FINAL

BYRON BARREL & DRUM SITE

QUARTERLY REPORT

THIRD QUARTER 2011

Byron Barrel & Drum Site
Area 2
Byron, New York

December 30, 2011

Prepared for:

BYRON BARREL & DRUM PRP GROUP

Prepared by:

Sustainable Resources Group

440 Creamery Way, Suite 150
Exton, Pa 19341

TABLE OF CONTENTS

1.0 Introduction 1

1.1 Site Background 1

1.2 Chronology of Events 2

2.0 Construction of Remedial Design 4

3.0 Operation of Groundwater Treatment System 4

3.1 Current System Status 4

3.2 System Operations and Monitoring History through Third Quarter 2011 4

3.3 Monitoring History through Third Quarter 2011 5

3.4 ERD Monitoring History through Third Quarter 2011 5

4.0 Quarterly Monitoring Well Sampling Event 5

4.1 Water Levels 6

4.2 Laboratory Analysis/Groundwater Sampling Results 7

4.2.1 VOC summary 7

4.2.2 Field Parameter and Other Summary 10

4.3 Statistical Analysis of Groundwater VOC Trends 12

4.4 Data Validation 15

4.5 Hurricane Damage Inspection 15

5.0 Recommendations 16

6.0 References 16

LIST OF TABLES

1. Groundwater Treatment System Influent Analytical Results
2. Groundwater Treatment System Effluent Analytical Results
3. Field Parameter Measurements - September 2011
4. Groundwater Elevations - September 2011
5. Historic Groundwater Quality Data

LIST OF FIGURES

1. Site Map
2. Groundwater Treatment System Flow Diagram
3. Graph of Influent Concentration (Total VOCs)
4. Cumulative Dissolved-phase Mass Removed (Total VOCs)

5. Potentiometric Elevations – Third Quarter 2011
6. Groundwater Quality Map – Third Quarter 2011
7. Reduction in 1,1,1-Trichloroethane Concentrations Since Pre-Injection (Sept-2007) Sampling
8. Total Organic Carbon Concentrations in Groundwater – Third Quarter 2011
9. Percent Change in TOC Concentrations in Groundwater - June-2008 to Sept-2011
10. Dissolved Oxygen in Groundwater – Third Quarter 2011
11. Percent Change in Dissolved Oxygen in Groundwater - June-2008 to Sept-2011
12. ORP Monitoring – Third Quarter 2011
13. Percent Change in ORP in Groundwater - June-2008 to Sept-2011

LIST OF APPENDICES

A. Field Notes
B. Data Validation Report
C. Mann-Kendall Statistical Tests
D. Well Isoconcentration Graphs
E. DO & ORP Graphs
F. ERD Performance Monitoring Graphs
G. Hurricane Irene Inspection Report

1.0 INTRODUCTION

This report of remedial activities at the Byron Barrel & Drum, Area 2 Site (Site) presents data obtained through the Third Quarter 2011. The purpose of this report is to summarize and document ongoing remedial and monitoring activities at the Site conducted by Sustainable Resources Group, Inc (SRG), formerly ECOR Solutions, Inc (ECOR), during the Third Quarter of 2011. The report also includes an ongoing evaluation of the In-Situ Remediation Technology (ISRT) bio-injection (Injection) performed in September 2007 and again in November 2009. The evaluation is based on the analytical results of samples collected through September 2011 in addition to routine quarterly samples. A brief description of the background of the Site is included, as well as, information regarding remedial activities and monitoring activities planned for the next quarter.

1.1 SITE BACKGROUND

The Byron Barrel and Drum Area 2 Site is located at 6065 Transit Road, in Byron Township, Genesee County, NY. The Site is set back approximately 1,000 feet from the east side of Transit Road. In 1982, two drum disposal locations were discovered at the Site. New York State Department of Environmental Conservation's (NYSDEC) subsequent investigation led to the Site's inclusion on the Superfund National Priorities List (April 1984). A Site plan is provided as **Figure 1**.

A remedial investigation and feasibility study (RI/FS) was conducted, which identified three areas of concern at the Site. Based on the findings of the RI, it was concluded that further action in two of the areas, Area 1 and Area 3, was not warranted. However, the RI detected volatile organic compounds (VOCs); including trichloroethene (TCE) and 1,1,1-trichloroethane (TCA) in groundwater samples collected from locations in Area 2.

The remedial activities discussed in this report include only activities for Area 2. The selected remedy for Area 2 was in-situ soil flushing and groundwater pumping, treatment, and discharge. The remedial action construction was performed during the summer of 2001. The implementation of the remedial design included excavation and characterization of potentially impacted soil, and installation of additional two groundwater pumping wells (PWs) to supplement the one previously installed (PW-1), a groundwater treatment system, and an infiltration gallery.

1.2 CHRONOLOGY OF EVENTS

The chronology of events regarding the investigation and remediation of the Site are summarized below:

Event or Document	Date	Notes
Record of Decision (ROD)	Sept. 29, 1989	EPA/ROD/R02-89-089
Consent Decree	January 5, 1995	89-CV-748A Unisys Corp. and Garlock, Inc., settling defendants
Draft Explanation of Significant Differences	February, 1999	
Pre-Remedial Design Investigation and Remedial Design Report	December, 1999	
100 Percent Remedial Design Submittal	December, 1999	
Remedial Action Work Plan	September, 2001	
Construction Health and Safety Plan	December, 2001	
Quality Assurance Project Plan	June, 2001	
RA Construction Mobilization	June 11, 2001	
RA Construction	June 11 - July 15, 2001	
Initial UZ Soil Sampling Event	June 27,2001	
EPA RA Pre-Final Inspection	July 19, 2001	
GWTS Performance Testing	July 29, 2001	
GWTS Startup Testing	August, 2001	Extended Startup & Testing
GWTS Continuous O & M	October 1, 2001	Continuous Operation
EPA Interim Inspection	July 17, 2002	
Second UZ Soil Sampling Event	August 14, 2002	
RA Report	September, 2002	Final RA for Site Soils Interim RA for Site GW
EPA RA Approval	September, 2002	
Effluent Sampling reduced to Quarterly	September, 2002	
Discontinuation of SVOC Sampling	May 23, 2003	

EPA Site Inspection	May 2, 2007	5 year review
GWTS Shutdown for In-situ Bioremediation	September 12, 2007	
In-Situ Bioremediation Injection Event	September 18-20, 2007	
Preliminary Injection monitoring samples collected in addition to GW VOC samples	December 19-21, 2007	
Injection monitoring samples collected in addition to groundwater VOC samples	March 26, 2008	
Injection monitoring samples collected in addition to groundwater VOC samples	June 18, 2008	
Injection monitoring samples collected in addition to groundwater VOC samples	September 25, 2008	
Injection monitoring samples collected in addition to groundwater VOC samples	December 11, 2008	
Phase II In-Situ Bioremediation Workplan submitted to NYSDEC for approval	December 23, 2008	
Injection monitoring samples collected in addition to groundwater VOC samples	March 30, 2009	
Injection monitoring samples collected in addition to groundwater VOC samples	June 23, 2009	
EPA/NYSDEC concurrence with second injection	September 15, 2009	
Injection monitoring samples collected in addition to groundwater VOC samples	September 25, 2009	
In-Situ Bioremediation amendment Injection Event	October 26 – November 3, 2009	
Injection monitoring samples collected in addition to groundwater VOC samples	December 11, 2009	
Injection monitoring samples collected in addition to groundwater VOC samples	March 11, 2010	
Injection monitoring samples collected in addition to groundwater VOC samples	June 17, 2010	
Injection monitoring samples collected in addition to groundwater VOC samples	September 23, 2010	
Injection monitoring samples collected in addition to groundwater VOC samples	December 20, 2010	
Groundwater VOC and TOC samples collected.	March 28, 2011	Injection monitoring reduced to annually in June 2011 and June 2012
Injection monitoring samples collected in addition to groundwater VOC samples	June 24, 2011	
Groundwater VOC and TOC samples collected.	September 20, 2011	

2.0 CONSTRUCTION OF REMEDIAL DESIGN

Remediation system installation and activation was completed in July 2001. A Pre-Final inspection was performed on July 19, 2001. A few action items were itemized during the Pre-Final inspection as summarized in the First Quarter 2002 Quarterly Report (ECOR, May 2001) and the Remedial Action Report (ECOR, September 2002). The action items were completed during late 2001 and early 2002. An Interim Inspection was completed by the Environmental Protection Agency (EPA) on July 17, 2002. No major problems were discovered during the inspection.

The system operated intermittently until September 2001 due to initial system debugging during the start up phase. Since September 2001, the system has operated almost continuously. Use of the infiltration gallery was discontinued in August 2002 upon regulatory approval. During this reporting period no significant activities occurred relative to the remedial design.

3.0 OPERATION OF GROUNDWATER TREATMENT SYSTEM

During routine operation, groundwater recovered from the three pumping wells (PW-1, PW-2, and PW-3) is treated through one bag filter and an air stripper prior to discharge. The bag filter removes suspended solids greater than 50 microns in diameter. The low-profile air stripper removes the VOCs from the groundwater. Following air stripping, the groundwater is discharged to surface water. **Figure 1** illustrates the PW locations and the Groundwater Treatment System (GWTS). A Flow Diagram of the GWTS equipment and process piping is presented in **Figure 2**.

3.1 CURRENT SYSTEM STATUS

The GWTS was temporarily shut down on September 12, 2007 to allow for the In-Situ Remediation Technology (ISRT injection) to be carried out. The system remained off through a second amendment injection that was completed on November 3, 2009 and will remain off awaiting the results and evaluation of the injections.

3.2 SYSTEM OPERATIONS AND MONITORING HISTORY THROUGH THIRD QUARTER 2011

A total of 20.5 million gallons of groundwater and approximately 38.0 pounds of dissolved-phase VOCs were recovered via the pumping well network since system activation. All of this groundwater was treated in the GWTS. Of that total, 19.7 million gallons, or 96.0% of the total flow, was discharged to the surface water, into the drainage ditch that flows adjacent to the Site. The remaining 824,000 gallons, or 4.0 % of the total, was directed to the Infiltration Gallery. Soil flushing through the Infiltration

Gallery ceased in August of 2002. In September of 2002, EPA concurred with the conclusion presented in the Final RA Report stating that Site soil has been effectively remediated. Therefore, there are no plans to re-initiate operation of the Infiltration Gallery.

3.3 MONITORING HISTORY THROUGH THIRD QUARTER 2011

Tables 1 and **2** summarize influent and effluent analytical data for the system since startup. **Figure 3** presents a graph of the influent VOC concentrations over time. Cumulative dissolved-phase mass recovered is depicted on **Figure 4**. This data indicates that the influent VOC concentration has reached asymptotic levels. Quarterly effluent compliance sampling events coincide with the quarterly groundwater monitoring events.

3.4 ERD MONITORING HISTORY THROUGH THIRD QUARTER 2011

The enhanced reductive dechlorination (ERD) pilot test program to-date consists of the September 2007 Phase I injection followed by sixteen (16) groundwater monitoring events, and the October\November 2009 Phase II injection followed by eight (8) groundwater monitoring events. The Phase I injection program introduced emulsified vegetable oil (EVO) into well MW-10B, and PW-1 and PW-2, with the Phase II program injecting EVO and zero valent iron (ZVI) into various temporary borings and wells across the Site. During the reporting period, there were no additional injections of EVO or ERD amendments.

4.0 QUARTERLY MONITORING WELL SAMPLING EVENT

This quarterly sampling event occurred on September 20, 2011 and was conducted in accordance with the agreed upon modifications to the QAPP (May 23, 2003). Groundwater samples were collected from monitoring wells MW-1, MW-4, MW-10B, and former pumping wells PW-1, PW-2 and PW-3 using EPA's low-flow sampling procedures, in accordance with the QAPP. Samples were collected for VOCs under U.S. EPA SW-846 Method 8260B (results summarized in **Table 5**), Total Organic Carbon (EPA 9060), and field monitoring parameters including temperature (^{o}C), pH (SU), Specific Conductivity (umhos/cm), ORP (mV), and DO (mg/L). A summary of the field parameter measurements is presented in **Table 3**. Copies of field notes collected during the sampling events are included in **Appendix A**. The preserved groundwater samples were collected and analyzed by TestAmerica Laboratories (TAL), Buffalo, New York. A summary of Site groundwater elevations is provided in **Table 4**.

4.1 GROUNDWATER LEVELS

The groundwater data and flow patterns measured during the Third Quarter 2011 indicate flow from the east-southeast toward the west-northwest. Potentiometric irregularities noted during the quarter consist of a small groundwater mound centered at PW-3, which creates a localized radial groundwater flow pattern from this well. The site-wide groundwater flow pattern is consistent with historical groundwater flow paths, as shown on **Figure 5**.

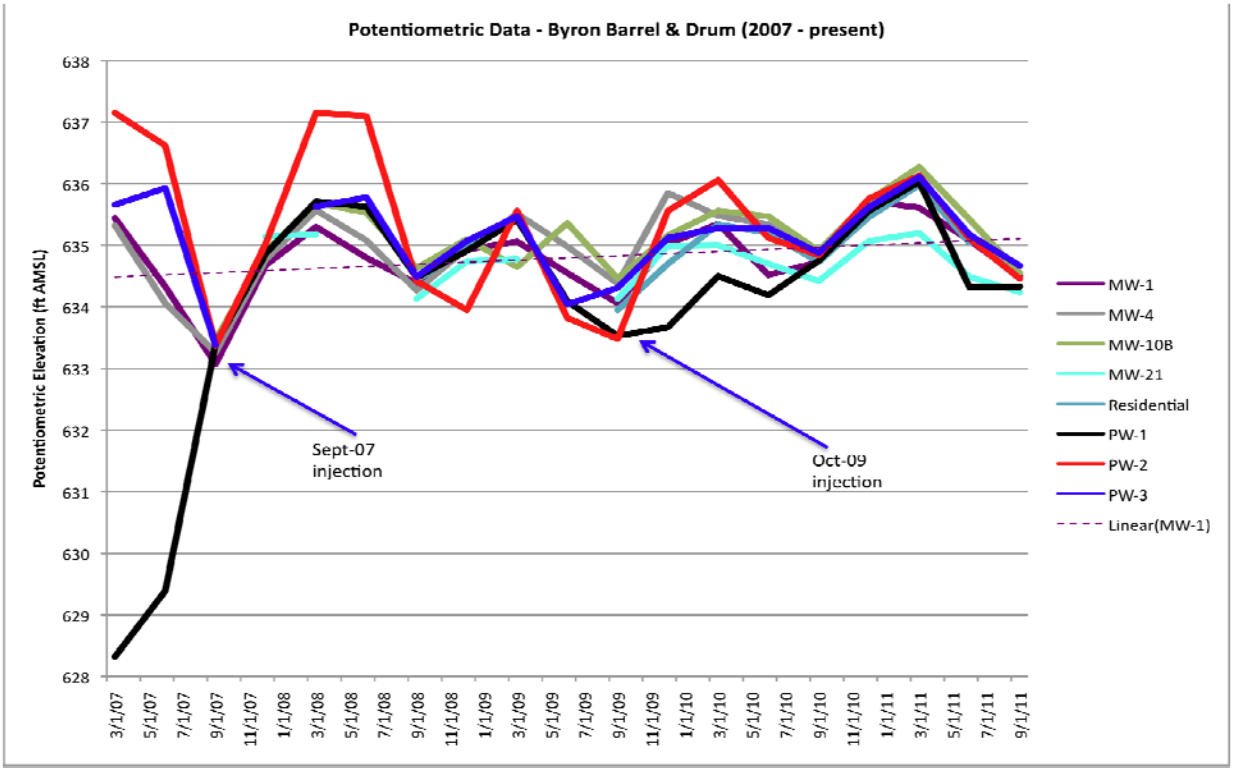
The site-wide average horizontal hydraulic gradient was lower than the previous quarter, decreasing from 0.0069 to 0.0025, which was reflected by the elimination of the cone-of-depression measured at PW-1 during the previous quarter, and a lower groundwater mound at PW-3. Gradients measured during the reporting period between MW-10B and MW-1 was 0.0003 (decrease), and between PW-2 and MW-1 was 0.0013 (increase). The gradient between PW-3 and MW-4 was 0.0066 (increase), and from PW-1 to MW-1 the gradient was measured at 0.0025 (decrease). All wells indicated a decrease in potentiometric elevations over the previous monitoring period, except PW-1 which increased 0.01feet over the previous quarter, as noted in the table below.

Summary Table of 2011 Potentiometric Levels

	MW-1	MW-4	MW-10B	MW-21	Residential	PW-1	PW-2	PW-3
3/28/11	635.61	636.02	636.27	635.20	635.98	636.03	636.13	636.11
6/24/11	635.08	635.18	635.42	634.49	635.04	634.32	635.11	635.17
9/20/11	634.50	634.46	634.55	634.24	634.43	634.33	634.46	634.67

Potentiometric elevations in ft AMSL

Water level trends since the GWTP was shut-down in 2007 are presented in the site-wide hydrograph below.



As noted in the regression line for MW-1, the overall trend of water levels is increasing, approximately 1-foot since March 2007.

4.2 LABORATORY ANALYSIS / GROUNDWATER SAMPLING RESULTS

4.2.1 VOC SUMMARY

Groundwater samples were collected for laboratory analysis on September 20, 2011, at wells MW-1, MW-4, MW-10B, PW-1, PW-2 and PW-3. This sampling event is the 8th sampling event completed after the October\November 2009 injection event. Samples were collected for VOCs (Method 8260B), and Total Organic Carbon (EPA 9060), and field monitoring parameters including temperature (^{o}C), pH (SU), Specific Conductivity (umhos/cm), ORP (mV), and DO (mg/L).

Water quality data from the reporting period indicates a near-complete shift away from the primary chlorinated VOC detected in groundwater ⇒ 1,1,1-Trichloroethane (111TCA), to the most widely VOC detected site-wide ⇒ 1,1-Dichloroethane (11DCA) and the breakdown product of reductive dechlorination. There was one detection of 111TCA during the quarter, at MW-1 at an estimated

concentration of 3.6 J µg/L. Overall, the decrease in 111TCA concentrations from the October\November 2009 injection event exceeds 76 % in all wells. The Federal groundwater cleanup standard for 111TCA is 200 µg/L, and the NYSDEC groundwater cleanup standard is 5 µg/L, as noted in the table below.

Summary Table of ROD Groundwater Cleanup Levels (in µg/L)

Site VOC Detected in Groundwater	ROD Groundwater Cleanup Level	Federal MCL[1]	NYSDEC Groundwater Cleanup Standard[2]
1,1,1-trichloroethane	200	200	5
1,2-dichloroethane	5	5	0.6
1,1-dichloroethane	5	--	5
1,1-dichloroethene	7	7	5
2-butanone	172	--	50
trichloroethene	7	5	5
methylene chloride	100	5	5
vinyl chloride	3	2	2
Toluene	2,000	1,000	5

[1] - *Maximum Contaminant Level Goal (MCL) - http://water.epa.gov/drink/contaminants/index.cfm#1*

[2] - *§703.6 Groundwater effluent limitations for discharges to Class GA waters*

Figure 6 depicts the progressively smaller zone of 111TCA impacted groundwater, with no wells exceeding the NYSDEC Groundwater Cleanup Level of 5 µg/L 111TCA water quality threshold. As shown on **Figure 6**, the primary area of VOC impacted groundwater centers at MW-1 and MW-4 with TVOC concentration of 105 µg/L and 165.8 µg/L, respectively. The VOC trend us graphically shown for each monitoring well in **Appendix D**.

During the reporting period, 11DCA was detected at monitoring well MW-1 at a concentration of 95 µg/L (increase), at MW-4 at 21 µg/L (increase), at MW-10B at a concentration of 10 J µg/L (increase), at PW-1 at a concentration of 9.4 J µg/L (decrease), and at PW-2 at a concentration of 9.8 J µg/L (increase). 1,1-Dichloroethene (11DCE) was detected at MW-1 at a concentration of 3.8 J µg/L (increase), and at MW-4 at a concentration of 2 J µg/L (decrease). 111TCA was detected at MW-1 at a concentration of 3.6 J µg/L (decrease). Methylene chloride (MEC) was detected at PW-1 at a concentration of 2.2 J µg/L (unchanged). 2-Butanone (methyl ethyl ketone [MEK]) was detected at MW-4 at a concentration of 140 µg/L (increase), and at MW-10B at a concentration of 9.1 µg/L (increase). Toluene was detected in the groundwater monitoring network at MW-1 at a concentration of 2.6 J µg/L (increase), at MW-4 at 2.8 J µg/L (increase), at MW-10B at a concentration of 2.5 J µg/L (increase), at PW-1 at a concentration of 4.7 J µg/L (increase), and at PW-2 at a concentration of 4.3 J µg/L (increase). TCE was not detected at or above the laboratory method detection limit (MDL) during

the Third Quarter 2011. There were no VOCs detected at or above the laboratory MDL at former pumping well PW-3 during the Third Quarter 2011. J values represent analytes detected less than the laboratory Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL).

As shown on **Figure 7**, the groundwater monitoring network has shown dramatic reduction in the concentration of 111TCA since the Phase I injection program in September 2007. Specifically, 111TCA has decreased at monitoring well: MW-1 by 98%, MW-4 by 76%, PW-1 by 98%, PW-2 by 98% and PW-3 by 97%. In comparative trends, 111TCA has decreased at MW-1 in 10 of 17 previous quarters, and at MW-4 in 9 of 17 quarters. Alternatively, the 11DCA concentration, a daughter product of 111TCA degredation at MW-1 increased 9 of 17 quarters, and at MW-4 11DCA increased 7 of 17 quarters.

Continuing the established trend observed in the ERD program is the continued generation of MEK in various wells, particularly at monitoring wells MW-4 and MW-10B. During this quarter, MEK was detected at MW-4 at a concentration of 140 μg/L, and at MW-10B at a concentration of 9.1 μg/L. At each location, MEK constituted a significant portion of the TVOCs (MW-1 – 84%, MW-10B – 42%). This occurrence is a temporary condition created when a VOC impacted aquifer is amended with carbon, a small portion of the fermentable organic matter can be converted to ketone compounds, such as acetone or MEK. Thus the generation of MEK during the remediation processes provides another biodegradable food source which facilitates a polishing effect on residual chlorinated compounds. This transient production of acetone and MEK can occur when alkanes are present along with high-organic carbon levels, in sub-oxic, especially methanogenic environments (Mueller, June 2011). It therefore is assumed that MEK and acetone production occurs just before the system goes fully anaerobic, or soon after injection or addition of the carbon source. Continued detection of MEK in the groundwater monitoring network suggests continued methanogenesis in the MW-10B and MW-4 areas, which are a positive ERD indicator. Acetone and MEK are readily biodegradable by indigenous soil microbes that are involved in reductive dechlorination reactions. Typical half-lives for acetone in groundwater range from 19 to 197 days, and MEK environmental half-lives range from 13 to 128 days (Mueller, June 2011). These compounds have limited downgradient transport, and rapidly biodegrade when reaching aerobic conditions.

Groundwater detected with 11DCA above the NYSDEC groundwater cleanup level of 5 μg/L occurred at MW-1, MW-4, MW-10B, PW-1 and PW-2. There is no Federal groundwater clean-up standard for 11DCA. Groundwater with MEK detected above the NYSDEC groundwater cleanup level of 50 μg/L

occurred at MW-4 during the Third Quarter 2011. There were no VOC exceedances at the former pumping well PW-3. Additionally, there were no exceedances for 11DCE, 111TCA, TCE, MEC, or toluene at any groundwater monitoring location.

4.2.2 FIELD PARAMETER AND OTHER PARAMETER SUMMARY

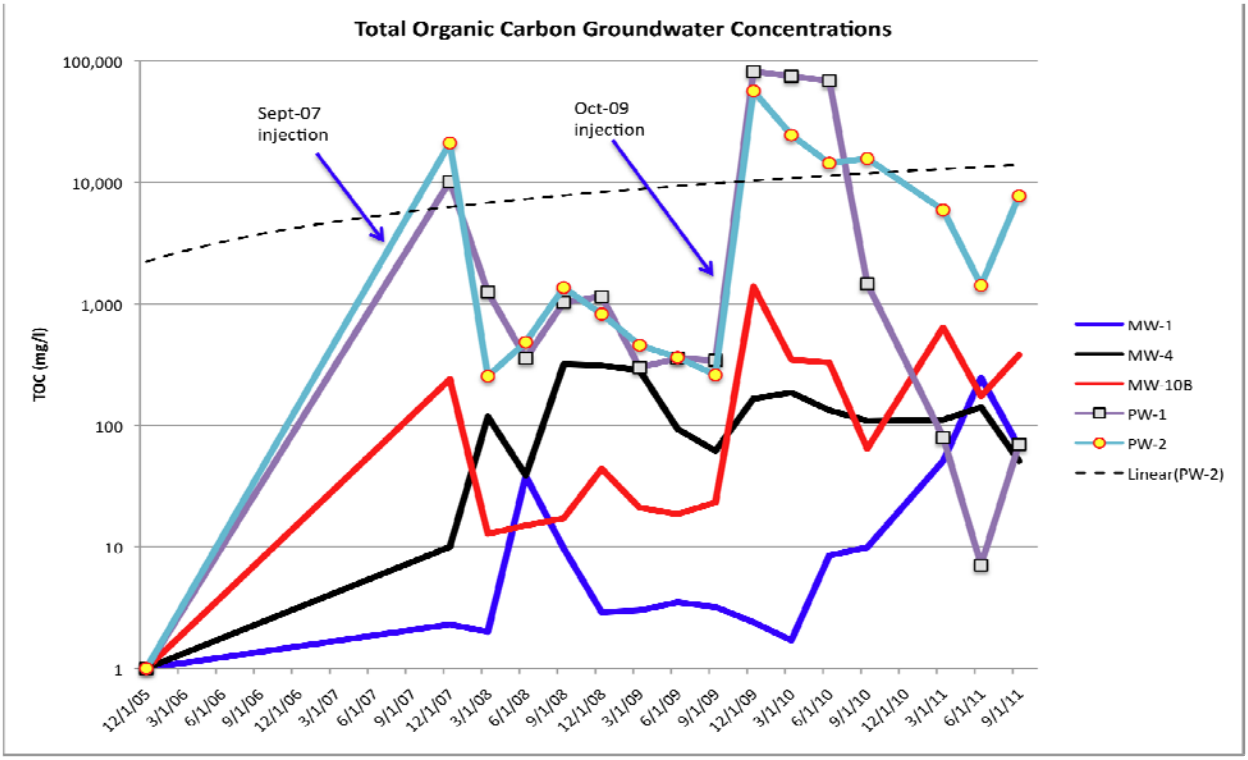
Several parameters are sampled as part of the ERD program to monitor progress of the pilot test, for example - TOC, dissolved gasses, VOCs, metals, nitrite, sulfide, pH, alkalinity, biological populations, among others. TOC is monitored in the groundwater environment first to determine if anaerobic metabolism of VOCs is possible through the addition of a hydrocarbon substrate, and following the ERD amendment injection, the level of carbon available to maintain anaerobic conditions. ORP is monitored to confirm the prevailing groundwater environment (aerobic and oxidizing vs. anaerobic and reducing). Alkalinity is analyzed as an indicator of the aquifers ability to buffer against variations in pH, and as an additional indicator of enhanced microbial activity. The pH is monitored to keep the groundwater in optimal range for reductive dechlorination as some bacterial populations are sensitive to low pH conditions (e.g., *Dehalococcoides*).

The presence of reduced electron acceptors provides another measure of the primary microbial respiration processes controlling the groundwater environment. The presence and relative concentrations of VOC degradation end-products provides confirmation that the ERD process is being driven to completion. Dissolved gasses (methane\ethane\ethene) are monitored as they measure breakdown of the VOCs in a strongly reducing (methanogenic) environment, particularly around the injection wells. Chloride is monitored as a relative indicator that VOCs have been destroyed, leaving innocuous end-products. This performance monitoring is a critical portion of the in-situ ERD pilot test program, and most of these analyses are now conducted on an annual basis. Performance monitoring during the reporting period for field measurement of selected indicator parameters in groundwater are presented in the table below.

Third Quarter 2011 ERD Monitoring Parameter Summary Table

	MW-1	MW-4	MW-10B	PW-1	PW-2	PW-3	Units
TOC	66.6	50.9	380	69.8	7,740	426	mg/L
Temp	14.6	14	13.6	13.4	12.7	14.2	^{o}C
pH	6.48	6.54	6.26	6.77	6.13	6.52	SU
Specific Cond.	895	1,170	1,710	2,890	6,330	2,300	umhos/cm
ORP	-71	-93	-77	-44	-41	-68	mV
DO	0.55	0.2	0.19	0.26	0.47	0.21	mg/L

The September 20, 2011 sampling event indicates continued maintenance in the size of the ERD zone as evident by relatively stable TOC concentrations in the central portion of the Site at PW-1, PW-2, PW-3, and with increases in TOC downgradient at MW-1. This depiction of the TOC distribution in September 2011 is shown on **Figure 8**, which indicates sufficient TOC in the area of PW-2, and the area upgradient of MW-1. The trend in TOC concentrations have generally been increasing in target wells, as noted in the percent change in TOC concentrations between June 2008 and September 2011 depicted on **Figure 9**. Groundwater sampling in following quarters would be expected to show a decrease in TOC concentrations at all wells. A comparison of this data is summarized in the TOC chart below.



Another measure of the anaerobic conditions in ERD zone are the dissolved oxygen (DO) and oxidation reduction potential (ORP) measured in and downgradient of the injection zone. Monitoring during the quarter revealed no areas with elevated DO (above 1 mg/L) in groundwater, with the highest DO levels measured at MW-1 at 0.55 mg/L (decrease). These levels are in the range of desired DO concentrations to sustain the ERD zone, as noted on **Figure 10**. The DO concentrations have generally been positive trending toward maintaining anaerobic conditions, as noted in the percent change in DO concentrations between June 2008 and September 2011 depicted on **Figure 11**.

The ORP measurements collected during the quarter depicts the strongest reducing conditions in the center of the ERD zone, a pattern consistent since the Phase II in October\November 2009, with the lowest ORP measurements found in the center of the Site, which overlaps with VOC daughter products

(MW-4, PW-1, PW-2). As a measurement of potential only (**Figure 12**), the highest values were measured at monitoring well MW-4 at -93 mV (decrease), with other values relatively close in absolute value (range -41 to -77 mV). In general, since the Phase I injection in September 2007 the ORP levels in the shallow groundwater have depicted anaerobic conditions, while the DO levels fluctuate from higher than optimum down to optimum conditions, as noted on **Figure 13**. The DO & ORP well graphs are included in **Appendix E**. Depictions of the trends in the ERD data are included in **Appendix F**.

The 2011 pH levels for monitoring wells were all within the range of optimum levels to sustain ERD process in groundwater during the Third Quarter 2011. In general, the range of pH values narrowed from the Second Quarter 2011, as noted in the table below.

2011 pH Monitoring

Well	3/28/11	6/24/11	9/20/11
MW-1	6.61	6.41	6.48
MW-4	6.49	6.65	6.54
MW-10B	6.30	6.43	6.26
PW-1	6.72	7.01	6.77
PW-2	6.18	6.48	6.13
PW-3	6.06	6.51	6.52

Measurements in standard pH units (SU)

pH below 5.2 and above 9.0 have been shown to prevent or inhibit dechlorination at some ERD sites.

4.3 STATISTICAL ANALYSIS OF GROUNDWATER VOC TRENDS

A statistical analysis was conducted on select groundwater monitoring wells to evaluate trends. The VOC concentration trends over time for the last 10 sampling events were evaluated using the Mann-Kendall statistical test (**Appendix C**). The Mann-Kendall test is a non-parametric test that can be used to assess concentrations exhibiting either increasing or decreasing trends over time to a specified level of confidence. Unlike the R-squared value in linear regression analysis, this test evaluates "trend" only, not linearity, and is independent of the order-of-magnitude changes in concentration.

The Mann-Kendall test was performed using a modified spreadsheet developed by the State of Wisconsin. The test requires a minimum of four (4) and a maximum of ten (10) sampling events. This analysis used the data for the most recent 10 sampling events. Values below the detection limits are entered as the detection limit; however, in order to prevent "trending of detection limits", all detection limits for a given trend series are entered as a single value. This test was not performed for wells or compounds for which the majority of results were reported below the detection limit. The results are

provided as “Increasing”, “Decreasing”, or “No Trend” at an 80% confidence level. In this analyses, select wells were examined in various locations or flow conditions. The wells evaluated include MW-1, MW-4, MW-10B, PW-1, PW-2, and PW-3. This data indicates:

- MW-1 depicts a stable or decreasing trend at the 80% confidence interval for 11DCA, 11DCE, 111TCA and TCE, an undetermined non-stable trend (coefficient of variation >1) for MEK.
- MW-4 depicts a stable or decreasing trend at the 80% confidence interval for 11DCA, 111TCA and TCE, an increasing trend at the 80% confidence interval for 11DCE, and MEK.
- MW-10B depicts a stable or decreasing trend at the 80% confidence interval for 11DCE, and TCE, an increasing trend at the 80% confidence interval for 11DCA and MEK, and an undetermined non-stable trend (coefficient of variation >1) for 111TCA.
- PW-1 depicts a stable or decreasing trend at the 80% confidence interval for 11DCE, 111TCA, and TCE, an increasing trend at the 80% confidence interval for 11DCA, and an undetermined non-stable trend (coefficient of variation >1) for toluene.
- PW-2 depicts a stable or decreasing trend at the 80% confidence interval for 11DCE, toluene, 111TCA, and TCE, and an increasing trend at the 80% confidence interval for 11DCA.
- PW-3 depicts a stable or decreasing trend at the 80% confidence interval for 11DCE, and 111TCA, and an undetermined non-stable trend (coefficient of variation >1) for 11DCA, MEC, and TCE.

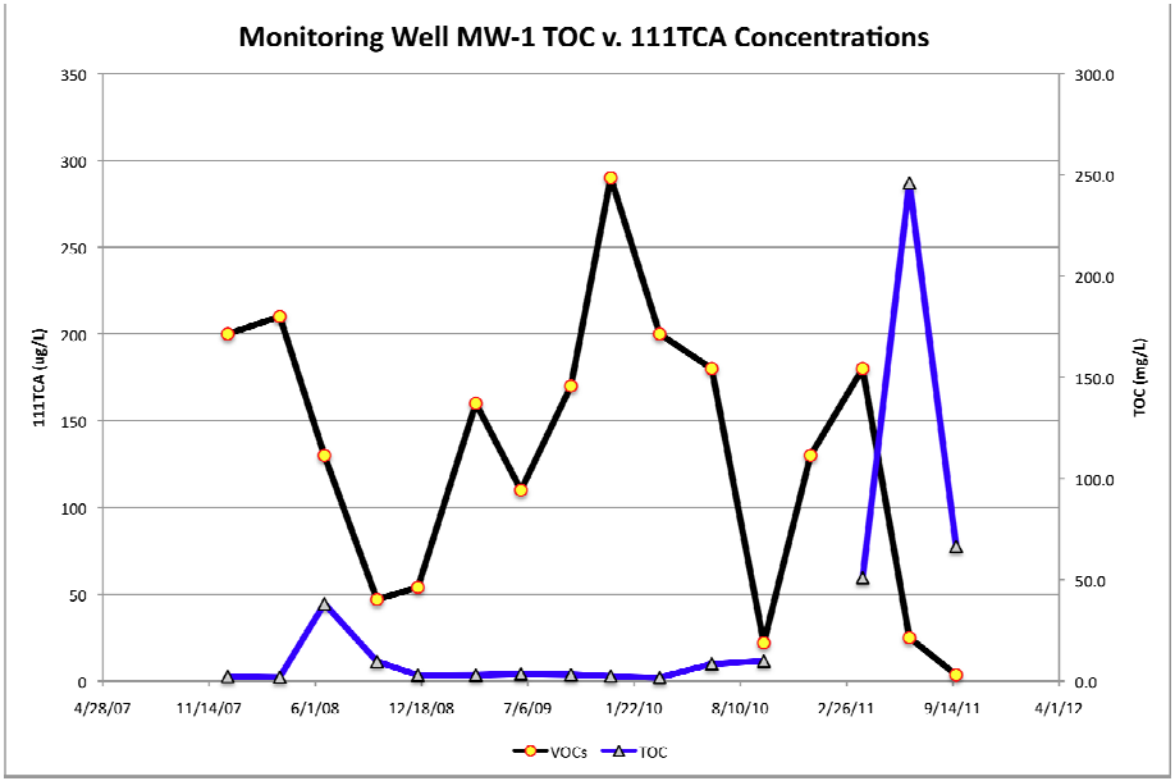
The spreadsheets for select wells are included in **Appendix C**, and summarized in the table below.

	Decreasing Trend (80% CI), all compounds	**Stable or Decreasing Trend (80% CI)**	**Undetermined non-stable trend**	**Increasing Trend (80% CI)**
MW-1	--	11DCA, 11DCE, 111TCA, TCE	MEK	--
MW-4	--	11DCA, 111TCA, TCE	--	11DCE, MEK
MW-10B	--	11DCE, TCE	111TCA	11DCA, MEK
PW-1	--	11DCE, 111TCA, TCE	Toluene	11DCA
PW-2	--	11DCE, Toluene, 111TCA, TCE	--	11DCA
PW-3	--	11DCE, 111TCA	11DCA, MEC, TCE	--

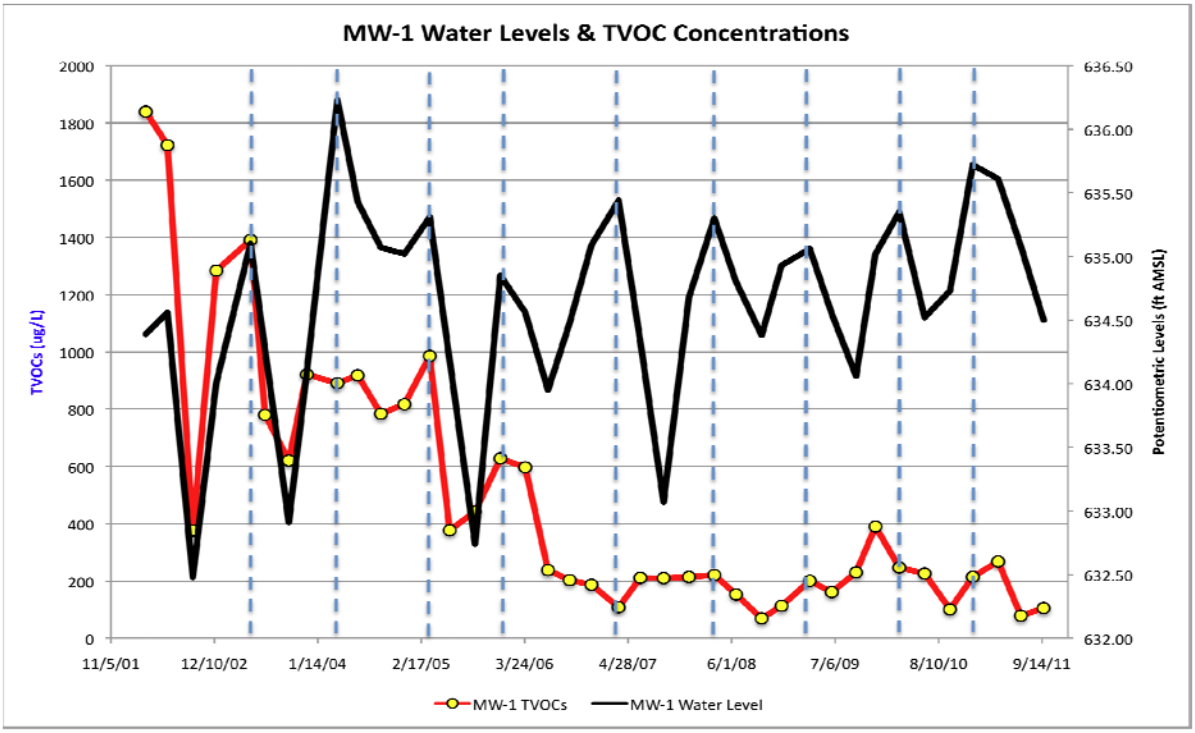
The historical groundwater monitoring program depicted 111TCA as the primary recalcitrant VOC in the groundwater monitoring network, with MW-1 the only area remaining with detectable concentrations of 111TCA in September 2011 but below both Federal and NYSDEC groundwater cleanup standards. As

noted in the table above, ERD generated daughter products 11DCA increased at three (3) wells, 11DCE increased at one (1) well, and MEK depicts an increasing trend at two (2) wells.

Trend analysis shows wells MW-1, MW-4, MW-10B, PW-1, and PW-2 all exhibited VOC increases over the quarter, and PW-3 decreased over the quarter. At monitoring well MW-1 the increase in VOCs occurred with 11DCA, 11DCE, and toluene, at monitoring well MW-4 the 11DCA, MEK and toluene were responsible for the VOC increase, and at MW-10B the increase in VOCs occurred with 11DCA, and toluene. At MW-1, the decrease in 111TCA was accompanied by an increase in TOC concentrations in groundwater, as noted in the chart below.



Additionally, the TVOC concentration fluctuations at MW-1 coincide with water level changes. The magnitude of water level fluctuations correspond with decreasing VOC fluctuations over time, as noted in the chart below.



In summary, the trend analysis for all wells depicts a positive trend, and **Appendix D** provides the monitoring well isoconcentration graphs.

4.4 DATA VALIDATION

As per Section 4.0 of the QAPP, the data have been validated according to the protocols and quality control (QC) requirements of the analytical methods, the SAP, the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review (October 1999), the USEPA Region II Data Review Standard Operating Procedure (SOP) Number HW-24, Revision 1, September 1999: Validating Volatile Organic Compounds by SW-846 Method 8260B, and the reviewer's professional judgment. The Data Validation Report is included in **Appendix B**.

4.5 HURRICANE DAMAGE INSPECTION

The Site was inspected for weather-related hurricane damage from wind and excessive rainfall on September 20, 2011, by Mr. Paul Little from TestAmerica. Mr. Little has been conducting sampling at the Site for several years, and has the history and experience to determine the potential damage from recent weather related events. During Mr. Little's inspection, he noted no hurricane damage to the area from 2011 hurricane related storms. Mr. Little's September 20, 2011, Inspection Report is included in **Appendix G**.

5.0 RECOMMEDATIONS

In preparation for the second, 5-year review, the PRP Group recommends a site meeting with EPA and NYSDEC to discuss the progress toward site closure, well abandonment, and decommissioning the GWTP. Specifically, the PRP Group recommends that the remediation system be decommissioned and removed from the Site. The PRP Group recommends that a *GWTS Decommissioning Plan* be prepared and submitted to EPA and NYSDEC by the Third Quarter 2012. Additionally, the PRP Group recommends that a *Groundwater Monitoring Well Abandonment Plan* be prepared and submitted to EPA and NYSDEC which includes the abandonment of all wells in the Third Quarter 2012.

6.0 REFERENCES

Galli, R, and McCarty, P.L., *Biotransformation of 1,1,1-Trichloroethane, Trichloromethane, and Tetrachloromethane by a Clostridium sp.*. Applied and Environmental Microbiology Vol. 55(4):837-44. January 1989.

Lawrence, S.J., 2006, *Description, properties, and degradation of selected volatile organic compounds detected in ground water — A Review of Selected Literature*: Atlanta, Georgia, U. S. Geological Survey, Open-File Report 2006-1338, 62 p., a Web-only publication at *http://pubs.usgs.gov/ofr/2006/1338/.*

Mueller, J., et. Al., *Transient Production of Ketones during In Situ Treatment:Environmental Fate of "Fermentation" By-Products. June 27, 2011*. International Symposium on Biormediation and Sustainable Environmental Technologies.Proceedings of Papers.

Sands, T. and Fitzgerald, M., *Microbial biocatalytic reactions and biodegradation pathways.*University of Minnesota, June 17, 2009. (Biocatalysis/Biodegradation Database - http://umbbd.msi.umn.edu/index.html).

Vogel, T.M. and McCarty, P.L., *Biotransformation of Tetrachloroethylene to Trichloroethylene, Dichloroethylene, Vinyl Chloride, and Carbon Dioxide under Methanogenic Conditions*. Applied and Environmental Microbiology Vol. 49(5):1080-83. February 4, 1985.

TABLES

Table 1
Influent Analytical Results
Groundwater Treatment System
Byron Barrel and Drum Site
Byron, NY

Sampling Event	01/GW	02/GW	03/GW	04/GW	05/GW	06/GW
Date	7/28/2001	8/8/2001	8/18/2001	9/18/2001	9/27/2001	10/5/2001
Field Influent pH, std pH units			7.87	7.57	7.55	7.5
Total Suspended Solids, mg/L	6.5	4.0 U	4.0 U	4.0 U	4.0 U	4
1,1-Dichloroethane, µg/L	23	47	60	19 J	58 D	43 J
1,1-Dichloroethene, µg/L	5.1	12	16	12 J	16 DJ	50 U
Cis - 1,2 - Dichloroethene, µg/L	1.0 J	1.4 J	1.0 J	50 U	50 U	50 U
Methylene Chloride, µg/L	5.0 U	5.0 U	5.0 U	50 U	50 U	50 U
1,1,1 - Trichloroethane, µg/L	460 E	840 E	1200 E	1100	1100 D	780
Trichloroethene, µg/L	1.9 J	3.0 J	4.7 J	50 U	50 U	50 U
Toluene, µg/L	5.0 U	5.0 U	5.0 U	50 U	50 U	50 U
Vinyl Chloride, µg/L	5.0 U	5.0 U	5.0 U	50 U	50 U	50 U
Total Confident VOCs, µg/L	499	899	1276	1124	1174	823

Sampling Event	07/GW	08/GW	09/GW	10/GW	11/GW	12/GW
Date	10/17/2001	11/8/2001	11/28/2001	12/13/2001	12/27/2001	1/18/2002
Field Influent pH, std pH units	7.39	7.57	7.42	7.43	7.54	7.64
Total Suspended Solids, mg/L	4.0 U	7	15	4.0 U		4.0 U
1,1-Dichloroethane, µg/L	46 J	32 J	20 J	13	9.3	11
1,1-Dichloroethene, µg/L	13 J	13 J	9.4 J	4.2 J	4.6 J	4.3 J
Cis - 1,2 - Dichloroethene, µg/L	50 U	50 U	25 U	10 U	5.0 U	5.0 U
Methylene Chloride, µg/L	50 U	50 U	25 U	10 U	5.0 U	5.0 U
1,1,1 - Trichloroethane, µg/L	1200	580	530	260	220 E	250 E
Trichloroethene, µg/L	50 U	50 U	25 U	3.3 J	4.2 J	4.9 J
Toluene, µg/L	50 U	50 U	25 U	10 U	5.0 U	5.0 U
Vinyl Chloride, µg/L	50 U	50 U	25 U	10 U	5.0 U	5.0 U
Total Confident VOCs, µg/L	1259	635	559	277	237	270

Sampling Event	13/GW	14/GW	15/GW	16/GW	17/GW	18/GW
Date	1/30/2002	2/13/2002	2/23/2002	3/8/2002	3/20/2002	4/8/2002
Field Influent pH, std pH units	7.71	7.84	7.48	7.79	7.72	7.09
Total Suspended Solids, mg/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
1,1-Dichloroethane, µg/L	10	16	10	11	11	10
1,1-Dichloroethene, µg/L	4.0 J	5.2 J	3.5 J	3.7 J	4.1 J	2.5 J
Cis - 1,2 - Dichloroethene, µg/L	10 U	10 U	5.0 U	5.0 U	5.0 U	10 U
Methylene Chloride, µg/L	10 U	10 U	5.0 U	5.0 U	1.8 BJ	10 U
1,1,1 - Trichloroethane, µg/L	220	320	240 E	320 E	330 E	240
Trichloroethene, µg/L	4.3 J	3.2 J	3.3 J	3.4 J	3.4 J	3.3 J
Toluene, µg/L	10 U	10 U	3.3 J	5.0 U	5.0 U	10 U
Vinyl Chloride, µg/L	10 U	10 U	5.0 U	5.0 U	5.0 U	10 U
Total Confident VOCs, µg/L	238	339	256	337	348	253

Table 1
Influent Analytical Results
Groundwater Treatment System
Byron Barrel and Drum Site
Byron, NY

Sampling Event	19/GW	20/GW	21/GW	22/GW	23/GW	24/GW
Date	4/24/2002	5/8/2002	5/21/2002	6/4/2002	6/13/2002	7/11/2002
Field Influent pH, std pH units	6.99	7.07	7.41	7.11	7.34	7.19
Total Suspended Solids, mg/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
1,1-Dichloroethane, µg/L	10	12	20	19 J	18 D,J	20
1,1-Dichloroethene, µg/L	2.5 J	2.4 J	3.5 J	25 U	20 U	3.4 J
Cis - 1,2 - Dichloroethene, µg/L	10 U	10 U	10 U	25 U	20 U	10 U
Methylene Chloride, µg/L	15 B	10 U	3.1 BJ	16 J	12 B,D,J	8.5 B,J
1,1,1 - Trichloroethane, µg/L	230	260	350	390	360 D	380
Trichloroethene, µg/L	2.8 J	2.7 J	3.3 J	25 U	20 U	3.7 J
Toluene, µg/L	2.6 J	10 U	10 U	25 U	20 U	10 U
Vinyl Chloride, µg/L	10 U	10 U	10 U	25 U	20 U	10 U
Total Confident VOCs, µg/L	246	276	376	425	390	407

Sampling Event	25/GW	26/GW	27/GW	28/GW	29/GW	30/GW
Date	7/23/2002	8/29/2002	9/18/2002	10/29/2002	11/25/2002	12/18/2002
Field Influent pH, std pH units	6.45	6.97	7.74	7.91	6.8	7.25
Total Suspended Solids, mg/L	4.0 U	4.0 U	4.0 U	NA	NA	4.0 U
1,1-Dichloroethane, µg/L	9.0 J	8.8	7.7	8.6	9.1 DJ	6.6
1,1-Dichloroethene, µg/L	2.6 J	1.3 J	1.8 J	3.0 J	2.4 DJ	2.8 J
Cis - 1,2 - Dichloroethene, µg/L	10 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U
Methylene Chloride, µg/L	10 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U
1,1,1 - Trichloroethane, µg/L	210	150	190	170	160 D	150
Trichloroethene, µg/L	10 U	1.9 J	1.9 J	2.5 J	10 U	1.9 J
Toluene, µg/L	10 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U
Vinyl Chloride, µg/L	10 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U
Total Confident VOCs, µg/L	222	162	202	184	172	161

Sampling Event	31/GW	32/GW	33/GW	34/GW	35/GW	36/GW
Date	1/17/2003	2/19/2003	4/30/2003	6/23/2003	7/30/2003	8/27/2003
Field Influent pH, std pH units	7.6	6.93	7.06	7.03	7.12	NA
Total Suspended Solids, mg/L	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane, µg/L	8.4	6.2	8.4 DJ	6.6 DJ	7.6	2.4 J
1,1-Dichloroethene, µg/L	5.0 U	2.4 J	10 U	10 U	5.0 U	5.0 U
Cis - 1,2 - Dichloroethene, µg/L	5.0 U	5.0 U	10 U	10 U	5.0 U	5.0 U
Methylene Chloride, µg/L	5.0 U	5.0 U	10 U	10 U	5.0 U	5.0 U
1,1,1 - Trichloroethane, µg/L	160	140	190 D	140 D	150	66
Trichloroethene, µg/L	2.4 J	1.6 J	10 U	10 U	1.2 J	5.0 U
Toluene, µg/L	5.0 U	5.0 U	10 U	10 U	5.0 U	5.0 U
Vinyl Chloride, µg/L	5.0 U	5.0 U	10 U	10 U	5.0 U	5.0 U
Total Confident VOCs, µg/L	171	150	198	147	159	68

Table 1
Influent Analytical Results
Groundwater Treatment System
Byron Barrel and Drum Site
Byron, NY

Sampling Event	37/GW	38/GW	39/GW	40/GW	41/GW	42/GW
Date	9/24/2003	10/23/2003	11/20/2003	12/3/2003	1/29/2004	3/30/2004
Field Influent pH, std pH units	NA	NA	NA	7.18	NA	6.84
Total Suspended Solids, mg/L	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane, µg/L	8.8 DJ	7.4 DJ	4.7 J	6.1	5.0 U	6.7
1,1-Dichloroethene, µg/L	10 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U
Cis - 1,2 - Dichloroethene, µg/L	10 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride, µg/L	10 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,1 - Trichloroethane, µg/L	180 D	170 D	92	110	1.9 J	96
Trichloroethene, µg/L	2.0 DJ	10 U	1.1 J	1.6 J	5.0 U	1.0 J
Toluene, µg/L	10 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl Chloride, µg/L	10 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U
Total Confident VOCs, µg/L	191	174	98	118	2	104

Sampling Event	43/GW	44/GW	45/GW	46/GW	47/GW	48/GW
Date	5/20/2004	6/16/2004	7/15/2004	8/26/2004	9/14/2004	10/28/2004
Field Influent pH, std pH units	NA	7.32	NA	NA	NA	NA
Total Suspended Solids, mg/L	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane, µg/L	5.5	10 D	7.5	3.3 J	9.1 DJ	4.1 J
1,1-Dichloroethene, µg/L	5.0 U	10 U	2.3 J	5.0 U	10 U	2.3 J
Cis - 1,2 - Dichloroethene, µg/L	5.0 U	10 U	5.0 U	5.0 U	10 U	5.0 U
Methylene Chloride, µg/L	5.0 U	10 U	5.0 U	5.0 U	10 U	5.0 U
1,1,1 - Trichloroethane, µg/L	150	180 D	190	74	170 D	90
Trichloroethene, µg/L	5.0 U	10 U	1.6 J	5.0 U	10 U	1.1 J
Toluene, µg/L	5.0 U	10 U	5.0 U	5.0 U	10 U	5.0 U
Vinyl Chloride, µg/L	5.0 U	10 U	5.0 U	5.0 U	10 U	5.0 U
Total Confident VOCs, µg/L	156	190	201	77	179	97

Sampling Event	49/GW	50/GW	51/GW	52/GW	53/GW	54/GW
Date	12/14/2004	1/27/2005	3/22/2005	4/26/2005	5/30/2005	6/7/2005
Field Influent pH, std pH units	6.23	NA	7.04	NA	NA	7.50
Total Suspended Solids, mg/L	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane, µg/L	7.4	9.8	2.9 J	2.5 J	6.3	2.5
1,1-Dichloroethene, µg/L	2.5 J	3.0 J	5.0 U	5.0 U	1.9	0.84 J
Cis - 1,2 - Dichloroethene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Methylene Chloride, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
1,1,1 - Trichloroethane, µg/L	130	180	65	67	230	65
Trichloroethene, µg/L	1.6 J	2.2 J	5.0 U	5.0 U	1.2 J	0.68 J
Toluene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Vinyl Chloride, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U
Total Confident VOCs, µg/L	141.5	195	67.9	69.5	239.4	69.0

Table 1
Influent Analytical Results
Groundwater Treatment System
Byron Barrel and Drum Site
Byron, NY

Sampling Event	55/GW	56/GW	57/GW	58/GW	59/GW	60/GW
Date	7/28/2005	8/29/2005	9/13/2005	10/18/2005	11/22/2005	12/19/2005
Field Influent pH, std pH units	NA	NA	7.25	NA	NA	6.85
Total Suspended Solids, mg/L	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane, µg/L	10	9.5 J	2.3 J	7.1 J	5.2 J	2.7 J
1,1-Dichloroethene, µg/L	4.8	3.1 J	0.64 J	1.5 J	2.7 J	0.84 J
Cis - 1,2 - Dichloroethene, µg/L	1.0 U	25 U	5.0 U	10 U	20 U	5.0 U
Methylene Chloride, µg/L	1.0 U	2.4 J	5.0 U	10 U	2.0 J	5.0 U
1,1,1 - Trichloroethane, µg/L	260	220	53	180	130	61
Trichloroethene, µg/L	1.7	25 U	0.49 J	2.9 BJ	20 U	0.64 J
Toluene, µg/L	1.0 U	25 U	5.0 U	10 U	20 U	5.0 U
Vinyl Chloride, µg/L	1.0 U	25 U	5.0 U	10 U	20 U	5.0 U
Total Confident VOCs, µg/L	276.5	235.0	56.4	191.5	139.9	65.2

Sampling Event	61/GW	62/GW	63/GW	64/GW	65/GW	66/GW
Date	1/19/2006	2/24/2006	3/27/2006	4/20/2006	5/25/2006	6/20/2006
Field Influent pH, std pH units	NA	NA	6.99	NA	NA	NA
Total Suspended Solids, mg/L	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane, µg/L	6	4.7 J	4.5 J	5.5 J	6.2 J	3.6 J
1,1-Dichloroethene, µg/L	1.7 J	1.3 J	1.1 J	1.3 J	1.5 J	0.94 J
Cis - 1,2 - Dichloroethene, µg/L	5.0 U	10 U	5.0 U	10 U	10 U	5.0 U
Methylene Chloride, µg/L	5.0 U	2.1 BJ	5.0 U	10 U	1.3 J	5.0 U
1,1,1 - Trichloroethane, µg/L	170	100	110	140	160	80
Trichloroethene, µg/L	1.3 J	0.87 J	0.95 J	1.0 J	1.2 J	0.72 J
Toluene, µg/L	5.0 U	10 U	5.0 U	10 U	10 U	5.0 U
Vinyl Chloride, µg/L	5.0 U	10 U	5.0 U	10 U	10 U	5.0 U
Total Confident VOCs, µg/L	179.0	109.0	116.6	147.8	170.2	85.3

Sampling Event	67	68	69	70	71	72
Date	7/18/2006	8/7/2006	9/14/2006	10/12/2006	11/22/2006	12/14/2006
Field Influent pH, std pH units	NA	7.46	7.5	7.7	7.38	7.56
Total Suspended Solids, mg/L	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane, µg/L	6.3	5.7 J	4.0 J	5.5	9.5 J	2.8 J
1,1-Dichloroethene, µg/L	1.6 J	1.2 J	4.7 J	1.4 J	2.3 J	1.3 J
Cis - 1,2 - Dichloroethene, µg/L	5.0 U	10 U	5.0 U	5.0 U	10.0 U	5.0 U
Methylene Chloride, µg/L	5.0 U	2.8 BJ	5.0 U	5.0 U	10.0 U	5.0 U
1,1,1 - Trichloroethane, µg/L	155 E	140	94	82 D	140 D	56
Trichloroethene, µg/L	1.1 J	2.2 J	0.83 J	1.0 J	1.8 J	0.64 J
Toluene, µg/L	5.0 U	10 U	5.0 U	5.0 U	10.0 U	5.0 U
Vinyl Chloride, µg/L	5.0 U	10 U	5.0 U	5.0 U	10.0 U	5.0 U
Total Confident VOCs, µg/L	162.4	151.9	103.53	89.9	153.6	60.74

Table 1
Influent Analytical Results
Groundwater Treatment System
Byron Barrel and Drum Site
Byron, NY

Sampling Event	73	74	75	76	77	78
Date	1/18/2007	2/28/2007	3/21/2007	4/30/2007	5/23/2007	6/27/2007
Field Influent pH, std pH units	7.64	7.62	7.53	7.61	7.52	7.69
Total Suspended Solids, mg/L	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane, µg/L	1.8 J	5.6 DJ	6.2 J	8.2	8.7	5.0
1,1-Dichloroethene, µg/L	0.64 J	2.7 DJ	1.5 J	2.8 J	2.0 J	0.88 J
Cis - 1,2 - Dichloroethene, µg/L	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U
Methylene Chloride, µg/L	5.0 U	1.0 DJ	10 U	5.0 U	5.0 U	5.0 U
1,1,1 - Trichloroethane, µg/L	62	170 D	230	210 D	200 D	180 D
Trichloroethene, µg/L	0.78 J	1.3 DJ	10 U	1.1 J	1.2 J	0.67J
Toluene, µg/L	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U
Vinyl Chloride, µg/L	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U
Total Confident VOCs, µg/L	65.22	180.6	245.5	222.1	211.9	186.55

Sampling Event	79	80	81	82	83	84
Date	7/24/2007	8/22/2007	9/12/2007	10/2007	11/2007	12/2007
Field Influent pH, std pH units	7.57	7.85	7.65	NS	NS	NS
Total Suspended Solids, mg/L	NA	NA	NA	NS	NS	NS
1,1-Dichloroethane, µg/L	6.6	5.9	7.1	NS	NS	NS
1,1-Dichloroethene, µg/L	5.2	1.0 J	10 U	NS	NS	NS
Cis - 1,2 - Dichloroethene, µg/L	5.0 U	5.0 U	10 U	NS	NS	NS
Methylene Chloride, µg/L	5.0 U	5.0 U	10 U	NS	NS	NS
1,1,1 - Trichloroethane, µg/L	230 D	140 D	160	NS	NS	NS
Trichloroethene, µg/L	0.82 J	0.81J	10 U	NS	NS	NS
Toluene, µg/L	5.0 U	5.0 U	10 U	NS	NS	NS
Vinyl Chloride, µg/L	5.0 U	5.0 U	10 U	NS	NS	NS
Total Confident VOCs, µg/L	242.62	147.71	167.1	NS	NS	NS

Sampling Event	85	86	87	88	89	90
Date	1/2008	2/2008	3/2008	4/2008	5/2008	6/2008
Field Influent pH, std pH units	NS	NS	NS	NS	NS	NS
Total Suspended Solids, mg/L	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane, µg/L	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene, µg/L	NS	NS	NS	NS	NS	NS
Cis - 1,2 - Dichloroethene, µg/L	NS	NS	NS	NS	NS	NS
Methylene Chloride, µg/L	NS	NS	NS	NS	NS	NS
1,1,1 - Trichloroethane, µg/L	NS	NS	NS	NS	NS	NS
Trichloroethene, µg/L	NS	NS	NS	NS	NS	NS
Toluene, µg/L	NS	NS	NS	NS	NS	NS
Vinyl Chloride, µg/L	NS	NS	NS	NS	NS	NS
Total Confident VOCs, µg/L	NS	NS	NS	NS	NS	NS

Table 1
Influent Analytical Results
Groundwater Treatment System
Byron Barrel and Drum Site
Byron, NY

Sampling Event	91	92	93	94	95	96
Date	9/2008	12/2008	3/2009	6/2009	9/2009	12/2009
Field Influent pH, std pH units	NS	NS	NS	NS	NS	NS
Total Suspended Solids, mg/L	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane, µg/L	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene, µg/L	NS	NS	NS	NS	NS	NS
Cis - 1,2 - Dichloroethene, µg/L	NS	NS	NS	NS	NS	NS
Methylene Chloride, µg/L	NS	NS	NS	NS	NS	NS
1,1,1 - Trichloroethane, µg/L	NS	NS	NS	NS	NS	NS
Trichloroethene, µg/L	NS	NS	NS	NS	NS	NS
Toluene, µg/L	NS	NS	NS	NS	NS	NS
Vinyl Chloride, µg/L	NS	NS	NS	NS	NS	NS
Total Confident VOCs, µg/L	NS	NS	NS	NS	NS	NS

Sampling Event	97	98	99	100	101	102
Date	3/2010	6/2010	9/2010	12/2010	3/2011	6/2011
Field Influent pH, std pH units	NS	NS	NS	NS	NS	NS
Total Suspended Solids, mg/L	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane, µg/L	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene, µg/L	NS	NS	NS	NS	NS	NS
Cis - 1,2 - Dichloroethene, µg/L	NS	NS	NS	NS	NS	NS
Methylene Chloride, µg/L	NS	NS	NS	NS	NS	NS
1,1,1 - Trichloroethane, µg/L	NS	NS	NS	NS	NS	NS
Trichloroethene, µg/L	NS	NS	NS	NS	NS	NS
Toluene, µg/L	NS	NS	NS	NS	NS	NS
Vinyl Chloride, µg/L	NS	NS	NS	NS	NS	NS
Total Confident VOCs, µg/L	NS	NS	NS	NS	NS	NS

Sampling Event	103
Date	9/2011
Field Influent pH, std pH units	NS
Total Suspended Solids, mg/L	NS
1,1-Dichloroethane, µg/L	NS
1,1-Dichloroethene, µg/L	NS
Cis - 1,2 - Dichloroethene, µg/L	NS
Methylene Chloride, µg/L	NS
1,1,1 - Trichloroethane, µg/L	NS
Trichloroethene, µg/L	NS
Toluene, µg/L	NS
Vinyl Chloride, µg/L	NS
Total Confident VOCs, µg/L	NS

NA = Not Applicable

NS = Not Sampled

Data Qualifiers: **U** - Undetectable at listed detection limit. **J** - Estimated value, less than the detection limit.

E - CC excedes calibration range. **D** - Identified in the secondary dilution factor. **B** - Analyte found in blank as well as sample.

Sustainable Resources Group

Table 2
Effluent Analytical Results
Groundwater Treatment System
Byron Barrel and Drum Site
Byron, NY

Sampling Event	01/GW	02/GW	03/GW	04/GW	05/GW	06/GW
Date	7/28/2001	8/8/2001	8/18/2001	9/18/2001	9/27/2001	10/5/2001
Field Effluent pH, std pH units	8.44	8.44	8.5	8.38	8.38	8.32
Total Suspended Solids, mg/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
1,1-Dichloroethane, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Cis - 1,2 - Dichloroethene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,1 - Trichloroethane, µg/L	1.5 J	5.0 U	1.5 J	5.0 U	5.0 U	5.0 U
Trichloroethene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl Chloride, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Sampling Event	07/GW	08/GW	09/GW	10/GW	11/GW	12/GW
Date	10/17/2001	11/8/2001	11/28/2001	12/13/2001	12/27/2001	1/18/2002
Field Effluent pH, std pH units	8.35	8.35	8.29	8.43	8.30	8.38
Total Suspended Solids, mg/L	4.0 U	4.0 U	8.0	4.0 U	4.0 U	4.0U
1,1-Dichloroethane, µg/L	5.0 U	5.0 U	5.0U	5.0 U	5.0 U	5.0U
1,1-Dichloroethene, µg/L	5.0 U	5.0 U	5.0U	5.0 U	5.0 U	5.0U
Cis - 1,2 - Dichloroethene, µg/L	5.0 U	5.0 U	5.0U	5.0 U	5.0 U	5.0U
Methylene Chloride, µg/L	5.0 U	5.0 U	5.0U	5.0 U	5.0 U	5.0U
1,1,1 - Trichloroethane, µg/L	5.0 U	5.0 U	5.0U	5.0 U	5.0 U	5.0U
Trichloroethene, µg/L	5.0 U	5.0 U	5.0U	5.0 U	5.0 U	5.0U
Toluene, µg/L	5.0 U	5.0 U	5.0U	5.0 U	5.0 U	5.0U
Vinyl Chloride, µg/L	5.0 U	5.0 U	5.0U	5.0 U	5.0 U	5.0U

Sampling Event	13/GW	14/GW	15/GW	16/GW	17/GW	18/GW
Date	1/30/2002	2/13/2002	2/23/2002	3/8/2002	3/20/2002	4/8/2002
Field Effluent pH, std pH units	8.39	8.31	8.22	8.39	8.47	8.05
Total Suspended Solids, mg/L	4.0U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
1,1-Dichloroethane, µg/L	5.0U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene, µg/L	5.0U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Cis - 1,2 - Dichloroethene, µg/L	5.0U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride, µg/L	5.0U	5.0 U	5.0 U	5.0 U	1.3 J	2.8 B,J
1,1,1 - Trichloroethane, µg/L	5.0U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene, µg/L	5.0U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene, µg/L	5.0U	5.0 U	2.5J	5.0 U	5.0 U	5.0 U
Vinyl Chloride, µg/L	5.0U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Table 2
Effluent Analytical Results
Groundwater Treatment System
Byron Barrel and Drum Site
Byron, NY

Sampling Event	19/GW	20/GW	21/GW	22/GW	23/GW	24/GW
Date	4/24/2002	5/8/2002	5/21/2002	6/4/2002	6/13/2002	7/11/2002
Field Effluent pH, std pH units	8.0	8.08	8.23	8.23	8.16	8.06
Total Suspended Solids, mg/L	4.0 U	4.0	4.0 U	4.0 U	4.0 U	4.0 U
1,1-Dichloroethane, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Cis - 1,2 - Dichloroethene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride, µg/L	7.6 B	5.0 U	1.2 BJ	1.1 J	1.7 B,J	2.6 B,J
1,1,1 - Trichloroethane, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene, µg/L	1.2 J	5.0 U	5.0 U	5.0 U	1.5 J	5.0 U
Vinyl Chloride, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Sampling Event	25/GW	26/GW	27/GW	28/GW	29/GW	30/GW
Date	7/23/02	9/18/02	12/18/02	4/30/03	6/23/03	9/24/03
Field Effluent pH, std pH units	6.66	7.11	7.22	7.72	7.68	7.81
Total Suspended Solids, mg/L	4.0 U	4.0 U	4.0 U	NA	NA	NA
1,1-Dichloroethane, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Cis - 1,2 - Dichloroethene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,1 - Trichloroethane, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl Chloride, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Sampling Event	31/GW	32/GW	33/GW	34/GW	35/GW	36/GW
Date	12/2/03	3/30/04	6/16/04	9/14/04	12/14/04	3/22/05
Field Effluent pH, std pH units	7.63	7.47	7.86	7.61	6.93	6.97
Total Suspended Solids, mg/L	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Cis - 1,2 - Dichloroethene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,1 - Trichloroethane, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl Chloride, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Table 2
Effluent Analytical Results
Groundwater Treatment System
Byron Barrel and Drum Site
Byron, NY

Sampling Event	37/GW	38/GW	39/GW	40/GW	41/GW	42/GW
Date	6/7/2005	9/13/2005	12/19/2005	3/27/2006	6/20/2006	9/14/2006
Field Effluent pH, std pH units	8.01	7.95	7.64	7.74	7.71	8.4
Total Suspended Solids, mg/L	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane, µg/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene, µg/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Cis - 1,2 - Dichloroethene, µg/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride, µg/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,1 - Trichloroethane, µg/L	1.0 U	5.0 U	0.58 J	5.0 U	5.0 U	5.0 U
Trichloroethene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene, µg/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl Chloride, µg/L	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Sampling Event	43/GW	44/GW	45/GW	47/GW	48/GW	49/GW
Date	12/14/2006	3/21/2007	6/27/2007	9/12/2007	12/2007	3/2008
Field Effluent pH, std pH units	8.36	8.44	8.39	8.63	NS	NS
Total Suspended Solids, mg/L	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	NS	NS
1,1-Dichloroethene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	NS	NS
Cis - 1,2 - Dichloroethene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	NS	NS
Methylene Chloride, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	NS	NS
1,1,1 - Trichloroethane, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	NS	NS
Trichloroethene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	NS	NS
Toluene, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	NS	NS
Vinyl Chloride, µg/L	5.0 U	5.0 U	5.0 U	5.0 U	NS	NS

Sampling Event	50/GW	51/GW	52/GW	53/GW	54/GW	55/GW
Date	6/2008	9/2008	12/2008	3/2009	6/2009	9/2009
Field Effluent pH, std pH units	NS	NS	NS	NS	NS	NS
Total Suspended Solids, mg/L	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane, µg/L	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene, µg/L	NS	NS	NS	NS	NS	NS
Cis - 1,2 - Dichloroethene, µg/L	NS	NS	NS	NS	NS	NS
Methylene Chloride, µg/L	NS	NS	NS	NS	NS	NS
1,1,1 - Trichloroethane, µg/L	NS	NS	NS	NS	NS	NS
Trichloroethene, µg/L	NS	NS	NS	NS	NS	NS
Toluene, µg/L	NS	NS	NS	NS	NS	NS
Vinyl Chloride, µg/L	NS	NS	NS	NS	NS	NS

Table 2
Effluent Analytical Results
Groundwater Treatment System
Byron Barrel and Drum Site
Byron, NY

Sampling Event	56/GW	57/GW	58/GW	59/GW	60/GW	61/GW
Date	12/2009	3/2010	6/2010	9/2010	12/2010	3/2011
Field Effluent pH, std pH units	NS	NS	NS	NS	NS	NS
Total Suspended Solids, mg/L	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane, µg/L	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene, µg/L	NS	NS	NS	NS	NS	NS
Cis - 1,2 - Dichloroethene, µg/L	NS	NS	NS	NS	NS	NS
Methylene Chloride, µg/L	NS	NS	NS	NS	NS	NS
1,1,1 - Trichloroethane, µg/L	NS	NS	NS	NS	NS	NS
Trichloroethene, µg/L	NS	NS	NS	NS	NS	NS
Toluene, µg/L	NS	NS	NS	NS	NS	NS
Vinyl Chloride, µg/L	NS	NS	NS	NS	NS	NS

Sampling Event	62/GW	63/GW
Date	6/2011	9/2011
Field Effluent pH, std pH units	NS	NS
Total Suspended Solids, mg/L	NA	NA
1,1-Dichloroethane, µg/L	NS	NS
1,1-Dichloroethene, µg/L	NS	NS
Cis - 1,2 - Dichloroethene, µg/L	NS	NS
Methylene Chloride, µg/L	NS	NS
1,1,1 - Trichloroethane, µg/L	NS	NS
Trichloroethene, µg/L	NS	NS
Toluene, µg/L	NS	NS
Vinyl Chloride, µg/L	NS	NS

NA = Not Applicable

NS = Not Sampled

Data Qualifiers: **U** - Undetectable at listed detection limit. **J** - Estimated value, less than the detection limit.

E - CC excedes calibration range. **D** - Identified in the secondary dilution factor. **B** - Analyte found in blank as well as sample.

Sustainable Resources Group

Table 3
Field Parameters
Quarterly Sampling Event
September 20, 2011
Byron Barrel and Drum Site
Byron, NY

Parameter / Units	Time	Temp. °C	ORP mV	pH Std. Units	TDS g/L	DO mg/L	Spec. Cond. mS/cm
MW-1-9/GW39	945	15.1	-66	6.50	0.6	0.68	901
	950	14.8	-70	6.49	0.6	0.65	898
	955	14.6	-71	6.48	0.6	0.63	897
	1000	14.5	-71	6.48	0.6	0.60	897
	1005	14.5	-71	6.48	0.6	0.58	897
	1010	14.5	-72	6.48	0.6	0.57	895
	1015	14.6	-71	6.48	0.6	0.55	895
MW-4-9/GW39	1055	14.1	-89	6.55	0.7	0.28	1163
	1100	14.0	-90	6.55	0.7	0.27	1165
	1105	13.9	-92	6.54	0.7	0.25	1167
	1110	14.0	-92	6.54	0.7	0.23	1170
	1115	14.1	-93	6.54	0.7	0.21	1169
	1120	14.0	-93	6.84	0.7	0.20	1170
MW-10B-9/GW39	1210	13.7	-71	6.28	1.1	0.31	1700
	1215	13.6	-73	6.28	1.1	0.27	1710
	1220	13.7	-75	6.26	1.1	0.25	1710
	1225	13.7	-76	6.27	1.1	0.22	1710
	1230	13.7	-76	6.26	1.1	0.20	1710
	1235	13.6	-77	6.26	1.1	0.19	1710
PW-1/GW39	1400	13.4	-44	6.77	1.9	0.26	2890
PW-2/GW39	1320	12.7	-41	6.13	4.0	0.47	6330
PW-3/GW39	1440	14.2	-68	6.52	1.5	0.21	2300

Note: Flow through cell was calibrated for all chemistry parameters prior to gauging.

Table 4
Groundwater Elevations
September 2011 Sampling Event
Byron Barrel and Drum Site
Byron, NY

Operator: P. Little

Date: 9/20/2011

Pumping Wells	DTW	TOC Elevation	GW Elevation	TD	WC, ft.
PW-1	8.49	642.82	634.33	-	-
PW-2	6.88	641.34	634.46	-	-
PW-3	6.44	641.11	634.67	-	-
Monitoring Wells					
MW-1	5.13	639.63	634.50	11.78	6.65
MW-2	11.81	646.36	634.55	15.13	3.32
MW-4	4.10	638.56	634.46	11.43	7.33
MW-10B	9.89	644.44	634.55	20.33	10.44
MW-21	8.28	642.52	634.24	27.90	19.62
Residential	16.35	650.78	634.43	34.88	18.53
Piezometers					
PZ-1	6.91	643.11	636.20	26.87	19.96
PZ-2	8.60	642.39	633.79	26.96	18.36

Sustainable Resources Group

Table 5
Historic Groundwater Quality - Select Analytes
Byron Barrel and Drum Site
Byron, NY

Sample Location ID	Date	Top of Casing (ft)	Depth to Water (ft)	Groundwater Elevation (ft)	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	Methylene Chloride	1,1,1-Trichloroethane	Trichloroethene	Toluene	Vinyl Chloride
		Groundwater Cleanup Levels (µg/L):			5	5	NA	5	5	5	5	2
MW-1	3/20/2002	639.63	5.24	634.39	**86**	**49**	NA	5 U	**1700**	2 J	5 U	**2 J**
	6/12/2002	639.63	5.07	634.56	**81**	**38**	NA	5 U	**1600**	3 J	5 U	5 U
	9/18/2002	639.63	7.15	632.48	**13**	13 J	NA	5 UJ	**350**	5 U	5 U	5 U
	12/18/2002	639.63	5.62	634.01	**42**	37 J	NA	25 U	**1200**	5 J	25 U	25 U
	4/29/2003	639.63	4.53	635.10	**57**	**34**	NA	25 U	**1300 J**	25 U	25 U	25 U
	6/24/2003	639.63	5.36	634.27	**32**	**24**	NA	5 U	**720**	4 J	5 U	5 U
	9/24/2003	639.63	6.72	632.91	24 J	17 J	NA	25 U	**580**	25 U	25 U	25 U
	12/3/2003	639.63	5.53	634.10	33 J	28 J	NA	40 U	**860 J**	40 U	40 U	40 U
	3/30/2004	639.63	3.40	636.23	30 J	**31**	NA	25 U	**830 J**	25 UJ	25 U	25 U
	6/16/2004	639.63	4.20	635.43	**26**	22 J	NA	25 UJ	**870**	25 U	25 U	25 U
	9/14/2004	639.63	4.56	635.07	**28**	**26**	NA	25 U	**730**	25 U	25 U	25 U
	12/14/2004	639.63	4.61	635.02	**31**	**26**	NA	25 U	**760**	25 UJ	25 U	25 U
	3/22/2005	639.63	4.32	635.31	**41**	**110**	NA	5 U	**830**	**5**	5 U	5 U
	6/7/2005	639.63	5.45	634.18	10 J	14 J	NA	13 J	**340**	50 U	50 UJ	50 U
	9/13/2005	639.63	6.89	632.74	**14**	**16**	NA	5 U	**410**	2 J	5 UJ	5 U
	12/20/2005	639.63	4.78	634.85	24 J	24 J	NA	40 U	**580**	40 U	40 U	40 U
	3/26/2006	639.63	5.07	634.56	**29**	**24**	NA	5 U	**540**	4 J	5 U	5 U
	6/22/2006	639.63	5.68	633.95	**7**	**9**	NA	5 U	**220**	2 J	5 U	5 U
	9/14/2006	639.63	5.15	634.48	5 J	**6** J	NA	10 U	**190**	2 J	10 U	10 U
	12/7/2006	639.63	4.54	635.09	**6** J	**9** J	NA	10 U	**170**	2 J	10 U	10 U
	3/22/2007	639.63	4.19	635.44	2 J	4 J	NA	10 U	**100**	2 J	10 U	10 U
	6/14/2007	639.63	5.30	634.33	**6**	3 J	NA	5 U	**200**	2 J	5 U	5 U
	9/12/2007	639.63	6.56	633.07	**7** J	3 J	NA	20 U	**200**	20 U	20 U	20 U
	12/19/2007	639.63	4.95	634.68	**10**	2 J	NA	10 U	**200**	2 J	10 U	10 U
	3/26/2008	639.63	4.33	635.30	**8** J	3 J	NA	20 U	**210**	20 U	20 U	20 U
	6/18/2008	639.63	4.83	634.80	**19**	3 J	NA	10 U	**130**	1 J	10 U	10 U
	9/25/2008	639.63	5.25	634.38	**20**	1 J	NA	10 U	**47**	1 J	10 U	10 U
	12/11/2008	639.63	4.70	634.93	**55**	2 J	NA	5 U	**54**	2 J	5 U	5 U
	3/30/2009	639.63	4.57	635.06	**36**	3.5 J	NA	5 U	**160**	1.6 J	5 U	0.46 J
	6/23/2009	639.63	5.08	634.55	**44**	4.1 J	NA	5 U	**110**	3.2 J	5 U	0.45 J
	9/25/2009	639.63	5.57	634.06	**51**	**7.3**	NA	5 U	**160**	1.8 J	5 U	5 U
	12/9/2009	639.63	4.61	635.02	**76**	**7.2** J	NA	10 U	**290**	2.1 J	10 U	10 U
	3/11/2010	639.63	4.28	635.35	**39**	**8** J	NA	20 U	**200**	20 U	20 U	20 U
	6/17/2010	639.63	4.81	634.82	**39**	4.2 J	NA	5 U	**210**	1.6 J	5 U	1.4 J
	9/23/2010	639.63	4.90	634.73	**75**	2.4 J	NA	5 U	**22**	1.2 J	5 U	5 U
	12/20/2010	639.63	3.91	635.72	**77**	5.2	NA	5 U	**130**	2.1 J	5 U	5 U
	3/28/2011	639.63	4.02	635.61	**65**	22	NA	5 U	**180**	1.4 J	5 U	5 U
	6/24/2011	639.63	4.55	635.08	**43**	1.7 J	NA	5 U	**25**	1.3 J	5 U	5 U
	9/20/2011	639.63	5.13	634.50	**95**	3.8 J	NA	20 U	**3.6** J	20 U	2.6 J	20 U

Sustainable Resources Group

Table 5
Historic Groundwater Quality - Select Analytes
Byron Barrel and Drum Site
Byron, NY

Sample Location ID	Date	Top of Casing (ft)	Depth to Water (ft)	Groundwater Elevation (ft)	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	Methylene Chloride	1,1,1-Trichloroethane	Trichloroethene	Toluene	Vinyl Chloride
		Groundwater Cleanup Levels (µg/L):			5	5	NA	5	5	5	5	2
MW-4	3/20/2002	638.56	4.79	633.77	17 J	14 J	NA	25 U	**450**	10 J	25 U	25 U
	6/12/2002	638.56	4.48	634.08	3 J	2 J	NA	5 U	**83**	**8**	5 U	5 U
	9/18/2002	638.56	6.04	632.52	5 U	5 UJ	NA	5 UJ	**27**	**5**	5 U	5 U
	12/18/2002	638.56	5.22	633.34	**40**	**24**	NA	5 U	**200**	**8**	5 U	5 U
	4/29/2003	638.56	4.50	634.06	**31**	13 J	NA	25 U	**530**	25 U	25 U	25 U
	6/24/2003	638.56	4.58	633.98	5 UJ	5 UJ	NA	5 U	17 J	4 J	5 U	5 UJ
	9/24/2003	638.56	5.91	632.65	**35**	9 J	NA	10 U	**240**	8 J	10 U	10 U
	12/3/2003	638.56	4.98	633.58	**65**	17 J	NA	20 U	**550**	11 J	20 U	20 U
	3/30/2004	638.56	4.15	634.41	**12**	**5**	NA	5 U	**130**	3 J	5 U	5 U
	6/16/2004	638.56	3.64	634.92	15 J	25 UJ	NA	25 UJ	**150**	25 U	25 U	25 U
	9/14/2004	638.56	3.71	634.85	11 J	25 U	NA	25 U	**87**	25 U	25 U	25 U
	12/14/2004	638.56	3.97	634.59	11 J	25 U	NA	25 U	**67**	25 U	25 U	25 U
	3/22/2005	638.56	3.55	635.01	50 U	50 U	NA	50 UJ	**87**	50 U	50 U	50 U
	6/7/2005	638.56	4.25	634.31	5 U	5 U	NA	5 U	**8**	1 J	5 U	5 U
	9/13/2005	638.56	5.84	632.72	5 U	5 U	NA	5 U	**11**	2 J	5 U	5 U
	12/20/2005	638.56	4.75	633.81	4 J	25 U	NA	25 U	**48**	25 U	25 U	25 U
	3/25/2006	638.56	4.32	634.24	5 U	5 U	NA	5 U	**8**	1 J	5 U	5 U
	6/22/2006	638.56	4.50	634.06	5 U	5 U	NA	5 U	**9**	1 J	5 U	5 U
	9/14/2006	638.56	3.92	634.64	5 U	5 U	NA	5 U	**13**	2 J	5 U	5 U
	12/7/2006	638.56	3.64	634.92	25 U	25 U	NA	25 U	6 J	25 U	25 U	25 U
	3/22/2007	638.56	3.24	635.32	5 U	5 U	NA	5 U	**10**	1 J	5 U	5 U
	6/14/2007	638.56	4.50	634.06	5 U	5 U	NA	5 U	**10**	1 J	5 U	5 U
	9/12/2007	638.56	5.30	633.26	5 U	5 U	NA	5 U	**14**	2 J	5 U	5 U
	12/19/2007	638.56	3.79	634.77	5 U	5 U	NA	5 U	**16**	1 J	5 U	5 U
	3/26/2008	638.56	2.99	635.57	4 J	20 U	NA	20 U	**31**	2 J	20 U	20 U
	6/18/2008	638.56	3.48	635.08	4 J	20 U	NA	20 U	**16** J	1 J	20 U	20 U
	9/25/2008	638.56	4.29	634.27	**11**	10 U	NA	10 U	**15**	2 J	10 U	10 U
	12/11/2008	638.56	3.61	634.95	**37**	20 U	NA	20 U	**49**	5 J	20 U	20 U
	3/30/2009	638.56	3.05	635.51	**45**	5 U	NA	**9.6**	**160**	4	5 U	5 U
	6/23/2009	638.56	3.58	634.98	**19**	0.98 J	NA	5 U	**39**	3.5 J	5 U	5 U
	9/25/2009	638.56	4.18	634.38	**21** J	25 U	NA	25 U	**21** J	25 U	25 U	25 U
	12/9/2009	638.56	2.71	635.85	**39**	25 U	NA	25 U	**11** J	25 U	25 U	25 U
	3/11/2010	638.56	3.08	635.48	**33**	2	NA	25 U	**38**	25 U	25 U	25 U
	6/17/2010	638.56	3.22	635.34	**32**	25 U	NA	25 U	**8.4** J	25 U	25 U	25 U
	9/23/2010	638.56	3.76	634.80	**27**	0.59 J	NA	5 U	**9.5**	5 U	5 U	5 U
	12/20/2010	638.56	2.98	635.58	**19**	1.2 J	NA	5 U	5 U	0.59 J	5 U	5 U
	3/28/2011	638.56	2.54	636.02	**19**	1.7 J	NA	5 U	1.3 J	0.9 J	5 U	5 U
	6/24/2011	638.56	3.38	635.18	**18**	2.1 J	NA	5 U	5 U	0.82 J	5 U	5 U
	9/20/2011	638.56	4.10	634.46	**21**	2.0 J	NA	20 U	20 U	20 U	2.8 J	20 U

Sustainable Resources Group

Table 5
Historic Groundwater Quality - Select Analytes
Byron Barrel and Drum Site
Byron, NY

Sample Location ID	Date	Top of Casing (ft)	Depth to Water (ft)	Groundwater Elevation (ft)	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	Methylene Chloride	1,1,1-Trichloroethane	Trichloroethene	Toluene	Vinyl Chloride
		Groundwater Cleanup Levels (µg/L):			5	5	NA	5	5	5	5	2
MW-10B	3/21/2002	644.44	9.43	635.01	5 U	5 U	NA	5 U	**42**	5 U	5 U	5 U
	6/12/2002	644.44	9.12	635.32	5 U	5 U	NA	5 U	**11**	5 U	5 U	5 U
	9/18/2002	644.44	11.05	633.39	5 U	5 UJ	NA	5 UJ	**7**	5 U	5 U	5 U
	12/18/2002	644.44	10.20	634.24	5 U	5 U	NA	5 U	**52**	5 U	5 U	5 U
	4/30/2003	644.44	9.28	635.16	5 U	5 U	NA	5 U	**8**	5 U	5 U	5 U
	6/23/2003	644.44	9.39	635.05	5 U	5 U	NA	5 U	3 J	5 U	5 U	5 U
	9/24/2003	644.44	10.93	633.51	5 U	5 U	NA	5 U	**7**	5 U	5 U	5 U
	3/30/2004	644.44	8.99	635.45	5 U	5 U	NA	5 U	**17**	5 U	5 U	5 U
	9/14/2004	644.44	8.76	635.68	5 U	5 U	NA	5 U	**14**	5 U	5 U	5 U
	3/22/2005	644.44	8.69	635.75	5 U	5 U	NA	5 U	**11**	5 U	5 U	5 U
	9/13/2005	644.44	10.84	633.60	5 U	5 U	NA	5 U	**5**	5 U	5 U	5 U
	3/25/2006	644.44	9.28	635.16	5 U	5 U	NA	5 U	**6**	5 U	5 U	5 U
	9/14/2006	644.44	9.82	634.62	5 U	5 U	NA	5 U	**6**	5 U	5 U	5 U
	3/22/2007	644.44	8.44	636.00	5 U	5 U	NA	5 U	**6**	5 U	5 U	5 U
	9/12/2007	644.44	10.98	633.46	5 U	5 U	NA	5 U	1 J	5 U	5 U	5 U
	12/19/2007	644.44	9.54	634.90	64 J	120 U	NA	31 J	**1300**	120 U	120 U	120 U
	3/26/2008	644.44	8.68	635.76	5 U	5 U	NA	5 U	**8**	5 U	5 U	5 U
	6/18/2008	644.44	9.19	635.25	0.4 J	5 U	NA	5 U	**5**	5 U	5 U	5 U
	9/25/2008	644.44	9.81	634.63	5 U	5 U	NA	5 U	1 J	5 U	5 U	5 U
	12/11/2008	644.44	9.34	635.10	0.8 J	5 U	NA	5 U	2 J	5 U	5 U	5 U
	3/30/2009	644.44	8.79	635.65	5 U	5 U	NA	**8.8**	4.1	5 U	5 U	5 U
	6/23/2009	644.44	9.08	635.36	0.53 J	5 U	NA	5 U	0.91 J	0.97 J	5 U	5 U
	9/25/2009	644.44	9.98	634.46	25 U	25 U	NA	25 U	25 U	25 U	25 U	25 U
	12/9/2009	644.44	9.28	635.16	**33**	25 U	NA	**10** J	25 U	25 U	25 U	25 U
	3/11/2010	644.44	8.88	635.56	**6.6**	5 U	NA	**1.6** J	5 U	5 U	5 U	5 U
	6/17/2010	644.44	8.97	635.47	**1.3** J	5 U	NA	5 U	5 U	5 U	5 U	5 U
	9/23/2010	644.44	9.53	634.91	**9.6**	5 U	NA	5 U	5 U	5 U	5 U	5 U
	12/20/2010	644.44	8.71	635.73	**62**	3 J	NA	0.9 J	**37**	0.93 J	5 U	5 U
	3/28/2011	644.44	8.17	636.27	**7.6**	1.1 J	NA	5 U	2.8 J	0.52 J	5 U	5 U
	6/24/2011	644.44	9.02	635.42	0.48 J	5 U	NA	5 U	5 U	5 U	5 U	5 U
	9/20/2011	644.44	9.89	634.55	10 J	20 U	NA	20 U	20 U	20 U	2.5 J	20 U

Table 5
Historic Groundwater Quality - Select Analytes
Byron Barrel and Drum Site
Byron, NY

Sample Location ID	Date	Top of Casing (ft)	Depth to Water (ft)	Groundwater Elevation (ft)	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	Methylene Chloride	1,1,1-Trichloroethane	Trichloroethene	Toluene	Vinyl Chloride
		Groundwater Cleanup Levels (µg/L):			5	5	NA	5	5	5	5	2
MW-21	3/26/1999	NA	NA	NA	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U
	3/21/2002	642.52	7.70	634.82	25 U	25 U	NA	25 U	25 U	25 U	25 U	25 U
	6/12/2002	642.52	7.69	634.83	25 U	25 U	NA	25 U	25 U	25 U	**5 BJ**	25 U
	9/17/2002	642.52	9.50	633.02	5 U	5 UJ	NA	5 UJ	5 U	5 U	5 U	5 U
	12/17/2002	642.52	8.23	634.29	5 U	5 UJ	NA	5 U	5 UJ	5 U	5 U	5 U
	4/30/2003	642.52	7.91	634.61	25 U	25 U	NA	25 U	25 U	25 U	25 U	25 U
	3/30/2004	642.52	7.56	634.96	5 UJ	5 UJ	NA	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
	3/22/2005	642.52	7.42	635.10	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
	3/25/2006	642.52	7.78	634.74	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
	3/22/2007	642.52	7.38	635.14	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
	12/19/2007	642.52	7.81	634.71	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
	3/26/2008	642.52	7.34	635.18	20 U	20 U	NA	20 U	20 U	20 U	20 U	20 U
	3/30/2009	642.52	7.74	634.78	5 U	5 U	NA	**9.8**	5 U	5 U	5 U	5 U
	3/11/2010	642.52	7.52	635.00	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U
	3/28/2011	642.52	7.32	635.20	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U
MW-Residential	3/21/2002	650.78	15.79	634.99	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U
	6/12/2002	650.78	15.62	635.16	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U
	9/17/2002	650.78	17.50	633.28	5 U	5 UJ	NA	5 UJ	5 U	5 U	5 U	5 U
	12/17/2002	650.78	16.52	634.26	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U
	4/30/2003	650.78	17.74	633.04	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U
	3/30/2004	650.78	15.47	635.31	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U
	3/22/2005	650.78	15.24	635.54	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U
	3/25/2006	650.78	15.75	635.03	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U
	3/22/2007	650.78	15.09	635.69	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U
	3/26/2008	650.78	15.25	635.53	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U
	3/30/2009	650.78	15.28	635.50	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U
	3/11/2010	650.78	15.44	635.34	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U
	3/28/2011	650.78	14.80	635.98	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U

Table 5
Historic Groundwater Quality - Select Analytes
Byron Barrel and Drum Site
Byron, NY

Sample Location ID	Date	Top of Casing (ft)	Depth to Water (ft)	Groundwater Elevation (ft)	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	Methylene Chloride	1,1,1-Trichloroethane	Trichloroethene	Toluene	Vinyl Chloride
		Groundwater Cleanup Levels (µg/L):			5	5	NA	5	5	5	5	2
PW-1	3/20/2002	642.82	NM	NM	**11**	**5**	5 U	5 U	**320**	3 J	5 U	5 U
	6/12/2002	642.82	NM	NM	**18**	3 J	5 U	5 U	**380**	2 J	5 U	5 U
	9/18/2002	642.82	NM	NM	**12**	2 J	5 U	5 UJ	**270**	2 J	5 U	5 U
	12/18/2002	642.82	18.43	624.39	**8**	**5**	5 U	5 U	**160**	2 J	5 U	5 U
	4/30/2003	642.82	20.96	621.86	**11**	2 J	5 U	5 U	**180**	2 J	5 U	5 U
	6/23/2003	642.82	22.41	620.41	**12**	2 J	5 U	5 U	**190**	2 J	5 U	5 U
	9/24/2003	642.82	22.59	620.23	**8**	5 U	5 U	5 U	**120**	5 U	5 U	5 U
	12/3/2003	642.82	21.74	621.08	**8**	2 J	5 U	5 U	**150**	2 J	5 U	5 U
	3/30/2004	642.82	21.80	621.02	**6**	2 J	5 U	5 U	**150**	5 U	5 U	5 U
	6/16/2004	642.82	19.08	623.74	**13**	3 J	5 U	5 UJ	**380**	2 J	5 U	5 U
	9/14/2004	642.82	20.62	622.20	**10**	2 J	5 U	5 U	**210**	5 U	5 U	5 U
	12/14/2004	642.82	21.23	621.59	**6**	2 J	5 U	5 U	**140**	5 U	5 U	5 U
	3/22/2005	642.82	22.65	620.17	**15**	**23**	5 U	5 U	**200 J**	2 J	5 U	5 U
	6/7/2005	642.82	21.50	621.32	**10**	2 J	10 U	2 U	**59**	1 J	10 U	10 U
	9/13/2005	642.82	21.73	621.09	3 J	0.9 J	5 U	5 U	**73**	0.5 J	5 U	5 U
	12/19/2005	642.82	20.98	621.84	**9**	2 J	5 U	5 U	**140**	2 J	5 U	5 U
	3/26/2006	642.82	21.44	621.38	4 J	0.9 J	5 U	5 U	**76**	0.6 J	5 U	5 U
	6/22/2006	642.82	21.28	621.54	4 J	1 J	5 U	5 U	**77**	0.8 J	5 U	5 U
	9/14/2006	642.82	8.23	634.59	**9** DJ	25 U	25 U	25 U	**230**	25 U	25 U	25 U
	12/7/2006	642.82	20.82	622.00	**6** J	2 J	10 U	10 U	**160**	1 J	10 U	10 U
	3/22/2007	642.82	14.50	628.32	**6** J	2 J	10 U	10 U	**170**	1 J	10 U	10 U
	6/14/2007	642.82	13.43	629.39	**9** J	2 J	10 U	10 U	**280**	2 J	10 U	10 U
	9/12/2007	642.82	9.43	633.39	**5** J	10 U	10 U	10 U	**130**	10 U	10 U	10 U
	12/21/2007	642.82	7.95	634.87	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U
	3/26/2008	642.82	7.11	635.71	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
	6/18/2008	642.82	7.19	635.63	**7**	100 U	100 U	100 U	**7**	100 U	100 U	100 U
	9/25/2008	642.82	8.39	634.43	**12**	5 U	5 U	5 U	3 J	0.6 J	2 J	5 U
	12/11/2008	642.82	7.91	634.91	**32**	5 U	5 U	2 J	2 J	1 J	0.8 J	5 U
	3/30/2009	642.82	7.40	635.42	**10**	5 U	5 U	**16**	5 U	5 U	5 U	5 U
	6/23/2009	642.82	8.73	634.09	**6.8**	5 U	5 U	5 U	5 U	1.2 J	0.81 J	5 U
	9/25/2009	642.82	9.29	633.53	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
	12/9/2009	642.82	9.15	633.67	50 U	50 U	50 U	50 U	50 U	50 U	**44** J	50 U
	3/11/2010	642.82	8.32	634.50	50 U	50 U	50 U	50 U	50 U	50 U	**16** J	50 U
	6/17/2010	642.82	8.63	634.19	100 U	100 U	100 U	100 U	100 U	100 U	**16** J	100 U
	9/23/2010	642.82	8.07	634.75	**16** J	50 U	50 U	50 U	50 U	50 U	**11** J	50 U
	12/20/2010	642.82	7.26	635.56	**23** J	50 U	50 U	50 U	50 U	50 U	**5.3** J	50 U
	3/28/2011	642.82	6.79	636.03	**24** J	25 U	25 U	25 U	25 U	25 U	3.1 J	25 U
	6/24/2011	642.82	8.50	634.32	**13** J	25 U	25 U	2.6 J	25 U	25 U	2.6 J	25 U
	9/20/2011	642.82	8.49	634.33	**9.4** J	20 U	20 U	2.2 J	20 U	20 U	4.7 J	20 U

Sustainable Resources Group

Table 5
Historic Groundwater Quality - Select Analytes
Byron Barrel and Drum Site
Byron, NY

Sample Location ID	Date	Top of Casing (ft)	Depth to Water (ft)	Groundwater Elevation (ft)	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	Methylene Chloride	1,1,1-Trichloroethane	Trichloroethene	Toluene	Vinyl Chloride
		Groundwater Cleanup Levels (µg/L):			5	5	NA	5	5	5	5	2
PW-2	3/20/2002	641.34	NM	NM	**24**	**13**	5 U	5 U	**720**	2 J	5 U	5 U
	6/12/2002	641.34	NM	NM	**18**	**10**	5 U	5 U	**370**	2 J	5 U	5 U
	9/18/2002	641.34	NM	NM	**5**	4 J	5 U	5 UJ	**160**	5 U	5 U	5 U
	12/18/2002	641.34	17.68	623.66	**12**	**14**	10 U	10 U	**280**	10 U	10 U	10 U
	4/30/2003	641.34	16.82	624.52	**11**	**6**	5 U	5 U	**200**	2 J	5 U	5 U
	6/23/2003	641.34	19.41	621.93	**8**	**5**	5 U	5 U	**180**	5 U	5 U	5 U
	9/24/2003	641.34	17.45	623.89	**6**	2 J	5 U	5 U	**120**	5 U	5 U	5 U
	12/3/2003	641.34	18.78	622.56	**6**	3 J	5 U	5 U	**160**	5 U	5 U	5 U
	3/30/2004	641.34	19.24	622.10	4 J	3 J	5 U	5 U	**140**	5 U	5 U	5 U
	6/16/2004	641.34	18.58	622.76	**5**	5 U	5 U	5 UJ	**120**	5 U	5 U	5 U
	9/14/2004	641.34	18.25	623.09	**5**	4 J	5 U	5 U	**160**	5 U	5 U	5 U
	12/14/2004	641.34	17.63	623.71	**8**	**5**	5 U	5 U	**160**	2 J	5 U	5 U
	3/22/2005	641.34	19.33	622.01	**5**	**11**	5 U	5 U	**140**	5 U	5 U	5 U
	6/7/2005	641.34	19.40	621.94	3 J	2 J	5 U	5 U	**70**	1 J	5 U	5 U
	9/13/2005	641.34	19.52	621.82	3 J	3 J	5 U	5 U	**94 J**	2 J	5 U	5 U
	12/19/2005	641.34	17.35	623.99	1 J	5 U	5 U	5 U	**30**	0.5 J	5 U	5 U
	3/26/2006	641.34	17.22	624.12	**5**	1 J	5 U	5 U	**54**	0.8 J	5 U	5 U
	6/22/2006	641.34	18.59	622.75	4 J	2 J	10 U	10 BL	**170**	1 J	10 U	10 U
	9/14/2006	641.34	6.75	634.59	3 DJ	1 DJ	10 U	10 U	**92**	1 DJ	10 U	10 U
	12/7/2006	641.34	6.11	635.23	**9** DJ	3 DJ	10 U	10 U	**230**	2 J	10 U	10 U
	3/22/2007	641.34	4.19	637.15	**8** J	4 J	10 U	10 U	**90**	1 J	10 U	10 U
	6/14/2007	641.34	4.72	636.62	**8** J	2 J	20 U	20 U	**270**	20 U	20 U	20 U
	9/12/2007	641.34	7.97	633.37	**5** J	1 J	10 U	10 U	**140**	10 U	10 U	10 U
	12/21/2007	641.34	6.31	635.03	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
	3/26/2008	641.34	4.19	637.15	250 U	250 U	250 U	250 U	**30** J	250 U	**29** J	250 U
	6/18/2008	641.34	4.24	637.10	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U
	9/25/2008	641.34	6.92	634.42	**14**	5 U	5 U	5 U	5 U	0.7 J	3 J	5 U
	12/11/2008	641.34	7.39	633.95	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
	3/30/2009	641.34	5.78	635.56	5 U	5 U	5 U	**16**	5 U	5 U	5 U	5 U
	6/23/2009	641.34	7.52	633.82	0.41 J	5 U	5 U	**5** U	5 U	1.3 J	1.3 J	5 U
	9/25/2009	641.34	7.86	633.48	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
	12/9/2009	641.34	5.78	635.56	50 U	50 U	50 U	50 U	50 U	50 U	**19** J	50 U
	3/11/2010	641.34	5.28	636.06	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
	6/17/2010	641.34	6.22	635.12	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
	9/23/2010	641.34	6.50	634.84	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
	12/20/2010	641.34	5.58	635.76	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
	3/28/2011	641.34	5.21	636.13	**6.0** J	25 U	25 U	25 U	25 U	25 U	25 U	25 U
	6/24/2011	641.34	6.23	635.11	**6.2** J	5 U	5 U	2.6 J	5 U	5 U	2.6 J	5 U
	9/20/2011	641.34	6.88	634.46	**9.8** J	20 U	20 U	20 U	20 U	20 U	9.8 J	20 U

Sustainable Resources Group

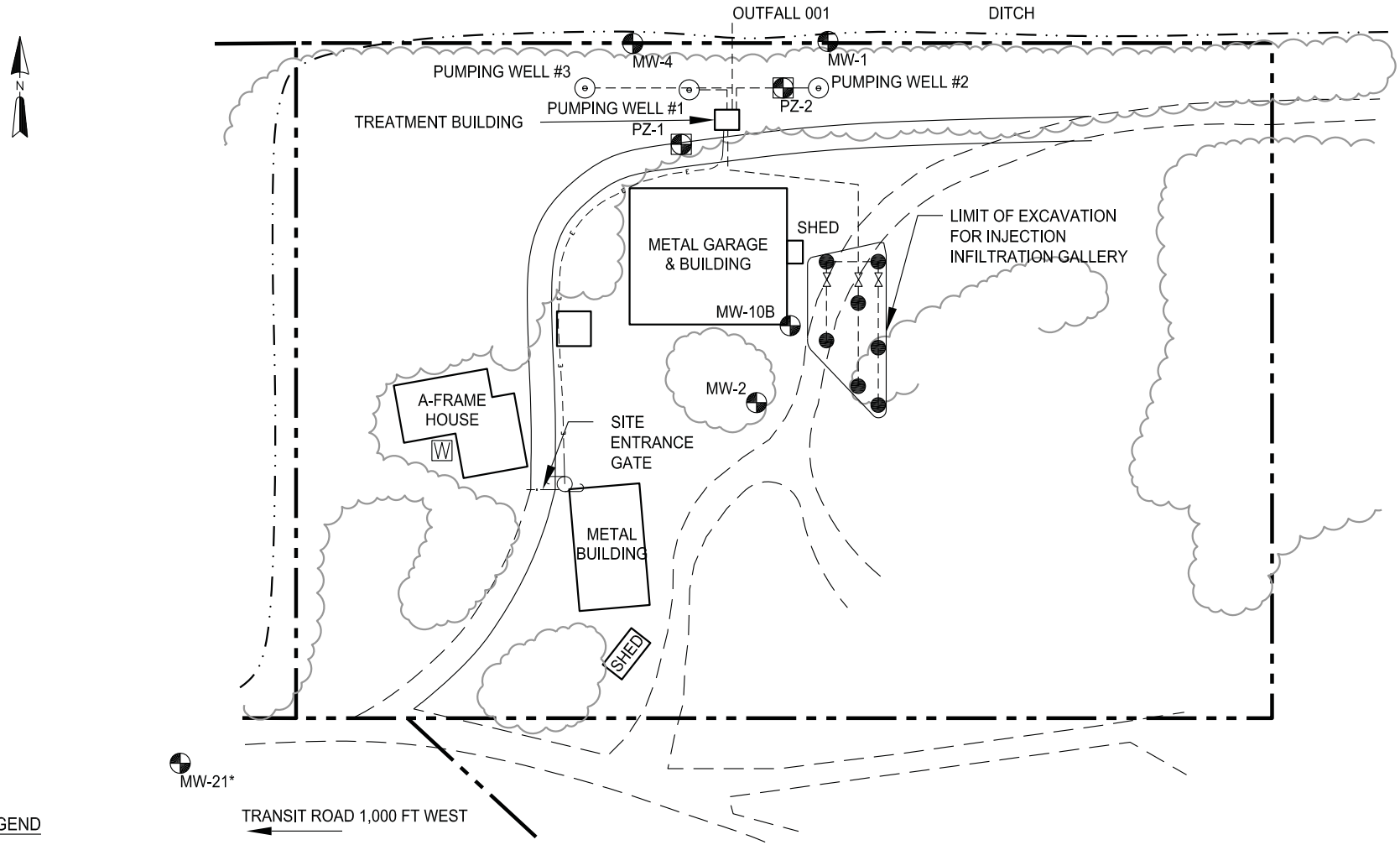
Table 5
Historic Groundwater Quality - Select Analytes
Byron Barrel and Drum Site
Byron, NY

Sample Location ID	Date	Top of Casing (ft)	Depth to Water (ft)	Groundwater Elevation (ft)	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	Methylene Chloride	1,1,1-Trichloroethane	Trichloroethene	Toluene	Vinyl Chloride
		Groundwater Cleanup Levels (µg/L):			5	5	NA	5	5	5	5	2
PW-3	3/20/2002	641.11	NM	NM	5 U	5 U	5 U	5 U	**8**	1 J	5 U	5 U
	6/12/2002	641.11	NM	NM	5 U	5 U	5 U	5 U	**6**	5 U	5 U	5 U
	9/18/2002	641.11	NM	NM	5 U	5 UJ	5 U	5 UJ	4 J	5 U	5 U	5 U
	12/18/2002	641.11	19.90	621.21	5 U	5 U	5 U	5 U	4 J	5 U	5 U	5 U
	4/30/2003	641.11	19.46	621.65	5 U	5 U	5 U	5 U	3 J	5 U	5 U	5 U
	6/23/2003	641.11	18.55	622.56	5 U	5 U	5 U	5 U	3 J	5 U	5 U	5 U
	9/24/2003	641.11	20.97	620.14	5 U	5 U	5 U	5 U	2 J	5 U	5 U	5 U
	12/3/2003	641.11	20.28	620.83	5 U	5 U	5 U	5 U	3 J	5 U	5 U	5 U
	3/30/2004	641.11	20.52	620.59	5 U	5 U	5 U	5 U	2 J	5 U	5 U	5 U
	6/16/2004	641.11	19.65	621.46	5 U	5 U	5 U	5 UJ	2 J	5 U	5 U	5 U
	9/14/2004	641.11	20.91	620.20	5 U	5 U	5 U	5 U	2 J	5 U	5 U	5 U
	12/14/2004	641.11	18.33	622.78	5 U	5 U	5 U	5 U	2 J	5 U	5 U	5 U
	3/22/2005	641.11	22.17	618.94	5 U	5 U	5 U	5 U	2 J	5 U	5 U	5 U
	6/7/2005	641.11	20.30	620.81	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
	9/13/2005	641.11	21.52	619.59	5 U	5 U	5 U	5 U	1 J	5 U	5 U	5 U
	12/19/2005	641.11	20.36	620.75	5 U	5 U	5 U	5 U	1 J	5 U	5 U	5 U
	3/26/2006	641.11	22.31	618.80	5 U	5 U	5 U	5 U	1 J	5 U	5 U	5 U
	6/22/2006	641.11	20.72	620.39	5 U	5 U	5 U	5 U	1 J	5 U	5 U	5 U
	9/14/2006	641.11	6.53	634.58	5 U	5 U	5 U	5 U	2 J	5 U	5 U	5 U
	12/7/2006	641.11	7.81	633.30	**6** DJ	2 DJ	5 U	5 U	**170**	1 J	5 U	5 U
	3/22/2007	641.11	5.45	635.66	**7**	4 J	5 U	5 U	**210**	1 J	5 U	5 U
	6/14/2007	641.11	5.18	635.93	**9** J	3 J	20 U	20 U	**260**	20 U	20 U	20 U
	9/12/2007	641.11	7.73	633.38	**4** J	1 J	10	10	**130**	10 U	10 U	10 U
	12/21/2007	641.11	6.23	634.88	NA	NA	NA	NA	NA	NA	NA	NA
	4/10/2008	641.11	5.48	635.63	0.9 J	5 U	5 U	5 U	**24**	5 U	5 U	5 U
	6/18/2008	641.11	5.53	635.58	0.6 J	5 U	5 U	5 U	**24**	5 U	5 U	5 U
	9/25/2008	641.11	6.62	634.49	5 U	5 U	5 U	5 U	**22**	5 U	5 U	5 U
	12/11/2008	641.11	6.04	635.07	5 U	5 U	5 U	5 U	**14**	5 U	5 U	5 U
	3/30/2009	641.11	5.64	635.47	5 U	5 U	5 U	5 U	**18**	5 U	5 U	5 U
	6/23/2009	641.11	7.07	634.04	0.41 J	5 U	5 U	5 U	**16**	0.77 J	5 U	5 U
	9/25/2009	641.11	6.80	634.31	5 U	5 U	5	5 U	**9**	5 U	5 U	5 U
	12/9/2009	641.11	5.99	635.12	50 U	50 U	50 U	**16** J	**7.2** J	50 U	50 U	50 U
	3/11/2010	641.11	5.83	635.28	50 U	50 U	50 U	**6.6** J	**5.1** J	50 U	50 U	50 U
	6/17/2010	641.11	5.83	635.28	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
	9/23/2010	641.11	6.23	634.88	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
	12/20/2010	641.11	5.49	635.62	20 J	100 U	100 U	13 J	100 U	100 U	100 U	100 U
	3/28/2011	641.11	5.00	636.11	25 U	25 U	25 U	3.7 J	25 U	25 U	25 U	25 U
	6/24/2011	641.11	5.94	635.17	0.64 J	5 U	5 U	0.78 J	5 U	5 U	5 U	5 U
	9/20/2011	641.11	6.44	634.67	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U

Notes: All concentrations in micrograms per liter (µg/L)
Exceedences of the groundwater cleanup standard are indicated in bold.
NM = Not Measured
NA = Not Available

Sustainable Resources Group

FIGURES



LEGEND

- MONITORING WELL
- FORMER RESIDENTIAL WELL
- PIEZOMETER WELL
- INJECTION GALLERY PIEZOMETER WELL
- INJECTION GALLERY VALVE
- PUMPING WELL
- UTILITY POLE
- PROPERTY LINE
- FENCE
- TREELINE
- NEW GRAVEL ROAD
- PRE-EXISTING GRAVEL ROAD
- DITCH
- ELECTRIC & PHONE LINE
- REINJECTION PIPIING

*NOTE: MW-21 IS 200 FEET WEST OF PROPERTY LINE

SOURCE: ERM C&O SERVICES

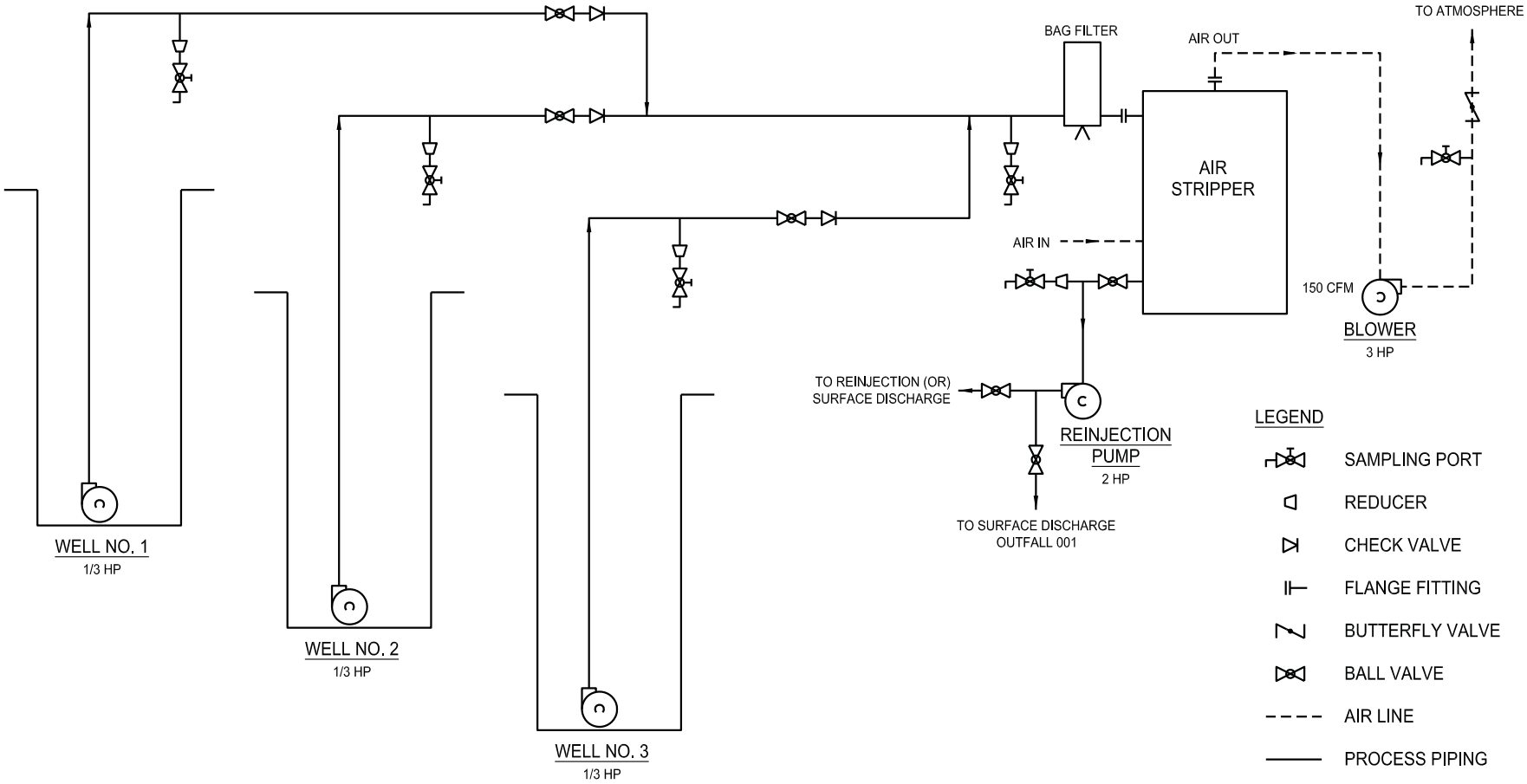
SITE PLAN

BYRON BARREL AND DRUM
AREA 2 SITE
BYRON, NY

Sustainable Resources Group, Inc.
440 Creamery Way, Suite 150, Exton, PA 19341

SCALE IN FEET	DATE	FIGURE
0 — 80	07-25-06	1

C:\Documents and Settings\All Users\Documents\CADD\ECOR\Byron\Byron Site Plan.dwg



SOURCE: ERM C&D SERVICES

GROUND WATER TREATMENT SYSTEM FLOW DIAGRAM

BYRON BARREL AND DRUM
AREA 2 SITE
BYRON, NY

Sustainable Resources Group, Inc.
440 Creamery Way, Suite 150, Exton, PA 19341

SCALE IN FEET	DATE	FIGURE
0 80	09-02-05	2

C:\Documents and Settings\All Users\Documents\CADD\ECO\R\Byron\Byron flow.dwg

Figure 3
Influent VOC Concentration vs. Time
July 2001 to Present
Byron Barrel and Drum Site
Byron, NY

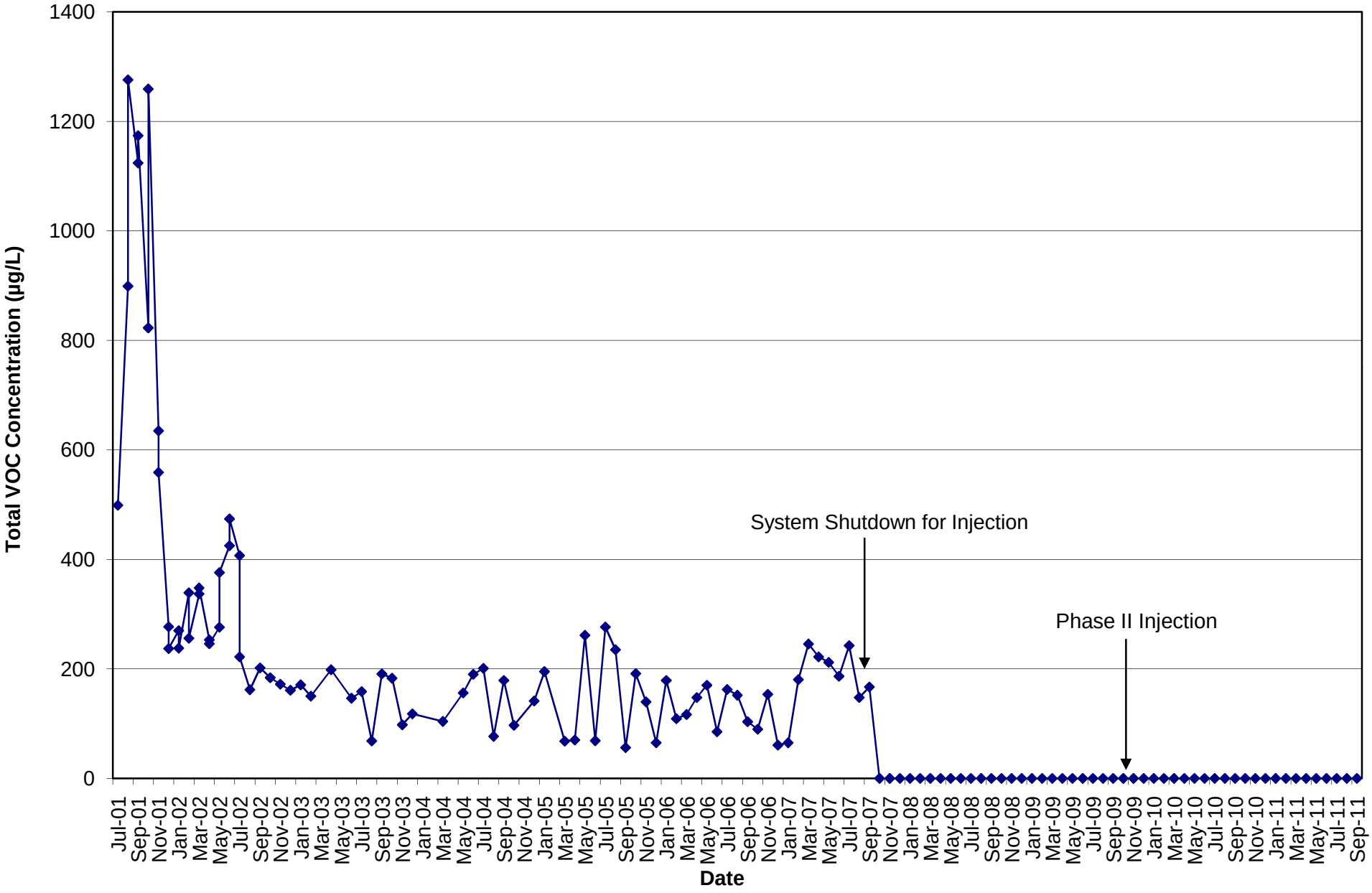
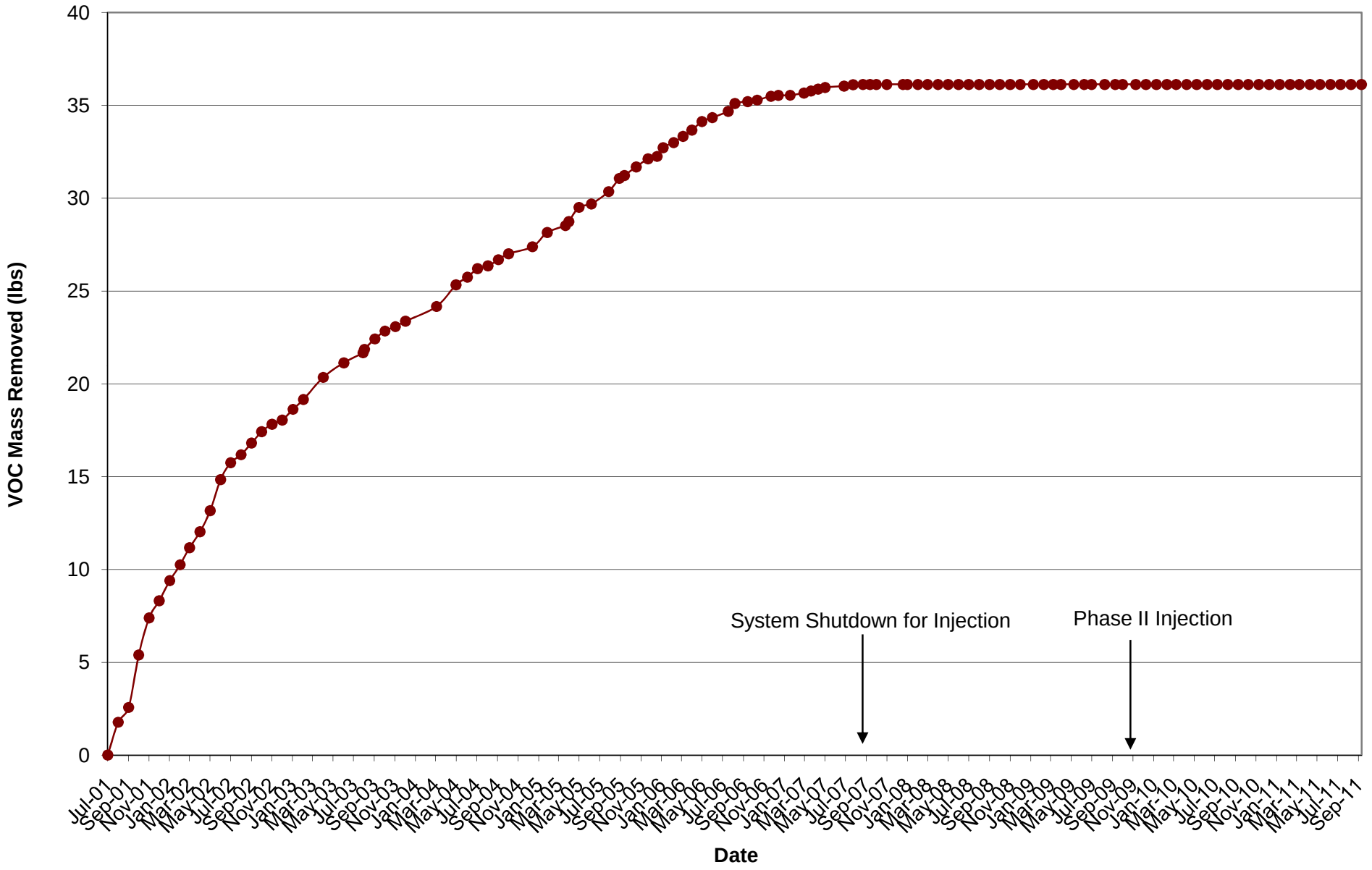
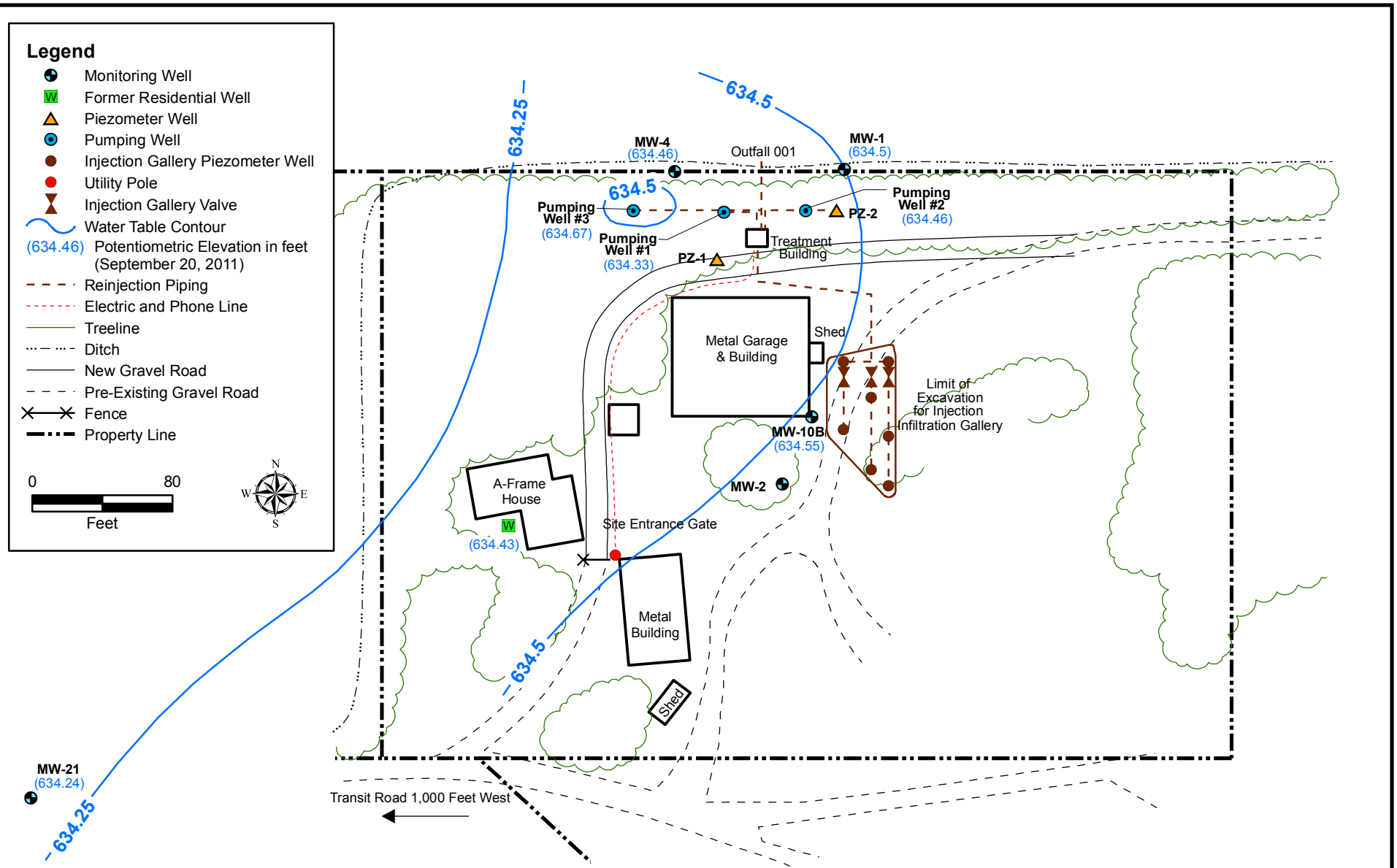


Figure 4
Cumulative VOC Mass Removed
July 2001 to Present
Byron Barrel and Drum Site
Byron, NY





Sustainable Resources Group

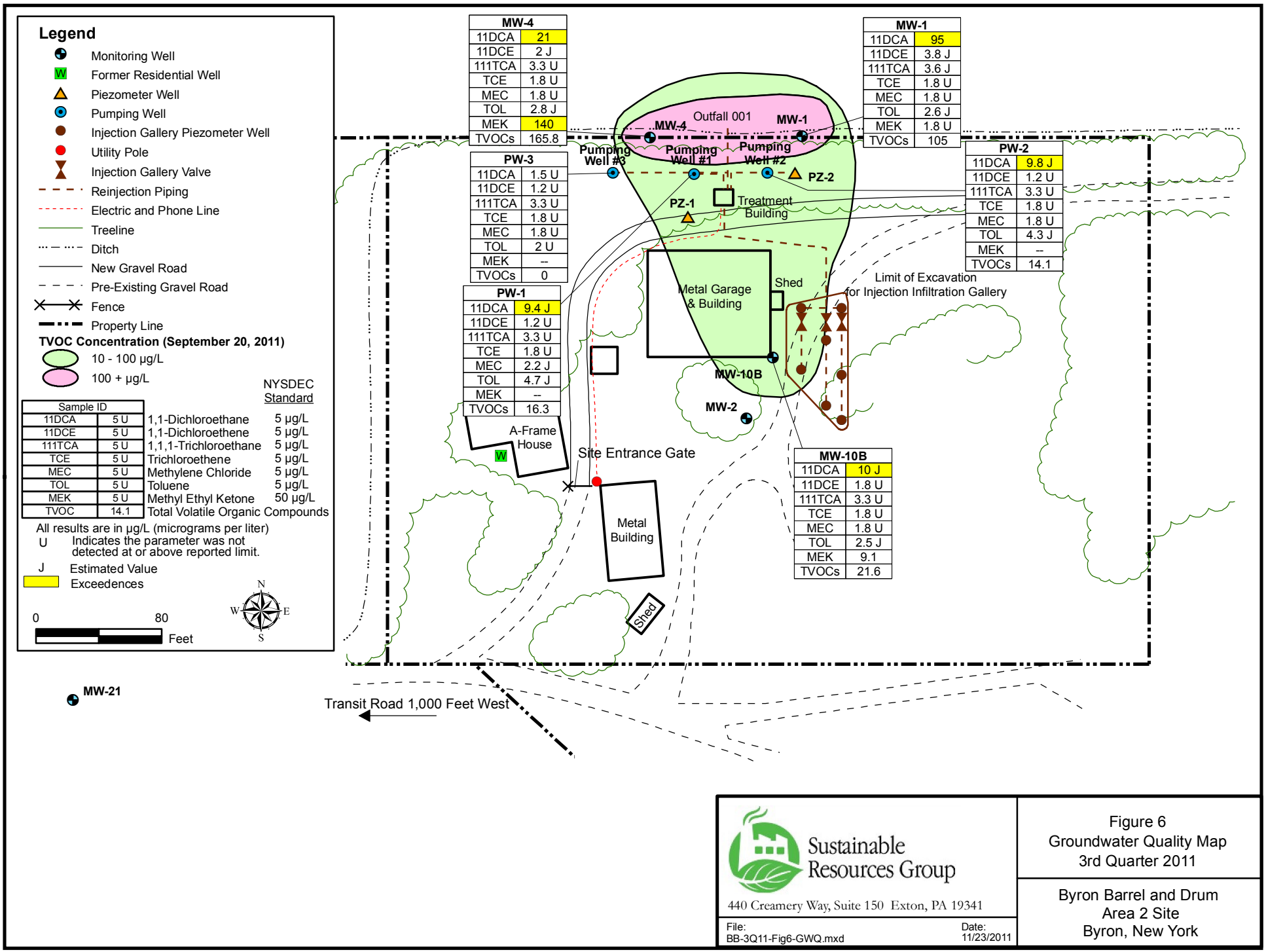
440 Creamery Way, Suite 150 Exton, PA 19341

File: BB-3Q11-Fig5-GWE.mxd

Date: 11/10/2011

Figure 5
Potentiometric Elevations
3rd Quarter 2011

Byron Barrel and Drum
Area 2 Site
Byron, New York

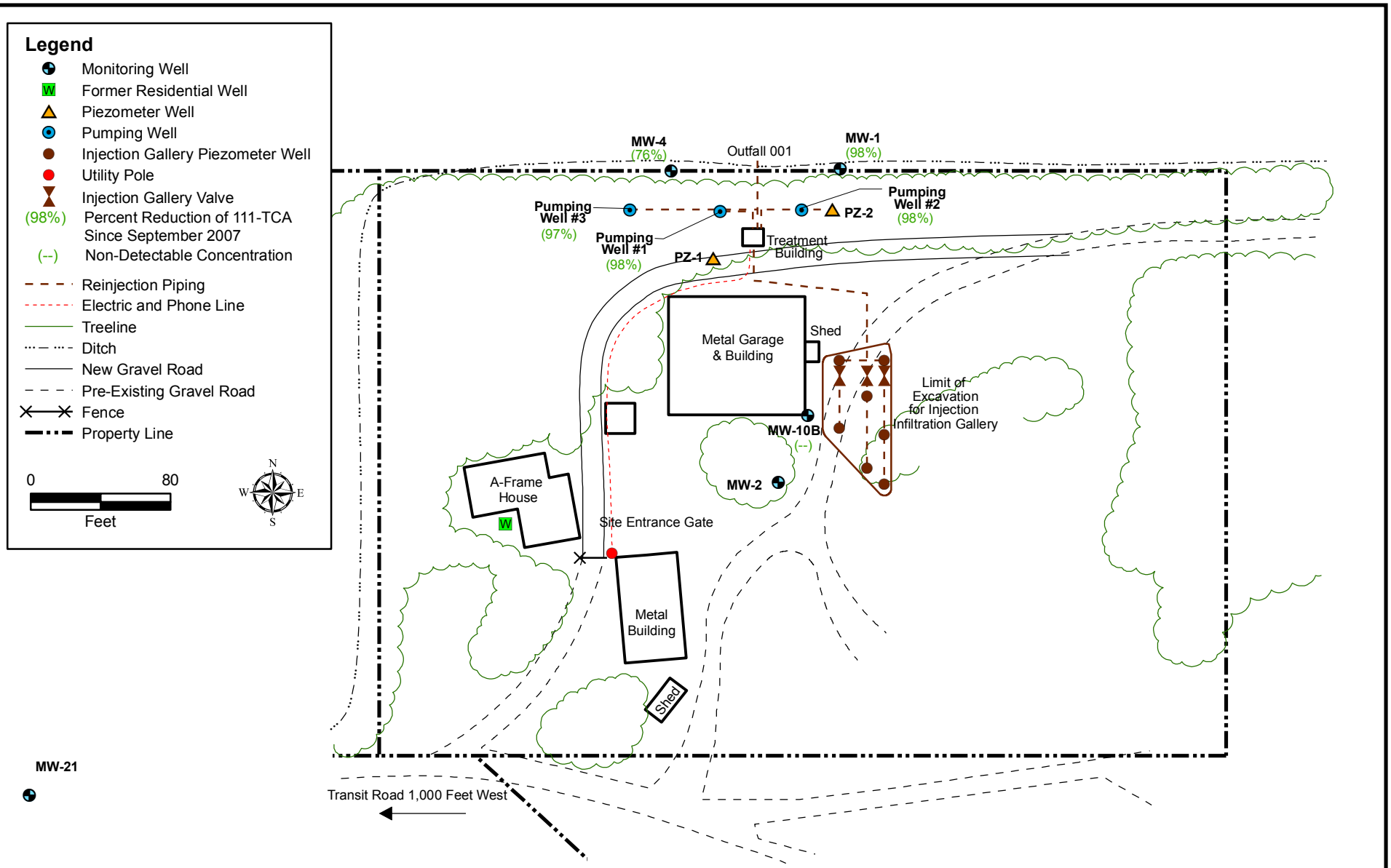


Sustainable Resources Group
440 Creamery Way, Suite 150 Exton, PA 19341

File: BB-3Q11-Fig6-GWQ.mxd
Date: 11/23/2011

Figure 6
Groundwater Quality Map
3rd Quarter 2011

Byron Barrel and Drum
Area 2 Site
Byron, New York

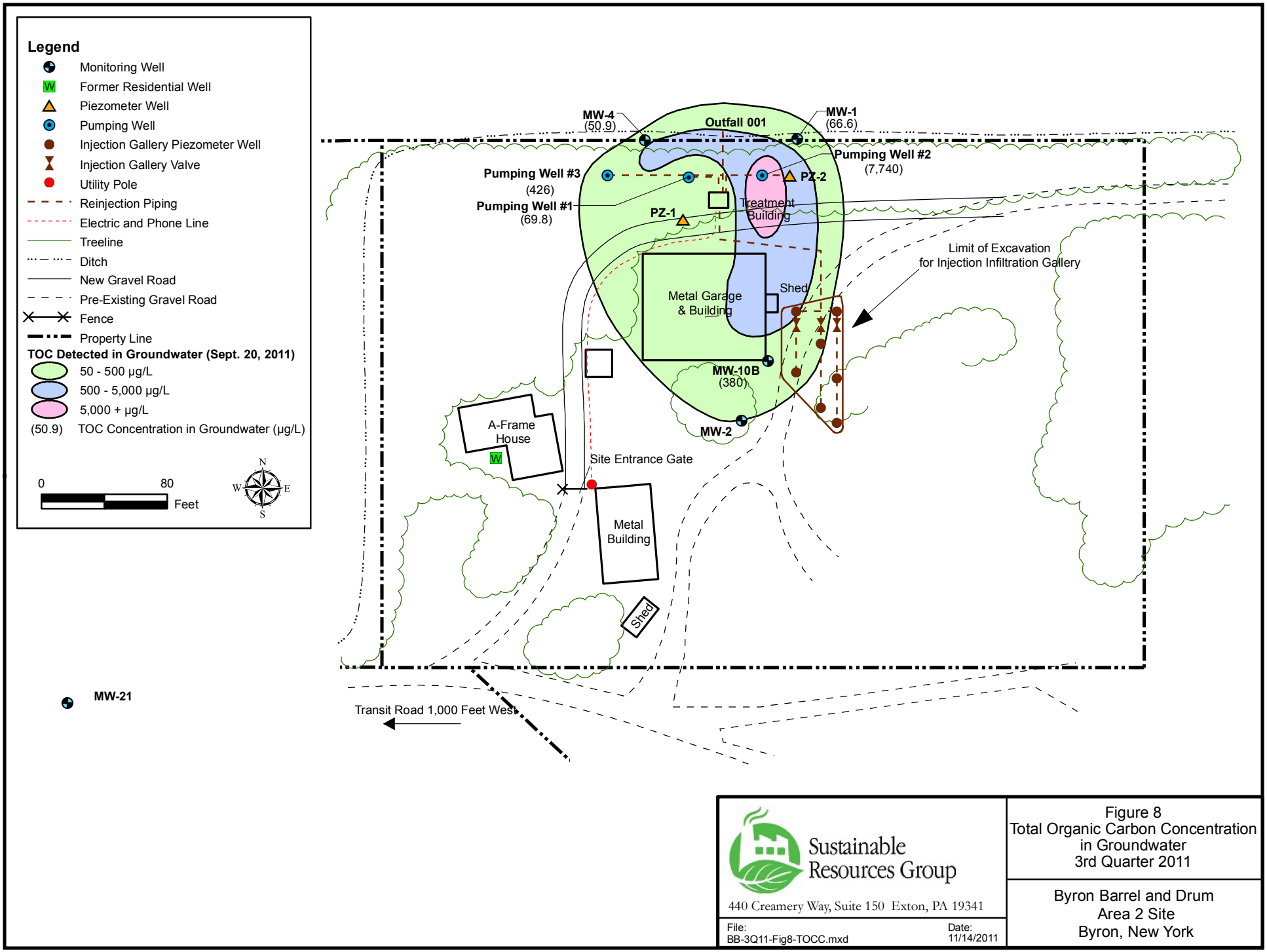


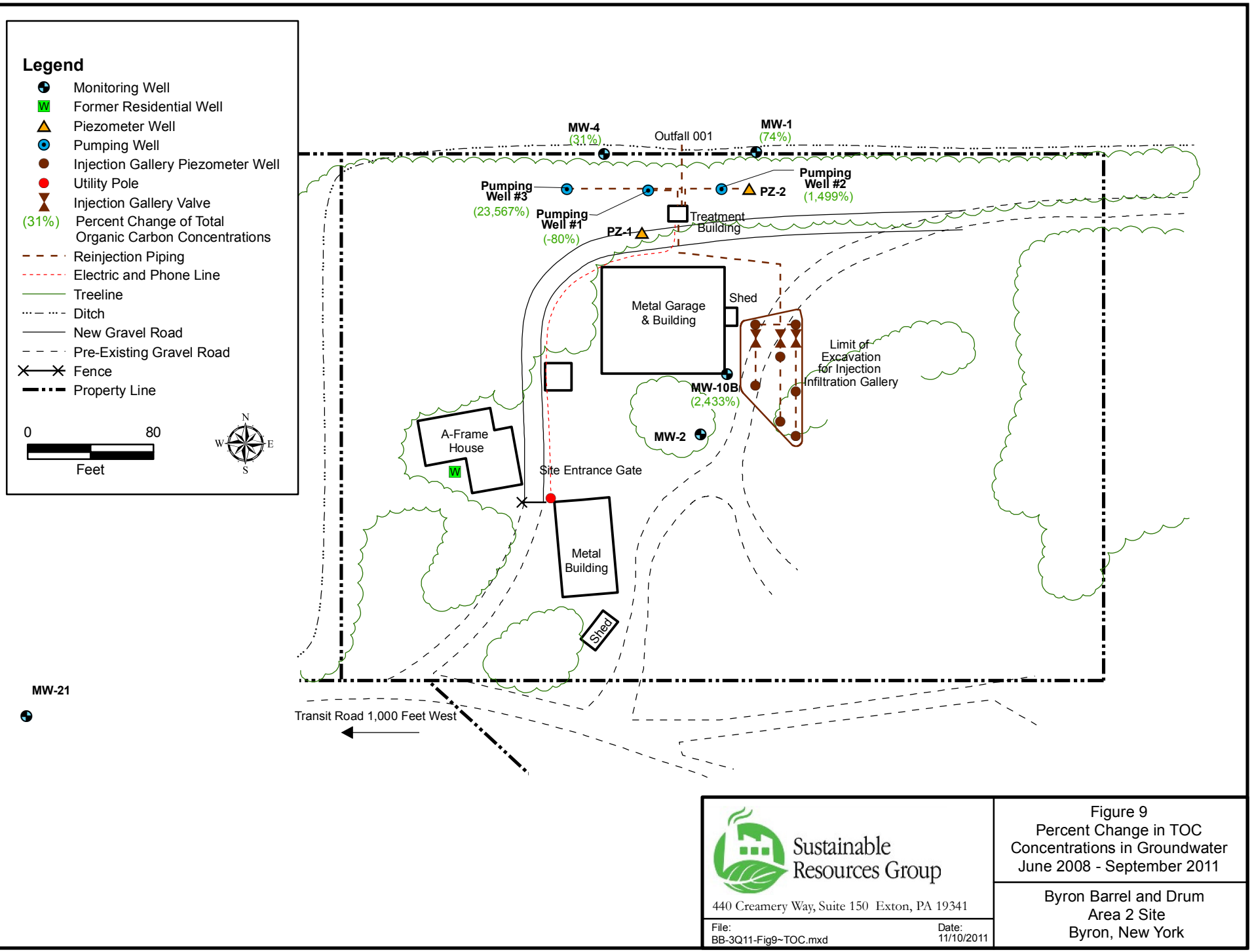
Sustainable Resources Group
440 Creamery Way, Suite 150 Exton, PA 19341

File: BB-3Q11-Fig7-111TCA-reduction.mxd
Date: 11/10/2011

Figure 7
Reduction in 1,1,1-Trichloroethane Concentrations Since Pre-Injection (September 2007) Sampling

Byron Barrel and Drum
Area 2 Site
Byron, New York


Legend
Monitoring Well
Former Residential Well
Piezometer Well
Pumping Well
Injection Gallery Piezometer Well
Injection Gallery Valve
Utility Pole
Reinjection Piping
Electric and Phone Line
Treeline
Ditch
New Gravel Road
Pre-Existing Gravel Road
Fence
Property Line
TOC Detected in Groundwater (Sept. 20, 2011)
50 - 500 µg/L
500 - 5,000 µg/L
5,000 + µg/L
(50.9) TOC Concentration in Groundwater (µg/L)
0
80
Feet
N
W
E
S
MW-21
MW-4
(50.9)
Outfall 001
MW-1
(66.6)
Pumping Well #2
(7,740)
Pumping Well #3
(426)
Pumping Well #1
(69.8)
PZ-1
PZ-2
Treatment Building
Limit of Excavation
for Injection Infiltration Gallery
Metal Garage
& Building
Shed
MW-10B
(380)
MW-2
A-Frame
House
W
Site Entrance Gate
Metal
Building
Shed
Transit Road 1,000 Feet West
Sustainable
Resources Group
440 Creamery Way, Suite 150 Exton, PA 19341
File:
BB-3Q11-Fig8-TOCC.mxd
Date:
11/14/2011
Figure 8
Total Organic Carbon Concentration
in Groundwater
3rd Quarter 2011
Byron Barrel and Drum
Area 2 Site
Byron, New York

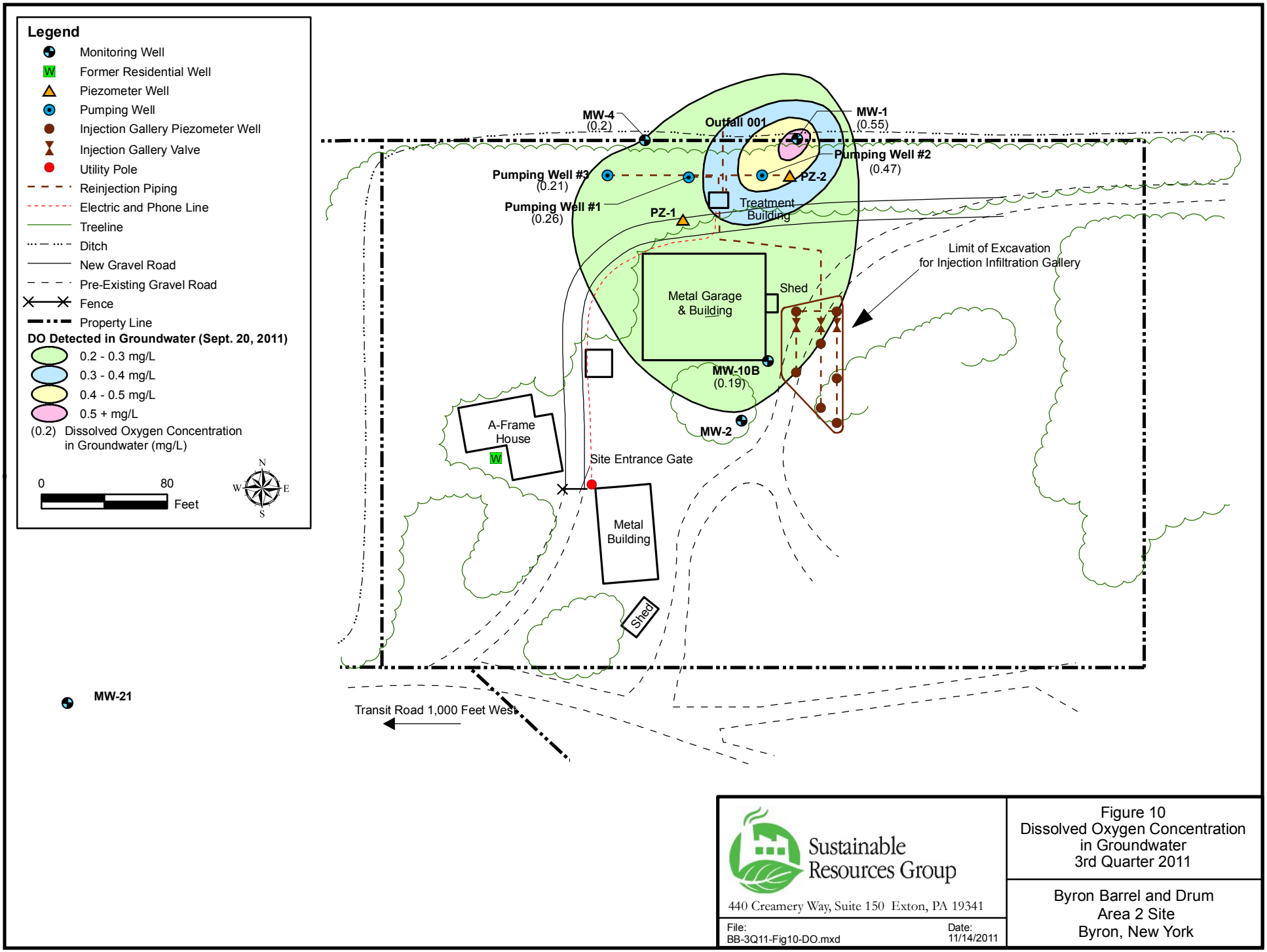


Sustainable Resources Group
440 Creamery Way, Suite 150 Exton, PA 19341

File: BB-3Q11-Fig9~TOC.mxd
Date: 11/10/2011

Figure 9
Percent Change in TOC Concentrations in Groundwater
June 2008 - September 2011

Byron Barrel and Drum
Area 2 Site
Byron, New York



Sustainable Resources Group

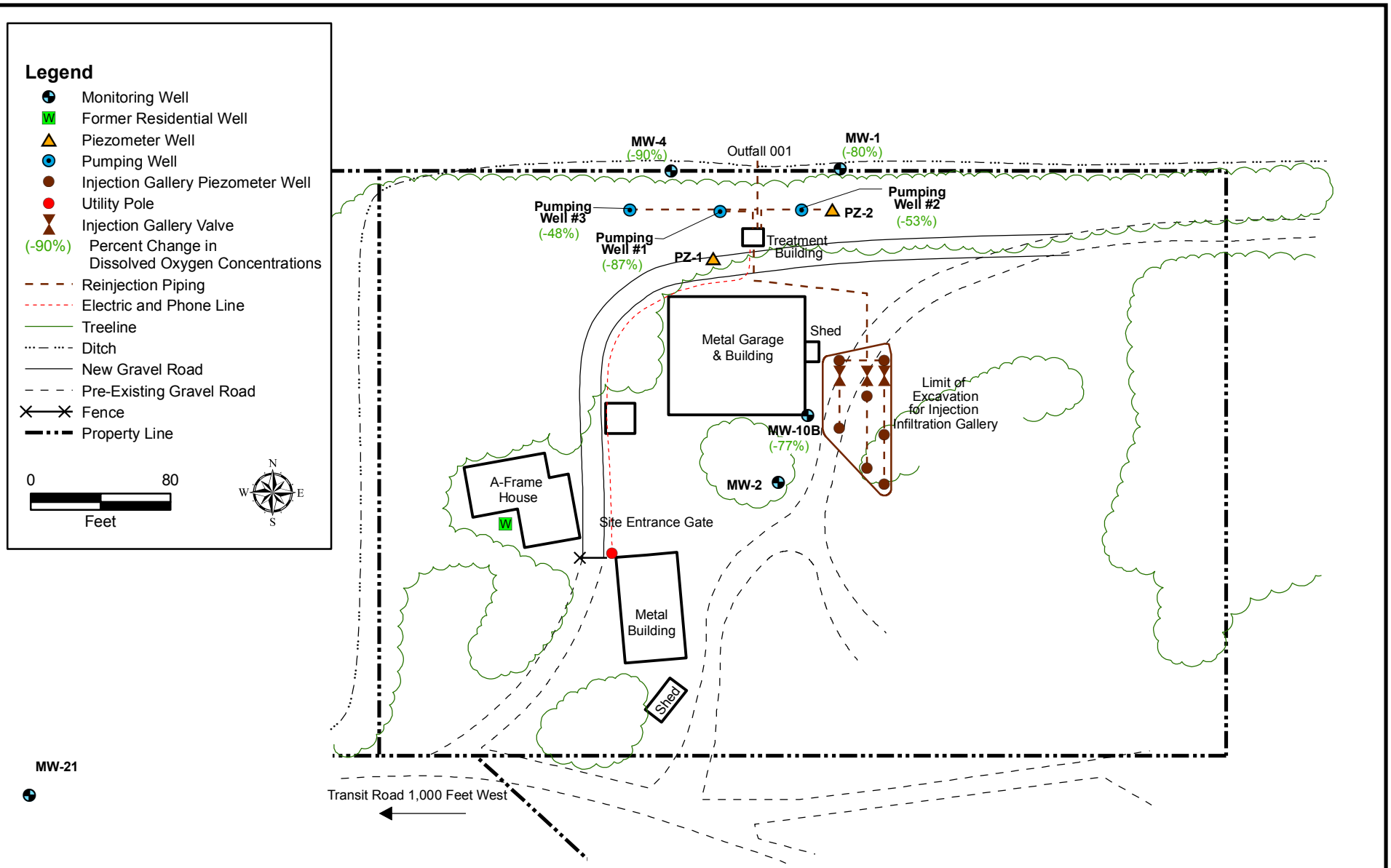
440 Creamery Way, Suite 150 Exton, PA 19341

File: BB-3Q11-Fig10-DO.mxd

Date: 11/14/2011

Figure 10
Dissolved Oxygen Concentration in Groundwater
3rd Quarter 2011

Byron Barrel and Drum
Area 2 Site
Byron, New York

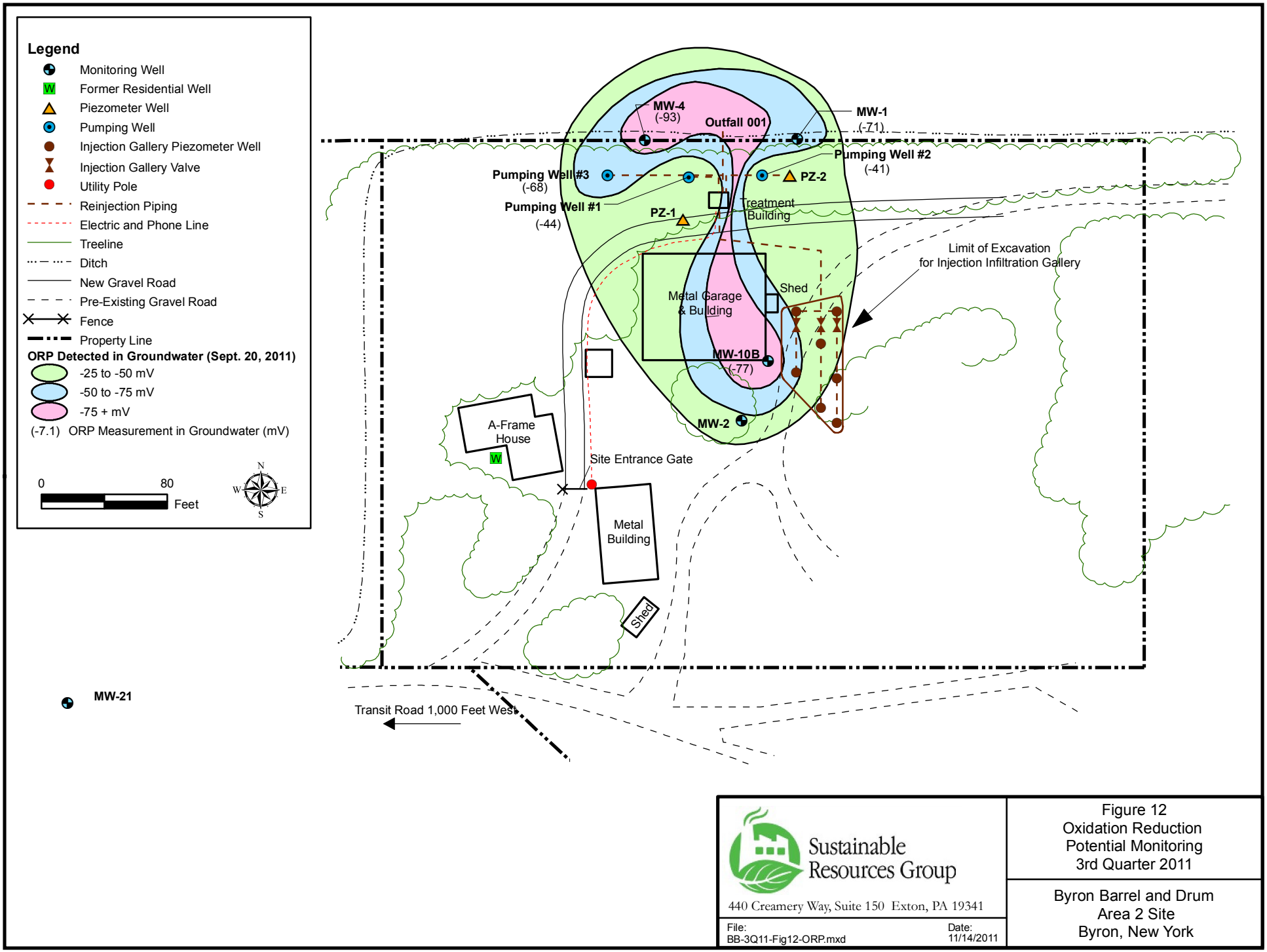


Sustainable Resources Group
440 Creamery Way, Suite 150 Exton, PA 19341

File: BB-3Q11-Fig11~DO.mxd
Date: 11/10/2011

Figure 11
Percent Change in Dissolved Oxygen in Groundwater
June 2008 - September 2011

Byron Barrel and Drum
Area 2 Site
Byron, New York

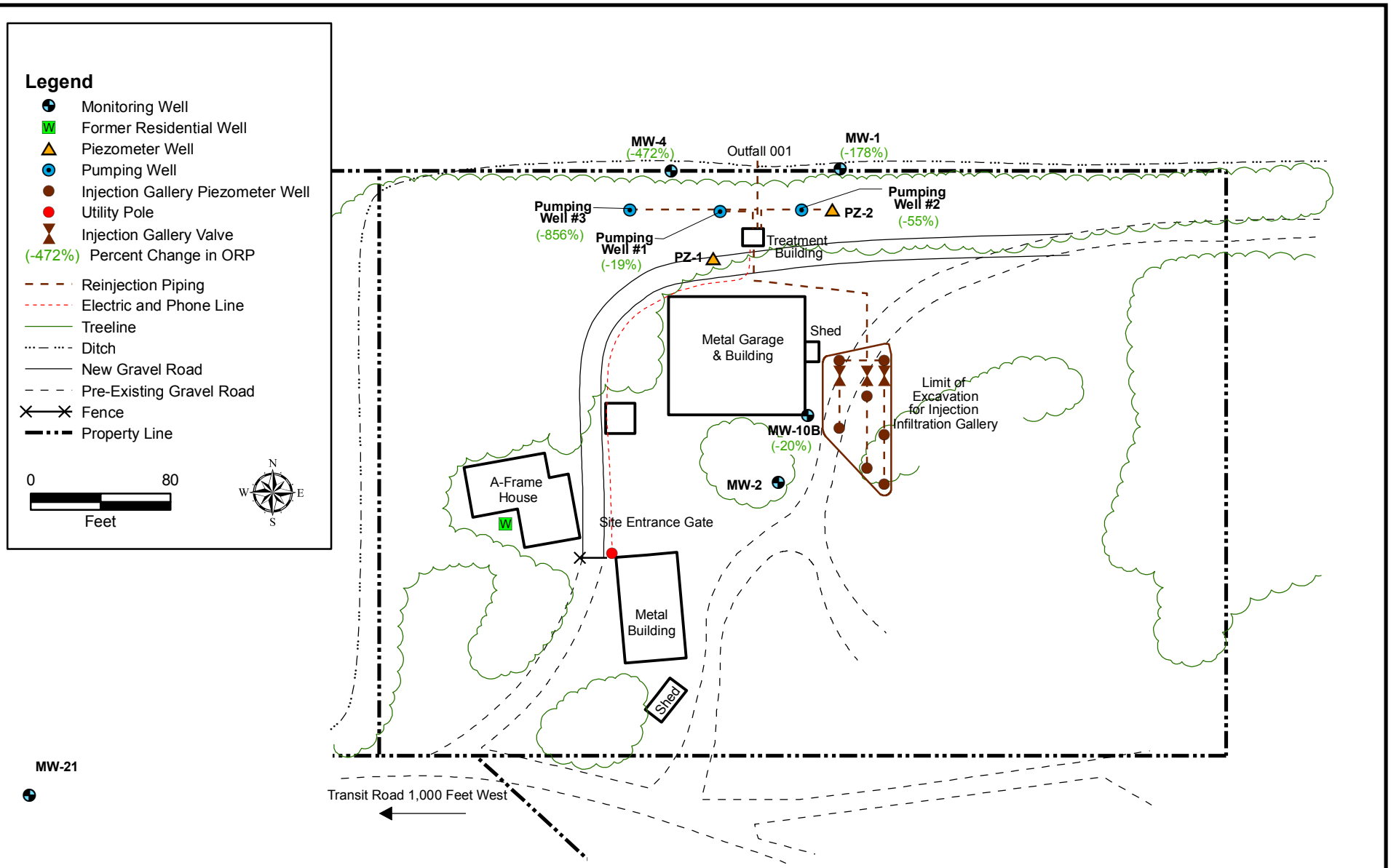


Sustainable Resources Group
440 Creamery Way, Suite 150 Exton, PA 19341

File: BB-3Q11-Fig12-ORP.mxd
Date: 11/14/2011

Figure 12
Oxidation Reduction
Potential Monitoring
3rd Quarter 2011

Byron Barrel and Drum
Area 2 Site
Byron, New York



Sustainable Resources Group
440 Creamery Way, Suite 150 Exton, PA 19341

File: BB-3Q11-Fig13~ORP.mxd
Date: 11/10/2011

Figure 13
Percent Change in Oxidation Reduction Potential in Groundwater
June 2008 - September 2011

Byron Barrel and Drum
Area 2 Site
Byron, New York

APPENDIX A
Third Quarter 2011 Field Notes

ECOR Solutions, Inc.
Byron Barrel & Drum Site
Pumping Well Field Chemistry Parameters

Parameter Units	Time	Temp. °C	ORP mV	pH Std. Units	TDS g/L	DO mg/L	Spec. Cond. mS/cm
PW-1/GW 39	1400	13.4	-44	6.77	1.9	0.26	2890
PW-2/GW 39	1320	12.7	-41	6.13	4.0	0.47	6330
PW-3/GW 39	1440	14.2	-68	6.52	1.5	0.21	2300

Note: Flow through cell was calibrated for all chemistry parameters prior to gauging.

ECOR Solutions, Inc.
Byron Barrel & Drum Site
Groundwater Elevations

Operator: PAUL Little

Date: 9-20-11

Pumping Wells	DTW	TOC Elevation	GW Elevation	TD	WC, ft.
PW-1	8.49	642.82	634.33	-	-
PW-2	6.88	641.34	634.46	-	-
PW-3	6.44	641.11	634.67	-	-
Monitoring Wells					
MW-1	5.13	639.63	634.50	11.78	6.65
MW-2	11.81	646.36	634.55	15.13	3.32
MW-4	4.10	638.56	634.46	11.43	7.33
MW-10B	9.89	644.44	634.55	20.33	10.44
MW-21	8.28	642.52	634.24	27.90	19.62
Residential	16.35	650.78	634.43	34.88	18.53
Piezometers					
PZ-1	6.91	643.11	636.20	26.87	19.96
PZ-2	8.60	642.39	633.79	26.96	18.36

PZ-1 AT ANGLE

ECOR Solutions, Inc.
Byron Barrel & Drum Site
Field Sampling Record Form

Site: Byron Barrel and Drum **Date:** 9-20-11

Job #: 01501.002

Sample ID: MW-4-9/GW39

Well ID: MW-4 Time onsite: Time Offsite:

Samplers: RL 1037 1129

Depth of Well (from top of casing) 11.43 Time: 1129

Static water level (from top of casing) 4.10 Time: 1037

Purging Method:

Dedicated bladder pump, QED SamplePro MP-SP-4C

Field Tests:

Time	Flowrate (mL/min) / purge volume (mL)	Temp. °C	ORP mV	pH Std. Units	TDS g/L	DO mg/L	Spec. Cond. mS/cm
1055	40.mL/min	14.1	-89	6.55	0.7	0.28	1163
1100	↓	14.0	-90	6.55	0.7	0.27	1165
1105		13.9	-92	6.54	0.7	0.25	1167
1110		14.0	-92	6.54	0.7	0.23	1170
1115		14.1	-93	6.54	0.7	0.21	1169
1120		14.0	-93	6.54	0.7	0.20	1170

Sampling:

Time of Sample Collectio 1120

Collection Method:	*Analyses:*	*Analytical Method:*
X Dedicated pump	X VOCs	8260 X 503 ___ Other: ___
	X TOC	

Observations:

Weather/Temperature: cloudy 63

Sample Description: clear

Free Product?	Yes ___	No X	Descript.:	
Sheen?	Yes ___	No X	Descript.:	
Odor?	Yes ___	No X	Descript.:	

Comments:

ECOR Solutions, Inc.
Byron Barrel & Drum Site
Field Sampling Record Form

Site: Byron Barrel and Drum **Date:** 9-20-11

Job #: 01501.002

Sample ID: MW-1-9 / GW-39

Well ID: MW-1 Time onsite: Time Offsite:

Samplers: PL 925 1025

Depth of Well (from top of casing) ~~5.13~~ 11.78 PJL Time: ~~925~~ PJL 1025

Static water level (from top of casing) 5.13 Time: 925

Purging Method:
Dedicated bladder pump, QED SamplePro MP-SP-4C

Field Tests:

Time	Flowrate (mL/min) / purge volume (mL)	Temp. °C	ORP mV	pH Std. Units	TDS g/L	DO mg/L	Spec. Cond. mS/cm
945	30 mL/min	15.1	-66	6.50	0.6	0.68	901
950	↓	14.8	-70	6.49	0.6	0.65	898
955		14.6	-71	6.48	0.6	0.63	897
1000		14.5	-71	6.48	0.6	0.60	897
1005		14.5	-71	6.48	0.6	0.58	897
1010		14.5	-72	6.48	0.6	0.57	895
1015	↓	14.6	-71	6.48	0.6	0.55	895

Sampling:

Time of Sample Collectio 1015

Collection Method:	*Analyses:*	*Analytical Method:*
X Dedicated pump	X VOCs	8260 X 503 ___ Other: ___
	X TOC	

Observations:

Weather/Temperature: Cloudy 62°

Sample Description: Clear

Free Product?	Yes ___	No X	Descript.: ___
Sheen?	Yes ___	No X	Descript.: ___
Odor?	Yes ___	No X	Descript.: ___

Comments:

~~PAH/MSD~~ PSC

DUP ON VOAS

ECOR Solutions, Inc.
Byron Barrel & Drum Site
Field Sampling Record Form

Site: Byron Barrel and Drum **Date:** 9-20-11

Job #: 01501.002

Sample ID: MW-10B-9/Dup-39

Well ID: MW-10B Time onsite: Time Offsite:

Samplers: PL 1149 1250

Depth of Well (from top of casing) 20.33 Time: 1250

Static water level (from top of casing) 9.89 Time: 1149

Purging Method:
Dedicated bladder pump, QED SamplePro MP-SP-4C

Field Tests:

Time	Flowrate (mL/min) / purge volume (mL)	Temp. °C	ORP mV	pH Std. Units	TDS g/L	DO mg/L	Spec. Cond. mS/cm
1210	40mL/min	13.7	-71	6.28	1.1	0.31	1700
1215	↓	13.6	-73	6.28	1.1	0.27	1710
1220		13.7	-75	6.26	1.1	0.25	1710
1225		13.7	-76	6.27	1.1	0.22	1710
1230		13.7	-76	6.26	1.1	0.20	1710
1235		13.6	-77	6.26	1.1	0.19	1710

Sampling:

Time of Sample Collectio 1235

Collection Method:
X Dedicated pump

Analyses:
X VOCs
X TOC

Analytical Method:
8260 X 503 ___ Other: ___

Observations:

Weather/Temperature: sun / clouds 65°

Sample Description: clear

Free Product? Yes ___ No X Descript.: ___

Sheen? Yes ___ No X Descript.: ___

Odor? Yes ___ No X Descript.: ___

Comments:

MS/MSD on COA

Chain of Custody Record

TAL-4124 (1007)

Temperature on Receipt ____

Drinking Water? Yes [ ] No [ ]

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client: Ecol Solution
Project Manager: BTF
Date: 9-20-11
Chain of Custody Number: 135354

Address:
Telephone Number (Area Code)/Fax Number:
Lab Number:
Page 1 of 1

City: State: Zip Code:
Site Contact:
Lab Contact:

Project Name and Location (State): 4800 3652
Carrier/Waybill Number:

Contract/Purchase Order/Quote No: Byron Site

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: VOA	TSS	TOC	Special Instructions/ Conditions of Receipt
mw-1-9 / 6w-39	9-20-11	1015		X						X			3	-	2	
mw-4-9 / 6w-39	↓	1120		↓									3	-	2	
mw-10B-9 / 6w-39	↓	1235		↓									9	-	2	MS/MSD on VOA
Pw-1 / 6w-39	↓	1400		↓			X			X			3	1	2	
Pw-2 / 6w-39	↓	1320		↓			X			X			3	1	2	
Pw-3 / 6w-39	↓	1440		↓			X			X			3	1	2	
Dup-9 / 6w-39	↓	1015		↓						X			3	-	-	on MW-1
Trip Blank	↓	0800		↓						X			2			

Possible Hazard Identification: [ ] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown

Sample Disposal: [ ] Return To Client [ ] Disposal By Lab [ ] Archive For ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: [ ] 24 Hours [ ] 48 Hours [ ] 7 Days [ ] 14 Days [ ] 21 Days [ ] Other ____

QC Requirements (Specify):

1. Relinquished By: [signature] Date: 9-20-11 Time: 1525
1. Received By: [signature] Date: 9-20-11 Time: 1525

2. Relinquished By: Date: Time:
2. Received By: Date: Time:

3. Relinquished By: Date: Time:
3. Received By: Date: Time:

Comments:

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

APPENDIX B
Third Quarter 2011 Data Validation Report

Project: Byron Barrel and Drum Site
Laboratory: Test America
Sample Delivery Group: 480-10047-1
Fraction: Organic
Matrix: Aqueous
Report Date: 11/14/2011

This analytical quality assurance report is based upon a review of analytical data generated for groundwater samples. The sample locations, laboratory identification numbers, sample collection dates, sample matrix, and analyses performed are presented in Table 1. All analyses were performed by Test America.

The samples were analyzed for volatile organic compounds and total suspended solids. The sample analyses were performed in accordance with the procedures outlined in the method referenced at the end of this report. The data deliverables provided by the laboratory were New York State Department of Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category B format.

All sample analyses have undergone an analytical quality assurance review to ensure adherence to the required protocols. Results have been validated or qualified according to Region II "Validating Volatile Organic Compounds by SW-846 Method 8260B", SOP HW-24, Revision 2, October 2006. The parameters presented on the following page were evaluated.

X	•	Data Completeness
X	•	Chain of Custody Documentation
X	•	Holding Times
X	•	Instrument Performance
X	•	Initial and Continuing Calibrations
X	•	Laboratory and Field Blank Analysis Results
X	•	Surrogate Compound Recoveries
X	•	Matrix Spike/Matrix Spike Duplicate Recoveries and Reproducibility
X	•	Field Duplicate Analysis Results
X	•	Laboratory Control Sample Results
X	•	Internal Standard Performance
X	•	Qualitative Identification
X	•	Quantitation/Reporting Limits

X - Denotes parameter evaluated.

It is recommended that the data only be used according to the qualifiers presented, and discussed in this report. All other data should be considered qualitatively and quantitatively valid as reported by the laboratory, based on the items evaluated.

Report Approved By:

Shawne M. Rodgers
President

11/14/07
Date

1.0 *DATA COMPLETENESS*

The data package was complete.

2.0 *CHAIN OF CUSTODY DOCUMENTATION*

The chain of custody documentation was complete.

3.0 *HOLDING TIMES*

The holding times were met for all analyses.

4.0 *INSTRUMENT PERFORMANCE*

All criteria were met. No qualifiers were applied.

5.0 *INITIAL AND CONTINUING CALIBRATIONS*

All criteria were met. No qualifiers were applied.

6.0 *LABORATORY AND FIELD BLANK ANALYSIS RESULTS*

All criteria were met. No qualifiers were applied.

7.0 *SURROGATE COMPOUNDS*

All criteria were met. No qualifiers were applied.

8.0 *MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERIES AND REPRODUCIBILITY*

All criteria were met. No qualifiers were applied.

9.0 *FIELD DUPLICATE RESULTS*

Duplicate samples MW-1-9/GW-39 and DUP-9/GW-39 were submitted to the laboratory to evaluate sampling and analytical precision for those organic compounds determined to be present. Precision is evaluated by calculating the relative percent difference (%RPD) between duplicate pair results. Results for the duplicate samples are presented in Table 2. There are no USEPA-established acceptance criteria for field duplicate samples. EDQ uses an internal acceptance criterion of twenty percent for volatile detected compounds to evaluate aqueous field duplicate samples.

10.0 *LABORATORY CONTROL SAMPLE RESULTS*

All criteria were met. No qualifiers were applied.

11.0 *INTERNAL STANDARD PERFORMANCE*

All criteria were met. No qualifiers were applied.

12.0 *QUALITATIVE IDENTIFICATION*

All criteria were met. No qualifiers were applied.

13.0 *QUANTITATION/REPORTING LIMITS*

All samples, except TRIP BLANK were analyzed at four-fold dilutions. The dilution analyses were performed because of the suspected presence of high levels of target compounds and/or interferences. Reporting limits (RLs) are elevated by the dilution factor for these samples for target compounds that were not detected. The elevated RLs should be noted when assessing the data for these samples.

As required by USEPA protocol, all compounds, which were qualitatively identified at concentrations below their respective reporting limits (RLs) have been marked with "J" qualifiers to indicate that they are quantitative estimates.

METHODOLOGY REFERENCES

Analysis	Reference
Volatile Organic Compounds	Method 8260B, "Test Methods for Evaluating Solid Wastes", SW-846, third edition, Promulgated Updates II, IIA, and III, June 1997
Total Suspended Solids	Method 160.2, "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983, and revisions

Table 1 Samples For Data Validation Review
Groundwater Sampling September 2011
Byron Site Groundwater Monitoring
Byron Township, New York
Test America Sample Delivery Group 480-10047-1

Sample ID	Lab ID		Collection Date	MATRIX	VOC	TSS
MW-1-9/GW-39	480-10047-1	01	9/20/2011	Groundwater	X	
MW-4-9/GW-39	480-10047-1	02	9/20/2011	Groundwater	X	
MW-10B/GW-39	480-10047-1	03	9/20/2011	Groundwater	X	
PW-1/GW-39	480-10047-1	04	9/20/2011	Groundwater	X	X
PW-2/GW-39	480-10047-1	05	9/20/2011	Groundwater	X	X
PW-3/GW-39	480-10047-1	06	9/20/2011	Groundwater	X	X
DUP-9/GW-39	480-10047-1	07	9/20/2011	Groundwater	X	
TRIP BLANK	480-10047-1	08	9/20/2011	Groundwater	X	

Notes:
VOC Volatile Organic Compounds
TSS Total Suspended Solids

Table 2 **Field Duplicate Sample Results for Organic Analyses**
Groundwater Duplicate Samples MW-1-9/GW-39 and DUP-9/GW-39

Analyte	Sample Result (µg/L)		Field Duplicate Result (µg/L)		RPD	ACTION
	MW-1-9/GW-39		DUP-9/GW-39			
1,1,1-Trichloroethane	3.6	J	3.9	J	8	
1,1-Dichloroethane	3.8	J	2.4	J	45	
Toluene	2.6		3.5	J	30	

Client: Sustainable Resources Group Inc

Job Number: 480-10047-1

Client Sample ID: MW-1-9/GW-39

Lab Sample ID: 480-10047-1
Client Matrix: Water

Date Sampled: 09/20/2011 1015
Date Received: 09/20/2011 1525

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-33260	Instrument ID:	HP5975T
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	T1234.D
Dilution:	4.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/29/2011 0139			Final Weight/Volume:	5 mL
Prep Date:	09/29/2011 0139				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	3.6	J	3.3	20
1,1,2-Trichloroethane	ND		0.92	20
1,1-Dichloroethane	95		1.5	20
1,1-Dichloroethene	3.8	J	1.2	20
1,2-Dichlorobenzene	ND		3.2	20
1,2-Dichloroethane	ND		0.84	20
1,4-Dichlorobenzene	ND		3.4	20
2-Butanone	ND		5.3	40
Benzene	ND		1.6	20
Bromodichloromethane	ND		1.6	20
Carbon tetrachloride	ND		1.1	20
Chlorobenzene	ND		3.0	20
Dibromochloromethane	ND		1.3	20
Chloroform	ND		1.4	20
Methylene Chloride	ND		1.8	20
Tetrachloroethene	ND		1.4	20
Toluene	2.6	J	2.0	20
Trichloroethene	ND		1.8	20
Vinyl chloride	ND		3.6	20
Xylenes, Total	ND		2.6	60

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	115		66 - 137
Toluene-d8 (Surr)	112		71 - 126
4-Bromofluorobenzene (Surr)	111		73 - 120

Client: Sustainable Resources Group Inc

Job Number: 480-10047-1

Client Sample ID: **MW-4-9/GW-39**

Lab Sample ID: 480-10047-2
Client Matrix: Water

Date Sampled: 09/20/2011 1120
Date Received: 09/20/2011 1525

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-33260	Instrument ID:	HP5975T
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	T1235.D
Dilution:	4.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/29/2011 0202			Final Weight/Volume:	5 mL
Prep Date:	09/29/2011 0202				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		3.3	20
1,1,2-Trichloroethane	ND		0.92	20
1,1-Dichloroethane	21		1.5	20
1,1-Dichloroethene	2.0	J	1.2	20
1,2-Dichlorobenzene	ND		3.2	20
1,2-Dichloroethane	ND		0.84	20
1,4-Dichlorobenzene	ND		3.4	20
2-Butanone	140		5.3	40
Benzene	ND		1.6	20
Bromodichloromethane	ND		1.6	20
Carbon tetrachloride	ND		1.1	20
Chlorobenzene	ND		3.0	20
Dibromochloromethane	ND		1.3	20
Chloroform	ND		1.4	20
Methylene Chloride	ND		1.8	20
Tetrachloroethene	ND		1.4	20
Toluene	2.8	J	2.0	20
Trichloroethene	ND		1.8	20
Vinyl chloride	ND		3.6	20
Xylenes, Total	ND		2.6	60

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	117		66 - 137
Toluene-d8 (Surr)	115		71 - 126
4-Bromofluorobenzene (Surr)	112		73 - 120

Client: Sustainable Resources Group Inc

Job Number: 480-10047-1

Client Sample ID: **MW-10B-9/GW-39**

Lab Sample ID: 480-10047-3
Client Matrix: Water

Date Sampled: 09/20/2011 1235
Date Received: 09/20/2011 1525

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-33260	Instrument ID:	HP5975T
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	T1236.D
Dilution:	4.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/29/2011 0225			Final Weight/Volume:	5 mL
Prep Date:	09/29/2011 0225				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		3.3	20
1,1,2-Trichloroethane	ND		0.92	20
1,1-Dichloroethane	10	J	1.5	20
1,1-Dichloroethene	ND		1.2	20
1,2-Dichlorobenzene	ND		3.2	20
1,2-Dichloroethane	ND		0.84	20
1,4-Dichlorobenzene	ND		3.4	20
2-Butanone	9.1	J	5.3	40
Benzene	ND		1.6	20
Bromodichloromethane	ND		1.6	20
Carbon tetrachloride	ND		1.1	20
Chlorobenzene	ND		3.0	20
Dibromochloromethane	ND		1.3	20
Chloroform	ND		1.4	20
Methylene Chloride	ND		1.8	20
Tetrachloroethene	ND		1.4	20
Toluene	2.5	J	2.0	20
Trichloroethene	ND		1.8	20
Vinyl chloride	ND		3.6	20
Xylenes, Total	ND		2.6	60

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	116		66 - 137
Toluene-d8 (Surr)	114		71 - 126
4-Bromofluorobenzene (Surr)	109		73 - 120

Client: Sustainable Resources Group Inc

Job Number: 480-10047-1

Client Sample ID: **PW-1/GW-39**

Lab Sample ID: 480-10047-4
Client Matrix: Water

Date Sampled: 09/20/2011 1400
Date Received: 09/20/2011 1525

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-33260	Instrument ID:	HP5975T
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	T1239.D
Dilution:	4.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/29/2011 0335			Final Weight/Volume:	5 mL
Prep Date:	09/29/2011 0335				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		3.3	20
1,1-Dichloroethane	9.4	J	1.5	20
1,1-Dichloroethene	ND		1.2	20
cis-1,2-Dichloroethene	ND		3.2	20
Methylene Chloride	2.2	J	1.8	20
Toluene	4.7	J	2.0	20
Trichloroethene	ND		1.8	20
Vinyl chloride	ND		3.6	20

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	114		66 - 137
Toluene-d8 (Surr)	104		71 - 126
4-Bromofluorobenzene (Surr)	113		73 - 120

Client: Sustainable Resources Group Inc

Job Number: 480-10047-1

Client Sample ID: **PW-2/GW-39**

Lab Sample ID: 480-10047-5
Client Matrix: Water

Date Sampled: 09/20/2011 1320
Date Received: 09/20/2011 1525

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-33260	Instrument ID:	HP5975T
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	T1240.D
Dilution:	4.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/29/2011 0359			Final Weight/Volume:	5 mL
Prep Date:	09/29/2011 0359				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		3.3	20
1,1-Dichloroethane	9.8	J	1.5	20
1,1-Dichloroethene	ND		1.2	20
cis-1,2-Dichloroethene	ND		3.2	20
Methylene Chloride	ND		1.8	20
Toluene	4.3	J	2.0	20
Trichloroethene	ND		1.8	20
Vinyl chloride	ND		3.6	20

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	116		66 - 137
Toluene-d8 (Surr)	110		71 - 126
4-Bromofluorobenzene (Surr)	107		73 - 120

Client: Sustainable Resources Group Inc

Job Number: 480-10047-1

Client Sample ID: **PW-3/GW-39**

Lab Sample ID: 480-10047-6
Client Matrix: Water

Date Sampled: 09/20/2011 1440
Date Received: 09/20/2011 1525

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-33260	Instrument ID:	HP5975T
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	T1241.D
Dilution:	4.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/29/2011 0422			Final Weight/Volume:	5 mL
Prep Date:	09/29/2011 0422				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		3.3	20
1,1-Dichloroethane	ND		1.5	20
1,1-Dichloroethene	ND		1.2	20
cis-1,2-Dichloroethene	ND		3.2	20
Methylene Chloride	ND		1.8	20
Toluene	ND		2.0	20
Trichloroethene	ND		1.8	20
Vinyl chloride	ND		3.6	20

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	117		66 - 137
Toluene-d8 (Surr)	114		71 - 126
4-Bromofluorobenzene (Surr)	112		73 - 120

Client: Sustainable Resources Group Inc

Job Number: 480-10047-1

Client Sample ID: DUP-9/GW-39

Lab Sample ID: 480-10047-7
Client Matrix: Water

Date Sampled: 09/20/2011 1015
Date Received: 09/20/2011 1525

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-33260	Instrument ID:	HP5975T
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	T1242.D
Dilution:	4.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/29/2011 0445			Final Weight/Volume:	5 mL
Prep Date:	09/29/2011 0445				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	3.9	J	3.3	20
1,1,2-Trichloroethane	ND		0.92	20
1,1-Dichloroethane	90		1.5	20
1,1-Dichloroethene	2.4	J	1.2	20
1,2-Dichlorobenzene	ND		3.2	20
1,2-Dichloroethane	ND		0.84	20
1,4-Dichlorobenzene	ND		3.4	20
2-Butanone	ND		5.3	40
Benzene	ND		1.6	20
Bromodichloromethane	ND		1.6	20
Carbon tetrachloride	ND		1.1	20
Chlorobenzene	ND		3.0	20
Dibromochloromethane	ND		1.3	20
Chloroform	ND		1.4	20
Methylene Chloride	ND		1.8	20
Tetrachloroethene	ND		1.4	20
Toluene	3.5	J	2.0	20
Trichloroethene	ND		1.8	20
Vinyl chloride	ND		3.6	20
Xylenes, Total	ND		2.6	60

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	117		66 - 137
Toluene-d8 (Surr)	115		71 - 126
4-Bromofluorobenzene (Surr)	109		73 - 120

Client: Sustainable Resources Group Inc

Job Number: 480-10047-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-10047-8
Client Matrix: Water

Date Sampled: 09/20/2011 0800
Date Received: 09/20/2011 1525

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	480-33260	Instrument ID:	HP5975T
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	T1243.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/29/2011 0509			Final Weight/Volume:	5 mL
Prep Date:	09/29/2011 0509				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		0.82	5.0
1,1,2-Trichloroethane	ND		0.23	5.0
1,1-Dichloroethane	ND		0.38	5.0
1,1-Dichloroethene	ND		0.29	5.0
1,2-Dichlorobenzene	ND		0.79	5.0
1,2-Dichloroethane	ND		0.21	5.0
1,4-Dichlorobenzene	ND		0.84	5.0
2-Butanone	ND		1.3	10
Benzene	ND		0.41	5.0
Bromodichloromethane	ND		0.39	5.0
Carbon tetrachloride	ND		0.27	5.0
Chlorobenzene	ND		0.75	5.0
Dibromochloromethane	ND		0.32	5.0
Chloroform	ND		0.34	5.0
Methylene Chloride	ND		0.44	5.0
Tetrachloroethene	ND		0.36	5.0
Toluene	ND		0.51	5.0
Trichloroethene	ND		0.46	5.0
Vinyl chloride	ND		0.90	5.0
Xylenes, Total	ND		0.66	15

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	117		66 - 137
Toluene-d8 (Surr)	115		71 - 126
4-Bromofluorobenzene (Surr)	109		73 - 120

General Chemistry

Client Sample ID: PW-1/GW-39

Lab Sample ID: 480-10047-4
Client Matrix: Water

Date Sampled: 09/20/2011 1400
Date Received: 09/20/2011 1525

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	69.8		mg/L	1.7	4.0	4.0	9060
Analysis Batch: 480-33548	Analysis Date: 09/29/2011 0338						

Analyte	Result	Qual	Units	RL	RL	Dil	Method
☆ Total Suspended Solids	17.2		mg/L	4.0	4.0	1.0	SM 2540D
Analysis Batch: 480-32289	Analysis Date: 09/21/2011 1855						

☆ Validation Parameters

General Chemistry

Client Sample ID: **PW-2/GW-39**

Lab Sample ID: 480-10047-5
Client Matrix: Water

Date Sampled: 09/20/2011 1320
Date Received: 09/20/2011 1525

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	7740		mg/L	868	2000	2000	9060

Analysis Batch: 480-34247 Analysis Date: 10/04/2011 1857

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Total Suspended Solids	95.2		mg/L	4.0	4.0	1.0	SM 2540D

Analysis Batch: 480-32460 Analysis Date: 09/22/2011 1746

* Validation Parameter

SMM 11/14/2011

General Chemistry

Client Sample ID: **PW-3/GW-39**

Lab Sample ID: 480-10047-6
Client Matrix: Water

Date Sampled: 09/20/2011 1440
Date Received: 09/20/2011 1525

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	426		mg/L	8.7	20.0	20	9060
Analysis Batch: 480-32977	Analysis Date: 09/27/2011 0203						

Analyte	Result	Qual	Units	RL	RL	Dil	Method
☆ Total Suspended Solids	676		mg/L	7.1	7.1	1.0	SM 2540D
Analysis Batch: 480-32460	Analysis Date: 09/22/2011 1751						

☆ Validation Parameter

APPENDIX C
Mann-Kendall Statistical Analysis of Select Wells

Appendix C
Mann-Kendall Statistical Test - MW-1
Byron Barrel Drum Site
Byron Township, NY

State of Wisconsin — **Mann-Kendall Statistical Test**

Department of Natural Resources — **Form 4400-215 (5/2000)**

Remediation and Redevelopment Program

Notice: This form is provided to consultants as an optional tool to be used to provide groundwater contaminant data required to support site closure requests under s. Comm 46.07 or s. NR 746.07, Wis. Adm. Code. Use this form or a manual method to calculate the Mann-Kendall statistic, as specified in Appendix A of ch. Comm 46 and ch. NR 746, Wis. Adm. Code.

Instructions: To use the spreadsheet, provide at least four rounds and not more than 10 rounds of data. Use cells with yellow background for data entry. Use consistent units. The spreadsheet contains several error checks, and a data entry error may cause "DATA ERR" to be displayed. Dates that are not consecutive will show an error message and will not display the test results. The spreadsheet tests the data for both increasing and decreasing trends at an 80% confidence level. If an increasing or decreasing trend is not present, use an additional coefficient of variation test is used for stable and non-stable conditions as proposed by Wiedemeier et al, 1999. For additional information, refer to guidance in Interim Guidance on Natural Attenuation for Petroleum Releases, dated October 1999. Refer to the guidance for recommendations on data entry for non-detect values.

Site Name =	Byron Barrel & Drum	Byron Township	New York	BRRTS No. =		Well Number =	MW-1
	Compound	11DCA	11DCE	MEK	111TCA	TCE	TVOCs
Event Number	Sampling Date (most recent last)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	23-Jun-09	44.00	4.10	1.30	110.00	3.20	161.00
2	25-Sep-09	51.00	7.30	1.30	170.00	1.80	230.00
3	9-Dec-09	88.00	9.60	1.30	290.00	2.20	390.00
4	11-Mar-10	39.00	8.00	1.30	200.00	1.00	247.00
5	17-Jun-10	39.00	4.20	1.30	180.00	1.60	226.00
6	23-Sep-10	75.00	2.40	1.30	22.00	1.20	101.00
7	20-Dec-10	77.00	5.20	1.30	130.00	2.10	214.00
8	28-Mar-11	65.00	22.00	1.30	180.00	1.40	268.00
9	24-Jun-11	43.00	1.70	7.70	25.00	1.30	79.00
10	20-Sep-11	95.00	3.80	1.30	3.60	1.00	105.00
	S =	10	-9	7	-16	-22	-13
	n =	10	10	10	10	10	10
	Average =	61.6	6.83	1.94	131.06	1.68	202.1
	Standard Deviation =	21.16181047	5.883508024	2.023857703	91.98715128	0.67954233	94.07378901
	Coefficient of Variation(CV)=	0.343535884	0.86142138	1.04322562	0.701870527	0.404489482	0.46548139
Increasing Trend (80% Confidence)		NO	NO	NO	NO	NO	NO
Decreasing Trend (80% Confidence)		NO	NO	NO	YES	YES	YES
Undetermined Stable Trend, CV<=1		YES	YES	NO	NO	NO	NO
Undetermined Non-Stable Trend, CV>1		NO	NO	**YES**	NO	NO	NO
Error Check, OK if Blank							
Stable or Decreasing Trend at 80% Confidence Level		YES	YES	**NO**	YES	YES	YES
	Data Entry By =	KBR	Date =	21-Nov-11	Checked By =		

Appendix C
Mann-Kendall Statistical Test - MW-4
Byron Barrel Drum Site
Byron Township, NY

State of Wisconsin — **Mann-Kendall Statistical Test**

Department of Natural Resources — **Form 4400-215 (5/2000)**

Remediation and Redevelopment Program

Notice: This form is provided to consultants as an optional tool to be used to provide groundwater contaminant data required to support site closure requests under s. Comm 46.07 or s. NR 746.07, Wis. Adm. Code. Use this form or a manual method to calculate the Mann-Kendall statistic, as specified in Appendix A of ch. Comm 46 and ch. NR 746, Wis. Adm. Code.

Instructions: To use the spreadsheet, provide at least four rounds and not more than 10 rounds of data. Use cells with yellow background for data entry. Use consistent units. The spreadsheet contains several error checks, and a data entry error may cause "DATA ERR" to be displayed. Dates that are not consecutive will show an error message and will not display the test results. The spreadsheet tests the data for both increasing and decreasing trends at an 80% confidence level. If an increasing or decreasing trend is not present, use an additional coefficient of variation test is used for stable and non-stable conditions as proposed by Wiedemeier et al, 1999. For additional information, refer to guidance in Interim Guidance on Natural Attenuation for Petroleum Releases, dated October 1999. Refer to the guidance for recommendations on data entry for non-detect values.

Site Name =	Byron Barrel & Drum	Byron Township	New York	BRRTS No. =		Well Number =	MW-4
	Compound	11DCA	11DCE	MEK	111TCA	TCE	TVOCs
Event Number	Sampling Date (most recent last)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	23-Jun-09	19.00	1.00	1.30	39.00	3.50	62.00
2	25-Sep-09	21.00	1.00	1.30	21.00	1.00	42.00
3	9-Dec-09	39.00	1.00	1.30	11.00	1.00	50.00
4	11-Mar-10	33.00	2.00	1.30	38.00	1.00	73.00
5	17-Jun-10	32.00	1.50	1.30	8.40	1.00	40.40
6	23-Sep-10	27.00	1.00	1.30	9.50	1.00	37.00
7	20-Dec-10	19.00	1.20	42.00	9.50	1.00	72.00
8	28-Mar-11	19.00	1.70	100.00	1.30	1.00	123.00
9	24-Jun-11	18.00	2.10	20.00	1.00	1.00	61.00
10	20-Sep-11	21.00	2.00	140.00	1.00	1.00	166.00
	S =	-15	24	26	-35	-9	13
	n =	10	10	10	10	10	10
	Average =	24.8	1.45	30.98	13.97	1.25	72.64
	Standard Deviation =	7.465476096	0.467261526	49.63929447	14.26004909	0.790569415	41.18044844
	Coefficient of Variation(CV)=	0.301027262	0.322249328	1.602301306	1.020762283	0.632455532	0.56691146
Increasing Trend (80% Confidence)		NO	**YES**	**YES**	NO	NO	**YES**
Decreasing Trend (80% Confidence)		YES	NO	NO	YES	NO	NO
Undetermined Stable Trend, CV<=1		NO	NO	NO	NO	YES	NO
Undetermined Non-Stable Trend, CV>1		NO	NO	NO	NO	NO	NO
Error Check, OK if Blank							
Stable or Decreasing Trend at 80% Confidence Level		YES	**NO**	**NO**	YES	YES	**NO**
	Data Entry By =	KBR	Date =	21-Nov-11	Checked By =		

Appendix C
Mann-Kendall Statistical Test - MW-10B
Byron Barrel Drum Site
Byron Township, NY

State of Wisconsin — **Mann-Kendall Statistical Test**

Department of Natural Resources — **Form 4400-215 (5/2000)**

Remediation and Redevelopment Program

Notice: This form is provided to consultants as an optional tool to be used to provide groundwater contaminant data required to support site closure requests under s. Comm 46.07 or s. NR 746.07, Wis. Adm. Code. Use this form or a manual method to calculate the Mann-Kendall statistic, as specified in Appendix A of ch. Comm 46 and ch. NR 746, Wis. Adm. Code.

Instructions: To use the spreadsheet, provide at least four rounds and not more than 10 rounds of data. Use cells with yellow background for data entry. Use consistent units. The spreadsheet contains several error checks, and a data entry error may cause "DATA ERR" to be displayed. Dates that are not consecutive will show an error message and will not display the test results. The spreadsheet tests the data for both increasing and decreasing trends at an 80% confidence level. If an increasing or decreasing trend is not present, use an additional coefficient of variation test is used for stable and non-stable conditions as proposed by Wiedemeier et al, 1999. For additional information, refer to guidance in Interim Guidance on Natural Attenuation for Petroleum Releases, dated October 1999. Refer to the guidance for recommendations on data entry for non-detect values.

Site Name =	Byron Barrel & Drum	Byron Township	New York	BRRTS No. =		Well Number =	MW-10B
	Compound	11DCA	11DCE	MEK	111TCA	TCE	TVOCs
Event Number	Sampling Date (most recent last)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	23-Jun-09	1.00	1.00	1.30	1.00	1.00	2.40
2	25-Sep-09	1.00	1.00	1.30	1.00	1.00	1.00
3	9-Dec-09	33.00	1.00	1.30	1.00	1.00	126.00
4	11-Mar-10	6.60	1.00	1.30	1.00	1.00	15.70
5	17-Jun-10	1.30	1.00	1.30	1.00	1.00	1.30
6	23-Sep-10	9.60	1.00	2.80	1.00	1.00	12.40
7	20-Dec-10	62.00	3.00	16.00	37.00	1.00	120.00
8	28-Mar-11	7.60	1.10	15.00	2.80	1.00	27.02
9	24-Jun-11	1.00	1.00	1.30	1.00	1.00	0.48
10	20-Sep-11	10.00	1.00	9.10	1.00	1.00	21.60
	S =	12	7	18	7	0	3
	n =	10	10	10	10	10	10
	Average =	13.31	1.21	5.07	4.78	1	32.79
	Standard Deviation =	19.606147	0.629726572	6.006857193	11.3350783	0	48.45356288
	Coefficient of Variation(CV)=	1.473038843	0.520435184	1.184784456	2.371355292	0	1.477693287
Increasing Trend (80% Confidence)		**YES**	NO	**YES**	NO	NO	NO
Decreasing Trend (80% Confidence)		NO	NO	NO	NO	NO	NO
Undetermined Stable Trend, CV<=1		NO	YES	NO	NO	YES	NO
Undetermined Non-Stable Trend, CV>1		NO	NO	NO	**YES**	NO	**YES**
Error Check, OK if Blank							
Stable or Decreasing Trend at 80% Confidence Level		**NO**	YES	**NO**	**NO**	YES	**NO**
	Data Entry By =	KBR	Date =	21-Nov-11	Checked By =		

Appendix C
Mann-Kendall Statistical Test - PW-1
Byron Barrel Drum Site
Byron Township, NY

State of Wisconsin — **Mann-Kendall Statistical Test**
Department of Natural Resources — **Form 4400-215 (5/2000)**
Remediation and Redevelopment Program

Notice: This form is provided to consultants as an optional tool to be used to provide groundwater contaminant data required to support site closure requests under s. Comm 46.07 or s. NR 746.07, Wis. Adm. Code. Use this form or a manual method to calculate the Mann-Kendall statistic, as specified in Appendix A of ch. Comm 46 and ch. NR 746, Wis. Adm. Code.

Instructions: To use the spreadsheet, provide at least four rounds and not more than 10 rounds of data. Use cells with yellow background for data entry. Use consistent units. The spreadsheet contains several error checks, and a data entry error may cause "DATA ERR" to be displayed. Dates that are not consecutive will show an error message and will not display the test results. The spreadsheet tests the data for both increasing and decreasing trends at an 80% confidence level. If an increasing or decreasing trend is not present, use an additional coefficient of variation test is used for stable and non-stable conditions as proposed by Wiedemeier et al, 1999. For additional information, refer to guidance in Interim Guidance on Natural Attenuation for Petroleum Releases, dated October 1999. Refer to the guidance for recommendations on data entry for non-detect values.

Site Name =	Byron Barrel & Drum	Byron Township	New York	BRRTS No. =		Well Number =	PW-1
	Compound	11DCA	11DCE	Toluene	111TCA	TCE	TVOCs
Event Number	Sampling Date (most recent last)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	23-Jun-09	10.00	1.00	1.00	1.00	1.20	37.80
2	25-Sep-09	6.80	1.00	1.00	1.00	1.00	26.00
3	9-Dec-09	1.00	1.00	44.00	1.00	1.00	8.80
4	11-Mar-10	1.00	1.00	16.00	1.00	1.00	16.00
5	17-Jun-10	1.00	1.00	16.00	1.00	1.00	16.00
6	23-Sep-10	16.00	1.00	11.00	1.00	1.00	27.00
7	20-Dec-10	23.00	1.00	5.30	1.00	1.00	28.00
8	28-Mar-11	24.00	1.00	3.10	1.00	1.00	27.10
9	24-Jun-11	13.00	1.00	1.00	1.00	1.00	15.20
10	20-Sep-11	9.40	1.00	4.70	1.00	1.00	16.30
	S =	12	0	-9	0	-9	-2
	n =	10	10	10	10	10	10
	Average =	10.52	1	10.31	1	1.02	21.82
	Standard Deviation =	8.569299206	0	13.20281536	0	0.063245553	8.674970381
	Coefficient of Variation(CV)=	0.814572168	0	1.280583449	0	0.062005444	0.397569678
Increasing Trend (80% Confidence)		**YES**	NO	NO	NO	NO	NO
Decreasing Trend (80% Confidence)		NO	NO	NO	NO	NO	NO
Undetermined Stable Trend, CV<=1		NO	YES	NO	YES	YES	YES
Undetermined Non-Stable Trend, CV>1		NO	NO	**YES**	NO	NO	NO
Error Check, OK if Blank							
Stable or Decreasing Trend at 80% Confidence Level		**NO**	YES	**NO**	YES	YES	YES
	Data Entry By =	KBR	Date =	21-Nov-11	Checked By =		

Appendix C
Mann-Kendall Statistical Test - PW-2
Byron Barrel Drum Site
Byron Township, NY

State of Wisconsin — **Mann-Kendall Statistical Test**

Department of Natural Resources — **Form 4400-215 (5/2000)**

Remediation and Redevelopment Program

Notice: This form is provided to consultants as an optional tool to be used to provide groundwater contaminant data required to support site closure requests under s. Comm 46.07 or s. NR 746.07, Wis. Adm. Code. Use this form or a manual method to calculate the Mann-Kendall statistic, as specified in Appendix A of ch. Comm 46 and ch. NR 746, Wis. Adm. Code.

Instructions: To use the spreadsheet, provide at least four rounds and not more than 10 rounds of data. Use cells with yellow background for data entry. Use consistent units. The spreadsheet contains several error checks, and a data entry error may cause "DATA ERR" to be displayed. Dates that are not consecutive will show an error message and will not display the test results. The spreadsheet tests the data for both increasing and decreasing trends at an 80% confidence level. If an increasing or decreasing trend is not present, use an additional coefficient of variation test is used for stable and non-stable conditions as proposed by Wiedemeier et al, 1999. For additional information, refer to guidance in Interim Guidance on Natural Attenuation for Petroleum Releases, dated October 1999. Refer to the guidance for recommendations on data entry for non-detect values.

Site Name =	Byron Barrel & Drum	Byron Township	New York	BRRTS No. =		Well Number =	PW-2
	Compound	11DCA	11DCE	Toluene	111TCA	TCE	TVOCs
Event Number	Sampling Date (most recent last)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	23-Jun-09	1.00	1.00	5.00	5.00	1.30	3.00
2	25-Sep-09	1.00	1.00	5.00	5.00	1.00	1.00
3	9-Dec-09	1.00	1.00	5.00	5.00	1.00	19.00
4	11-Mar-10	1.00	1.00	5.00	5.00	1.00	1.00
5	17-Jun-10	1.00	1.00	5.00	5.00	1.00	1.00
6	23-Sep-10	1.00	1.00	5.00	5.00	1.00	1.00
7	20-Dec-10	1.00	1.00	5.00	5.00	1.00	1.00
8	28-Mar-11	6.00	1.00	5.00	5.00	1.00	6.00
9	24-Jun-11	6.20	1.00	5.00	5.00	1.00	11.40
10	20-Sep-11	9.80	1.00	4.30	5.00	1.00	14.10
	S =	24	0	-9	0	-9	11
	n =	10	10	10	10	10	10
	Average =	2.9	1	4.93	5	1.03	5.85
	Standard Deviation =	3.221110919	0	0.221359436	0	0.09486833	6.646176846
	Coefficient of Variation(CV)=	1.110727903	0	0.044900494	0	0.092105175	1.136098606
Increasing Trend (80% Confidence)		**YES**	NO	NO	NO	NO	**YES**
Decreasing Trend (80% Confidence)		NO	NO	NO	NO	NO	NO
Undetermined Stable Trend, CV<=1		NO	YES	YES	YES	YES	NO
Undetermined Non-Stable Trend, CV>1		NO	NO	NO	NO	NO	NO
Error Check, OK if Blank							
Stable or Decreasing Trend at 80% Confidence Level		**NO**	YES	YES	YES	YES	**NO**
	Data Entry By =	KBR	Date =	21-Nov-11	Checked By =		

Appendix C
Mann-Kendall Statistical Test - PW-3
Byron Barrel Drum Site
Byron Township, NY

State of Wisconsin — **Mann-Kendall Statistical Test**

Department of Natural Resources — **Form 4400-215 (5/2000)**

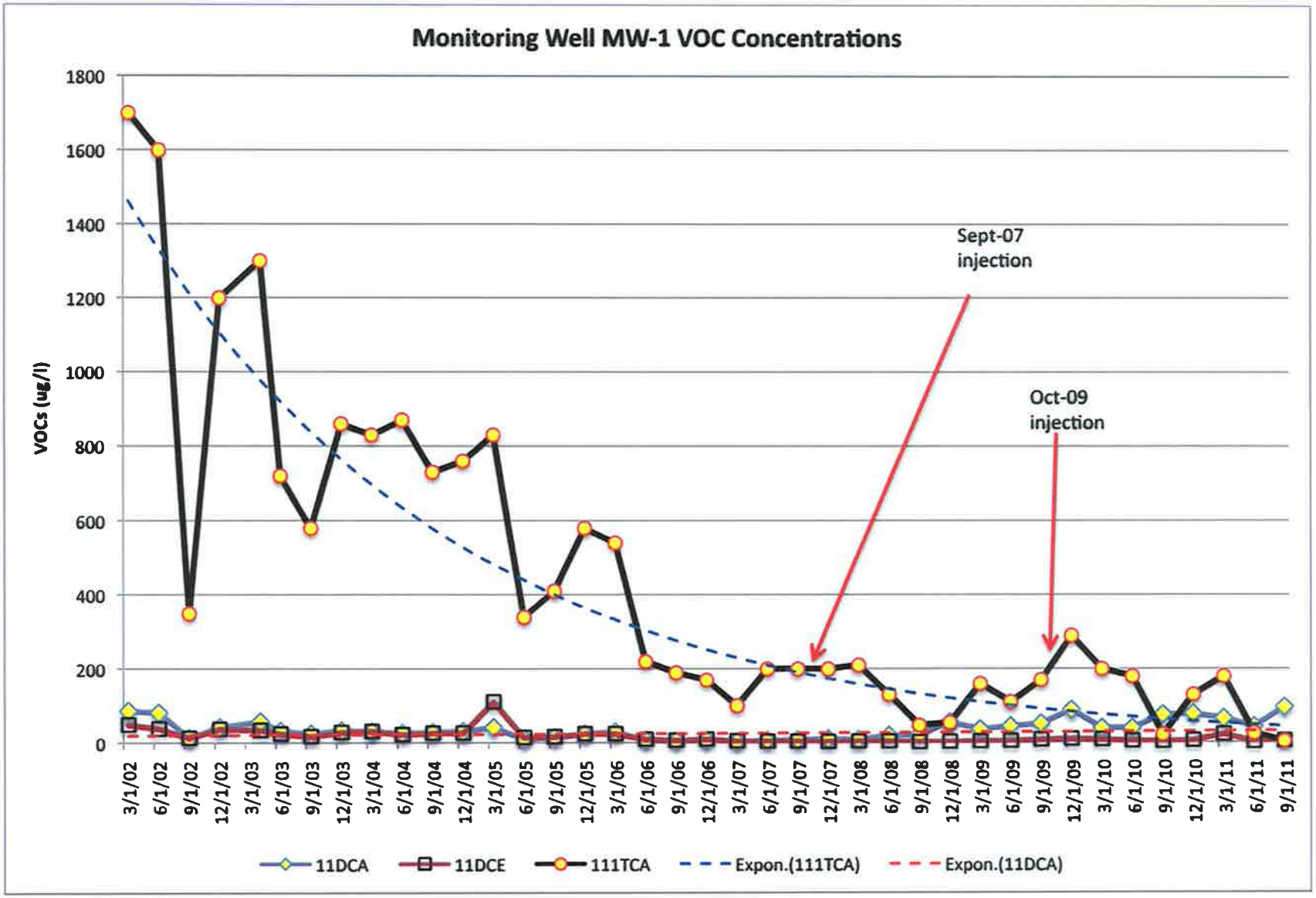
Remediation and Redevelopment Program

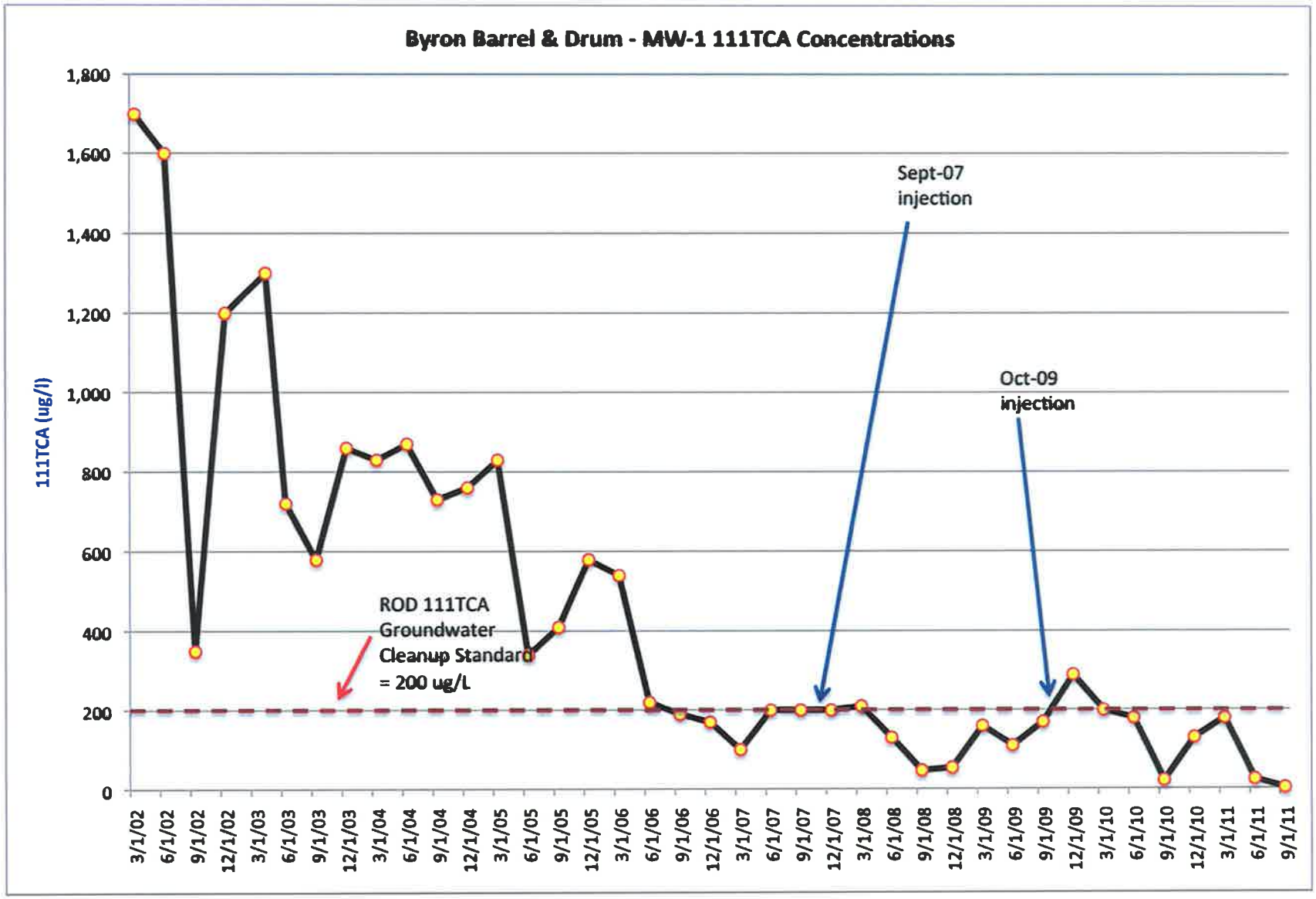
Notice: This form is provided to consultants as an optional tool to be used to provide groundwater contaminant data required to support site closure requests under s. Comm 46.07 or s. NR 746.07, Wis. Adm. Code. Use this form or a manual method to calculate the Mann-Kendall statistic, as specified in Appendix A of ch. Comm 46 and ch. NR 746, Wis. Adm. Code.

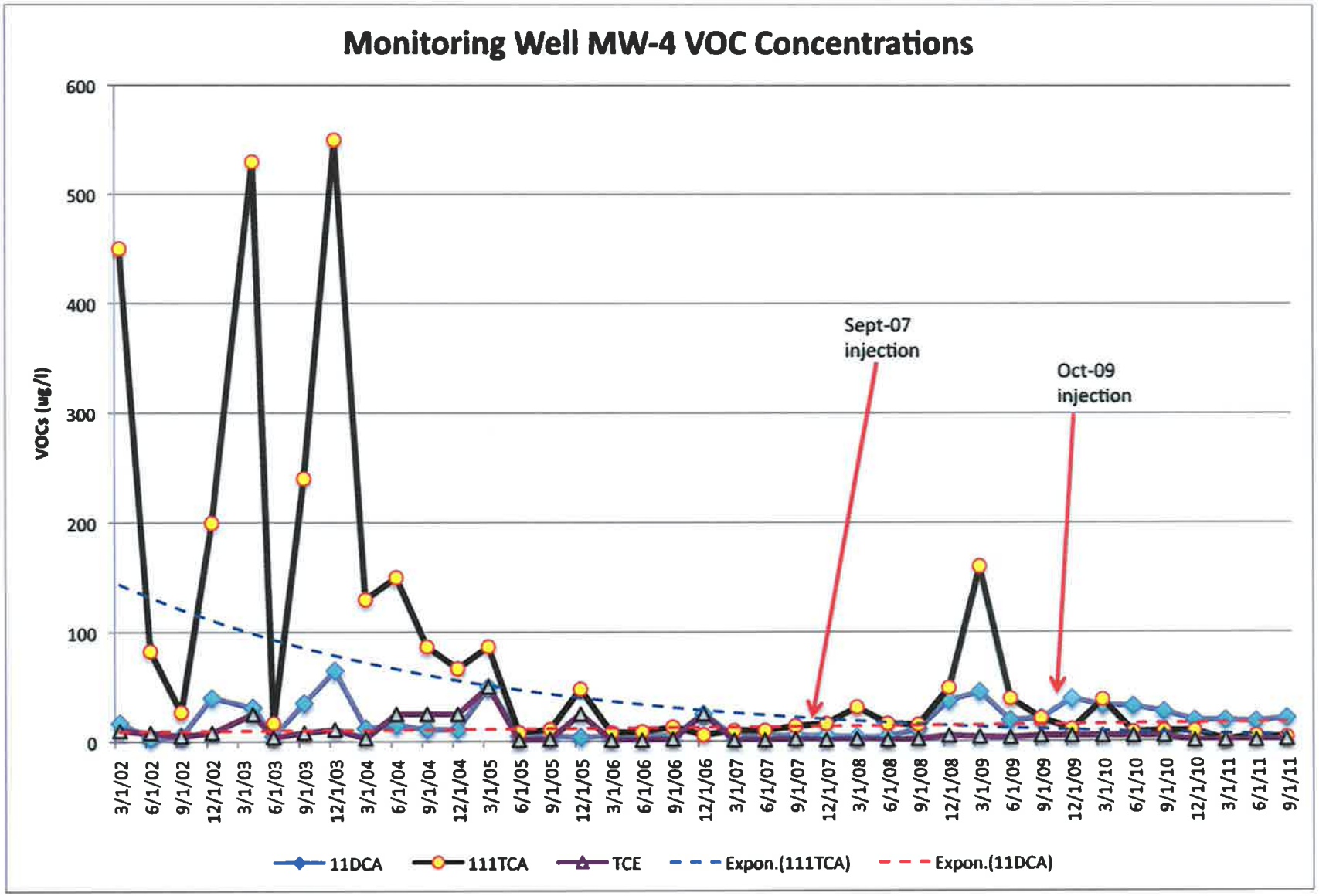
Instructions: To use the spreadsheet, provide at least four rounds and not more than 10 rounds of data. Use cells with yellow background for data entry. Use consistent units. The spreadsheet contains several error checks, and a data entry error may cause "DATA ERR" to be displayed. Dates that are not consecutive will show an error message and will not display the test results. The spreadsheet tests the data for both increasing and decreasing trends at an 80% confidence level. If an increasing or decreasing trend is not present, use an additional coefficient of variation test is used for stable and non-stable conditions as proposed by Wiedemeier et al, 1999. For additional information, refer to guidance in Interim Guidance on Natural Attenuation for Petroleum Releases, dated October 1999. Refer to the guidance for recommendations on data entry for non-detect values.

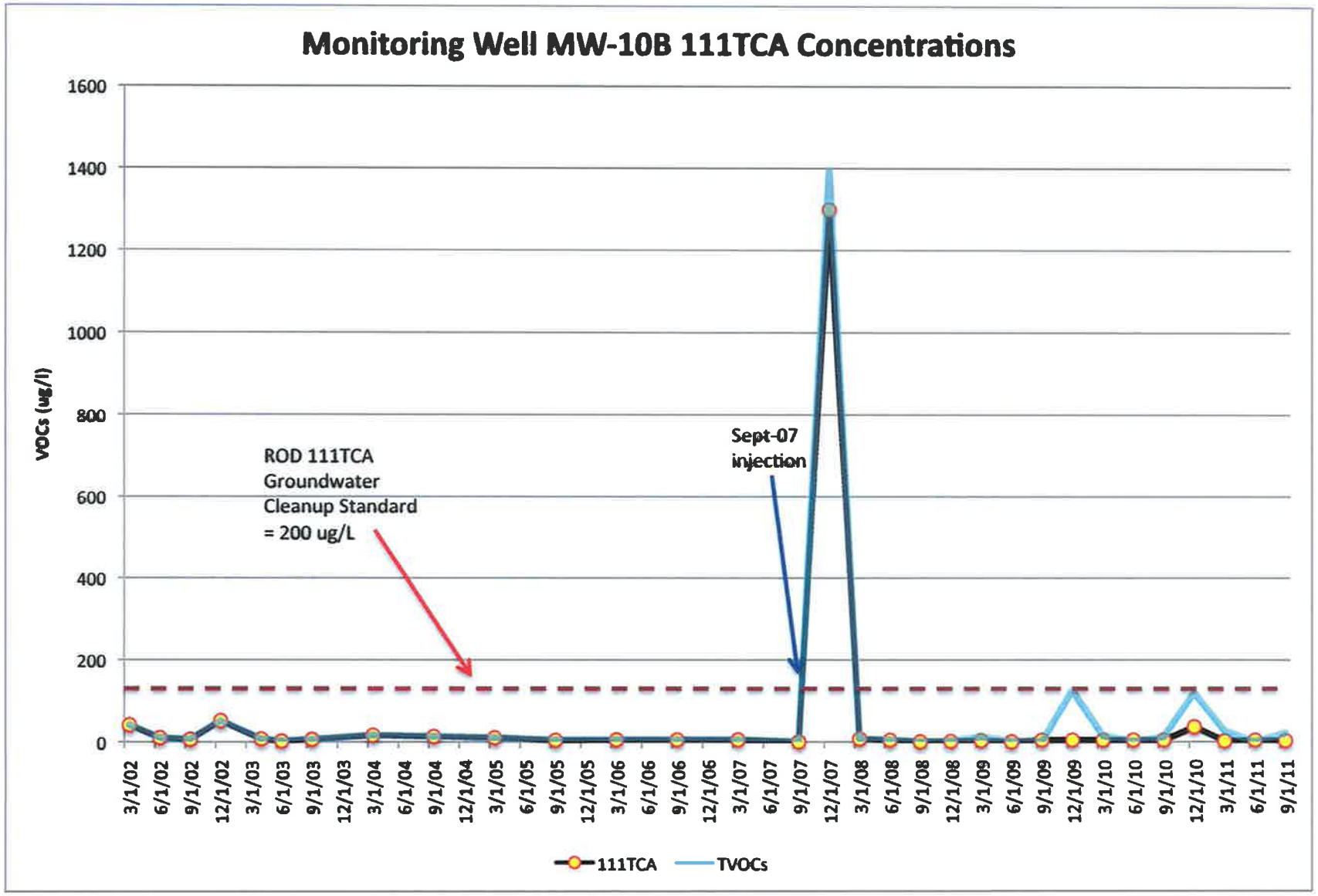
Site Name =	Byron Barrel & Drum	Byron Township	New York	BRRTS No. =		Well Number =	PW-3
	Compound	11DCA	11DCE	Methylene Chloride	111TCA	TCE	TVOCs
Event Number	Sampling Date (most recent last)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	23-Jun-09	1.00	1.00	1.00	16.00	1.00	17.00
2	25-Sep-09	1.00	1.00	1.00	9.00	1.00	9.00
3	9-Dec-09	1.00	1.00	16.00	1.00	7.20	23.20
4	11-Mar-10	1.00	1.00	6.60	1.00	5.10	11.70
5	17-Jun-10	1.00	1.00	1.00	1.00	1.00	1.00
6	23-Sep-10	1.00	1.00	1.00	1.00	1.00	1.00
7	20-Dec-10	20.00	1.00	13.00	1.00	1.00	33.00
8	28-Mar-11	1.00	1.00	3.70	1.00	1.00	3.70
9	24-Jun-11	1.00	1.00	1.00	1.00	1.00	1.40
10	20-Sep-11	1.00	1.00	1.00	1.00	1.00	1.00
	S =	3	0	-4	-17	-9	-16
	n =	10	10	10	10	10	10
	Average =	2.9	1	4.53	3.3	2.03	10.2
	Standard Deviation =	6.008327554	0	5.607940799	5.121848625	2.22713069	11.11745375
	Coefficient of Variation(CV)=	2.071837088	0	1.237956026	1.552075341	1.097108714	1.089946446
Increasing Trend (80% Confidence)		NO	NO	NO	NO	NO	NO
Decreasing Trend (80% Confidence)		NO	NO	NO	YES	NO	YES
Undetermined Stable Trend, CV<=1		NO	YES	NO	NO	NO	NO
Undetermined Non-Stable Trend, CV>1		**YES**	NO	**YES**	NO	**YES**	NO
Error Check, OK if Blank							
Stable or Decreasing Trend at 80% Confidence Level		**NO**	YES	**NO**	YES	**NO**	YES
	Data Entry By =	KBR	Date =	21-Nov-11	Checked By =		

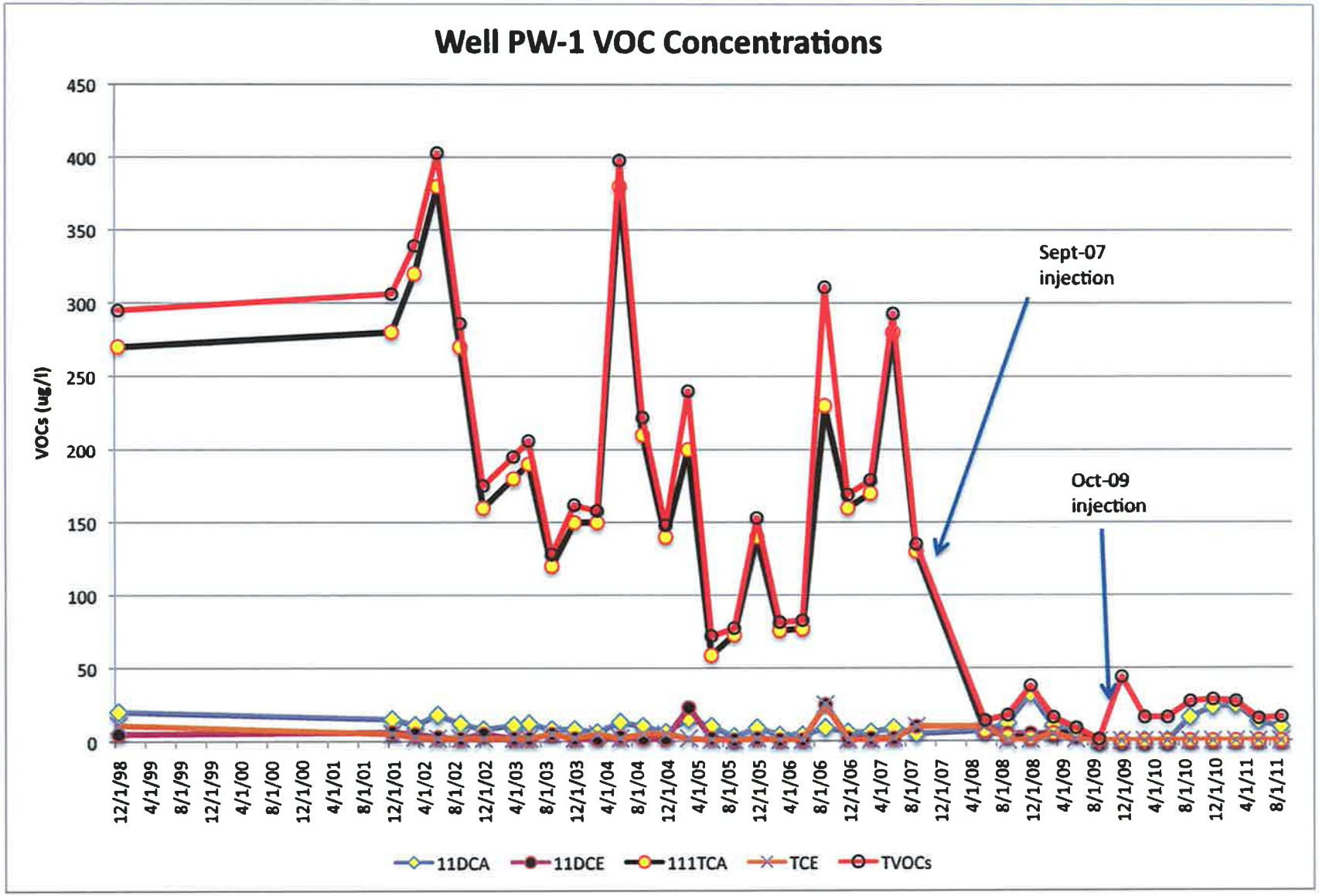
APPENDIX D
Well Isoconcentration Graphs

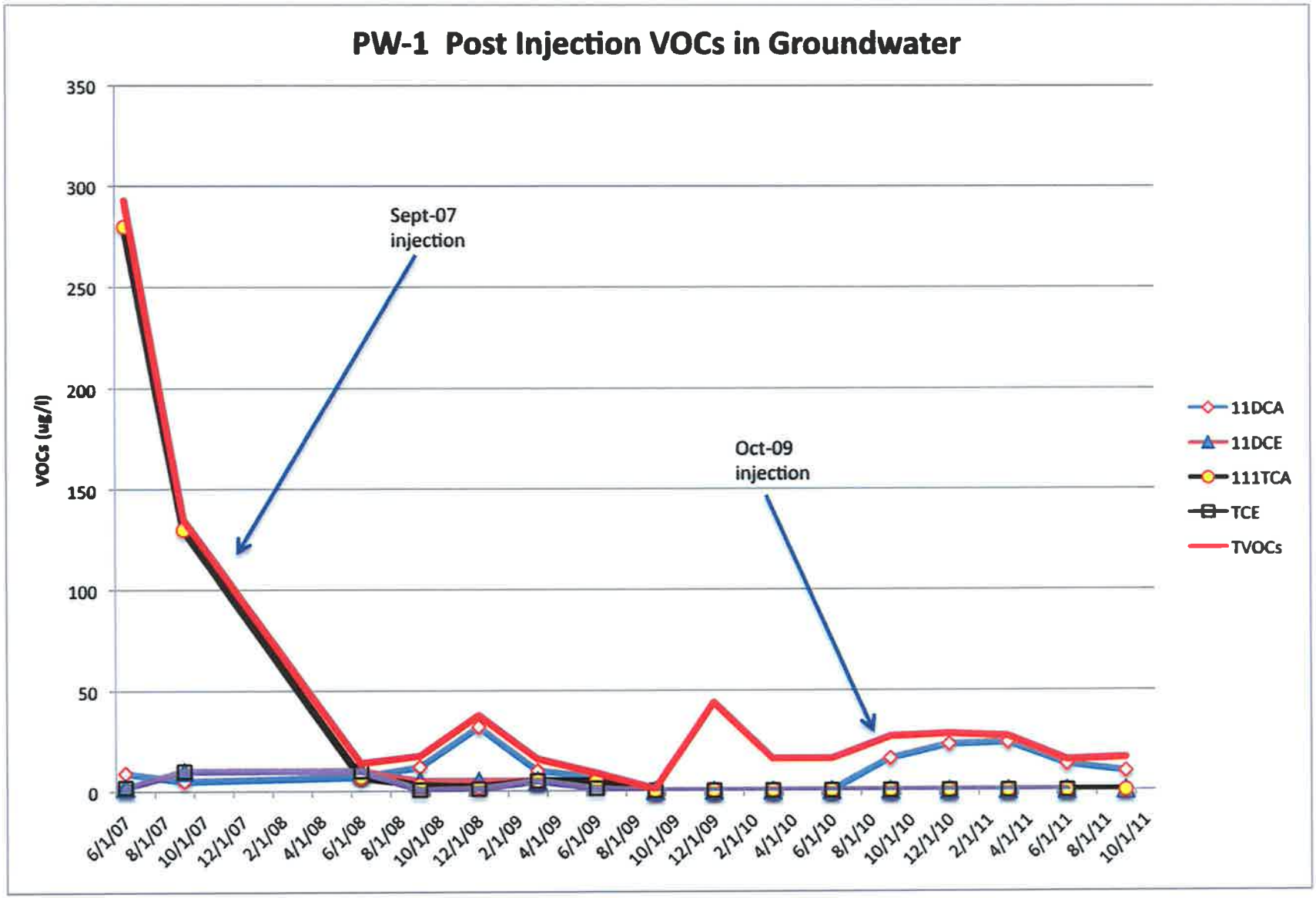

Monitoring Well MW-1 VOC Concentrations
VOCs (ug/l)
1800
1600
1400
1200
1000
800
600
400
200
0
Sept-07
injection
Oct-09
injection
3/1/02
6/1/02
9/1/02
12/1/02
3/1/03
6/1/03
9/1/03
12/1/03
3/1/04
6/1/04
9/1/04
12/1/04
3/1/05
6/1/05
9/1/05
12/1/05
3/1/06
6/1/06
9/1/06
12/1/06
3/1/07
6/1/07
9/1/07
12/1/07
3/1/08
6/1/08
9/1/08
12/1/08
3/1/09
6/1/09
9/1/09
12/1/09
3/1/10
6/1/10
9/1/10
12/1/10
3/1/11
6/1/11
9/1/11
11DCA
11DCE
111TCA
Expon.(111TCA)
Expon.(11DCA)

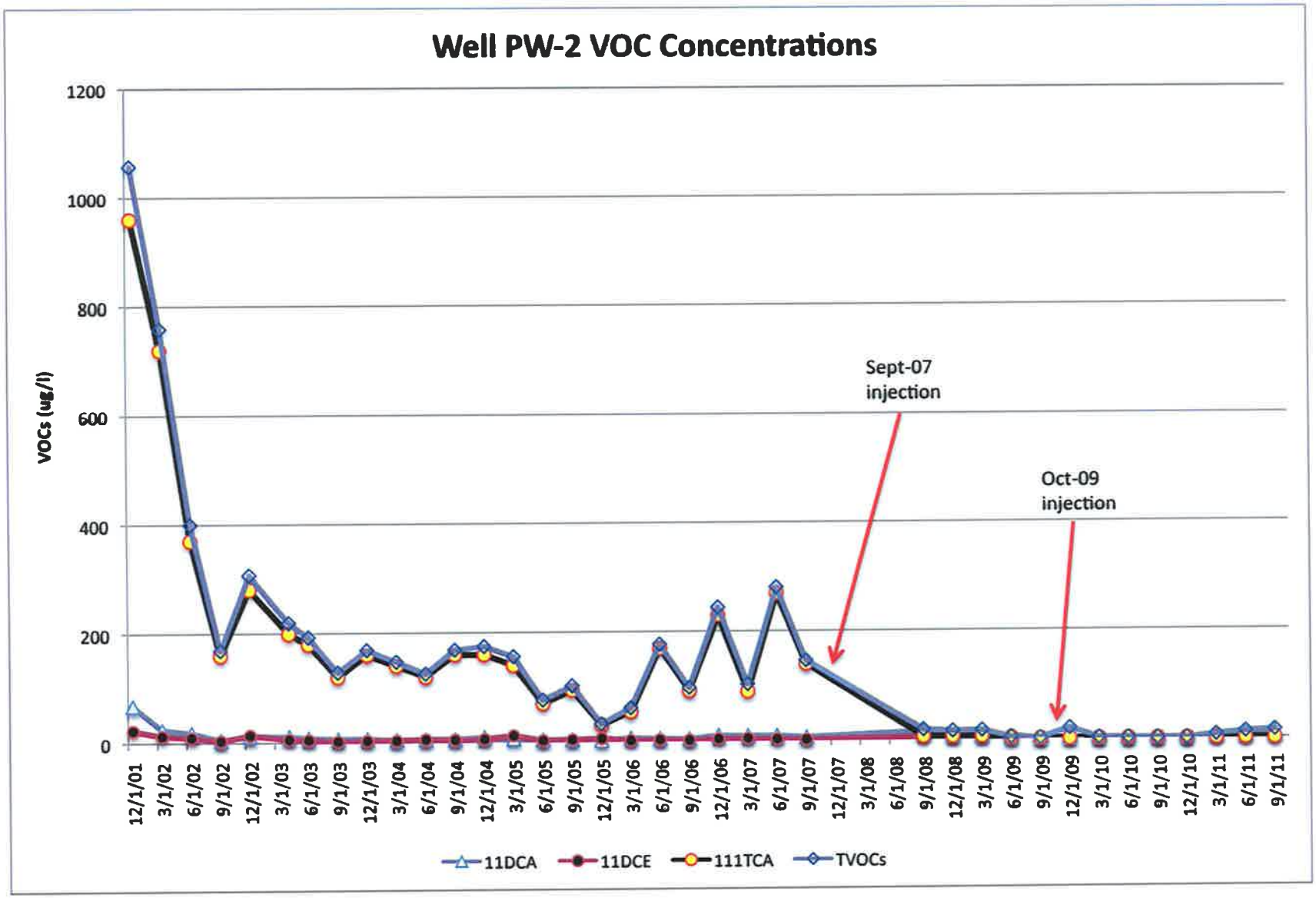

Byron Barrel & Drum - MW-1 111TCA Concentrations
111TCA (ug/l)
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
Sept-07
injection
Oct-09
injection
ROD 111TCA
Groundwater
Cleanup Standard
= 200 ug/L
3/1/02
6/1/02
9/1/02
12/1/02
3/1/03
6/1/03
9/1/03
12/1/03
3/1/04
6/1/04
9/1/04
12/1/04
3/1/05
6/1/05
9/1/05
12/1/05
3/1/06
6/1/06
9/1/06
12/1/06
3/1/07
6/1/07
9/1/07
12/1/07
3/1/08
6/1/08
9/1/08
12/1/08
3/1/09
6/1/09
9/1/09
12/1/09
3/1/10
6/1/10
9/1/10
12/1/10
3/1/11
6/1/11
9/1/11

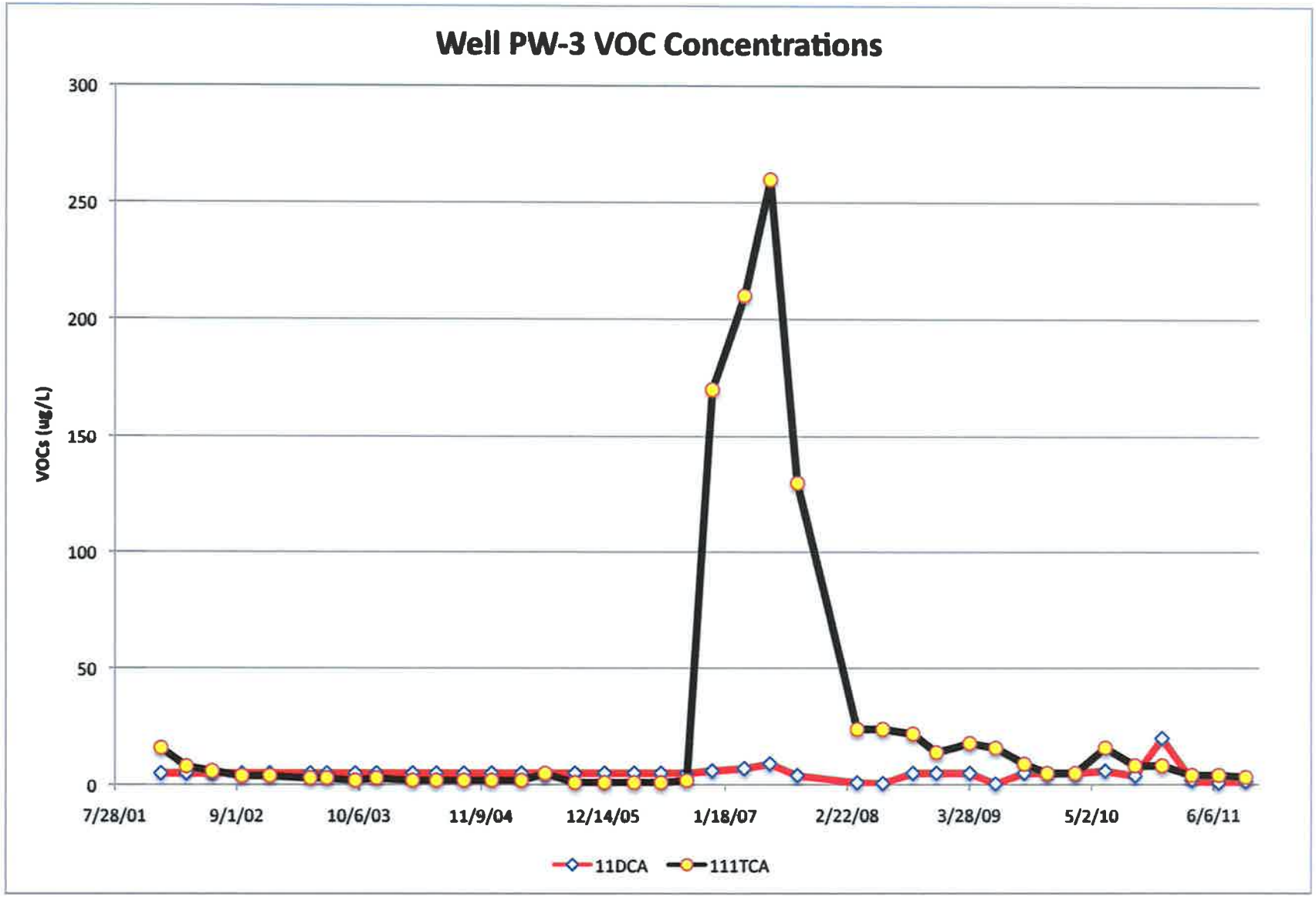

Monitoring Well MW-4 VOC Concentrations
VOCs (ug/l)
600
500
400
300
200
100
0
Sept-07 injection
Oct-09 injection
3/1/02
6/1/02
9/1/02
12/1/02
3/1/03
6/1/03
9/1/03
12/1/03
3/1/04
6/1/04
9/1/04
12/1/04
3/1/05
6/1/05
9/1/05
12/1/05
3/1/06
6/1/06
9/1/06
12/1/06
3/1/07
6/1/07
9/1/07
12/1/07
3/1/08
6/1/08
9/1/08
12/1/08
3/1/09
6/1/09
9/1/09
12/1/09
3/1/10
6/1/10
9/1/10
12/1/10
3/1/11
6/1/11
9/1/11
11DCA
111TCA
TCE
Expon.(111TCA)
Expon.(11DCA)

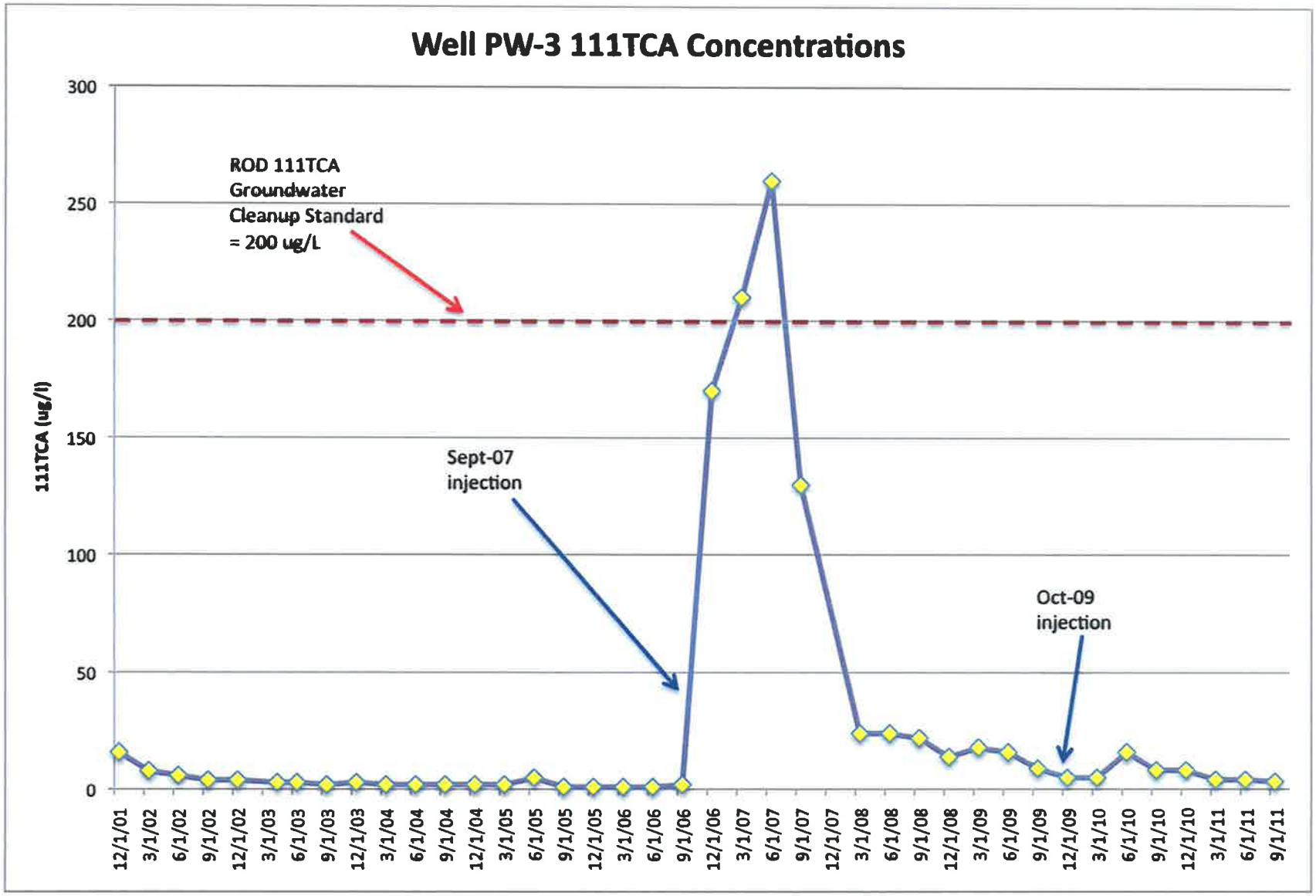

Monitoring Well MW-10B 111TCA Concentrations
VOCs (ug/l)
1600
1400
1200
1000
800
600
400
200
0
ROD 111TCA
Groundwater
Cleanup Standard
= 200 ug/L
Sept-07
injection
3/1/02
6/1/02
9/1/02
12/1/02
3/1/03
6/1/03
9/1/03
12/1/03
3/1/04
6/1/04
9/1/04
12/1/04
3/1/05
6/1/05
9/1/05
12/1/05
3/1/06
6/1/06
9/1/06
12/1/06
3/1/07
6/1/07
9/1/07
12/1/07
3/1/08
6/1/08
9/1/08
12/1/08
3/1/09
6/1/09
9/1/09
12/1/09
3/1/10
6/1/10
9/1/10
12/1/10
3/1/11
6/1/11
9/1/11
111TCA
TVOCs

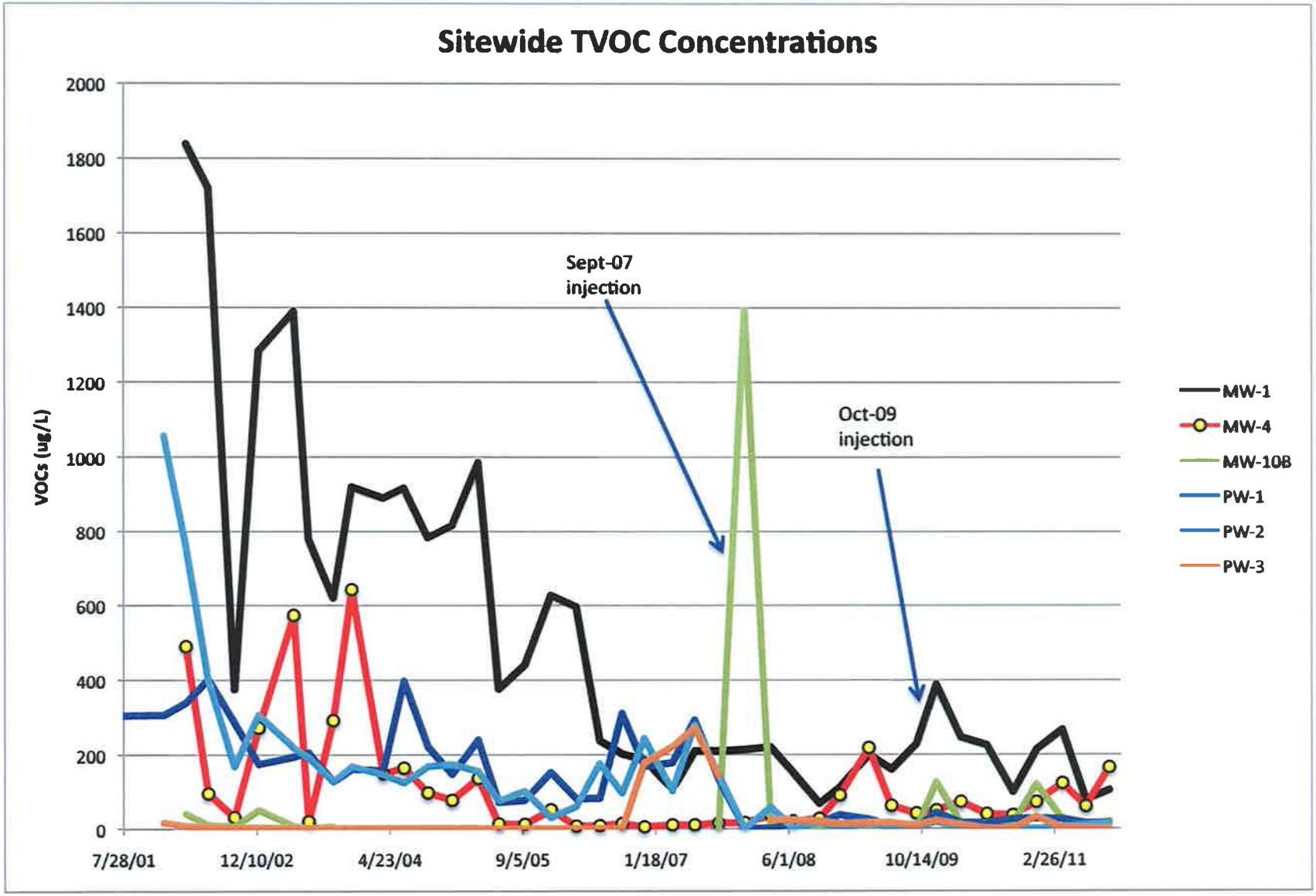

Well PW-1 VOC Concentrations
VOCs (ug/l)
450
400
350
300
250
200
150
100
50
0
Sept-07 injection
Oct-09 injection
12/1/98
4/1/99
8/1/99
12/1/99
4/1/00
8/1/00
12/1/00
4/1/01
8/1/01
12/1/01
4/1/02
8/1/02
12/1/02
4/1/03
8/1/03
12/1/03
4/1/04
8/1/04
12/1/04
4/1/05
8/1/05
12/1/05
4/1/06
8/1/06
12/1/06
4/1/07
8/1/07
12/1/07
4/1/08
8/1/08
12/1/08
4/1/09
8/1/09
12/1/09
4/1/10
8/1/10
12/1/10
4/1/11
8/1/11
11DCA
11DCE
111TCA
TCE
TVOCs

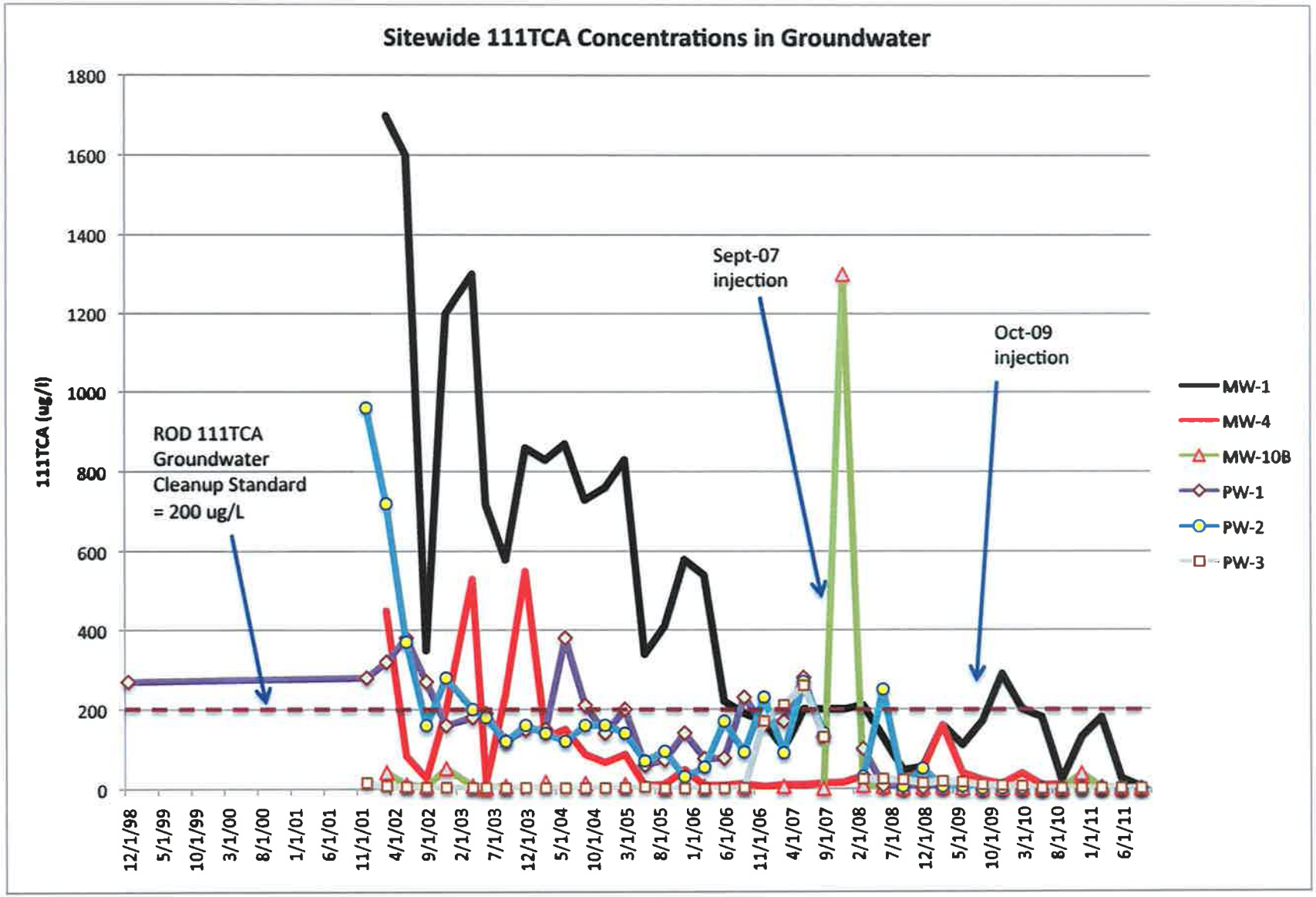

PW-1 Post Injection VOCs in Groundwater
VOCs (ug/l)
350
300
250
200
150
100
50
0
Sept-07
injection
Oct-09
injection
6/1/07
8/1/07
10/1/07
12/1/07
2/1/08
4/1/08
6/1/08
8/1/08
10/1/08
12/1/08
2/1/09
4/1/09
6/1/09
8/1/09
10/1/09
12/1/09
2/1/10
4/1/10
6/1/10
8/1/10
10/1/10
12/1/10
2/1/11
4/1/11
6/1/11
8/1/11
10/1/11
11DCA
11DCE
111TCA
TCE
TVOCs


Well PW-2 VOC Concentrations
VOCs (ug/l)
1200
1000
800
600
400
200
0
Sept-07
injection
Oct-09
injection
12/1/01
3/1/02
6/1/02
9/1/02
12/1/02
3/1/03
6/1/03
9/1/03
12/1/03
3/1/04
6/1/04
9/1/04
12/1/04
3/1/05
6/1/05
9/1/05
12/1/05
3/1/06
6/1/06
9/1/06
12/1/06
3/1/07
6/1/07
9/1/07
12/1/07
3/1/08
6/1/08
9/1/08
12/1/08
3/1/09
6/1/09
9/1/09
12/1/09
3/1/10
6/1/10
9/1/10
12/1/10
3/1/11
6/1/11
9/1/11
11DCA
11DCE
111TCA
TVOCs

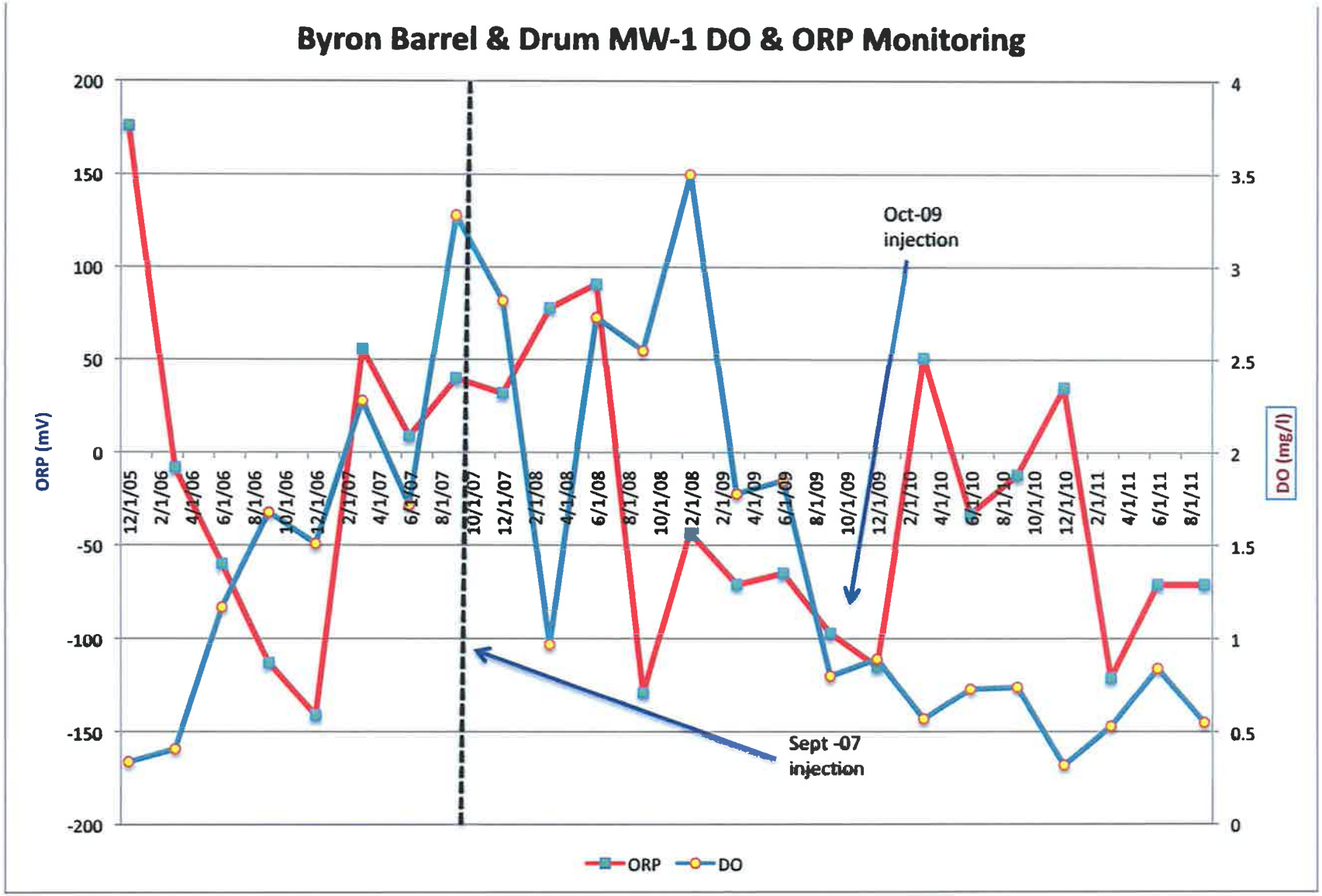

Well PW-3 VOC Concentrations
VOCs (ug/L)
300
250
200
150
100
50
0
7/28/01
9/1/02
10/6/03
11/9/04
12/14/05
1/18/07
2/22/08
3/28/09
5/2/10
6/6/11
11DCA
111TCA

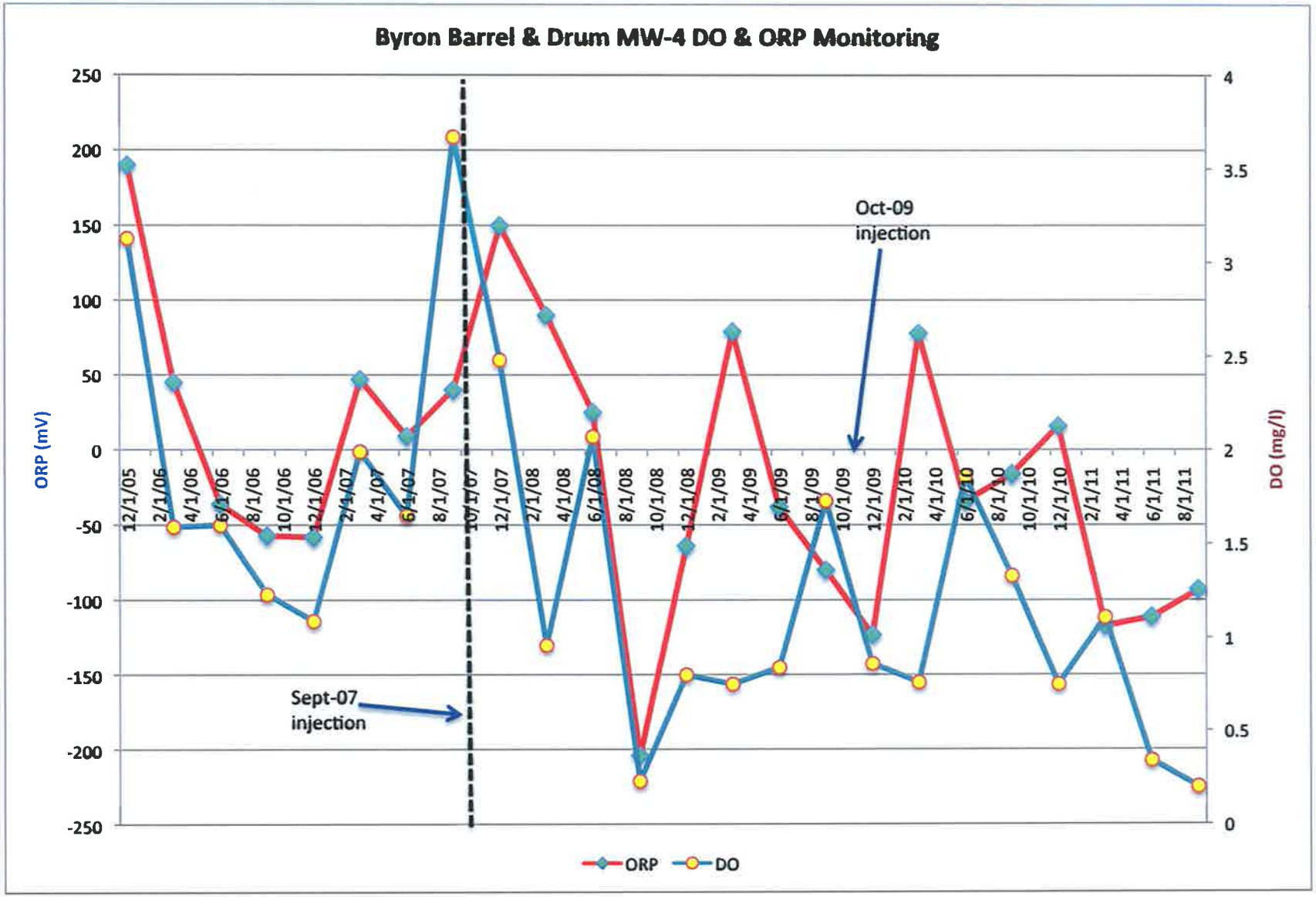

Well PW-3 111TCA Concentrations
111TCA (ug/l)
300
250
200
150
100
50
0
ROD 111TCA
Groundwater
Cleanup Standard
= 200 ug/L
Sept-07
injection
Oct-09
injection
12/1/01
3/1/02
6/1/02
9/1/02
12/1/02
3/1/03
6/1/03
9/1/03
12/1/03
3/1/04
6/1/04
9/1/04
12/1/04
3/1/05
6/1/05
9/1/05
12/1/05
3/1/06
6/1/06
9/1/06
12/1/06
3/1/07
6/1/07
9/1/07
12/1/07
3/1/08
6/1/08
9/1/08
12/1/08
3/1/09
6/1/09
9/1/09
12/1/09
3/1/10
6/1/10
9/1/10
12/1/10
3/1/11
6/1/11
9/1/11

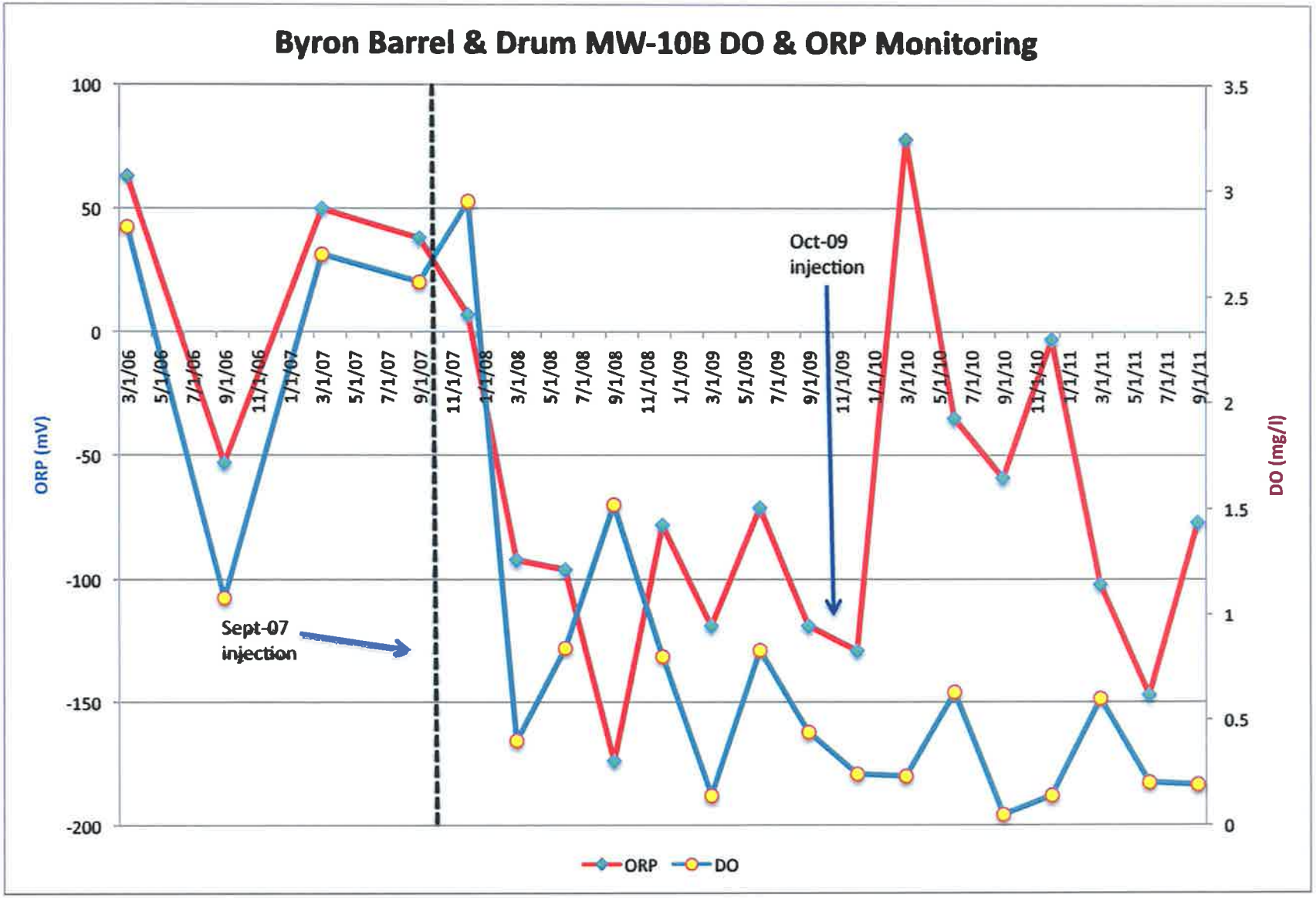

Sitewide TVOC Concentrations
VOCs (ug/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
7/28/01
12/10/02
4/23/04
9/5/05
1/18/07
6/1/08
10/14/09
2/26/11
Sept-07 injection
Oct-09 injection
MW-1
MW-4
MW-10B
PW-1
PW-2
PW-3

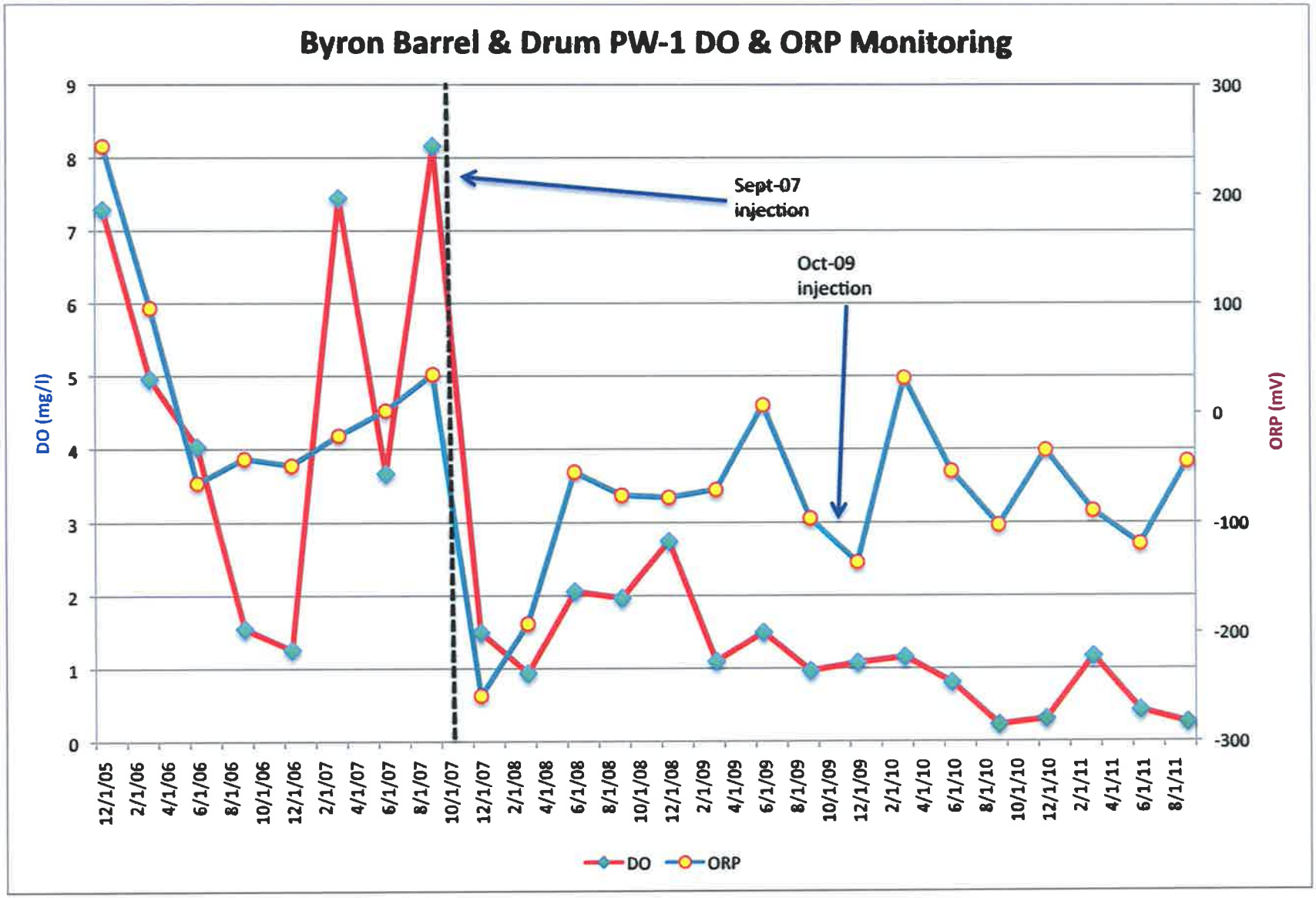

Sitewide 111TCA Concentrations in Groundwater
111TCA (ug/l)
1800
1600
1400
1200
1000
800
600
400
200
0
ROD 111TCA
Groundwater
Cleanup Standard
= 200 ug/L
Sept-07
injection
Oct-09
injection
MW-1
MW-4
MW-10B
PW-1
PW-2
PW-3
12/1/98
5/1/99
10/1/99
3/1/00
8/1/00
1/1/01
6/1/01
11/1/01
4/1/02
9/1/02
2/1/03
7/1/03
12/1/03
5/1/04
10/1/04
3/1/05
8/1/05
1/1/06
6/1/06
11/1/06
4/1/07
9/1/07
2/1/08
7/1/08
12/1/08
5/1/09
10/1/09
3/1/10
8/1/10
1/1/11
6/1/11

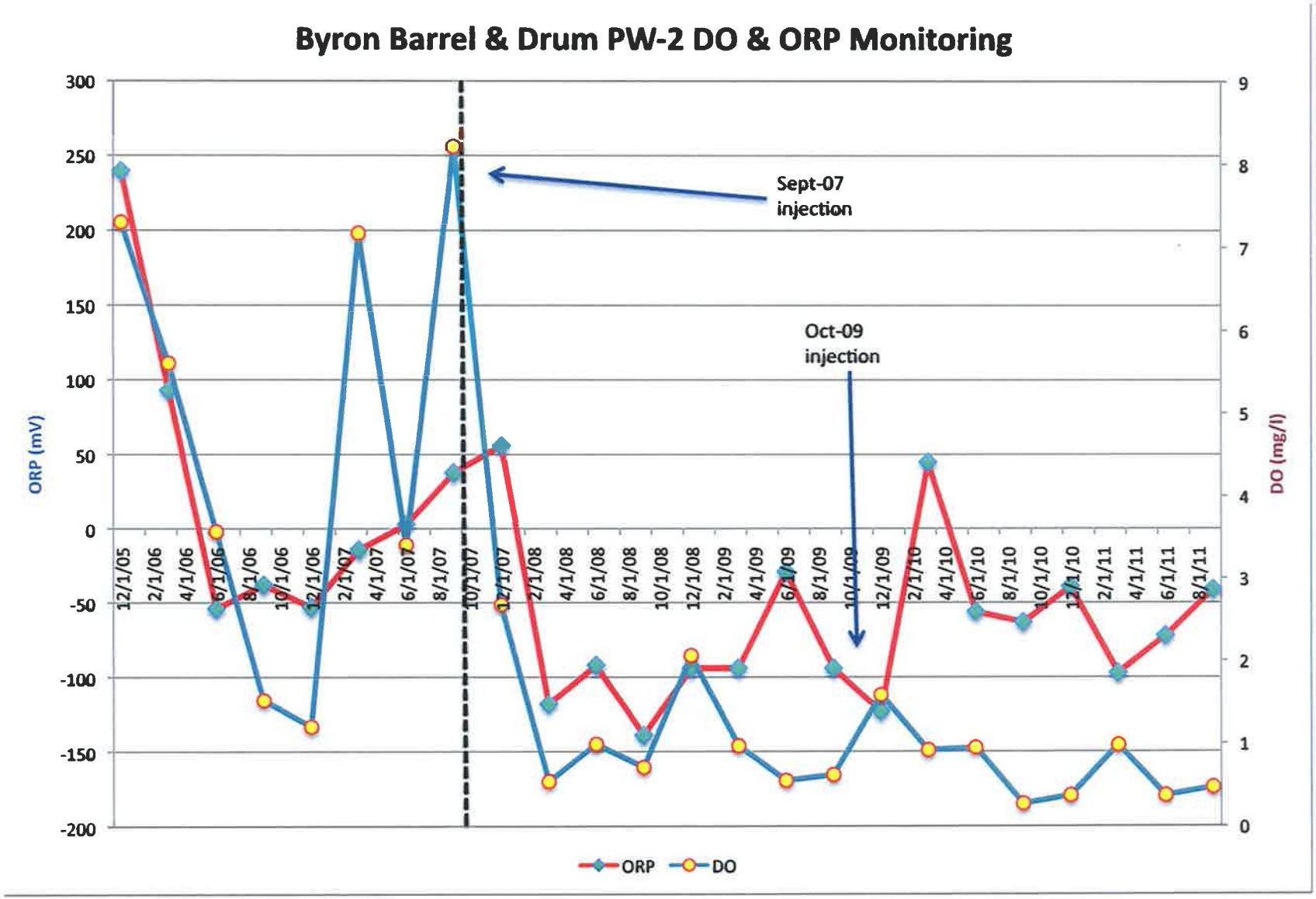
APPENDIX E
DO & ORP Graphs

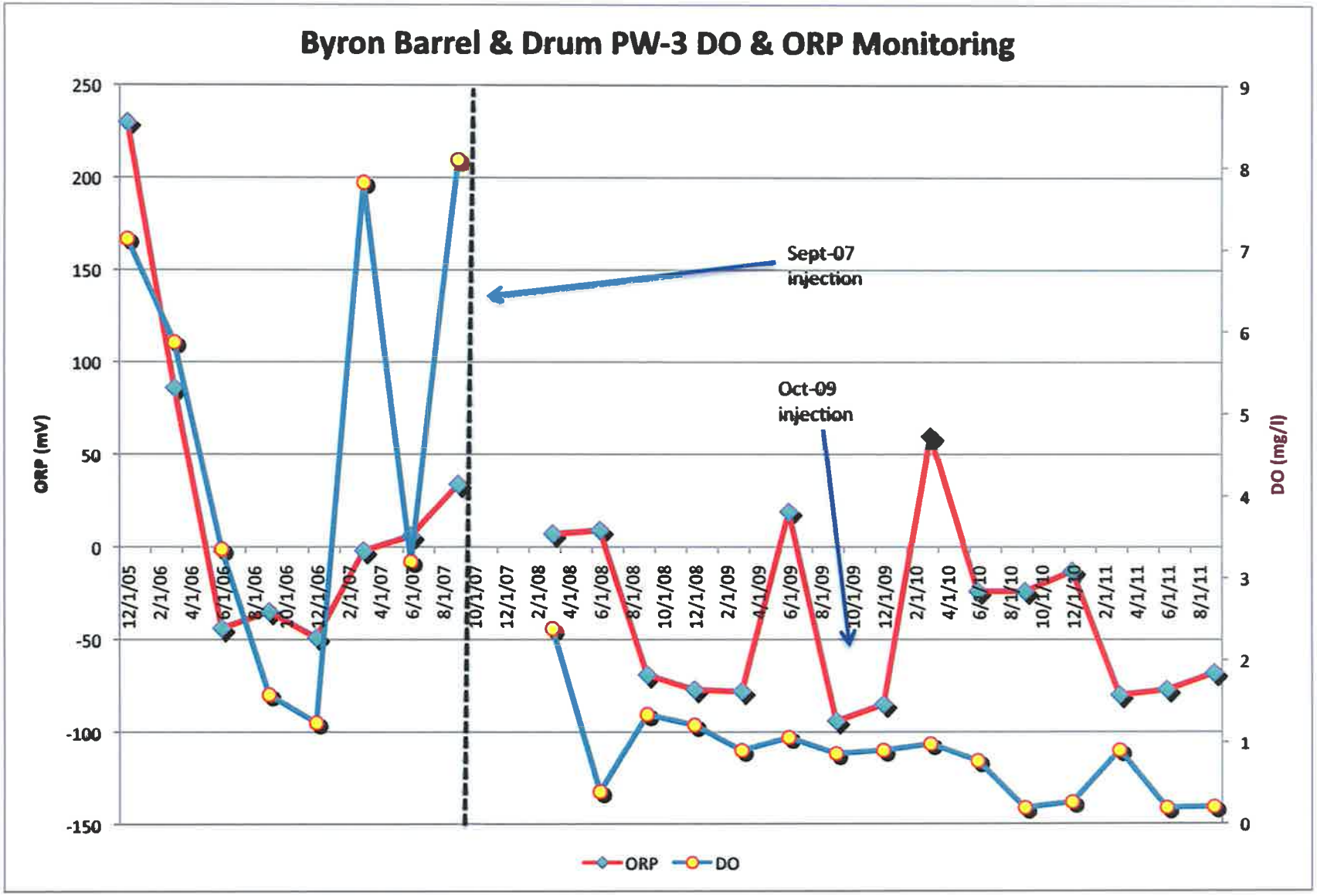

Byron Barrel & Drum MW-1 DO & ORP Monitoring
ORP (mV)
DO (mg/l)
200
150
100
50
0
-50
-100
-150
-200
4
3.5
3
2.5
2
1.5
1
0.5
0
12/1/05
2/1/06
4/1/06
6/1/06
8/1/06
10/1/06
12/1/06
2/1/07
4/1/07
6/1/07
8/1/07
10/1/07
12/1/07
2/1/08
4/1/08
6/1/08
8/1/08
10/1/08
12/1/08
2/1/09
4/1/09
6/1/09
8/1/09
10/1/09
12/1/09
2/1/10
4/1/10
6/1/10
8/1/10
10/1/10
12/1/10
2/1/11
4/1/11
6/1/11
8/1/11
Oct-09
injection
Sept -07
injection
ORP
DO


Byron Barrel & Drum MW-4 DO & ORP Monitoring
ORP (mV)
DO (mg/l)
250
200
150
100
50
0
-50
-100
-150
-200
-250
4
3.5
3
2.5
2
1.5
1
0.5
0
12/1/05
2/1/06
4/1/06
6/1/06
8/1/06
10/1/06
12/1/06
2/1/07
4/1/07
6/1/07
8/1/07
10/1/07
12/1/07
2/1/08
4/1/08
6/1/08
8/1/08
10/1/08
12/1/08
2/1/09
4/1/09
6/1/09
8/1/09
10/1/09
12/1/09
2/1/10
4/1/10
6/1/10
8/1/10
10/1/10
12/1/10
2/1/11
4/1/11
6/1/11
8/1/11
Oct-09
injection
Sept-07
injection
ORP
DO

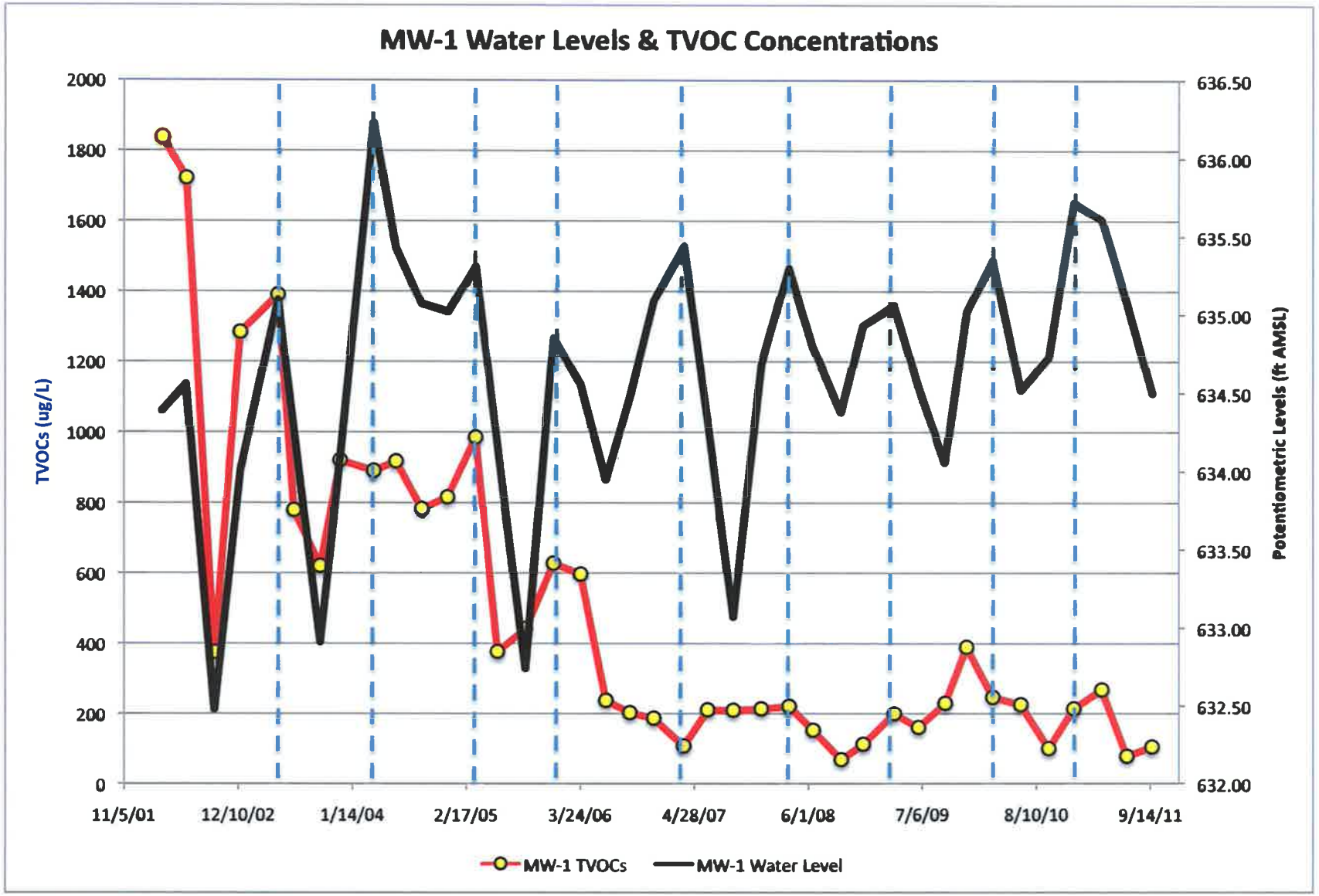

Byron Barrel & Drum MW-10B DO & ORP Monitoring
ORP (mV)
DO (mg/l)
100
50
0
-50
-100
-150
-200
3.5
3
2.5
2
1.5
1
0.5
0
3/1/06
5/1/06
7/1/06
9/1/06
11/1/06
1/1/07
3/1/07
5/1/07
7/1/07
9/1/07
11/1/07
1/1/08
3/1/08
5/1/08
7/1/08
9/1/08
11/1/08
1/1/09
3/1/09
5/1/09
7/1/09
9/1/09
11/1/09
1/1/10
3/1/10
5/1/10
7/1/10
9/1/10
11/1/10
1/1/11
3/1/11
5/1/11
7/1/11
9/1/11
Sept-07 injection
Oct-09 injection
ORP
DO

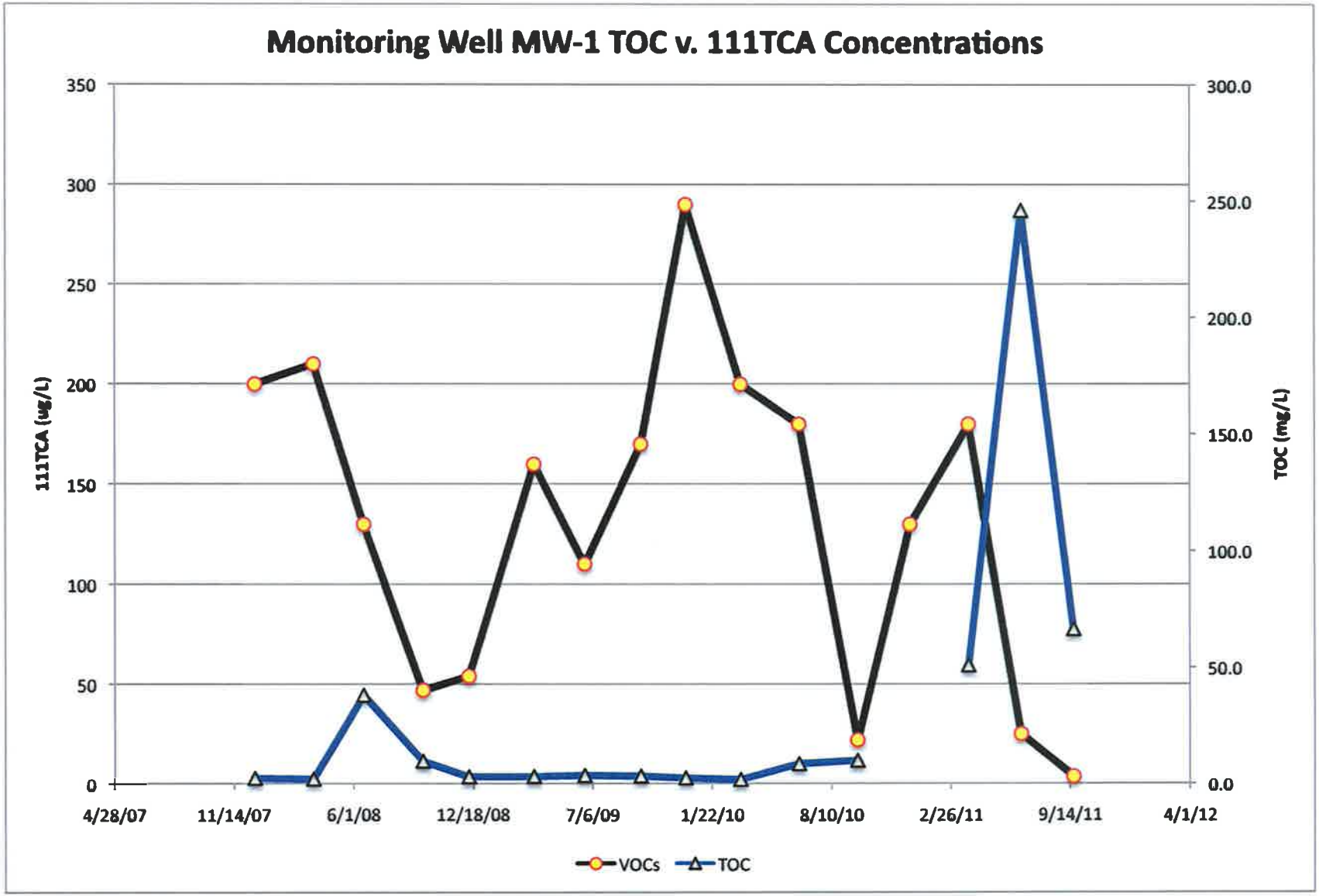

Byron Barrel & Drum PW-1 DO & ORP Monitoring
DO (mg/l)
ORP (mV)
Sept-07 injection
Oct-09 injection
DO
ORP

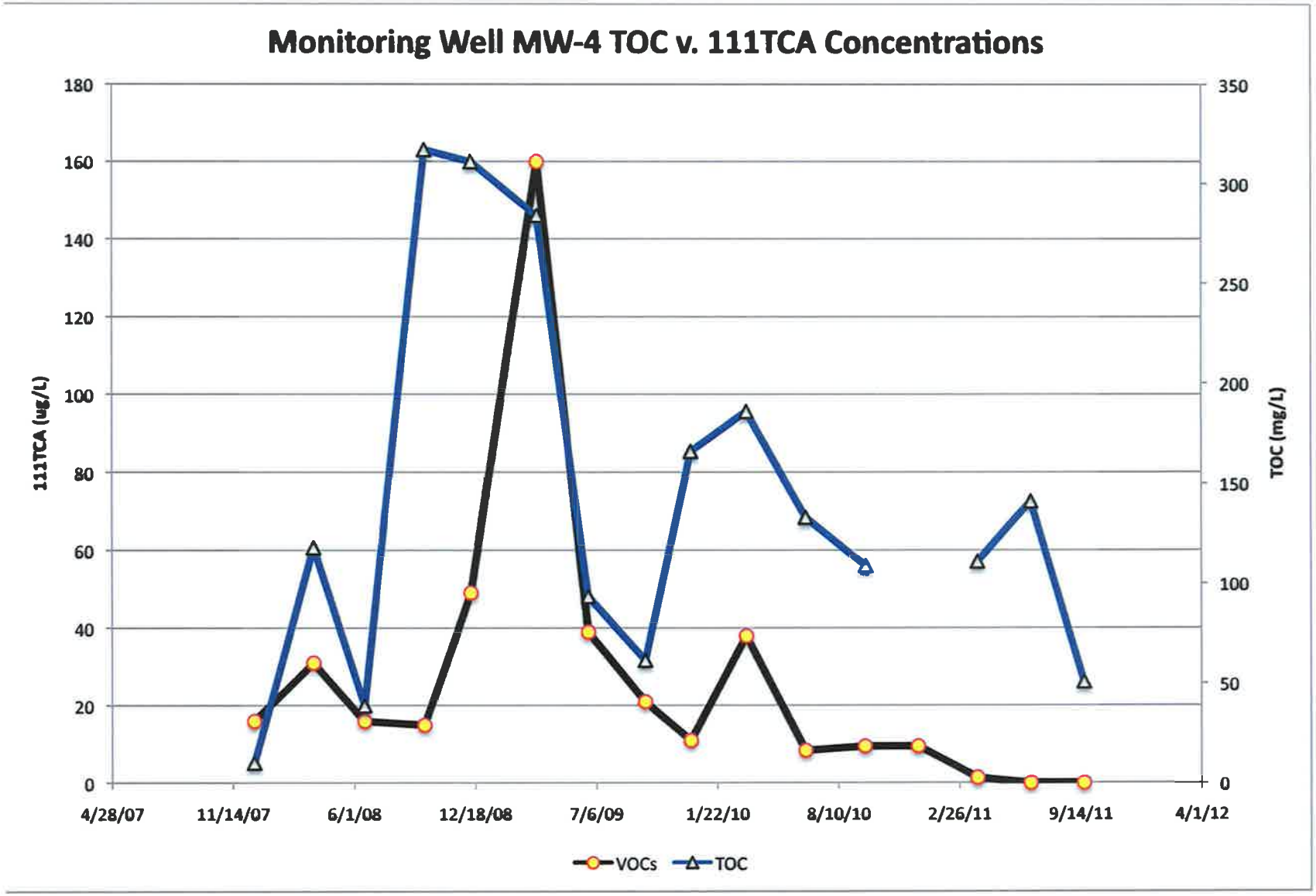

Byron Barrel & Drum PW-2 DO & ORP Monitoring
ORP (mV)
DO (mg/l)
Sept-07 injection
Oct-09 injection
ORP
DO

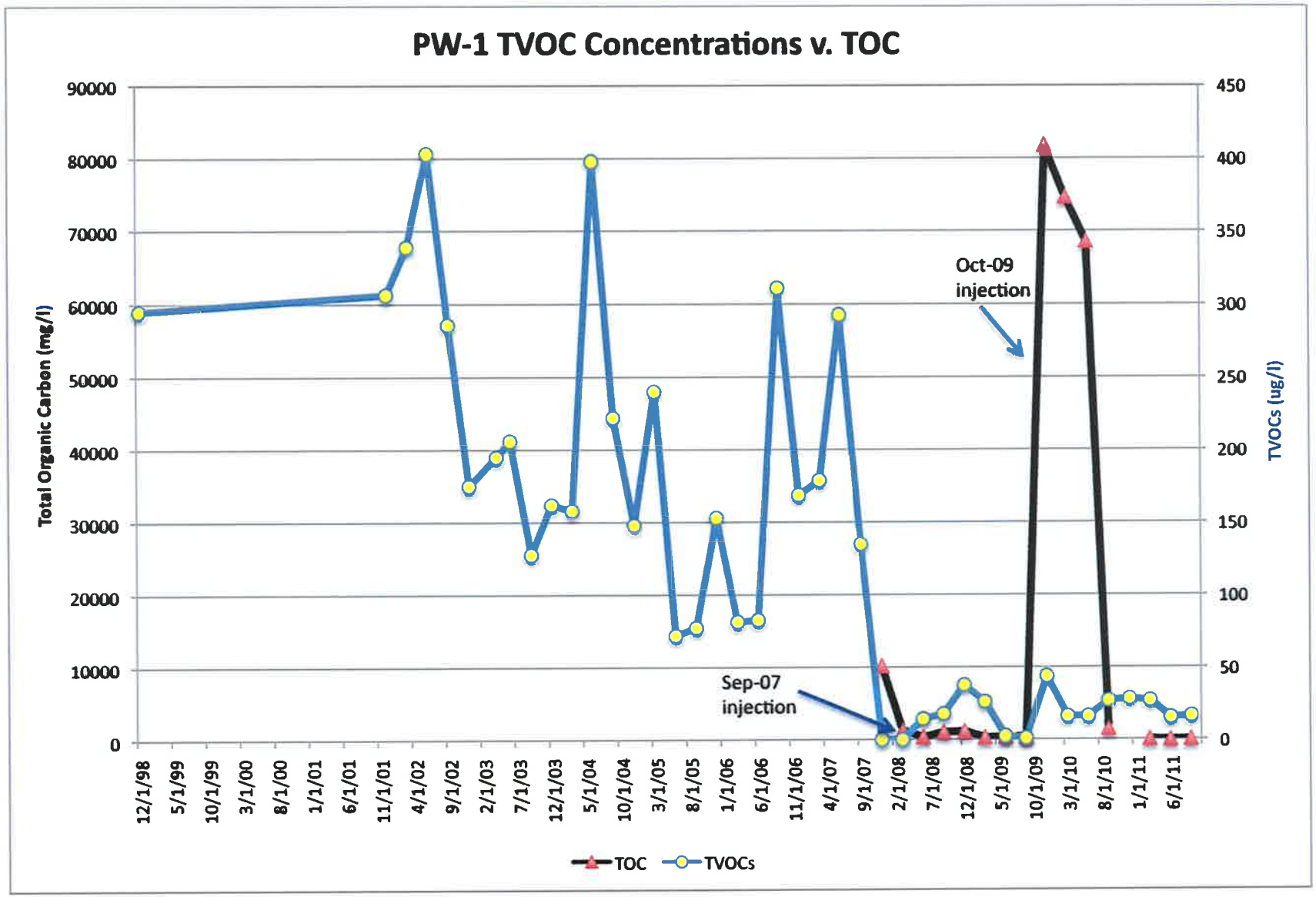

Byron Barrel & Drum PW-3 DO & ORP Monitoring
ORP (mV)
DO (mg/l)
250
200
150
100
50
0
-50
-100
-150
9
8
7
6
5
4
3
2
1
0
Sept-07 injection
Oct-09 injection
12/1/05
2/1/06
4/1/06
6/1/06
8/1/06
10/1/06
12/1/06
2/1/07
4/1/07
6/1/07
8/1/07
10/1/07
12/1/07
2/1/08
4/1/08
6/1/08
8/1/08
10/1/08
12/1/08
2/1/09
4/1/09
6/1/09
8/1/09
10/1/09
12/1/09
2/1/10
4/1/10
6/1/10
8/1/10
10/1/10
12/1/10
2/1/11
4/1/11
6/1/11
8/1/11
ORP
DO

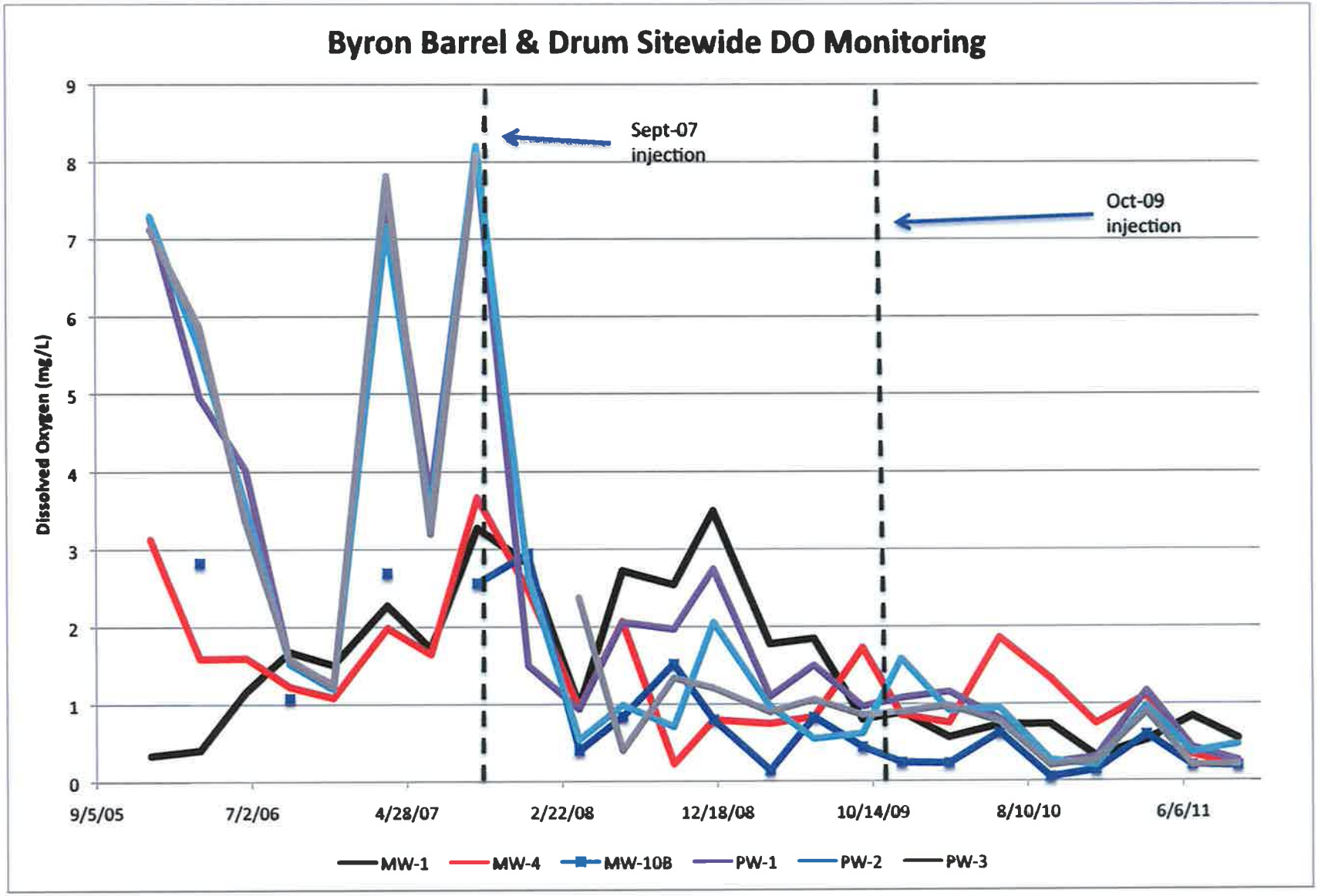
APPENDIX F
ERD Well Graphs

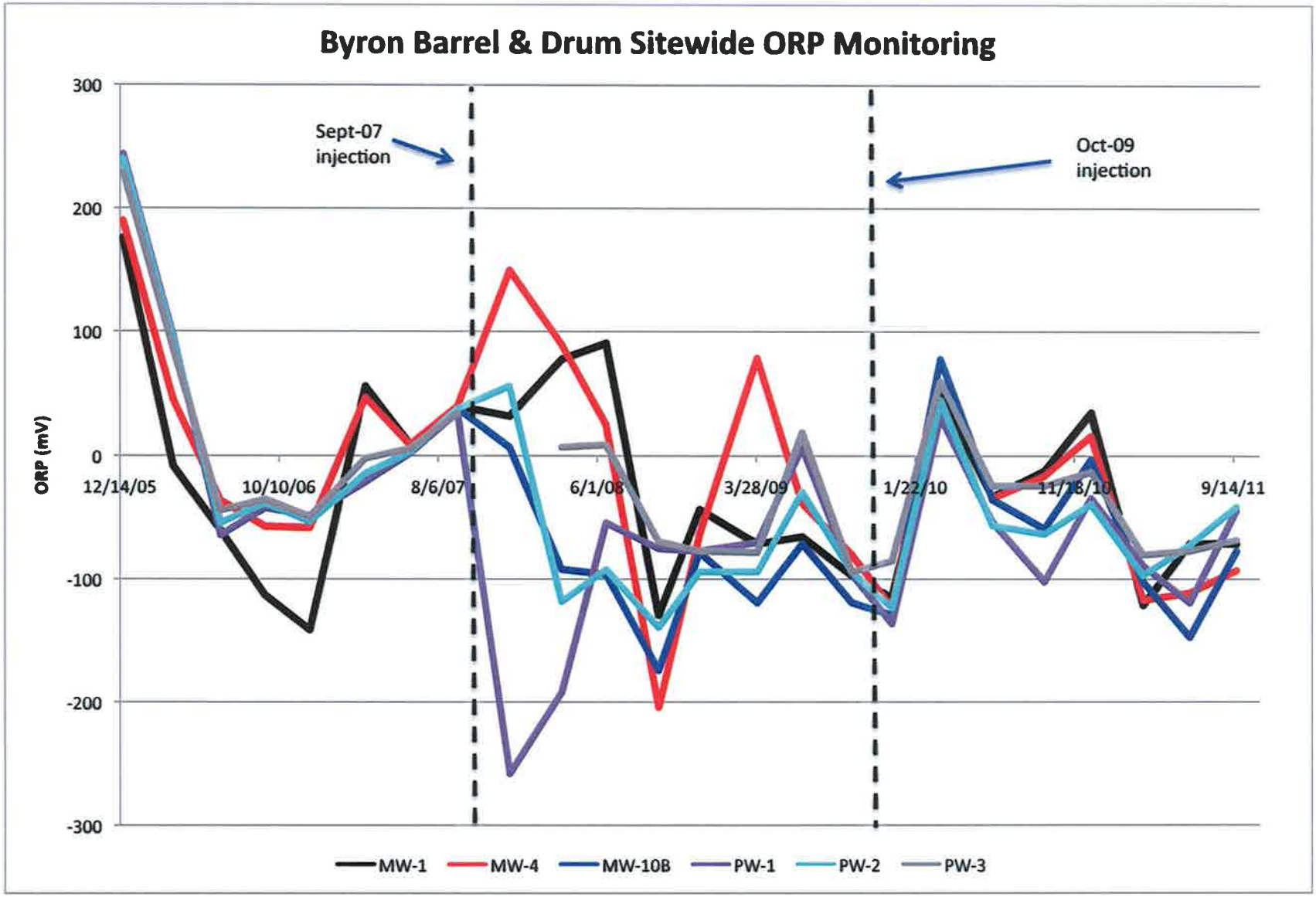

MW-1 Water Levels & TVOC Concentrations
TVOCs (ug/L)
Potentiometric Levels (ft AMSL)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
636.50
636.00
635.50
635.00
634.50
634.00
633.50
633.00
632.50
632.00
11/5/01
12/10/02
1/14/04
2/17/05
3/24/06
4/28/07
6/1/08
7/6/09
8/10/10
9/14/11
MW-1 TVOCs
MW-1 Water Level

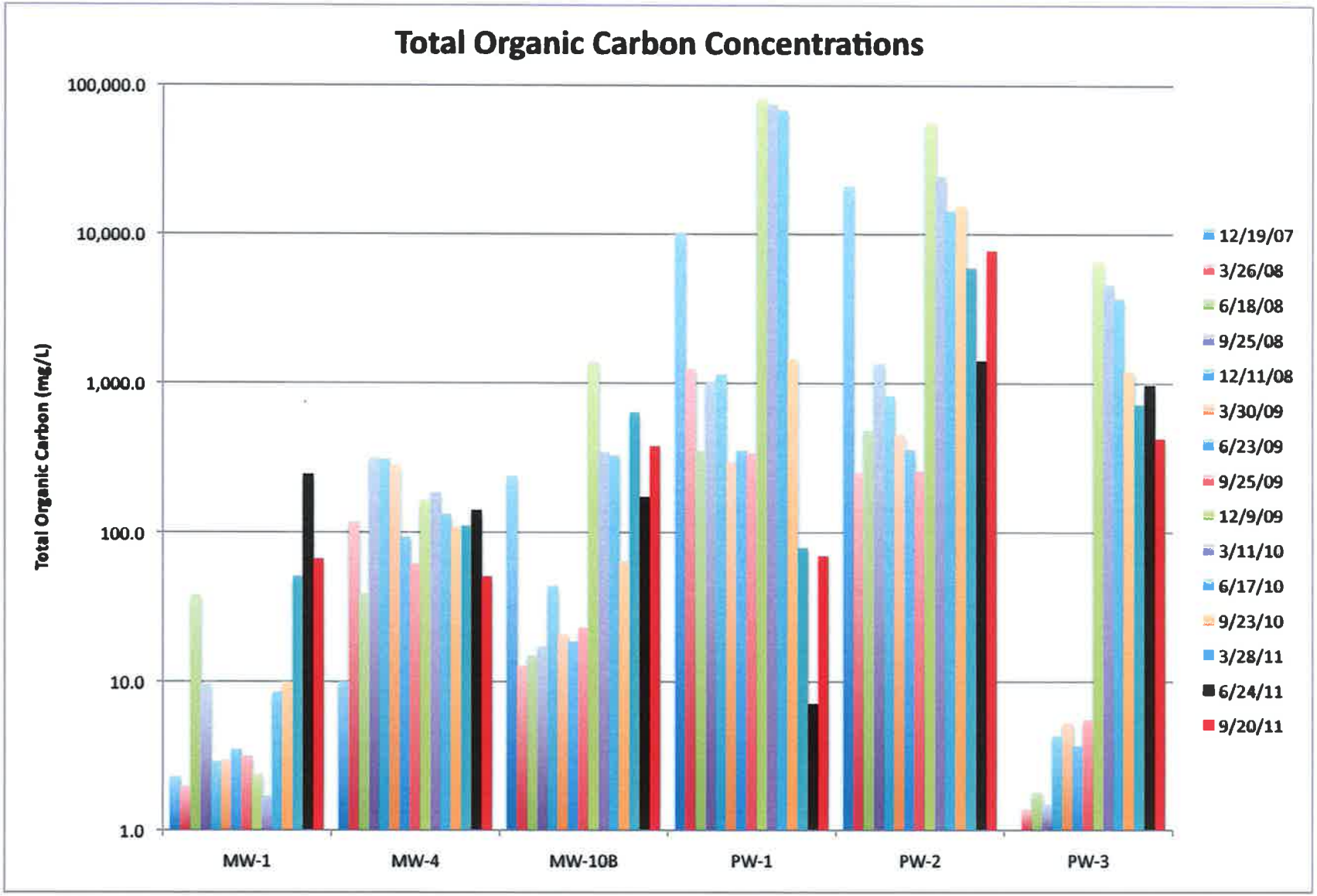

Monitoring Well MW-1 TOC v. 111TCA Concentrations
111TCA (ug/L)
TOC (mg/L)
350
300
250
200
150
100
50
0
300.0
250.0
200.0
150.0
100.0
50.0
0.0
4/28/07
11/14/07
6/1/08
12/18/08
7/6/09
1/22/10
8/10/10
2/26/11
9/14/11
4/1/12
VOCs
TOC

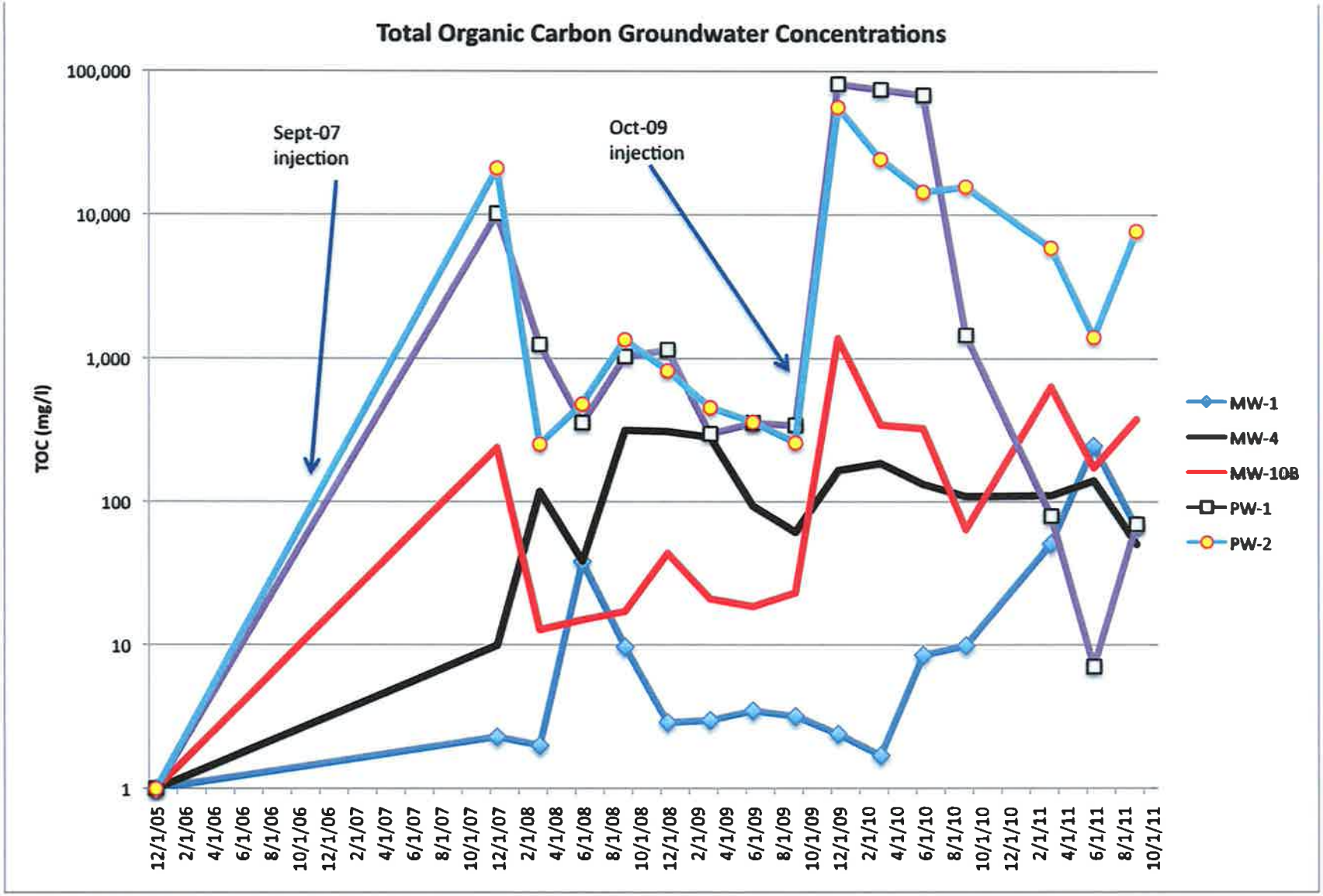

Monitoring Well MW-4 TOC v. 111TCA Concentrations
111TCA (ug/L)
TOC (mg/L)
180
160
140
120
100
80
60
40
20
0
350
300
250
200
150
100
50
0
4/28/07
11/14/07
6/1/08
12/18/08
7/6/09
1/22/10
8/10/10
2/26/11
9/14/11
4/1/12
VOCs
TOC


PW-1 TVOC Concentrations v. TOC
Total Organic Carbon (mg/l)
TVOCs (ug/l)
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
450
400
350
300
250
200
150
100
50
0
Oct-09
injection
Sep-07
injection
12/1/98
5/1/99
10/1/99
3/1/00
8/1/00
1/1/01
6/1/01
11/1/01
4/1/02
9/1/02
2/1/03
7/1/03
12/1/03
5/1/04
10/1/04
3/1/05
8/1/05
1/1/06
6/1/06
11/1/06
4/1/07
9/1/07
2/1/08
7/1/08
12/1/08
5/1/09
10/1/09
3/1/10
8/1/10
1/1/11
6/1/11
TOC
TVOCs


Byron Barrel & Drum Sitewide DO Monitoring
Dissolved Oxygen (mg/L)
9
8
7
6
5
4
3
2
1
0
Sept-07 injection
Oct-09 injection
9/5/05
7/2/06
4/28/07
2/22/08
12/18/08
10/14/09
8/10/10
6/6/11
MW-1
MW-4
MW-10B
PW-1
PW-2
PW-3


Byron Barrel & Drum Sitewide ORP Monitoring
300
200
100
0
-100
-200
-300
ORP (mV)
Sept-07 injection
Oct-09 injection
12/14/05
10/10/06
8/6/07
6/1/08
3/28/09
1/22/10
11/18/10
9/14/11
MW-1
MW-4
MW-10B
PW-1
PW-2
PW-3


Total Organic Carbon Concentrations
Total Organic Carbon (mg/L)
100,000.0
10,000.0
1,000.0
100.0
10.0
1.0
MW-1
MW-4
MW-10B
PW-1
PW-2
PW-3
12/19/07
3/26/08
6/18/08
9/25/08
12/11/08
3/30/09
6/23/09
9/25/09
12/9/09
3/11/10
6/17/10
9/23/10
3/28/11
6/24/11
9/20/11


Total Organic Carbon Groundwater Concentrations
TOC (mg/l)
100,000
10,000
1,000
100
10
1
Sept-07 injection
Oct-09 injection
12/1/05
2/1/06
4/1/06
6/1/06
8/1/06
10/1/06
12/1/06
2/1/07
4/1/07
6/1/07
8/1/07
10/1/07
12/1/07
2/1/08
4/1/08
6/1/08
8/1/08
10/1/08
12/1/08
2/1/09
4/1/09
6/1/09
8/1/09
10/1/09
12/1/09
2/1/10
4/1/10
6/1/10
8/1/10
10/1/10
12/1/10
2/1/11
4/1/11
6/1/11
8/1/11
10/1/11
MW-1
MW-4
MW-10B
PW-1
PW-2

APPENDIX G
Hurricane Irene Inspection Report

BYRON BARREL AND DRUM SITE
INSPECTION SEPT 20, 2011

I inspected the site, and there was no hurricane damage to the area. The metal garage and building is starting to deteriorate with the panels on the north side coming off in places but this is from age not storm damage. The treatment building is in good shape. 2 to 3 years ago the snowplow driver pushed snow against PZ-1 and it is at a slight angle.

Paul Little
sept. 20, 2011