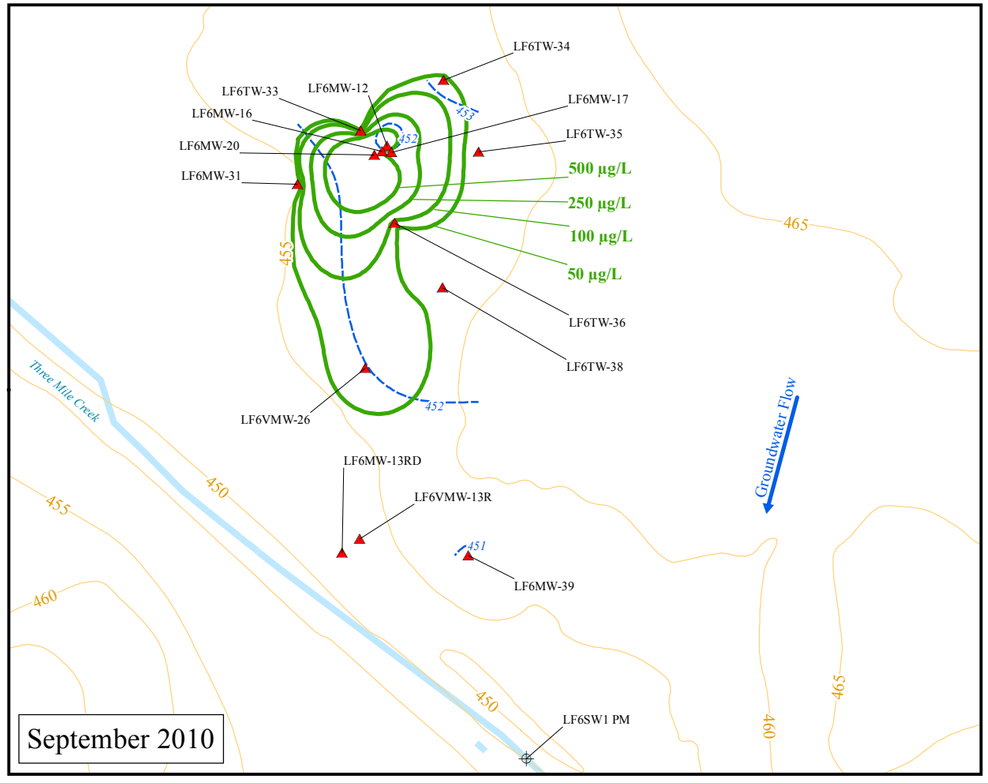
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Landfill 6
TCE Sampling Locations

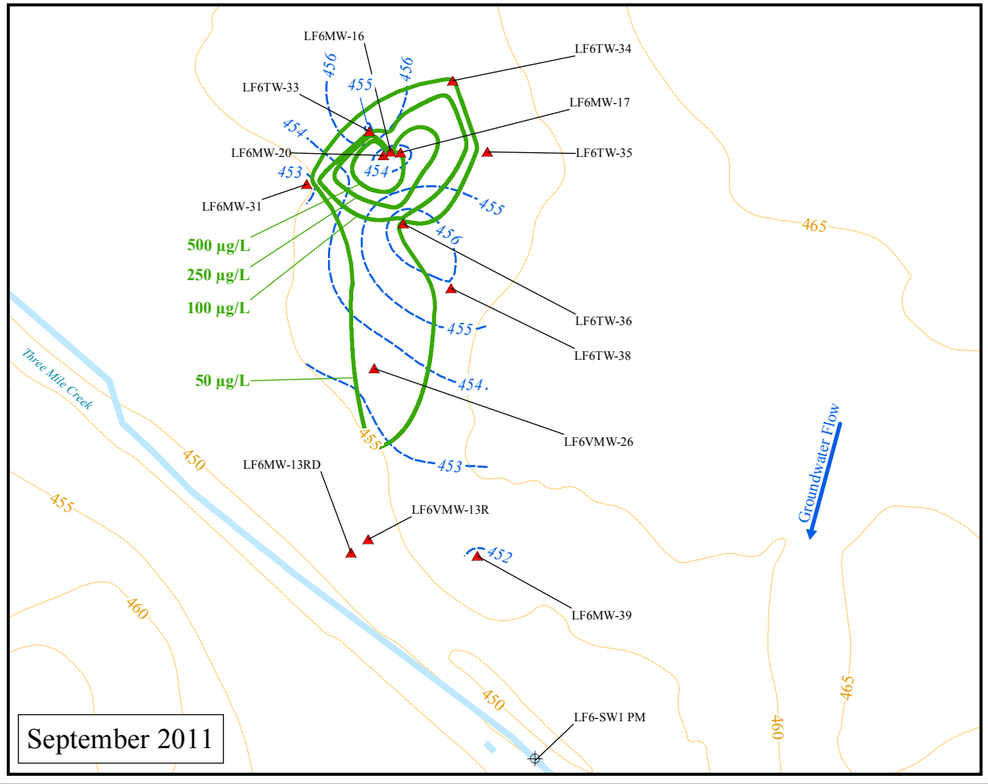
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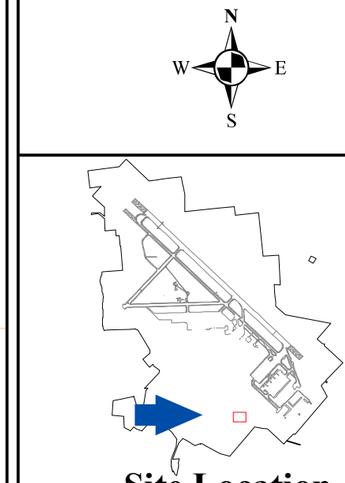
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Site Location

Key to Features

- Monitoring Well
- Surface Water Sample Location
- cis-1,2-DCE Contour (µg/L)
- Groundwater Contour (ft. AMSL)
- Culvert
- Storm Drain
- Surface Water
- Topography (ft. AMSL)
- Landfill 6 Boundary

0 40 80 160 240

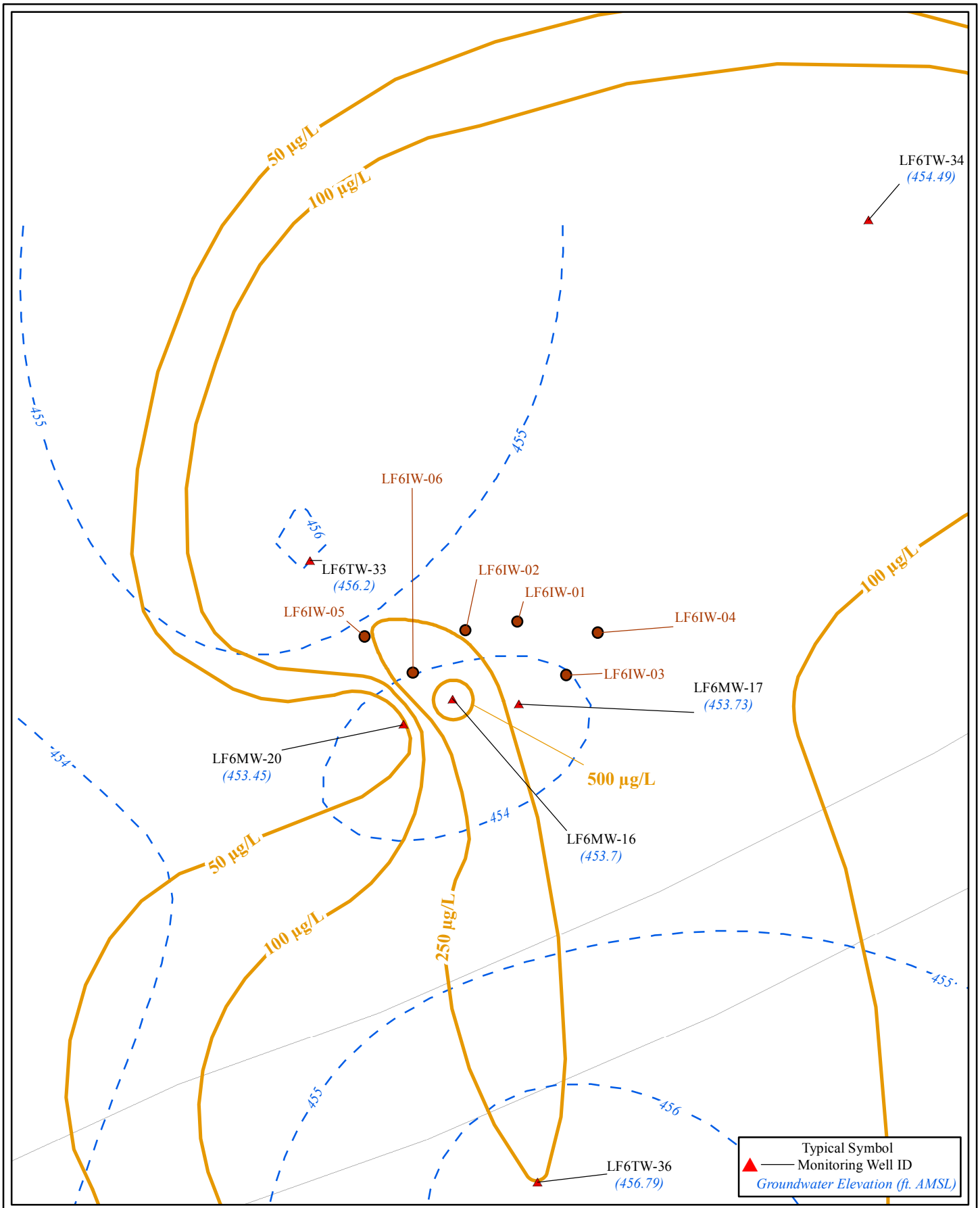
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Figure 2-2
Landfill 6
cis-1, 2-DCE Plume

FPM group

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Site Location

Key Features

- Monitoring Well
- Injection Well
- TCE Contour Sept 2011 (µg/L)
- Groundwater Contour Sept 2011 (ft. AMSL)

0 20
Feet

N

UNITED STATES AIR FORCE
FORMER GRIFFISS AIR FORCE BASE
ROME, NY

Figure 2-3
LF6 TCE Hot Spot Details

FPM group

March 2013

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Figure 2-4
LF6MW-16 VOCs Trend

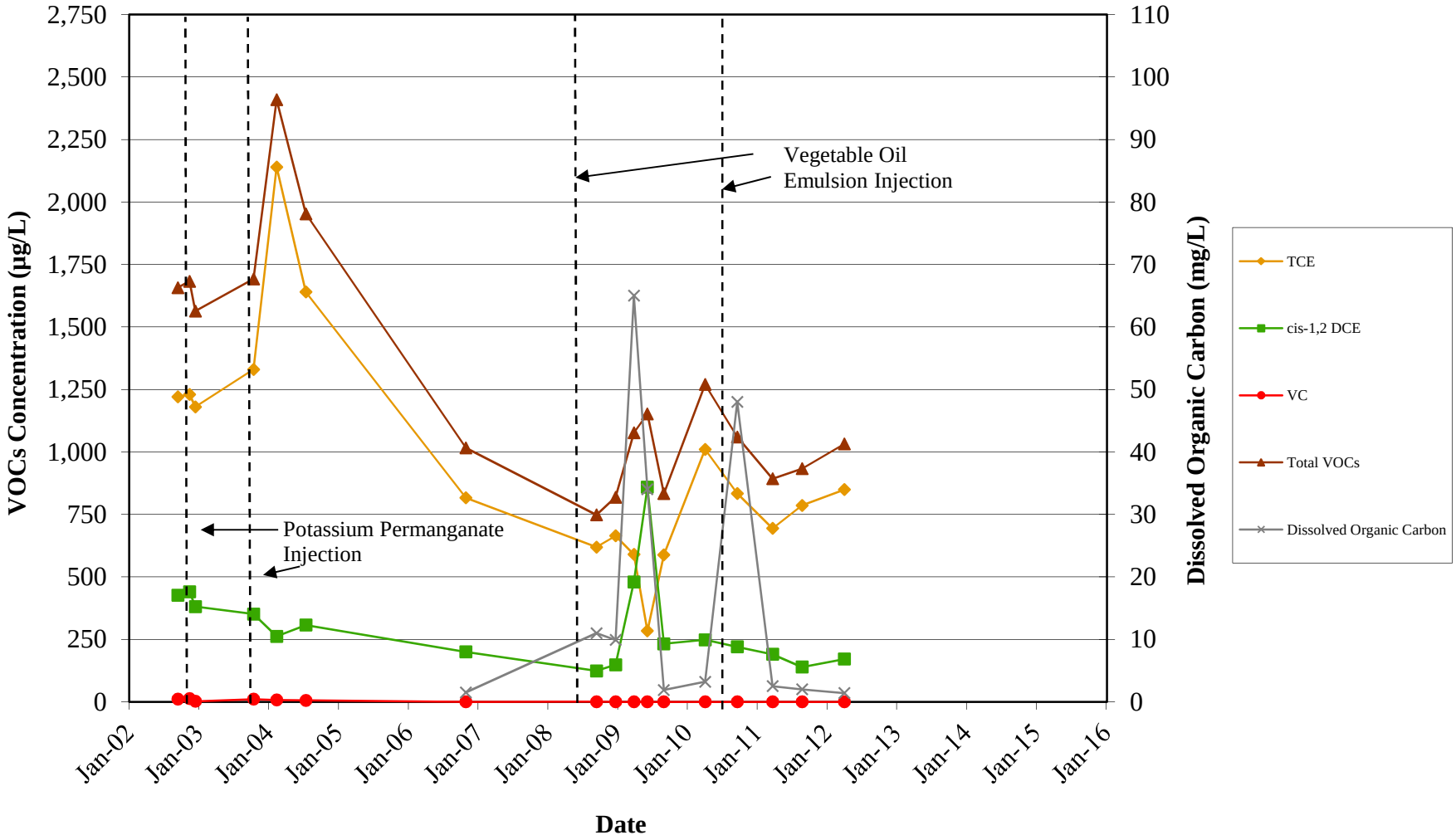


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LF6MW-17 VOCs Trend

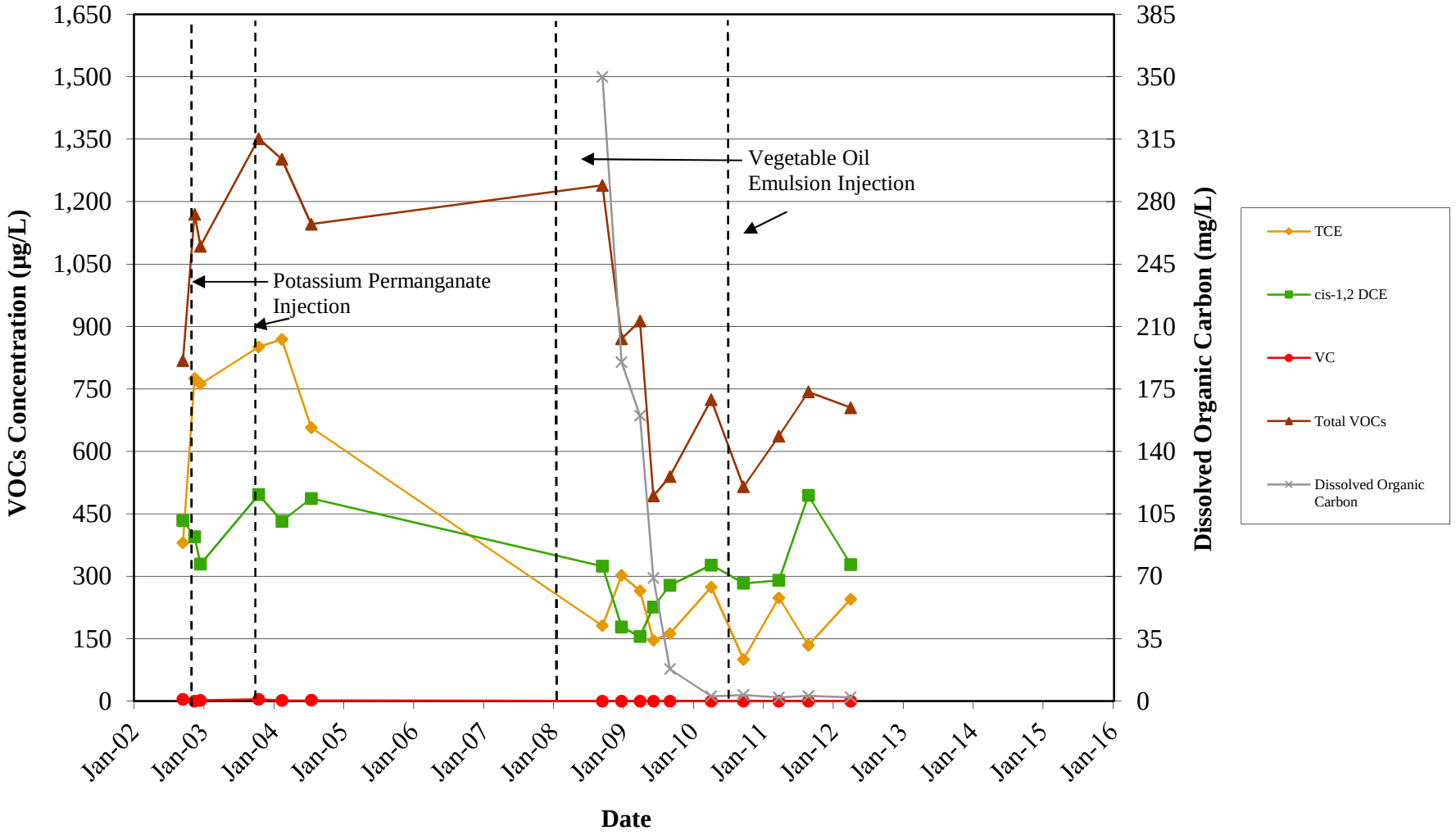


Figure 2-6
LF6MW-20 VOCs Trend

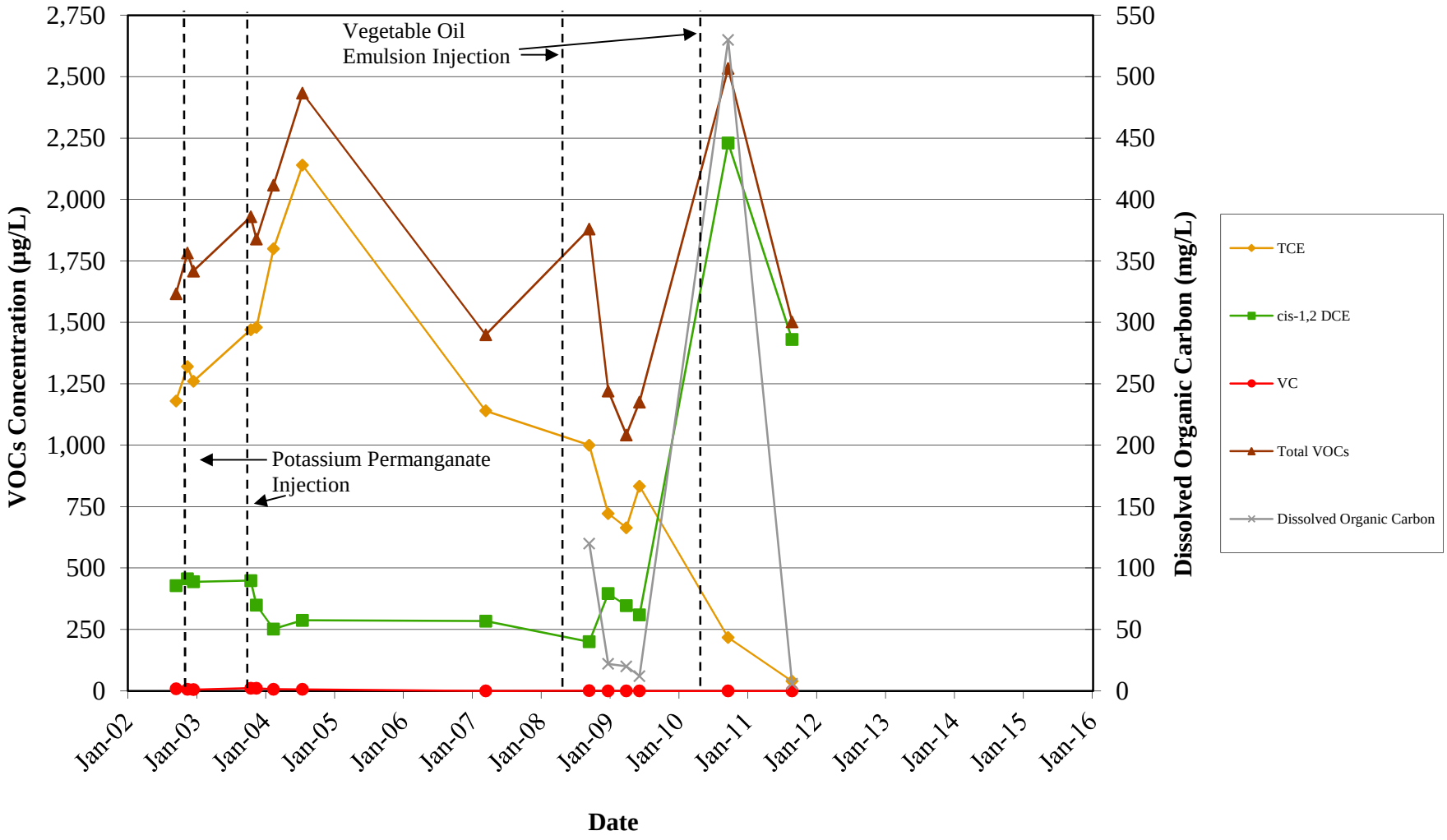


Figure 2-7
LF6VMW-26 VOCs Trend

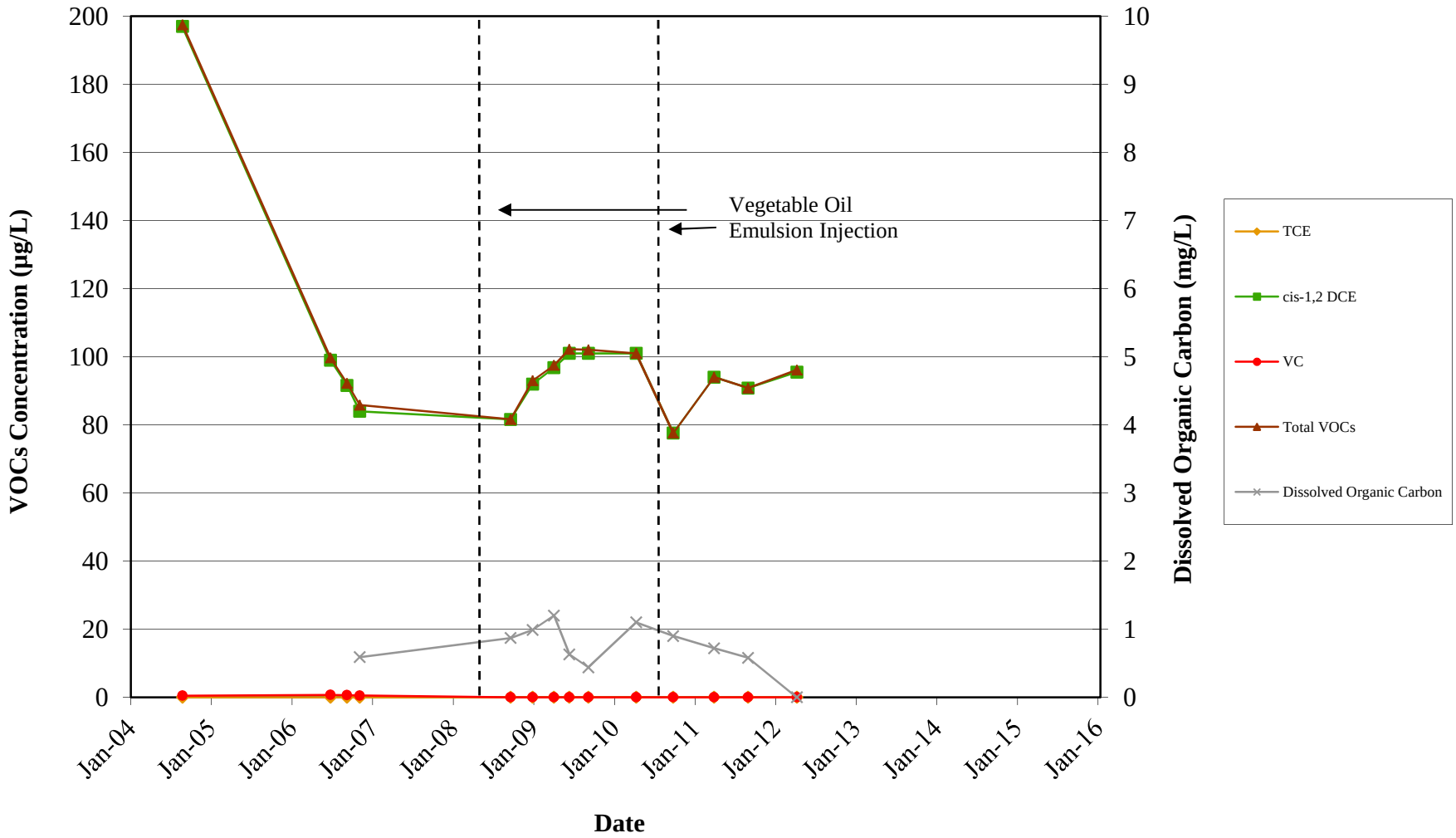


Figure 2-8
LF6TW-33 VOCs Trend

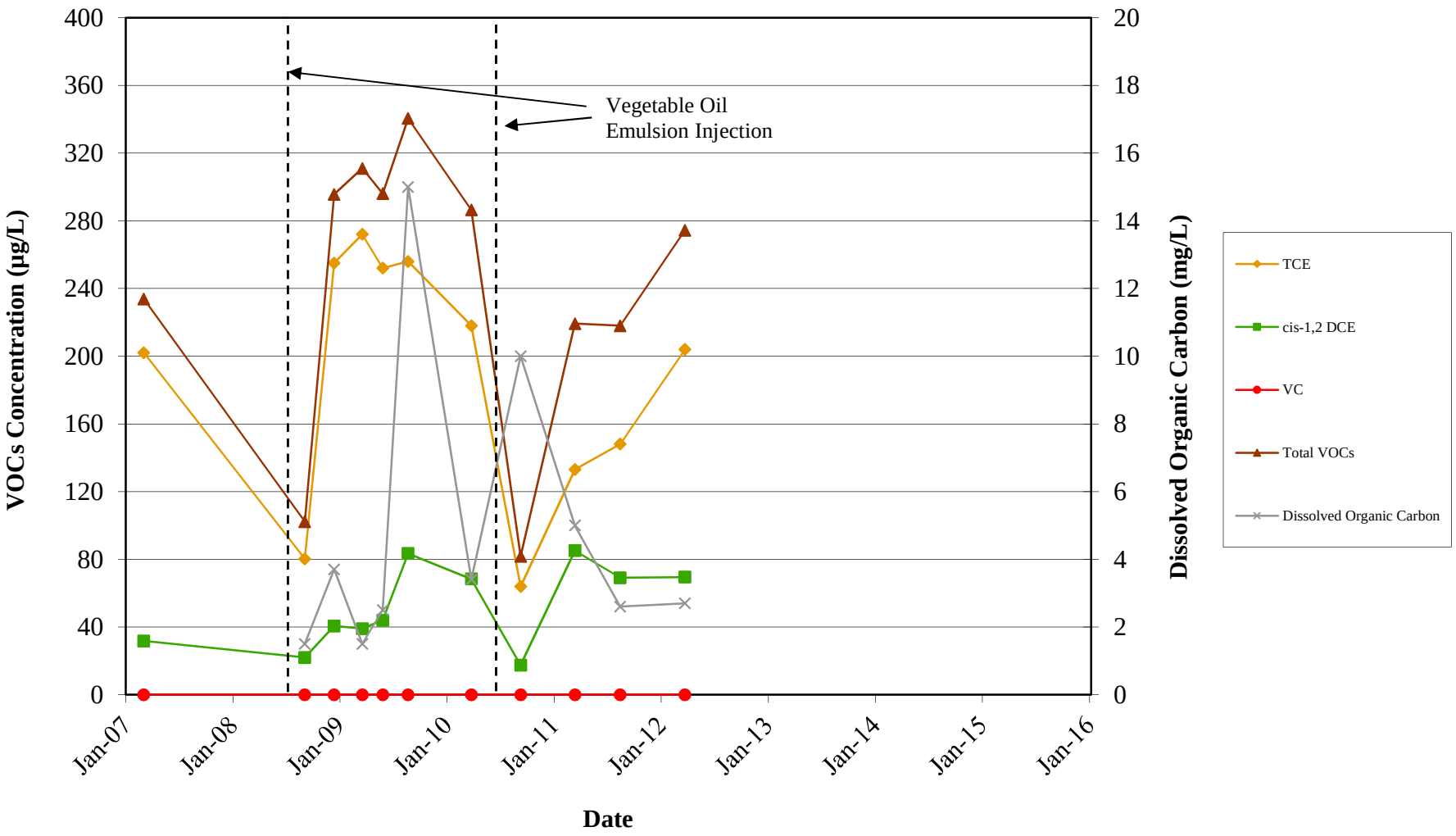


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LF6TW-34 VOCs Trend

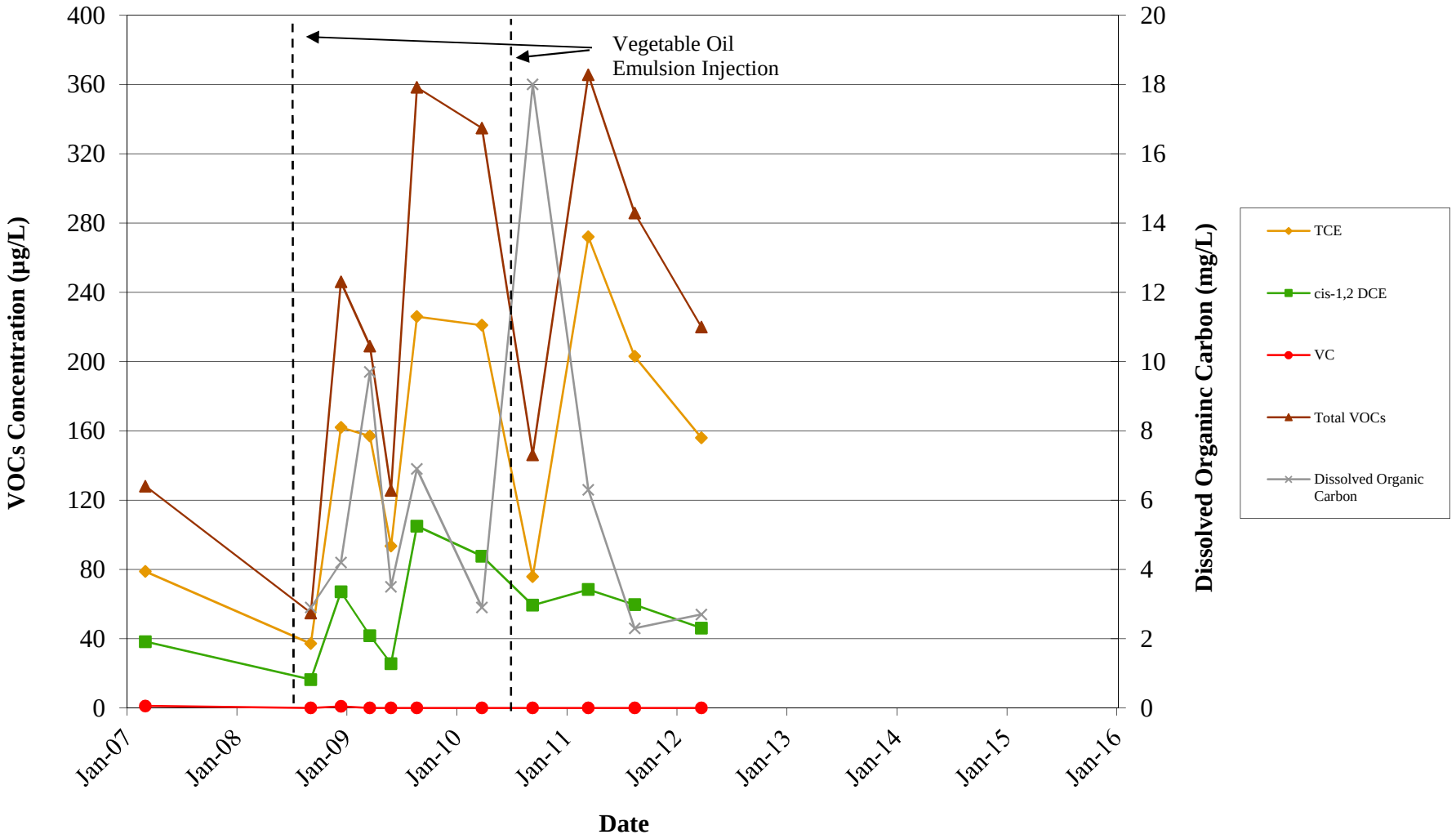


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LF6TW-35 VOCs Trend

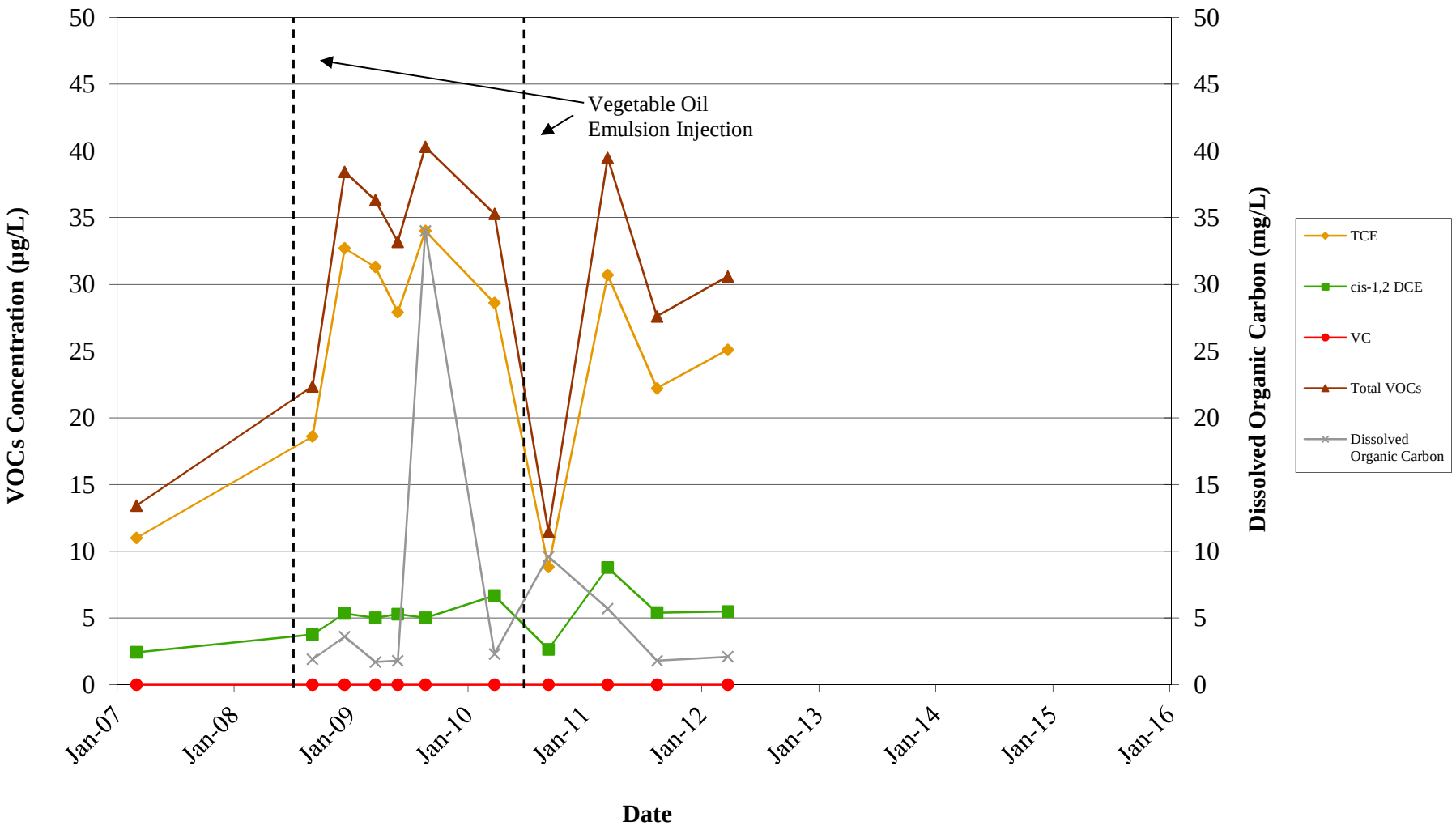


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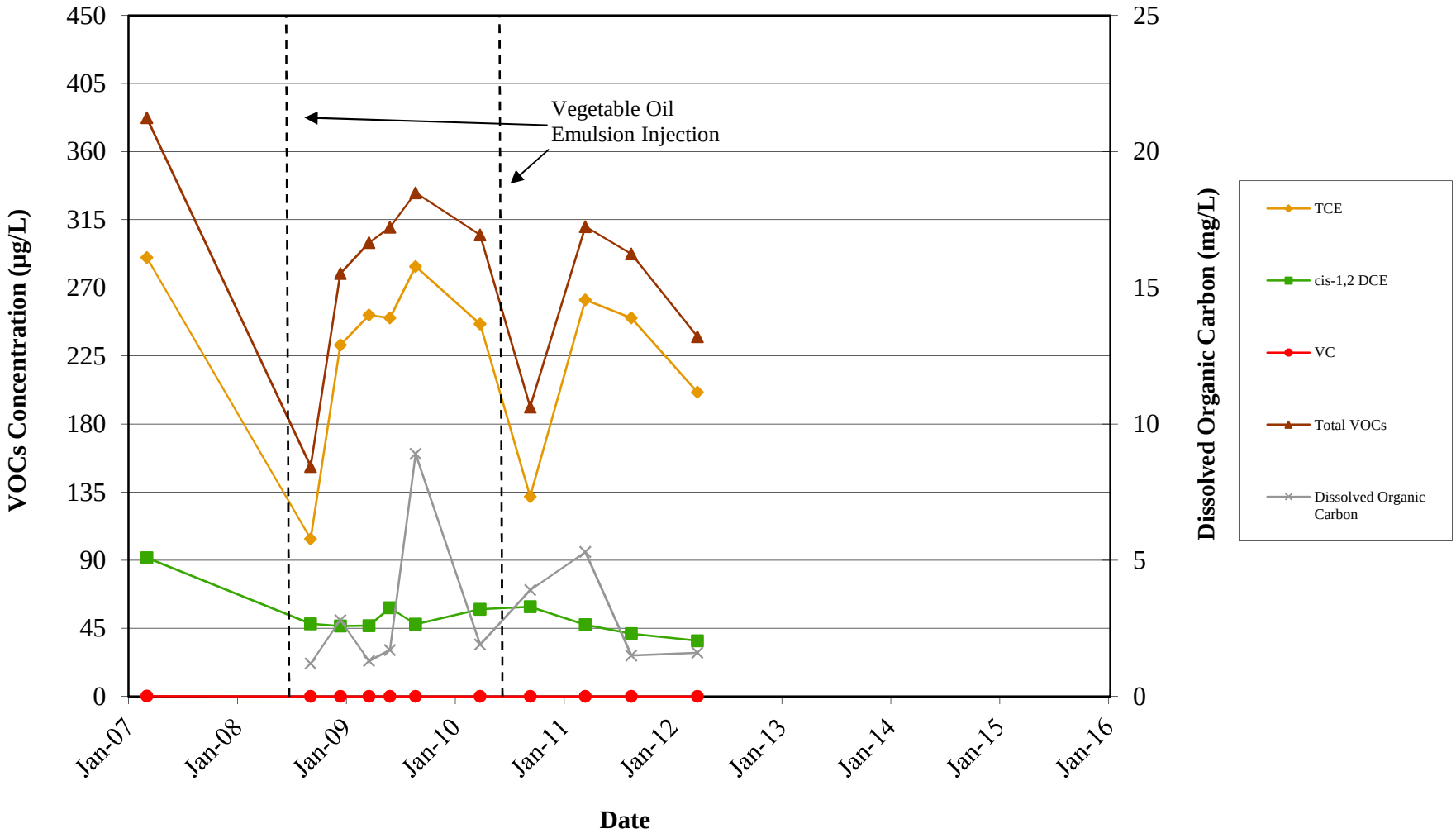


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LF6TW-38 VOCs Trend

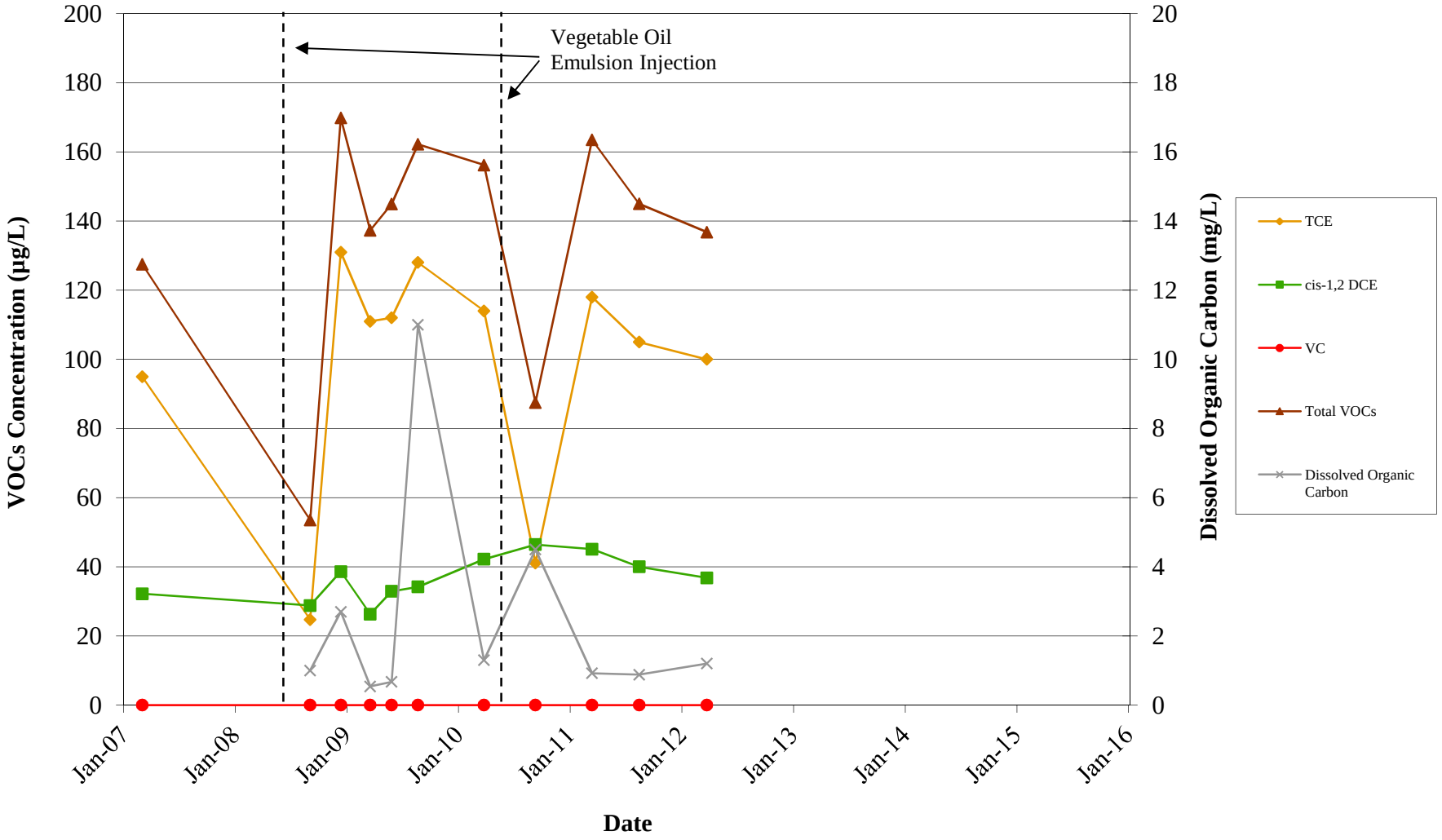
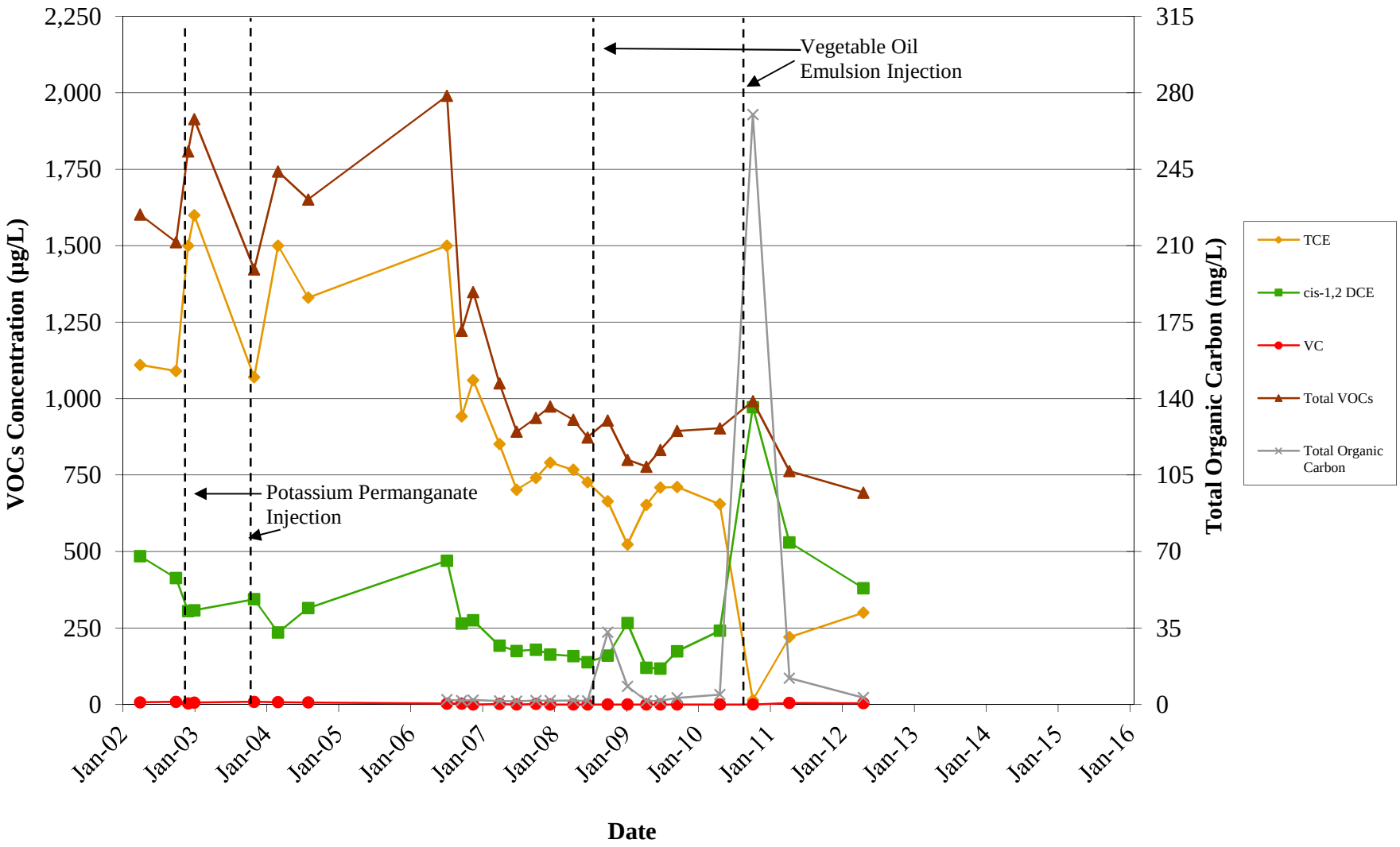
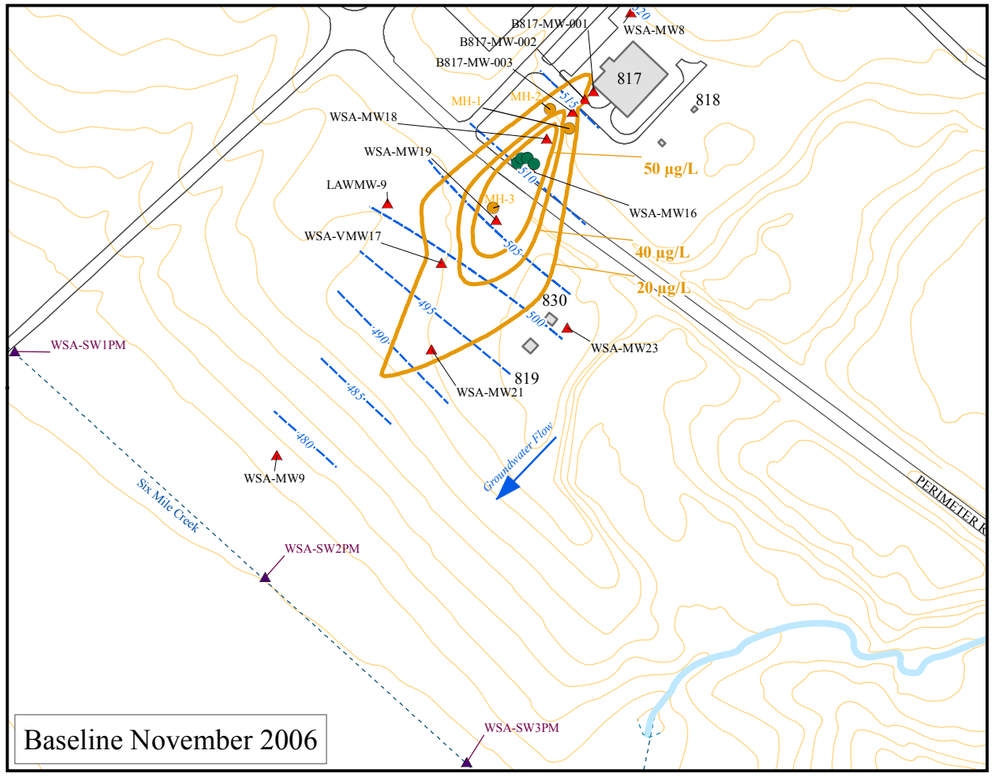
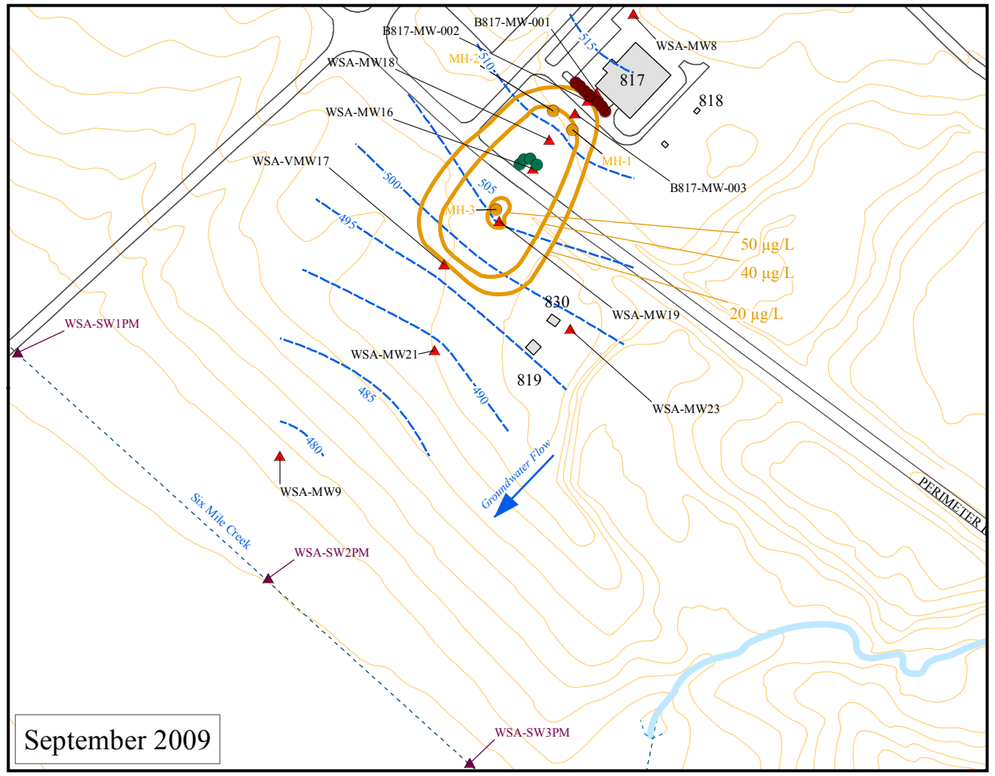
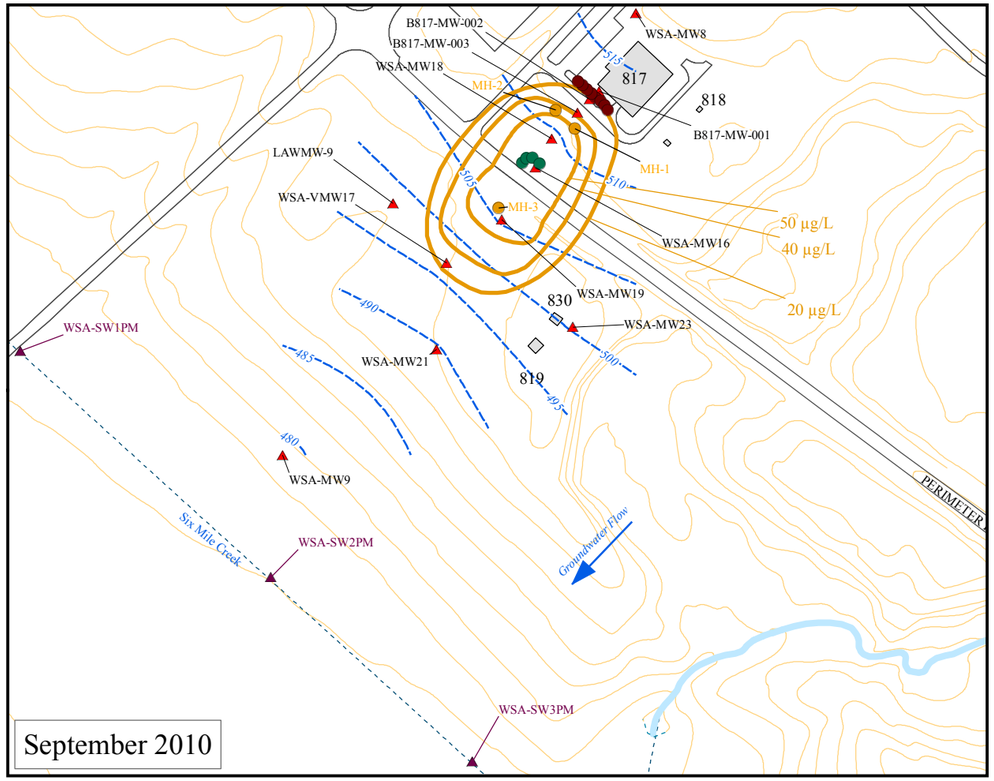


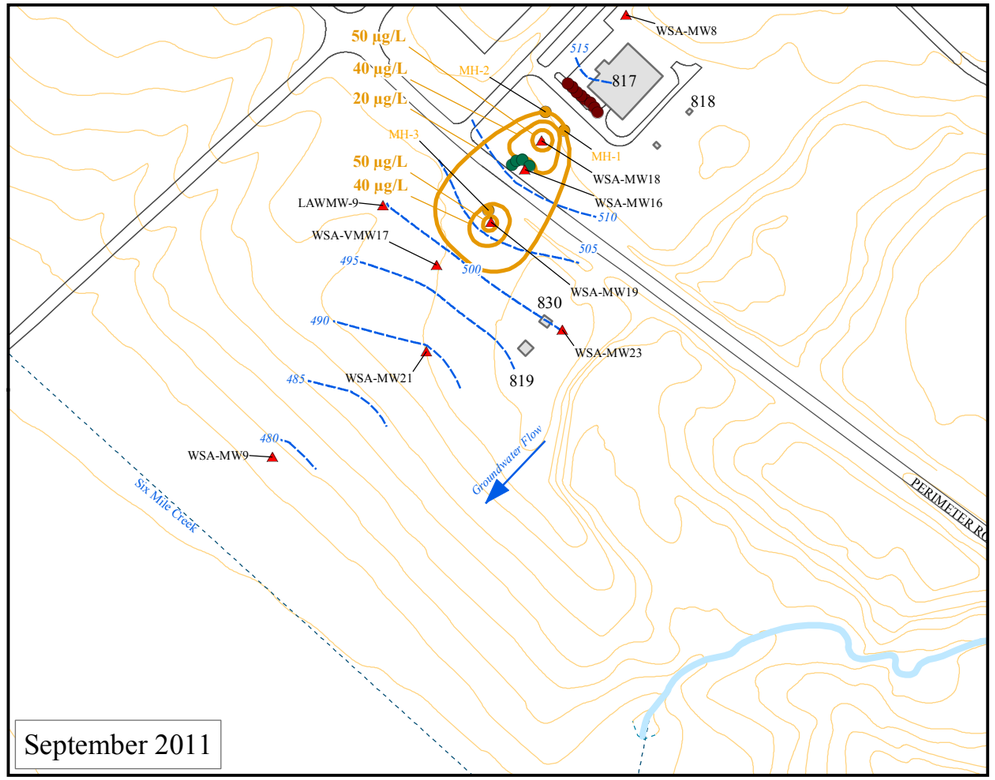
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LF6MW-12 VOCs Trend

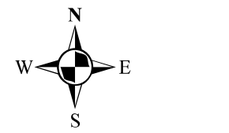


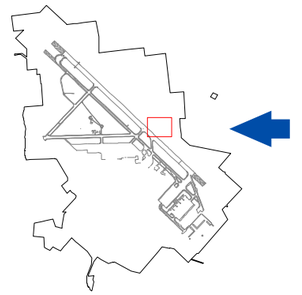












Site Location

Key to Features

- Permanganate Injection Point
- Vegetable Oil Injection Point
- Monitoring Well
- SW Sampling Location
- Manhole
- TCE Contour (µg/L)
- Groundwater Contour (ft. AMSL)
- Culvert
- Storm Drain
- Surface Water
- Road
- Topography (ft. AMSL)
- Demolished Facility
- Existing Facility

180 90 0 180 360
Feet

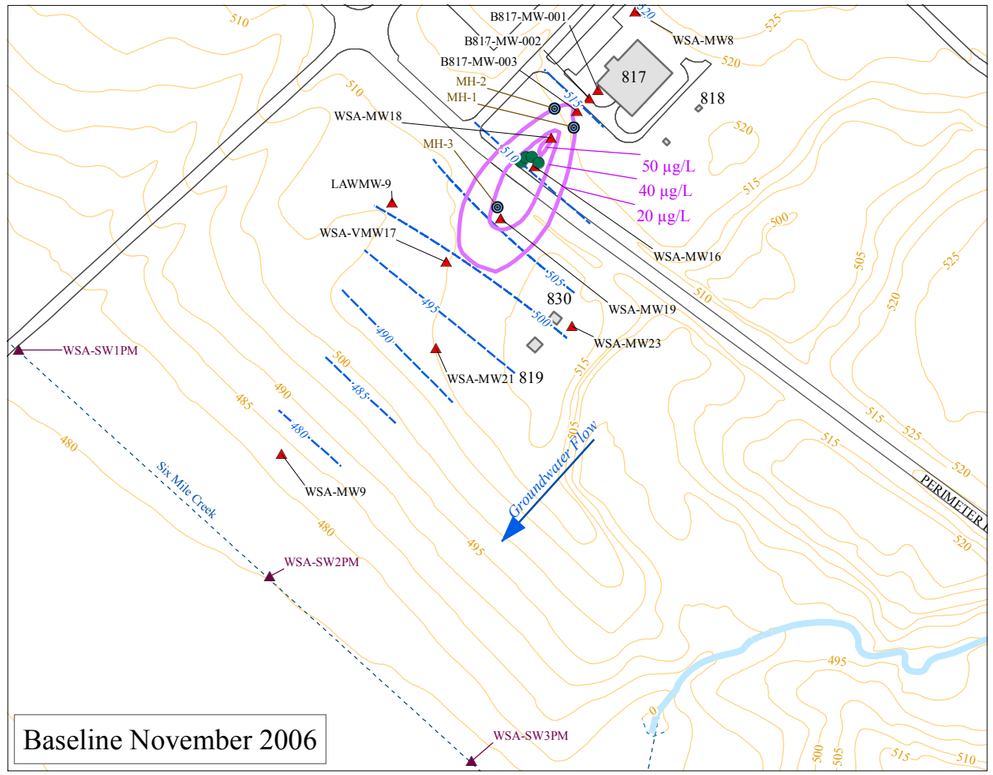
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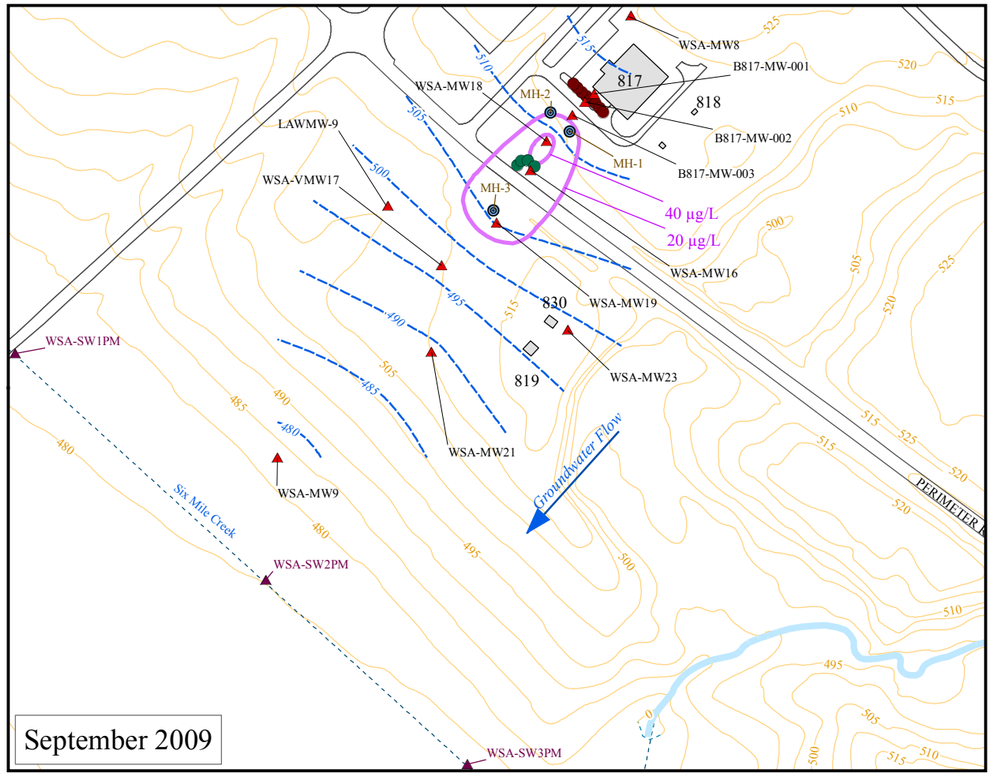
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Building 817
TCE Plume

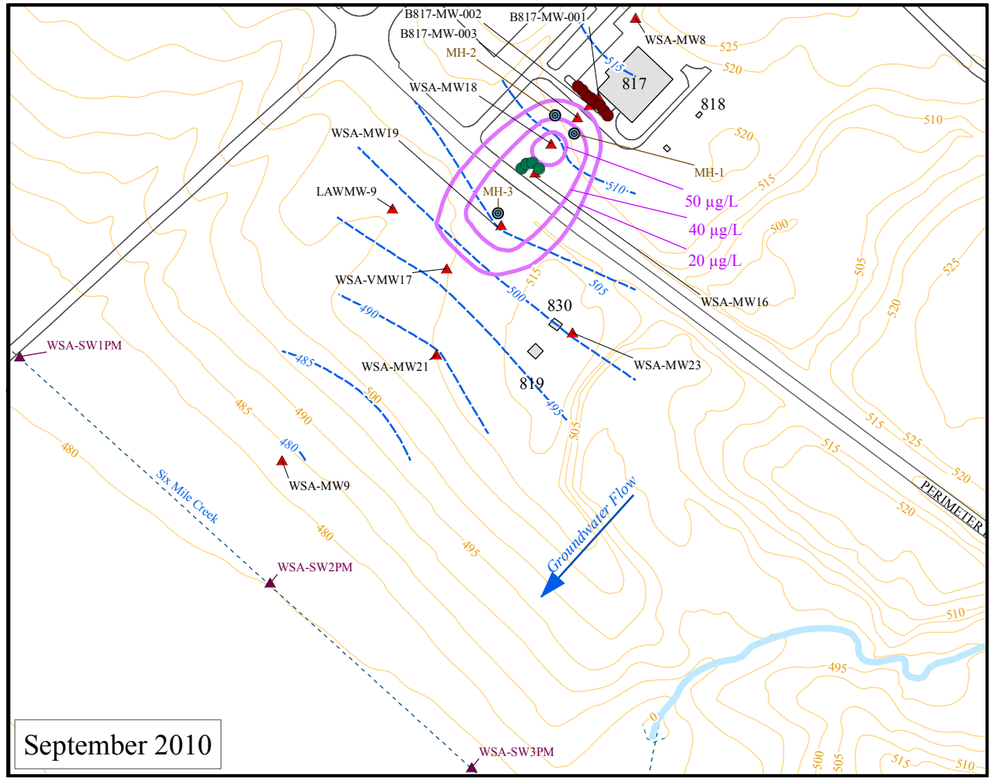
FPM group

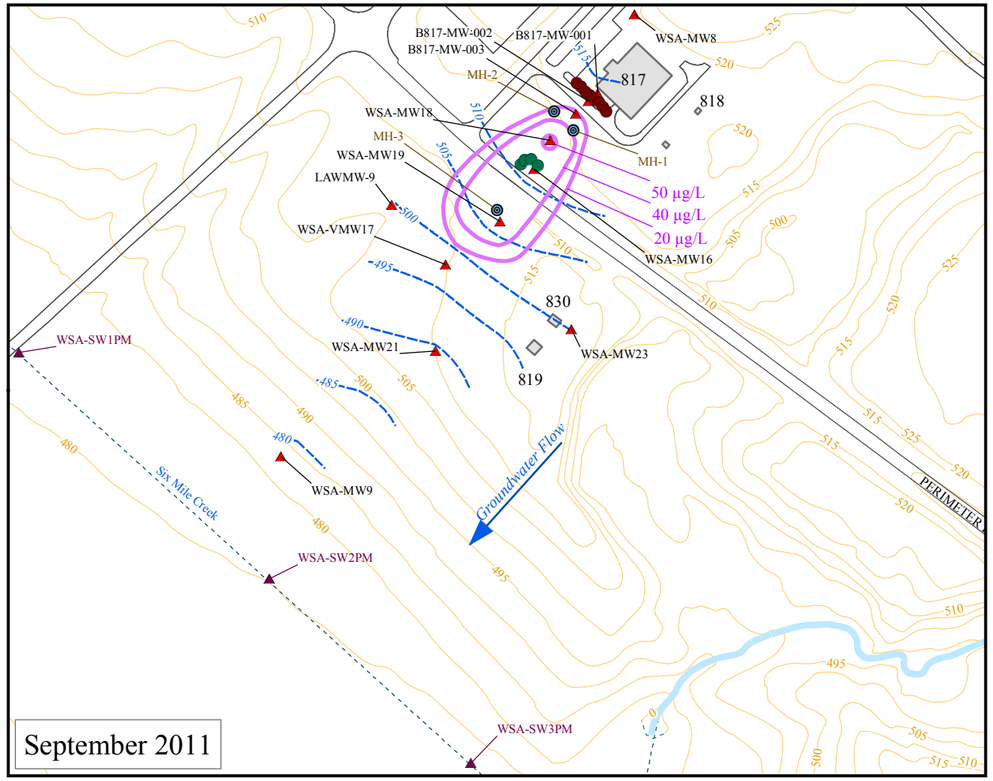
March 2013

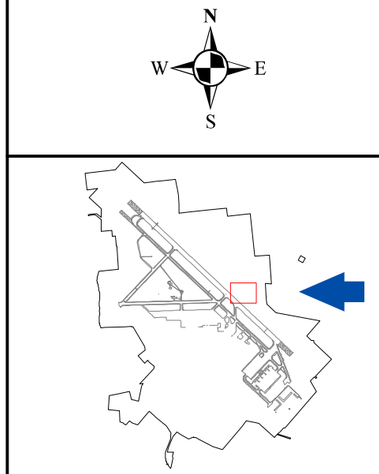
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Site Location

Key to Features

- Monitoring Well
- Permanganate Injection Points
- Vegetable Oil Injection Points
- SW Sampling Location
- Manhole
- PCE Contour (µg/L)
- Grounwater Contour (ft. AMSL)
- Culvert
- Storm Drain
- Surface Water
- Road
- Topography (ft. AMSL)
- Demolished Facility
- Existing Facility

190 95 0 190 380
Feet

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ROME, NEW YORK

Figure 3-2
Building 817
PCE Plume

FPM group

March 2013

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Figure 3-3
LAWMW-9 VOCs Trend

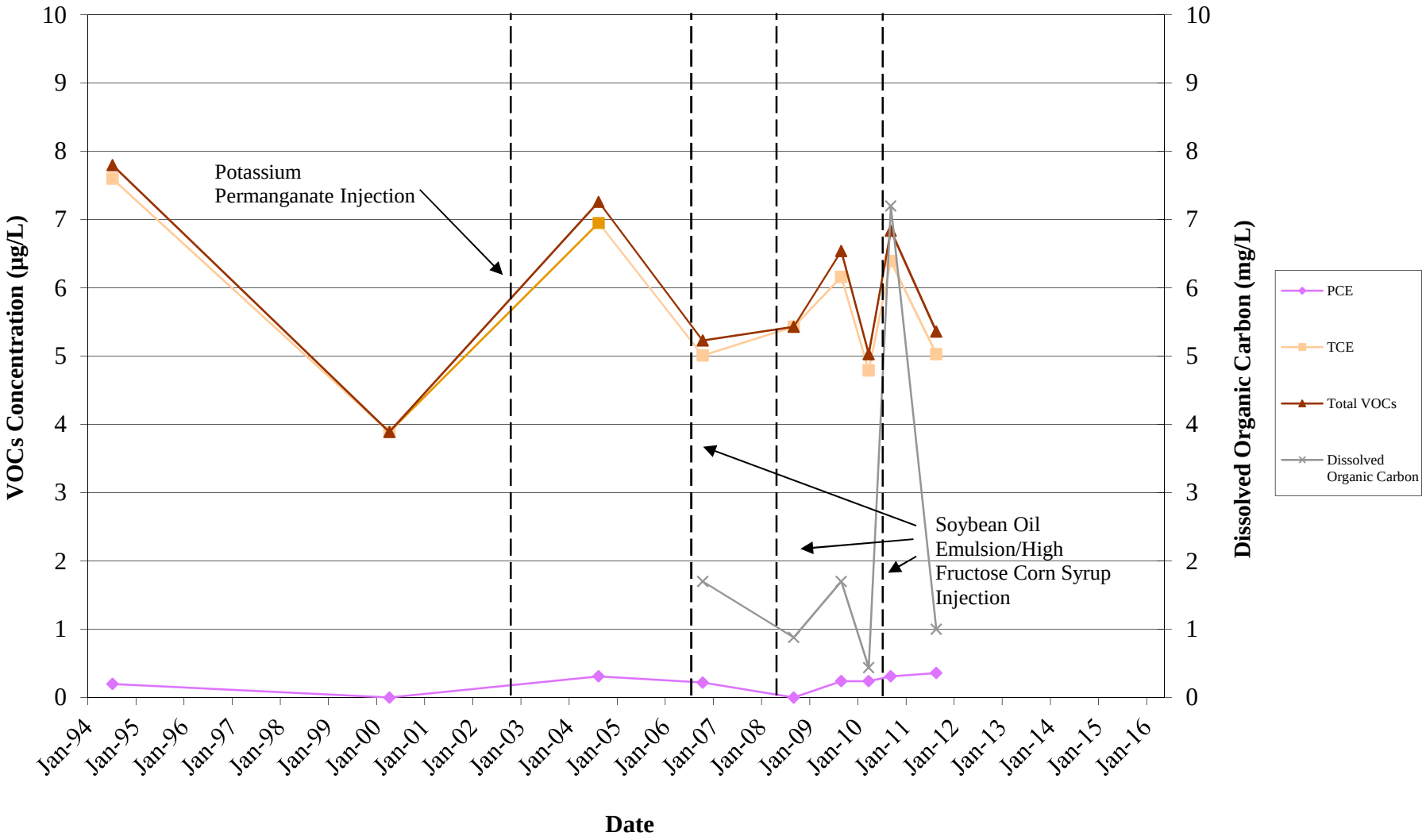


Figure 3-4
WSA-MW8 VOCs Trend

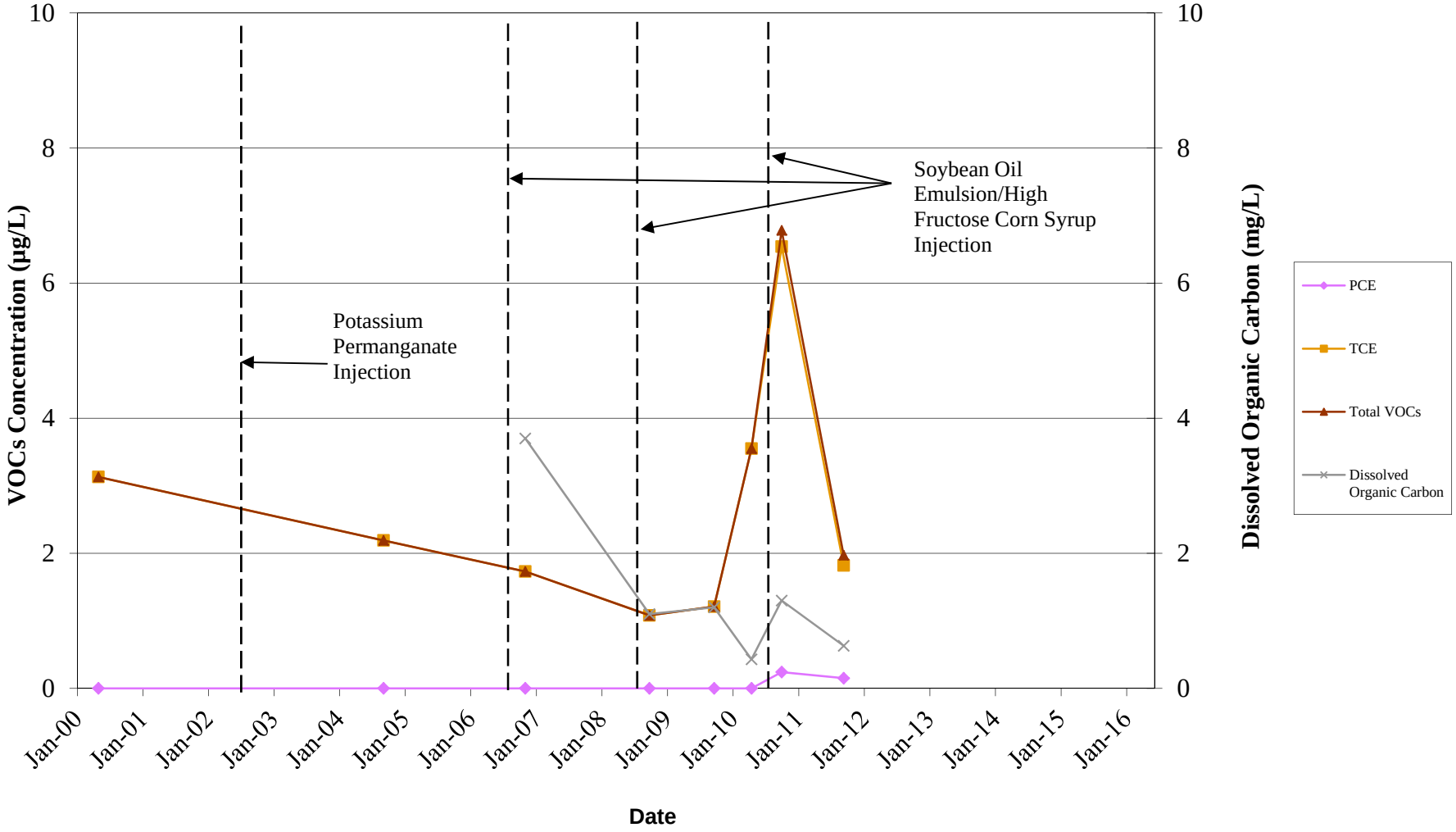


Figure 3-5
WSA-MW16 VOCs Trend

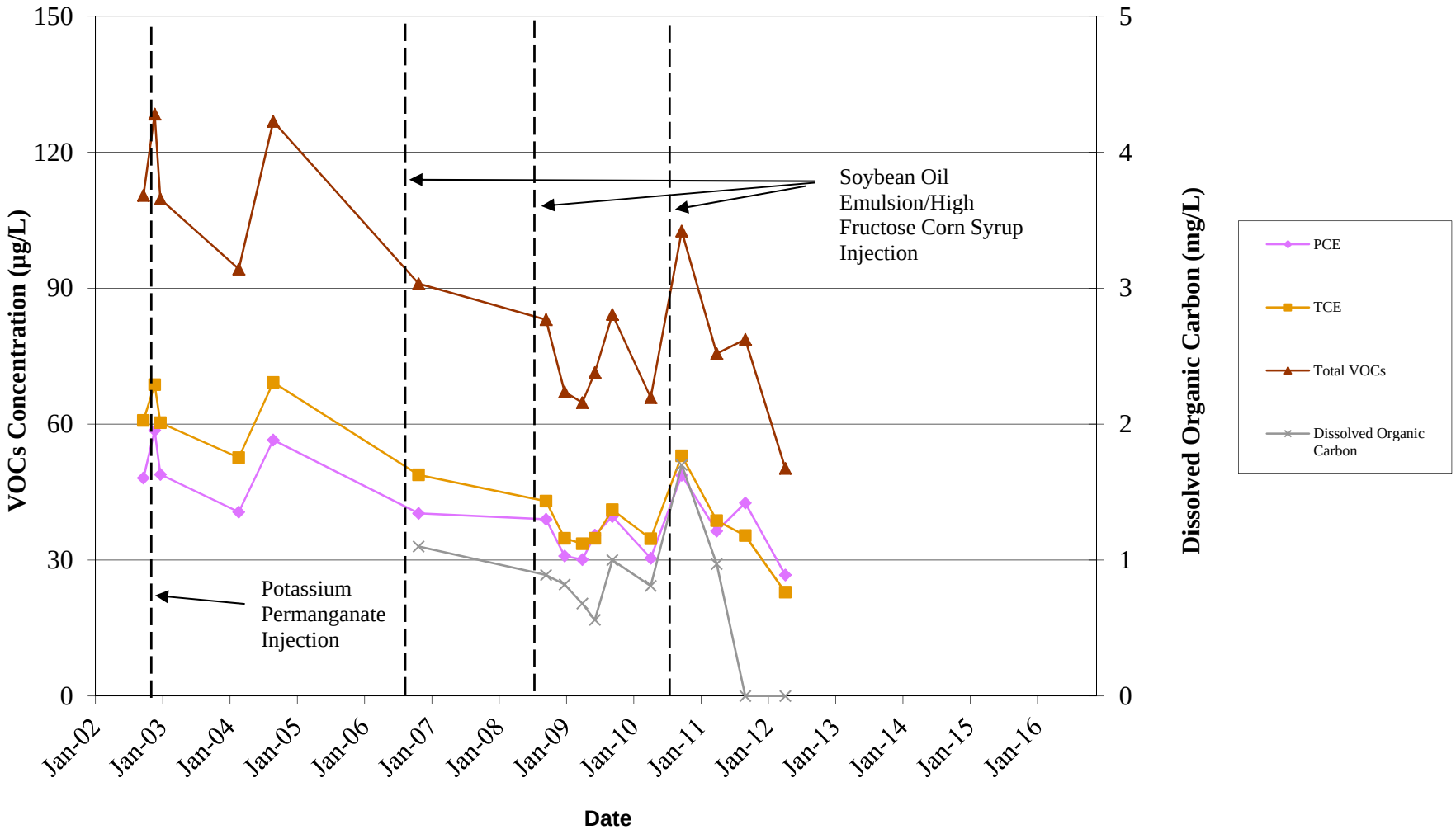


Figure 3-6
WSA-VMW17 VOCs Trend

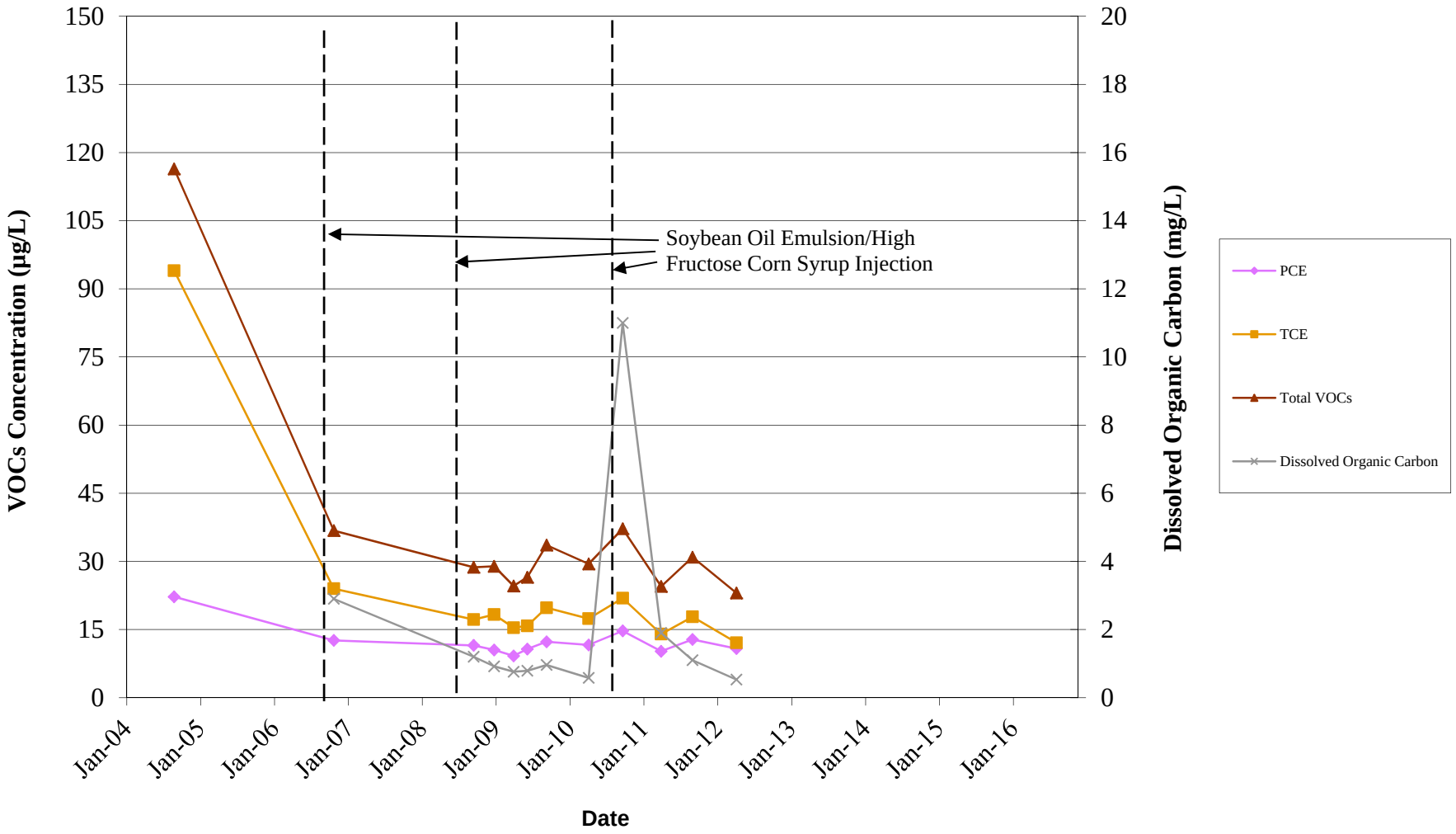


Figure 3-7
WSA-MW18 VOCs Trend

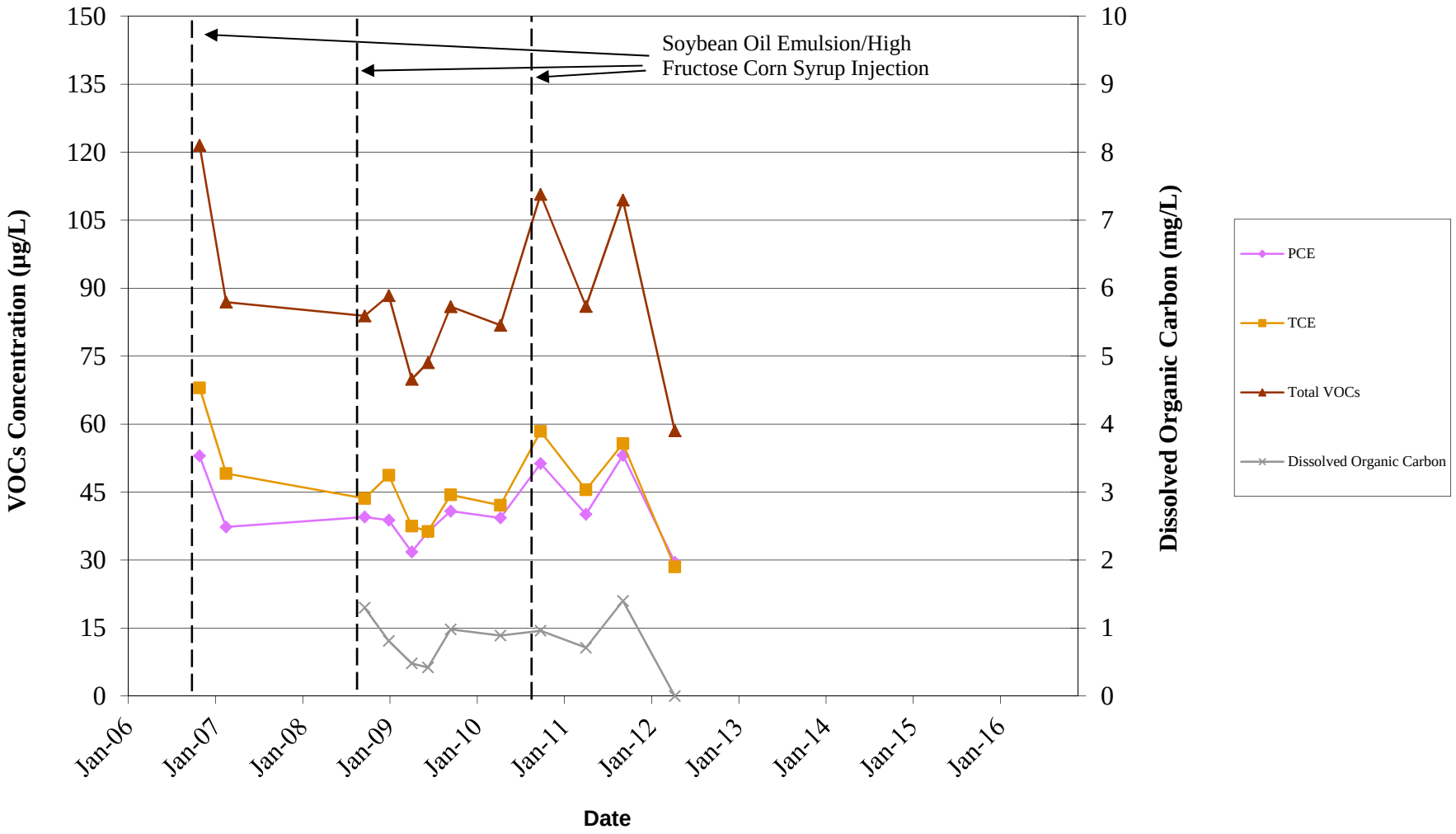


Figure 3-8
WSA-MW19 VOCs Trend

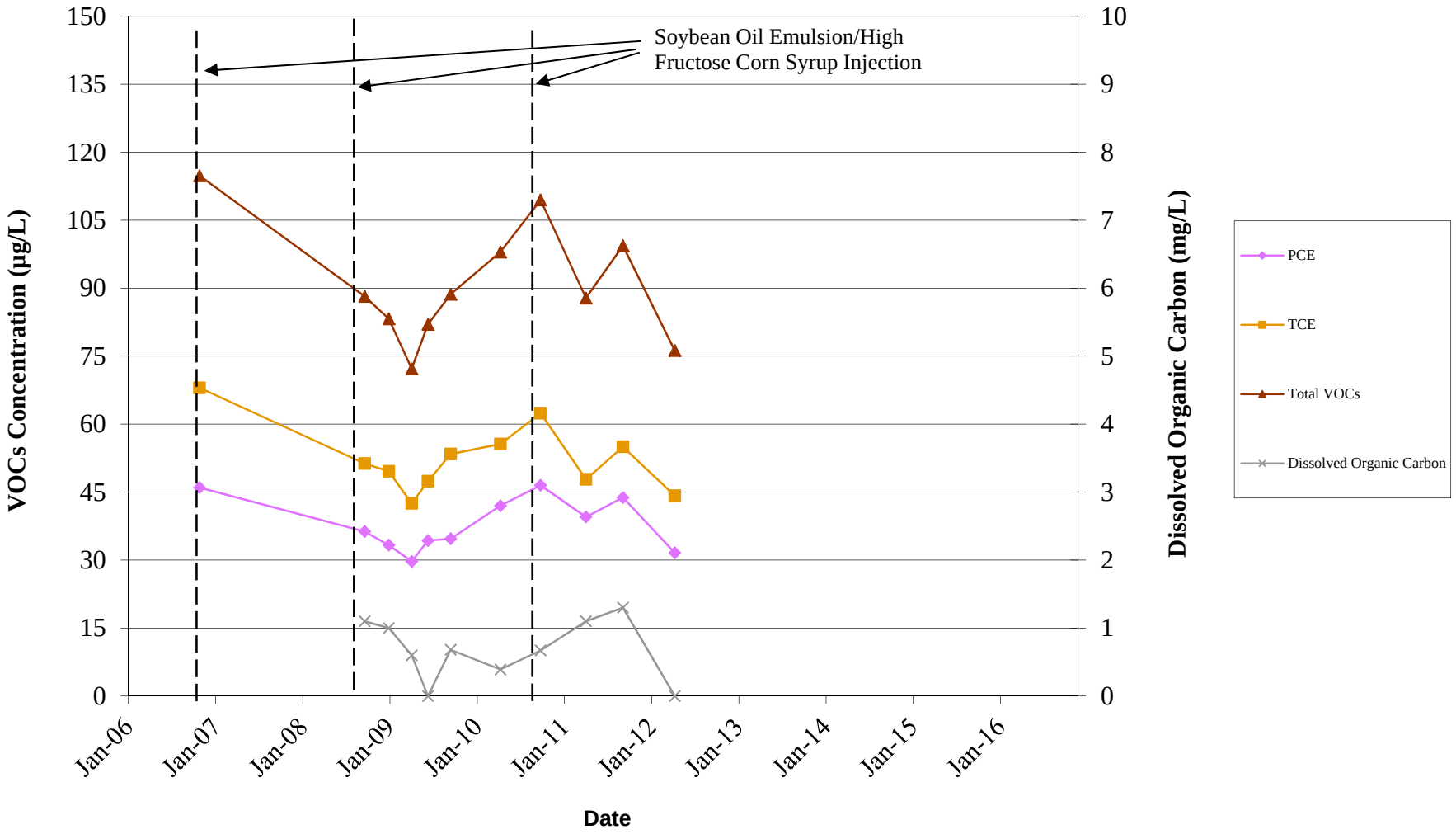
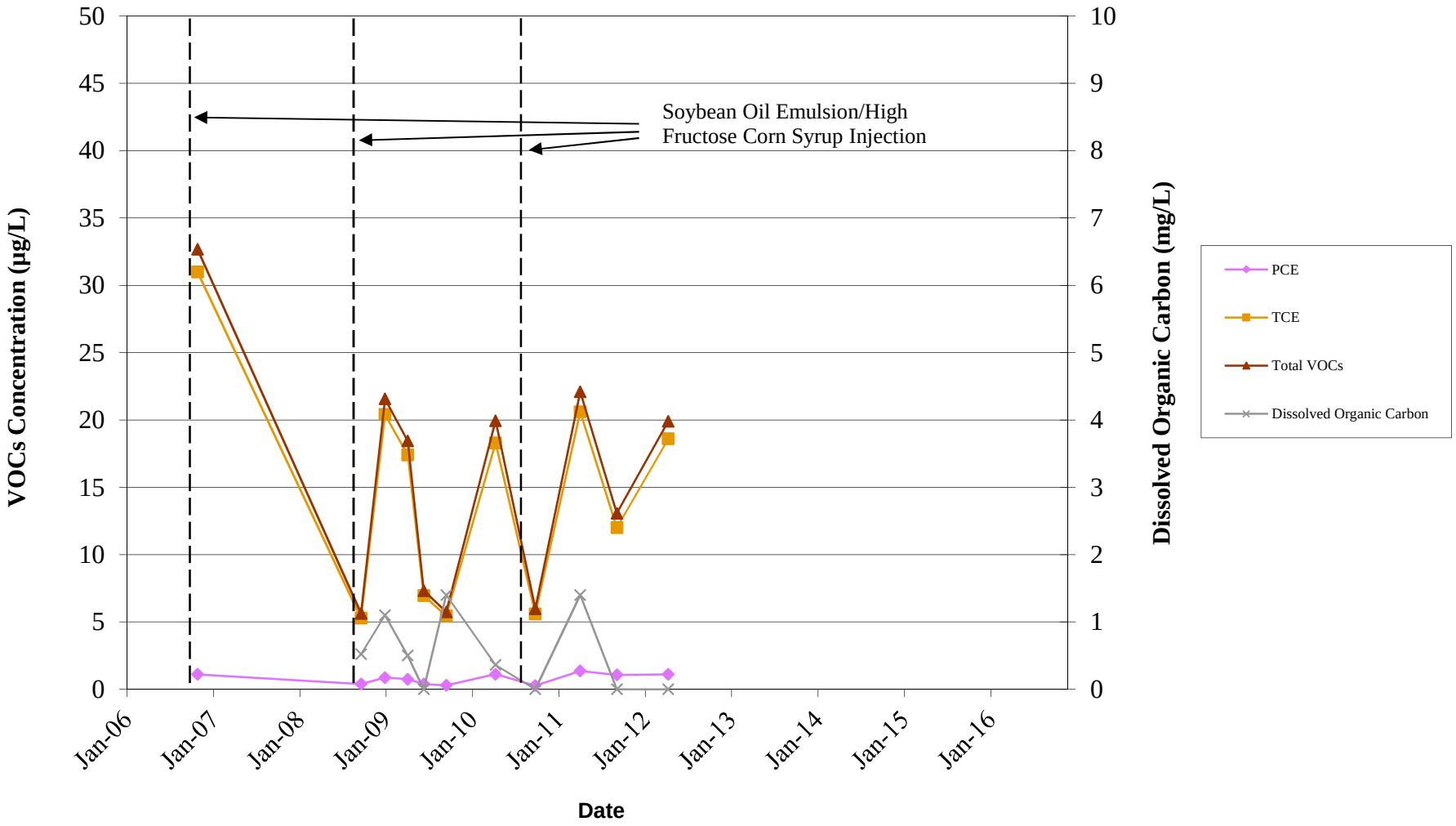
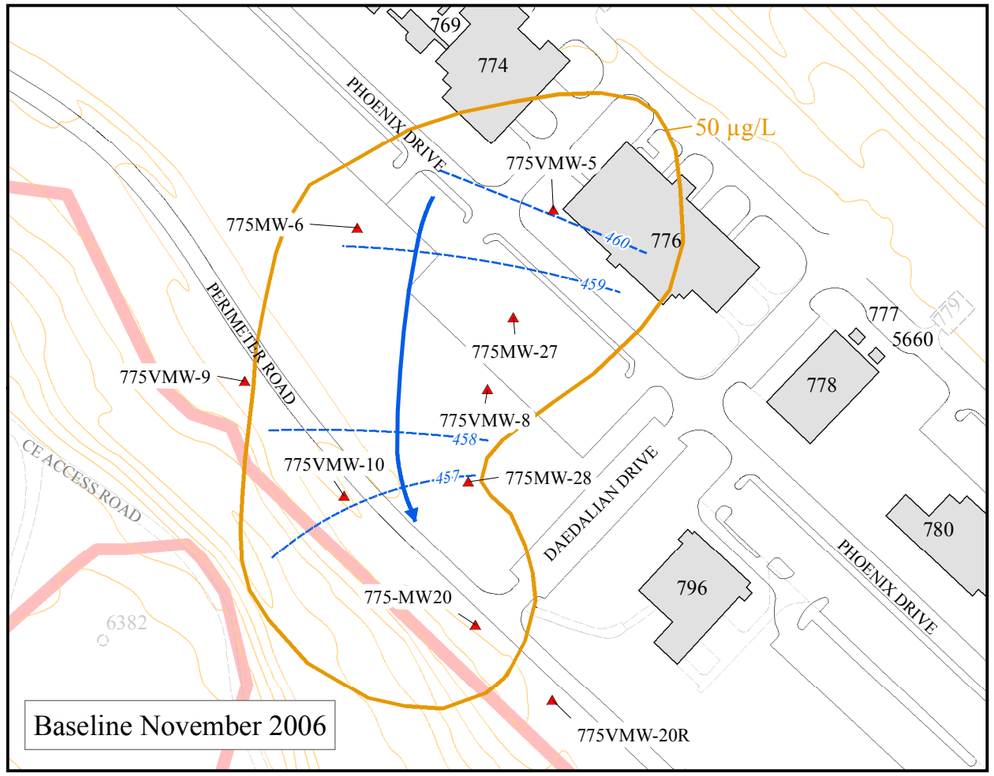
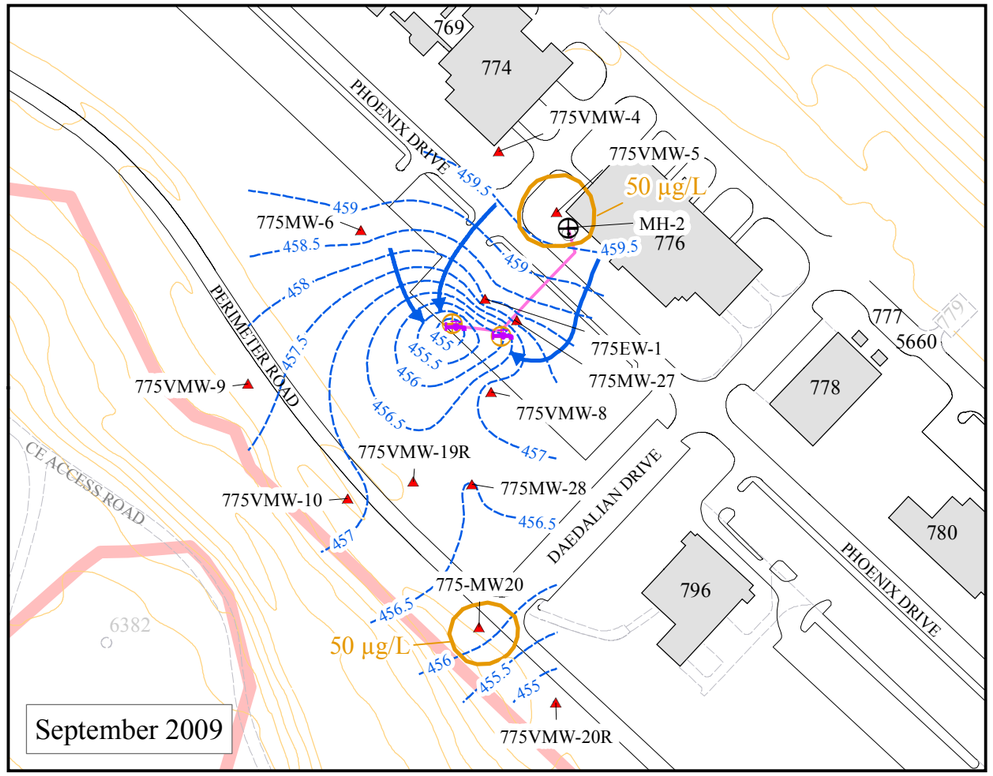
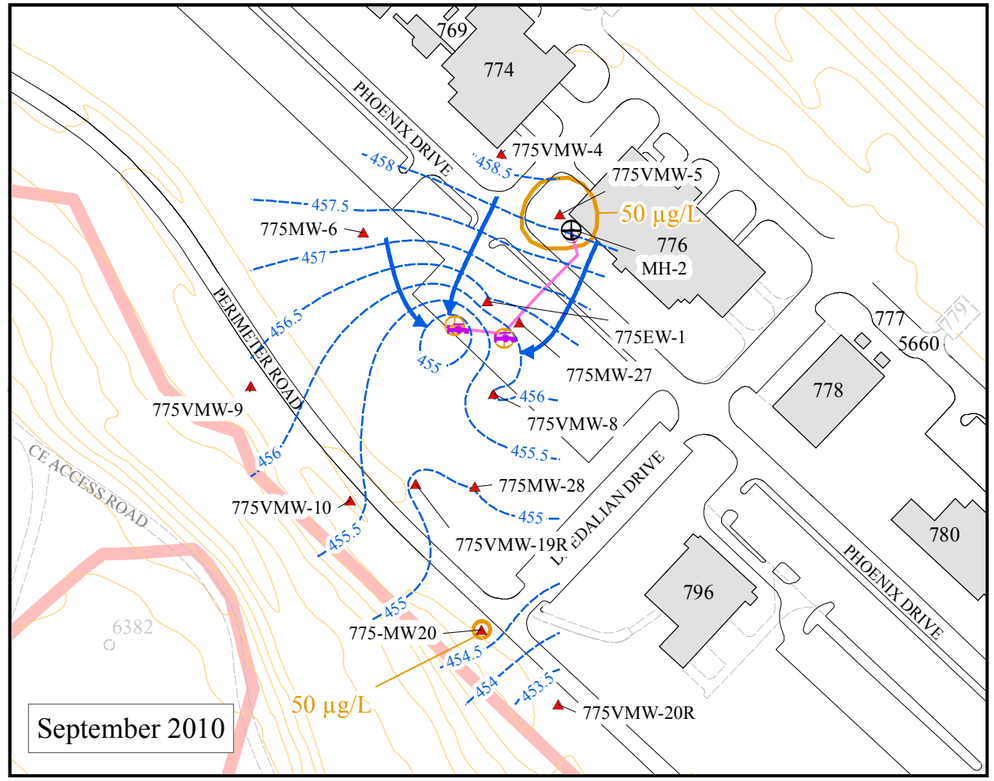


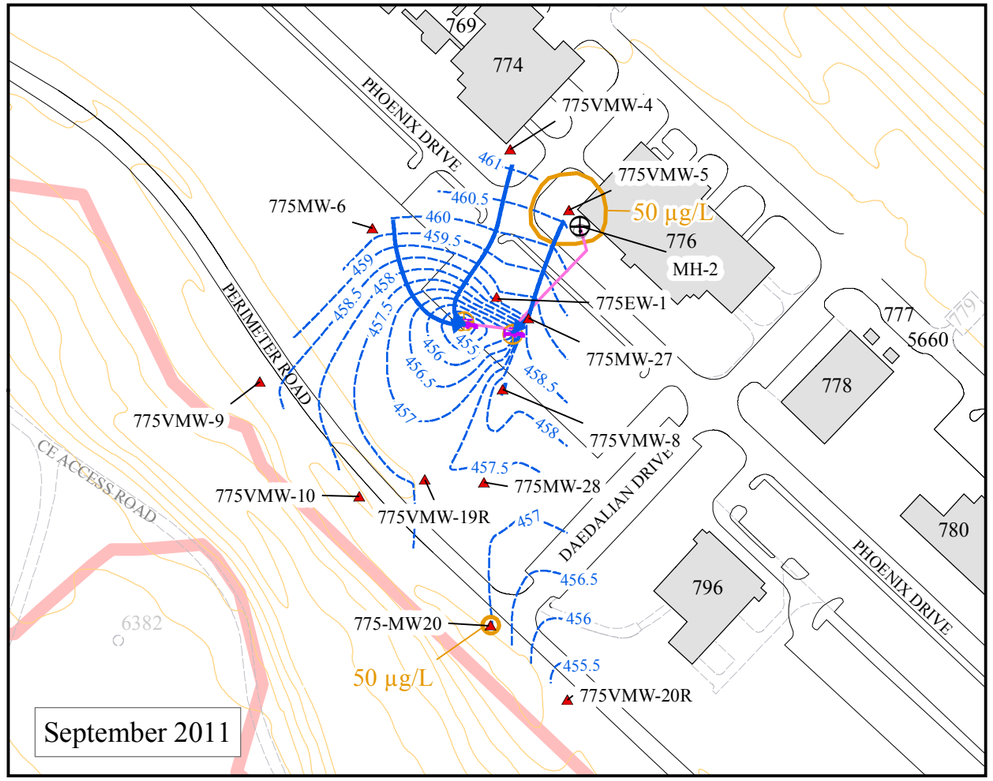
Figure 3-9
WSA-MW21 VOCs Trend

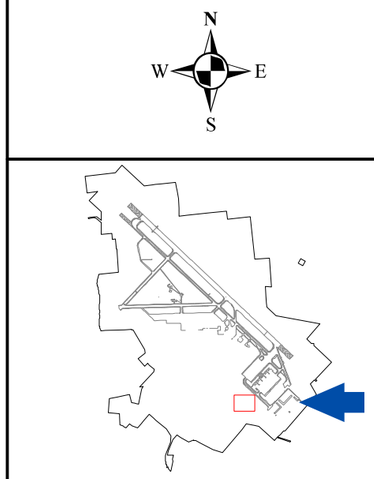












Site Location

Key Features

- GW_Flow_Sept_10
- EW Valve
- Extraction Well
- Manhole
- Meter
- Monitoring Well
- Groundwater Contour (ft. AMSL)
- Existing Road/ Airfield
- Removed Road/ Airfield
- Topography (ft. AMSL)
- Demolished Facility
- Existing Facility
- TCE Contour (µg/L)
- Landfill 6 Boundary

0 100 200 400
Feet

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Figure 4-1
Building 775
TCE Sampling Location

FPM group

March 2013

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Figure 4-2
775VMW-4 VOCs Trend

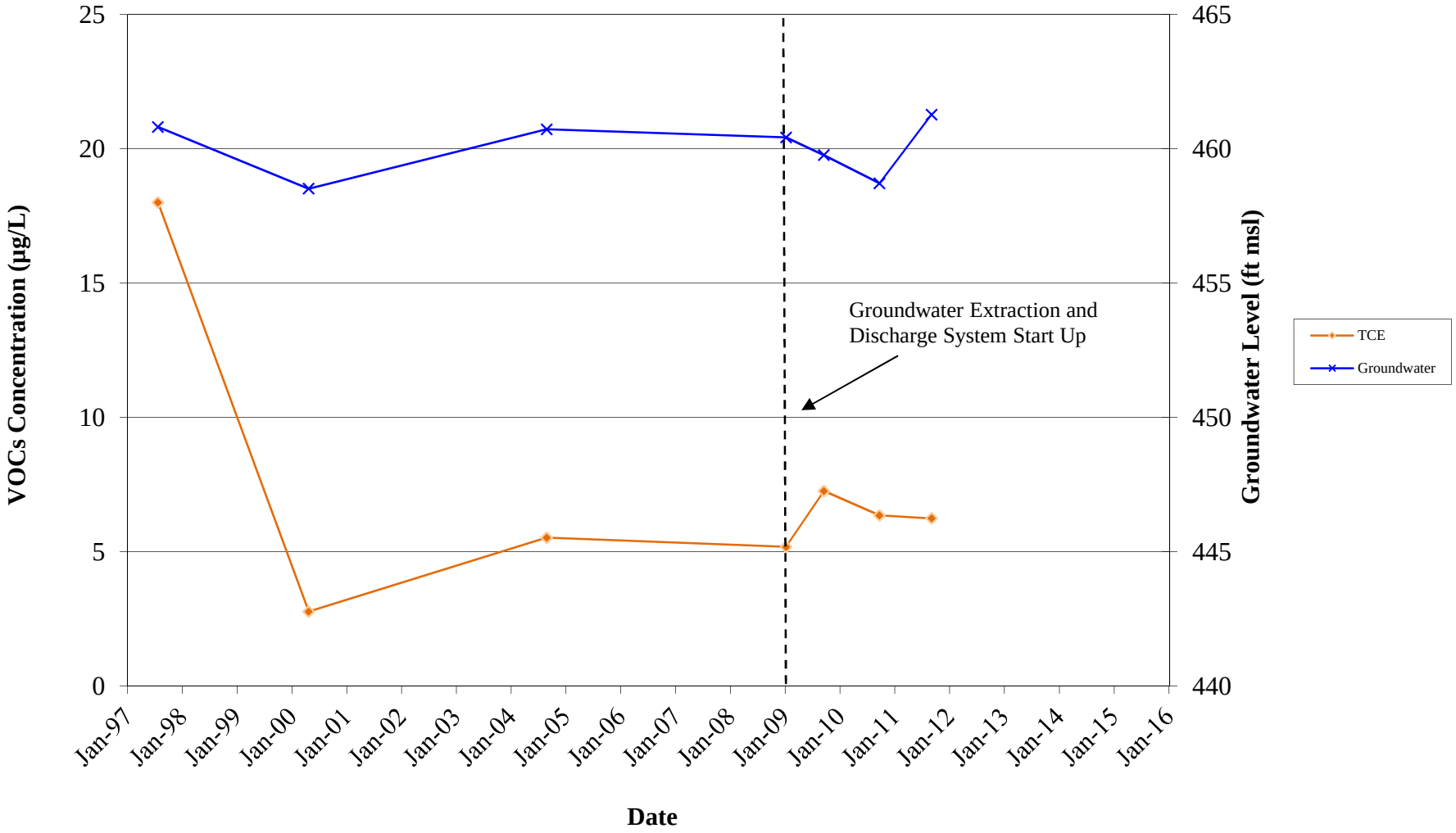


Figure 4-3
775VMW-5 VOCs Trend

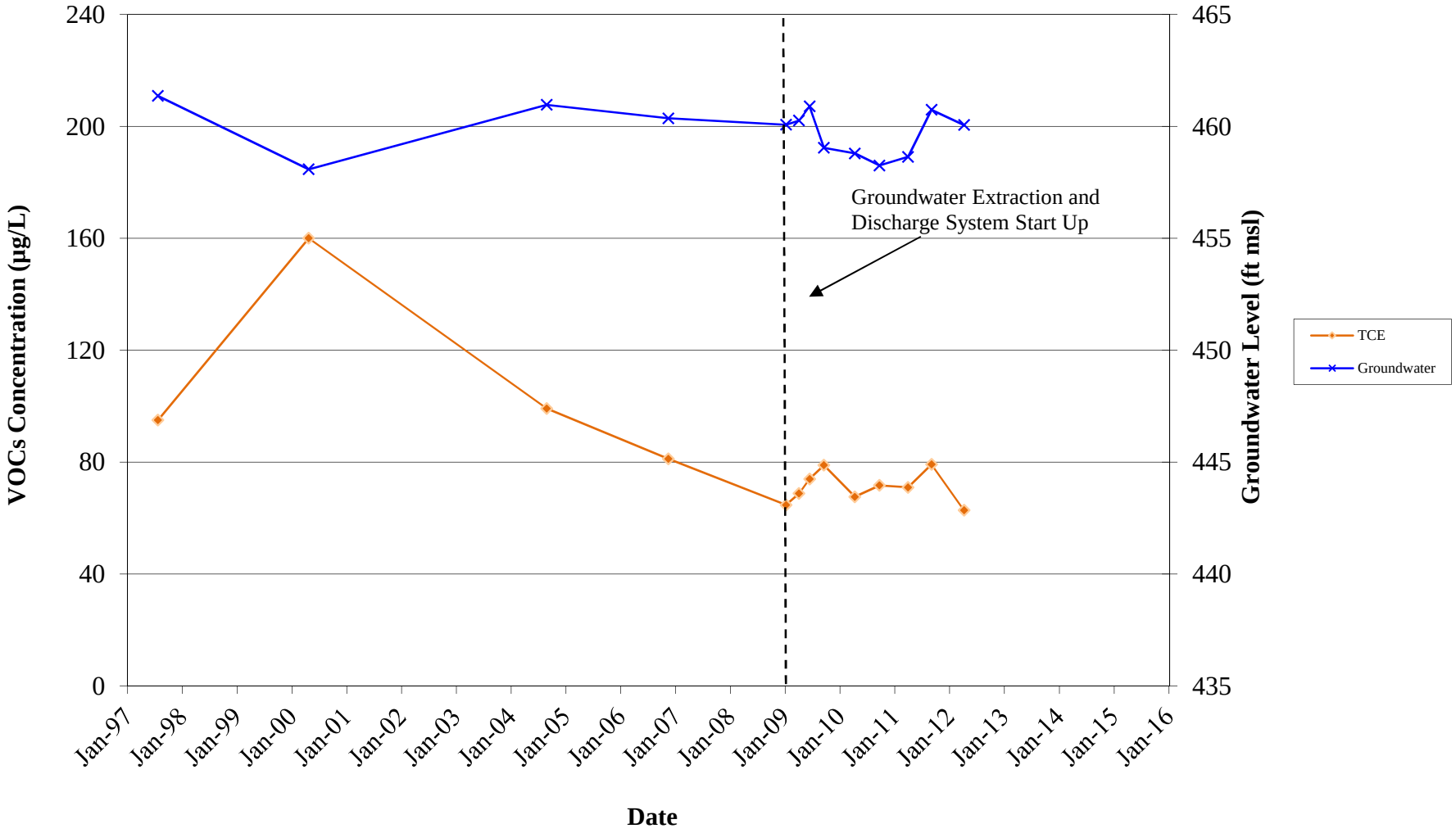


Figure 4-4
775MW-6 VOCs Trend

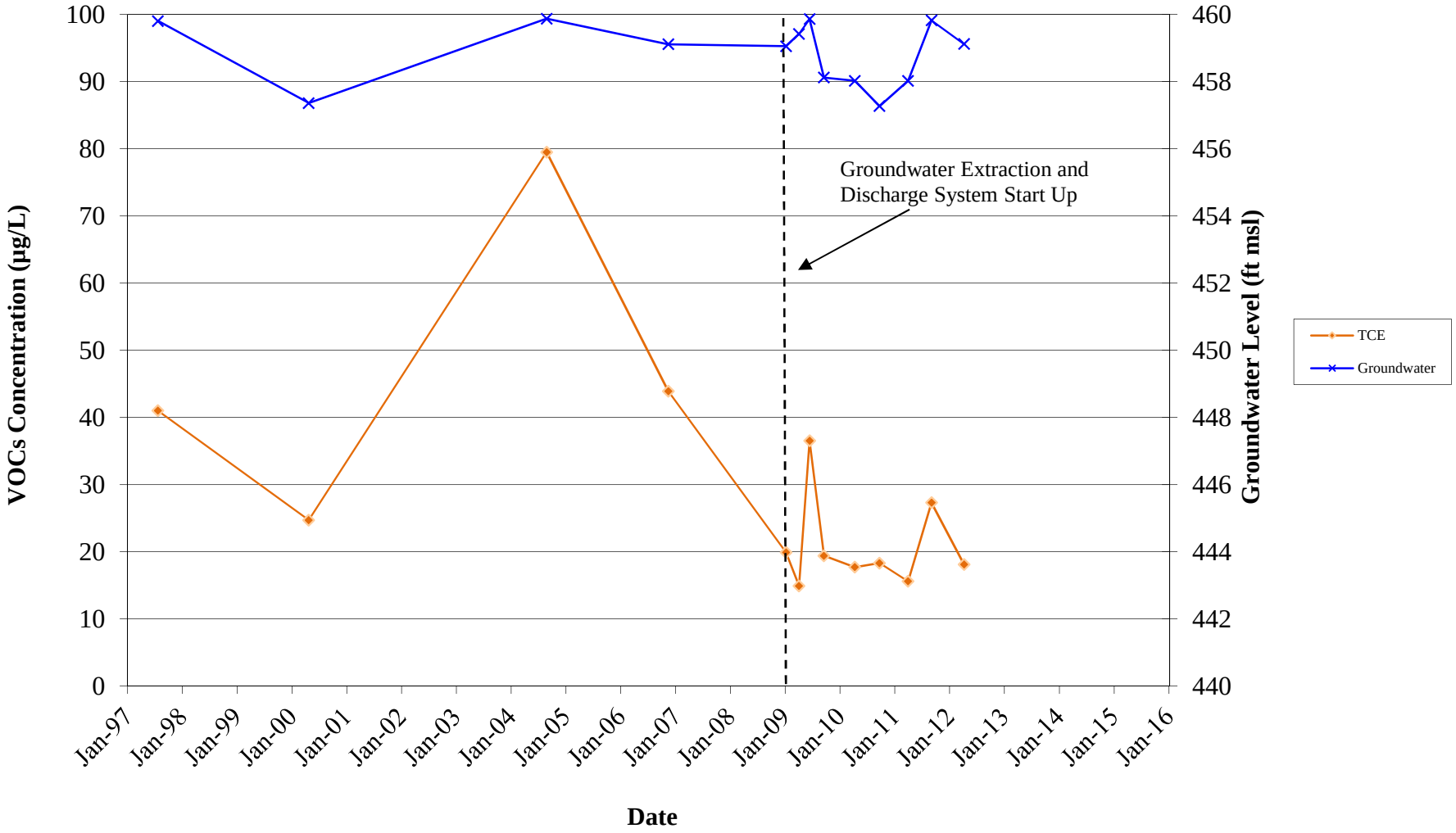


Figure 4-5
775VMW-8 VOCs Trend

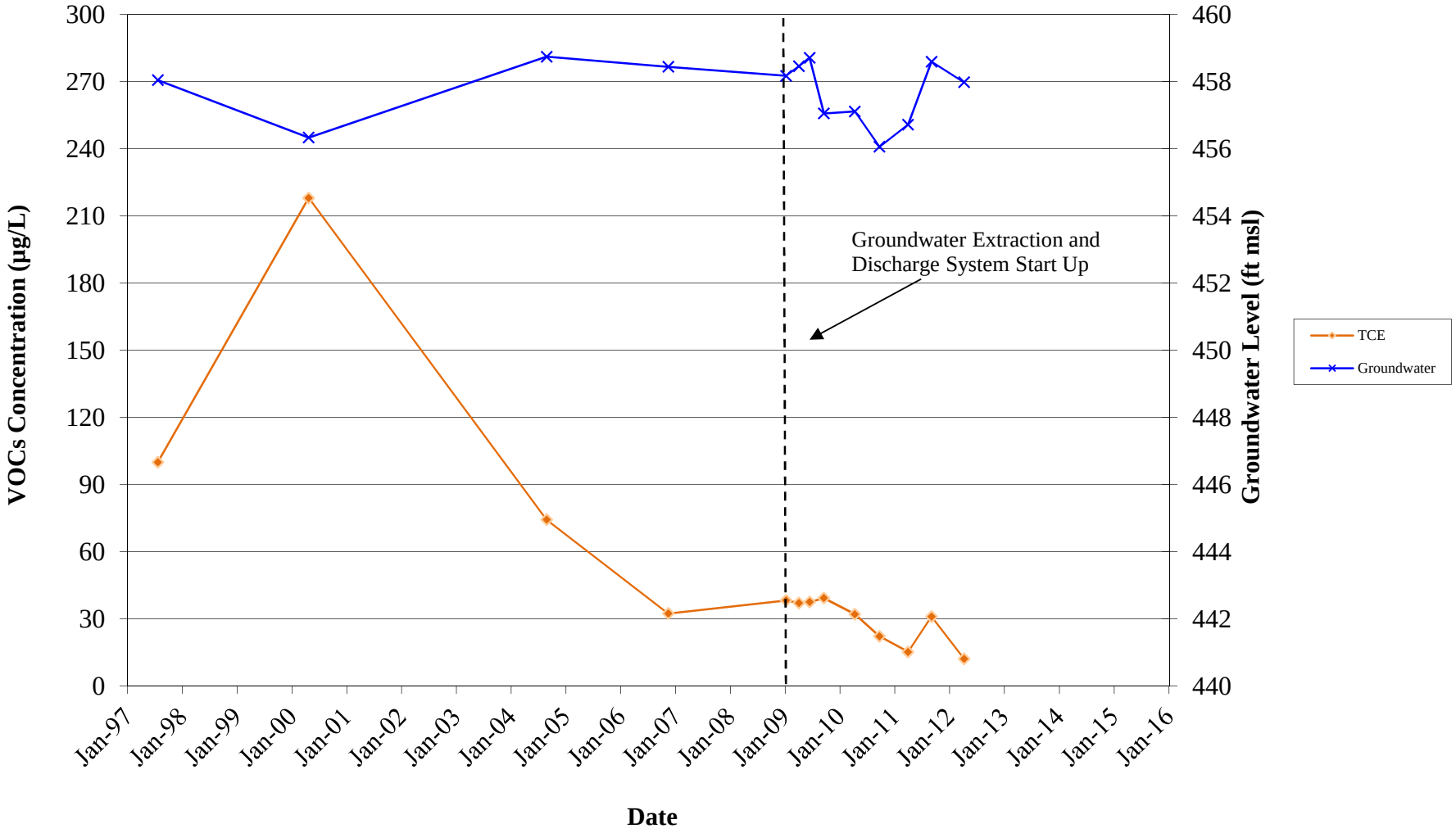


Figure 4-6
775VMW-9 VOCs Trend

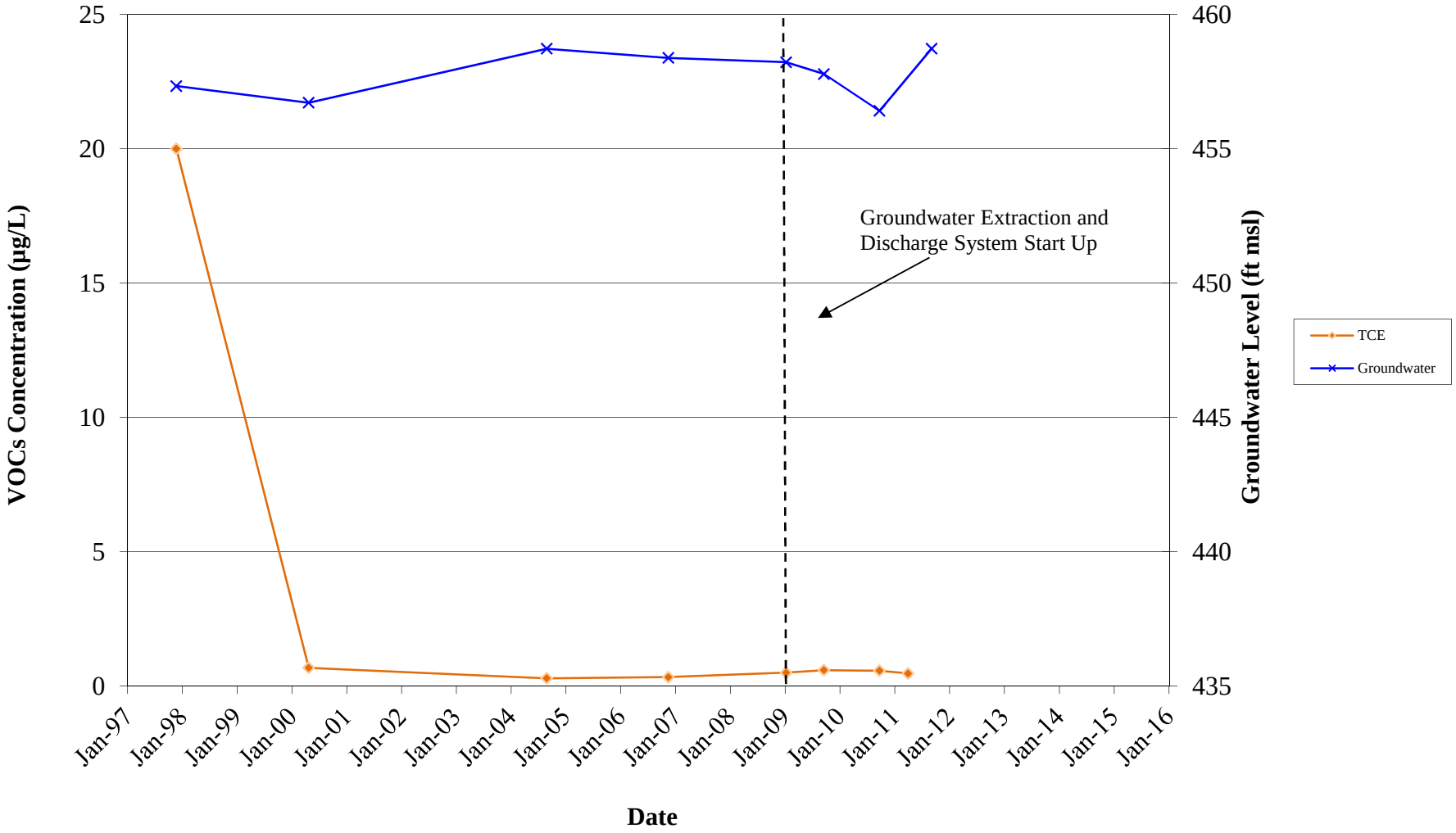


Figure 4-7
775VMW-10 VOCs Trend

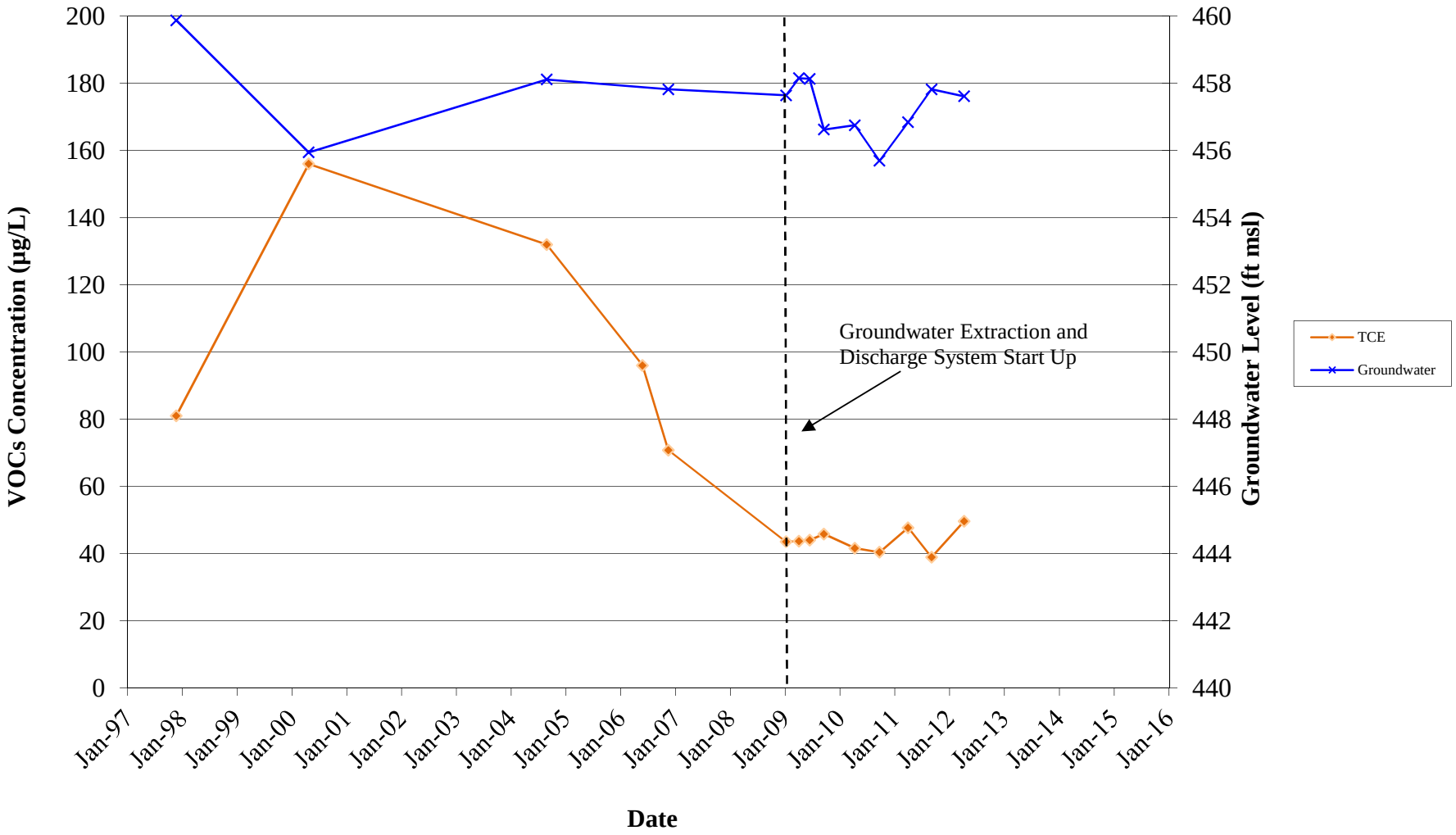


Figure 4-8
775MW-20 VOCs Trend

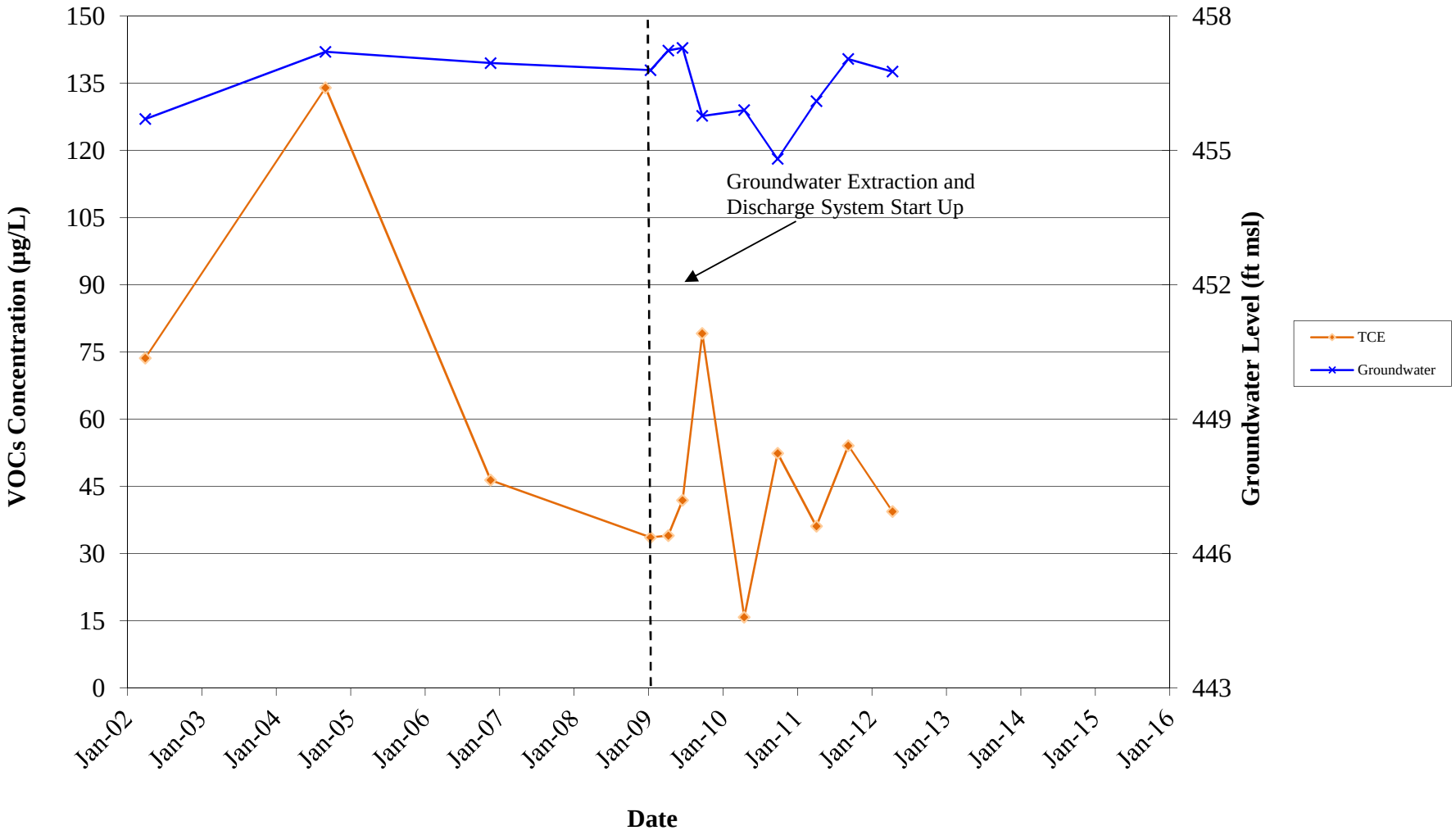


Figure 4-9
775MW-27 VOCs Trend

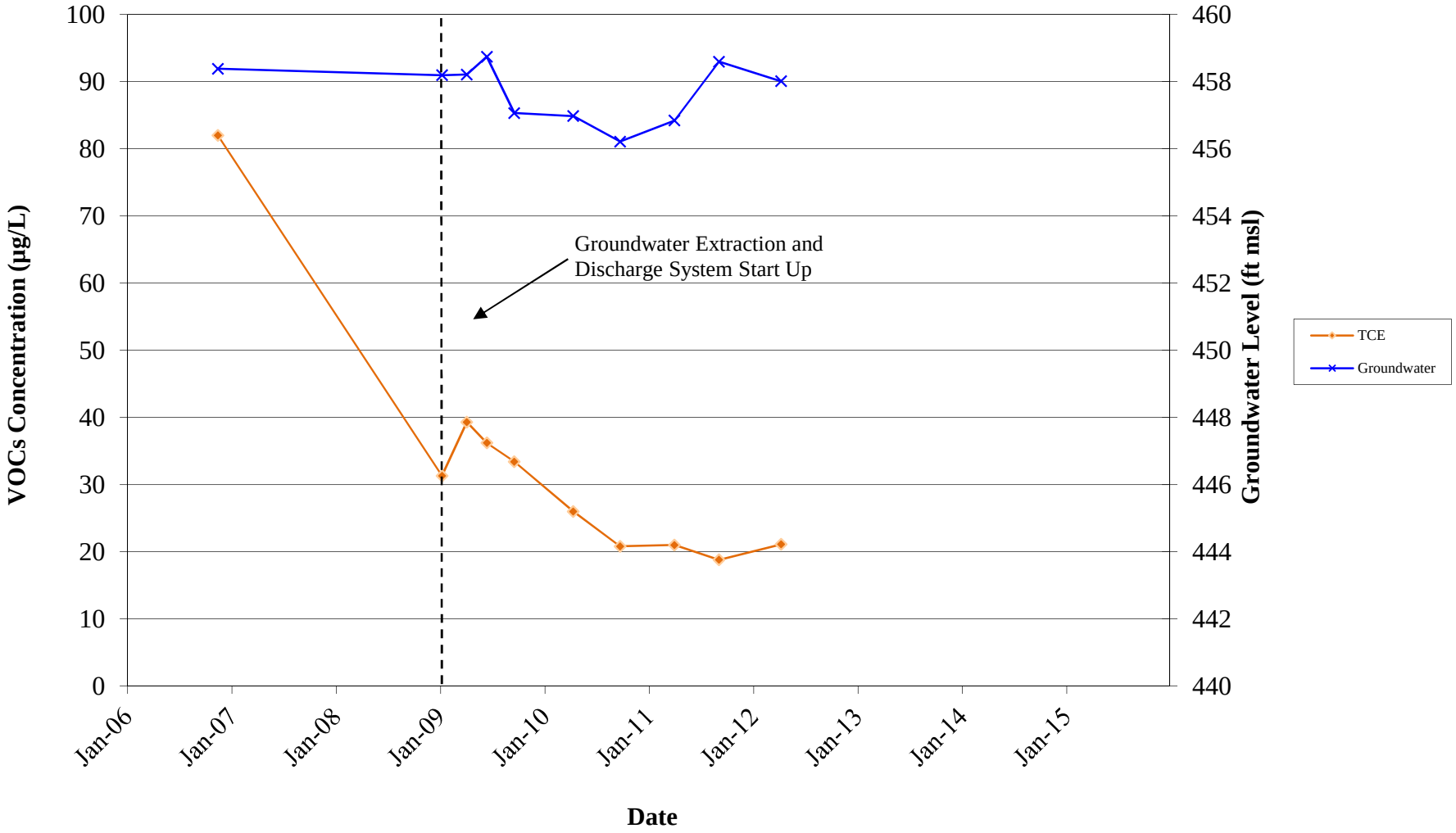


Figure 4-10
775MW-28 VOCs Trend

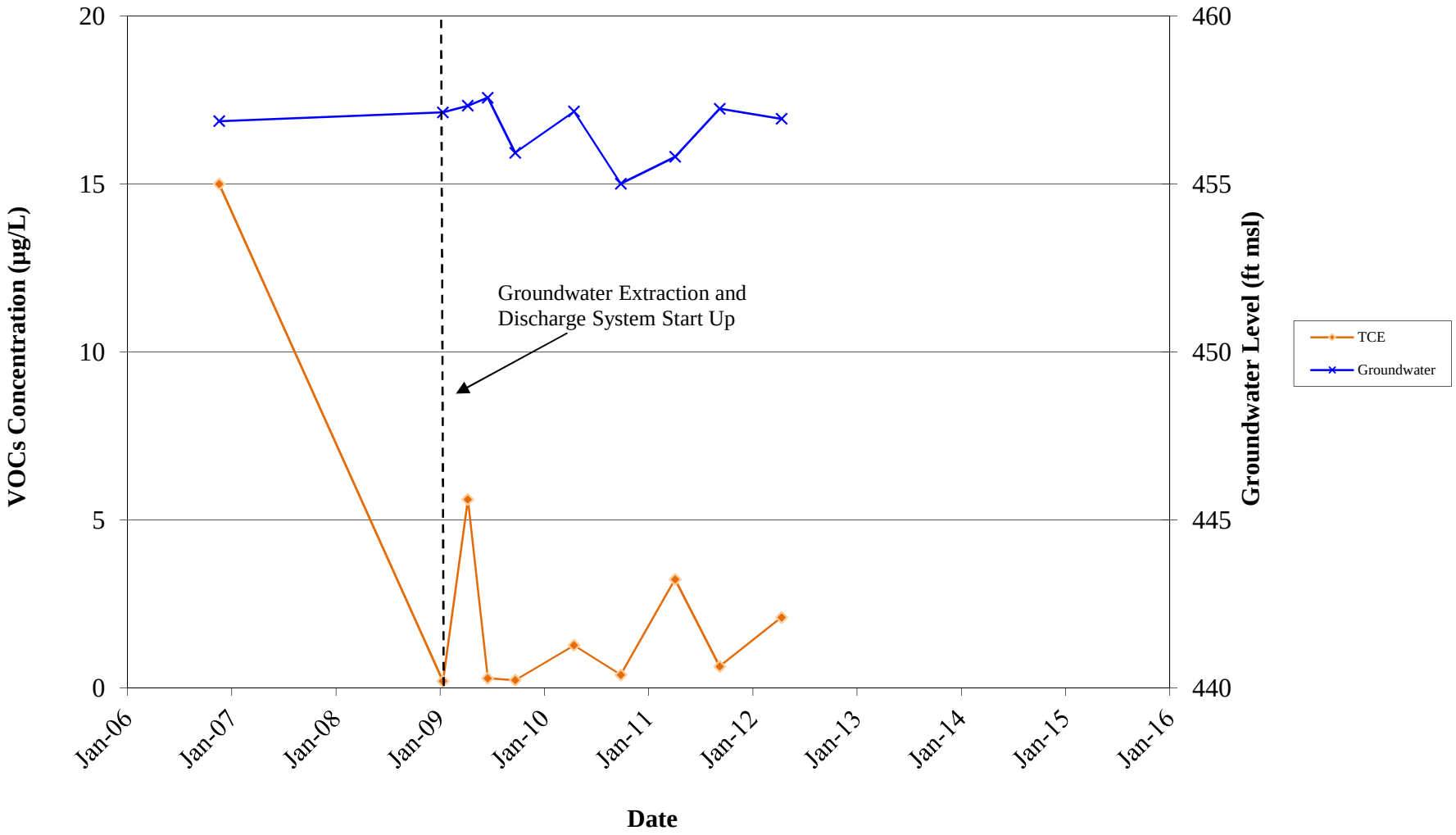
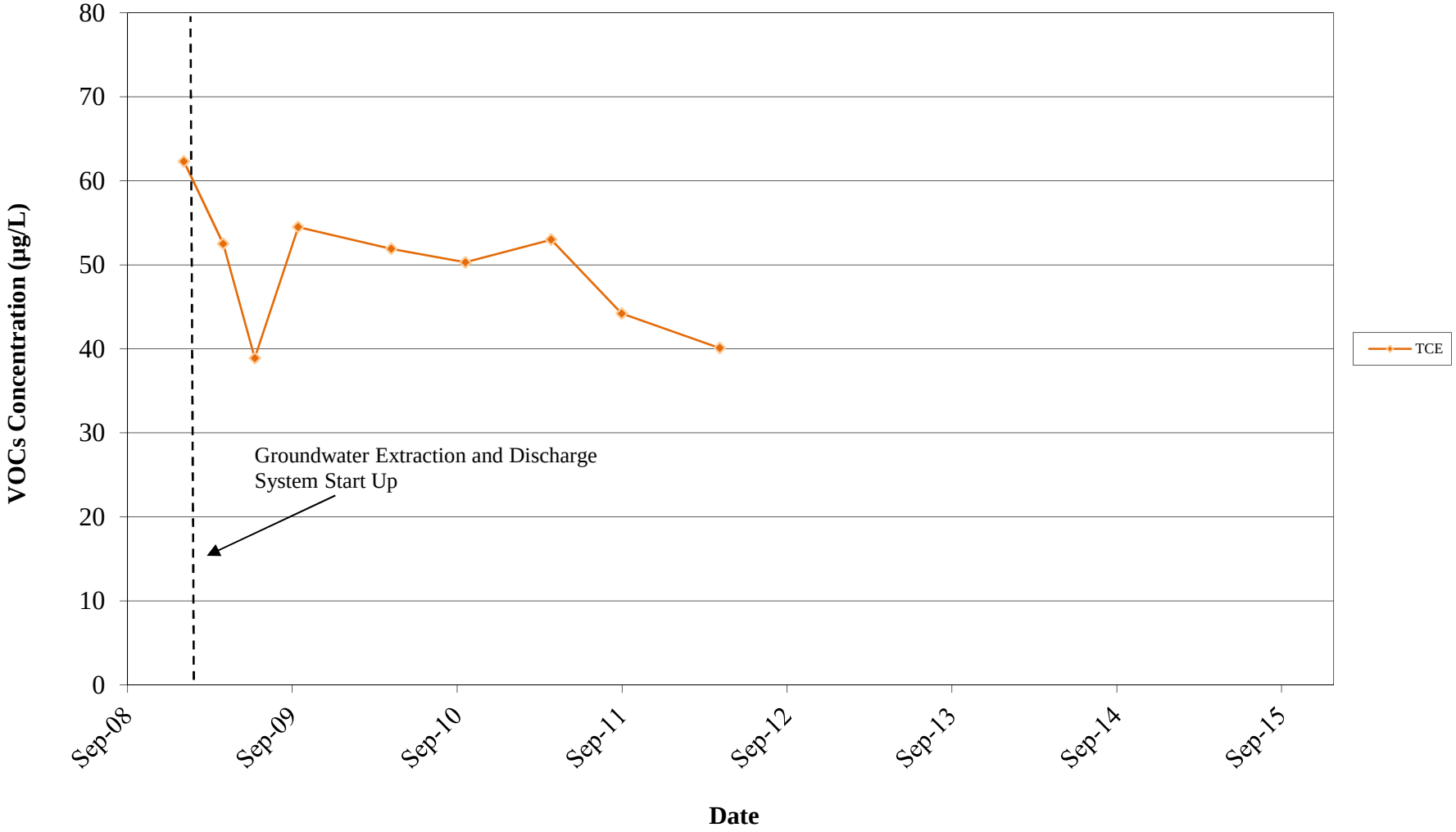
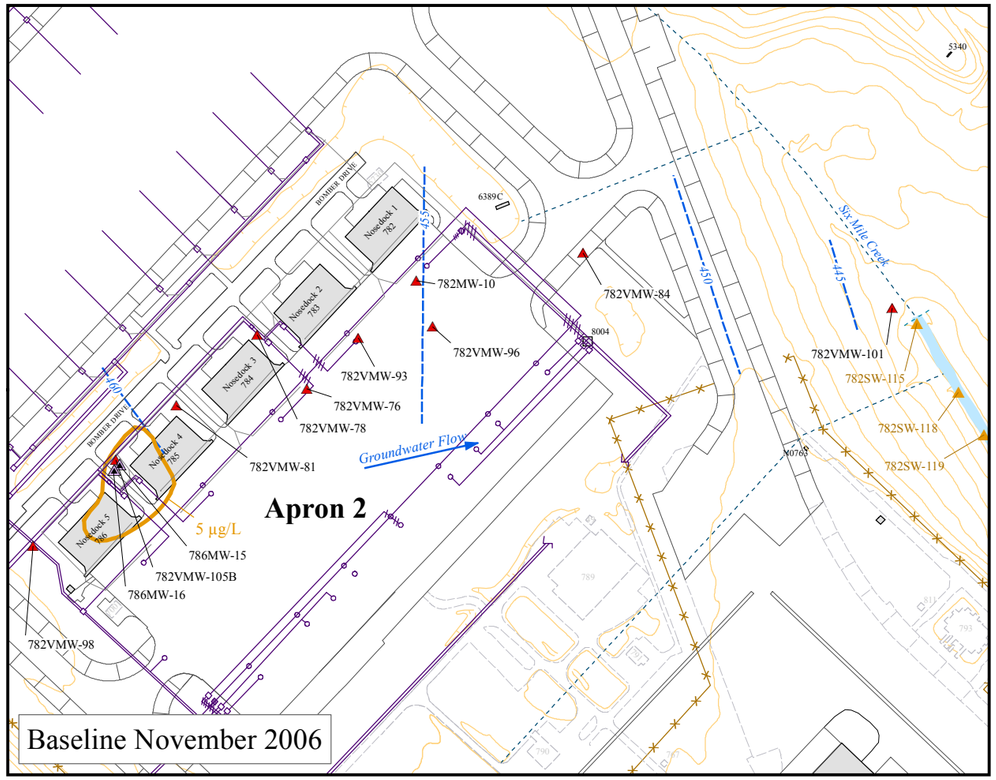
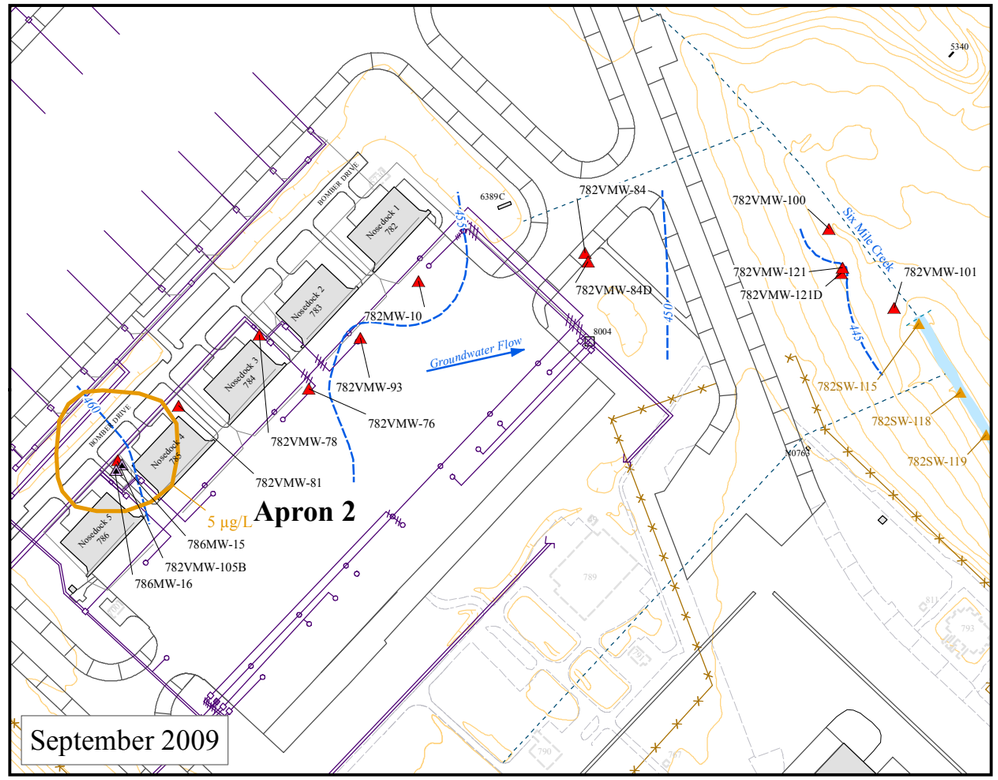
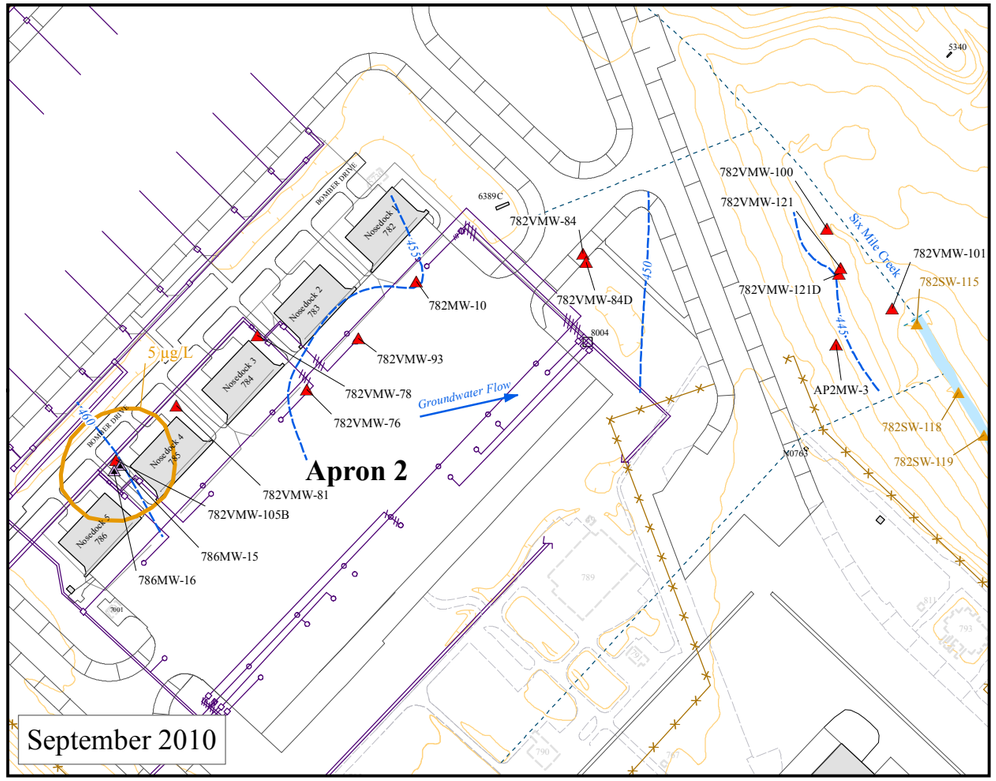


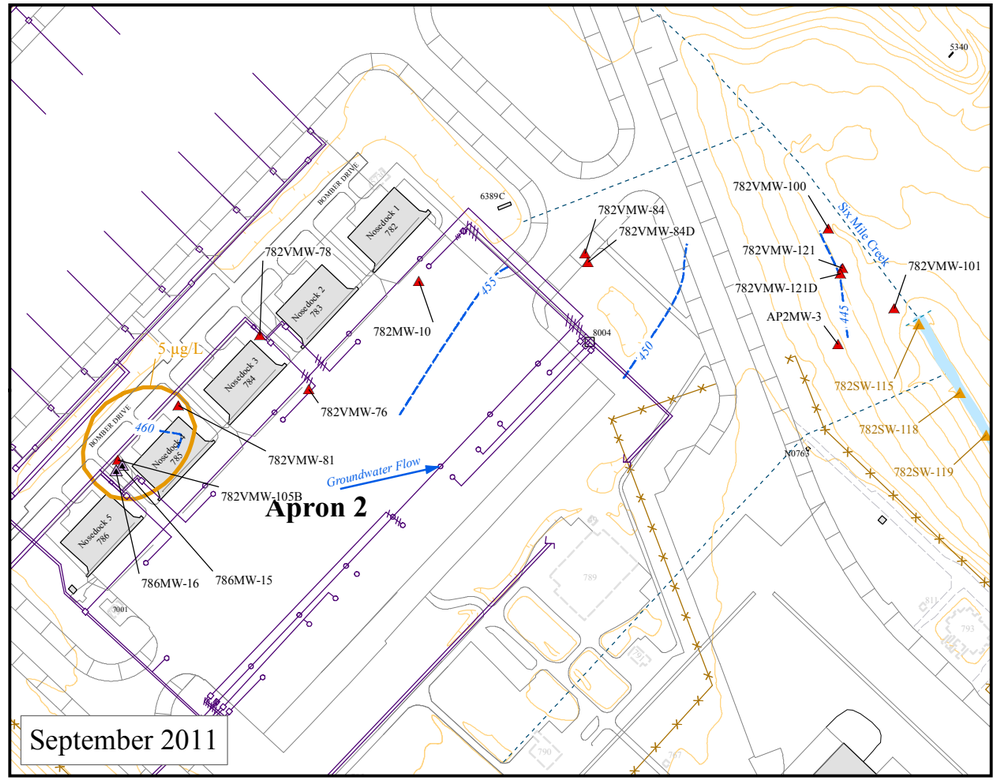
Figure 4-11
Effluent 1 VOCs Discharge



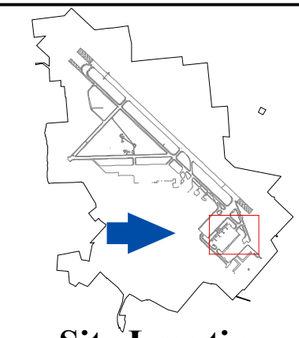












Site Location

Key to Features

- Monitoring Well
- Surface Water Location
- Petroleum Monitoring Well
- Groundwater Contour (ft. AMSL)
- Wash Waste System
- Pipeline
- Demolished Road/ Airfield
- Existing Road/ Airfield
- Fence
- Culvert
- Storm Drain
- Surface Water
- Topography (ft. AMSL)
- TCE Contour (5ug/L)
- Demolished Facility
- Existing Facility

0 150 300 600 900

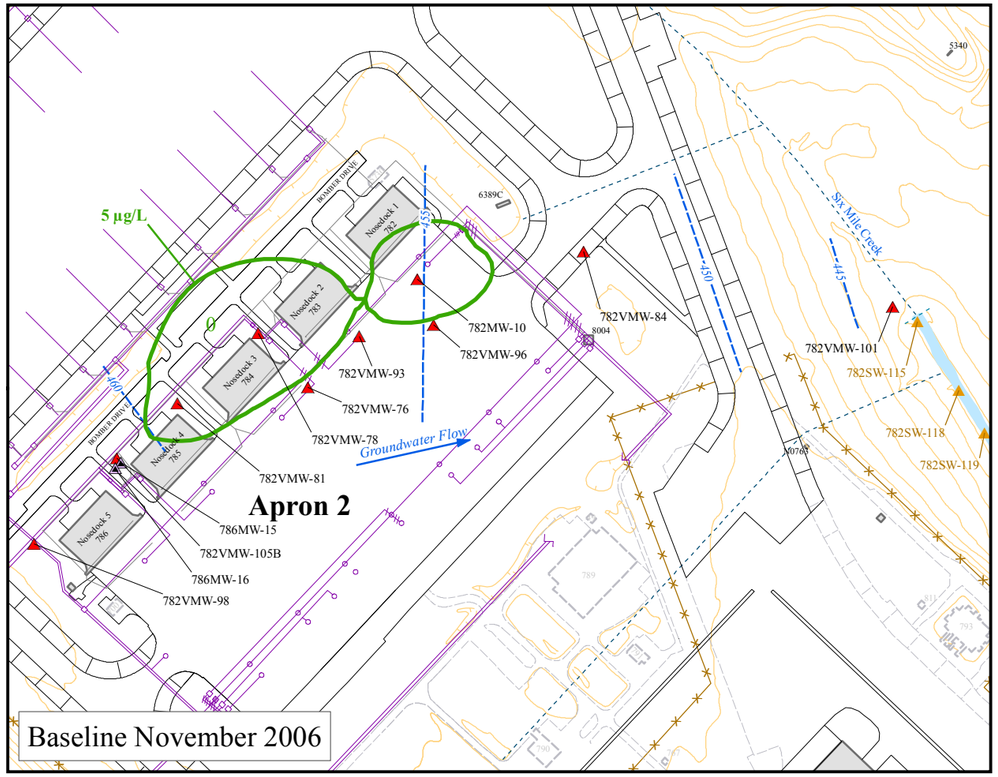
Feet

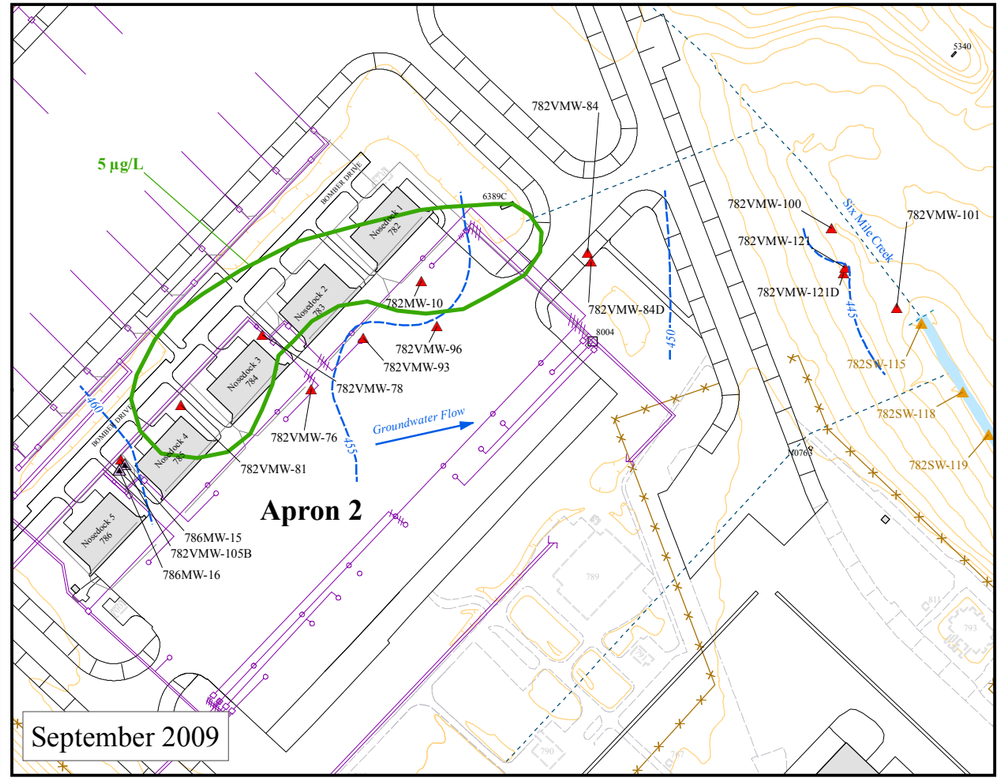
UNITED STATES AIR FORCE
GRIFFISS AIR FORCE BASE
ROME, NEW YORK

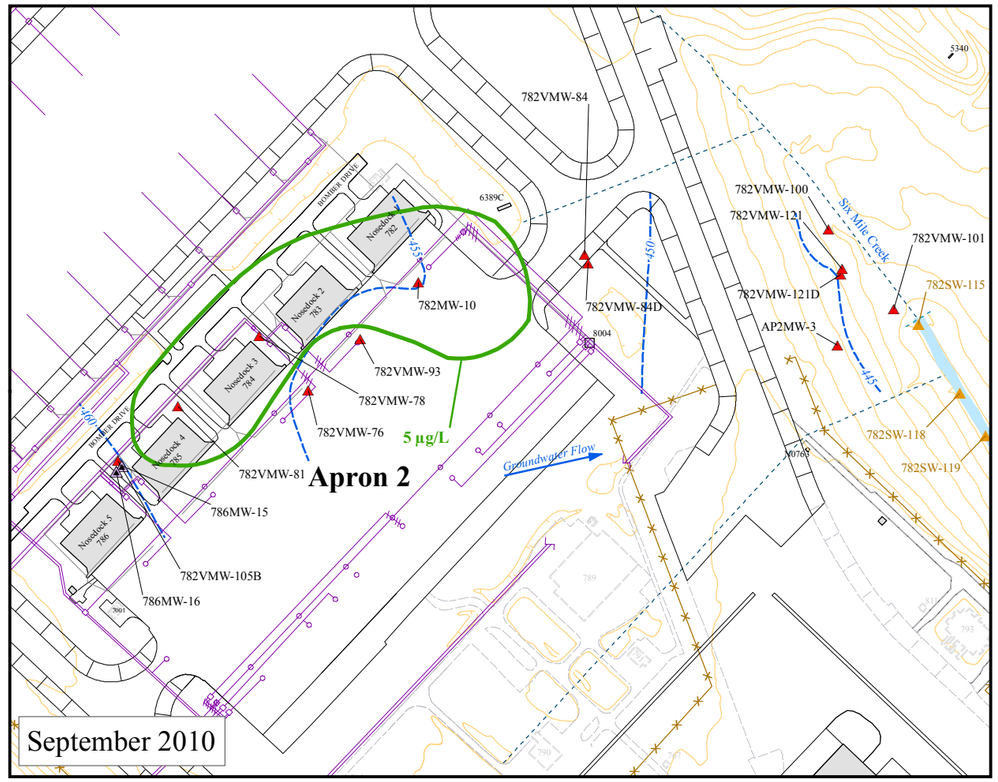
Figure 5-1
Apron 2
TCE Plume

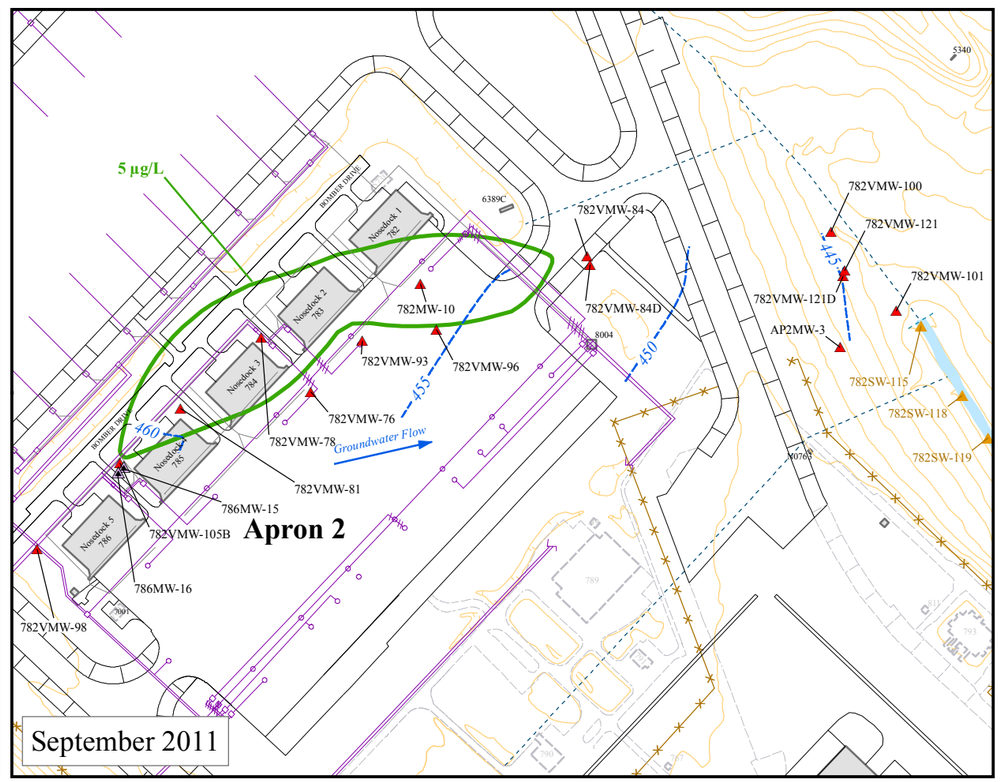
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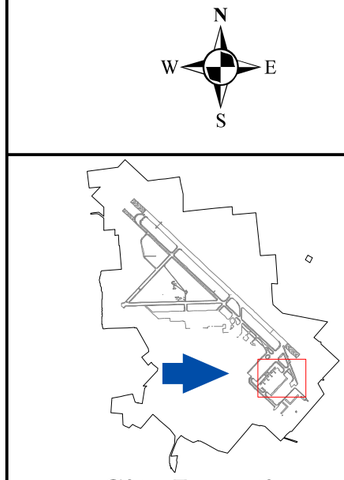
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Site Location

Key to Features

- Monitoring Well
- Petroleum Monitoring Well
- Surface Water Location
- Wash Waster System
- Pipeline
- Demolished Road/ Airfield
- Existing Road/ Airfield
- Fence
- Topography (ft. AMSL)
- Culvert
- Storm Drain
- Surface Water
- Groundwater Contour
- cis-1,2-DCE Contour (5 µg/L)
- Demolished Facility
- Existing Facility

0 150 300 600 900

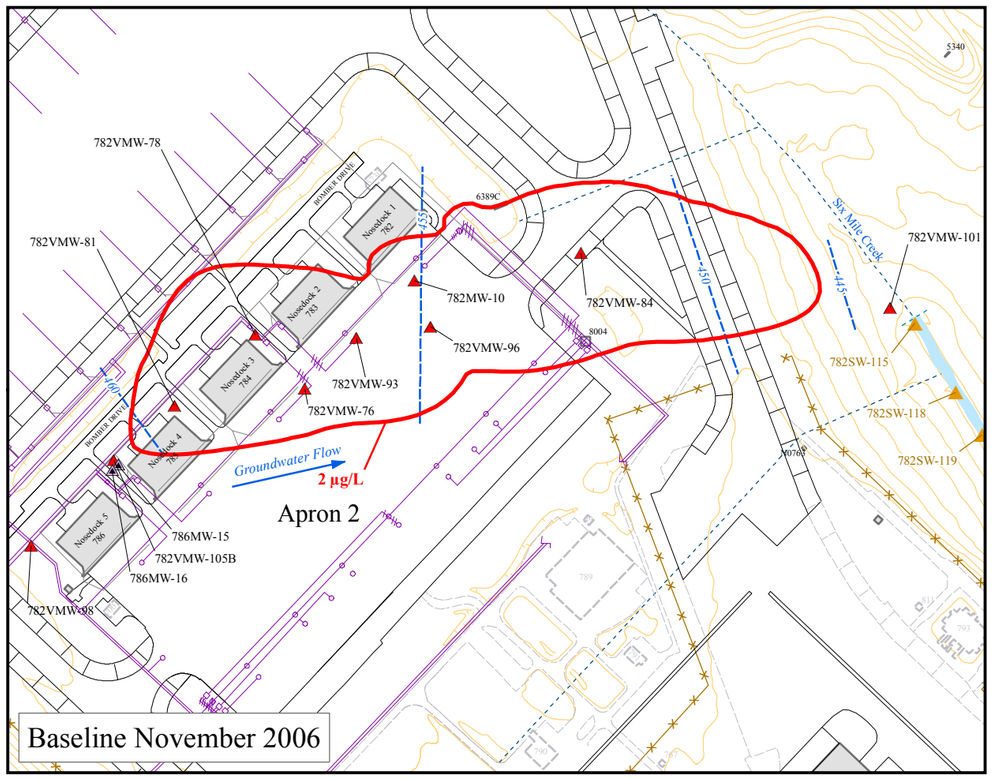
Feet

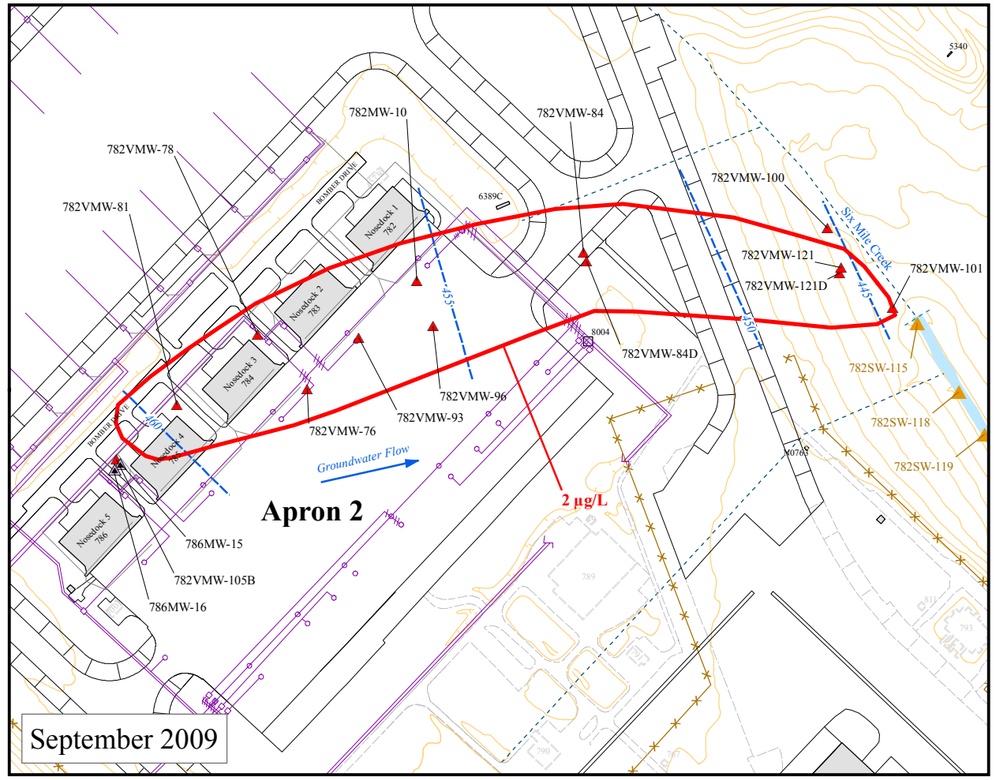
UNITED STATES AIR FORCE
GRIFFISS AIR FORCE BASE
ROME, NEW YORK

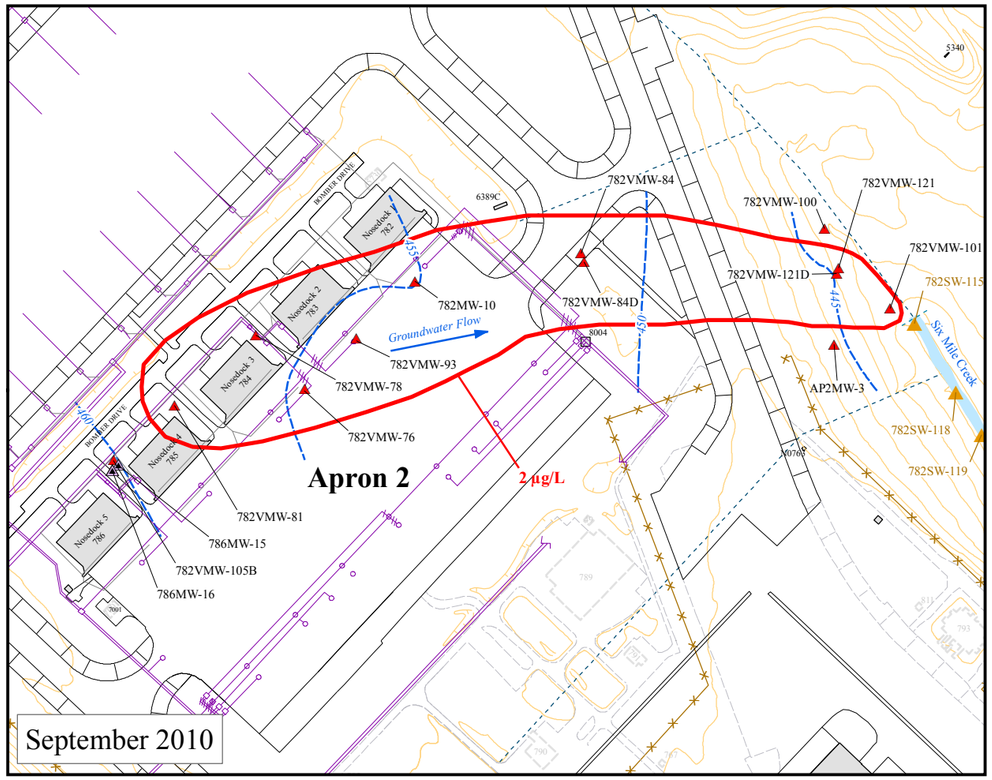
Figure 5-2
Apron 2
cis-1, 2,-DCE Plume

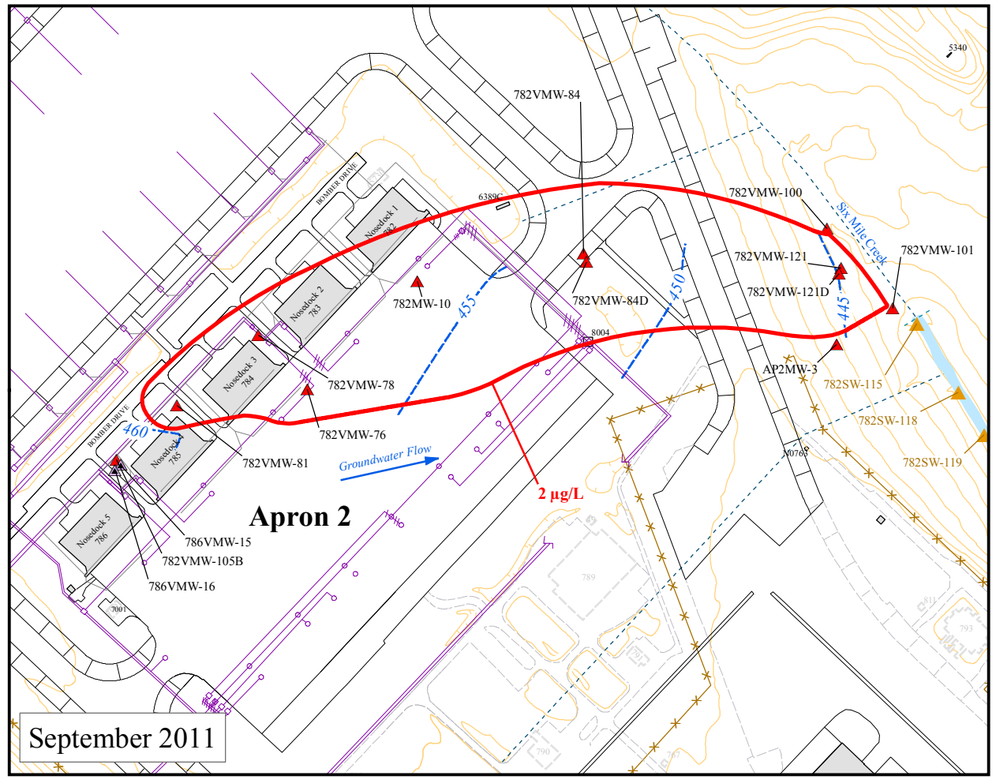
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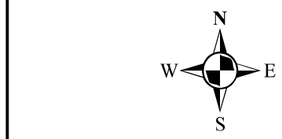
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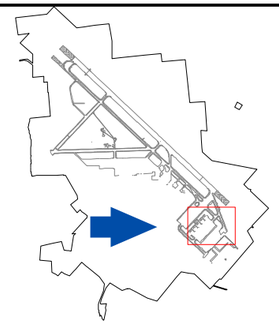












Site Location

Key to Features

- Monitoring Well
- Surface Water Location
- Petroleum Monitoring Well
- Wash Waste System
- Pipeline
- Demolished Road/ Airfield
- Existing Road/ Airfield
- Fence
- Groundwater Contour (ft. AMSL)
- Culvert
- Storm Drain
- Surface Water
- Topography (ft. AMSL)
- Demolished Facility
- Existing Facility
- VC Contour (2 µg/L)

0 150 300 600 900

Feet

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GRIFFISS AIR FORCE BASE
ROME, NEW YORK

Figure 5-3
Apron 2
VC Plume

FPM group

Path: Y:\GIS_Projects\Griffiss\Projects\717-06-03\PM_Quarterly_Reports\Spring2012\Projects\fig_5-3_ap2__vc_plume.mxd

Figure 5-4
782VMW-76 VOCs Trend

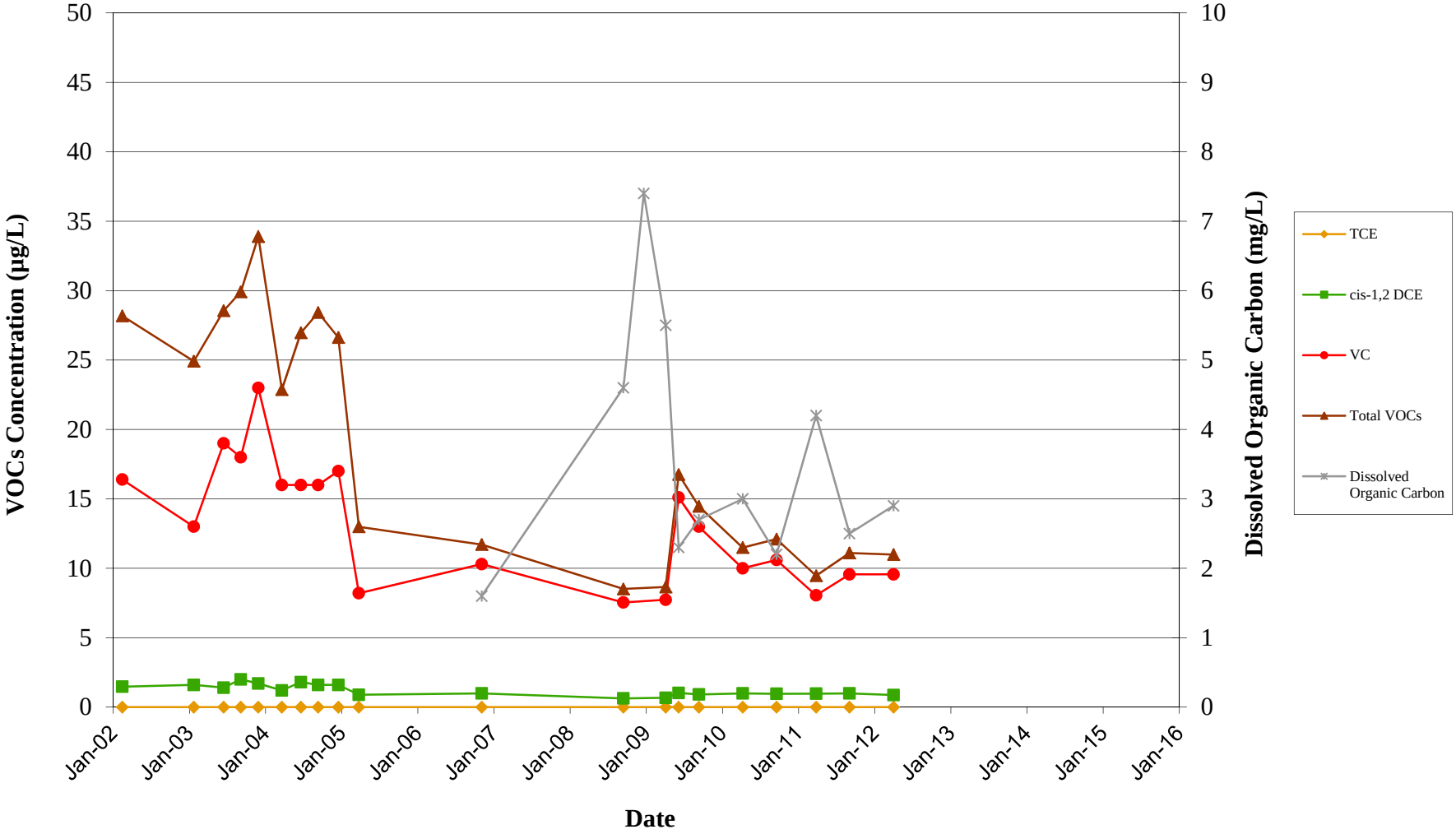


Figure 5-5
782VMW-78 VOCs Trend

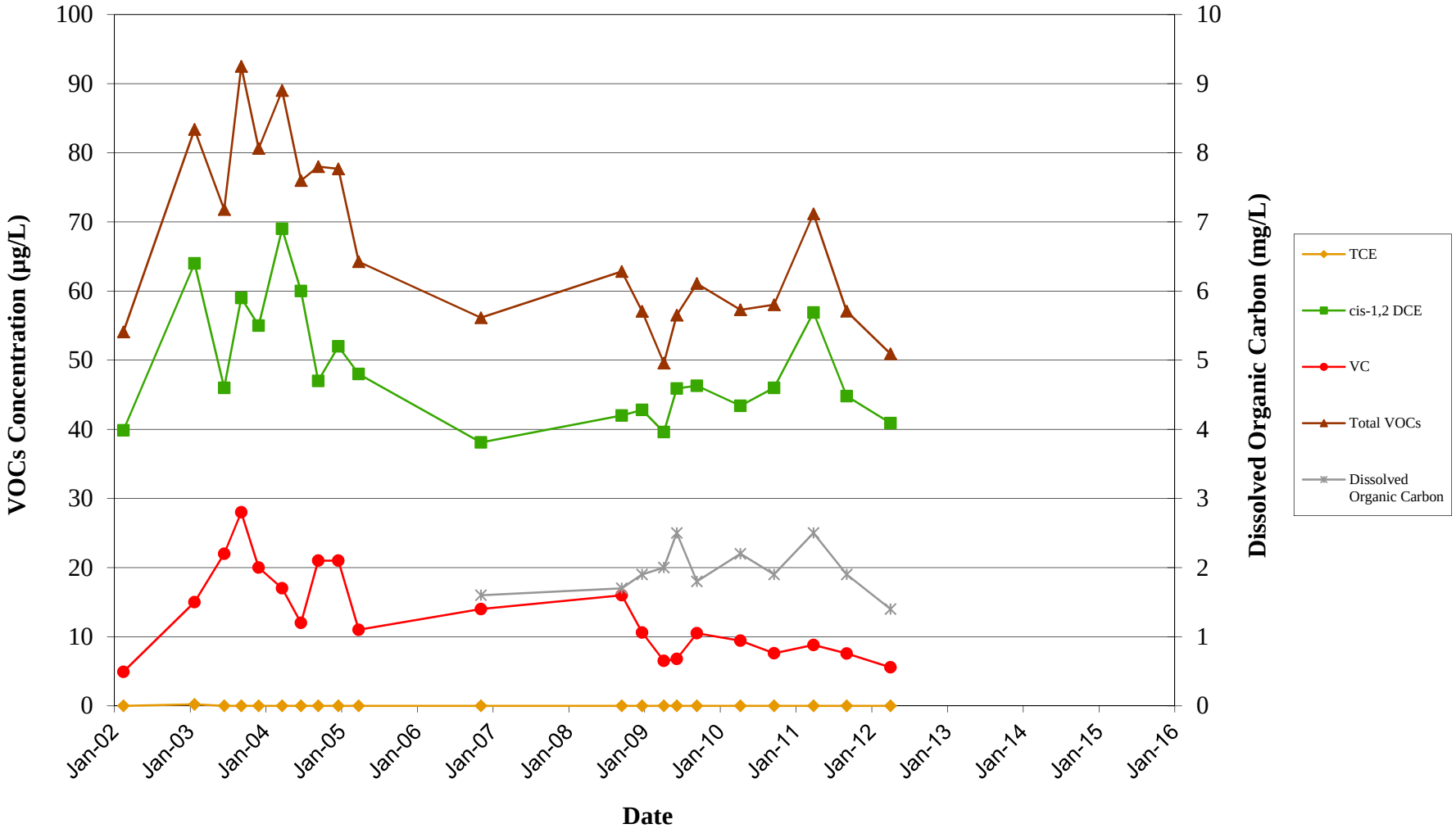


Figure 5-6
782VMW-81 VOCs Trend

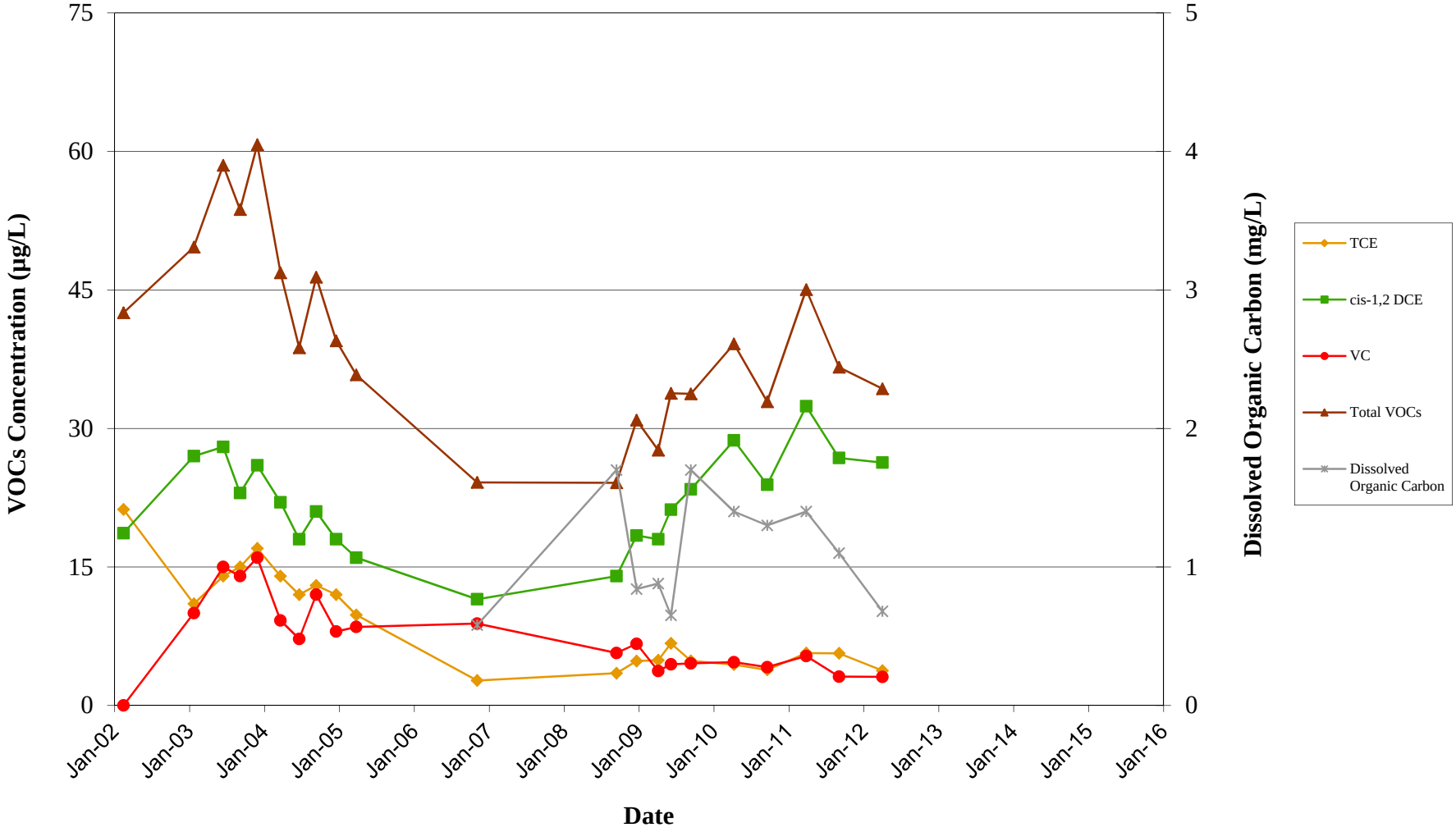


Figure 5-7
782VMW-84 VOCs Trend

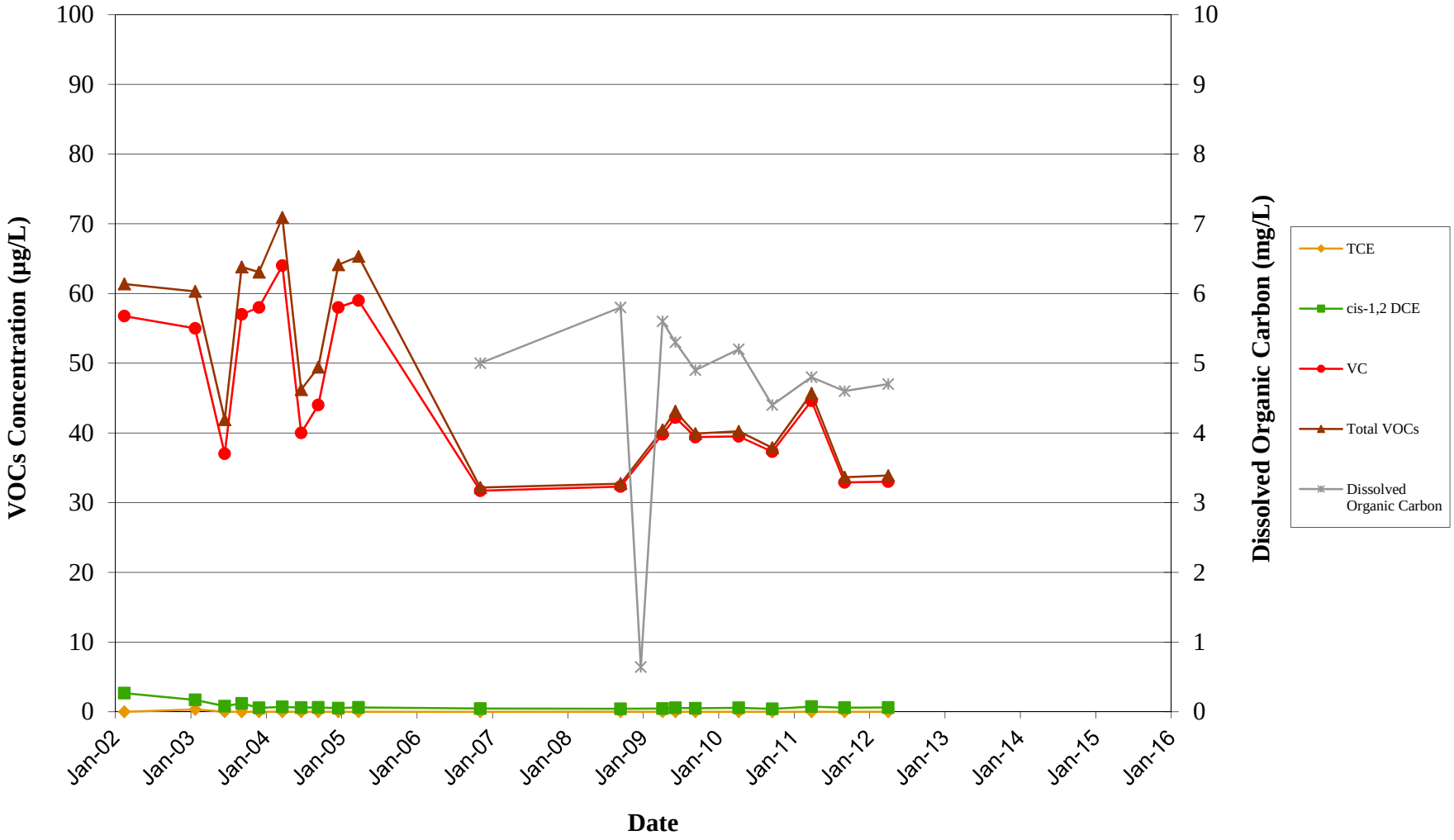


Figure 5-8
782VMW-93 VOCs Trend

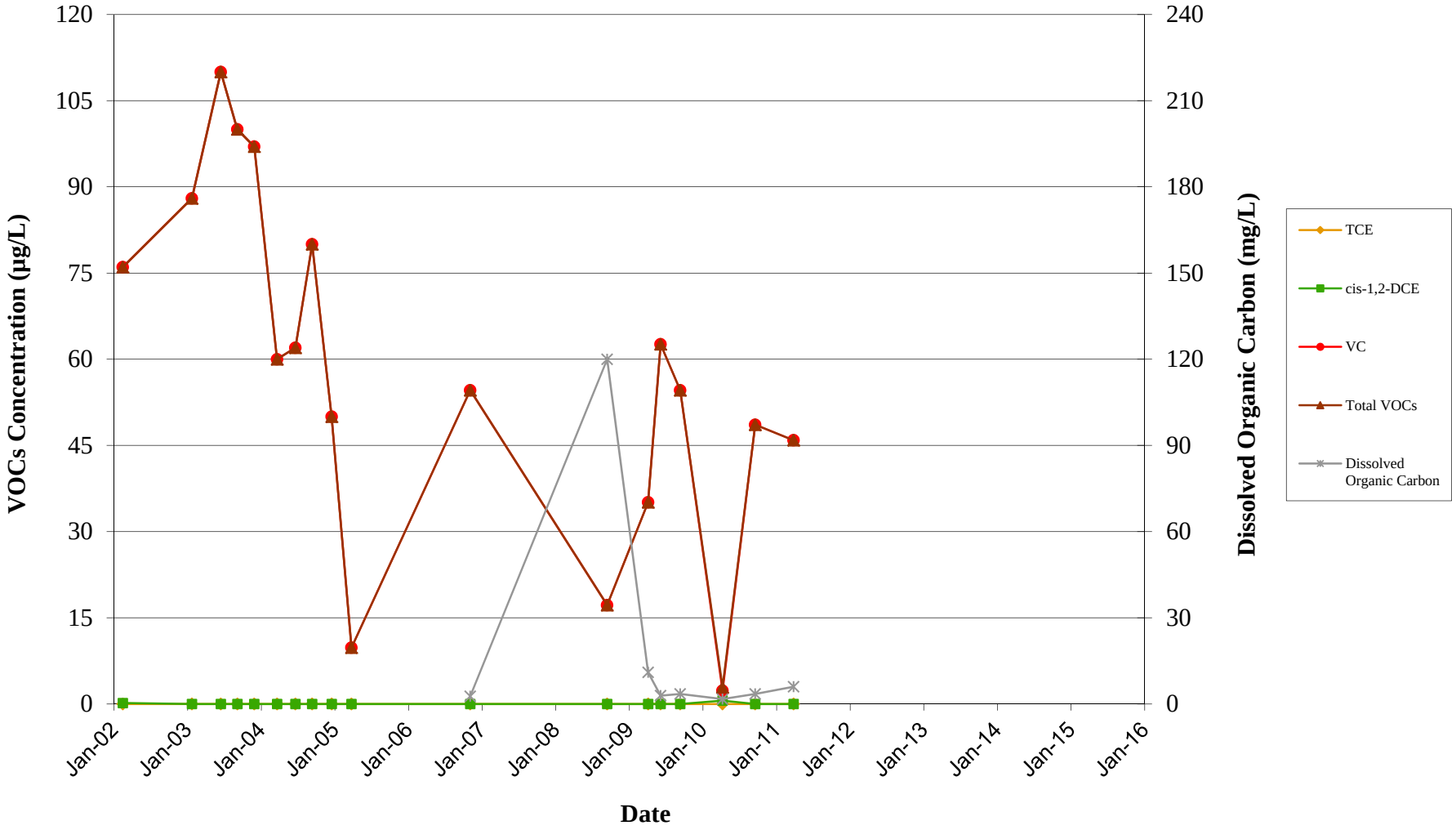


Figure 5-9
782VMW-101 VOCs Trend

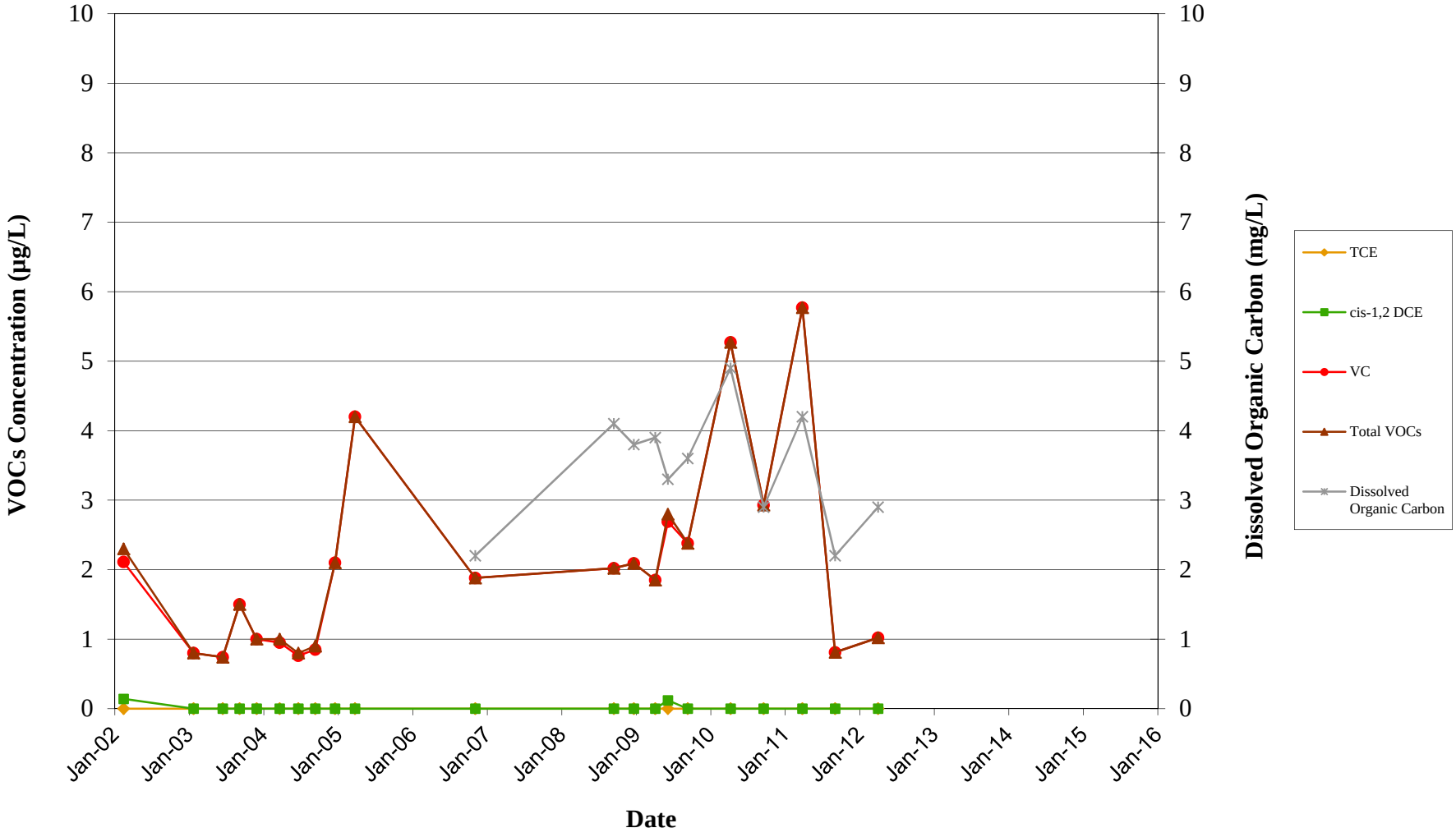


Figure 5-10
782VMW-105B VOCs Trend

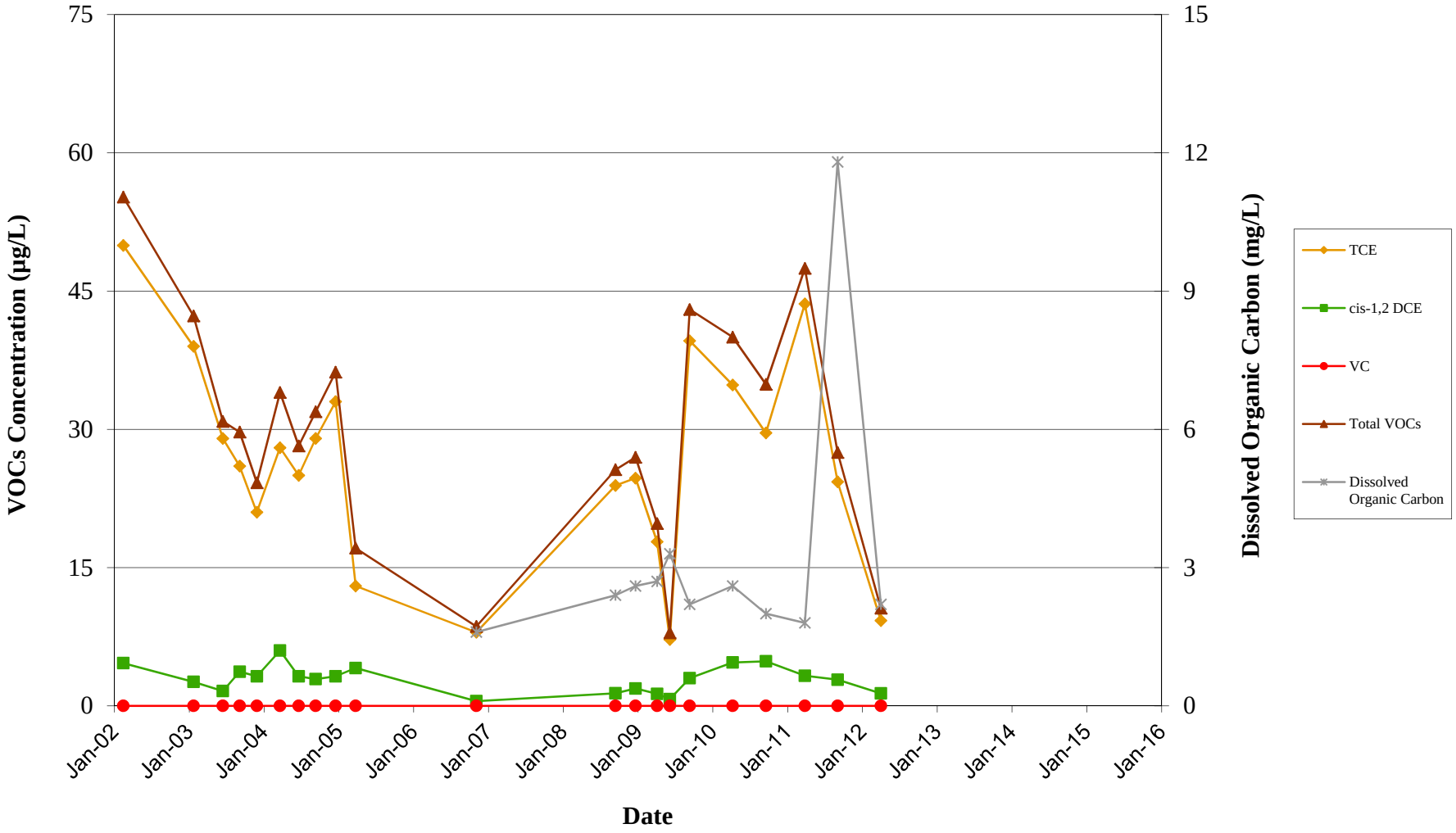


Figure 5-11
782MW-10 VOCs Trend

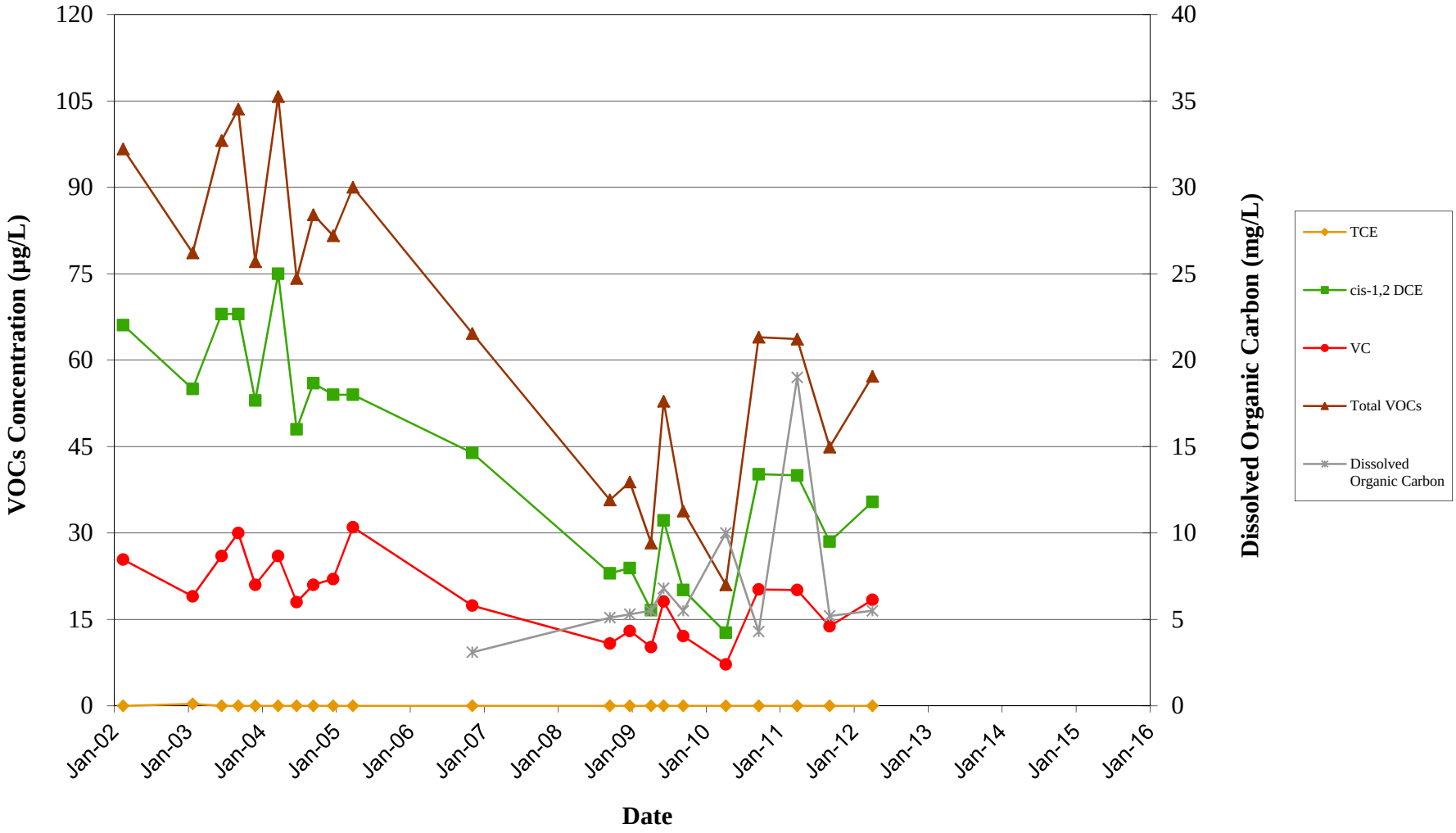


Figure 5-12
782VMW-121 VOCs Trend

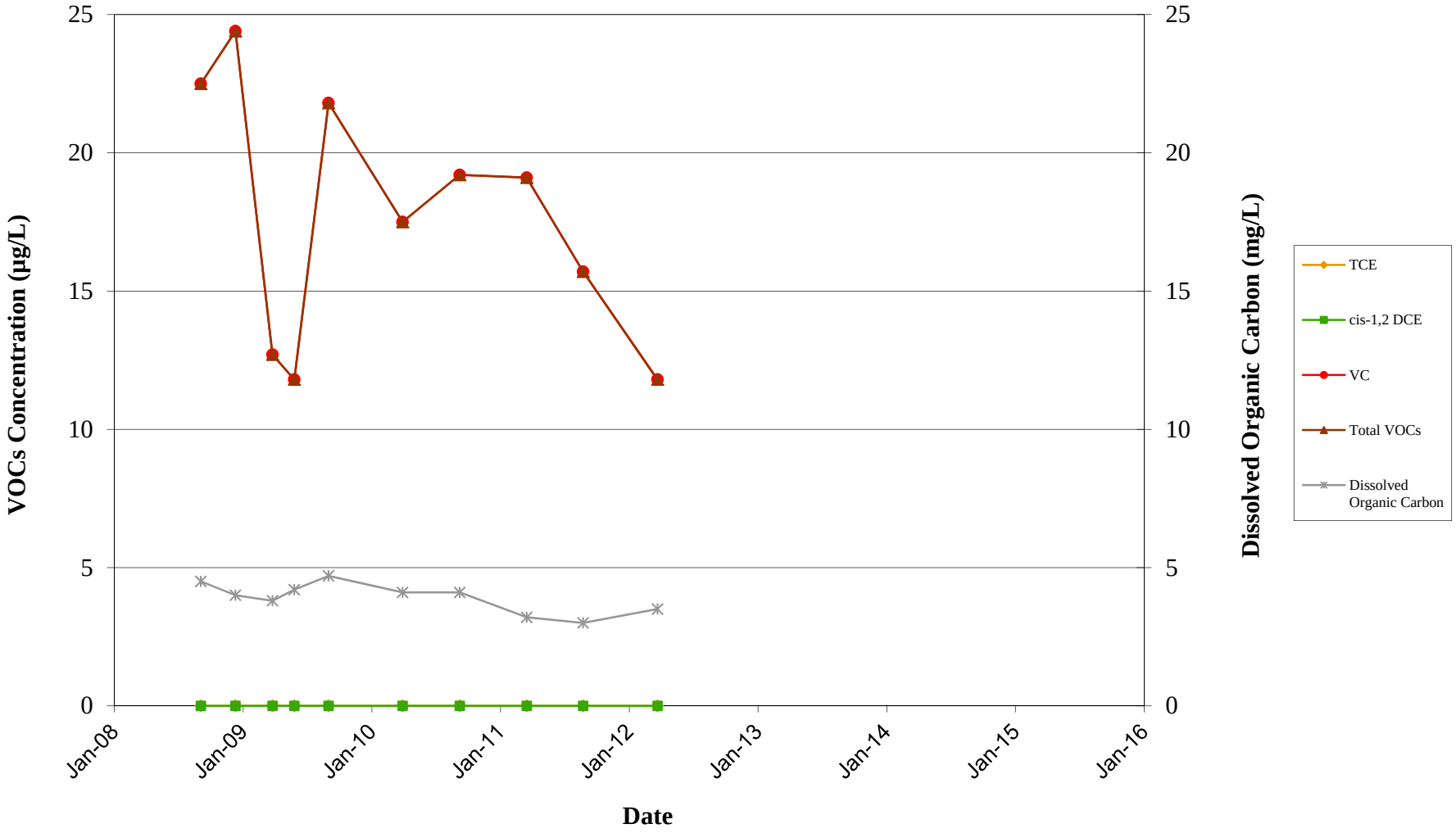


Figure 5-13
782VMW-121D VOCs Trend

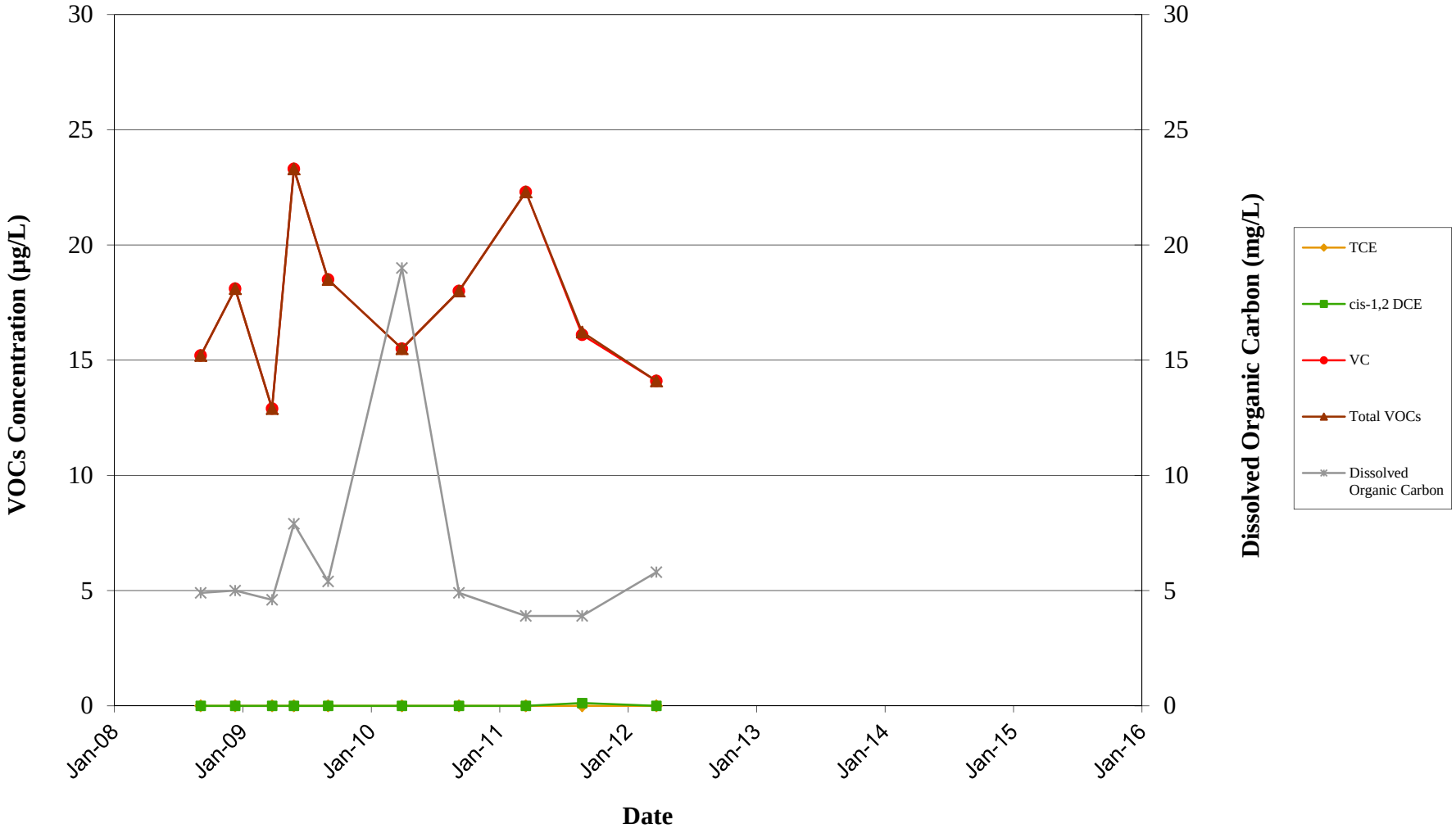


Figure 5-14
782VMW-84D VOCs Trend

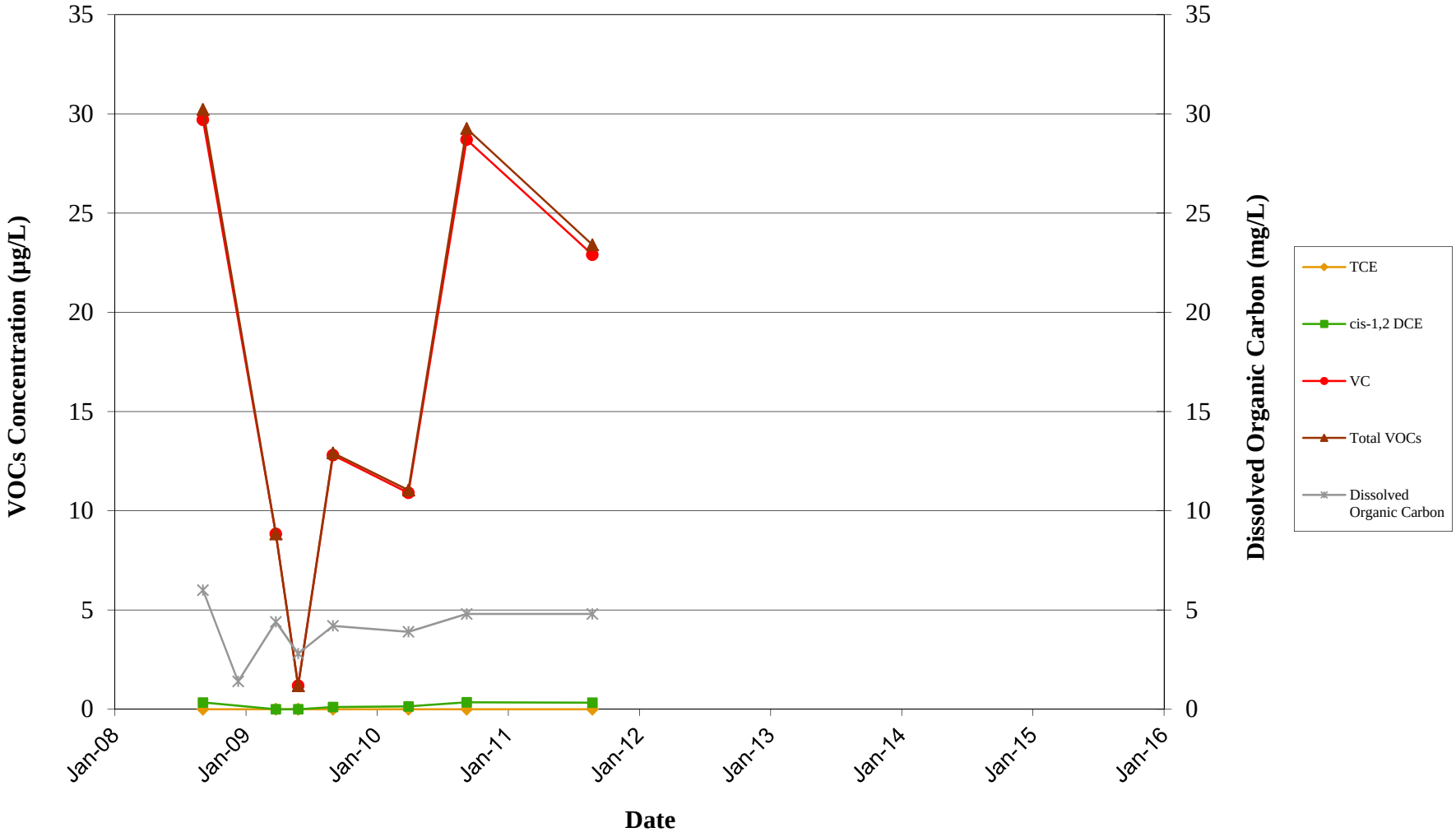
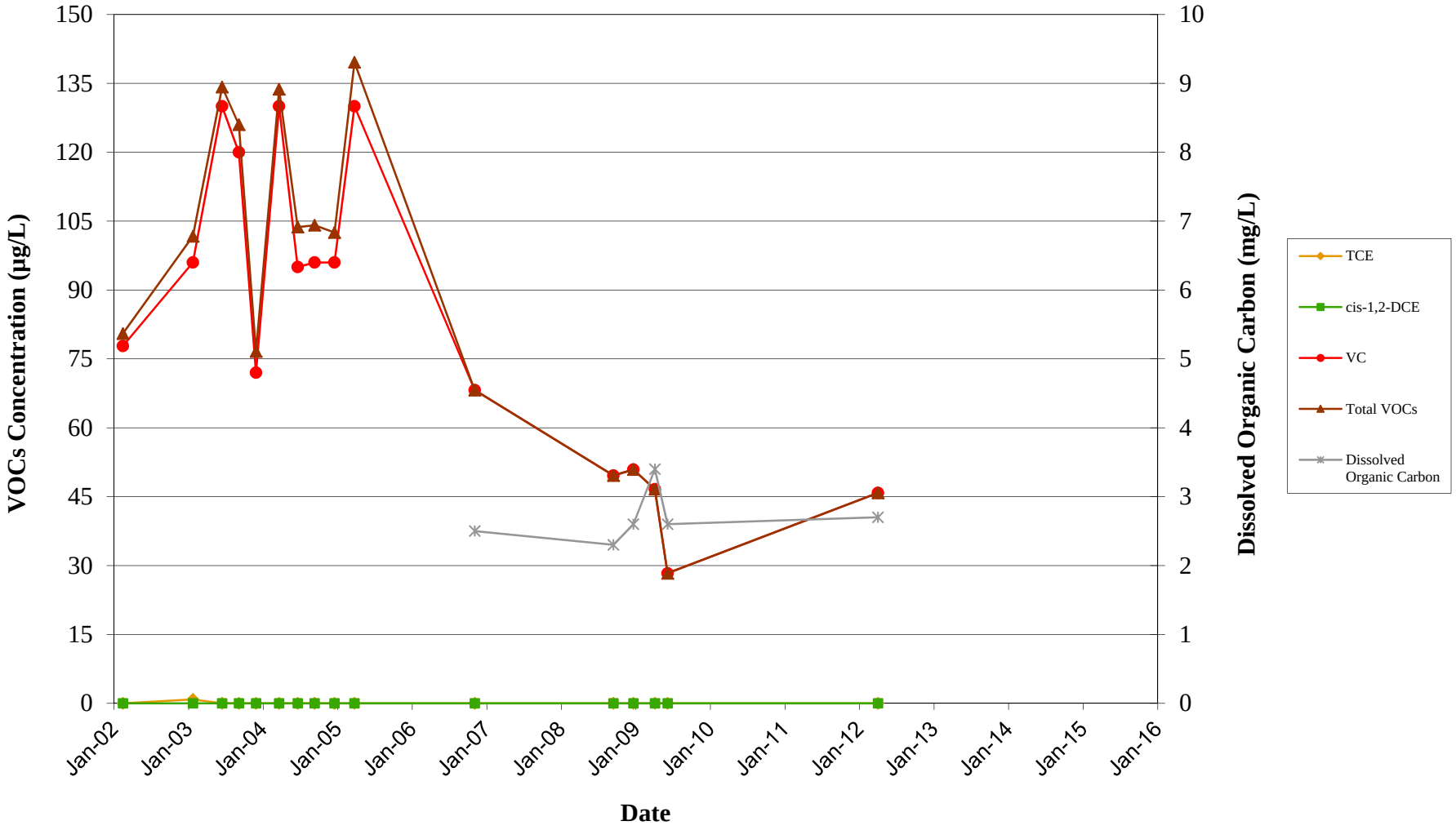


Figure 5-15
782VMW-96 VOCs Trend



Tables

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Table 1-1
Site RAOs

Site	RAOs
LF6 TCE	1. Achieve the cleanup goals for COCs based on NYSDEC Class GA Groundwater Quality Standards, 2. Prevent human exposure to groundwater through groundwater-use restrictions until cleanup goals are achieved, 3. Prevent contaminated groundwater from the site from adversely impacting surface water (in Three Mile Creek), which is defined as surface water concentrations above performance indicators (NYSDEC Class GA Groundwater Quality Standards of 5 µg/L for DCE and 2 µg/L for vinyl chloride), 4. Prevent intrusive work or other activities that will impact the effectiveness of the landfill closure and post-closure activities, and 5. Prevent development and use of the property for residential housing, elementary and secondary schools, childcare facilities and playgrounds.
B817/WSA	1. Achieve the cleanup goals for COCs based on NYSDEC Class GA Groundwater Quality Standards, 2. Prevent human exposure to groundwater through groundwater use restrictions until cleanup goals are achieved, 3. Prevent contaminated groundwater from the site from adversely impacting surface water (in Six Mile Creek), which is defined as surface water concentrations above performance indicators (NYSDEC Class GA Groundwater Quality Standards of 5 µg/L for DCE and 2 µg/L for vinyl chloride), and 4. Prevent development and use of the property for residential housing, elementary and secondary schools, childcare facilities and playgrounds.
B775	1. Achieve the cleanup goals for COCs based on NYSDEC Class GA Groundwater Quality Standards, 2. Prevent human exposure to groundwater through groundwater use restrictions until cleanup goals are achieved, 3. Prevent contaminated groundwater from the site from adversely impacting surface water (in Three Mile Creek), which is defined as surface water concentrations above performance indicators (NYSDEC Class GA Groundwater Quality Standards of 5 µg/L for DCE and 2 µg/L for vinyl chloride), and 4. Prevent development and use of the property for residential housing, elementary and secondary schools, childcare facilities and playgrounds.
Apron 2 Chlorinated Plume	1. Achieve the cleanup goals for COCs based on NYSDEC Class GA Groundwater Quality Standards, 2. Prevent human exposure to groundwater through groundwater use restrictions until cleanup goals are achieved, 3. Prevent contaminated groundwater from the site from adversely impacting surface water (in Six Mile Creek), which is defined as surface water concentrations above performance indicators (NYSDEC Class GA Groundwater Quality Standard of 2 µg/L for vinyl chloride), and 4. Prevent development and use of the property for residential housing, elementary and secondary schools, childcare facilities and playgrounds.

Table 2-1
Landfill 6 TCE Performance Monitoring Sample Analysis Summary

Sampling Locations	Screen Interval (ft mean sea level [msl])	Sampling Rationale	Target Analytes/ EPA Method Numbers	Initial Monitoring (quarterly after injections)	Performance (Semi-annual, after 1st year)	# of Samples[1]
LF6VMW-13R	416.12 - 436.12	Downgradient extent	• VOCs - SW8260B	√	√	14
LF6VMW-13RD	411.51 - 431.51	Potential vertical migration	• Sulfate - SW9056	√	√	
LF6MW-16	408.41 - 418.41	Within 500 ppb contour	• DOC - SM5310B	√	√	
LF6MW-17	401.04 - 411.04	Within 500 ppb contour	• Methane/Ethane/ Ethene - RSK-175	√	√	
LF6MW-20	404.35 - 414.35	Within 500 ppb contour		√	-	
LF6VMW-26	400.08 - 410.08	Within 50 ppb contour	• Field Parameters: ORP, oxygen, pH, water levels	√	√	
LF6MW-31	398.20 - 418.20	Downgradient extent		√	√	
LF6TW-33	417.17 - 437.17	Within 50 ppb contour		√	√	
LF6TW-34	402.60 - 422.60	Within 50 ppb contour		√	√	
LF6TW-35	402.39 - 422.39	Upgradient extent		√	√	
LF6TW-36	400.08 - 420.08	Within 50 ppb contour		√	√	
LF6TW-38	402.35 - 422.35	Within 50 ppb contour		√	√	
LF6MW-39	426.70 -446.70	Downgradient extent		√	√	
Surface Water						
LF6-SW1 PM		Between surface water samples LF6/TMCSW-1 and 2			√	

Notes:

1 Please refer to FSP for details concerning the number of quality assurance/ quality control (QA/QC) samples and their locations. At least one matrix spike/matrix spike duplicate (MS/MSD) and two field duplicates will be collected per SDG; one equipment blank per day and one ambient blank per day; one trip blank per cooler containing VOCs.

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	LF6VMW-12							
Sample ID			**LF6M1246AA**	**LF6M1246BB**	**LF6M1246CA**	**LF6M1246DA**	**LF6M1246EA**	**LF6M1246FA**	**LF6M1246GA**	**LF6M1246HA**
Date of Collection			**6/29/2006**	**9/19/2006**	**12/13/2006**	**4/17/2007**	**6/25/2007**	**10/1/2007**	**12/12/2007**	**4/7/2008**
Sample Depth (ft TOIC)			**46**	**46**	**46.00**	**46.00**	**46.00**	**46**	**46**	**46.00**
Dilution Factor (-)			**40**	**25**	**25**	**25**	**25**	**20**	**25**	**50**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	1.0	U	U	U	U	U	U	U	U
acetone	50	10	0.76 F	U	U	U	U	U	U	U
benzene	1	0.4	0.62	0.47 F	U	0.360 F	U	0.390 F	U	0.310 F
2-butanone	50	10	U	U	U	U	U	U	U	U
carbon disulfide	--	0.5	U	U	U	U	U	U	U	U
chloroform	7	0.3	U	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	470	264	275	192 J	175	179	163	158
Methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
Toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-dichloroethene	5*	1.0	16	12.8	8.75 F	4.68	9.00 F	14.9	20.2 F	5.31
trichloroethene (TCE)	5*	1.0	1,500	942	1,060 J	851 J	702	741	791	767
vinyl chloride	2	1.0	2.7	2.4	U	1.27	U	1.57	U	U
total VOCs	-	--	1990.08	1222.3	1348.75	1049.8	892	937.39	974.2	931.11
Method RSK-175 (µg/L)										
ethane	--	5	NA	NA	NA	NA	NA	NA	NA	NA
ethene	--	5	NA	NA	NA	NA	NA	NA	NA	NA
methane	--	5	NA	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry										
DOC (mg/L)	--	1	2.2	1.7	2	1.6	1.5	1.8	1.7	1.8
sulfate (mg/L)	250	1	56.9	59	55	53	60	68	72	66
Field Parameters										
ORP (mV)	--	--	208	244	23	-55	129	91	92	188
oxygen (mg/L)	--	--	0.92	1.77	0.00	0.00	0.00	0.00	0.00	0.00
pH (-)	--	--	7.41	7.57	6.98	7.10	6.69	7.02	7.10	7.20

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	LF6VMW-12							
Sample ID			**LF6M1246IA**	**LF6M1246JA**	**LF6M1246KA**	**LF6M1246LA**	**LF6M1246MA**	**LF6M1246NA**	**LF6M1246OA**	**LF6M1246PA**
Date of Collection			**6/18/2008**	**10/2/2008**	**12/11/2008**	**4/16/2009**	**7/1/2009**	**9/16/2009**	**3/24/2010**	**9/16/2010**
Sample Depth (ft TOIC)			**46.00**	**46.00**	**46**	**46**	**46**	**46**	**46**	**46**
Dilution Factor (-)			**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	66.0 F	U	U	U	U	U	226 F
benzene	1	0.4	U	U	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
carbon disulfide	--	0.5	U	U	U	U	U	U	U	3.50 F
chloroform	7	0.3	U	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	138	160	266	120	117	174	241	972
Methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
Toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-dichloroethene	5*	1.0	8.25	28.5	11 F	4.75 F	6.00 F	9.25 F	7.25 F	5.00 F
trichloroethene (TCE)	5*	1.0	727	664	523	653	709	711	655	14.5 F
vinyl chloride	2	1.0	U	U	U	U	U	U	U	U
total VOCs	-	--	873.25	929	800	777.75	832	894.25	903.25	1221
Method RSK-175 (µg/L)										
ethane	--	5	NA	NA	NA	NA	NA	NA	NA	NA
ethene	--	5	NA	NA	NA	NA	NA	NA	NA	NA
methane	--	5	NA	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry										
DOC (mg/L)	--	1	1.6	33	8.3	1.6	1.7	3	4.5	270
sulfate (mg/L)	250	1	82	23	55	79	70	62	66	14
Field Parameters										
ORP (mV)	--	--	51	-267	-105	-197	-94	-43	-104	-293
oxygen (mg/L)	--	--	0.00	0.00	0.99	1.70	1.42	3.86	0.00	0.00
pH (-)	--	--	6.70	6.22	6.63	8.29	7.81	6.88	7.16	7.10

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**LF6VMW-12**							
Sample ID			**LF6M1246PA**		**LF6M1246QA**					
Date of Collection			**6/8/2011**	**9/9/2011**	**6/21/2012**					
Sample Depth (ft TOIC)			**46**	**46**	**46**					
Dilution Factor (-)			**1**							
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	Not sampled this event	0.59 F					
1,1-dichloroethene	5*	1.0	2.1		U					
1,2-dichloroethane	0.6	1.0	U		U					
acetone	50	10	55		U					
benzene	1	0.4	0.28		U					
2-butanone	50	10	U		U					
carbon disulfide	--	0.5	U		U					
chloroform	7	0.3	U		U					
cis-1,2-dichloroethene	5*	1.0	530		380					
Methyl tert-butyl ether	10	5.0	U		U					
methylene chloride	5*	1.0	U		U					
Toluene	5*	1.0	U		U					
trans-1,2-dichloroethene	5*	1.0	6.2		7.9					
trichloroethene (TCE)	5*	1.0	220		300					
vinyl chloride	2	1.0	4.7		4.1					
total VOCs	-	--	818.28		692.59					
Method RSK-175 (µg/L)										
ethane	--	5	NA		NA					
ethene	--	5	NA		NA					
methane	--	5	NA		NA					
Wet Chemistry										
DOC (mg/L)	--	1	12		3.1					
sulfate (mg/L)	250	1	50		47					
Field Parameters										
ORP (mV)	--	--	-329		-263					
oxygen (mg/L)	--	--	0.00		0.00					
pH (-)	--	--	6.80		6.36					

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	LF6VMW-13R							
Sample ID			**LF6VM13R31AA**	**LF6VM13R31AB**	**LF6VM13R31BB**	**LF6VM13R31CA**	**LF6VM13R31DA**	**LF613R31EB**	**LF6VM13R31FB**	**LF6VM13R31GA**
Date of Collection			**11/16/2006**	**9/26/2008**	**1/5/2009**	**4/13/2009**	**6/22/2009**	**9/23/2009**	**4/20/2010**	**10/4/2010**
Sample Depth (ft TOIC)			**31**	**31**	**31**	**31**	**31**	**31**	**31**	**31**
Dilution Factor (-)			**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	1.58 F	2.39 F	U	U
benzene	1	0.4	U	U	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
carbon disulfide	--	0.5	U	U	U	U	U	U	U	U
chloroform	7	0.3	U	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
Methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
Toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	U	U	U	U	U	U	U	U
vinyl chloride	2	1.0	U	U	U	U	U	U	U	U
total VOCs	-	--	0	0	0	0	1.58	2.39	0	0
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U	U	U	U	U	U
ethene	--	5	U	U	U	U	U	U	U	U
methane	--	5	U	1.8 F	11	U	U	U	U	U
Wet Chemistry										
DOC (mg/L)	--	1	0.60 F	0.79 F	1.5	0.44 F	0.94 F	0.96 F	0.68 F	1.6
sulfate (mg/L)	250	1	34	53	60	67	64	61	51	56
Field Parameters										
ORP (mV)	--	--	-130	-188	-93	-79	-142	-170	-143	-180
oxygen (mg/L)	--	--	0.00	1.60	1.30	0.00	7.78	1.70	0.00	4.23
pH (-)	--	--	7.64	7.80	8.66	7.19	7.63	7.76	7.71	7.47

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**LF6VMW-13R**							
Sample ID			**LF6VM13R31HA**	**LF6VM13R31IA**	**LF6VM13R31JA**					
Date of Collection			**4/8/2011**	**9/9/2011**	**4/17/2012**					
Sample Depth (ft TOIC)			**31**	**31**	**31**					
Dilution Factor (-)			**1**	**1**	**1**					
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U					
1,1-dichloroethene	5*	1.0	U	U	U					
1,2-dichloroethane	0.6	1.0	U	U	U					
acetone	50	10	2.49 FJB	U	U					
benzene	1	0.4	U	U	U					
2-butanone	50	10	U	U	U					
carbon disulfide	--	0.5	U	U	U					
chloroform	7	0.3	U	U	U					
cis-1,2-dichloroethene	5*	1.0	U	U	U					
Methyl tert-butyl ether	10	5.0	U	U	U					
methylene chloride	5*	1.0	U	0.290 FB	U					
Toluene	5*	1.0	U	U	U					
trans-1,2-dichloroethene	5*	1.0	U	U	U					
trichloroethene (TCE)	5*	1.0	U	U	U					
vinyl chloride	2	1.0	U	U	U					
total VOCs	-	--	2.49	0.29	0					
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U					
ethene	--	5	U	UJ	U					
methane	--	5	U	U	U					
Wet Chemistry										
DOC (mg/L)	--	1	2.2	U	U					
sulfate (mg/L)	250	1	46	51	50					
Field Parameters										
ORP (mV)	--	--	-28	-211	-184					
oxygen (mg/L)	--	--	0.00	6.70	5.58					
pH (-)	--	--	8.00	7.81	7.64					

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	LF6VMW-13RD							
Sample ID			**LF6VMW-13RD**	**LF6M13RD41AA**	**LF6M13RD35AB**	**LF6VM13RD35BB**	**LF6VM13RD35CA**	**LF6VM13RD35DA**	**LF613VMRD35EB**	**LF6VM13RD35FB**
Date of Collection			**11/1/2006**	**4/12/2007**	**9/26/2008**	**1/5/2009**	**4/13/2009**	**6/22/2009**	**9/23/2009**	**4/20/2010**
Sample Depth (ft TOIC)			**30**	**41**	**35**	**35**	**35**	**35**	**35**	**35**
Dilution Factor (-)			**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	U	1.20 F	1.26 F	U
benzene	1	0.4	U	U	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
carbon disulfide	--	0.5	U	U	U	U	U	U	U	U
chloroform	7	0.3	20	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
Methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
Toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	0.60 F	U	U	U	U	U	U	U
vinyl chloride	2	1.0	U	0.240 F	U	U	U	U	U	U
total VOCs	-	--	20.6	0.24	0	0	0	1.2	1.26	0
Method RSK-175 (µg/L)										
ethane	--	5	NA	NA	U	U	U	U	U	U
ethene	--	5	NA	NA	U	U	U	U	U	U
methane	--	5	NA	NA	1.6 F	1.7 F	U	1.5 F	1.7 F	1.8 F
Wet Chemistry										
DOC (mg/L)	--	1	NA	NA	1.2	1.6	0.70 F	0.91 F	1.8	1.3
sulfate (mg/L)	250	1	NA	NA	45	48	51	48	48	49
Field Parameters										
ORP (mV)	--	--	-92	-77	-121	-70	-68	-125	-117	-131
oxygen (mg/L)	--	--	0.30	0.00	1.80	0.95	0.28	3.58	1.92	0.00
pH (-)	--	--	7.68	7.69	7.39	8.28	6.51	7.25	7.78	7.61

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	LF6VMW-13RD							
Sample ID			**LF6VM13RD35GA**	**LF6VM13RD35HA**	**LF6VM13RD35IA**	**LF6VM13RD35JA**				
Date of Collection			**10/4/2010**	**4/8/2011**	**9/9/2011**	**4/16/2012**				
Sample Depth (ft TOIC)			**35**	**35**	**35**	**31**				
Dilution Factor (-)			**1**	**1**	**1**	**1**				
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U	U				
1,1-dichloroethene	5*	1.0	U	U	U	U				
1,2-dichloroethane	0.6	1.0	U	U	U	U				
acetone	50	10	2.69 FB	2.50 FJB	U	U				
benzene	1	0.4	U	U	U	U				
2-butanone	50	10	U	U	U	U				
carbon disulfide	--	0.5	U	U	U	U				
chloroform	7	0.3	U	U	U	U				
cis-1,2-dichloroethene	5*	1.0	U	U	U	U				
Methyl tert-butyl ether	10	5.0	U	U	U	U				
methylene chloride	5*	1.0	U	U	U	U				
Toluene	5*	1.0	U	U	U	U				
trans-1,2-dichloroethene	5*	1.0	U	U	U	U				
trichloroethene (TCE)	5*	1.0	U	U	U	U				
vinyl chloride	2	1.0	U	U	U	U				
total VOCs	-	--	2.69	2.50	0	0				
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U	U				
ethene	--	5	U	U	UJ	U				
methane	--	5	U	U	U	U				
Wet Chemistry										
DOC (mg/L)	--	1	34	0.91 F	0.71 F	0.63 F				
sulfate (mg/L)	250	1	57	55	57	56				
Field Parameters										
ORP (mV)	--	--	-126	-55	-199	-157				
oxygen (mg/L)	--	--	4.30	0.00	0.00	0.00				
pH (-)	--	--	7.35	7.89	7.52	7.29				

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	LF6MW-16							
Sample ID			**LF6M1645AA**	**LF6M1645AB**	**LF6M1645BB**	**LF6M1645CA**	**LF6M1645DA**	**LF6M1645EB**	**LF6M1645FB**	**LF6M1645GA**
Date of Collection			**11/16/2006**	**9/29/2008**	**1/6/2009**	**4/13/2009**	**6/22/2009**	**9/23/2009**	**4/20/2010**	**10/5/2010**
Sample Depth (ft TOIC)			**45**	**45**	**45**	**45**	**45**	**45**	**45**	**45**
Dilution Factor (-)			**50**	**50**	**50**	**50**	**50**	**50**	**25**	**50**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	77	U	U	U	U	U	356 FB
benzene	1	0.4	U	0.240 F	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
carbon disulfide	--	0.5	U	U	U	U	U	U	U	U
chloroform	7	0.3	U	0.750 F	U	U	U	5.50 F	U	U
cis-1,2-dichloroethene	5*	1.0	200	124	148	480	859	232	248	220
Methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	43.5 FB
Toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-dichloroethene	5*	1.0	U	3.60	7.00 F	6.50 F	9.50 F	7.50 F	12.2 F	6.00 F
trichloroethene (TCE)	5*	1.0	816	619	664	590	284	588	1010	834
vinyl chloride	2	1.0	U	0.570 F	U	U	U	U	U	U
total VOCs	-	--	1016	748.16	819	1076.5	1152.5	833	1270.2	1503.5
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U	U	U	U	U	U
ethene	--	5	U	U	U	U	U	U	U	U
methane	--	5	3.7 F	12	7.8	4.7 F	5.5	2.4 F	6.6	390
Wet Chemistry										
DOC (mg/L)	--	1	1.5	11	9.9	65	34	1.9	3.2	48
sulfate (mg/L)	250	1	54	57	44	25	25	63	72	65
Field Parameters										
ORP (mV)	--	--	343	-299	-170	-22	-269	-150	-82	-259
oxygen (mg/L)	--	--	1.20	0.00	1.21	0.00	3.49	3.92	0.00	4.48
pH (-)	--	--	7.30	7.13	6.82	7.69	8.16	6.84	7.39	7.76

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	LF6MW-16							
Sample ID			**LF6M1645HA**	**LF6M1645IA**	**LF6M1645JA**					
Date of Collection			**4/8/2011**	**9/9/2011**	**4/16/2012**					
Sample Depth (ft TOIC)			**45**	**45**	**45**					
Dilution Factor (-)			**20**	**20**	**50**					
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U					
1,1-dichloroethene	5*	1.0	U	U	U					
1,2-dichloroethane	0.6	1.0	U	U	U					
acetone	50	10	53.6 FJB	U	U					
benzene	1	0.4	U	U	U					
2-butanone	50	10	U	U	U					
carbon disulfide	--	0.5	U	U	U					
chloroform	7	0.3	U	U	U					
cis-1,2-dichloroethene	5*	1.0	190	139	171					
Methyl tert-butyl ether	10	5.0	U	16.2 F	U					
methylene chloride	5*	1.0	U	11.2 F	U					
Toluene	5*	1.0	U	U	U					
trans-1,2-dichloroethene	5*	1.0	9.00 F	8.40 F	12.0 F					
trichloroethene (TCE)	5*	1.0	694	786	849					
vinyl chloride	2	1.0	U	U	U					
total VOCs	-	--	946.6	944.6	1032					
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U					
ethene	--	5	870	U	U					
methane	--	5	1600	3,300 J	4,300					
Wet Chemistry										
DOC (mg/L)	--	1	2.5	2.0	1.4					
sulfate (mg/L)	250	1	97	83	48					
Field Parameters										
ORP (mV)	--	--	-107	-133	-165					
oxygen (mg/L)	--	--	0.00	0.00	0.00					
pH (-)	--	--	7.24	6.96	6.85					

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	LF6MW-17							
Sample ID			**LF6M1750AB**	**LF6M1750BB**	**LF6M1750CA**	**LF6M1750DA**	**LF6M1750EB**	**LF6M1750FB**	**LF6M1750GA**	**LF6M1750HA**
Date of Collection			**9/29/2008**	**1/5/2009**	**4/13/2009**	**6/22/2009**	**9/24/2009**	**4/20/2010**	**10/5/2010**	**4/8/2011**
Sample Depth (ft TOIC)			**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**
Dilution Factor (-)			**20**	**20**	**20**	**20**	**20**	**10**	**10**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	1.0	U	U	U	U	U	U	U	U
acetone	50	10	598	299 ♦	382	49.8 F	U	10.5 F♦	U	52.8 FJB♦
benzene	1	0.4	1.31	U	U	U	U	1.20 F♦	1.70 F♦	1.40 F
2-butanone	50	10	58.9	28.2 F♦	52.0 F	U	U	U	U	U
carbon disulfide	--	0.5	U	U	U	U	U	U	U	U
chloroform	7	0.3	0.740	3.20 F	2.20 F	U	2.80 F	U	U	U
cis-1,2-dichloroethene	5*	1.0	324	178 ♦	155	226	278	327 ♦	283 ♦	290
Methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	3.60 F♦	U	9.60 FB♦	U
Toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-dichloroethene	5*	1.0	75.2	60.2 ♦	57.0	71.2	93.0 ♦	123 ♦	132 ♦	127
trichloroethene (TCE)	5*	1.0	181	302	265	146	162 ♦	274 ♦	100 ♦	248 ♦
vinyl chloride	2	1.0	U	U	U	U	U	U	U	U
total VOCs	-	--	1239.15	870.6	913.2	493	539.4	724	526.3	719.2
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U	U	U	U	U	U
ethene	--	5	U	U	U	U	U	U	U	U
methane	--	5	8.8	4.6 F♦	5.6	11	25 ♦	8.3 ♦	9.2 ♦	28.0
Wet Chemistry										
DOC (mg/L)	--	1	350	190	160	69	18 ♦	2.7	3.4	2.0
sulfate (mg/L)	250	1	80	34	37	37	70 ♦	71	87	99
Field Parameters										
ORP (mV)	--	--	-289	-321	-276	-310	-256	-232	-207	-53
oxygen (mg/L)	--	--	0.00	0.05	0.00	0.72	3.70	0.00	4.05	0.00
pH (-)	--	--	7.26	9.56	9.22	8.50	6.76	7.69	7.63	7.22

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**LF6MW-17**							
Sample ID			**LF6M1750IA**	**LF6M1750JA**						
Date of Collection			**9/9/2011**	**4/16/2012**						
Sample Depth (ft TOIC)			**50**	**50**						
Dilution Factor (-)			**10**	**25**						
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U						
1,1-dichloroethene	5*	1.0	U	U						
1,2-dichloroethane	0.6	1.0	U	U						
acetone	50	10	38.7 FB♦	U						
benzene	1	0.4	1.20 F	U						
2-butanone	50	10	U	U						
carbon disulfide	--	0.5	U	U						
chloroform	7	0.3	U	U						
cis-1,2-dichloroethene	5*	1.0	494 ♦	328 ♦						
Methyl tert-butyl ether	10	5.0	8.60 F	U						
methylene chloride	5*	1.0	6.60 FB♦	U						
Toluene	5*	1.0	U	U						
trans-1,2-dichloroethene	5*	1.0	115	132 ♦						
trichloroethene (TCE)	5*	1.0	134 ♦	245 ♦						
vinyl chloride	2	1.0	U	U						
total VOCs	-	--	762	705						
Method RSK-175 (µg/L)										
ethane	--	5	U	U						
ethene	--	5	U	U						
methane	--	5	2,400 ♦	6,700						
Wet Chemistry										
DOC (mg/L)	--	1	2.9	2.1 ♦						
sulfate (mg/L)	250	1	86	59 ♦						
Field Parameters										
ORP (mV)	--	--	-87	-104						
oxygen (mg/L)	--	--	0.00	0.00						
pH (-)	--	--	6.73	6.40						

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	LF6MW-20							
Sample ID			**LF6M2046AA**	**LF6M2046AB**	**LF6M2046BB**	**LF6M2046CA**	**LF6M2046DA**			**LF6M2046GA**
Date of Collection			**3/30/2007**	**9/29/2008**	**1/6/2009**	**4/13/2009**	**6/22/2009**	**9/1/2009**	**3/1/2010**	**10/5/2010**
Sample Depth (ft TOIC)			**46**	**46**	**46**	**46**	**46**	**46**	**46**	**46**
Dilution Factor (-)			**50**	**50**	**50**	**50**	**20**			**50**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U	U	U	Not sampled this event	Not sampled this event	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U			U
1,2-dichloroethane	0.6	1.0	U	U	U	U	U			U
acetone	50	10	U	649	62.5 F	U	U			3000
benzene	1	0.4	U	0.450 F	U	U	U			U
2-butanone	50	10	U	U	U	U	U			U
carbon disulfide	--	0.5	U	U	U	U	U			U
chloroform	7	0.3	U	U	U	U	U			U
cis-1,2-dichloroethene	5*	1.0	284	200	396	347	309			2230
Methyl tert-butyl ether	10	5.0	U	U	U	U	U			U
methylene chloride	5*	1.0	U	U	U	U	U			42.5 FB
Toluene	5*	1.0	U	U	U	U	U			U
trans-1,2-dichloroethene	5*	1.0	25.5 F	30.0	40.0 F	31.0 F	33.5 F			86.5
trichloroethene (TCE)	5*	1.0	1140	1,000	722	664	833			217
vinyl chloride	2	1.0	U	0.710 F	U	U	U			U
total VOCs	-	--	1449.5	1880.16	1220.5	1042	1175.5			5576
Method RSK-175 (µg/L)										
ethane	--	5	NA	U	U	U	U			U
ethene	--	5	NA	U	U	U	U			U
methane	--	5	NA	15	U	7.9	23			10,000
Wet Chemistry										
DOC (mg/L)	--	1	NA	120	22	20	12			530
sulfate (mg/L)	250	1	NA	35	20	34	53			7.4
Field Parameters										
ORP (mV)	--	--	-37	-290	-245	-257	-285			-235
oxygen (mg/L)	--	--	0.00	0.02	1.27	2.14	0.63			4.91
pH (-)	--	--	7.24	6.70	6.96	8.99	8.36			7.55

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**LF6MW-20**							
Sample ID				**LF6M2046IA**						
Date of Collection			**4/8/2011**	**9/12/2011**	**4/16/2012**					
Sample Depth (ft TOIC)				**46**						
Dilution Factor (-)				**50**						
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	Not sampled this event	U	Not sampled this event					
1,1-dichloroethene	5*	1.0		U						
1,2-dichloroethane	0.6	1.0		U						
acetone	50	10		101 FB						
benzene	1	0.4		U						
2-butanone	50	10		U						
carbon disulfide	--	0.5		U						
chloroform	7	0.3		U						
cis-1,2-dichloroethene	5*	1.0		1430						
Methyl tert-butyl ether	10	5.0		U						
methylene chloride	5*	1.0		53.5 B						
Toluene	5*	1.0		U						
trans-1,2-dichloroethene	5*	1.0		33.0 F						
trichloroethene (TCE)	5*	1.0		39.5 F						
vinyl chloride	2	1.0		U						
total VOCs	-	--		1556						
Method RSK-175 (µg/L)										
ethane	--	5		U						
ethene	--	5		U						
methane	--	5		4,500						
Wet Chemistry										
DOC (mg/L)	--	1		5.7						
sulfate (mg/L)	250	1		75						
Field Parameters										
ORP (mV)	--	--		-168						
oxygen (mg/L)	--	--		0.00						
pH (-)	--	--		6.82						

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	LF6VMW-26							
Sample ID			**LF6VM2653AA**	**LF6VM2660AB**	**LF6VM2650BB**	**LF6VM2650CA**	**LF6VM2650DA**	**LF6VM2650EB**	**LF6VM2650FB**	**LF6VM2650GA**
Date of Collection			**11/16/2006**	**9/29/2008**	**1/5/2009**	**4/13/2009**	**6/22/2009**	**9/17/2009**	**4/20/2010**	**10/4/2010**
Sample Depth (ft TOIC)			**53**	**60**	**50**	**50**	**50**	**50**	**50**	**50**
Dilution Factor (-)			**2.5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	U	U	U	8.90 FB
benzene	1	0.4	U	U	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
carbon disulfide	--	0.5	U	U	U	U	U	U	U	U
chloroform	7	0.3	U	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	84.0 ♦	81.6	92.0	96.8 ♦	101	101	101	77.6
Methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	1.15 FB
Toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-dichloroethene	5*	1.0	1.28 F♦	U	1.00 F	0.700 F ♦	1.20 F ♦	1.05 F	U	U
trichloroethene (TCE)	5*	1.0	U	U	U	U	U	U	U	U
vinyl chloride	2	1.0	0.525 F♦	U	U	U	U	U	U	U
total VOCs	-	--	85.805	81.6	93	97.5	102.2	102.05	101	87.65
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U	U	U	U	U	U
ethene	--	5	U	U	U	U	U	U	U	U
methane	--	5	1.6 F♦	U	U	U	U	U	U	U
Wet Chemistry										
DOC (mg/L)	--	1	0.59 F♦	0.87 F	0.99 F	1.2	0.63 F	0.44 F	1.1	0.90 F
sulfate (mg/L)	250	1	42	48	51	58	54	52	50	53
Field Parameters										
ORP (mV)	--	--	198	-121	-53	-70	-60	-85	-107	-93
oxygen (mg/L)	--	--	1.10	4.63	1.46	0.15	2.48	1.58	0.00	5.06
pH (-)	--	--	7.30	7.38	8.57	7.30	7.20	7.49	7.73	7.13

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	LF6VMW-26							
Sample ID			**LF6VM2650HA**	**LF6VM2650IA**	**LF6VM2650JA**					
Date of Collection			**4/8/2011**	**9/9/2011**	**4/17/2012**					
Sample Depth (ft TOIC)			**50**	**50**	**50**					
Dilution Factor (-)			**1**	**5**	**5**					
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U					
1,1-dichloroethene	5*	1.0	U	U	U					
1,2-dichloroethane	0.6	1.0	U	U	U					
acetone	50	10	22 FJB	U	U					
benzene	1	0.4	U	U	U					
2-butanone	50	10	10.4 F	U	U					
carbon disulfide	--	0.5	U	U	U					
chloroform	7	0.3	U	U	U					
cis-1,2-dichloroethene	5*	1.0	94.0	90.8	95.5					
Methyl tert-butyl ether	10	5.0	U	U	U					
methylene chloride	5*	1.0	U	U	U					
Toluene	5*	1.0	U	U	U					
trans-1,2-dichloroethene	5*	1.0	U	U	0.600 F					
trichloroethene (TCE)	5*	1.0	U	U	U					
vinyl chloride	2	1.0	U	U	U					
total VOCs	-	--	126.4	90.8	96.1					
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U					
ethene	--	5	U	U	U					
methane	--	5	U	U	U					
Wet Chemistry										
DOC (mg/L)	--	1	0.72 F	0.58 F	U					
sulfate (mg/L)	250	1	49	48	41					
Field Parameters										
ORP (mV)	--	--	-47	-140	-134					
oxygen (mg/L)	--	--	0.00	0.00	1.31					
pH (-)	--	--	8.10	7.76	7.31					

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	LF6MW-31							
Sample ID			**LF6MW-31**	**LF6M3145AB**	**LF6M3145BB**	**LF6M3145CA**	**LF6M3145DA**	**LF6M3145EB**	**LF6M3145FB**	**LF6M3145GA**
Date of Collection			**10/31/2006**	**9/29/2008**	**1/5/2009**	**4/13/2009**	**6/22/2009**	**9/23/2009**	**4/20/2010**	**10/5/2010**
Sample Depth (ft TOIC)			**45**	**45**	**45**	**45**	**45**	**45**	**45**	**45**
Dilution Factor (-)			**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	U	2.26 F	U	U
benzene	1	0.4	U	U	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
carbon disulfide	--	0.5	U	U	U	U	U	U	U	U
chloroform	7	0.3	0.38 F	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	0.52 F	0.280 F	0.230 F	0.230 F	0.250 F	0.190 F	0.210 F	0.210 F
Methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
Toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	U	U	U	U	U	U	U	U
vinyl chloride	2	1.0	0.29 F	U	0.430 F	0.400 F	0.480 F	0.480 F	0.380 F	0.410 F
total VOCs	-	--	1.19	0.28	0.66	0.63	0.73	2.93	0.59	0.62
Method RSK-175 (µg/L)										
ethane	--	5	NA	U	U	U	U	U	U	U
ethene	--	5	NA	U	U	U	U	U	U	U
methane	--	5	NA	10	12	3.9 F	5.7	4.5 F	15	12
Wet Chemistry										
DOC (mg/L)	--	1	NA	2.8	3.3	2.8	2.8	2.8	2.8	3.3
sulfate (mg/L)	250	1	NA	49	55	61	61	63	60	56
Field Parameters										
ORP (mV)	--	--	-123	-101	-72	-94	-176	-89	-106	-117
oxygen (mg/L)	--	--	0.40	0.00	0.89	1.51	0.82	4.86	0.00	4.73
pH (-)	--	--	7.09	6.01	8.41	8.15	7.98	6.54	7.27	7.56

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**LF6MW-31**							
Sample ID			**LF6M3145HA**	**LF6M3145IA**	**LF63145JA**					
Date of Collection			**4/8/2011**	**9/9/2011**	**4/17/2012**					
Sample Depth (ft TOIC)			**45**	**45**	**45**					
Dilution Factor (-)			**1**	**1**	**1**					
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U					
1,1-dichloroethene	5*	1.0	U	U	U					
1,2-dichloroethane	0.6	1.0	U	U	U					
acetone	50	10	1.99 FJB	1.15 FB	U					
benzene	1	0.4	U	U	U					
2-butanone	50	10	U	U	U					
carbon disulfide	--	0.5	U	U	U					
chloroform	7	0.3	U	U	U					
cis-1,2-dichloroethene	5*	1.0	0.190 F	U	0.150 F					
Methyl tert-butyl ether	10	5.0	U	U	U					
methylene chloride	5*	1.0	U	U	U					
Toluene	5*	1.0	U	U	U					
trans-1,2-dichloroethene	5*	1.0	U	U	U					
trichloroethene (TCE)	5*	1.0	U	U	U					
vinyl chloride	2	1.0	0.440 F	0.440 F	0.400 F					
total VOCs	-	--	2.62	1.59	0.55					
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U					
ethene	--	5	U	U	U					
methane	--	5	10	4.9	6.5					
Wet Chemistry										
DOC (mg/L)	--	1	2.2	2.7	2.4					
sulfate (mg/L)	250	1	55	72	74					
Field Parameters										
ORP (mV)	--	--	-104	-158	-158					
oxygen (mg/L)	--	--	0.00	0.00	0.00					
pH (-)	--	--	7.14	6.89	6.85					

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	LF6TW-33							
Sample ID			**LF6T3305AA**	**LF6T3306AB**	**LF6T3307BB**	**LF6T3305CA**	**LF6T3307DA**	**LF6T3306EB**	**LF6T3306FB**	**LF6T3307GA**
Date of Collection			**4/12/2007**	**9/29/2008**	**1/5/2009**	**4/13/2009**	**6/22/2009**	**9/24/2009**	**4/21/2010**	**10/4/2010**
Sample Depth (ft TOIC)			**19 - 39**	**19 - 39**	**19 - 39**	**19 - 39**	**19 - 39**	**19 - 39**	**19 - 39**	**19-39**
Dilution Factor (-)			**5**	**5**	**10**	**10**	**10**	**10**	**10**	**2**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	U	U	U	2.16 FB
benzene	1	0.4	U	U	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
carbon disulfide	--	0.5	U	U	U	U	U	U	U	U
chloroform	7	0.3	U	U	U	U	U	1.10 F	U	U
cis-1,2-dichloroethene	5*	1.0	31.7	22.0	40.6	39.0	44.0	83.4	68.4	17.5
Methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	1.54 FB
Toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-dichloroethene	5*	1.0	0.120 F	U	U	U	U	U	U	0.400 F
trichloroethene (TCE)	5*	1.0	202	80.2	255	272	252	256	218	63.9
vinyl chloride	2	1.0	U	U	U	U	U	U	U	U
total VOCs	-	--	233.82	102.2	295.6	311	296	340.5	286.4	85.5
Method RSK-175 (µg/L)										
ethane	--	5	NA	U	U	U	U	U	U	U
ethene	--	5	NA	U	U	U	U	U	U	U
methane	--	5	NA	1.9 F	8.7	4.9 F	5.2	20	13	1.8 F
Wet Chemistry										
DOC (mg/L)	--	1	NA	1.5	3.7	1.5	2.5	15	3.4	10
sulfate (mg/L)	250	1	NA	48	71	68	60	58	58	46
Field Parameters										
ORP (mV)	--	--	97	71	154	35	58	-85	-91	9
oxygen (mg/L)	--	--	9.93	6.35	7.59	7.29	9.27	9.32	1.12	7.49
pH (-)	--	--	6.81	7.44	7.02	7.60	7.06	7.90	7.09	6.98

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**LF6TW-33**							
Sample ID			**LF6T3306HA**	**LF6T3304IA**	**LF6T3304JA**					
Date of Collection			**4/8/2011**	**9/12/2011**	**4/17/2012**					
Sample Depth (ft TOIC)			**19-39**	**19-39**	**19-39**					
Dilution Factor (-)			**1**	**2**	**5**					
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U					
1,1-dichloroethene	5*	1.0	U	U	U					
1,2-dichloroethane	0.6	1.0	0.560 F	0.380 F	U					
acetone	50	10	6.80 FJB	U	U					
benzene	1	0.4	U	U	U					
2-butanone	50	10	5.36 F	U	U					
carbon disulfide	--	0.5	U	U	U					
chloroform	7	0.3	U	U	U					
cis-1,2-dichloroethene	5*	1.0	85.1	69.1	69.5					
Methyl tert-butyl ether	10	5.0	U	U	U					
methylene chloride	5*	1.0	U	1.76 FB	U					
Toluene	5*	1.0	U	U	U					
trans-1,2-dichloroethene	5*	1.0	0.560 F	0.520 F	0.900 F					
trichloroethene (TCE)	5*	1.0	133	148	204					
vinyl chloride	2	1.0	U	U	U					
total VOCs	-	--	231.38	219.76	274.4					
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U					
ethene	--	5	U	U	U					
methane	--	5	39	390	4,600					
Wet Chemistry										
DOC (mg/L)	--	1	5.0	2.6	2.7					
sulfate (mg/L)	250	1	68	77	79					
Field Parameters										
ORP (mV)	--	--	-63	-131	-93					
oxygen (mg/L)	--	--	10.42	1.85	11.09					
pH (-)	--	--	6.85	7.03	7.00					

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	LF6TW-34							
Sample ID			**LF6T3404AA**	**LF6T3406AB**	**LF6T3407BB**	**LF6T3405CA**	**LF6T3405DA**	**LF6T3406EB**	**LF6T3406FB**	**LF6T3407GA**
Date of Collection			**4/12/2007**	**9/29/2008**	**1/5/2009**	**4/13/2009**	**6/22/2009**	**9/24/2009**	**4/21/2010**	**10/4/2010**
Sample Depth (ft TOIC)			**35 - 55**	**35 - 55**	**35 - 55**	**35 - 55**	**35 - 55**	**35 - 55**	**35-55**	**35-55**
Dilution Factor (-)			**5**	**2.5**	**10**	**10**	**10**	**5**	**10**	**5**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	U	U	U	U
benzene	1	0.4	U	U	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
carbon disulfide	--	0.5	U	U	U	U	U	U	U	U
chloroform	7	0.3	U	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	38.3	16.4	67	41.7	25.6	105	87.6	59.3
Methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	1.35 F	U	0.850 FB
Toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-dichloroethene	5*	1.0	9.85	1.38 F	16.2	10.3	6.55	26.0	26.2	11.1
trichloroethene (TCE)	5*	1.0	78.8	37.1	162	157	93.4	226	221	75.8
vinyl chloride	2	1.0	1.15	U	0.875 F	U	U	U	U	U
total VOCs	-	--	128.1	54.88	246.075	209	125.55	358.35	334.8	147.05
Method RSK-175 (µg/L)										
ethane	--	5	NA	U	U	U	U	U	U	U
ethene	--	5	NA	U	U	U	U	U	U	U
methane	--	5	NA	7.9	15	12	14	16	11	3.5 F
Wet Chemistry										
DOC (mg/L)	--	1	NA	2.9	4.2	9.7	3.5	6.9	2.9	18
sulfate (mg/L)	250	1	NA	69	69	85	78	67	82	81
Field Parameters										
ORP (mV)	--	--	-11	-77	28	-17	-4	-49	-69	87
oxygen (mg/L)	--	--	7.44	9.11	5.69	10.22	5.98	8.88	3.05	6.07
pH (-)	--	--	6.67	7.13	6.69	7.80	6.74	7.80	7.07	6.78

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**LF6TW-34**							
Sample ID			**LF6T3406HA**	**LF6T3406IA**	**LF6T3406JA**					
Date of Collection			**4/8/2011**	**9/12/2011**	**4/17/2012**					
Sample Depth (ft TOIC)			**35-55**	**35-55**	**35-55**					
Dilution Factor (-)			**1**	**5**	**10**					
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U					
1,1-dichloroethene	5*	1.0	U	U	U					
1,2-dichloroethane	0.6	1.0	U	U	U					
acetone	50	10	23.6 FJB	U	U					
benzene	1	0.4	U	U	U					
2-butanone	50	10	10.0 F	U	U					
carbon disulfide	--	0.5	U	U	U					
chloroform	7	0.3	U	U	U					
cis-1,2-dichloroethene	5*	1.0	68.4	59.6	46.1					
Methyl tert-butyl ether	10	5.0	U	U	U					
methylene chloride	5*	1.0	U	2.30 FB	U					
Toluene	5*	1.0	U	U	U					
trans-1,2-dichloroethene	5*	1.0	25.2	23.1	17.9					
trichloroethene (TCE)	5*	1.0	272	203	156					
vinyl chloride	2	1.0	U	U	U					
total VOCs	-	--	399.2	288	220					
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U					
ethene	--	5	U	U	U					
methane	--	5	6.4	5.6	7.9					
Wet Chemistry										
DOC (mg/L)	--	1	6.3	2.3	2.7					
sulfate (mg/L)	250	1	97	76	59					
Field Parameters										
ORP (mV)	--	--	-43	-101	-40					
oxygen (mg/L)	--	--	6.36	1.71	2.38					
pH (-)	--	--	7.23	7.22	6.38					

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	LF6TW-35							
Sample ID			**LF6T3506AA**	**LF6T3506AB**	**LF6T3505BB**	**LF6T3505CA**	**LF6T3507DA**	**LF6T3506EB**	**LF6T3506FB**	**LF6T3506GA**
Date of Collection			**4/12/2007**	**9/29/2008**	**1/5/2009**	**4/13/2009**	**6/22/2009**	**9/24/2009**	**4/21/2010**	**10/4/2010**
Sample Depth (ft TOIC)			**35 - 55**	**35 - 55**	**35 - 55**	**35 - 55**	**35 - 55**	**35 - 55**	**35-55**	**35-55**
Dilution Factor (-)			**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	U	1.30 F	U	2.94 FB
benzene	1	0.4	U	U	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
carbon disulfide	--	0.5	U	U	U	U	U	U	U	U
chloroform	7	0.3	U	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	2.43	3.76	5.34	5.01	5.29	5.01	6.68	2.65
Methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
Toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	11.0	18.6	32.7	31.3	27.9	34.0	28.6	8.82
vinyl chloride	2	1.0	U	U	U	U	U	U	U	U
total VOCs	-	--	13.43	22.36	38.44	36.31	33.19	40.31	35.28	14.39
Method RSK-175 (µg/L)										
ethane	--	5	NA	U	U	U	U	U	U	U
ethene	--	5	NA	U	U	U	U	U	U	U
methane	--	5	NA	2.8 F	9.0	7.4	9.4	19	12	2.5 F
Wet Chemistry										
DOC (mg/L)	--	1	NA	1.9	3.6	1.7	1.8	34	2.3	9.6
sulfate (mg/L)	250	1	NA	56	85	82	74	79	71	57
Field Parameters										
ORP (mV)	--	--	256	98	155	91	-99	69	93	164
oxygen (mg/L)	--	--	2.74	9.89	5.55	8.03	2.85	10.11	0.86	4.11
pH (-)	--	--	5.72	7.30	7.39	7.65	7.82	7.60	7.16	6.71

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**LF6TW-35**							
Sample ID			**LF6T3506HA**	**LF6T3506IA**	**LF6T3505JA**					
Date of Collection			**4/8/2011**	**9/12/2011**	**4/17/2012**					
Sample Depth (ft TOIC)			**35-55**	**35-55**	**35-55**					
Dilution Factor (-)			**1**	**1**	**1**					
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U					
1,1-dichloroethene	5*	1.0	U	U	U					
1,2-dichloroethane	0.6	1.0	U	U	U					
acetone	50	10	2.96 FJB	U	U					
benzene	1	0.4	U	U	U					
2-butanone	50	10	U	U	U					
carbon disulfide	--	0.5	U	U	U					
chloroform	7	0.3	U	U	U					
cis-1,2-dichloroethene	5*	1.0	8.78	5.40	5.49					
Methyl tert-butyl ether	10	5.0	U	U	U					
methylene chloride	5*	1.0	U	U	U					
Toluene	5*	1.0	U	0.120 F	0.390 F					
trans-1,2-dichloroethene	5*	1.0	U	U	U					
trichloroethene (TCE)	5*	1.0	30.7	22.2	25.1					
vinyl chloride	2	1.0	U	U	U					
total VOCs	-	--	42.44	27.72	30.98					
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U					
ethene	--	5	U	U	U					
methane	--	5	11.0	4.8	4.6 F					
Wet Chemistry										
DOC (mg/L)	--	1	5.7	1.8	2.1					
sulfate (mg/L)	250	1	52	58	54					
Field Parameters										
ORP (mV)	--	--	78	-21	6					
oxygen (mg/L)	--	--	5.68	1.80	10.20					
pH (-)	--	--	7.27	7.36	7.42					

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	LF6TW-36							
Sample ID			**LF6T3604AA**	**LF6T3604AA**	**LF6T3605BB**	**LF6T3605CA**	**LF6T3605DA**	**LF6T3606EB**	**LF6T3606FB**	**LF6T3606GA**
Date of Collection			**4/12/2007**	**9/29/2008**	**1/5/2009**	**4/13/2009**	**6/22/2009**	**9/24/2009**	**4/21/2010**	**10/4/2010**
Sample Depth (ft TOIC)			**35 - 55**	**35 - 55**	**35 - 55**	**35 - 55**	**35 - 55**	**35 - 55**	**35-55**	**35-55**
Dilution Factor (-)			**10**	**5**	**10**	**10**	**10**	**10**	**10**	**10**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	U	U	U	U
benzene	1	0.4	U	U	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
carbon disulfide	--	0.5	U	U	U	U	U	U	U	U
chloroform	7	0.3	0.100 F	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	91.6	47.9	46.4	46.7	58.5	47.7	57.5	59.2
Methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	2.00 FB
Toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-dichloroethene	5*	1.0	0.490 F	U	0.950 F	1.10 F	1.50 F	1.10 F	1.40 F	U
trichloroethene (TCE)	5*	1.0	290	104	232	252	250	284	246	132
vinyl chloride	2	1.0	0.100 F	U	U	U	U	U	U	U
total VOCs	-	--	382.29	151.9	279.35	299.8	310	332.8	304.9	193.2
Method RSK-175 (µg/L)										
ethane	--	5	NA	U	U	U	U	U	U	U
ethene	--	5	NA	U	U	U	U	U	U	U
methane	--	5	NA	2.3 F	7.0	7.6	4.9 F	7.7	2.0 F	U
Wet Chemistry										
DOC (mg/L)	--	1	NA	1.2	2.8	1.3	1.7	8.9	1.9	3.9
sulfate (mg/L)	250	1	NA	38	58	63	62	59	55	47
Field Parameters										
ORP (mV)	--	--	143	-10	77	40	-50	42	13	98
oxygen (mg/L)	--	--	8.43	8.59	8.01	7.89	5.70	9.51	1.11	6.83
pH (-)	--	--	6.48	7.39	7.29	7.68	7.72	7.84	7.06	5.71

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**LF6TW-36**							
Sample ID			**LF6T3606HA**	**LF6T3602IA**	**LF6T3602JA**					
Date of Collection			**4/8/2011**	**9/12/2011**	**4/14/2012**					
Sample Depth (ft TOIC)			**35-55**	**35-55**	**35-55**					
Dilution Factor (-)			**1**	**5**	**10**					
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U					
1,1-dichloroethene	5*	1.0	U	U	U					
1,2-dichloroethane	0.6	1.0	U	U	U					
acetone	50	10	18.7 FJB	U	U					
benzene	1	0.4	U	U	U					
2-butanone	50	10	U	U	U					
carbon disulfide	--	0.5	U	U	U					
chloroform	7	0.3	U	U	U					
cis-1,2-dichloroethene	5*	1.0	47.3	41.4	36.7					
Methyl tert-butyl ether	10	5.0	U	U	U					
methylene chloride	5*	1.0	U	2.10 FB	U					
Toluene	5*	1.0	U	U	U					
trans-1,2-dichloroethene	5*	1.0	1.10 F	0.950 F	U					
trichloroethene (TCE)	5*	1.0	262	250	201					
vinyl chloride	2	1.0	U	U	U					
total VOCs	-	--	329.1	294.45	237.7					
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U					
ethene	--	5	U	U	U					
methane	--	5	5.7	6.7	2.1 F					
Wet Chemistry										
DOC (mg/L)	--	1	5.3	1.5	1.6					
sulfate (mg/L)	250	1	46	56	51					
Field Parameters										
ORP (mV)	--	--	-13	-117	-30					
oxygen (mg/L)	--	--	5.31	2.15	3.56					
pH (-)	--	--	7.36	7.45	7.54					

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	LF6TW-38							
Sample ID			**LF6T3806AA**	**LF6T3807AB**	**LF6T3807BB**	**LF6T3806CA**	**LF6T3807DA**	**LF6T3808EB**	**LF6T3808FB**	**LF6T3808GA**
Date of Collection			**4/12/2007**	**9/29/2008**	**1/5/2009**	**4/13/2009**	**6/22/2009**	**9/24/2009**	**4/21/2010**	**10/4/2010**
Sample Depth (ft TOIC)			**35 - 55**	**35 - 55**	**35 - 55**	**35 - 55**	**35 - 55**	**35 - 55**	**35-55**	**35-55**
Dilution Factor (-)			**5**	**5**	**10**	**10**	**10**	**10**	**5**	**2**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	U	U	U	U
benzene	1	0.4	U	U	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
carbon disulfide	--	0.5	U	U	U	U	U	U	U	U
chloroform	7	0.3	U	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	32.2	28.8	38.6	26.3	32.9	34.2	42.2	46.4
Methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
Toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-dichloroethene	5*	1.0	0.320 F	U	0.220 F	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	95.0	24.7	131	111	112	128	114	41.1
vinyl chloride	2	1.0	U	U	U	U	U	U	U	U
total VOCs	-	--	127.52	53.5	169.82	137.3	144.9	162.2	156.2	87.5
Method RSK-175 (µg/L)										
ethane	--	5	NA	U	U	U	U	U	U	U
ethene	--	5	NA	U	U	U	U	U	U	U
methane	--	5	NA	2.2 F	8.8	13	5.2	5.7	4.0 F	U
Wet Chemistry										
DOC (mg/L)	--	1	NA	1	2.7	0.54 F	0.67 F	11	1.3	4.5
sulfate (mg/L)	250	1	NA	42	41	40	40	41	42	48
Field Parameters										
ORP (mV)	--	--	311	164	164	109	-6	97	87	181
oxygen (mg/L)	--	--	9.61	4.72	8.50	6.72	5.70	10.05	4.21	6.11
pH (-)	--	--	6.19	7.48	7.51	7.55	7.62	7.58	7.54	6.44

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	LF6TW-38							
Sample ID			**LF6T3808HA**	**LF6T3805IA**	**LF6T3805JA**					
Date of Collection			**4/8/2011**	**9/12/2011**	**4/17/2012**					
Sample Depth (ft TOIC)			**35-55**	**35-55**	**35-55**					
Dilution Factor (-)			**1**	**3**	**5**					
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U					
1,1-dichloroethene	5*	1.0	U	U	U					
1,2-dichloroethane	0.6	1.0	U	U	U					
acetone	50	10	5.78 FJB	U	U					
benzene	1	0.4	U	U	U					
2-butanone	50	10	U	U	U					
carbon disulfide	--	0.5	U	U	U					
chloroform	7	0.3	U	U	U					
cis-1,2-dichloroethene	5*	1.0	45.1	40.0	36.8					
Methyl tert-butyl ether	10	5.0	U	U	U					
methylene chloride	5*	1.0	U	1.47 FB	U					
Toluene	5*	1.0	U	U	U					
trans-1,2-dichloroethene	5*	1.0	0.380 F	U	U					
trichloroethene (TCE)	5*	1.0	118	105	100					
vinyl chloride	2	1.0	U	U	U					
total VOCs	-	--	169.26	146.47	136.8					
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U					
ethene	--	5	U	U	U					
methane	--	5	2.1 F	U	U					
Wet Chemistry										
DOC (mg/L)	--	1	0.92 F	0.88 F	1.2					
sulfate (mg/L)	250	1	42	53	41					
Field Parameters										
ORP (mV)	--	--	80	33	54					
oxygen (mg/L)	--	--	8.21	0.53	2.29					
pH (-)	--	--	7.64	7.69	7.75					

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	LF6MW-39							
Sample ID			**LF6M3920AB**	**LF6M3920BB**	**LF6M3920CA**	**LF6M3920DA**	**LF6M3920EB**	**LF6M3920FB**	**LF6M3920GA**	**LF6M3920HA**
Date of Collection			**9/29/2008**	**1/5/2009**	**4/15/2009**	**6/22/2009**	**9/24/2009**	**4/20/2010**	**10/4/2010**	**4/8/2011**
Sample Depth (ft TOIC)			**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**
Dilution Factor (-)			**5**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	1.96 F	U	U	2.55 FJB
benzene	1	0.4	U	U	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
carbon disulfide	--	0.5	U	U	U	U	U	U	U	U
chloroform	7	0.3	U	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
Methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
Toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	U	U	U	U	U	U	U	U
vinyl chloride	2	1.0	U	U	U	U	U	U	U	U
total VOCs	-	--	0	0	0	0	1.96	0	0	2.55
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U	U	U	U	U	U
ethene	--	5	U	U	U	U	U	U	U	U
methane	--	5	U	U	U	U	U	U	U	U
Wet Chemistry										
DOC (mg/L)	--	1	0.68 F	2.3	0.82 F	0.88 F	0.48 F	1.4	1.8	1.9
sulfate (mg/L)	250	1	34	20	17	20	44	14	15	11
Field Parameters										
ORP (mV)	--	--	-136	192	240	251	-163	73	37	125
oxygen (mg/L)	--	--	1.14	4.22	2.43	5.34	4.03	0.00	4.85	0.00
pH (-)	--	--	6.85	6.88	6.90	6.92	7.15	7.15	6.81	7.61

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**LF6MW-39**							
Sample ID			**LF6M3920IA**	**LF6M3920JA**						
Date of Collection			**9/12/2011**	**4/17/2012**						
Sample Depth (ft TOIC)			**20**	**20**						
Dilution Factor (-)			**1**	**1**						
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U						
1,1-dichloroethene	5*	1.0	U	U						
1,2-dichloroethane	0.6	1.0	U	U						
acetone	50	10	U	U						
benzene	1	0.4	U	U						
2-butanone	50	10	U	U						
carbon disulfide	--	0.5	U	U						
chloroform	7	0.3	U	U						
cis-1,2-dichloroethene	5*	1.0	U	U						
Methyl tert-butyl ether	10	5.0	U	U						
methylene chloride	5*	1.0	U	U						
Toluene	5*	1.0	U	U						
trans-1,2-dichloroethene	5*	1.0	U	U						
trichloroethene (TCE)	5*	1.0	U	U						
vinyl chloride	2	1.0	U	U						
total VOCs	-	--	0	0						
Method RSK-175 (µg/L)										
ethane	--	5	U	U						
ethene	--	5	U	U						
methane	--	5	U	U						
Wet Chemistry										
DOC (mg/L)	--	1	0.56 F	U						
sulfate (mg/L)	250	1	40	33						
Field Parameters										
ORP (mV)	--	--	-83	-147						
oxygen (mg/L)	--	--	0.00	5.80						
pH (-)	--	--	7.47	7.47						

Table 2-2
Landfill 6 TCE Detected Sampling Results

Sample Location	**NYS Surfacewater Standards**	**Reporting Limit**	**LF6-SW1PM**							
Sample ID			**LF6SW01PM01EB**	**LF6SW01PM01FB**	**LF6SW01PM01HA**	**LF6SW01PM01IA**				
Date of Collection			**9/23/2009**	**4/20/2010**	**4/8/2011**	**4/17/2012**				
Sample Depth (ft TOIC)			**1**	**1**	**1**	**1**				
Dilution Factor (-)			**1**	**1**	**1**	**1**				
VOCs (µg/L)										
acetone	50	10	2.28 F	2.14 F	3.08 FJB	3.17 F				
benzene	1	0.4	U	0.130 F	0.140 F	U				
chlorobenzene	5	0.5	0.130 F	0.330 F	0.320 F	0.170 F				
total VOCs	-	--	2.41	2.6	3.54	3.34				
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U	U				
ethene	--	5	U	U	U	U				
methane	--	5	5.5	33	13	7.7				
Wet Chemistry										
DOC (mg/L)	--	1	6.9	4.2	3.2	2.7				
sulfate (mg/L)	250	1	42	40	31	36				
Field Parameters										
ORP (mV)	--	--	73	98	159	18				
oxygen (mg/L)	--	--	10.28	11.83	9.64	9.25				
pH (-)	--	--	7.44	8.04	6.24	7.80				

Table 3-1
Building 817/WSA Performance Monitoring Sample Analysis Summary

Sampling Locations	Screen Interval (ft mean sea level [msl])	Sampling Rationale	Target Analytes/ EPA Method Numbers	Initial Monitoring (quarterly after injections)	Performance (semi-annual, after 1st year)	# of Samples[1]
LAWMW-9	490.84 - 500.84	Downgradient	• VOCs - SW8260B • Sulfate - SW9056 • DOC - SM5310B • Methane/Ethane/ Ethene - RSK-175 • Field Parameters - ORP, oxygen, pH, water levels	√[2]	√[2]	12
WSA-MW8	506.37 - 516.37	Upgradient		√[2]	√[2]	
WSA-MW9	474.60 - 479.60	Downgradient		√	√	
WSA-MW16	491.86 - 501.86	Within 100 ppb contour		√	√	
WSA-VMW17	483.24 - 493.24	Within 30 ppb contour		√	√	
WSA-MW18	499.23 - 504.23	Within 100 ppb contour		√	√	
WSA-MW19	493.79 - 498.79	Between MW-16 and VMW-17		√	√	
WSA-MW21	484.72 - 494.72	Downgradient, within plume		√	√	
WSA-MW23	493.16 - 503.16	Cross-gradient, outside plume boundary		√[2]	√[2]	
Surface Water						
WSA-SW1PM[3]		Upstream 400 ft, in manhole	• VOCs - SW8260B • Field Parameters-water levels		√	
WSA-SW2PM[3]		Central manhole slightly downgradient from where plume potentially will intersect the creek			√	
WSA-SW3PM[3]		Downstream 400 ft, in manhole			√	
MH-1		Identify preferential pathway	Visual Monitoring (look for presence of substrate)	√		
MH-2		Identify preferential pathway		√		
MH-3		Identify preferential pathway		√		

Notes:

1 Please refer to FSP for details concerning the number of QA/QC samples and their locations. At least one MS/MSD and two field duplicates will be collected per SDG; one equipment blank per day and one ambient blank per day; one trip blank per cooler containing VOCs.

2 Annual sampling only.

3 Surface water samples will only be collected if results from WSA-MW9 are above NYSDEC Class GA GW standards.

Table 3-2
Building 817/WSA Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	LAWMW-9							
Sample ID			**LAWM0912AA**	**LAWM0912AB**		**LAWM0912EB**	**LAWM0912FB**	**LAWM0912GA**	**LAWM0912IA**	
Date of Collection			**11/20/2006**	**9/23/2008**		**9/18/2009**	**4/14/2010**	**9/29/2010**	**9/9/2011**	
Sample Depth (ft TOIC)			**12**	**12**		**12**	**12**	**12**	**12**	
Dilution Factor (-)			**1**	**1**		**1**	**1**	**1**	**1**	
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	0.170 F	U	Monitoring well not sampled, annual sampling frequency.	0.140 F	0.120 F	0.140 F	U	
acetone	50	10	U	U		1.16 F	1.34 F	U	U	
chlorobenzene	5*	0.5	U	U		U	U	U	U	
chloroform	7	0.3	U	U		U	U	U	U	
cis-1,2-dichloroethene	5*	1.0	U	U		U	U	U	U	
hexachlorobutadiene	0.5	0.6	U	U		U	U	U	U	
methyl tert-butyl ether	10	5.0	U	U		U	U	U	U	
methylene chloride	5*	1.0	U	U		U	U	U	U	
tetrachloroethene (PCE)	5*	1.0	0.220 F	U		0.240 F	0.240 F	0.310 F	0.360 F	
toluene	5*	1.0	U	U		U	U	U	U	
trans-1,2-Dichloroethene	5*	1.0	U	U		U	U	U	U	
trichloroethene (TCE)	5*	1.0	5.01	5.43		6.16	4.79	6.39	5.03	
total VOCs	-	--	5.4	5.43		7.7	6.49	6.84	5.36	
Method RSK-175 (µg/L)										
ethane	--	5	U	U		U	U	U	U	
ethene	--	5	U	U		U	U	U	UJ	
methane	--	5	U	U		2.0 F	11	4.0 F	2.3 F	
Wet Chemistry										
DOC (mg/L)	--	1	1.7	0.88 F		1.7	0.44 F	7.2	1.0	
sulfate (mg/L)	250	1	9.1	8.5		7.6	5	7.4	8.7	
Field Parameters										
ORP (mV)	--	--	336	126		131	147	76	185	
oxygen (mg/L)	--	--	3.93	7.84		4.12	0.00	5.69	0.94	
pH (-)	--	--	7.89	7.67		6.78	7.58	7.11	7.36	

Table 3-2
Building 817/WSA Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	WSA-MW8							
Sample ID			**WSAM0809AA**	**WSAM0809AB**		**WSAM0809EB**	**WSAM0809FB**	**WSAM0809GA**	**WSAM0809IA**	
Date of Collection			**11/20/2006**	**9/23/2008**		**9/18/2009**	**4/15/2010**	**10/29/2010**	**9/8/2011**	
Sample Depth (ft TOIC)			**9**	**9**		**9**	**9**	**9**	**9**	
Dilution Factor (-)			**1**	**1**		**1**	**1**	**1**	**1**	
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	Monitoring well not sampled, annual sampling frequency.	U	U	U	U	
acetone	50	10	U	U		U	1.52 F	U	2.83 FB	
chlorobenzene	5*	0.5	U	U		U	U	U	U	
chloroform	7	0.3	0.670	0.290 F		0.260 F	0.160 F	0.160 F	0.380 F	
cis-1,2-dichloroethene	5*	1.0	U	U		U	U	U	U	
hexachlorobutadiene	0.5	0.6	U	U		U	U	U	U	
methyl tert-butyl ether	10	5.0	U	U		U	U	U	U	
methylene chloride	5*	1.0	U	U		U	U	U	U	
tetrachloroethene (PCE)	5*	1.0	U	U		U	U	0.240 F	0.150 F	
toluene	5*	1.0	U	U		U	U	U	U	
trans-1,2-Dichloroethene	5*	1.0	U	U		U	U	U	U	
trichloroethene (TCE)	5*	1.0	1.73	1.08		1.21	3.55	6.54	1.82	
total VOCs	-	--	2.4	1.37		1.47	5.23	6.94	5.18	
Method RSK-175 (µg/L)										
ethane	--	5	U	U		U	U	U	U	
ethene	--	5	U	U		U	U	U	UJ	
methane	--	5	U	U		U	U	U	U	
Wet Chemistry										
DOC (mg/L)	--	1	3.7	1.1		1.2	0.43 F	1.3 J	0.63 F	
sulfate (mg/L)	250	1	5.6	5.2		4.6	5.1	5.2	4.3	
Field Parameters										
ORP (mV)	--	--	120	339		182	109	211	186	
oxygen (mg/L)	--	--	7.53	8.83		9.08	4.26	5.31	6.71	
pH (-)	--	--	7.74	5.82		6.46	7.64	7.14	7.46	

Table 3-2
Building 817/WSA Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	WSA-MW9							
Sample ID			**WSAM0906AA**	**WSAM0906AB**	**WSAM0906BB**	**WSAM0906CA**	**WSAM0906DA**	**WSAM0906EB**	**WSAM0906FB**	**WSAM0906GA**
Date of Collection			**11/20/2006**	**9/23/2008**	**12/31/2008**	**4/8/2009**	**6/15/2009**	**9/18/2009**	**4/14/2010**	**10/1/2010**
Sample Depth (ft TOIC)			**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**
Dilution Factor (-)			**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	U	1.68 F	1.43 F	U
chlorobenzene	5*	0.5	U	U	U	U	U	U	U	U
chloroform	7	0.3	U	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
hexachlorobutadiene	0.5	0.6	U	U	U	U	U	U	U	U
methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U	U	U
toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	U	U	U	U	U	U	U	U
total VOCs	-	--	0	0	0	0	0	1.68	1.43	0
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U	U	U	U	U	U
ethene	--	5	U	U	U	U	U	U	U	U
methane	--	5	U	3.3 F	3.6 F	1.5 F	U	1.7 F	U	U
Wet Chemistry										
DOC (mg/L)	--	1	1.1	0.92 F	2.6	8.3	1.1	16	U	2.0
sulfate (mg/L)	250	1	22	20	26	20	19	18	19	44
Field Parameters										
ORP (mV)	--	--	123	26	220	213	126	86	117	72
oxygen (mg/L)	--	--	3.80	8.80	4.60	1.75	9.07	5.09	0.00	0.04
pH (-)	--	--	7.31	7.60	8.98	7.14	7.99	7.09	7.68	6.85

Table 3-2
Building 817/WSA Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	WSA-MW9							
Sample ID			**WSAM0906HA**	**WSAM0909IA**	**WSAM0909JA**					
Date of Collection			**4/7/2011**	**9/8/2011**	**4/13/2012**					
Sample Depth (ft TOIC)			**6**	**6**	**6**					
Dilution Factor (-)			**1**	**1**	**1**					
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U					
acetone	50	10	4.00 FB	U	U					
chlorobenzene	5*	0.5	U	U	U					
chloroform	7	0.3	U	U	U					
cis-1,2-dichloroethene	5*	1.0	U	U	U					
hexachlorobutadiene	0.5	0.6	U	U	U					
methyl tert-butyl ether	10	5.0	U	U	U					
methylene chloride	5*	1.0	U	U	U					
tetrachloroethene (PCE)	5*	1.0	U	U	U					
toluene	5*	1.0	U	U	U					
trans-1,2-Dichloroethene	5*	1.0	U	U	U					
trichloroethene (TCE)	5*	1.0	U	U	U					
total VOCs	-	--	4	0	0					
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U					
ethene	--	5	U	UJ	U					
methane	--	5	U	3.6 F	U					
Wet Chemistry										
DOC (mg/L)	--	1	1.4	1.0	U					
sulfate (mg/L)	250	1	16	37	17					
Field Parameters										
ORP (mV)	--	--	139	-93	152					
oxygen (mg/L)	--	--	0.00	0.00	0.00					
pH (-)	--	--	7.91	7.42	7.27					

Table 3-2
Building 817/WSA Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	WSA-MW16							
Sample ID			**WSAM1615AA**	**WSAM1615AB**	**WSAM1615BB**	**WSAM1615CA**	**WSAM1615DA**	**WSAM1615EB**	**WSAM1615FB**	**WSAM1615GA**
Date of Collection			**11/20/2006**	**9/23/2008**	**12/31/2008**	**4/8/2009**	**6/15/2009**	**9/18/2009**	**4/14/2010**	**9/29/2010**
Sample Depth (ft TOIC)			**15**	**15**	**15**	**15**	**15**	**15**	**15**	**15**
Dilution Factor (-)			**2**	**2**	**2**	**1**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	0.320 F	0.260 F	0.240 F	0.330 F	0.280 F	0.260 F	0.280 F	0.650 F♦
acetone	50	10	U	U	U	U	U	1.61 F	U	1.45 F♦
chlorobenzene	5*	0.5	U	U	U	U	U	U	U	U
chloroform	7	0.3	U	U	U	U	U	0.110 F	U	0.120 F
cis-1,2-dichloroethene	5*	1.0	1.10 F	0.790 F	1.16 F	0.600 F	0.650 F	1.51	0.590 F	0.240 F♦
hexachlorobutadiene	0.5	0.6	U	U	U	U	U	U	U	U
methyl tert-butyl ether	10	5.0	0.460 F	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	40.3	39.0	30.9	30.1	35.5	39.6	30.4	48.7 ♦
toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	5*	1.0	U	U	U	0.110 F	0.130 F	U	0.160 F	U
trichloroethene (TCE)	5*	1.0	48.8	43.0	34.8	33.6	34.8	41.1	34.7	53 ♦
total VOCs	-	--	90.98	83.05	67.1	64.74	71.36	84.19	66.13	104.16
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U	U	U	U	U	U
ethene	--	5	U	U	U	U	U	U	U	U
methane	--	5	U	U	U	U	U	U	U	U
Wet Chemistry										
DOC (mg/L)	--	1	1.1	0.89 F	0.82 F	0.68 F	0.56 F	1.0	0.81 F	1.7 J
sulfate (mg/L)	250	1	11	7.8	10	12	8.8	7.0	9.6	10 ♦
Field Parameters										
ORP (mV)	--	--	365	322	252	175	203	159	101	223
oxygen (mg/L)	--	--	6.91	7.87	9.03	8.20	7.57	6.76	4.17	3.56
pH (-)	--	--	7.75	6.16	6.14	7.01	5.49	6.65	7.73	6.98

Table 3-2
Building 817/WSA Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**WSA-MW16**							
Sample ID			**WSAM1615HA**	**WSAM1615IA**	**WSAM1615JA**					
Date of Collection			**4/7/2011**	**9/8/2011**	**4/13/2012**					
Sample Depth (ft TOIC)			**15**	**15**	**15**					
Dilution Factor (-)			**1**	**1**	**1**					
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	0.450 F	0.500 F	0.260 F					
acetone	50	10	4.12 FB	U	U					
chlorobenzene	5*	0.5	U	U	U					
chloroform	7	0.3	0.110 F	U	U					
cis-1,2-dichloroethene	5*	1.0	U	0.190 F♦	0.380 F					
hexachlorobutadiene	0.5	0.6	U	U	U					
methyl tert-butyl ether	10	5.0	U	U	U					
methylene chloride	5*	1.0	U	U	U					
tetrachloroethene (PCE)	5*	1.0	36.4	42.6 ♦	26.7					
toluene	5*	1.0	U	U	U					
trans-1,2-Dichloroethene	5*	1.0	U	U	U					
trichloroethene (TCE)	5*	1.0	38.7	35.4 ♦	22.9					
total VOCs	-	--	79.78	78.69	50.24					
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U					
ethene	--	5	U	UJ	U					
methane	--	5	U	U	U					
Wet Chemistry										
DOC (mg/L)	--	1	0.97 F	U	U					
sulfate (mg/L)	250	1	9.1	6.8 ♦	7.0					
Field Parameters										
ORP (mV)	--	--	111	202	129					
oxygen (mg/L)	--	--	6.14	3.32	5.60					
pH (-)	--	--	7.48	7.20	6.99					

Table 3-2
Building 817/WSA Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	WSA-VMW17							
Sample ID			**WSAVM1713AA**	**WSAVM1722AB13AA**	**WSAM1722BB**	**WSAM1722CA**	**WSAM1722DA**	**WSAM1722EB**	**WSAM1722FB**	**WSAM1722GA**
Date of Collection			**11/20/2006**	**9/23/2008**	**12/31/2008**	**4/8/2009**	**6/15/2009**	**9/18/2009**	**4/14/2010**	**9/29/2010**
Sample Depth (ft TOIC)			**13**	**22**	**22**	**22**	**22**	**22**	**22**	**22**
Dilution Factor (-)			**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	U	1.48 F	1.16 F	1.66 F
chlorobenzene	5*	0.5	U	U	U	U	U	U	U	U
chloroform	7	0.3	0.180 F	U	0.120 F	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	U	U	U	U	U	U	0.440 F	0.590 F
hexachlorobutadiene	0.5	0.6	U	U	U	U	U	U	U	U
methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	12.6	11.5	10.5	9.19	10.7	12.3	11.6	14.7
toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	24.0	17.2	18.3	15.4	15.8	19.8	17.4	21.9
total VOCs	-	--	36.78	28.7	28.92	24.59	26.5	33.58	30.6	38.85
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U	U	U	U	U	U
ethene	--	5	U	U	U	U	U	U	U	U
methane	--	5	U	U	U	U	U	U	U	U
Wet Chemistry										
DOC (mg/L)	--	1	2.9	1.2	0.92 F	0.76 F	0.79 F	0.96 F	0.58 F	11
sulfate (mg/L)	250	1	9.3	6.5	6.4	6.1	5.7	6.4	5.4	6.3
Field Parameters										
ORP (mV)	--	--	131	128	239	187	340	353	168	120
oxygen (mg/L)	--	--	7.15	9.75	6.53	6.58	6.98	7.42	4.41	7.35
pH (-)	--	--	7.36	6.81	5.68	6.96	6.15	6.46	6.88	6.65

Table 3-2
Building 817/WSA Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**WSA-VMW17**							
Sample ID			**WSAM1722HA**	**WSAM1722IA**	**WSA1722JA**					
Date of Collection			**4/7/2011**	**9/9/2011**	**4/13/2012**					
Sample Depth (ft TOIC)			**22**	**22**	**22**					
Dilution Factor (-)			**1**	**1**	**1**					
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U					
acetone	50	10	3.35 FB	U	U					
chlorobenzene	5*	0.5	U	U	U					
chloroform	7	0.3	U	U	U					
cis-1,2-dichloroethene	5*	1.0	0.280 F	0.320 F	0.130 F					
hexachlorobutadiene	0.5	0.6	U	U	U					
methyl tert-butyl ether	10	5.0	U	U	U					
methylene chloride	5*	1.0	U	U	U					
tetrachloroethene (PCE)	5*	1.0	10.2	12.8	10.8					
toluene	5*	1.0	U	U	U					
trans-1,2-Dichloroethene	5*	1.0	U	U	U					
trichloroethene (TCE)	5*	1.0	14.0	17.8	12.1					
total VOCs	-	--	27.83	30.92	23.03					
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U					
ethene	--	5	U	UJ	U					
methane	--	5	U	U	U					
Wet Chemistry										
DOC (mg/L)	--	1	1.9	1.1	0.53 F					
sulfate (mg/L)	250	1	4.9	5.8	4.7					
Field Parameters										
ORP (mV)	--	--	157	163	236					
oxygen (mg/L)	--	--	3.26	3.17	5.12					
pH (-)	--	--	7.11	6.57	6.06					

Table 3-2
Building 817/WSA Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	WSA-MW18							
Sample ID			**WSAMW-18**	**WSAM1814BB**	**WSAM1814AB**	**WSAM1814BB**	**WSAM1814CA**	**WSAM1814DA**	**WSAM1814EB**	**WSAM1814FB**
Date of Collection			**10/24/2006**	**2/21/2007**	**9/23/2008**	**12/31/2008**	**4/8/2009**	**6/15/2009**	**9/18/2009**	**4/15/2010**
Sample Depth (ft TOIC)			**12.3**	**14**	**14**	**14**	**14**	**14**	**14**	**14**
Dilution Factor (-)			**2**	**2.5**	**2**	**2**	**2**	**2**	**2**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	0.310 F	0.240 F	U	0.150 F	U	0.250 F
acetone	50	10	U	U	U	U	U	U	U	U
chlorobenzene	5*	0.5	U	U	U	U	U	U	U	U
chloroform	7	0.3	U	U	0.160 F	U	U	U	U	0.110 F
cis-1,2-dichloroethene	5*	1.0	U	U	0.310 F	0.620 F	0.600 F	0.910 F	0.720 F	0.410 F
hexachlorobutadiene	0.5	0.6	U	U	U	U	U	U	U	U
methyl tert-butyl ether	10	5.0	0.54 F	0.525 F	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	53 J	37.3	39.5	38.8	31.8	36.2	40.8	39.3
toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	68 J	49.1	43.6	48.7	37.5	36.3	44.4	42.1
total VOCs	-	--	121.54	86.925	83.88	88.36	69.9	73.56	85.92	82.17
Method RSK-175 (µg/L)										
ethane	--	5	NA	NA	U	U	U	U	U	U
ethene	--	5	NA	NA	U	U	U	U	U	U
methane	--	5	NA	NA	U	U	U	U	U	U
Wet Chemistry										
DOC (mg/L)	--	1	NA	NA	1.3	0.81 F	0.48 F	0.42 F	0.98 F	0.89 F
sulfate (mg/L)	250	1	NA	NA	7.3	13	11	7.8	7.0	10
Field Parameters										
ORP (mV)	--	--	181	360	378	287	190	176	158	79
oxygen (mg/L)	--	--	6.1	4.21	6.80	7.48	7.68	5.80	6.80	2.65
pH (-)	--	--	7.40	6.93	6.05	6.82	6.76	5.79	6.75	7.91

Table 3-2
Building 817/WSA Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**WSA-MW18**							
Sample ID			**WSAM1814GA**	**WSAM1814HA**	**WSAM1814IA**	**WASM1814JA**				
Date of Collection			**9/29/2010**	**4/7/2011**	**9/8/2011**	**4/13/2012**				
Sample Depth (ft TOIC)			**14**	**14**	**14**	**14**				
Dilution Factor (-)			**1**	**1**	**1**	**1**				
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	0.380 F	0.230 F	0.340 F	0.110 F				
acetone	50	10	U	4.19 FB	U	U				
chlorobenzene	5*	0.5	U	U	U	U				
chloroform	7	0.3	0.170 F	U	U	U				
cis-1,2-dichloroethene	5*	1.0	0.620 F	0.140 F	0.310 F	0.410 F				
hexachlorobutadiene	0.5	0.6	U	U	U	U				
methyl tert-butyl ether	10	5.0	U	U	U	U				
methylene chloride	5*	1.0	U	U	U	U				
tetrachloroethene (PCE)	5*	1.0	51.3	40.1	53.1	29.5				
toluene	5*	1.0	U	U	U	U				
trans-1,2-Dichloroethene	5*	1.0	U	U	U	U				
trichloroethene (TCE)	5*	1.0	58.4	45.5	55.7	28.5				
total VOCs	-	--	110.87	90.16	109.45	58.52				
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U	U				
ethene	--	5	U	U	UJ	U				
methane	--	5	U	U	U	U				
Wet Chemistry										
DOC (mg/L)	--	1	0.96 F	0.71 F	1.4	U				
sulfate (mg/L)	250	1	9.9	9.3	6.3	8.0				
Field Parameters										
ORP (mV)	--	--	211	63	188	117				
oxygen (mg/L)	--	--	3.54	4.82	3.50	5.91				
pH (-)	--	--	6.90	7.38	7.34	7.40				

Table 3-2
Building 817/WSA Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	WSA-MW19							
Sample ID			**WSAMW-19**	**WSAM1918AB**	**WSAM1918BB**	**WSAM1918CA**	**WSAM1918DA**	**WSAM1918DA**	**WSAM1918FB**	**WSAM1918GA**
Date of Collection			**11/2/2006**	**9/23/2008**	**12/31/2008**	**4/8/2009**	**6/15/2009**	**9/18/2009**	**4/14/2010**	**9/29/2010**
Sample Depth (ft TOIC)			**17.8**	**17.8**	**18**	**18**	**18**	**18**	**18**	**18**
Dilution Factor (-)			**4**	**2**	**2**	**2**	**2**	**2**	**1**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U	U	U	U	0.190 F	0.250 F
acetone	50	10	U	U	U	U	U	U	1.85 F	1.62 F
chlorobenzene	5*	0.5	0.32 F	U	U	U	U	U	U	U
chloroform	7	0.3	U	0.140 F	U	U	U	0.240 F	0.120 F	0.120 F
cis-1,2-dichloroethene	5*	1.0	U	0.440 F	0.340 F	U	0.300 F	0.320 F	0.380 F	0.320 F
hexachlorobutadiene	0.5	0.6	U	U	U	U	U	U	U	U
methyl tert-butyl ether	10	5.0	0.49 F	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	46	36.3	33.3	29.7	34.3	34.7	42.0	46.5
toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	68	51.3	49.6	42.5	47.4	53.4	55.6	62.4
total VOCs	-	--	114.81	88.18	83.24	72.2	82.0	88.66	100.14	111.21
Method RSK-175 (µg/L)										
ethane	--	5	NA	U	U	U	U	U	U	U
ethene	--	5	NA	U	U	U	U	U	U	U
methane	--	5	NA	U	U	U	U	U	U	U
Wet Chemistry										
DOC (mg/L)	--	1	NA	1.1	1	0.60 F	U	0.68 F	0.39 F	0.67 F
sulfate (mg/L)	250	1	NA	8.6	8.2	9.3	10	9.0	8.2	9.5
Field Parameters										
ORP (mV)	--	--	189	310	297	158	312	311	151	99
oxygen (mg/L)	--	--	6.1	5.38	4.05	5.72	6.74	8.20	2.11	7.77
pH (-)	--	--	7.37	6.28	7.03	7.11	6.92	7.14	7.53	7.02

Table 3-2
Building 817/WSA Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**WSA-MW19**							
Sample ID			**WSAM1918HA**	**WSAM1918IA**	**WSAM1918JA**					
Date of Collection			**4/7/2011**	**9/8/2011**	**4/13/2012**					
Sample Depth (ft TOIC)			**18**	**18**	**18**					
Dilution Factor (-)			**1**	**1**	**1**					
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	0.210 F	0.290 F	0.280 F					
acetone	50	10	3.42 FB	U	U					
chlorobenzene	5*	0.5	U	U	U					
chloroform	7	0.3	0.120 F	0.130 F	U					
cis-1,2-dichloroethene	5*	1.0	0.300 F	0.260 F	0.150 F					
hexachlorobutadiene	0.5	0.6	U	U	U					
methyl tert-butyl ether	10	5.0	U	U	U					
methylene chloride	5*	1.0	U	U	U					
tetrachloroethene (PCE)	5*	1.0	39.5	43.8	31.6					
toluene	5*	1.0	U	U	U					
trans-1,2-Dichloroethene	5*	1.0	U	U	U					
trichloroethene (TCE)	5*	1.0	47.8	55.0	44.2					
total VOCs	-	--	91.35	99.48	76.23					
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U					
ethene	--	5	U	UJ	U					
methane	--	5	U	U	U					
Wet Chemistry										
DOC (mg/L)	--	1	1.1	1.3	U					
sulfate (mg/L)	250	1	9.2	9.1	8.0					
Field Parameters										
ORP (mV)	--	--	141	212	238					
oxygen (mg/L)	--	--	0.08	4.50	9.54					
pH (-)	--	--	7.75	7.16	6.69					

Table 3-2
Building 817/WSA Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	WSA-MW21							
Sample ID			**WSAMW-21**	**WSAM2124AB**	**WSAM2124BB**	**WSAM2124CA**	**WSAM2124DA**	**WSAM2124EB**	**WSAM2124FB**	**WSAM2124GA**
Date of Collection			**11/2/2006**	**9/23/2008**	**12/31/2008**	**4/8/2009**	**6/15/2009**	**9/18/2009**	**4/14/2010**	**10/1/2010**
Sample Depth (ft TOIC)			**24.3**	**24.3**	**24**	**24**	**24**	**24**	**24**	**24**
Dilution Factor (-)			**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	U	2.12 F	1.75 F	U
chlorobenzene	5*	0.5	U	U	U	U	U	U	U	U
chloroform	7	0.3	0.58	U	0.310 F	0.300 F	U	U	0.220 F	U
cis-1,2-dichloroethene	5*	1.0	U	U	U	U	U	U	0.540 F	0.120 F
hexachlorobutadiene	0.5	0.6	U	U	U	U	U	U	U	U
methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	1.1	0.380 F	0.860 F	0.740 F	0.380 F	0.290 F	1.11	0.270 F
toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	31	5.28	20.4	17.4	6.95	5.45	18.3	5.60
total VOCs	-	--	32.68	5.64	21.57	18.44	7.33	7.86	21.92	5.99
Method RSK-175 (µg/L)										
ethane	--	5	NA	U	U	U	U	U	U	U
ethene	--	5	NA	U	U	U	U	U	U	U
methane	--	5	NA	6.0	U	U	U	2.0 F	U	5.1
Wet Chemistry										
DOC (mg/L)	--	1	NA	0.52 F	1.1	0.50 F	U	1.4	0.36 F	U
sulfate (mg/L)	250	1	NA	22	7.1	6.6	19	21	9.3	19
Field Parameters										
ORP (mV)	--	--	238	85	287	255	317	307	141	232
oxygen (mg/L)	--	--	8.2	4.42	8.50	6.60	4.45	3.92	6.57	0.00
pH (-)	--	--	7.03	7.61	6.16	6.91	6.96	7.47	6.99	6.76

Table 3-2
Building 817/WSA Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**WSA-MW21**							
Sample ID			**WSAM2124HA**	**WSAM2124IA**	**WSAM2124JA**					
Date of Collection			**4/7/2011**	**9/8/2011**	**4/13/2012**					
Sample Depth (ft TOIC)			**24**	**24**	**24**					
Dilution Factor (-)			**1**	**1**	**1**					
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U					
acetone	50	10	3.08 FB	U	U					
chlorobenzene	5*	0.5	U	U	U					
chloroform	7	0.3	0.270 F	U	0.180 F					
cis-1,2-dichloroethene	5*	1.0	0.140 F	U	0.200 F					
hexachlorobutadiene	0.5	0.6	U	U	U					
methyl tert-butyl ether	10	5.0	U	U	U					
methylene chloride	5*	1.0	U	U	U					
tetrachloroethene (PCE)	5*	1.0	1.35	1.06	1.1					
toluene	5*	1.0	U	U	U					
trans-1,2-Dichloroethene	5*	1.0	U	U	U					
trichloroethene (TCE)	5*	1.0	20.6	12.0	18.6					
total VOCs	-	--	25.44	13.06	20.08					
Method RSK-175 (µg/L)										
ethane	--	5	U	U	U					
ethene	--	5	U	UJ	U					
methane	--	5	U	6.3	U					
Wet Chemistry										
DOC (mg/L)	--	1	1.4	U	U					
sulfate (mg/L)	250	1	6.5	21	9.6					
Field Parameters										
ORP (mV)	--	--	140	107	215					
oxygen (mg/L)	--	--	6.36	3.91	5.66					
pH (-)	--	--	7.23	7.62	6.71					

Table 3-2
Building 817/WSA Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**WSA-MW23**							
Sample ID			**WSAMW-23**	**WSAM2324AB**		**WSAM2324AB**	**WSAM2324FB**	**WSAM2324GA**	**WSAM2324IA**	
Date of Collection			**10/24/2006**	**9/23/2008**		**9/18/2009**	**4/14/2010**	**10/1/2010**	**9/8/2011**	
Sample Depth (ft TOIC)			**24.2**	**24.2**		**24.2**	**24**	**24**	**24**	
Dilution Factor (-)			**1**	**1**		**1**	**1**	**1**	**1**	
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	Monitoring well not sampled, annual sampling frequency.	U	U	U	U	
acetone	50	10	U	U		2.65 F	1.70 F	1.38 F	U	
chlorobenzene	5*	0.5	U	U		U	U	U	U	
chloroform	7	0.3	U	U		U	U	U	U	
cis-1,2-dichloroethene	5*	1.0	U	U		U	U	U	U	
hexachlorobutadiene	0.5	0.6	0.40 F	U		U	U	U	U	
methyl tert-butyl ether	10	5.0	U	U		U	U	U	U	
methylene chloride	5*	1.0	U	U		U	U	U	U	
tetrachloroethene (PCE)	5*	1.0	U	U		U	U	U	0.150 F	
toluene	5*	1.0	U	U		U	U	U	U	
trans-1,2-Dichloroethene	5*	1.0	U	U		U	U	U	U	
trichloroethene (TCE)	5*	1.0	U	U		U	U	U	U	
total VOCs	-	--	0.4	0		2.65	1.7	1.38	0.150	
Method RSK-175 (µg/L)										
ethane	--	5	NA	U		U	U	U	U	
ethene	--	5	NA	U		U	U	U	UJ	
methane	--	5	NA	1.5 F		17	52	180	94	
Wet Chemistry										
DOC (mg/L)	--	1	NA	0.45 F		0.94 F	U	U	U	
sulfate (mg/L)	250	1	NA	15		12	13	13	11	
Field Parameters										
ORP (mV)	--	--	31	69		315	-31	52	-88	
oxygen (mg/L)	--	--	4.8	4.91		4.88	0.00	0.00	0.00	
pH (-)	--	--	7.74	7.93		7.78	7.85	7.32	7.85	

Table 3-2
Building 817/WSA Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	B817-MW-001							
Sample ID			**B817-MW-001**	**817M0113BB**	**817M0112BB**	**817M0111DA**	**817M0111FB**			**817M0110JA**
Date of Collection			**10/24/2006**	**2/21/2007**	**11/24/2008**	**6/15/2009**	**4/15/2010**	**10/1/2010**	**4/7/2011**	**4/16/2012**
Sample Depth (ft TOIC)			**10-20**	**10-20**	**10-20**	**10-20**	**10-20**			**10-20**
Dilution Factor (-)			**1**	**1**	**2**	**1**	**1**			**9**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	NA	NA	NA	Not Sampled due to Injection Residuals	Not Sampled due to Injection Residuals	NA
acetone	50	10	U	U	NA	NA	NA			NA
chlorobenzene	5*	0.5	U	U	NA	NA	NA			NA
chloroform	7	0.3	U	U	NA	NA	NA			NA
cis-1,2-dichloroethene	5*	1.0	U	U	NA	NA	NA			NA
hexachlorobutadiene	0.5	0.6	U	U	NA	NA	NA			NA
methyl tert-butyl ether	10	5.0	U	U	NA	NA	NA			NA
methylene chloride	5*	1.0	U	0.230 F	NA	NA	NA			NA
tetrachloroethene (PCE)	5*	1.0	0.40 F	0.680 F	NA	NA	NA			NA
toluene	5*	1.0	U	U	NA	NA	NA			NA
trans-1,2-Dichloroethene	5*	1.0	U	U	NA	NA	NA			NA
trichloroethene (TCE)	5*	1.0	2.4	1.08	NA	NA	NA			NA
total VOCs	-	--	2.8	1.99	NA	NA	NA			NA
Method RSK-175 (µg/L)										
ethane	--	5	NA	NA	NA	NA	NA			NA
ethene	--	5	NA	NA	NA	NA	NA			NA
methane	--	5	NA	NA	NA	NA	NA			NA
Wet Chemistry										
DOC (mg/L)	--	1	NA	NA	25	10	2.5			58
sulfate (mg/L)	250	1	NA	NA	NA	NA	NA			NA
Field Parameters										
ORP (mV)	--	--	NA	317	1	-81	122			-157
oxygen (mg/L)	--	--	NA	10.38	5.21	5.22	3.83			0.00
pH (-)	--	--	NA	7.76	6.57	6.87	7.56			6.50

Table 3-2
Building 817/WSA Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	B817-MW-002							
Sample ID			**B817-MW-002**	**817M0210BB**	**817M0211BB**	**817M0210DA**	**817M0211FB**			**817M0209JA**
Date of Collection			**10/24/2006**	**2/21/2007**	**11/24/2008**	**6/15/2009**	**4/15/2010**	**10/1/2010**	**4/7/2011**	**4/16/2012**
Sample Depth (ft TOIC)			**10-20**	**10-20**	**10-20**	**10-20**	**10-20**	**10-20**	**10-20**	**10-20**
Dilution Factor (-)			**1**	**1**	**9**	**9**	**1**			**41**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	NA	NA	NA	Not Sampled due to Injection Residuals	Not Sampled due to Injection Residuals	NA
acetone	50	10	U	2.13 F	NA	NA	NA			NA
chlorobenzene	5*	0.5	U	U	NA	NA	NA			NA
chloroform	7	0.3	0.49 F	0.160 F	NA	NA	NA			NA
cis-1,2-dichloroethene	5*	1.0	U	U	NA	NA	NA			NA
hexachlorobutadiene	0.5	0.6	U	U	NA	NA	NA			NA
methyl tert-butyl ether	10	5.0	U	U	NA	NA	NA			NA
methylene chloride	5*	1.0	U	0.140 F	NA	NA	NA			NA
tetrachloroethene (PCE)	5*	1.0	5.6	3.84	NA	NA	NA			NA
toluene	5*	1.0	U	0.210 F	NA	NA	NA			NA
trans-1,2-Dichloroethene	5*	1.0	U	U	NA	NA	NA			NA
trichloroethene (TCE)	5*	1.0	25	5.17	NA	NA	NA			NA
total VOCs	-	--	31.09	9.31	NA	NA	NA			NA
Method RSK-175 (µg/L)										
ethane	--	5	NA	NA	NA	NA	NA			NA
ethene	--	5	NA	NA	NA	NA	NA			NA
methane	--	5	NA	NA	NA	NA	NA			NA
Wet Chemistry										
DOC (mg/L)	--	1	NA	NA	88	130	2.9			320
sulfate (mg/L)	250	1	NA	NA	NA	NA	NA			NA
Field Parameters										
ORP (mV)	--	--	NA	277	-77	-91	-90			-167
oxygen (mg/L)	--	--	NA	1.91	10.26	7.63	3.13			0.00
pH (-)	--	--	NA	7.74	6.37	6.19	7.22			6.25

Table 3-2
Building 817/WSA Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	B817-MW-003							
Sample ID			**B817-MW-003**	**817M0309BB**	**817M0309BB**	**817M0309DA**	**817M0309FB**		**817M0309HA**	**817M0309JA**
Date of Collection			**10/24/2006**	**2/21/2007**	**11/24/2008**	**6/15/2009**	**4/15/2010**	**10/1/2010**	**4/7/2011**	**4/16/2012**
Sample Depth (ft TOIC)			**10-20**	**10-20**	**10-20**	**10-20**	**10-20**	**10-20**	**10-20**	**10-20**
Dilution Factor (-)			**1**	**2.5**	**9**	**1**	**1**		**1**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	NA	NA	NA	Not Sampled due to Injection Residuals	NA	NA
acetone	50	10	U	3.60 F	NA	NA	NA		NA	NA
chlorobenzene	5*	0.5	U	U	NA	NA	NA		NA	NA
chloroform	7	0.3	U	U	NA	NA	NA		NA	NA
cis-1,2-dichloroethene	5*	1.0	U	U	NA	NA	NA		NA	NA
hexachlorobutadiene	0.5	0.6	U	U	NA	NA	NA		NA	NA
methyl tert-butyl ether	10	5.0	0.28 F	U	NA	NA	NA		NA	NA
methylene chloride	5*	1.0	U	0.325 F	NA	NA	NA		NA	NA
tetrachloroethene (PCE)	5*	1.0	13	8.78 J	NA	NA	NA		NA	NA
toluene	5*	1.0	U	U	NA	NA	NA		NA	NA
trans-1,2-Dichloroethene	5*	1.0	U	U	NA	NA	NA		NA	NA
trichloroethene (TCE)	5*	1.0	21	11.1 J	NA	NA	NA		NA	NA
total VOCs	-	--	34.28	20.205	NA	NA	NA		NA	NA
Method RSK-175 (µg/L)										
ethane	--	5	NA	NA	NA	NA	NA		NA	NA
ethene	--	5	NA	NA	NA	NA	NA		NA	NA
methane	--	5	NA	NA	NA	NA	NA		NA	NA
Wet Chemistry										
DOC (mg/L)	--	1	NA	NA	82	5.5	6.2		19	2.1
sulfate (mg/L)	250	1	NA	NA	NA	NA	NA		NA	NA
Field Parameters										
ORP (mV)	--	--	NA	183	-62	-80	-87		111	-126
oxygen (mg/L)	--	--	NA	2.61	7.88	7.78	3.09		6.85	0.00
pH (-)	--	--	NA	7.77	6.58	6.47	7.23		5.15	6.64

Table 4-1
Building 775 Performance Monitoring Sample Analysis Summary

Sampling Locations	Screen Interval (ft mean sea level [msl])	Sampling Rationale	Target Analytes/ EPA Method Numbers	Performance (Quarterly)	Performance (Semi-annual, after 1st year)	# of Samples[1]
775VMW-4	447.64 - 457.64	Upgradient	• VOCs - SW8260B • Field parameters - water levels [3]	√[4]	√[4]	12
775VMW-5	442.94 - 452.94	Within 50 ppb contour		√	√	
775MW-6	439.18 - 449.18	Within 50 ppb contour		√	√	
775VMW-8	439.29 - 449.29	Within 50 ppb contour		√	√	
775VMW-9	412.92 - 427.92	Outside 50 ppb contour, downgradient		√[4]	√[4]	
775VMW-10	412.14 - 427.14	Within 50 ppb contour		√	√	
775VMW-19R	440.58 - 460.58	Downgradient		√	√	
775MW-20	398.33 - 408.33	Within 50 ppb contour		√	√	
775VMW-20R	403.85 - 413.85	Downgradient		√[4]	√[4]	
775MW-27	435.19 - 455.19	Within 50 ppb contour		√	√	
775MW-28	424.72 - 444.72	Within 50 ppb contour		√	√	
EW-1	436.56 - 456.56	Within 50 ppb contour		√	√	
			Effluent			
Effluent Sample 1[2]		At discharge point from pipe into manhole	• VOCs - SW8260B (EPA Method 624 list)	√	√	

Notes:

1 Please refer to FSP for details concerning the number of QA/QC samples and their locations. At least one MS/MSD and two field duplicates will be collected per SDG; one equipment blank per day and one ambient blank per day; one trip blank per cooler containing VOCs.

2 The total discharge flow will be recorded during sampling.

3 Water levels will be collected to verify the capture zone of the system.

4 Annual sampling only.

Table 4-2
Building 775 Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**775VMW-4**							
Sample ID			**775VM0465AA**		**775VM0465DA**	**775VM0465GA**	**775VM0465KA**			
Date of Collection			**1/12/2009**		**9/22/2009**	**9/27/2010**	**9/8/2011**			
Sample Depth (ft TOIC)			**65**		**65**	**65**	**65**			
Dilution Factor (-)			**1**		**1**	**1**	**1**			
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	0.220 F	Monitoring well not sampled, annual sampling frequency.	0.280 F	0.240 F	0.250 F			
1,1-dichloroethane	5*	1.0	U		U	U	U			
1,1-dichloroethene	5*	1.0	U		U	U	U			
1,2,3-trichlorobenzene	5*	1.0	U		U	U	U			
1,2,4-trichlorobenzene	5*	1.0	U		U	U	U			
1,2-dichloroethane	0.6	0.5	U		U	U	U			
acetone	50	10	U		U	1.49 FB	U			
chloroform	7	0.3	0.630		0.720	0.640	0.750			
cis-1,2-dichloroethene (DCE)	5*	1.0	U		U	U	U			
tetrachloroethene (PCE)	5*	1.0	U		U	U	U			
trichloroethene (TCE)	5*	1.0	5.18		7.26	6.35	6.24			
trichlorofluoromethane	5*	1.0	U		U	U	U			
total VOCs	-	--	6.03		8.26	8.72	7.24			
Field Parameters										
ORP (mV)	--	--	189		315	143	162			
oxygen (mg/L)	--	--	2.36		5.36	6.82	0.00			
pH (-)	--	--	7.20		7.36	6.83	7.35			

Table 4-2
Building 775 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	775VMW-5							
Sample ID			**775VM0570AA**	**775VM0570AA**	**775VM0570BB**	**775VM0570CA**	**775VM0570DA**	**775VM0570FA**	**775VM0570GA**	**775VM0570IA**
Date of Collection			**11/20/2006**	**1/12/2009**	**4/9/2009**	**6/18/2009**	**9/22/2009**	**4/16/2010**	**9/27/2010**	**4/4/2011**
Sample Depth (ft TOIC)			**70**	**70**	**70**	**70**	**70**	**70**	**70**	**70**
Dilution Factor (-)			**5**	**2.5**	**2.5**	**2.5**	**2.5**	**2**	**2**	**2**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	0.810 F	0.450 F	0.450 F	0.500 F	0.550 F	0.440 F	0.430 F	0.440 F
1,1-dichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2,3-trichlorobenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2,4-trichlorobenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	0.5	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	U	U	1.05 FB	5.34 FB
chloroform	7	0.3	0.220 F	U	U	U	0.300 F	U	0.170 F	0.220 F
cis-1,2-dichloroethene (DCE)	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	81.2	64.7	68.8	74.0	78.9	67.6	71.7	71.0
trichlorofluoromethane	5*	1.0	U	U	U	U	U	U	U	U
total VOCs	-	--	82.23	65.15	69.25	74.5	79.75	68.04	73.35	77
Field Parameters										
ORP (mV)	--	--	39	218	161	301	329	159	124	251
oxygen (mg/L)	--	--	9.53	10.84	9.60	10.68	10.00	8.79	9.55	6.71
pH (-)	--	--	7.47	7.36	6.80	7.21	7.16	7.71	7.04	7.47

Table 4-2
Building 775 Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**775VMW-5**							
Sample ID			**775VM0570KA**	**775VM0570MA**						
Date of Collection			**9/8/2011**	**4/12/2012**						
Sample Depth (ft TOIC)			**70**	**70**						
Dilution Factor (-)			**2**	**1**						
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	0.510 F	0.400 F						
1,1-dichloroethane	5*	1.0	U	U						
1,1-dichloroethene	5*	1.0	U	U						
1,2,3-trichlorobenzene	5*	1.0	U	U						
1,2,4-trichlorobenzene	5*	1.0	U	U						
1,2-dichloroethane	0.6	0.5	U	U						
acetone	50	10	U	1.80 F						
chloroform	7	0.3	0.160 F	0.140 F						
cis-1,2-dichloroethene (DCE)	5*	1.0	U	U						
tetrachloroethene (PCE)	5*	1.0	U	U						
trichloroethene (TCE)	5*	1.0	79.2	62.8						
trichlorofluoromethane	5*	1.0	U	U						
total VOCs	-	--	79.87	65.14						
Field Parameters										
ORP (mV)	--	--	108	161						
oxygen (mg/L)	--	--	7.70	6.84						
pH (-)	--	--	7.22	7.16						

Table 4-2
Building 775 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	775MW-6							
Sample ID			**775M0673AA**	**775M0673AA**	**775M0673BB**	**775M0673CA**	**775M0673DA**	**775M0673FA**	**775M0673GA**	**775M0673IA**
Date of Collection			**11/20/2006**	**1/12/2009**	**4/9/2009**	**6/18/2009**	**9/22/2009**	**4/16/2010**	**9/27/2010**	**4/4/2011**
Sample Depth (ft TOIC)			**73**	**73**	**73**	**73**	**73**	**73**	**73**	**73**
Dilution Factor (-)			**2**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	0.700 F	0.340 F	0.260 F	0.400 F	0.310 F	0.240 F	0.230 F	0.200 F
1,1-dichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2,3-trichlorobenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2,4-trichlorobenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	0.5	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	U	U	U	2.65 FB
chloroform	7	0.3	0.950	1.04	0.910	1.01	0.960	0.880	0.820	0.860
cis-1,2-dichloroethene (DCE)	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	43.9	19.9	14.9	36.5	19.4	17.7	18.3	15.6
trichlorofluoromethane	5*	1.0	0.580 F	0.510 F	0.500 F	0.690 F	0.550 F	0.380 F	0.370 F	0.290 F
total VOCs	-	--	45.55	21.79	16.57	38.6	21.22	19.2	19.72	19.6
Field Parameters										
ORP (mV)	--	--	352	218	134	308	339	114	106	175
oxygen (mg/L)	--	--	7.04	7.39	6.59	9.21	7.44	3.61	9.05	3.94
pH (-)	--	--	7.76	7.67	6.62	7.54	7.27	8.03	6.97	7.89

Table 4-2
Building 775 Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**775MW-6**							
Sample ID			**775M0673KA**	**775M0673MA**						
Date of Collection			**9/8/2011**	**4/12/2012**						
Sample Depth (ft TOIC)			**73**	**73**						
Dilution Factor (-)			**1**	**1**						
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	0.300 F	0.190 F						
1,1-dichloroethane	5*	1.0	U	U						
1,1-dichloroethene	5*	1.0	U	U						
1,2,3-trichlorobenzene	5*	1.0	U	U						
1,2,4-trichlorobenzene	5*	1.0	U	U						
1,2-dichloroethane	0.6	0.5	U	U						
acetone	50	10	1.38 FB	U						
chloroform	7	0.3	1.10	0.800						
cis-1,2-dichloroethene (DCE)	5*	1.0	U	U						
tetrachloroethene (PCE)	5*	1.0	U	U						
trichloroethene (TCE)	5*	1.0	27.3	18.1						
trichlorofluoromethane	5*	1.0	0.470 F	0.240 F						
total VOCs	-	--	30.55	19.33						
Field Parameters										
ORP (mV)	--	--	195	144						
oxygen (mg/L)	--	--	6.39	5.29						
pH (-)	--	--	7.45	7.49						

Table 4-2
Building 775 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	775VMW-8							
Sample ID			**775M0873AA**	**775M0873AA**	**775M0873BB**	**775VM0873CA**	**775VM0873DA**	**775VM0873FA**	**775VM0873GA**	**775VM0873IA**
Date of Collection			**11/20/2006**	**1/12/2009**	**4/9/2009**	**6/18/2009**	**9/22/2009**	**4/16/2010**	**9/27/2010**	**4/4/2011**
Sample Depth (ft TOIC)			**73**	**73**	**73**	**73**	**73**	**73**	**73**	**73**
Dilution Factor (-)			**1**	**1**	**2**	**2**	**2**	**1**	**1**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	0.760 F	0.700 F	0.760 F	0.720 F	0.700 F	0.640 F	0.460 F	0.410 F
1,1-dichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2,3-trichlorobenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2,4-trichlorobenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	0.5	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	U	U	1.30 FB	2.43 FB
chloroform	7	0.3	U	0.110 F	0.110 F	0.110 F	U	U	U	U
cis-1,2-dichloroethene (DCE)	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	32.4	38.2	37.1	37.5	39.3	32.1	22.2	15.2
trichlorofluoromethane	5*	1.0	U	U	U	U	U	U	U	U
total VOCs	-	--	33.16	39.01	37.97	38.33	40	32.74	23.96	18.04
Field Parameters										
ORP (mV)	--	--	320	205	253	137	346	109	90	164
oxygen (mg/L)	--	--	4.82	5.53	3.68	4.47	7.15	0.62	7.44	3.10
pH (-)	--	--	7.10	7.65	7.27	7.14	7.19	7.90	7.08	8.28

Table 4-2
Building 775 Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**775VMW-8**							
Sample ID			**775VM0873KA**	**775VM0873MA**						
Date of Collection			**9/8/2011**	**4/12/2012**						
Sample Depth (ft TOIC)			**73**	**73**						
Dilution Factor (-)			**1**	**1**						
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	0.620 F	0.220 F						
1,1-dichloroethane	5*	1.0	U	U						
1,1-dichloroethene	5*	1.0	U	U						
1,2,3-trichlorobenzene	5*	1.0	U	U						
1,2,4-trichlorobenzene	5*	1.0	U	U						
1,2-dichloroethane	0.6	0.5	U	U						
acetone	50	10	U	U						
chloroform	7	0.3	U	U						
cis-1,2-dichloroethene (DCE)	5*	1.0	U	U						
tetrachloroethene (PCE)	5*	1.0	U	U						
trichloroethene (TCE)	5*	1.0	31.0	12.2						
trichlorofluoromethane	5*	1.0	U	U						
total VOCs	-	--	31.62	12.42						
Field Parameters										
ORP (mV)	--	--	163	163						
oxygen (mg/L)	--	--	3.54	2.34						
pH (-)	--	--	7.77	7.40						

Table 4-2
Building 775 Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**775VMW-9**							
Sample ID			**775VM0992AA**	**775VM0992AA**		**775VM0992DA**	**775VM0992GA**	**775VM0992KA**		
Date of Collection			**11/17/2006**	**1/12/2009**		**9/22/2009**	**9/27/2010**	**9/8/2011**		
Sample Depth (ft TOIC)			**92**	**92**		**92**	**92**	**92**		
Dilution Factor (-)			**1**	**1**		**1**	**1**	**1**		
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	Monitoring well not sampled, annual sampling frequency.	U	U	U		
1,1-dichloroethane	5*	1.0	U	U		U	U	U		
1,1-dichloroethene	5*	1.0	U	U		U	U	U		
1,2,3-trichlorobenzene	5*	1.0	U	U		U	U	U		
1,2,4-trichlorobenzene	5*	1.0	U	U		U	U	U		
1,2-dichloroethane	0.6	0.5	U	U		U	U	U		
acetone	50	10	U	U		1.83 F	U	5.00 FB		
chloroform	7	0.3	U	0.320 F		0.110 F	U	0.250 F		
cis-1,2-dichloroethene (DCE)	5*	1.0	U	U		U	U	U		
tetrachloroethene (PCE)	5*	1.0	U	U		U	U	U		
trichloroethene (TCE)	5*	1.0	0.330 F	0.500 F		0.590 F	0.570 F	0.470 F		
trichlorofluoromethane	5*	1.0	U	U		U	U	U		
total VOCs	-	--	0.33	0.82		2.53	0.57	1.22		
Field Parameters										
ORP (mV)	--	--	283	-6		124	162	15		
oxygen (mg/L)	--	--	1.67	1.89		2.44	1.11	0.65		
pH (-)	--	--	7.56	8.81		7.10	8.11	8.05		

Table 4-2
Building 775 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	775VMW-10							
Sample ID			**775VM1095AA**	**775VM1095AA**	**775VM1095BB**	**775VM1095CA**	**775VM1095DA**	**775VM1095FA**	**775VM1095GA**	**775VM1095IA**
Date of Collection			**11/17/2006**	**1/12/2009**	**4/15/2009**	**6/18/2009**	**9/14/2009**	**4/16/2010**	**9/27/2010**	**4/4/2011**
Sample Depth (ft TOIC)			**95**	**95**	**95**	**95**	**95**	**95**	**95**	**95**
Dilution Factor (-)			**5**	**2**	**2**	**2**	**2**	**1**	**1**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	0.900 F	0.500 F♦	0.460 F	0.440 F	0.420 F♦	0.420 F♦	0.450 F	0.450 F
1,1-dichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2,3-trichlorobenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2,4-trichlorobenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	0.5	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	U	U	1.14 FB	2.46 FB
chloroform	7	0.3	U	U	U	U	U	U	U	0.200 F
cis-1,2-dichloroethene (DCE)	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	70.8	43.5♦	43.7	44.0 ♦	45.8 ♦	41.6 ♦	40.4	47.7
trichlorofluoromethane	5*	1.0	U	U	U	U	U	U	U	U
total VOCs	-	--	71.7	44	44.16	44.44	46.22	42.02	41.99	50.81
Field Parameters										
ORP (mV)	--	--	353	225	154	179	104	142	173	229
oxygen (mg/L)	--	--	9.40	9.60	9.83	9.42	9.54	8.88	6.06	5.25
pH (-)	--	--	7.81	6.92	7.55	7.01	7.05	7.89	7.92	7.51

Table 4-2
Building 775 Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**775VMW-10**							
Sample ID			**775VM1095IA**	**775VM1095MA**						
Date of Collection			**9/8/2011**	**4/12/2012**						
Sample Depth (ft TOIC)			**95**	**95**						
Dilution Factor (-)			**1**	**1**						
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	0.390 F	0.440 F						
1,1-dichloroethane	5*	1.0	U	U						
1,1-dichloroethene	5*	1.0	U	U						
1,2,3-trichlorobenzene	5*	1.0	U	U						
1,2,4-trichlorobenzene	5*	1.0	U	U						
1,2-dichloroethane	0.6	0.5	U	U						
acetone	50	10	1.37 F	U						
chloroform	7	0.3	0.160 F	0.130 F						
cis-1,2-dichloroethene (DCE)	5*	1.0	U	U						
tetrachloroethene (PCE)	5*	1.0	U	U						
trichloroethene (TCE)	5*	1.0	38.9	49.6						
trichlorofluoromethane	5*	1.0	U	U						
total VOCs	-	--	40.82	50.17						
Field Parameters										
ORP (mV)	--	--	194	86						
oxygen (mg/L)	--	--	7.14	6.89						
pH (-)	--	--	7.55	7.73						

Table 4-2
Building 775 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	775VMW-19R							
Sample ID			**775M19R67AA**	**775M19R67BB**	**775VM19R67BB**	**775VM19R67DA**	**775VM19R67FA**	**775VM19R67GA**	**775VM19R67IA**	**775VM19R67KA**
Date of Collection			**1/12/2009**	**4/9/2009**	**6/18/2009**	**9/22/2009**	**4/16/2010**	**9/29/2010**	**4/4/2011**	**9/8/2011**
Sample Depth (ft TOIC)			**67**	**67**	**67**	**67**	**67**	**67**	**67**	**67**
Dilution Factor (-)			**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2,3-trichlorobenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2,4-trichlorobenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	0.5	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	1.18 F	U	1.02 FB	2.41 FB	1.04 FB
chloroform	7	0.3	0.200 F	0.140 F	U	U	U	U	U	U
cis-1,2-dichloroethene (DCE)	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	U	U	U	U	U	U	U	U
trichlorofluoromethane	5*	1.0	U	U	U	U	U	U	U	U
total VOCs	-	--	0.2	0.14	0	1.18	0	1.02	2.41	1.04
Field Parameters										
ORP (mV)	--	--	185	163	131	128	89	90	149	151
oxygen (mg/L)	--	--	8.37	7.68	9.28	9.15	8.17	10.02	6.94	8.46
pH (-)	--	--	7.19	7.27	7.04	7.09	8.42	7.10	8.35	8.00

Table 4-2
Building 775 Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**775VMW-19R**							
Sample ID			**775VM19R67MA**							
Date of Collection			**4/12/2012**							
Sample Depth (ft TOIC)			**67**							
Dilution Factor (-)			**1**							
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U							
1,1-dichloroethane	5*	1.0	U							
1,1-dichloroethene	5*	1.0	U							
1,2,3-trichlorobenzene	5*	1.0	U							
1,2,4-trichlorobenzene	5*	1.0	U							
1,2-dichloroethane	0.6	0.5	U							
acetone	50	10	U							
chloroform	7	0.3	U							
cis-1,2-dichloroethene (DCE)	5*	1.0	U							
tetrachloroethene (PCE)	5*	1.0	U							
trichloroethene (TCE)	5*	1.0	U							
trichlorofluoromethane	5*	1.0	U							
total VOCs	-	--	U							
Field Parameters										
ORP (mV)	--	--	98							
oxygen (mg/L)	--	--	6.73							
pH (-)	--	--	7.95							

Table 4-2
Building 775 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	775MW-20							
Sample ID			**775M20115AA**	**775M20115AA**	**775M20115BB**	**775M20115CA**	**775M20115DA**	**775M20115FA**	**775M20115GA**	**775VMW20115IA**
Date of Collection			**11/17/2006**	**1/12/2009**	**4/9/2009**	**6/18/2009**	**9/22/2009**	**4/16/2010**	**9/27/2010**	**4/4/2011**
Sample Depth (ft TOIC)			**115**	**115**	**115**	**115**	**115**	**115**	**115**	**115**
Dilution Factor (-)			**2.5**	**1**	**1**	**2**	**2**	**1**	**1**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	1.90 F	1.06	1.04	1.52	2.30	0.450 F	1.07	0.840 F
1,1-dichloroethane	5*	1.0	1.00 F	0.540 F	0.580 F	1.20	1.70 F	0.510 F	0.800 F	1.02
1,1-dichloroethene	5*	1.0	0.650 F	0.710 F	0.560 F	1.07	1.30 F	0.490 F	0.960 F	0.990 F
1,2,3-trichlorobenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2,4-trichlorobenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	0.5	U	U	U	0.170 F	U	U	U	U
acetone	50	10	U	U	U	U	U	U	1.01 FB	1.78 FB
chloroform	7	0.3	U	U	U	U	0.280 F	U	0.110 F	U
cis-1,2-dichloroethene (DCE)	5*	1.0	U	0.370 F	0.130 F	0.200 F	0.240 F	U	0.210 F	0.190 F
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	46.4	33.6	34.0	41.9	79.1	15.8	52.4	36.1
trichlorofluoromethane	5*	1.0	U	U	U	U	U	U	U	U
total VOCs	-	--	49.95	36.28	36.31	46.06	84.92	17.25	56.56	40.92
Field Parameters										
ORP (mV)	--	--	284	120	25	-17	109	-29	75	19
oxygen (mg/L)	--	--	1.10	1.97	0.43	0.90	2.50	0.00	0.67	0.00
pH (-)	--	--	7.94	7.62	7.10	7.37	7.24	7.87	7.65	7.71

Table 4-2
Building 775 Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**775MW-20**							
Sample ID			**775VMW20115K**	**775M20115MA**						
Date of Collection			**9/8/2011**	**4/12/2012**						
Sample Depth (ft TOIC)			**115**	**115**						
Dilution Factor (-)			**1**	**1**						
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	0.920 F	0.900 F						
1,1-dichloroethane	5*	1.0	1.41	1.63						
1,1-dichloroethene	5*	1.0	1.31	1.24						
1,2,3-trichlorobenzene	5*	1.0	U	U						
1,2,4-trichlorobenzene	5*	1.0	U	U						
1,2-dichloroethane	0.6	0.5	0.210 F	0.220 F						
acetone	50	10	3.28 F	2.55 F						
chloroform	7	0.3	0.130 F	U						
cis-1,2-dichloroethene (DCE)	5*	1.0	0.240 F	0.240 F						
tetrachloroethene (PCE)	5*	1.0	U	U						
trichloroethene (TCE)	5*	1.0	54.1	39.4						
trichlorofluoromethane	5*	1.0	U	U						
total VOCs	-	--	61.52	46.18						
Field Parameters										
ORP (mV)	--	--	-104	-77						
oxygen (mg/L)	--	--	0.44	0.22						
pH (-)	--	--	7.44	7.30						

Table 4-2
Building 775 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	775VMW-20R								
Sample ID			**775VM20R115AA**	**775VM20R115AA**		**775VMW20R115**	**775VMW20R115**	**775VMW20R115**		
Date of Collection			**11/20/2006**	**1/12/2009**		**9/22/2009**	**9/27/2010**	**9/8/2011**		
Sample Depth (ft TOIC)			**115**	**115**		**115**	**115**	**115**		
Dilution Factor (-)			**1**	**1**		**1**	**1**	**1**		
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U	Monitoring well not sampled, annual sampling frequency.	U	U	U		
1,1-dichloroethane	5*	1.0	U	U		U	U	U		
1,1-dichloroethene	5*	1.0	U	U		U	U	U		
1,2,3-trichlorobenzene	5*	1.0	U	U		U	U	U		
1,2,4-trichlorobenzene	5*	1.0	U	U		U	U	U		
1,2-dichloroethane	0.6	0.5	U	U		U	U	U		
acetone	50	10	U	U		1.38 F	1.19 FB	4.08 F		
chloroform	7	0.3	U	U		U	U	U		
cis-1,2-dichloroethene (DCE)	5*	1.0	U	U		U	U	U		
tetrachloroethene (PCE)	5*	1.0	U	U		U	U	U		
trichloroethene (TCE)	5*	1.0	U	U		U	U	U		
trichlorofluoromethane	5*	1.0	U	U		U	U	U		
total VOCs	-	--	0	0		1.38	1.19	4.08		
Field Parameters										
ORP (mV)	--	--	120	-1		-52	55	-136		
oxygen (mg/L)	--	--	1.59	1.81		1.60	0.38	0.24		
pH (-)	--	--	7.27	8.70		7.34	7.64	7.59		

Table 4-2
Building 775 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	775MW-27							
Sample ID			**775MW-27**	**775M2771AA**	**775M2771BB**	**775M2771CA**	**775M2771DA**	**775M2771FA**	**775M2771GA**	**775M2771IA**
Date of Collection			**11/2/2006**	**1/13/2009**	**4/9/2009**	**6/18/2009**	**9/22/2009**	**4/16/2010**	**10/1/2010**	**4/5/2011**
Sample Depth (ft TOIC)			**70.6**	**70.6**	**70.6**	**70.6**	**71**	**71**	**71**	**71**
Dilution Factor (-)			**5**	**5**	**2**	**2**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	1.2	0.500 F	0.580 F	0.550 F	0.540 F	0.470 F	0.500 F	0.490 F
1,1-dichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2,3-trichlorobenzene	5*	1.0	U	0.110 F	U	U	U	U	U	U
1,2,4-trichlorobenzene	5*	1.0	U	0.110 F	U	U	U	U	U	U
1,2-dichloroethane	0.6	0.5	U	U	U	U	U	U	U	U
acetone	50	10	U	6.33	U	U	1.47 F	U	U	4.30 FB
chloroform	7	0.3	0.43 F	0.700	0.610	0.630	0.510	0.580	0.580	0.830
cis-1,2-dichloroethene (DCE)	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	82	31.3	39.3	36.2	33.4	26	20.8	21.0
trichlorofluoromethane	5*	1.0	U	U	U	U	U	U	U	U
total VOCs	-	--	83.63	39.05	40.49	37.38	34.45	27.05	21.88	26.62
Field Parameters										
ORP (mV)	--	--	243	230	144	308	121	165	135	197
oxygen (mg/L)	--	--	9.00	10.10	9.67	10.22	9.24	7.00	9.85	4.75
pH (-)	--	--	7.48	6.70	6.73	7.41	7.15	7.83	7.00	7.68

Table 4-2
Building 775 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	775MW-27							
Sample ID			**775M2771KA**	**775M2771MA**						
Date of Collection			**9/8/2011**	**4/12/2012**						
Sample Depth (ft TOIC)			**71**	**71**						
Dilution Factor (-)			**1**	**1**						
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	0.410 F	0.430 F						
1,1-dichloroethane	5*	1.0	U	U						
1,1-dichloroethene	5*	1.0	U	U						
1,2,3-trichlorobenzene	5*	1.0	U	U						
1,2,4-trichlorobenzene	5*	1.0	U	U						
1,2-dichloroethane	0.6	0.5	U	U						
acetone	50	10	3.82 FB	U						
chloroform	7	0.3	0.660	0.940						
cis-1,2-dichloroethene (DCE)	5*	1.0	U	U						
tetrachloroethene (PCE)	5*	1.0	U	U						
trichloroethene (TCE)	5*	1.0	18.8	21.1						
trichlorofluoromethane	5*	1.0	U	U						
total VOCs	-	--	23.69	22.47						
Field Parameters										
ORP (mV)	--	--	167	153						
oxygen (mg/L)	--	--	7.55	7.05						
pH (-)	--	--	7.65	7.51						

Table 4-2
Building 775 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	775MW-28							
Sample ID			**775MW-28**	**775M2880BB**	**775M2880BB**	**775M2880CA**	**775M2880DA**	**775M2880FA**	**775M2880GA**	**775M2880IA**
Date of Collection			**11/2/2006**	**1/13/2009**	**4/9/2009**	**6/18/2009**	**9/22/2009**	**4/16/2010**	**9/27/2010**	**4/5/2011**
Sample Depth (ft TOIC)			**80**	**80**	**80**	**80**	**80**	**80**	**80**	**80**
Dilution Factor (-)			**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	0.29 F	U	0.150 F♦	U	U	U	U	0.110 F
1,1-dichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2,3-trichlorobenzene	5*	1.0	U	U	U	U	U	U	0.140 F♦	U
1,2,4-trichlorobenzene	5*	1.0	U	U	U	U	U	U	0.140 F♦	U
1,2-dichloroethane	0.6	0.5	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	1.04 F♦	U	1.62 FB♦	4.56 FB
chloroform	7	0.3	U	U	U	U	U	U	U	U
cis-1,2-dichloroethene (DCE)	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	15	0.200 F	5.61	0.290 F♦	0.230 F♦	1.27♦	0.390 F♦	3.23
trichlorofluoromethane	5*	1.0	U	U	U	U	U	U	U	U
total VOCs	-	--	15.29	0.2	5.75	0.29	1.27	1.27	0.39	7.9
Field Parameters										
ORP (mV)	--	--	222	209	228	115	322	55	84	220
oxygen (mg/L)	--	--	8.50	8.63	7.83	9.11	9.15	8.49	10.30	7.82
pH (-)	--	--	7.89	6.95	8.09	7.24	7.84	8.86	7.16	8.15

Table 4-2
Building 775 Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**775MW-28**							
Sample ID			**775M2880KA**	**775M2880MA**						
Date of Collection			**9/8/2011**	**4/12/2012**						
Sample Depth (ft TOIC)			**80**	**80**						
Dilution Factor (-)			**1**	**1**						
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	U	U						
1,1-dichloroethane	5*	1.0	U	U						
1,1-dichloroethene	5*	1.0	U	U						
1,2,3-trichlorobenzene	5*	1.0	U	U						
1,2,4-trichlorobenzene	5*	1.0	U	U						
1,2-dichloroethane	0.6	0.5	U	U						
acetone	50	10	U	U						
chloroform	7	0.3	U	U						
cis-1,2-dichloroethene (DCE)	5*	1.0	U	U						
tetrachloroethene (PCE)	5*	1.0	U	U						
trichloroethene (TCE)	5*	1.0	0.640 F	2.1 ♦						
trichlorofluoromethane	5*	1.0	U	U						
total VOCs	-	--	0.64	2.1						
Field Parameters										
ORP (mV)	--	--	143	180						
oxygen (mg/L)	--	--	7.09	7.67						
pH (-)	--	--	8.28	7.72						

Table 4-2
Building 775 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	775EW-1							
Sample ID			**775E0175BB**	**775E0175CA**	**775E0175DA**	**775E0175FA**	**775E0175GA**	**775E0175IA**	**775E0175KA**	**775E0175MA**
Date of Collection			**4/15/2009**	**6/18/2009**	**9/22/2009**	**4/16/2010**	**10/1/2010**	**4/5/2011**	**9/8/2011**	**4/12/2012**
Sample Depth (ft TOIC)			**75**	**75**	**75**	**75**	**75**	**75**	**75**	**75**
Dilution Factor (-)			**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	0.420 F	0.430 F	0.410 F	0.430 F	0.510 F	0.570 F	0.450 F	0.520 F
1,1-dichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2,3-trichlorobenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2,4-trichlorobenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	0.5	U	U	U	U	U	U	U	U
acetone	50	10	U	U	1.80 F	U	U	3.03 FB	7.33 FB	U
chloroform	7	0.3	0.120 F	U	U	0.190 F	0.260 F	0.460 F	0.370 F	0.430 F
cis-1,2-dichloroethene (DCE)	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	U	U	U	U	U	U	U	U
trichlorofluoromethane	5*	1.0	U	U	U	U	U	U	U	U
total VOCs	-	--	0.54	0.43	2.21	0.62	0.77	4.06	8.15	0.95
Field Parameters										
ORP (mV)	--	--	113	207	102	93	56	200	132	49
oxygen (mg/L)	--	--	6.66	8.17	7.74	4.57	8.52	8.01	6.37	5.45
pH (-)	--	--	7.88	7.54	7.16	7.86	7.31	7.57	7.53	7.59

Table 4-2
Building 775 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	Effluent							
Sample ID			**Effluent 1**	**Effluent 1**	**Effluent 1**	**775EF0101DA**	**775EF0101EA**	**775EF0101FA**	**775EF0101GA**	**775EF0101GA**
Date of Collection			**1/13/2009**	**4/15/2009**	**6/18/2009**	**9/22/2009**	**12/8/2009**	**4/16/2010**	**6/16/2010**	**10/1/2010**
Sample Depth (ft TOIC)			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Dilution Factor (-)			**1**	**1**	**1**	**2**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	0.820 F	0.580 F	0.460 F	0.640 F	0.420 F	0.630 F	0.650 F	0.670 F
1,1-dichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2,3-trichlorobenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2,4-trichlorobenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichloroethane	0.6	0.5	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	U	U	1.52 F	1.37 FB
chloroform	7	0.3	0.380 F	0.360 F	0.400 F	0.500 F	0.280 F	0.490 F	0.460 F	0.440 F
cis-1,2-dichloroethene (DCE)	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	62.3	52.5	38.9	54.5	40.3	51.9	56.0	50.3
trichlorofluoromethane	5*	1.0	U	U	U	U	U	U	U	U
total VOCs	-	--	63.5	53.44	39.76	55.64	41.0	53.02	58.63	52.78
Field Parameters										
ORP (mV)	--	--	181	132	239	324	354	15	103	112
oxygen (mg/L)	--	--	9.34	11.37	10.38	10.56	11.77	6.75	10.22	10.51
pH (-)	--	--	7.58	7.85	7.79	7.64	6.61	7.92	6.75	6.90

Table 4-2
Building 775 Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**Effluent**							
Sample ID			**775EF0101HA**	**775EF0101IA**	**775EF0101JA**	**775EF0101KA**	**775EF0101LA**	**775EF0101MA**		
Date of Collection			**12/8/2010**	**3/22/2011**	**6/30/2011**	**9/8/2011**	**1/9/2012**	**4/13/2012**		
Sample Depth (ft TOIC)			**0**	**0**	**0**	**0**	**0**	**0**		
Dilution Factor (-)			**1**	**1**	**1**	**1**	**1**	**1**		
VOCs (µg/L)										
1,1,1-trichloroethane	5*	1.0	0.480 F	0.600 F	0.460 F	0.570 F	0.530 F	0.480 F		
1,1-dichloroethane	5*	1.0	U	U	U	U	U	U		
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U		
1,2,3-trichlorobenzene	5*	1.0	U	U	U	U	U	U		
1,2,4-trichlorobenzene	5*	1.0	U	U	U	U	U	U		
1,2-dichloroethane	0.6	0.5	U	U	U	U	U	U		
acetone	50	10	U	U	U	U	U	U		
chloroform	7	0.3	0.400 F	0.550	0.510 F	0.830	0.790	0.500		
cis-1,2-dichloroethene (DCE)	5*	1.0	U	U	U	U	U	U		
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U		
trichloroethene (TCE)	5*	1.0	39.3	53.0	34.9	44.2	39.7	40.1		
trichlorofluoromethane	5*	1.0	U	U	U	U	U	U		
total VOCs	-	--	40.18	54.15	35.87	45.6	41.02	41.08		
Field Parameters										
ORP (mV)	--	--	90	251	221	279	276	74		
oxygen (mg/L)	--	--	7.36	8.75	9.20	8.33	8.22	5.81		
pH (-)	--	--	7.63	5.48	6.53	6.26	5.79	6.04		

Table 4-3
Building 775 Groundwater Extraction and Discharge System Flow Table

Date	Cumulative Volume (gallons)	Average Pump Rate (gpm)
1/1/09	0	0
1/5/09	822	0
1/6/09	4,792	3.0
1/7/09	9,071	2.9
1/9/09	13,309	1.5
1/12/09	29,660	3.7
1/14/09	39,430	3.6
1/16/09	49,540	3.5
1/19/09	64,388	3.5
1/21/09	74,026	3.4
1/23/09	85,375	3.9
1/26/09	101,251	3.6
1/28/09	111,098	3.7
1/30/09	121,740	3.2
2/2/09	135,600	3.4
2/9/09	169,466	3.3
3/2/09	231,105	2.1
3/4/09	241,944	3.4
3/9/09	265,500	3.4
3/13/09	280,281	2.5
3/23/09	337,512	4.0
3/30/09	376,849	3.9
4/2/09	393,359	3.9
4/6/09	416,316	3.9
4/13/09	455,379	4.0
4/23/09	513,204	3.9
4/28/09	540,644	3.6
5/8/09	597,671	4.0
5/13/09	626,348	4.4
5/29/09	718,194	4.0
6/5/09	759,102	4.0
6/18/09	832,287	4.0
6/30/09	901,587	4.0
7/6/09	936,052	3.9
7/15/09	986,988	4.0
7/23/09	1,031,656	3.9
8/7/09	1,115,608	3.9
8/12/09	1,143,150	3.8
8/20/09	1,185,751	3.8

Date	Cumulative Volume (gallons)	Average Pump Rate (gpm)
9/3/09	1,257,404	3.6
10/1/09	1,395,390	3.4
10/19/09	1,480,018	3.2
11/2/09	1,544,970	3.2
11/18/09	1,618,922	3.2
12/3/09	1,683,202	3.0
12/8/09	1,704,156	2.8
12/22/09	1,766,638	3.1
1/4/10	1,814,833	2.6
1/18/10	1,871,630	2.8
1/21/10	1,883,388	2.8
2/2/10	1,933,075	2.9
2/12/10	1,974,436	2.9
2/26/10	2,031,918	2.8
3/31/10	2,165,046	2.8
7/1/10	2,534,520	2.8
8/24/10	2,737,660	2.6
10/1/2010	2,868,734	2.4
10/29/10	2,971,160	2.5
11/19/10	3,044,469	2.4
1/7/11	3,226,266	2.6
2/11/11	3,351,407	2.5
3/2/11	3,420,403	2.5
3/18/11	3,475,808	2.4
3/31/11	3,527,519	2.7
5/23/11	3,766,542	3.1
6/10/11	3,855,391	3.5
7/21/11	4,064,912	3.5
10/3/11	4,454,970	3.7
10/14/11	4,528,862	4.7
10/31/11	4,603,490	3.0
11/14/11	4,677,128	3.7
11/28/11	4,750,664	3.6
12/13/11	4,827,890	3.6
12/27/11	4,898,620	3.6
1/10/12	4,969,721	3.5
1/23/12	5,035,883	3.5
2/15/12	5,151,674	3.5
3/15/12	5,246,248	2.3
4/3/12	5,392,183	5.4
5/10/12	5,575,932	3.4
5/22/12	5,635,322	3.4

Date	Cumulative Volume (gallons)	Average Pump Rate (gpm)
6/8/12	5,719,699	3.5
6/29/12	5,821,060	3.4

Table 5-1
Apron 2 Performance Monitoring Sample Analysis Summary

Sampling Locations	Screen Interval (ft mean sea level [msl])	Sampling Rationale	Target Analytes/ EPA Method Numbers	1st Year (quarterly)	After 1st Year (semi-annual)	# of Samples[1]
AP2MW-3	432.41 - 446.97	Cross-gradient	• VOCs – 8260B • Natural Attenuation Parameters: Nitrate, Chloride, Sulfate - SW9056, DOC - SM5310B, Total Alkalinity - SM2320B. • Field Measurements: ORP, temperature, oxygen, pH, conductivity, turbidity, water levels, ferrous iron.	√ [2]	√ [2]	18
782VMW-76	434.86 - 444.86	Downgradient within plume		√	√	
782VMW-78	436.26 - 446.26	Downgradient within plume		√	√	
782VMW-81	427.71 - 437.71	Downgradient within plume (source)		√	√	
782VMW-84	431.90 - 441.90	Downgradient within plume		√	√	
782VMW-84D	419.57 - 434.57	Potential vertical migration of plume		√	√[2]	
782VMW-93	437.79 - 447.79	Downgradient within plume		√	√	
782VMW-96	434.13 - 444.13	Downgradient within plume		√	-	
782VMW-98	442.06 - 452.06	Upgradient (source area)		√[3]	-	
782VMW-100	432.10- 447.10	Crossgradient		√	√	
782VMW-101	429.11 - 444.11	Downgradient within plume		√	√	
782VMW-105B	435.37 -450.37	Within plume (source area)		√	√	
782MW-10	443.79 -458.79	Downgradient within plume		√	√	
782VMW-121	433.06 - 448.06	Downgradient		√	√	
782VMW-121D	427.81 - 437.81	Potential vertical migration of plume		√	√	
Surface Water						
782SW-115	--	Potential contaminant receptor	• VOCs – SW8260B Water Levels			
782SW-118	--	Potential contaminant receptor				
782SW-119	--	Potential contaminant receptor				

Notes:
1. Please refer to FSP for details concerning the number of QA/QC samples and their locations. At least one MS/MSD and two field duplicates will be collected per SDG; one equipment blank per day and one ambient blank per day; one trip blank per cooler containing VOCs.
2. Annual sampling only.
3. To be sampled during first performance sampling round only.

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782VMW-76							
Sample ID			**782VM7638AA**	**782VM7638AB**	**782VM7638BB**	**782VM7638CA**	**782VM7638DA**	**782VM7638EB**	**782VM7638FB**	**782VM7638GA**
Date of Collection			**11/15/2006**	**9/24/2008**	**12/31/2008**	**4/15/2009**	**6/16/2009**	**9/21/2009**	**4/19/2010**	**9/28/2010**
Sample Depth (ft TOIC)			**38**	**38**	**38**	**38**	**38**	**38**	**38**	**38**
Dilution Factor (-)			**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2,4-trimethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichlorobenzene	3	1.0	U	U	U	U	U	U	U	U
1,3,5-trimethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
1,4-Dichlorobenzene	3	0.5	U	U	U	U	U	U	U	U
4-Chlorotoluene	5*	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	1.74 F	2.07 F	U	1.91 F	U	1.58 F
benzene	1	0.4	0.110 F	U	U	U	0.160 F	0.160 F	0.160 F	0.150 F
Bromomethane	5*	3.0	U	U	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
chlorobenzene	5*	0.5	U	U	U	U	U	U	U	U
Chloroform	7	0.3	U	U	U	U	U	U	U	U
Chloromethane	--	1.0	U	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	0.990 F	0.630 F	U	0.670 F	1.02	0.910 F	0.990 F	0.960 F
ethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
isopropylbenzene	5*	1.0	U	U	U	U	U	U	U	U
methyl tert-butyl ether	10	5.0	4.56 F	3.42 F	U	4.75 F	5.14	5.67	4.66 F	3.88 F
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
n-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
n-propylbenzene	5*	1.0	U	U	U	U	U	U	U	U
m,p,-xylene (sum of isomers)	5*	2.0	U	U	U	U	U	U	U	U
naphthalene	10	1.0	U	U	U	U	U	U	U	U
o-xylene	5*	1.0	U	U	U	U	U	U	U	U
p-isopropyltoluene	5*	1.0	U	U	U	U	U	U	U	U
sec-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
t-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U	U	U
toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	5*	1.0	0.420 F	0.340 F	U	0.250 F	0.630 F	0.550 F	0.500 F	0.540 F
trichloroethene (TCE)	5*	1.0	U	U	U	U	U	U	U	U
vinyl chloride	2	1.0	10.3	7.54	U	7.73	15.1	13.0	10.0	10.6
total VOCs	-	-	11.71	11.89	U	15.47	22.05	22.2	16.31	17.71
Wet Chemistry										
DOC (mg/L)	-	1	1.6	4.6	7.4	5.5	2.3	2.7	3.0	2.2
TOC (mg/L)	-	1	NS	NS	NS	NS	NS	NS	NS	NS
alkalinity (mg/L)	-	10	290	250	130	340	330	330	310	300
chloride (mg/L)	250	1	44	43	5.7	53	47	47	37	35
nitrate (mg/L)	10	1	0.044 F	U	4	U	U	0.037 F	0.044 F	U
sulfate (mg/L)	250	1	1.1	7.0	63.0	2.0	U	U	U	U
Field Parameters										
ORP (mV)	-	-	-76	-118	256	-110	-100	-72	-101	-58
oxygen (mg/L)	-	-	8.04	1.54	3.96	2.80	7.17	7.24	6.75	0.00
pH (-)	-	-	6.52	7.00	6.95	6.61	7.06	6.69	7.18	6.00
ferrous iron (mg/L)	-	-	0.0	2.0	NS	2.2	4.0	2.0	1.6	4.0

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782VMW-76							
Sample ID			**782VM7638HA**	**782VM7638IA**	**782VM7638JA**					
Date of Collection			**4/5/2011**	**9/14/2011**	**4/11/2012**					
Sample Depth (ft TOIC)			**38**	**38**	**38**					
Dilution Factor (-)			**1**	**1**	**1**					
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	U	U	U					
1,1-dichloroethene	5*	1.0	U	U	U					
1,2,4-trimethylbenzene	5*	1.0	U	U	U					
1,2-dichlorobenzene	3	1.0	U	U	U					
1,3,5-trimethylbenzene	5*	1.0	U	U	U					
1,4-Dichlorobenzene	3	0.5	U	U	U					
4-Chlorotoluene	5*	1.0	U	U	U					
acetone	50	10	1.93 FB	U	U					
benzene	1	0.4	0.130 F	0.730	0.230 F					
Bromomethane	5*	3.0	U	U	U					
2-butanone	50	10	U	2.29 F	U					
chlorobenzene	5*	0.5	U	U	U					
Chloroform	7	0.3	U	U	U					
Chloromethane	--	1.0	U	U	U					
cis-1,2-dichloroethene	5*	1.0	0.970 F	0.990 F	0.870 F					
ethylbenzene	5*	1.0	U	U	U					
isopropylbenzene	5*	1.0	U	U	U					
methyl tert-butyl ether	10	5.0	4.12 F	4.75 F	4.45 F					
methylene chloride	5*	1.0	U	U	U					
n-butylbenzene	5*	1.0	U	U	U					
n-propylbenzene	5*	1.0	U	U	U					
m,p,-xylene (sum of isomers)	5*	2.0	U	U	U					
naphthalene	10	1.0	U	U	U					
o-xylene	5*	1.0	U	U	U					
p-isopropyltoluene	5*	1.0	U	U	U					
sec-butylbenzene	5*	1.0	U	U	U					
t-butylbenzene	5*	1.0	U	U	U					
tetrachloroethene (PCE)	5*	1.0	U	U	U					
toluene	5*	1.0	U	U	U					
trans-1,2-Dichloroethene	5*	1.0	0.440 F	0.550 F	0.560 F					
trichloroethene (TCE)	5*	1.0	U	U	U					
vinyl chloride	2	1.0	8.05	9.56	9.56					
total VOCs	-	-	15.64	18.87	15.67					
Wet Chemistry										
DOC (mg/L)	-	1	4.2	2.5	2.9					
TOC (mg/L)	-	1	NS	NS	NS					
alkalinity (mg/L)	-	10	270	310	350					
chloride (mg/L)	250	1	31	30	32					
nitrate (mg/L)	10	1	U	U	U					
sulfate (mg/L)	250	1	U	8.0	U					
Field Parameters										
ORP (mV)	-	-	-56	-263	-184					
oxygen (mg/L)	-	-	0.00	0.00	0.00					
pH (-)	-	-	7.42	8.26	7.19					
ferrous iron (mg/L)	-	-	1.6	1.6	3.0					

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782VMW-78							
Sample ID			**782VM7840AA**	**782VM7840AB**	**782VM7840BB**	**782VM7840CA**	**782VM7840DA**	**782VM7840EB**	**782VM7840FB**	**782VM7840GA**
Date of Collection			**11/14/2006**	**9/25/2008**	**12/31/2008**	**3/26/2009**	**6/16/2009**	**9/21/2009**	**4/19/2010**	**9/28/2010**
Sample Depth (ft TOIC)			**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**
Dilution Factor (-)			**1**	**2**	**2**	**2**	**2**	**2**	**1**	**1**
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	0.190 F♦	0.200 F	U	U	U	U	0.150 F	0.190 F
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2,4-trimethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichlorobenzene	3	1.0	U	U	U	U	U	U	U	U
1,3,5-trimethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
1,4-Dichlorobenzene	3	0.5	U	U	U	U	U	U	U	U
4-Chlorotoluene	5*	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	U	U	U	1.06 F
benzene	1	0.4	0.230 F	0.260 F	U	U	U	0.240 F	0.270 F	0.290 F
Bromomethane	5*	3.0	U	U	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
chlorobenzene	5*	0.5	U	U	U	U	U	U	U	U
Chloroform	7	0.3	U	U	U	U	U	U	U	U
Chloromethane	--	1.0	U	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	38.1 ♦	42.0	42.8	39.6	45.9	46.3	43.4 J	46.0
ethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
isopropylbenzene	5*	1.0	U	U	U	U	U	U	U	U
methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
n-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
n-propylbenzene	5*	1.0	U	U	U	U	U	U	U	U
m,p,-xylene (sum of isomers)	5*	2.0	U	U	U	U	U	U	U	U
naphthalene	10	1.0	U	U	U	U	U	U	U	U
o-xylene	5*	1.0	U	U	U	U	U	U	U	U
p-isopropyltoluene	5*	1.0	U	U	U	U	U	U	U	U
sec-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
t-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U	U	U
toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	5*	1.0	4.04	4.37	3.66	3.48	3.84	4.04	4.31	4.22
trichloroethene (TCE)	5*	1.0	U	U	U	U	U	U	U	U
vinyl chloride	2	1.0	14.0	16.0	10.6	6.50	6.78	10.5	9.42	7.60
total VOCs	-	-	56.14	62.83	57.06	49.58	56.52	61.08	57.55	59.36
Wet Chemistry										
DOC (mg/L)	-	1	1.6	1.7	1.9	2.0 B	2.5	1.8	2.2	1.9
TOC (mg/L)	-	1	NS	NS	NS	NS	NS	NS	NS	NS
alkalinity (mg/L)	-	10	270	260	250	250	240	240	230	230
chloride (mg/L)	250	1	170	24	28	27	25	19	22	20
nitrate (mg/L)	10	1	0.027 F ♦	U	U	0.024 F	U	0.015 F	U	U
sulfate (mg/L)	250	1	12	8.2	7.9	7.7	7.4	6.5	7	6.7
Field Parameters										
ORP (mV)	-	-	-125	-144	-56	-47	-80	-77	-104	-138
oxygen (mg/L)	-	-	0.00	1.63	1.39	0.00	2.05	6.35	7.49	5.00
pH (-)	-	-	6.93	7.02	5.91	6.40	7.45	6.86	7.52	7.75
ferrous iron (mg/L)	-	-	2.4	1.8	NS	1.0	1.2	1.8	1.2	1.0

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782VMW-78							
Sample ID			**782VM7840HA**	**782VMW7840IA**	**782VMW7840JA**					
Date of Collection			**4/6/2011**	**9/13/2011**	**4/10/2012**					
Sample Depth (ft TOIC)			**40**	**40**	**40**					
Dilution Factor (-)			**1**	**1**	**5**					
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	0.220 F	0.140 F	0.160 F					
1,1-dichloroethene	5*	1.0	U	U	U					
1,2,4-trimethylbenzene	5*	1.0	U	U	U					
1,2-dichlorobenzene	3	1.0	U	U	U					
1,3,5-trimethylbenzene	5*	1.0	U	U	U					
1,4-Dichlorobenzene	3	0.5	U	U	U					
4-Chlorotoluene	5*	1.0	U	U	U					
acetone	50	10	1.69 FB	U	1.14 F					
benzene	1	0.4	0.340 F	0.290 F	0.280 F					
Bromomethane	5*	3.0	U	U	U					
2-butanone	50	10	U	U	U					
chlorobenzene	5*	0.5	U	U	U					
Chloroform	7	0.3	U	U	U					
Chloromethane	--	1.0	U	U	U					
cis-1,2-dichloroethene	5*	1.0	56.9	44.8	40.9					
ethylbenzene	5*	1.0	U	U	U					
isopropylbenzene	5*	1.0	U	U	U					
methyl tert-butyl ether	10	5.0	0.210 F	U	U					
methylene chloride	5*	1.0	U	U	U					
n-butylbenzene	5*	1.0	U	U	U					
n-propylbenzene	5*	1.0	U	U	U					
m,p,-xylene (sum of isomers)	5*	2.0	U	U	U					
naphthalene	10	1.0	U	U	U					
o-xylene	5*	1.0	U	U	U					
p-isopropyltoluene	5*	1.0	U	U	U					
sec-butylbenzene	5*	1.0	U	U	U					
t-butylbenzene	5*	1.0	U	U	U					
tetrachloroethene (PCE)	5*	1.0	U	U	U					
toluene	5*	1.0	U	U	U					
trans-1,2-Dichloroethene	5*	1.0	5.25	4.57	4.29					
trichloroethene (TCE)	5*	1.0	U	U	U					
vinyl chloride	2	1.0	8.78	7.57	5.57					
total VOCs	-	-	73.39	57.37	52.34					
Wet Chemistry										
DOC (mg/L)	-	1	2.5	1.9	1.4					
TOC (mg/L)	-	1	NS	NS	NS					
alkalinity (mg/L)	-	10	220	230	230					
chloride (mg/L)	250	1	17	12	11					
nitrate (mg/L)	10	1	U	U	U					
sulfate (mg/L)	250	1	6.5	5.5	5.7					
Field Parameters										
ORP (mV)	-	-	-102	-161	-136					
oxygen (mg/L)	-	-	7.43	0.00	2.48					
pH (-)	-	-	7.80	7.43	7.13					
ferrous iron (mg/L)	-	-	1.8	1.1	1.2					

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782VMW-81							
Sample ID			782VM8146AA	782VM8146AB	782VM8146BB	782VM8146CA	782VM8146DA	782VM8146EB	782VM8146FB	782VM8146GA
Date of Collection			11/14/2006	9/24/2008	12/30/2008	4/15/2009	6/16/2009	9/21/2009	4/15/2010	9/28/2010
Sample Depth (ft TOIC)			46	46	46	46	46	46	46	46
Dilution Factor (-)			1	1	1	1	1	1	1	1
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	U	U	U	U	0.110 F	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	0.190 F	U	U	U
1,2,4-trimethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichlorobenzene	3	1.0	U	U	U	U	U	U	U	U
1,3,5-trimethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
1,4-Dichlorobenzene	3	0.5	U	U	U	U	U	U	U	U
4-Chlorotoluene	5*	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	U	U	U	2.30 F
benzene	1	0.4	U	U	U	U	U	U	U	U
Bromomethane	5*	3.0	U	U	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
chlorobenzene	5*	0.5	U	U	U	U	U	U	U	U
Chloroform	7	0.3	U	U	U	U	U	U	U	U
Chloromethane	--	1.0	U	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	11.5	14.0	18.4	18.0	21.2	23.4	28.7	23.9
ethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
isopropylbenzene	5*	1.0	U	U	U	U	U	U	U	U
methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
n-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
n-propylbenzene	5*	1.0	U	U	U	U	U	U	U	U
m,p,-xylene (sum of isomers)	5*	2.0	U	U	U	U	U	U	U	U
naphthalene	10	1.0	U	U	U	U	U	U	U	U
o-xylene	5*	1.0	U	U	U	U	U	U	U	U
p-isopropyltoluene	5*	1.0	U	U	U	U	U	U	U	U
sec-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
t-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U	U	U
toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	5*	1.0	1.09	0.940 F	1.01	1.02	1.13	0.970 F	1.35	1.00
trichloroethene (TCE)	5*	1.0	2.7	3.49	4.81	4.89	6.72	4.82	4.42	3.85
vinyl chloride	2	1.0	8.86	5.68	6.67	3.73	4.45	4.55	4.68	4.14
total VOCs	-	-	24.15	24.11	30.89	27.64	33.8	33.74	39.15	35.19
Wet Chemistry										
DOC (mg/L)	-	1	0.58 F	1.7	0.84	0.88 F	0.65 F	1.7	1.4	1.3
TOC (mg/L)	-	1	NS	NS	NS	NS	NS	NS	NS	NS
alkalinity (mg/L)	-	10	220	220	230	200	210	210	210	220
chloride (mg/L)	250	1	48	29	26	24	21	18	20	17
nitrate (mg/L)	10	1	U	U	U	0.036 F	0.022 F	0.024 F	0.035 F	U
sulfate (mg/L)	250	1	4.7	5.0	6.3	6.7	7.2	7.3	8.5	8.5
Field Parameters										
ORP (mV)	-	-	144	-182	-101	-50	-50	-61	-83	-131
oxygen (mg/L)	-	-	1.40	1.69	0.67	2.71	2.84	6.44	0.00	4.92
pH (-)	-	-	6.94	7.61	7.81	6.38	7.56	7.22	8.00	7.81
ferrous iron (mg/L)	-	-	1.0	1.0	NS	1.0	0.1	0.8	0.4	0.8

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782VMW-81							
Sample ID			**782VM8146HA**	**782VM8146IA**	**782VM8146JA**					
Date of Collection			**4/6/2011**	**9/13/2011**	**4/10/2012**					
Sample Depth (ft TOIC)			**46**	**46**	**46**					
Dilution Factor (-)			**1**	**1**	**1**					
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	0.130 F	U	U					
1,1-dichloroethene	5*	1.0	0.190 F	U	U					
1,2,4-trimethylbenzene	5*	1.0	U	U	U					
1,2-dichlorobenzene	3	1.0	U	U	U					
1,3,5-trimethylbenzene	5*	1.0	U	U	U					
1,4-Dichlorobenzene	3	0.5	U	U	U					
4-Chlorotoluene	5*	1.0	U	U	U					
acetone	50	10	1.63 FB	U	U					
benzene	1	0.4	U	U	U					
Bromomethane	5*	3.0	U	U	U					
2-butanone	50	10	U	U	U					
chlorobenzene	5*	0.5	U	U	U					
Chloroform	7	0.3	U	U	U					
Chloromethane	--	1.0	U	U	U					
cis-1,2-dichloroethene	5*	1.0	32.4	26.8	26.3					
ethylbenzene	5*	1.0	U	U	U					
isopropylbenzene	5*	1.0	U	U	U					
methyl tert-butyl ether	10	5.0	U	U	U					
methylene chloride	5*	1.0	U	U	U					
n-butylbenzene	5*	1.0	U	U	U					
n-propylbenzene	5*	1.0	U	U	U					
m,p,-xylene (sum of isomers)	5*	2.0	U	U	U					
naphthalene	10	1.0	U	U	U					
o-xylene	5*	1.0	U	U	U					
p-isopropyltoluene	5*	1.0	U	U	U					
sec-butylbenzene	5*	1.0	U	U	U					
t-butylbenzene	5*	1.0	U	U	U					
tetrachloroethene (PCE)	5*	1.0	U	U	U					
toluene	5*	1.0	U	U	U					
trans-1,2-Dichloroethene	5*	1.0	1.29	1.06	1.14					
trichloroethene (TCE)	5*	1.0	5.67	5.64	3.77					
vinyl chloride	2	1.0	5.35	3.12	3.09					
total VOCs	-	-	46.66	36.62	34.3					
Wet Chemistry										
DOC (mg/L)	-	1	1.4	1.1	0.68 F					
TOC (mg/L)	-	1	NS	NS	NS					
alkalinity (mg/L)	-	10	220	230	230					
chloride (mg/L)	250	1	16	16	16					
nitrate (mg/L)	10	1	U	U	U					
sulfate (mg/L)	250	1	7.7	7.1	5.9					
Field Parameters										
ORP (mV)	-	-	-95	-141	-144					
oxygen (mg/L)	-	-	8.32	0.00	1.52					
pH (-)	-	-	7.80	7.55	7.13					
ferrous iron (mg/L)	-	-	0.8	0.5	0.6					

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782VMW-84							
Sample ID			**782VM8440AA**	**782VM8440AB**	**782VM8440BB**	**782VM8440CA**	**782VM8440DA**	**782VM8440EB**	**782VM8440FB**	**782VM8440GA**
Date of Collection			**11/15/2006**	**9/26/2008**	**12/31/2008**	**3/26/2009**	**6/17/2009**	**9/23/2009**	**4/19/2010**	**9/29/2010**
Sample Depth (ft TOIC)			**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**
Dilution Factor (-)			**2**	**2**	**1**	**1**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	U	U	U	U	0.130 F	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2,4-trimethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichlorobenzene	3	1.0	U	U	U	U	U	U	U	U
1,3,5-trimethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
1,4-Dichlorobenzene	3	0.5	U	U	U	U	U	U	U	U
4-Chlorotoluene	5*	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	U	U	U	U
benzene	1	0.4	U	U	U	0.130 F	0.140 F	U	0.130 F	0.120 F
Bromomethane	5*	3.0	U	U	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
chlorobenzene	5*	0.5	U	U	U	U	U	U	U	U
Chloroform	7	0.3	U	U	U	U	U	U	U	U
Chloromethane	--	1.0	U	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	0.460 F	0.420 F	U	0.460 F	0.560 F	0.500 F	0.560 F	0.410 F
ethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
isopropylbenzene	5*	1.0	U	U	U	U	U	U	U	U
methyl tert-butyl ether	10	5.0	3.00 F	3.20 F	U	3.06 F	3.24 F	2.54 F	2.70 F	1.30 F
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
n-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
n-propylbenzene	5*	1.0	U	U	U	U	U	U	U	U
m,p,-xylene (sum of isomers)	5*	2.0	U	U	U	U	U	U	U	U
naphthalene	10	1.0	U	U	U	U	U	U	U	U
o-xylene	5*	1.0	U	U	U	U	U	U	U	U
p-isopropyltoluene	5*	1.0	U	U	U	U	U	U	U	U
sec-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
t-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U	U	U
toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	5*	1.0	U	U	U	0.180 F	0.210 F	U	0.170 F	0.160 F
trichloroethene (TCE)	5*	1.0	U	U	U	U	U	U	U	U
vinyl chloride	2	1.0	31.7	32.3	U	39.8	42.2	39.4	39.5	37.3
total VOCs	-	-	31.7	35.92	0	43.63	46.48	42.44	43.06	39.29
Wet Chemistry										
DOC (mg/L)	-	1	5.0	5.8	0.64 F	5.6	5.3	4.9	5.2	4.4
TOC (mg/L)	-	1	NS	NS	NS	NS	NS	NS	NS	NS
alkalinity (mg/L)	-	10	340	340	20	330	330	320	310	290
chloride (mg/L)	250	1	48	68	0.48 F	45	39	38	35	27
nitrate (mg/L)	10	1	0.046 F	U	0.19	U	0.014 F	0.020 F	0.039 F	U
sulfate (mg/L)	250	1	2.7	45	0.76 F	3.2	4.1	2.9	1.6	U
Field Parameters										
ORP (mV)	-	-	-99	-113	136	-97	-126	-103	-114	-71
oxygen (mg/L)	-	-	1.12	0.62	9.84	0.00	0.00	4.11	0.00	0.00
pH (-)	-	-	6.87	6.34	6.36	6.00	6.49	6.51	6.91	6.21
ferrous iron (mg/L)	-	-	3.0	3.4	NS	2.0	4.8	5.5	4.2	4.6

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782VMW-84							
Sample ID			**782VM8440HA**	**782VM8440IA**	**782VM8440JA**					
Date of Collection			**4/5/2011**	**9/13/2011**	**4/11/2012**					
Sample Depth (ft TOIC)			**40**	**40**	**40**					
Dilution Factor (-)			**1**	**1**	**1**					
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	0.130 F	U	0.110 F					
1,1-dichloroethene	5*	1.0	U	U	U					
1,2,4-trimethylbenzene	5*	1.0	U	U	U					
1,2-dichlorobenzene	3	1.0	U	U	U					
1,3,5-trimethylbenzene	5*	1.0	U	U	U					
1,4-Dichlorobenzene	3	0.5	U	U	U					
4-Chlorotoluene	5*	1.0	U	U	U					
acetone	50	10	2.03 FB	U	U					
benzene	1	0.4	0.150 F	0.180 F	0.240 F					
Bromomethane	5*	3.0	U	U	U					
2-butanone	50	10	U	U	U					
chlorobenzene	5*	0.5	U	U	U					
Chloroform	7	0.3	U	U	U					
Chloromethane	--	1.0	U	U	U					
cis-1,2-dichloroethene	5*	1.0	0.730 F	0.580 F	0.610 F					
ethylbenzene	5*	1.0	U	U	U					
isopropylbenzene	5*	1.0	U	U	U					
methyl tert-butyl ether	10	5.0	2.58 F	1.90 F	1.72 F					
methylene chloride	5*	1.0	U	U	U					
n-butylbenzene	5*	1.0	U	U	U					
n-propylbenzene	5*	1.0	U	U	U					
m,p,-xylene (sum of isomers)	5*	2.0	U	U	U					
naphthalene	10	1.0	U	U	U					
o-xylene	5*	1.0	U	U	U					
p-isopropyltoluene	5*	1.0	U	U	U					
sec-butylbenzene	5*	1.0	U	U	U					
t-butylbenzene	5*	1.0	U	U	U					
tetrachloroethene (PCE)	5*	1.0	U	U	U					
toluene	5*	1.0	U	U	U					
trans-1,2-Dichloroethene	5*	1.0	0.200 F	0.160 F	0.160 F					
trichloroethene (TCE)	5*	1.0	U	U	U					
vinyl chloride	2	1.0	44.6	32.9	33.0					
total VOCs	-	-	50.42	35.72	35.84					
Wet Chemistry										
DOC (mg/L)	-	1	4.8	4.6	4.7					
TOC (mg/L)	-	1	NS	NS	NS					
alkalinity (mg/L)	-	10	290	290	300					
chloride (mg/L)	250	1	35	27	25					
nitrate (mg/L)	10	1	U	U	U					
sulfate (mg/L)	250	1	0.73 F	U	U					
Field Parameters										
ORP (mV)	-	-	-127	-154	-158					
oxygen (mg/L)	-	-	0.00	7.58	0.00					
pH (-)	-	-	6.86	6.91	6.78					
ferrous iron (mg/L)	-	-	4.2	NS	3.0					

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782VMW-84D							
Sample ID			**782VM84D50AB**	**782VM8440BB**	**782VM84D50CA**	**782VM84D50DA**	**782VM84D50EB**	**782VM84D50FB**	**782VM84D50GA**	
Date of Collection			**9/26/2008**	**12/31/2008**	**3/25/2009**	**6/17/2009**	**9/23/2009**	**4/19/2010**	**9/28/2010**	
Sample Depth (ft TOIC)			**50**	**40**	**50**	**50**	**50**	**50**	**50**	
Dilution Factor (-)			**1**	**1**	**1**	**1**	**1**	**1**	**1**	
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	U	U	U	U	U	U	U	
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	
1,2,4-trimethylbenzene	5*	1.0	U	U	U	U	U	U	U	
1,2-dichlorobenzene	3	1.0	U	U	U	U	U	U	U	
1,3,5-trimethylbenzene	5*	1.0	U	U	U	U	U	U	U	
1,4-Dichlorobenzene	3	0.5	U	U	U	U	U	U	U	
4-Chlorotoluene	5*	1.0	U	U	U	U	U	U	U	
acetone	50	10	U	2.34 F	2.74 F	1.25 F	2.85 F	2.41 F	1.33 F	
benzene	1	0.4	U	U	U	U	U	U	0.180 F	
Bromomethane	5*	3.0	U	U	U	U	U	U	U	
2-butanone	50	10	U	U	U	U	U	U	U	
chlorobenzene	5*	0.5	U	U	U	U	U	U	U	
Chloroform	7	0.3	U	U	U	U	U	U	U	
Chloromethane	--	1.0	U	U	U	U	U	U	U	
cis-1,2-dichloroethene	5*	1.0	0.340 F	U	U	U	0.110 F	0.140 F	0.350 F	
ethylbenzene	5*	1.0	U	U	U	U	U	U	U	
isopropylbenzene	5*	1.0	U	U	U	U	U	U	U	
methyl tert-butyl ether	10	5.0	4.36 F	U	1.94 F	U	1.43 F	1.51 F	2.60 F	
methylene chloride	5*	1.0	U	U	U	U	U	U	U	
n-butylbenzene	5*	1.0	U	U	U	U	U	U	U	
n-propylbenzene	5*	1.0	U	U	U	U	U	U	U	
m,p,-xylene (sum of isomers)	5*	2.0	U	U	U	U	U	U	U	
naphthalene	10	1.0	U	U	U	U	U	U	U	
o-xylene	5*	1.0	U	U	U	U	U	U	U	
p-isopropyltoluene	5*	1.0	U	U	U	U	U	U	U	
sec-butylbenzene	5*	1.0	U	U	U	U	U	U	U	
t-butylbenzene	5*	1.0	U	U	U	U	U	U	U	
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U	U	
toluene	5*	1.0	U	U	U	U	U	U	U	
trans-1,2-Dichloroethene	5*	1.0	0.180 F	U	U	U	U	U	0.210 F	
trichloroethene (TCE)	5*	1.0	U	U	U	U	U	U	U	
vinyl chloride	2	1.0	29.7	U	8.83	1.18	12.8	10.9	28.7	
total VOCs	-	-	34.58	2.34	13.51	2.43	17.19	14.96	33.37	
Wet Chemistry										
DOC (mg/L)	-	1	6.0	1.4	4.4	2.8	4.2	3.9	4.8	
TOC (mg/L)	-	1	NS	NS	NS	NS	NS	NS	NS	
alkalinity (mg/L)	-	10	350	260	72	48	170	180	310	
chloride (mg/L)	250	1	50	1.5	20	1.4	18	19	96	
nitrate (mg/L)	10	1	U	0.14	0.14	0.016 F	0.063 F	0.18	U	
sulfate (mg/L)	250	1	7.4	5.4	6.5	14	7.8	4.2	2.0	
Field Parameters										
ORP (mV)	-	-	-114	-33	40	-3	-61	-74	-48	
oxygen (mg/L)	-	-	0.51	8.22	0.20	0.66	5.43	0.84	0.00	
pH (-)	-	-	6.50	9.30	10.79	11.14	7.21	7.26	6.77	
ferrous iron (mg/L)	-	-	3.6	NS	0.0	0.0	1.2	0.0	3.6	

Monitoring well not sampled, annual sampling frequency.

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**782VMW-84D**							
Sample ID			**782VM84D50IA**							
Date of Collection			**9/14/2011**							
Sample Depth (ft TOIC)			**50**							
Dilution Factor (-)			**1**							
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	U							
1,1-dichloroethene	5*	1.0	U							
1,2,4-trimethylbenzene	5*	1.0	U							
1,2-dichlorobenzene	3	1.0	U							
1,3,5-trimethylbenzene	5*	1.0	U							
1,4-Dichlorobenzene	3	0.5	U							
4-Chlorotoluene	5*	1.0	U							
acetone	50	10	U							
benzene	1	0.4	0.280 F							
Bromomethane	5*	3.0	U							
2-butanone	50	10	U							
chlorobenzene	5*	0.5	U							
Chloroform	7	0.3	U							
Chloromethane	--	1.0	U							
cis-1,2-dichloroethene	5*	1.0	0.330 F							
ethylbenzene	5*	1.0	U							
isopropylbenzene	5*	1.0	U							
methyl tert-butyl ether	10	5.0	2.29 F							
methylene chloride	5*	1.0	U							
n-butylbenzene	5*	1.0	U							
n-propylbenzene	5*	1.0	U							
m,p,-xylene (sum of isomers)	5*	2.0	U							
naphthalene	10	1.0	U							
o-xylene	5*	1.0	U							
p-isopropyltoluene	5*	1.0	U							
sec-butylbenzene	5*	1.0	U							
t-butylbenzene	5*	1.0	U							
tetrachloroethene (PCE)	5*	1.0	U							
toluene	5*	1.0	U							
trans-1,2-Dichloroethene	5*	1.0	0.170 F							
trichloroethene (TCE)	5*	1.0	U							
vinyl chloride	2	1.0	22.9							
total VOCs	-	-	25.97							
Wet Chemistry										
DOC (mg/L)	-	1	4.8							
TOC (mg/L)	-	1	NS							
alkalinity (mg/L)	-	10	290							
chloride (mg/L)	250	1	150							
nitrate (mg/L)	10	1	U							
sulfate (mg/L)	250	1	U							
Field Parameters										
ORP (mV)	-	-	-146							
oxygen (mg/L)	-	-	0.00							
pH (-)	-	-	7.03							
ferrous iron (mg/L)	-	-	3.6							

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782VMW-93							
Sample ID			**782VM9335AA**	**782VM9335AB**		**782VM9335CA**	**782VM9335DA**	**782VM9335EB**	**782VM9335FB**	**782VM9335GA**
Date of Collection			**11/15/2006**	**9/26/2008**		**4/15/2009**	**6/16/2009**	**9/23/2009**	**4/19/2010**	**9/28/2010**
Sample Depth (ft TOIC)			**35**	**35**		**35**	**35**	**35**	**35**	**35**
Dilution Factor (-)			**2**	**50**		**50**	**50**	**50**	**1**	**1**
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	U	U		U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U		U	U	U	U	U
1,2,4-trimethylbenzene	5*	1.0	U	U		U	U	U	U	U
1,2-dichlorobenzene	3	1.0	U	U		U	U	U	U	U
1,3,5-trimethylbenzene	5*	1.0	U	U		U	U	U	U	U
1,4-Dichlorobenzene	3	0.5	U	U		U	U	U	U	U
4-Chlorotoluene	5*	1.0	U	U		U	U	U	U	U
acetone	50	10	U	176		1.94 F	U	U	U	U
benzene	1	0.4	U	U		U	U	U	U	U
Bromomethane	5*	3.0	U	U		U	U	U	U	U
2-butanone	50	10	U	90.0 J		U	U	U	U	U
chlorobenzene	5*	0.5	U	U		U	U	U	U	U
Chloroform	7	0.3	U	U		0.280 F	U	U	U	U
Chloromethane	--	1.0	U	U		U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	U	U		U	U	U	0.590 F	U
ethylbenzene	5*	1.0	U	4.49		U	U	U	U	U
isopropylbenzene	5*	1.0	U	U		U	U	U	U	U
methyl tert-butyl ether	10	5.0	8.04 F	4.47 F		7.40	10.9	9.40 F	U	7.51
methylene chloride	5*	1.0	U	U		U	U	U	U	U
n-butylbenzene	5*	1.0	U	U		U	U	U	U	U
n-propylbenzene	5*	1.0	U	U		U	U	U	U	U
m,p,-xylene (sum of isomers)	5*	2.0	U	U		U	U	U	U	U
naphthalene	10	1.0	U	U		U	U	U	U	U
o-xylene	5*	1.0	U	U		U	U	U	U	U
p-isopropyltoluene	5*	1.0	U	U		U	U	U	U	U
sec-butylbenzene	5*	1.0	U	U		U	U	U	U	U
t-butylbenzene	5*	1.0	U	U		U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	U	U		U	U	U	U	U
toluene	5*	1.0	U	1150		1.78	1.70	0.800 F	U	0.390 F
trans-1,2-Dichloroethene	5*	1.0	U	U		U	U	U	U	U
trichloroethene (TCE)	5*	1.0	U	U		U	U	U	U	U
vinyl chloride	2	1.0	54.6	17.2		35.1	62.6	54.6	2.31	48.6
total VOCs	-	-	54.6	1442.16		46.5	75.2	64.8	2.9	56.5
Wet Chemistry										
DOC (mg/L)	-	1	2.7	120		11	2.9	3.5	1.7	3.5
TOC (mg/L)	-	1	NS	NS		NS	NS	NS	NS	NS
alkalinity (mg/L)	-	10	320	520		320	330	360	250	300
chloride (mg/L)	250	1	32	37		49	56	53	140	36
nitrate (mg/L)	10	1	0.089 F	47		0.098 F	0.046 F	0.018 F	U	U
sulfate (mg/L)	250	1	0.36 F	0.99 F		13	0.61 F	U	U	U
Field Parameters										
ORP (mV)	-	-	-20	-208		-76	-101	-104	-130	-57
oxygen (mg/L)	-	-	1.11	1.07		1.54	4.02	1.76	0.00	0.00
pH (-)	-	-	6.83	6.54		6.36	7.08	7.56	7.82	6.93
ferrous iron (mg/L)	-	-	0.2	1.6		1.0	NS	3.2	0.0	ns

This monitoring well could not be sampled due to the large amount of run-off from the landfarm containing petroleum contaminated soils on Apron 2. This is contaminating the well with silt and petroleum constituents.

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782VMW-93								
Sample ID			**782VM9335HA**								
Date of Collection			**4/5/2011**								
Sample Depth (ft TOIC)			**35**								
Dilution Factor (-)			**1**								
VOCs (µg/L)											
1,1- dichloroethane	5*	1.0	U								
1,1-dichloroethene	5*	1.0	U								
1,2,4-trimethylbenzene	5*	1.0	U								
1,2-dichlorobenzene	3	1.0	U								
1,3,5-trimethylbenzene	5*	1.0	U								
1,4-Dichlorobenzene	3	0.5	U								
4-Chlorotoluene	5*	1.0	U								
acetone	50	10	2.03 FB								
benzene	1	0.4	U								
Bromomethane	5*	3.0	U								
2-butanone	50	10	U								
chlorobenzene	5*	0.5	U								
Chloroform	7	0.3	U								
Chloromethane	--	1.0	U								
cis-1,2-dichloroethene	5*	1.0	U								
ethylbenzene	5*	1.0	U								
isopropylbenzene	5*	1.0	U								
methyl tert-butyl ether	10	5.0	7.26								
methylene chloride	5*	1.0	U								
n-butylbenzene	5*	1.0	U								
n-propylbenzene	5*	1.0	U								
m,p,-xylene (sum of isomers)	5*	2.0	U								
naphthalene	10	1.0	U								
o-xylene	5*	1.0	U								
p-isopropyltoluene	5*	1.0	U								
sec-butylbenzene	5*	1.0	U								
t-butylbenzene	5*	1.0	U								
tetrachloroethene (PCE)	5*	1.0	U								
toluene	5*	1.0	0.330 F								
trans-1,2-Dichloroethene	5*	1.0	U								
trichloroethene (TCE)	5*	1.0	U								
vinyl chloride	2	1.0	45.9								
total VOCs	-	-	55.52								
Wet Chemistry											
DOC (mg/L)	-	1	6.0								
TOC (mg/L)	-	1	NS								
alkalinity (mg/L)	-	10	240								
chloride (mg/L)	250	1	22								
nitrate (mg/L)	10	1	0.15 F								
sulfate (mg/L)	250	1	0.80 F								
Field Parameters											
ORP (mV)	-	-	-94								
oxygen (mg/L)	-	-	0.00								
pH (-)	-	-	7.45								
ferrous iron (mg/L)	-	-	3.0								

This monitoring well could not be not sampled. This well has been undermined during clean-up activities from the landfarm.

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782VMW-96							
Sample ID			**782VM9637AA**	**782VM9637AB**	**782VM9637BB**	**782VM9637CA**	**782VM9637DA**		**782VM9637JA**	
Date of Collection			**11/14/2006**	**9/25/2008**	**12/31/2008**	**3/26/2009**	**6/17/2009**		**4/10/2012**	
Sample Depth (ft TOIC)			**37**	**37**	**37**	**37**	**37**		**37**	
Dilution Factor (-)			**2**	**2**	**2**	**2**	**2**		**5**	
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	U	U	U	U	U	Monitoring well not sampled. This well was designated for sampling in the first year only of performance monitoring.	U	
1,1-dichloroethene	5*	1.0	U	U	U	U	U		U	
1,2,4-trimethylbenzene	5*	1.0	U	U	U	U	U		U	
1,2-dichlorobenzene	3	1.0	U	U	U	U	U		U	
1,3,5-trimethylbenzene	5*	1.0	U	U	U	U	U		U	
1,4-Dichlorobenzene	3	0.5	U	U	U	U	U		U	
4-Chlorotoluene	5*	1.0	U	U	U	U	U		U	
acetone	50	10	U	U	U	U	U		U	
benzene	1	0.4	U	U	U	U	U		U	
Bromomethane	5*	3.0	U	U	U	U	U		U	
2-butanone	50	10	U	U	U	U	U		U	
chlorobenzene	5*	0.5	U	U	U	U	U		U	
Chloroform	7	0.3	U	U	U	U	U		U	
Chloromethane	--	1.0	U	U	U	U	U		U	
cis-1,2-dichloroethene	5*	1.0	U	U	U	U	U		U	
ethylbenzene	5*	1.0	U	U	U	U	U		U	
isopropylbenzene	5*	1.0	U	U	U	U	U		U	
methyl tert-butyl ether	10	5.0	7.72 F	12.7	10.5	12.3	7.28 F		10.7	
methylene chloride	5*	1.0	U	U	U	U	U		U	
n-butylbenzene	5*	1.0	U	U	U	U	U		U	
n-propylbenzene	5*	1.0	U	U	U	U	U		U	
m,p,-xylene (sum of isomers)	5*	2.0	U	U	U	U	U		U	
naphthalene	10	1.0	U	U	U	U	U		U	
o-xylene	5*	1.0	U	U	U	U	U		U	
p-isopropyltoluene	5*	1.0	U	U	U	U	U		U	
sec-butylbenzene	5*	1.0	U	U	U	U	U		U	
t-butylbenzene	5*	1.0	U	U	U	U	U		U	
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U		U	
toluene	5*	1.0	U	U	U	U	U		U	
trans-1,2-Dichloroethene	5*	1.0	U	U	U	U	U		U	
trichloroethene (TCE)	5*	1.0	U	U	U	U	U		U	
vinyl chloride	2	1.0	68.2	49.6	50.9	46.6	28.3		45.8	
total VOCs	-	-	68.2	62.3	61.4	58.9	35.58		56.5	
Wet Chemistry										
DOC (mg/L)	-	1	2.5	2.3	2.6	3.4	2.6		2.7	
TOC (mg/L)	-	1	NS	NS	NS	NS	NS		NS	
alkalinity (mg/L)	-	10	320	320	310	330	320		330	
chloride (mg/L)	250	1	54	42	44	46	44		56	
nitrate (mg/L)	10	1	0.035 F	0.041 F	0.068	U	0.023 F		U	
sulfate (mg/L)	250	1	0.17 F	U	0.2	U	0.11 F		U	
Field Parameters										
ORP (mV)	-	-	124	-129	-69	-68	-127		-158	
oxygen (mg/L)	-	-	3.39	4.23	0.90	0.00	0.00		3.29	
pH (-)	-	-	7.28	6.98	6.60	6.12	6.06		6.89	
ferrous iron (mg/L)	-	-	1.5	1.8	NS	1.2	3.2		1.0	

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782VMW-98							
Sample ID			**782VM9829AA**	**782VM9832AB**						
Date of Collection			**11/14/2006**	**9/24/2008**						
Sample Depth (ft TOIC)			**29**	**32**						
Dilution Factor (-)			**1**	**1**						
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	U	U						
1,1-dichloroethene	5*	1.0	U	U						
1,2,4-trimethylbenzene	5*	1.0	U	U						
1,2-dichlorobenzene	3	1.0	U	U						
1,3,5-trimethylbenzene	5*	1.0	U	U						
1,4-Dichlorobenzene	3	0.5	U	U						
4-Chlorotoluene	5*	1.0	U	U						
acetone	50	10	U	U						
benzene	1	0.4	U	U						
Bromomethane	5*	3.0	U	U						
2-butanone	50	10	U	U						
chlorobenzene	5*	0.5	U	U						
Chloroform	7	0.3	U	U						
Chloromethane	--	1.0	U	U						
cis-1,2-dichloroethene	5*	1.0	U	U						
ethylbenzene	5*	1.0	U	U						
isopropylbenzene	5*	1.0	U	U						
methyl tert-butyl ether	10	5.0	U	U						
methylene chloride	5*	1.0	U	U						
n-butylbenzene	5*	1.0	U	U						
n-propylbenzene	5*	1.0	U	U						
m,p,-xylene (sum of isomers)	5*	2.0	U	U						
naphthalene	10	1.0	U	U						
o-xylene	5*	1.0	U	U						
p-isopropyltoluene	5*	1.0	U	U						
sec-butylbenzene	5*	1.0	U	U						
t-butylbenzene	5*	1.0	U	U						
tetrachloroethene (PCE)	5*	1.0	U	U						
toluene	5*	1.0	U	U						
trans-1,2-Dichloroethene	5*	1.0	U	U						
trichloroethene (TCE)	5*	1.0	U	U						
vinyl chloride	2	1.0	U	U						
total VOCs	-	-	0	0						
Wet Chemistry										
DOC (mg/L)	-	1	0.26 F	0.56 F						
TOC (mg/L)	-	1	NS	NS						
alkalinity (mg/L)	-	10	200	190						
chloride (mg/L)	250	1	4.0	11						
nitrate (mg/L)	10	1	0.33 F	0.44						
sulfate (mg/L)	250	1	5.1	6.6						
Field Parameters										
ORP (mV)	-	-	161	65						
oxygen (mg/L)	-	-	5.32	5.48						
pH (-)	-	-	6.55	7.21						
ferrous iron (mg/L)	-	-	0.0	0.0						

Monitoring well not sampled. This well was designated for one time only sampling in the first round of performance monitoring.

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782VMW-100							
Sample ID			782VM10025AB	782VM10025BB	782VM10025CA	782VM10025DA	782VM10025EB	782VM10025FB	782VM10025GA	782VM10025HA
Date of Collection			9/26/2008	12/31/2008	3/25/2009	6/17/2009	9/21/2009	4/15/2010	9/28/2010	4/7/2011
Sample Depth (ft TOIC)			25	25	25	25	25	25	25	25
Dilution Factor (-)			1	1	1	1	1	1	1	1
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2,4-trimethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichlorobenzene	3	1.0	U	U	U	U	U	U	U	U
1,3,5-trimethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
1,4-Dichlorobenzene	3	0.5	U	U	U	U	U	U	U	U
4-Chlorotoluene	5*	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	1.20 F	U	3.68 F	1.19 F	3.36 F	2.95 FB
benzene	1	0.4	U	U	U	U	U	U	U	U
Bromomethane	5*	3.0	U	U	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
chlorobenzene	5*	0.5	U	U	U	U	U	U	U	U
Chloroform	7	0.3	U	U	U	U	U	U	U	U
Chloromethane	--	1.0	U	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
ethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
isopropylbenzene	5*	1.0	U	U	U	U	U	U	U	U
methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
n-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
n-propylbenzene	5*	1.0	U	U	U	U	U	U	U	U
m,p,-xylene (sum of isomers)	5*	2.0	U	U	U	U	U	U	U	U
naphthalene	10	1.0	U	U	U	U	U	U	U	U
o-xylene	5*	1.0	U	U	U	U	U	U	U	U
p-isopropyltoluene	5*	1.0	U	U	U	U	U	U	U	U
sec-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
t-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U	U	U
toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	U	U	U	U	U	U	U	U
vinyl chloride	2	1.0	U	U	U	U	U	U	U	U
total VOCs	-	-	0	0	1.2	0	3.68	1.19	3.36	2.95
Wet Chemistry										
DOC (mg/L)	-	1	4.2	4	2.5 B	3.7	4.6	4.2	3.5	3.0
TOC (mg/L)	-	1	NS	NS	NS	NS	NS	NS	NS	NS
alkalinity (mg/L)	-	10	280	180	150	230	300	190	300	150
chloride (mg/L)	250	1	5.2	3.4	2.2	1.5	1.8	3.5	3.5	2.3
nitrate (mg/L)	10	1	1.8	U	U	U	0.015 F	U	U	U
sulfate (mg/L)	250	1	11	16	15	6.1	16	7.4	10	21
Field Parameters										
ORP (mV)	-	-	38	-16	0	-51	-102	-78	-57	-32
oxygen (mg/L)	-	-	1.43	2.19	0.00	0.00	1.61	0.00	5.01	0.00
pH (-)	-	-	6.35	8.15	6.92	7.18	7.62	7.52	7.51	7.53
ferrous iron (mg/L)	-	-	0.2	NS	0.6	0.8	1.6	0.8	1.8	0.6

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**782VMW-100**							
Sample ID			**782VM10025IA**	**782VM10025JA**						
Date of Collection			**9/14/2011**	**4/10/2012**						
Sample Depth (ft TOIC)			**25**	**25**						
Dilution Factor (-)			**1**	**1**						
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	U	U						
1,1-dichloroethene	5*	1.0	U	U						
1,2,4-trimethylbenzene	5*	1.0	U	U						
1,2-dichlorobenzene	3	1.0	U	U						
1,3,5-trimethylbenzene	5*	1.0	U	U						
1,4-Dichlorobenzene	3	0.5	U	U						
4-Chlorotoluene	5*	1.0	U	U						
acetone	50	10	U	U						
benzene	1	0.4	U	U						
Bromomethane	5*	3.0	U	U						
2-butanone	50	10	U	U						
chlorobenzene	5*	0.5	U	U						
Chloroform	7	0.3	U	U						
Chloromethane	--	1.0	U	U						
cis-1,2-dichloroethene	5*	1.0	U	U						
ethylbenzene	5*	1.0	U	U						
isopropylbenzene	5*	1.0	U	U						
methyl tert-butyl ether	10	5.0	U	U						
methylene chloride	5*	1.0	U	U						
n-butylbenzene	5*	1.0	U	U						
n-propylbenzene	5*	1.0	U	U						
m,p,-xylene (sum of isomers)	5*	2.0	U	U						
naphthalene	10	1.0	U	U						
o-xylene	5*	1.0	U	U						
p-isopropyltoluene	5*	1.0	U	U						
sec-butylbenzene	5*	1.0	U	U						
t-butylbenzene	5*	1.0	U	U						
tetrachloroethene (PCE)	5*	1.0	U	U						
toluene	5*	1.0	U	U						
trans-1,2-Dichloroethene	5*	1.0	U	U						
trichloroethene (TCE)	5*	1.0	U	U						
vinyl chloride	2	1.0	U	U						
total VOCs	-	-	0	0						
Wet Chemistry										
DOC (mg/L)	-	1	4.1	3.1						
TOC (mg/L)	-	1	NS	NS						
alkalinity (mg/L)	-	10	300	190						
chloride (mg/L)	250	1	4.5	4.0						
nitrate (mg/L)	10	1	U	U						
sulfate (mg/L)	250	1	15	11						
Field Parameters										
ORP (mV)	-	-	-52	-62						
oxygen (mg/L)	-	-	0.00	0.00						
pH (-)	-	-	7.00	7.39						
ferrous iron (mg/L)	-	-	1.6	0.0						

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782VMW-101							
Sample ID			782VM10118AA	782VM10118AB	782VM10118BB	782VM10118CA	782VM10118DA	782VM10118EB	782VM10118FB	782VM10118GA
Date of Collection			11/15/2006	9/24/2008	12/30/2008	3/26/2009	6/16/2009	9/21/2009	4/15/2010	9/28/2010
Sample Depth (ft TOIC)			18	18	18	18	18	18	18	18
Dilution Factor (-)			1	1	1	1	1	1	1	1
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2,4-trimethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichlorobenzene	3	1.0	U	U	U	U	U	U	U	U
1,3,5-trimethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
1,4-Dichlorobenzene	3	0.5	U	U	U	U	U	U	U	U
4-Chlorotoluene	5*	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	U	U	U	1.96 F	U	U
benzene	1	0.4	U	U	U	U	U	U	U	U
Bromomethane	5*	3.0	U	U	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
chlorobenzene	5*	0.5	U	U	U	U	U	U	U	U
Chloroform	7	0.3	U	U	U	U	U	U	U	U
Chloromethane	--	1.0	U	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	U	U	U	U	0.120 F	U	U	U
ethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
isopropylbenzene	5*	1.0	U	U	U	U	U	U	U	U
methyl tert-butyl ether	10	5.0	1.87 F	7.09	6.78	6.37	5.70	6.64 ♦	9.15 ♦	5.45
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
n-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
n-propylbenzene	5*	1.0	U	U	U	U	U	U	U	U
m,p,-xylene (sum of isomers)	5*	2.0	U	U	U	U	U	U	U	U
naphthalene	10	1.0	U	U	U	U	U	U	U	U
o-xylene	5*	1.0	U	U	U	U	U	U	U	U
p-isopropyltoluene	5*	1.0	U	U	U	U	U	U	U	U
sec-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
t-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U	U	U
toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	U	U	U	U	U	U	U	U
vinyl chloride	2	1.0	1.88	2.02	2.09 ♦	1.85 ♦	2.69	2.38	5.27 ♦	2.93
total VOCs	-	-	3.75	9.11	8.81	8.22	8.51	10.92	14.42	8.38
Wet Chemistry										
DOC (mg/L)	-	1	2.2	4.1	3.8 ♦	3.9	3.3	3.6 ♦	4.9 ♦	2.9
TOC (mg/L)	-	1	NS	NS	NS	NS	NS	NS	NS	NS
alkalinity (mg/L)	-	10	260	310	340	320	320	320	320	270
chloride (mg/L)	250	1	4.3	21	31	25 ♦	17 ♦	28	38 ♦	27 ♦
nitrate (mg/L)	10	1	0.021 F	0.037 F	U	0.021 F ♦	U	U	U	U
sulfate (mg/L)	250	1	3.9	150	140	130	140	120	210	170
Field Parameters										
ORP (mV)	-	-	-131	-89	-49	-46	-76	-89	-99	22
oxygen (mg/L)	-	-	5.99	1.36	1.41	0.00	0.48	2.19	0.00	0.00
pH (-)	-	-	6.95	5.76	6.65	5.36	7.09	7.86	6.90	6.52
ferrous iron (mg/L)	-	-	4.2	3.8	NS	1.6	1.8	2.9	4.1	2.6

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782VMW-101							
Sample ID			**782VM10118HB**	**782VM10118IA**	**782VM10118JA**					
Date of Collection			**4/6/2011**	**9/14/2011**	**4/10/2012**					
Sample Depth (ft TOIC)			**18**	**18**	**18**					
Dilution Factor (-)			**1**	**1**	**1**					
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	U	U	U					
1,1-dichloroethene	5*	1.0	U	U	U					
1,2,4-trimethylbenzene	5*	1.0	U	U	U					
1,2-dichlorobenzene	3	1.0	U	U	U					
1,3,5-trimethylbenzene	5*	1.0	U	U	U					
1,4-Dichlorobenzene	3	0.5	U	U	U					
4-Chlorotoluene	5*	1.0	U	U	U					
acetone	50	10	2.68 FB	3.23 FB♦	U					
benzene	1	0.4	U	U	U					
Bromomethane	5*	3.0	U	U	U					
2-butanone	50	10	U	U	U					
chlorobenzene	5*	0.5	U	U	U					
Chloroform	7	0.3	U	U	U					
Chloromethane	--	1.0	U	U	U					
cis-1,2-dichloroethene	5*	1.0	U	U	U					
ethylbenzene	5*	1.0	U	U	U					
isopropylbenzene	5*	1.0	U	U	U					
methyl tert-butyl ether	10	5.0	8.63 ♦	3.03 F	4.11 F♦					
methylene chloride	5*	1.0	U	U	U					
n-butylbenzene	5*	1.0	U	U	U					
n-propylbenzene	5*	1.0	U	U	U					
m,p,-xylene (sum of isomers)	5*	2.0	U	U	U					
naphthalene	10	1.0	U	U	U					
o-xylene	5*	1.0	U	U	U					
p-isopropyltoluene	5*	1.0	U	U	U					
sec-butylbenzene	5*	1.0	U	U	U					
t-butylbenzene	5*	1.0	U	U	U					
tetrachloroethene (PCE)	5*	1.0	U	U	U					
toluene	5*	1.0	U	U	U					
trans-1,2-Dichloroethene	5*	1.0	U	U	U					
trichloroethene (TCE)	5*	1.0	U	U	U					
vinyl chloride	2	1.0	5.77	0.810 F	1.02					
total VOCs	-	-	17.08	7.07	5.13					
Wet Chemistry										
DOC (mg/L)	-	1	4.2 J	2.2	2.9					
TOC (mg/L)	-	1	NS	NS	NS					
alkalinity (mg/L)	-	10	320 ♦	290	280					
chloride (mg/L)	250	1	41 ♦	21 B	21 ♦					
nitrate (mg/L)	10	1	U	U	U					
sulfate (mg/L)	250	1	230	110	130					
Field Parameters										
ORP (mV)	-	-	-59	-100	-128					
oxygen (mg/L)	-	-	0.00	0.00	0.00					
pH (-)	-	-	7.20	7.16	6.88					
ferrous iron (mg/L)	-	-	0.4	1.8	3.0					

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782VMW-105B							
Sample ID			782VM105B33AA	782VM105B33AB	782VM105B36BB	782VM105B36CA	782VM105B36DA	782VM105B36EB	782VM105B36FB	782VM105B36GA
Date of Collection			11/14/2006	9/24/2008	12/30/2008	4/15/2009	6/17/2009	9/21/2009	4/15/2010	9/29/2010
Sample Depth (ft TOIC)			33	33	36	36	36	36	36	36
Dilution Factor (-)			1	2.5	2	2	2	2	2	1
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2,4-trimethylbenzene	5*	1.0	U	28.7	64.1 M♦	157 J♦	123	35.5 ♦	1.06 F	U
1,2-dichlorobenzene	3	1.0	U	U	U	0.220 F	U	U	U	U
1,3,5-trimethylbenzene	5*	1.0	U	44.4	44.5 M♦	66.5	32.7	17.0 ♦	U	U
1,4-Dichlorobenzene	3	0.5	U	U	U	U	U	U	U	U
4-Chlorotoluene	5*	1.0	U	U	U	U	U	U	U	0.110 F
acetone	50	10	U	U	U	U	U	U	U	7.56 F
benzene	1	0.4	U	0.180 F	U	U	U	U	U	U
Bromomethane	5*	3.0	U	U	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
chlorobenzene	5*	0.5	U	U	U	U	U	U	U	U
Chloroform	7	0.3	U	U	U	U	U	U	U	0.160 F
Chloromethane	--	1.0	U	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	0.510 F	1.36	1.88 F	1.30 F♦	0.720 F ♦	3.00 ♦	4.70 ♦	4.83 ♦
ethylbenzene	5*	1.0	U	31.8	22.6	65.4 M♦	29.1 ♦	21.0 ♦	U	U
isopropylbenzene	5*	1.0	U	37.4	25.5 M♦	30.9 ♦	18.3 ♦	24.4	1.22 F	0.570 F
methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	0.38 F♦	U	U	U	U	U
n-butylbenzene	5*	1.0	U	1.08	1.12 F	1.80 F♦	1.24 F	1.10 F ♦	U	U
n-propylbenzene	5*	1.0	U	36.4	26.0 M♦	31.1 ♦	18.1 ♦	22.6 ♦	0.640 F	0.110 F
m,p,-xylene (sum of isomers)	5*	2.0	U	21.2	38.6 ♦	148 M♦	99.6 ♦	18.4 ♦	U	U
naphthalene	10	1.0	U	29.3	15.8 ♦	36.7	20.9	17.1♦	0.880 F	U
o-xylene	5*	1.0	U	U	0.560 F♦	1.10 F♦	0.220 F♦	U	U	U
p-isopropyltoluene	5*	1.0	U	0.630 F	2.00 ♦	4.20	2.20	1.46 F ♦	U	U
sec-butylbenzene	5*	1.0	U	6.43	4.74 ♦	5.96	3.10	4.98 ♦	1.10 F	0.770 F
t-butylbenzene	5*	1.0	U	0.790 F	U	U	0.400	0.540 F	U	0.120 F
tetrachloroethene (PCE)	5*	1.0	0.130 F	0.360 F	0.380 F♦	0.680 F	U	0.400 F	0.500 F	0.450 F
toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	7.97	23.9	24.7	17.8	7.20 ♦	39.6 ♦	34.8	29.6
vinyl chloride	2	1.0	U	U	U	U	U	U	U	U
total VOCs	-	-	8.61	263.93	272.86	568.66	356.78	207.08	44.9	44.28
Wet Chemistry										
DOC (mg/L)	-	1	1.6	2.4	2.6 ♦	2.7 ♦	3.3 ♦	2.2	2.6 J♦	2.0 J
TOC (mg/L)	-	1	NS	NS	NS	NS	NS	NS	NS	NS
alkalinity (mg/L)	-	10	250	260	240	190	210 ♦	250	190	210
chloride (mg/L)	250	1	12	11	9.3	6.7 ♦	7.5 ♦	7.5	4.9 ♦	7.5
nitrate (mg/L)	10	1	0.32 F	0.68	0.39 ♦	0.17 ♦	0.21 ♦	0.33	0.083 F ♦	U
sulfate (mg/L)	250	1	9.0	7.0	6.8	5.2 ♦	6.4 ♦	9.5	8.6 ♦	8.6 ♦
Field Parameters										
ORP (mV)	-	-	-22	-199	-145	-138	-147	-152	-133	-170
oxygen (mg/L)	-	-	0.00	1.53	0.78	0.34	0.00	5.56	0.93	4.98
pH (-)	-	-	7.01	7.36	7.49	6.50	7.40	7.18	7.68	7.37
ferrous iron (mg/L)	-	-	0.5	2.0	NS	2.0	3.6	2.5	2.0	1.4

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782VMW-105B							
Sample ID			**782VM105B36HB**	**782VM105B36IB**	**782VM105B36JB**					
Date of Collection			**4/6/2011**	**9/13/2011**	**4/10/2012**					
Sample Depth (ft TOIC)			**36**	**36**	**36**					
Dilution Factor (-)			**1**	**1**	**1**					
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	U	U	U					
1,1-dichloroethene	5*	1.0	U	U	U					
1,2,4-trimethylbenzene	5*	1.0	U	U	U					
1,2-dichlorobenzene	3	1.0	U	U	U					
1,3,5-trimethylbenzene	5*	1.0	U	U	U					
1,4-Dichlorobenzene	3	0.5	U	U	U					
4-Chlorotoluene	5*	1.0	U	U	U					
acetone	50	10	3.61 FB	U	1.20 FM					
benzene	1	0.4	U	U	U					
Bromomethane	5*	3.0	U	U	U					
2-butanone	50	10	U	U	U					
chlorobenzene	5*	0.5	U	U	U					
Chloroform	7	0.3	0.150 F♦	U	U					
Chloromethane	--	1.0	U	U	U					
cis-1,2-dichloroethene	5*	1.0	3.26 J♦	2.83	1.35					
ethylbenzene	5*	1.0	U	U	U					
isopropylbenzene	5*	1.0	0.15 F♦	0.130 F	U					
methyl tert-butyl ether	10	5.0	U	U	U					
methylene chloride	5*	1.0	U	U	U					
n-butylbenzene	5*	1.0	U	U	U					
n-propylbenzene	5*	1.0	U	U	U					
m,p,-xylene (sum of isomers)	5*	2.0	U	U	U					
naphthalene	10	1.0	U	U	U					
o-xylene	5*	1.0	U	U	U					
p-isopropyltoluene	5*	1.0	U	U	U					
sec-butylbenzene	5*	1.0	0.330 F♦	0.300 F	0.250 F					
t-butylbenzene	5*	1.0	U	U	U					
tetrachloroethene (PCE)	5*	1.0	0.600 F♦	0.360 F	U					
toluene	5*	1.0	U	U	U					
trans-1,2-Dichloroethene	5*	1.0	U	U	U					
trichloroethene (TCE)	5*	1.0	43.6 M ♦	24.3 ♦	9.24 M♦					
vinyl chloride	2	1.0	U	U	U					
total VOCs	-	-	51.7	27.92	12.04					
Wet Chemistry										
DOC (mg/L)	-	1	1.8 ♦	11.8	2.2					
TOC (mg/L)	-	1	NS	NS	2.3					
alkalinity (mg/L)	-	10	230	240	250					
chloride (mg/L)	250	1	11.0	7.0	4.4					
nitrate (mg/L)	10	1	U	U	0.12 F					
sulfate (mg/L)	250	1	8.5	7.3	7.3					
Field Parameters										
ORP (mV)	-	-	-120	-173	-181					
oxygen (mg/L)	-	-	8.11	1.32	6.60					
pH (-)	-	-	7.43	7.25	7.00					
ferrous iron (mg/L)	-	-	3.0	1.7	3.0					

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782MW-10							
Sample ID			**782M1027AA**	**782M1027AB**	**782M1027BB**	**782VM1027CA**	**782M1027DA**	**782M1027EB**	**782M1027FB**	**782M1027GA**
Date of Collection			**11/14/2006**	**9/24/2008**	**12/31/2008**	**3/26/2009**	**6/16/2009**	**9/23/2009**	**4/19/2010**	**9/28/2010**
Sample Depth (ft TOIC)			**27**	**27**	**27**	**27**	**27**	**27**	**27**	**27**
Dilution Factor (-)			**2**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	0.420 F	0.240 F	0.240 F	0.190 F	0.340 F	0.200 F	0.120 F	0.400 F
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2,4-trimethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichlorobenzene	3	1.0	U			U	U	U	U	U
1,3,5-trimethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
1,4-Dichlorobenzene	3	0.5	U	U	U	U	U	U	U	U
4-Chlorotoluene	5*	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	1.14 F	U	U	1.47 F	1.19 F	U
benzene	1	0.4	0.420 F	0.250 F	0.250 F	0.200 F	0.310 F	0.190 F	0.170 F	0.510
Bromomethane	5*	3.0	U	U	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
chlorobenzene	5*	0.5	U	U	U	U	U	U	U	U
Chloroform	7	0.3	U	U	U	U	U	U	U	U
Chloromethane	--	1.0	U	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	43.9	23.0	23.9	16.6	32.2	20.1	12.7	40.2
ethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
isopropylbenzene	5*	1.0	U	U	U	U	U	U	U	U
methyl tert-butyl ether	10	5.0	0.220 F	U	0.170 F	U	0.280 F	U	U	0.280 F
methylene chloride	5*	1.0	0.200 F	U	U	U	U	U	U	U
n-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
n-propylbenzene	5*	1.0	U	U	U	U	U	U	U	U
m,p,-xylene (sum of isomers)	5*	2.0	U	U	U	U	U	U	U	U
naphthalene	10	1.0	U	U	U	U	U	U	U	U
o-xylene	5*	1.0	U	U	U	U	U	U	U	U
p-isopropyltoluene	5*	1.0	U	U	U	U	U	U	U	U
sec-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
t-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U	U	U
toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	5*	1.0	2.92	1.69	1.71	1.27	2.22	1.41	0.970 F	3.19
trichloroethene (TCE)	5*	1.0	U	U	U	U	U	U	U	U
vinyl chloride	2	1.0	17.4	10.8	13.0	10.2	18.1	12.1	7.22	20.2
total VOCs	-	-	64.64	35.98	40.41	28.46	53.45	35.47	22.35	64.78
Wet Chemistry										
DOC (mg/L)	-	1	3.1	5.1	5.3	5.5	6.8	5.5	10	4.3
TOC (mg/L)	-	1	NS	NS	NS	NS	NS	NS	NS	NS
alkalinity (mg/L)	-	10	270	270	260	270	260	280	250	240
chloride (mg/L)	250	1	110	16	13	13	15	9.2	6.9	16
nitrate (mg/L)	10	1	U	0.018 F	0.46	0.41	0.35	0.12 B	U	U
sulfate (mg/L)	250	1	4.9	2.1	1.2	9.7	1.8	1.3	0.67 F	2.1
Field Parameters										
ORP (mV)	-	-	-109	-92	159	-8	17	-18	-105	-97
oxygen (mg/L)	-	-	0.93	1.05	1.99	0.00	3.45	1.48	0.00	0.00
pH (-)	-	-	6.97	6.86	6.25	5.90	7.06	7.26	6.74	7.01
ferrous iron (mg/L)	-	-	5.0	NS	NS	0.0	0.9	0.8	2.4	1.6

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782MW-10							
Sample ID			**782M1027HA**	**782M1027IA**	**782M1027JA**					
Date of Collection			**4/5/2011**	**9/13/2011**	**4/10/2012**					
Sample Depth (ft TOIC)			**27**	**27**	**27**					
Dilution Factor (-)			**1**	**1**	**1**					
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	0.390 F	0.220 F	0.330 F					
1,1-dichloroethene	5*	1.0	U	U	U					
1,2,4-trimethylbenzene	5*	1.0	U	U	U					
1,2-dichlorobenzene	3	1.0	U	U	U					
1,3,5-trimethylbenzene	5*	1.0	U	U	U					
1,4-Dichlorobenzene	3	0.5	U	U	U					
4-Chlorotoluene	5*	1.0	U	U	U					
acetone	50	10	2.03 FB	U	26.2					
benzene	1	0.4	0.480 F	0.390 F	0.470 F					
Bromomethane	5*	3.0	U	U	U					
2-butanone	50	10	U	U	U					
chlorobenzene	5*	0.5	U	U	U					
Chloroform	7	0.3	U	U	U					
Chloromethane	--	1.0	U	U	U					
cis-1,2-dichloroethene	5*	1.0	40.0	28.5	35.4					
ethylbenzene	5*	1.0	U	U	U					
isopropylbenzene	5*	1.0	U	U	U					
methyl tert-butyl ether	10	5.0	0.270 F	U	0.300 F					
methylene chloride	5*	1.0	0.330 F	U	U					
n-butylbenzene	5*	1.0	U	U	U					
n-propylbenzene	5*	1.0	U	U	U					
m,p,-xylene (sum of isomers)	5*	2.0	U	U	U					
naphthalene	10	1.0	U	U	U					
o-xylene	5*	1.0	U	U	U					
p-isopropyltoluene	5*	1.0	U	U	U					
sec-butylbenzene	5*	1.0	U	U	U					
t-butylbenzene	5*	1.0	U	U	U					
tetrachloroethene (PCE)	5*	1.0	U	U	U					
toluene	5*	1.0	U	U	U					
trans-1,2-Dichloroethene	5*	1.0	3.17	2.39	3.05					
trichloroethene (TCE)	5*	1.0	U	U	U					
vinyl chloride	2	1.0	20.1	13.8	18.4					
total VOCs	-	-	66.77	45.3	84.15					
Wet Chemistry										
DOC (mg/L)	-	1	19	5.2	5.5					
TOC (mg/L)	-	1	NS	NS	NS					
alkalinity (mg/L)	-	10	230	240	260					
chloride (mg/L)	250	1	13	11	11					
nitrate (mg/L)	10	1	U	U	U					
sulfate (mg/L)	250	1	2.3	1.2	0.73 F					
Field Parameters										
ORP (mV)	-	-	-114	-166	-166					
oxygen (mg/L)	-	-	0.00	8.32	0.00					
pH (-)	-	-	7.07	6.90	6.95					
ferrous iron (mg/L)	-	-	1.4	3.2	2.0					

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782VMW-121							
Sample ID			**782M12116AB**	**782VM12116BB**	**782MW12116CA**	**782VM12116DA**	**782VM12116EB**	**782VM12116FB**	**782VM12116GA**	**782VM12116HA**
Date of Collection			**9/25/2008**	**12/31/2008**	**3/25/2009**	**6/17/2009**	**9/21/2009**	**4/15/2010**	**9/28/2010**	**4/6/2011**
Sample Depth (ft TOIC)			**16**	**16**	**16**	**16**	**16**	**16**	**16**	**16**
Dilution Factor (-)			**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2,4-trimethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichlorobenzene	3	1.0	U	U	U	U	U	U	U	U
1,3,5-trimethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
1,4-Dichlorobenzene	3	0.5	U	U	U	U	U	U	U	U
4-Chlorotoluene	5*	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	1.19 F	U	2.57 F	U	U	1.49 FB
benzene	1	0.4	U	U	U	U	U	U	U	U
Bromomethane	5*	3.0	U	U	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
chlorobenzene	5*	0.5	U	U	U	U	U	U	U	U
Chloroform	7	0.3	U	U	U	U	U	U	U	U
Chloromethane	--	1.0	U	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
ethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
isopropylbenzene	5*	1.0	U	U	U	U	U	U	U	U
methyl tert-butyl ether	10	5.0	3.95 F	3.29 F	2.34 F	2.18 F	4.16 F	2.68 F	2.68 F	2.92 F
methylene chloride	5*	1.0	U	U	0.170 F	U	U	U	U	U
n-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
n-propylbenzene	5*	1.0	U	U	U	U	U	U	U	U
m,p,-xylene (sum of isomers)	5*	2.0	U	U	U	U	U	U	U	U
naphthalene	10	1.0	U	U	U	U	U	U	U	U
o-xylene	5*	1.0	U	U	U	U	U	U	U	U
p-isopropyltoluene	5*	1.0	U	U	U	U	U	U	U	U
sec-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
t-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U	U	U
toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	U	U	U	U	U	U	U	U
vinyl chloride	2	1.0	22.5	24.4	12.7	11.8	21.8	17.5	19.2	19.1
total VOCs	-	-	26.45	27.69	16.4	13.98	28.53	20.18	21.88	23.51
Wet Chemistry										
DOC (mg/L)	-	1	4.5	4.0	3.8	4.2	4.7	4.1	4.1	3.2
TOC (mg/L)	-	1	NS	NS	NS	NS	NS	NS	NS	NS
alkalinity (mg/L)	-	10	320	320	330	340	320	290	290	270
chloride (mg/L)	250	1	57	57	39	47	51	34	40	35
nitrate (mg/L)	10	1	U	U	0.17 F	U	0.059 F	U	U	U
sulfate (mg/L)	250	1	270	190	110	180	120	260	290	330
Field Parameters										
ORP (mV)	-	-	-105	-59	-33	-54	-88	-81	-100	-13
oxygen (mg/L)	-	-	0.55	0.91	1.59	0.00	1.97	0.00	4.68	0.00
pH (-)	-	-	6.17	8.79	6.89	6.67	7.53	6.98	7.65	7.05
ferrous iron (mg/L)	-	-	3.0	NS	1.8	1.4	3.2	1.8	1.8	2.3

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**782VMW-121**							
Sample ID			**782VM12116IA**	**782VM12116JA**						
Date of Collection			**9/13/2011**	**4/10/2012**						
Sample Depth (ft TOIC)			**16**	**16**						
Dilution Factor (-)			**1**	**1**						
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	U	U						
1,1-dichloroethene	5*	1.0	U	U						
1,2,4-trimethylbenzene	5*	1.0	U	U						
1,2-dichlorobenzene	3	1.0	U	U						
1,3,5-trimethylbenzene	5*	1.0	U	U						
1,4-Dichlorobenzene	3	0.5	U	U						
4-Chlorotoluene	5*	1.0	U	U						
acetone	50	10	U	U						
benzene	1	0.4	U	U						
Bromomethane	5*	3.0	U	U						
2-butanone	50	10	U	U						
chlorobenzene	5*	0.5	U	U						
Chloroform	7	0.3	U	U						
Chloromethane	--	1.0	U	U						
cis-1,2-dichloroethene	5*	1.0	U	U						
ethylbenzene	5*	1.0	U	U						
isopropylbenzene	5*	1.0	U	U						
methyl tert-butyl ether	10	5.0	3.09 F	1.38 F						
methylene chloride	5*	1.0	U	U						
n-butylbenzene	5*	1.0	U	U						
n-propylbenzene	5*	1.0	U	U						
m,p,-xylene (sum of isomers)	5*	2.0	U	U						
naphthalene	10	1.0	U	U						
o-xylene	5*	1.0	U	U						
p-isopropyltoluene	5*	1.0	U	U						
sec-butylbenzene	5*	1.0	U	U						
t-butylbenzene	5*	1.0	U	U						
tetrachloroethene (PCE)	5*	1.0	U	U						
toluene	5*	1.0	U	U						
trans-1,2-Dichloroethene	5*	1.0	U	U						
trichloroethene (TCE)	5*	1.0	U	U						
vinyl chloride	2	1.0	15.7	11.8						
total VOCs	-	-	18.79	13.18						
Wet Chemistry										
DOC (mg/L)	-	1	3.0	3.5						
TOC (mg/L)	-	1	NS	NS						
alkalinity (mg/L)	-	10	320	310						
chloride (mg/L)	250	1	37	31						
nitrate (mg/L)	10	1	U	U						
sulfate (mg/L)	250	1	210	95						
Field Parameters										
ORP (mV)	-	-	-118	-104						
oxygen (mg/L)	-	-	0.00	0.99						
pH (-)	-	-	6.98	7.01						
ferrous iron (mg/L)	-	-	2.5	4.0						

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782VMW-121D							
Sample ID			782M121D26AB	782VM121D26BB	782VM121D26CA	782VM121D26DA	782VM121D26EB	782VM121D26FB	782VM121D26GA	782VM121D26HA
Date of Collection			9/25/2008	12/31/2008	3/25/2009	6/16/2009	9/21/2009	4/15/2010	9/28/2010	4/6/2011
Sample Depth (ft TOIC)			26	26	26	26	26	26	26	26
Dilution Factor (-)			1	1	1	1	1	1	1	1
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	U	U	U	U	U	U	U	U
1,1-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
1,2,4-trimethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
1,2-dichlorobenzene	3	1.0	U	U	U	U	U	U	U	U
1,3,5-trimethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
1,4-Dichlorobenzene	3	0.5	U	U	U	U	U	U	U	U
4-Chlorotoluene	5*	1.0	U	U	U	U	U	U	U	U
acetone	50	10	U	U	1.13 F	U	1.22 F	1.52 F	1.38 F	1.36 FB
benzene	1	0.4	U	U	U	U	U	U	U	U
Bromomethane	5*	3.0	U	U	U	U	U	U	U	U
2-butanone	50	10	U	U	U	U	U	U	U	U
chlorobenzene	5*	0.5	U	U	U	U	U	U	U	U
Chloroform	7	0.3	U	U	U	U	U	U	U	U
Chloromethane	--	1.0	U	U	U	U	U	U	U	U
cis-1,2-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
ethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
isopropylbenzene	5*	1.0	U	U	U	U	U	U	U	U
methyl tert-butyl ether	10	5.0	5.35	5.71	5.66	6.60	6.76	6.5	5.12	6.48
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
n-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
n-propylbenzene	5*	1.0	U	U	U	U	U	U	U	U
m,p,-xylene (sum of isomers)	5*	2.0	U	U	U	U	U	U	U	U
naphthalene	10	1.0	U	U	U	U	U	U	U	U
o-xylene	5*	1.0	U	U	U	U	U	U	U	U
p-isopropyltoluene	5*	1.0	U	U	U	U	U	U	U	U
sec-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
t-butylbenzene	5*	1.0	U	U	U	U	U	U	U	U
tetrachloroethene (PCE)	5*	1.0	U	U	U	U	U	U	U	U
toluene	5*	1.0	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	U	U	U	U	U	U	U	U
vinyl chloride	2	1.0	15.2	18.1	12.9	23.3	18.5	15.5	18.0	22.3
total VOCs	-	-	20.55	23.81	19.69	29.9	26.48	23.52	24.5	30.14
Wet Chemistry										
DOC (mg/L)	-	1	4.9	5.0	4.6	7.9	5.4	19	4.9	3.9
TOC (mg/L)	-	1	NS	NS	NS	NS	NS	NS	NS	NS
alkalinity (mg/L)	-	10	360	350	350	360	340	350	340	330
chloride (mg/L)	250	1	61	56	56	53	55	48	48	45
nitrate (mg/L)	10	1	U	U	U	U	0.048 F	U	U	U
sulfate (mg/L)	250	1	32	27	27	25	17	79	59	170
Field Parameters										
ORP (mV)	-	-	-95	-38	-61	-95	-103	-96	-130	-76
oxygen (mg/L)	-	-	0.87	1.25	0.32	0.64	2.17	0.00	4.74	0.00
pH (-)	-	-	6.01	8.6	6.93	7.24	7.73	6.92	7.68	7.13
ferrous iron (mg/L)	-	-	2.8	NS	1.2	2.0	3.0	4.0	2.4	1.2

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**782VMW-121D**							
Sample ID			**782VM121D26IA**	**782VM121D26JA**						
Date of Collection			**9/14/2011**	**4/10/2012**						
Sample Depth (ft TOIC)			**26**	**26**						
Dilution Factor (-)			**1**	**1**						
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	U	U						
1,1-dichloroethene	5*	1.0	U	U						
1,2,4-trimethylbenzene	5*	1.0	U	U						
1,2-dichlorobenzene	3	1.0	U	U						
1,3,5-trimethylbenzene	5*	1.0	U	U						
1,4-Dichlorobenzene	3	0.5	U	U						
4-Chlorotoluene	5*	1.0	U	U						
acetone	50	10	U	U						
benzene	1	0.4	U	U						
Bromomethane	5*	3.0	U	U						
2-butanone	50	10	U	U						
chlorobenzene	5*	0.5	U	U						
Chloroform	7	0.3	U	U						
Chloromethane	--	1.0	U	U						
cis-1,2-dichloroethene	5*	1.0	0.120 F	U						
ethylbenzene	5*	1.0	U	U						
isopropylbenzene	5*	1.0	U	U						
methyl tert-butyl ether	10	5.0	6.68	4.92 F						
methylene chloride	5*	1.0	U	U						
n-butylbenzene	5*	1.0	U	U						
n-propylbenzene	5*	1.0	U	U						
m,p,-xylene (sum of isomers)	5*	2.0	U	U						
naphthalene	10	1.0	U	U						
o-xylene	5*	1.0	U	U						
p-isopropyltoluene	5*	1.0	U	U						
sec-butylbenzene	5*	1.0	U	U						
t-butylbenzene	5*	1.0	U	U						
tetrachloroethene (PCE)	5*	1.0	U	U						
toluene	5*	1.0	U	U						
trans-1,2-Dichloroethene	5*	1.0	U	U						
trichloroethene (TCE)	5*	1.0	U	U						
vinyl chloride	2	1.0	16.1	14.1						
total VOCs	-	-	22.9	18.39						
Wet Chemistry										
DOC (mg/L)	-	1	3.9	5.8						
TOC (mg/L)	-	1	NS	NS						
alkalinity (mg/L)	-	10	340	330						
chloride (mg/L)	250	1	40	45						
nitrate (mg/L)	10	1	U	U						
sulfate (mg/L)	250	1	110	47						
Field Parameters										
ORP (mV)	-	-	-126	-139						
oxygen (mg/L)	-	-	0.00	0.00						
pH (-)	-	-	6.89	6.91						
ferrous iron (mg/L)	-	-	5.6	6.0						

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	AP2MW-3								
Sample ID			**AP2M0327AB**		**AP2M0327EB**	**AP2M0327FB**	**AP2M0327GA**	**AP2M0327IA**			
Date of Collection			**9/26/2008**		**9/21/2009**	**4/15/2010**	**9/28/2010**	**9/14/2011**			
Sample Depth (ft TOIC)			**27**		**27**	**27**	**27**	**27**			
Dilution Factor (-)			**25**		**25**	**25**	**25**	**1**			
VOCs (µg/L)											
1,1- dichloroethane	5*	1.0	U		U	U	U	U			
1,1-dichloroethene	5*	1.0	U		U	U	U	U			
1,2,4-trimethylbenzene	5*	1.0	32.4		17.0 F	29.2	14.5 F	10.6			
1,2-dichlorobenzene	3	1.0	U		U	U	U	U			
1,3,5-trimethylbenzene	5*	1.0	6.73		4.00 F	7.25 F	3.50 F	2.27			
1,4-Dichlorobenzene	3	0.5	U		U	U	U	U			
4-Chlorotoluene	5*	1.0	U		U	U	U	U			
acetone	50	10	U		U	U	253	U			
benzene	1	0.4	658		668	708	614	U			
Bromomethane	5*	3.0	U		U	U	U	U			
2-butanone	50	10	U		U	U	U	U			
chlorobenzene	5*	0.5	U		U	U	U	U			
Chloroform	7	0.3	U		3.00 F	U	U	U			
Chloromethane	--	1.0	U		U	U	U	U			
cis-1,2-dichloroethene	5*	1.0	U		U	U	U	U			
ethylbenzene	5*	1.0	2.57		U	5.00 F	U	0.480 F			
isopropylbenzene	5*	1.0	2.54		U	U	U	1.25			
methyl tert-butyl ether	10	5.0	U		51.5 F	55.8 F	37.2 F	53.9			
methylene chloride	5*	1.0	U		U	U	U	U			
n-butylbenzene	5*	1.0	U		U	U	U	U			
n-propylbenzene	5*	1.0	2.52		U	4.00 F	U	0.960 F			
m,p,-xylene (sum of isomers)	5*	2.0	61.0		35.2 F	32.2 F	11.8 F	3.57			
naphthalene	10	1.0	11.9		5.50 F	6.75 F	6.25 F	4.11			
o-xylene	5*	1.0	0.610 F		U	4.50 F	U	0.170 F			
p-isopropyltoluene	5*	1.0	U		U	U	U	U			
sec-butylbenzene	5*	1.0	U		U	U	U	U			
t-butylbenzene	5*	1.0	U		U	U	U	U			
tetrachloroethene (PCE)	5*	1.0	U		U	U	U	U			
toluene	5*	1.0	0.690 F		U	U	U	0.420 F			
trans-1,2-Dichloroethene	5*	1.0	U		U	U	U	U			
trichloroethene (TCE)	5*	1.0	U		U	U	U	U			
vinyl chloride	2	1.0	U		U	U	U	U			
total VOCs	-	-	778.96		784.2	852.7	940.25	77.73			
Wet Chemistry											
DOC (mg/L)	-	1	6.1		6.4	6.7	5.8	6.2			
TOC (mg/L)	-	1	NS		NS	NS	NS	NS			
alkalinity (mg/L)	-	10	350		360	370	370	360			
chloride (mg/L)	250	1	72		75	62	68	58			
nitrate (mg/L)	10	1	U		U	U	U	U			
sulfate (mg/L)	250	1	U		U	U	U	U			
Field Parameters											
ORP (mV)	-	-	-116		-101	-105	-9	-136			
oxygen (mg/L)	-	-	1.60		1.79	0.00	0.00	0.00			
pH (-)	-	-	6.74		7.60	6.98	6.57	7.01			
ferrous iron (mg/L)	-	-	1.6		3.8	6.0	3.0	3.8			

Monitoring well not sampled, annual sampling frequency.

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**786MW-15**							
Sample ID			**786M1515JA**							
Date of Collection			**4/11/2012**							
Sample Depth (ft TOIC)			**15**							
Dilution Factor (-)			**1**							
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	U							
1,1-dichloroethene	5*	1.0	U							
1,2,4-trimethylbenzene	5*	1.0	U							
1,2-dichlorobenzene	3	1.0	U							
1,3,5-trimethylbenzene	5*	1.0	U							
1,4-Dichlorobenzene	3	0.5	0.300 F							
4-Chlorotoluene	5*	1.0	U							
acetone	50	10	2.32 F							
benzene	1	0.4	U							
Bromomethane	5*	3.0	2.08 F							
2-butanone	50	10	U							
chlorobenzene	5*	0.5	U							
Chloroform	7	0.3	U							
Chloromethane	--	1.0	0.530 F							
cis-1,2-dichloroethene	5*	1.0	U							
ethylbenzene	5*	1.0	U							
isopropylbenzene	5*	1.0	U							
methyl tert-butyl ether	10	5.0	U							
methylene chloride	5*	1.0	U							
n-butylbenzene	5*	1.0	U							
n-propylbenzene	5*	1.0	U							
m,p,-xylene (sum of isomers)	5*	2.0	U							
naphthalene	10	1.0	U							
o-xylene	5*	1.0	U							
p-isopropyltoluene	5*	1.0	U							
sec-butylbenzene	5*	1.0	U							
t-butylbenzene	5*	1.0	U							
tetrachloroethene (PCE)	5*	1.0	U							
toluene	5*	1.0	0.430 F							
trans-1,2-Dichloroethene	5*	1.0	U							
trichloroethene (TCE)	5*	1.0	U							
vinyl chloride	2	1.0	U							
total VOCs	-	-	5.66							
Wet Chemistry										
DOC (mg/L)	-	1	NS							
TOC (mg/L)	-	1	5.1							
alkalinity (mg/L)	-	10	NS							
chloride (mg/L)	250	1	NS							
nitrate (mg/L)	10	1	NS							
sulfate (mg/L)	250	1	NS							
Field Parameters										
ORP (mV)	-	-	120							
oxygen (mg/L)	-	-	1.97							
pH (-)	-	-	6.64							
ferrous iron (mg/L)	-	-	0.0							

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**786MW-16**							
Sample ID			**786M1617JA**							
Date of Collection			**4/11/2012**							
Sample Depth (ft TOIC)			**17**							
Dilution Factor (-)			**1**							
VOCs (µg/L)										
1,1- dichloroethane	5*	1.0	U							
1,1-dichloroethene	5*	1.0	U							
1,2,4-trimethylbenzene	5*	1.0	U							
1,2-dichlorobenzene	3	1.0	U							
1,3,5-trimethylbenzene	5*	1.0	U							
1,4-Dichlorobenzene	3	0.5	U							
4-Chlorotoluene	5*	1.0	U							
acetone	50	10	2.38 F							
benzene	1	0.4	U							
Bromomethane	5*	3.0	U							
2-butanone	50	10	U							
chlorobenzene	5*	0.5	U							
Chloroform	7	0.3	U							
Chloromethane	--	1.0	U							
cis-1,2-dichloroethene	5*	1.0	U							
ethylbenzene	5*	1.0	U							
isopropylbenzene	5*	1.0	U							
methyl tert-butyl ether	10	5.0	U							
methylene chloride	5*	1.0	U							
n-butylbenzene	5*	1.0	U							
n-propylbenzene	5*	1.0	U							
m,p,-xylene (sum of isomers)	5*	2.0	U							
naphthalene	10	1.0	U							
o-xylene	5*	1.0	U							
p-isopropyltoluene	5*	1.0	U							
sec-butylbenzene	5*	1.0	U							
t-butylbenzene	5*	1.0	U							
tetrachloroethene (PCE)	5*	1.0	U							
toluene	5*	1.0	0.400 F							
trans-1,2-Dichloroethene	5*	1.0	U							
trichloroethene (TCE)	5*	1.0	U							
vinyl chloride	2	1.0	U							
total VOCs	-	-	2.78							
Wet Chemistry										
DOC (mg/L)	-	1	NS							
TOC (mg/L)	-	1	6.1							
alkalinity (mg/L)	-	10	NS							
chloride (mg/L)	250	1	NS							
nitrate (mg/L)	10	1	NS							
sulfate (mg/L)	250	1	NS							
Field Parameters										
ORP (mV)	-	-	116							
oxygen (mg/L)	-	-	0.00							
pH (-)	-	-	6.33							
ferrous iron (mg/L)	-	-	0.0							

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782SW-115							
Sample ID			**782SW11501AA**	**782SW11501AB**	**782SW11501BB**	**782SW11501CA**	**782SW11501DA**	**782SW11501EB**	**782SW11501FB**	**782SW11501GA**
Date of Collection			**11/15/2006**	**9/24/2008**	**1/2/2009**	**4/16/2009**	**6/16/2009**	**9/24/2009**	**4/21/2010**	**10/4/2010**
Sample Depth (ft TOIC)			**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Dilution Factor (-)			**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
acetone	50	10	U	U	U	1.12 F	U	1.11 F	U	U
benzene	1	0.4	U	U	U	U	U	U	U	U
chlorobenzene	5*	0.5	0.160 F	U	0.230 F	0.220 F	0.120 F	U	0.190 F	0.250 F
Chloroform	7	0.3	U	U	U	U	U	U	0.150 F	0.240 F
cis-1,2-dichloroethene	5*	1.0	U	U	U	U	0.120 F	U	U	U
ethylbenzene	5*	1.0	U	U	U	U	U	U	U	U
methyl tert-butyl ether	10	5.0	U	U	U	U	U	U	U	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	0.140 F	U	0.110 F	U	U	0.130 F	U	0.110 F
vinyl chloride	2	1.0	U	U	U	U	U	U	U	U
total VOCs	-	-	0.3	0	0.34	1.34	0.24	1.83	0.34	0.6
Wet Chemistry										
DOC (mg/L)	-	1	NS	NS	NS	NS	NS	NS	NS	NS
alkalinity (mg/L)	-	10	NS	NS	NS	NS	NS	NS	NS	NS
chloride (mg/L)	250	1	NS	NS	NS	NS	NS	NS	NS	NS
nitrate (mg/L)	10	1	NS	NS	NS	NS	NS	NS	NS	NS
sulfate (mg/L)	250	1	NS	NS	NS	NS	NS	NS	NS	NS
Field Parameters										
ORP (mV)	-	-	-40	169	51	187	7	-5	-38	8
oxygen (mg/L)	-	-	9.33	12.34	11.11	11.79	8.79	10.01	7.10	11.44
pH (-)	-	-	7.09	5.90	6.21	5.44	7.20	7.65	7.48	6.21
ferrous iron (mg/L)	-	-	NS	NS	NS	NS	NS	NS	NS	NS

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782SW-115							
Sample ID			**782SW11501HA**	**782SW11501IA**						
Date of Collection			**4/5/2011**	**9/14/2011**						
Sample Depth (ft TOIC)			**1**	**1**						
Dilution Factor (-)			**1**	**1**						
VOCs (µg/L)										
acetone	50	10	3.52 FB	3.25 FB						
benzene	1	0.4	U	U						
chlorobenzene	5*	0.5	0.210 F	U						
Chloroform	7	0.3	0.160 F	0.500						
cis-1,2-dichloroethene	5*	1.0	U	U						
ethylbenzene	5*	1.0	U	U						
methyl tert-butyl ether	10	5.0	U	U						
methylene chloride	5*	1.0	U	U						
trichloroethene (TCE)	5*	1.0	U	0.180 F						
vinyl chloride	2	1.0	U	U						
total VOCs	-	-	3.89	3.93						
Wet Chemistry										
DOC (mg/L)	-	1	NS	NS						
alkalinity (mg/L)	-	10	NS	NS						
chloride (mg/L)	250	1	NS	NS						
nitrate (mg/L)	10	1	NS	NS						
sulfate (mg/L)	250	1	NS	NS						
Field Parameters										
ORP (mV)	-	-	113	-56						
oxygen (mg/L)	-	-	25.43	6.19						
pH (-)	-	-	7.86	6.94						
ferrous iron (mg/L)	-	-	NS	NS						

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782SW-118							
Sample ID			**782SW11801AA**	**782SW11801AB**	**782SW11801BB**	**782SW11801CA**	**782SW11801DA**	**782SW11801EB**	**782SW11801FB**	**782SW11801GA**
Date of Collection			**11/15/2006**	**9/24/2008**	**1/2/2009**	**4/16/2009**	**6/16/2009**	**9/24/2009**	**4/21/2010**	**10/4/2010**
Sample Depth (ft TOIC)			**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Dilution Factor (-)			**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
acetone	50	10	U	U	U	1.10 F	U	U	1.27 F	U
benzene	1	0.4	1.85	1.42	1.11	0.620	0.620	0.740	0.350 F	U
chlorobenzene	5*	0.5	0.150 F	U	0.200 F	0.170 F	0.130 F	U	0.230 F	0.240 F
Chloroform	7	0.3	U	U	U	U	U	U	0.150 F	0.230 F
cis-1,2-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
ethylbenzene	5*	1.0	0.110 F	U	U	U	U	U	U	U
methyl tert-butyl ether	10	5.0	0.190 F	U	0.220 F	U	0.220 F	0.300 F	0.171 FJ	U
methylene chloride	5*	1.0	U	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	0.130 F	U	U	0.120 F	U	0.110 F	0.110 F	U
vinyl chloride	2	1.0	U	U	U	U	U	U	U	U
total VOCs	-	-	0.28	1.42	1.53	2.01	0.970	1.54	2.281	0.47
Wet Chemistry										
DOC (mg/L)	-	1	NS	NS	NS	NS	NS	NS	NS	NS
alkalinity (mg/L)	-	10	NS	NS	NS	NS	NS	NS	NS	NS
chloride (mg/L)	250	1	NS	NS	NS	NS	NS	NS	NS	NS
nitrate (mg/L)	10	1	NS	NS	NS	NS	NS	NS	NS	NS
sulfate (mg/L)	250	1	NS	NS	NS	NS	NS	NS	NS	NS
Field Parameters										
ORP (mV)	-	-	-37	199	38	173	33	-39	-81	33
oxygen (mg/L)	-	-	9.51	12.04	11.14	10.63	9.59	10.04	7.49	11.40
pH (-)	-	-	7.20	5.77	6.22	5.45	7.19	7.60	7.37	6.48
ferrous iron (mg/L)	-	-	NS	NS	NS	NS	NS	NS	NS	NS

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**782SW-118**							
Sample ID			**782SW11801HA**	**782SW11801IA**						
Date of Collection			**4/5/2011**	**9/14/2011**						
Sample Depth (ft TOIC)			**1**	**1**						
Dilution Factor (-)			**1**	**1**						
VOCs (µg/L)										
acetone	50	10	3.72 FB	U						
benzene	1	0.4	U	0.180 F						
chlorobenzene	5*	0.5	0.180 F	U						
Chloroform	7	0.3	0.140 F	0.490 F						
cis-1,2-dichloroethene	5*	1.0	U	U						
ethylbenzene	5*	1.0	U	U						
methyl tert-butyl ether	10	5.0	U	0.210 F						
methylene chloride	5*	1.0	U	U						
trichloroethene (TCE)	5*	1.0	U	0.180 F						
vinyl chloride	2	1.0	U	U						
total VOCs	-	-	4.04	1.06						
Wet Chemistry										
DOC (mg/L)	-	1	NS	NS						
alkalinity (mg/L)	-	10	NS	NS						
chloride (mg/L)	250	1	NS	NS						
nitrate (mg/L)	10	1	NS	NS						
sulfate (mg/L)	250	1	NS	NS						
Field Parameters										
ORP (mV)	-	-	147	-50						
oxygen (mg/L)	-	-	8.49	7.57						
pH (-)	-	-	7.87	6.28						
ferrous iron (mg/L)	-	-	NS	NS						

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	NYS Groundwater Standards	Reporting Limit	782SW-119							
Sample ID			**782SW11901AA**	**782SW11901AB**	**782SW11901BB**	**782SW11901CA**	**782SW11901DA**	**782SW11901EB**	**782SW11901FB**	**782SW11901GA**
Date of Collection			**11/15/2006**	**9/24/2008**	**1/2/2009**	**4/16/2009**	**6/16/2009**	**9/24/2009**	**4/21/2010**	**10/4/2010**
Sample Depth (ft TOIC)			**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Dilution Factor (-)			**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
VOCs (µg/L)										
acetone	50	10	U	U	U	U	U	U	U	U
benzene	1	0.4	4.49	2.74	1.25	0.570	0.590	0.710	0.340 F	0.120 F
chlorobenzene	5*	0.5	0.150 F	U	0.190 F	0.170 F	0.120 F	U	0.170 F	0.230 F
Chloroform	7	0.3	U	U	U	U	U	U	0.120 F	0.230 F
cis-1,2-dichloroethene	5*	1.0	U	U	U	U	U	U	U	U
ethylbenzene	5*	1.0	0.150 F	U	U	U	U	U	U	U
methyl tert-butyl ether	10	5.0	0.510 F	0.930 F	0.260 F	U	0.190 F	0.370 F	0.200 F	U
methylene chloride	5*	1.0	0.120 F	U	U	U	U	U	U	U
trichloroethene (TCE)	5*	1.0	U	U	U	U	0.110 F	U	0.170 F	U
vinyl chloride	2	1.0	U	U	U	U	U	U	U	U
total VOCs	-	-	0.15	3.67	1.7	0.74	1.01	1.08	1	0.58
Wet Chemistry										
DOC (mg/L)	-	1	NS	NS	NS	NS	NS	NS	NS	NS
alkalinity (mg/L)	-	10	NS	NS	NS	NS	NS	NS	NS	NS
chloride (mg/L)	250	1	NS	NS	NS	NS	NS	NS	NS	NS
nitrate (mg/L)	10	1	NS	NS	NS	NS	NS	NS	NS	NS
sulfate (mg/L)	250	1	NS	NS	NS	NS	NS	NS	NS	NS
Field Parameters										
ORP (mV)	-	-	-35	284	49	164	20	59	-28	64
oxygen (mg/L)	-	-	9.55	12.16	12.27	9.99	9.14	10.21	7.58	11.51
pH (-)	-	-	7.23	5.61	6.51	5.51	7.28	7.25	7.48	6.33
ferrous iron (mg/L)	-	-	NS	NS	NS	NS	NS	NS	NS	NS

Table 5-2
Apron 2 Detected Sampling Results

Sample Location	**NYS Groundwater Standards**	**Reporting Limit**	**782SW-119**							
Sample ID			**782SW11901HA**	**782SW11901IA**						
Date of Collection			**4/5/2011**	**9/14/2011**						
Sample Depth (ft TOIC)			**1**	**1**						
Dilution Factor (-)			**1**	**1**						
VOCs (µg/L)										
acetone	50	10	4.20 FB	4.25 FB						
benzene	1	0.4	U	0.170 F						
chlorobenzene	5*	0.5	0.180 F	U						
Chloroform	7	0.3	0.130 F	0.440 F						
cis-1,2-dichloroethene	5*	1.0	U	U						
ethylbenzene	5*	1.0	U	U						
methyl tert-butyl ether	10	5.0	U	0.180 F						
methylene chloride	5*	1.0	U	U						
trichloroethene (TCE)	5*	1.0	U	0.150 F						
vinyl chloride	2	1.0	U	U						
total VOCs	-	-	4.51	5.19						
Wet Chemistry										
DOC (mg/L)	-	1	NS	NS						
alkalinity (mg/L)	-	10	NS	NS						
chloride (mg/L)	250	1	NS	NS						
nitrate (mg/L)	10	1	NS	NS						
sulfate (mg/L)	250	1	NS	NS						
Field Parameters										
ORP (mV)	-	-	165	16						
oxygen (mg/L)	-	-	9.66	8.16						
pH (-)	-	-	7.90	6.37						
ferrous iron (mg/L)	-	-	NS	NS						

Notes:
BGS - Below Ground Surface.
DOC - Dissolved Organic Carbon.
F - Analyte was positively identified above the Method Detection Limit (=MDL), but the concentration is below the Reporting Limit (=RL).
M- Matrix effect is present.
NA - Not Analyzed.
NS - Not Sampled.
ORP - Oxygen Reduction Potential.
TOIC - Top of inside casing.
U - The analyte was analyzed for, but not detected. The numerical value is at or below the MDL.
- Exceedance of the NYS Groundwater Standards or Guidance Values.
♦ - Denotes higher nominal value of duplicate sample result.
* - The principal organic contaminant standard for groundwater of 5 ug/L applies to this COC.
- - No NYS Groundwater Standard or Reporting Limit available.
J - The quantification is estimated due to the inability to meet certain QA/QC criteria.
B - Analyte detected in the blank sample.