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December 14, 2015
File: 190500014

Attention: Mr. Todd Caffoe, P.E.

New York State Department of Environmental Conservation
Division of Environmental Remediation
6274 East Avon-Lima Road
Avon NY 14414-9519

**Reference: Periodic Review Reports
Ward Street Site, BCA Site No.: C828117
8-28 Ward Street Site, BCA Site No.: C828136
Rochester, New York**

Dear Todd:

On behalf of Germanow-Simon Corporation (Germanow-Simon), Stantec Consulting Services, Inc. (Stantec) has prepared this Periodic Review Report and completed the Institutional and Engineering Control Certification (IC/EC) Forms for the period November 15, 2014 to November 15, 2015 for Germanow-Simon to fulfill its obligation as a volunteer under the Brownfield Cleanup Agreement (BCA) for its properties known as the Ward Street Site (BCA Site #C828117) and the 8-28 Ward Street Site (BCA Site #C828136). These adjacent sites are located on Ward Street in the City of Rochester, Monroe County, New York.

Similar to the prior PRR, we noted what appears to be an error in the IC/EC Form for the Ward Street Site. The Description of Engineering Control Details (Box 4) indicates that a SSDS is to be operated at Parcel 106.62-01-21 after the MVPE system is shutdown. Our understanding of the requirements set forth in the Environmental Easement and the related plans for this Site calls for the SSDS to be operated in the Building B Annex only, which is Parcel 160.62-01-032. To that end we have edited the IC/EC Forms to reflect the modifications we believe are appropriate.

Please do not hesitate to call should you have any questions or require further information.

Regards,

STANTEC CONSULTING SERVICES INC.

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Attachment: Periodic Review Report – Ward Street Site No. C828117 and No. C282136

c. John Dole (Germanow-Simon)

u:\1405205\docs\pr reports and forms\2015.12.15\letter.c828117.c828136.2015-12-14.prr_jceec.docx

**PERIODIC REVIEW REPORT
WARD STREET SITE – SITE NO.
C828117
and
8-28 WARD STREET SITE - NO.
C828136**

WARD STREET AT ST. PAUL STREET
ROCHESTER, NEW YORK



Prepared for:
New York State Department of
Environmental Conservation
6274 East Avon-Lima Road
Avon, New York 14414

Prepared on behalf of:
Germanow-Simon Corporation
408 St. Paul Street
Rochester, New York 14601

Prepared by:
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December 14, 2015

**PERIODIC REVIEW REPORT
WARD STREET SITE – SITE NO. C828117
AND
8-28 WARD STREET SITE - NO. C828136**

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- B – Enhanced Reductive Dechlorination Supplemental Injection Program Work Plan, Approval, and Summary Report
- C – NYSDEC Correspondence
- D – Monroe County Specialty Short Term Discharge Permit
- E – June 2015 Groundwater Monitoring Event Laboratory Report

**PERIODIC REVIEW REPORT
WARD STREET SITE – SITE NO. C828117
AND
8-28 WARD STREET SITE - NO. C828136**

1.0 INTRODUCTION AND OVERVIEW

Stantec Consulting Services Inc. (Stantec) has prepared this Periodic Review Report (PRR) and the attached Institutional Control/Engineering Control (IC/EC) forms (see Appendix A) to summarize Site Management (SM) activities at the contiguous Ward Street and 8-28 Ward Street Brownfield Cleanup Program sites (the Sites) for the period November 15, 2014 to November 15, 2015.

The PRR was prepared on behalf of Germanow-Simon Corporation (Germanow-Simon), the owner of the Sites, to fulfill the PRR requirements of the Brownfield Cleanup Program (BCP) of the New York State Department of Environmental Conservation (NYSDEC, the Department). The Ward Street Site is identified by NYSDEC as BCP Site No. C828117. The 8-28 Ward Street Site is identified as BCP Site No. C828136.

The Sites are located in the City of Rochester, Monroe County, New York along the north side of Ward Street between the intersection of Ward Street with St. Paul Street on the southwest and Emmett Street on the northeast. A map showing the locations of the Sites is presented on Figure 1.

1.1 SUMMARY OF SITE CONTAMINATION AND REMEDIAL HISTORY

Germanow-Simon and the Department agreed to pursue a program of environmental investigation and cleanup activities at the Sites to address past releases of industrial and dry-cleaning solvents and petroleum products that resulted in subsurface contamination by volatile organic compounds (VOCs). The BCP activities led to the implementation of a Multi-Phase Vacuum Extraction (MPVE) cleanup system for the Sites. MPVE is a contaminant remediation technology that uses a vacuum pump and extraction wells to remove VOCs from subsurface soils, soil vapor and groundwater. The layout of the MPVE system is shown on Figure 2 (Well Locations).

Construction, initiation and commissioning of MPVE at the Ward Street Site were completed in October 2006. The 8-28 Ward Street Site component of the MPVE system was added in October 2008. Pursuant to NYSDEC approval, the MPVE system was shut down on February 22, 2011 and has not been restarted since that time. At that time, the previously installed sub-slab depressurization (SSD) system beneath the Building B Annex Area was turned on (as it had been during previous sampling or MPVE maintenance related shut-down periods). Pursuant to the NYSDEC-approved Remedial Program Supplement, Enhanced Reductive Dechlorination Work Plan, dated March 2011 (Stantec, 2011) and NYSDEC's November 14, 2011 approval letter (see Appendix B), an in-situ bioremediation polishing program was conducted in November/December 2011. Pursuant to the Proposed Supplemental Injection Program correspondence dated October 2012, and NYSDEC's November 6, 2012 approval letter, a supplemental in-situ bioremediation polishing program was conducted in November 2012.



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Further details on the November 2012 injection program are presented in Stantec’s December 21, 2012 Enhanced Reductive Dechlorination Supplemental Injection Program Summary Report (see Appendix B).

Because groundwater in the former Lilac Laundry area was found to meet the Department’s groundwater quality standards (refer to Ward Street Site Semi-Annual Progress Report #8, Ward Street Site (Site #C828117) and 8-28 Ward Street Site (Site #C828136), Rochester, New York. Stantec, February 2011), and in preparation for site improvements, as per NYSDEC approval, in October 2011, the following wells were decommissioned at the Ward Street Site: MW-3, MW-5, MW-9, MW-9R, MW-20, MW-21, MW-32, MW-213, MW-214, MW-215, MW-216, MW-217, MW-218, and MW-219. In addition, since no significant groundwater impacts were present on the 8-28 Ward Street Site, and in preparation for site improvements, per NYSDEC approval, in October 2011, the following wells were decommissioned at the 8-28 Ward Street Site: GQ1/MW1, GQ2/MW2, GQ4/MW4, GQ8/MW5, MW-19, MW-45, MW-46, MW-46R, and MW-47.

1.2 SITE MANAGEMENT REQUIREMENTS

Site Management activities were implemented in accordance with the Department-approved Site Management Plans (SMPs) for each site. The SMPs for the Sites include the following required Institutional and Engineering Controls (ICECs):

- Use of the Sites for commercial and industrial purposes is allowed as long as the following long-term controls are employed:
 - The MPVE system is operated in accordance with a Department-approved Operation, Maintenance & Monitoring (OM&M) plan until remedial requirements are achieved to the satisfaction of the Department.
 - A sub-slab depressurization (SSD) system constructed in conjunction with the MPVE system is operated continuously in the Building B Annex Area to mitigate the potential for soil vapor intrusion (SVI) when the MPVE system is shut down.
 - Impervious surfaces covering specific areas of the Sites (building floor slabs and parking lot pavements) are maintained.
 - NYSDEC approval must be obtained in advance for activities which breach impervious surfaces or disturb soils in those same areas of the Sites, and those activities must be performed in accordance with the SMPs.
 - NYSDEC approval must be obtained in advance for use for any purpose of groundwater at the Sites.
- The Sites may not be used for purposes with a higher level of use than the commercial and industrial purposes described above.

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- An environmental easement granted to the Department must be maintained on the property deed and any subsequent instrument of land conveyance, lease, license, or other instruments granting rights of use of the Sites.
- Annually (or as otherwise directed by the Department), Germanow-Simon must certify to the Department as to the continued presence and effectiveness of the controls described above.

The MPVE system OM&M Plan for the Sites specified a program of maintenance activities and provided for monthly system performance monitoring, periodic groundwater monitoring, and annual indoor/outdoor air testing. Indoor air testing was previously conducted in the Building B Annex and Building B along with outdoor testing to obtain background conditions; however, due to NYSDEC's approval during the last reporting period to forego this testing, it is no longer conducted. The OM&M Plan specifies periodic reporting on OM&M activities, monitoring results and remedial progress. However, pursuant to NYSDEC approval, the MPVE system was shut down on February 22, 2011 and has not been restarted since that time. The system was decommissioned during the last reporting period. Therefore, OM&M activities related to the MPVE system have not been required since it was shut down in February 2011. On February 22, 2011, the SSDS was turned on and has operated continuously since that time.

Due to building expansion/renovation and site improvement activities at the Sites during the September 15, 2011 to September 15, 2012 reporting period, the SMPs for both Sites were revised. Revised versions of these documents were submitted to the NYSDEC along with the PRR for that reporting period.

1.3 EFFECTIVENESS OF THE REMEDIAL PROGRAM

The IC/ECs required under the SM program remained in place and were effective.

1.4 COMPLIANCE

Compliance with the SMPs for both Sites was maintained throughout the reporting period.

1.5 RECOMMENDATIONS

No change to the currently approved frequency of PRRs (currently annual) is recommended at this time. As noted in Sections 1.2 and 1.4, the SMPs for both Sites have been revised. It is recommended that the requirements specified within the updated SMPs continue to be fulfilled.

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2.0 REMEDY PERFORMANCE, EFFECTIVENESS, AND PROTECTIVENESS

The groundwater sampling event conducted in October 2013 reported that VOC reduction continued to proceed very well within the treatment area. Based on the significant reductions in dissolved-phase VOC concentrations observed since the commencement of remedial measures, and the continued success of the ERD process, it was proposed in the PRR submitted during the last reporting period to discontinue the ERD groundwater treatment program. It was proposed to reduce the number of wells that are monitored, the analytes that are monitored, and the frequency of monitoring. It was also proposed to complete an annual groundwater sampling event with a reduced number of wells, including MW-16, MW-16R, MW-23, and MW-23R, MW-105, MW-207R, and limited laboratory analysis to VOCs by EPA Method 8260 and TOC by EPA Method 5310.

The annual groundwater sampling event proposed in the PRR submitted during the last reporting period was completed on June 17th and 18th, 2015. The results show that very anaerobic and reducing geochemical conditions have been maintained at the wells sampled. Results at MW-16 and MW-23R indicate that the parent compounds tetrachloroethylene (PCE) and trichloroethylene (TCE) were below detection limits. Concentrations of daughter products at MW-16 had increased, suggesting that degradation is progressing but is incomplete at this time. The only contaminant of concern detected at MW-23R was cis-dichloroethylene (cis-DCE) and the concentration was below clean-up criteria. Decreased concentrations were observed for all contaminants of concern at MW-105. However, increases in contaminants of concern were observed at MW-16R, MW-23, and MW-207R. The results of this monitoring program were provided to the NYSDEC and are included herein as Appendix C. After discussion with NYSDEC, it is proposed to complete another round of groundwater monitoring at these six wells in the spring of 2016 to assess the progress of the ERD process.

As part of the decommissioning of the MPVE system during the period covered by the last PRR, the connection to the sewer was disengaged and a letter was issued by the Monroe County Department of Environmental Services (MCDES) stating that Sewer Use Permit #912 had been terminated. Prior to the decommissioning of the system, purge water generated during groundwater monitoring events was disposed of via the sewer system. Consequently, a Monroe County Specialty Short Term Discharge Permit was obtained from MCDES to discharge of the purge water generated during the June 2015 monitoring event. After reviewing the groundwater sampling results, MCDES approved the discharge of the purge water to the sewer. On July 24, 2015, a representative from MCDES was on-site to oversee the discharge of approximately 25 gallons of water to the sewer. The Specialty Short Term Discharge Permit is included as Appendix D.

Annual indoor and outdoor air sampling was discontinued as per discussion with NYSDEC during the last reporting period.

3.0 COMPLIANCE WITH IC/EC REQUIREMENTS AND THE OM&M PLAN

During the reporting period, compliance with required Institutional and Engineering Controls has been maintained.

- Use of the Sites has been limited to the industrial manufacturing and support activities conducted by the Germanow-Simon Corporation and its affiliated enterprises.
- In accordance with NYSDEC approval, the MPVE system was operated until February 22, 2011, at which time it was shutdown indefinitely. The MVPE system was decommissioned, cleaned out, and disconnected from the sewer during the last reporting period.
- A sub-slab depressurization (SSD) system constructed in conjunction with the MPVE system has been operated continuously in the Building B Annex Area to mitigate the potential for soil vapor intrusion (SVI) when the MPVE system is shut down. As noted above, on February 22, 2011, the SSDS was turned on and has operated continuously since that time.
- No groundwater use has occurred at the Sites.
- An environmental easement granted to the Department has been maintained on the property deed and any subsequent instrument of land conveyance, lease, license, or other instruments granting rights of use of the Sites. (At the request of the NYSDEC, the separate environmental easement mapping for the two sites was combined into a single Environmental Easement map dated August 1, 2012).

Forms certifying to the Department the continued presence and effectiveness of the controls described above are presented in Appendix A.

The MPVE system OM&M Plan for the Sites specifies a program of maintenance activities, provides for monthly system performance monitoring and periodic groundwater monitoring, and annual indoor/outdoor air testing. The OM&M plan specifies periodic reporting on OM&M activities, monitoring results and remedial progress. However, pursuant to NYSDEC approval, the MPVE system was shut down on February 22, 2011 and has not been restarted since that time. It was decommissioned during the current reporting period. Therefore, OM&M activities related to the MPVE system have not been required since it was shut down at that time.

Sampling results from February 22, 2013 indicate that the SSD system, which has been operating continuously since February 22, 2011 when the MPVE system was shut down, continues to successfully mitigate potential SVI at the Building B Annex. Based on these results and discussion with and subsequent approval by NYSDEC, annual indoor and outdoor air sampling was discontinued during the last reporting period.

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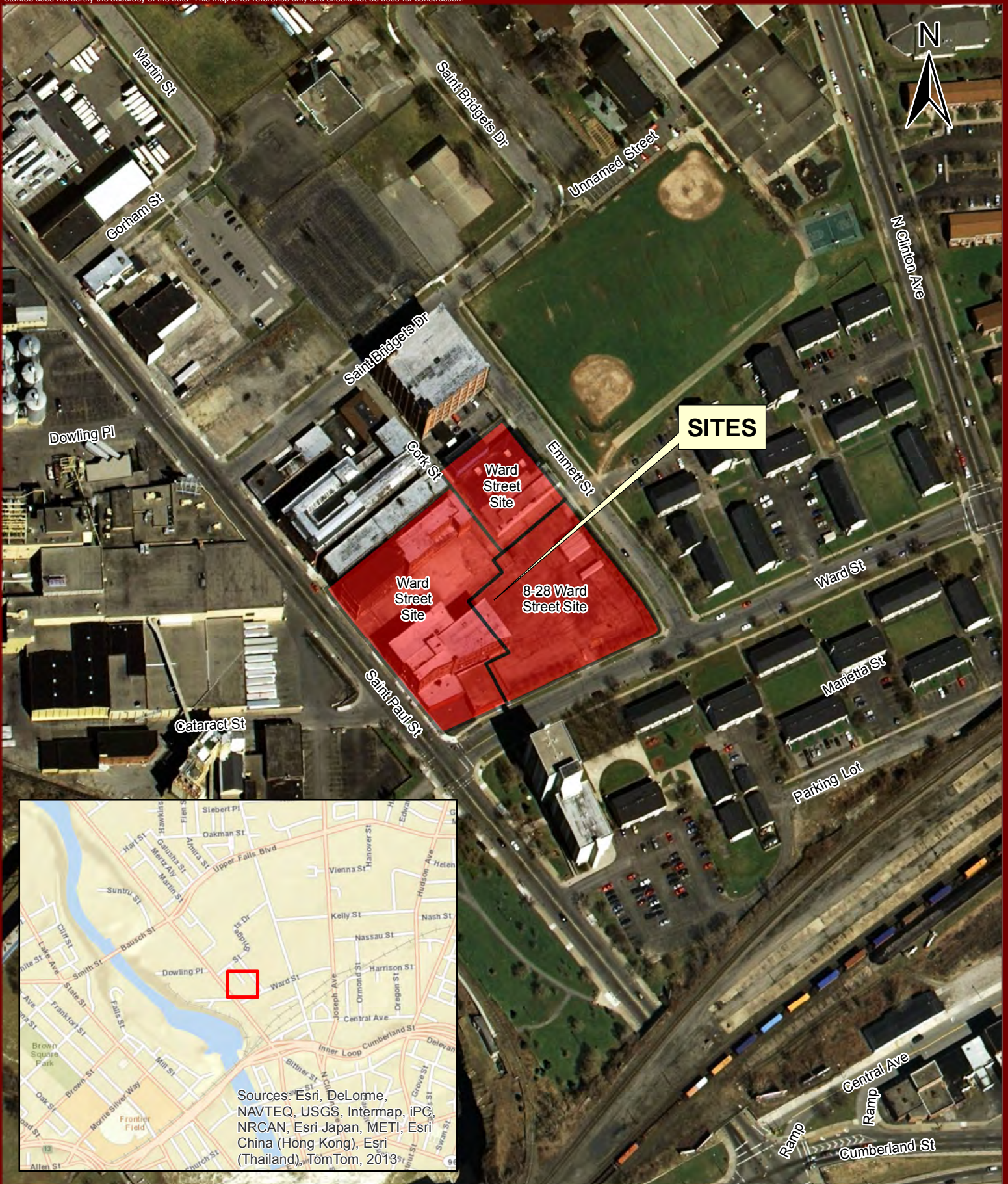
Remedial progress during the reporting period has been reported to the NYSDEC.

4.0 OVERALL CONCLUSIONS AND RECOMMENDATIONS

It was proposed in the PRR from the last reporting period to discontinue the ERD groundwater treatment program and limit the groundwater monitoring program to four boundary wells, one interior well, and one exterior well, and laboratory analysis would be reduced to VOCs by EPA Method 8260 and TOC by EPA Method 5310. Pursuant to this proposal, an annual monitoring event was conducted during the current reporting period to assess if contaminant degradation is continuing to progress. Based on the results of this monitoring event negative ORPs and low DO concentrations conducive to reductive dechlorination continue to exist. Therefore, per discussion with NYSDEC, it is proposed to conduct an additional monitoring program during the spring of 2016 to continue evaluating the effectiveness of the ERD program. It is understood that if reducing conditions continue to exist, further groundwater treatment will not be required. However, if reducing conditions are no longer present and contaminant levels are unfavorable, the need for implementation of an additional electron donor injection will be reassessed.

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Figures



Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013

Geographic Information Systems

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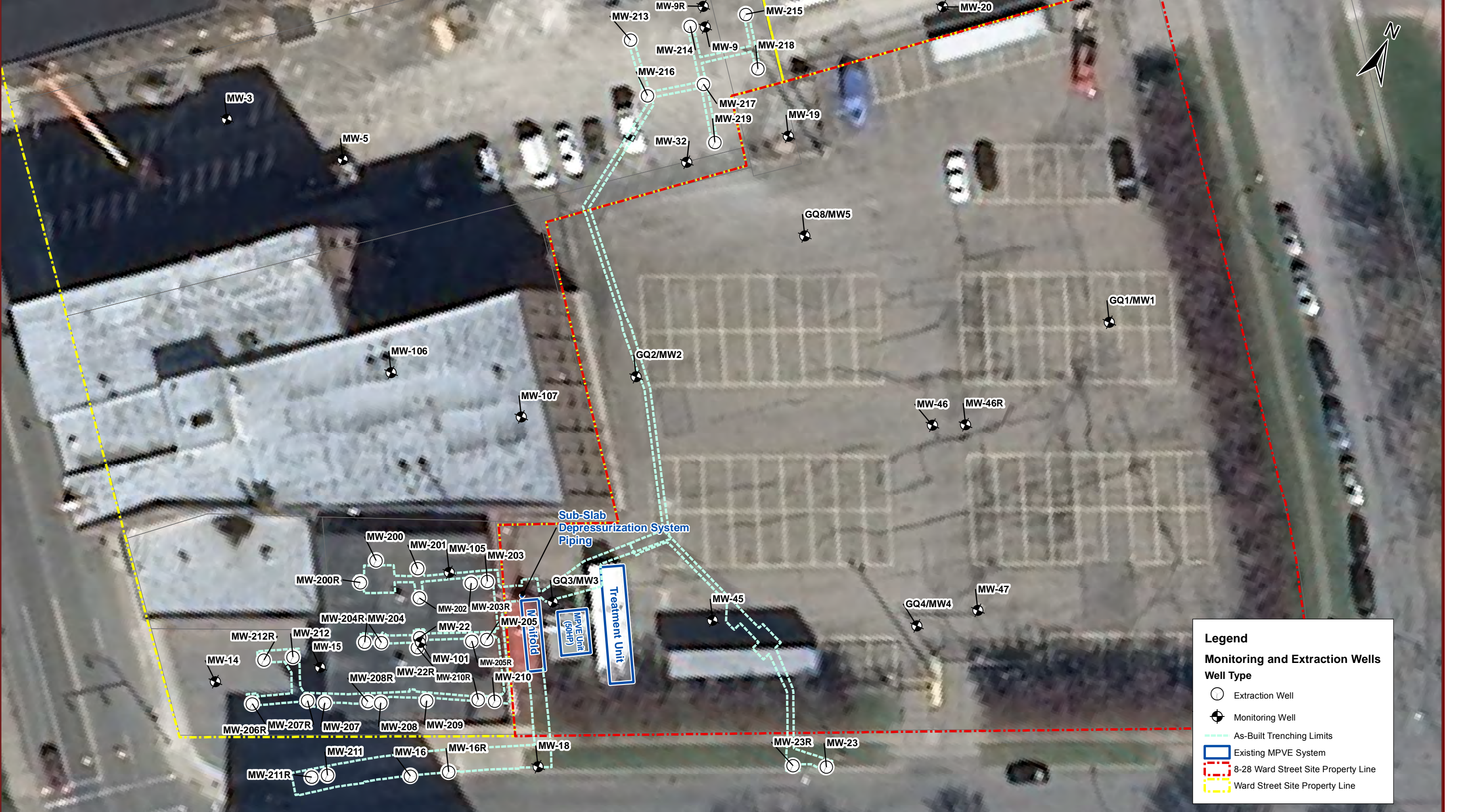
Figure 1 - Site Location Map

Ward Street Site
 Rochester, NY

Feb. 2011
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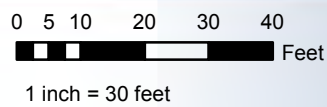


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Cartographic Design By: Andrew Less

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Figure 2 - Well Locations

Ward Street Site
Rochester, NY

FIGURE 3-1: Dissolved-Phase VOC Concentrations versus Time - MW-16

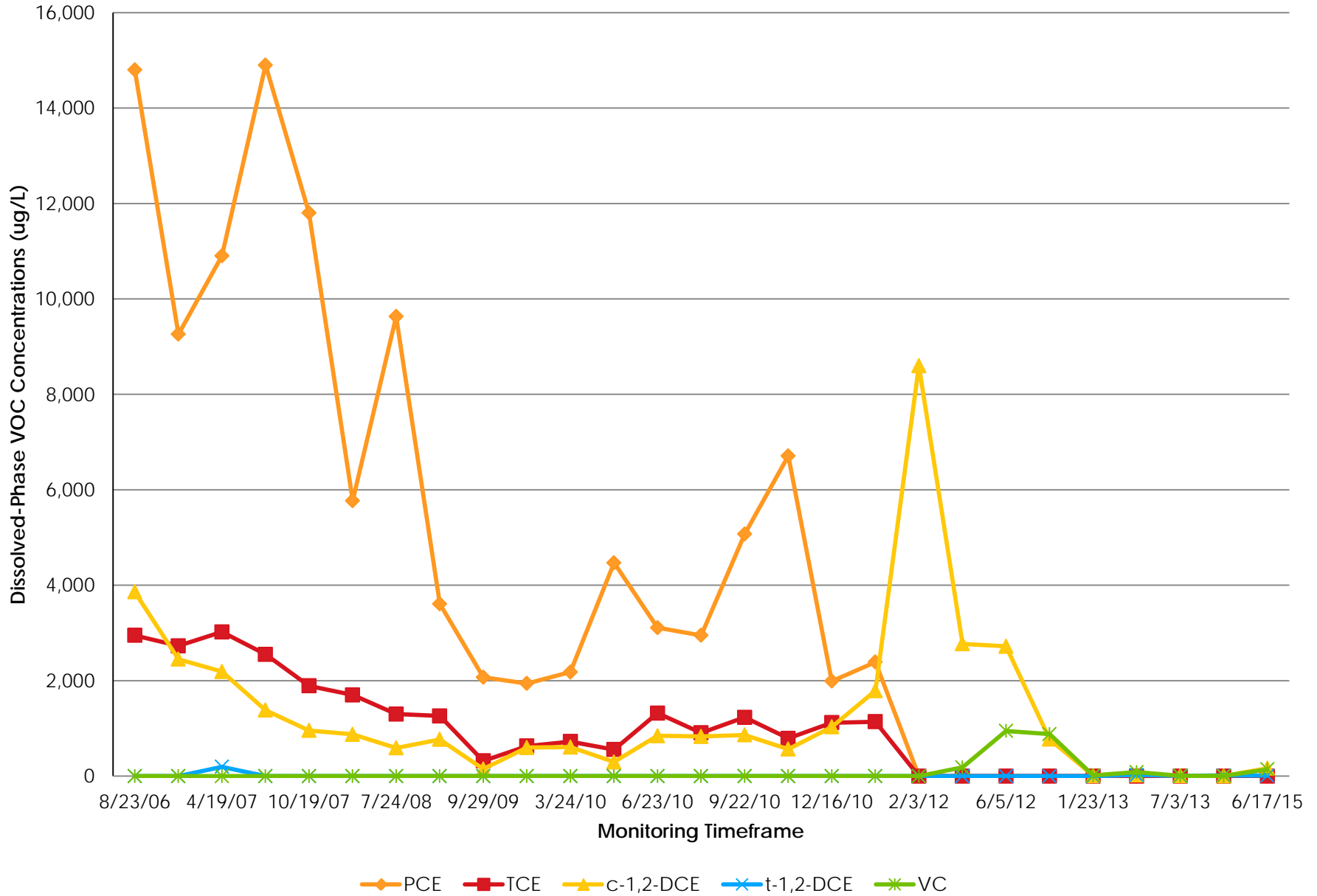


FIGURE 3-2: Dissolved-Phase VOC Concentrations versus Time - MW-16R

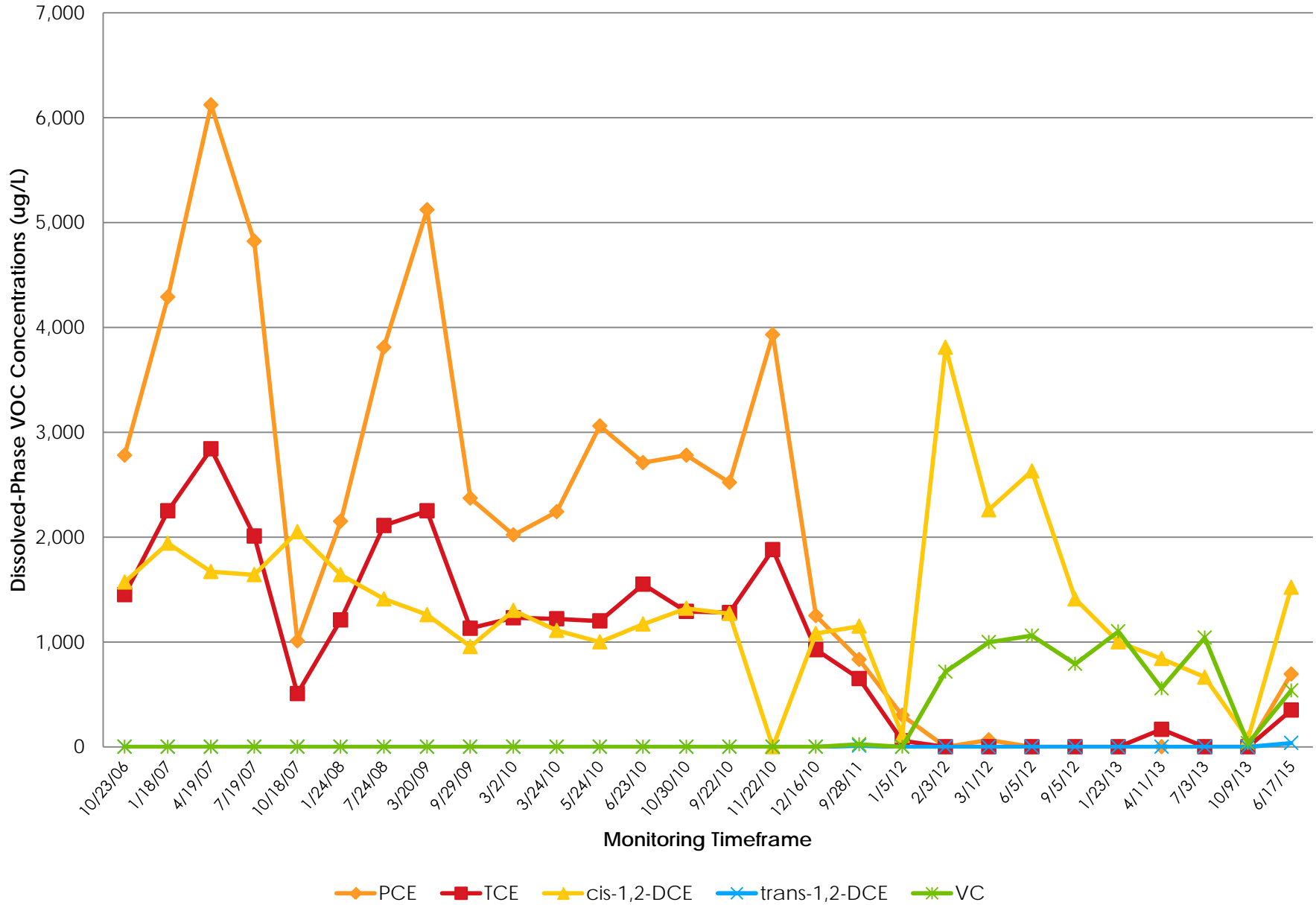


FIGURE 3-3: Dissolved-Phase VOC Concentrations versus Time - MW-23

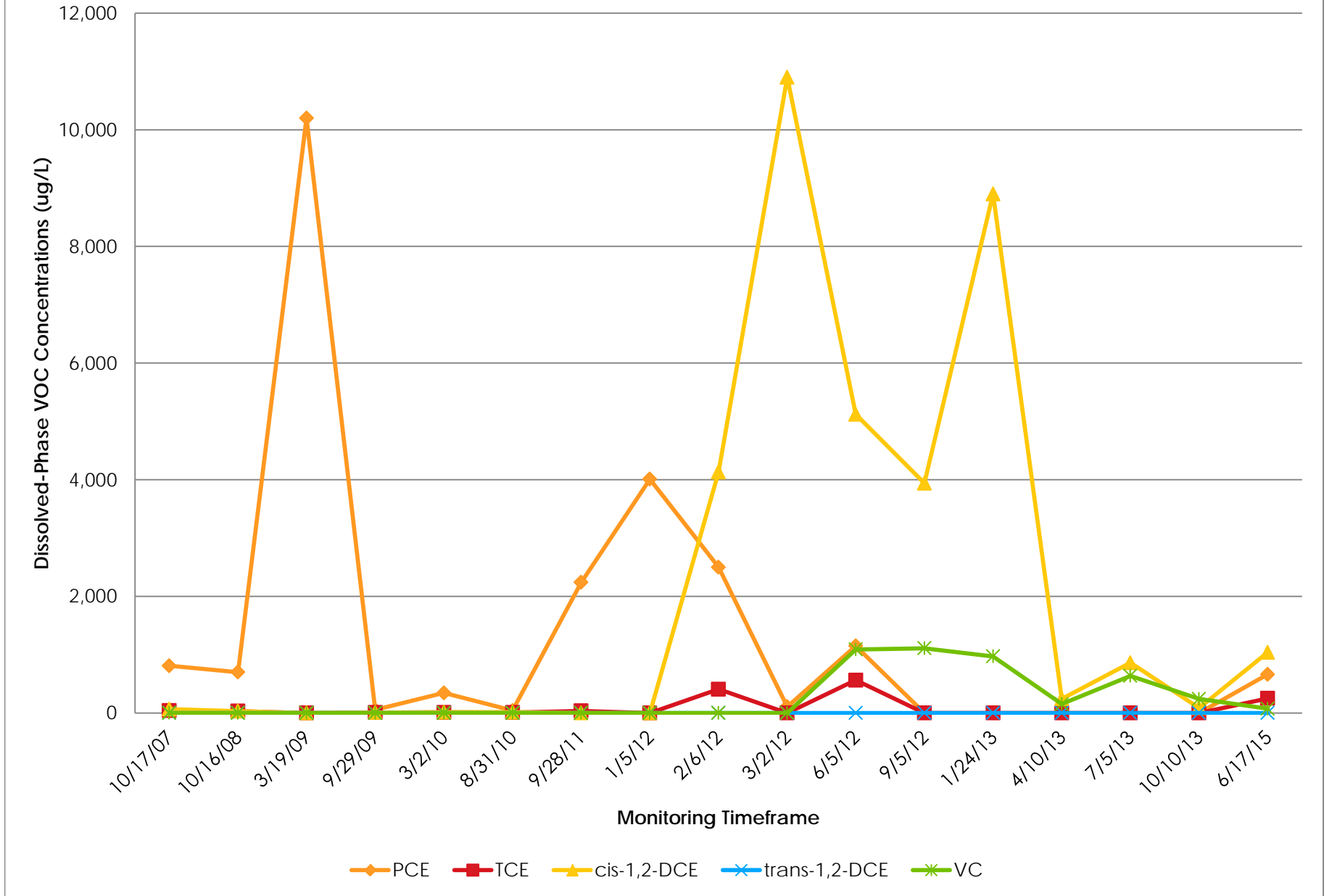


FIGURE 3-4: Dissolved-Phase VOC Concentrations versus Time - MW-23R

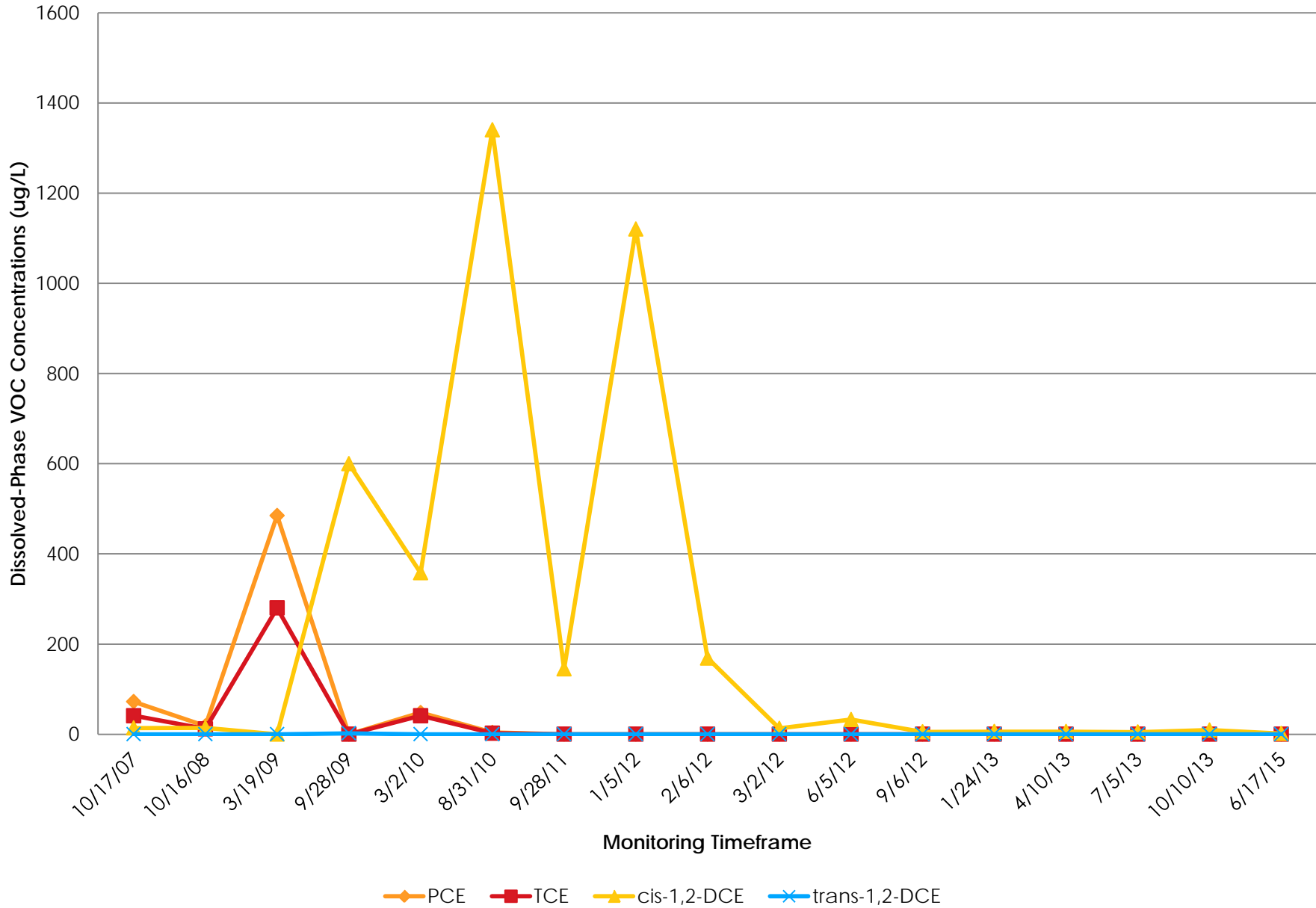


FIGURE 3-5: Dissolved-Phase VOC Concentrations versus Time - MW-105

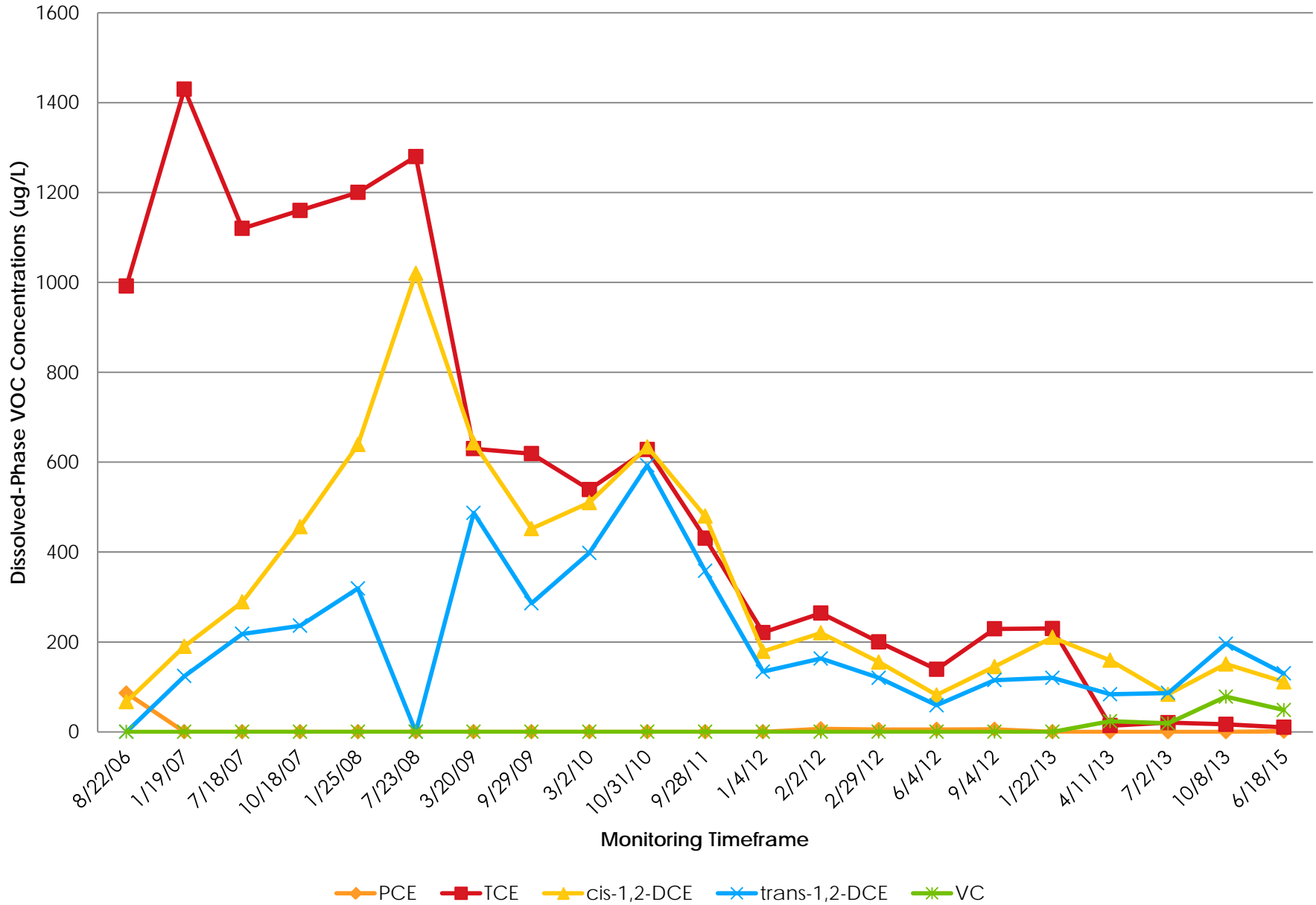
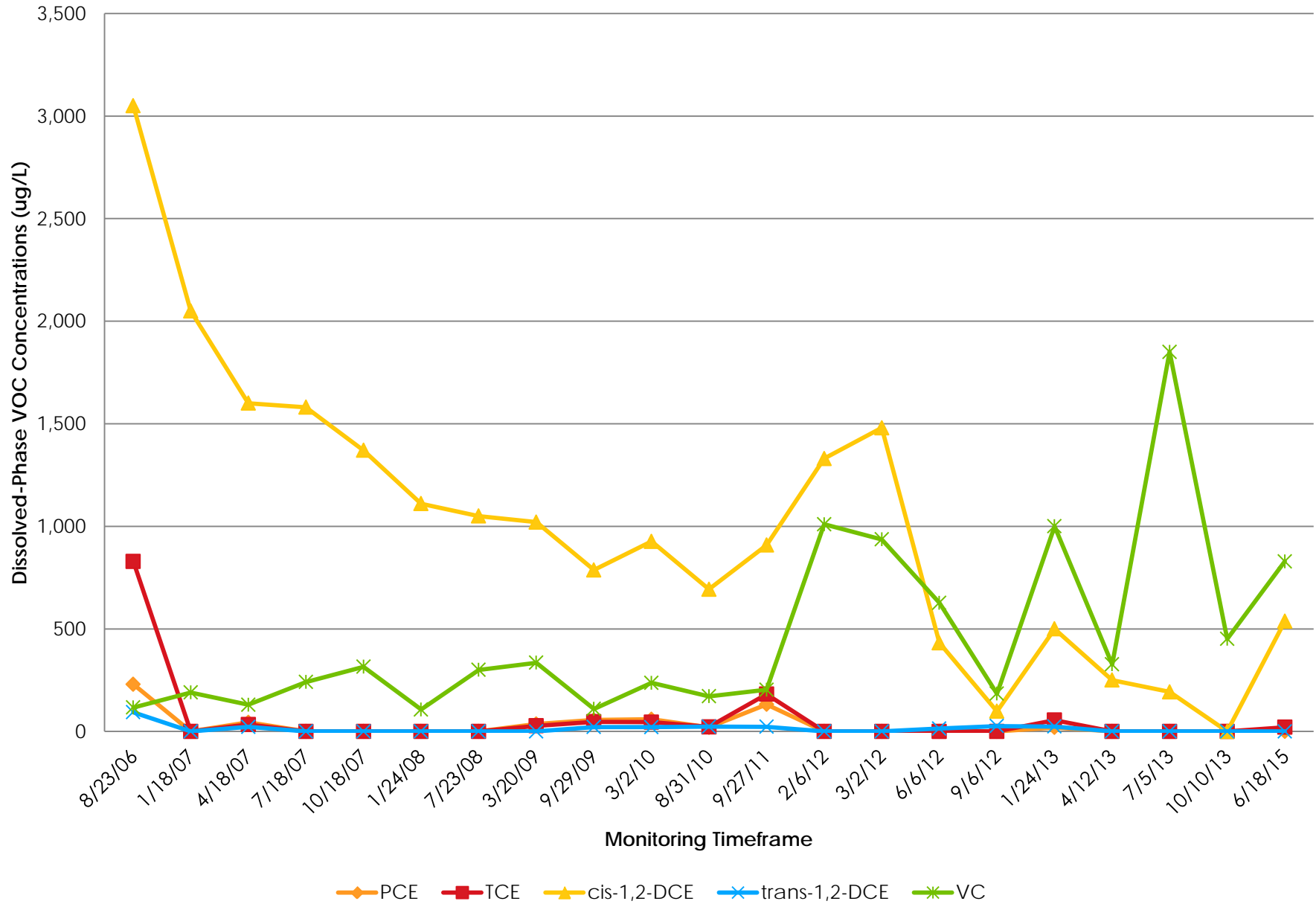


FIGURE 3-6: Dissolved-Phase VOC Concentrations versus Time - MW-207R



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Tables

Table 1
Summary of Volatile Organic Compounds in Groundwater – September 2011 to June 2015
PERIODIC REVIEW REPORT, WARD STREET SITES
GERMANOW-SIMON CORPORATION
ROCHESTER, NY

Notes:

- TOGS NYSDEC TOGS 1.1.1 (Reissued June 1998 with errata in January 1999 and addenda in April 2000 and June 2004)
- A TOGS 1.1.1 - Table 1 - Ambient Water Quality Standards and Guidance Values, Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1); Guidance
- B TOGS 1.1.1 - Table 1 - Ambient Water Quality Standards and Guidance Values, Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1); Standards
- 6.5^A Concentration exceeds the indicated standard.
- 15.2 Measured concentration was less than the applicable standard.
- 0.50 U Laboratory reporting limit was greater than the applicable standard.
- 0.03 U Analyte was not detected at a concentration greater than the laboratory reporting limit.
- n/v No standard/guideline value.
- Parameter not analyzed / not available.
- The standard for Iron and Manganese is 500 ug/L, which applies to the sum of these substances. As individual standards, the standard is 300 ug/L.
- The principal organic contaminant standard for groundwater of 5 ug/L (described elsewhere in the TOGS table) applies to this substance.
- p Applies to the sum of cis- and trans-1,3-dichloropropene.
- B Indicates analyte was found in associated blank, as well as in the sample.
- J The reported result is an estimated value.
- L Detection limit adjustment for sample matrix effects.
- M Denotes matrix spike recoveries outside QC limits. Matrix bias indicated.
- UJ Indicates estimated non-detect.

Table 2
 Summary of Field Parameters in Groundwater – September 2011 to October 2013
 WARD STREET SITE
 GERMANOW-SIMON CORPORATION
 ROCHESTER, NY

Area of Interest		On-Site Area 1: Building B Annex																				
Sample Location		MW105											MW207R									
Sample Date		28-Sep-11	4-Jan-12	2-Feb-12	29-Feb-12	4-Jun-12	4-Sep-12	22-Jan-13	11-Apr-13	2-Jul-13	8-Oct-13	18-Jun-15*	27-Sep-11	6-Feb-12	2-Mar-12	6-Jun-12	6-Sep-12	24-Jan-13	12-Apr-13	5-Jul-13	10-Oct-13	18-Jun-15
Sample ID		WSR-MW-105-GW-12	WSR-MW-105-GW-13	WSR-MW-105-GW-14	WSR-MW-105-GW-15	WSR-MW-105-GW-16	WSR-MW-105-GW-17	WSR-MW-105-GW	WSR-MW-105-GW	WSR-MW-105-GW	WSR-MW-105-GW	WSR-MW-105-GW	WSR-MW-207R-GW-12	WSR-MW-207R-GW-13	WSR-MW-207R-GW-14	WSR-MW-207R-GW-15	WSR-MW-207R-GW-16	WSR-MW-207R-GW	WSR-MW-207R-GW	WSR-MW-207R-GW	WSR-MW-207R-GW	WSR-MW-207R-GW
Sampling Company	Units	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Field Parameters																						
Color (Visual)	none	clear	clear	clear	clear	clear	cloudy	clear	Black precipitate	clear with some brown precipitate	clear	cloudy	clear	clear w/ black flecks	clear w/ black flecks	clear	clear w/ black flecks	murky w/ black flecks	Black precipitate	clear with black precipitate	clear with black particulates	slightly yellow
Conductivity, Field	mS/cm	2.50	2.72	0.267	2.36	0.318	2.60	4.66	2.71	2.55	2.76	2.24	0.50	0.541	4.32	0.490	4.59	49.93	3.85	4.00	3.57	3.84
Dissolved Oxygen, Field	mg/L	0.00	0.53	0.00	0.25	0.97	0.53	0.17	0.79	0.32	0.21	0.42	0.7	0.00	0.00	0.62	0.41	0.36	0.74	0.15	0.14	0.67
Odor	none	none	no odor	no odor	no odor	sulfur odor	no odor	sulfur odor	Strong sulfur odor	none	none	none	sulfur odor	odor	sulfur odor	strong sulfur odor	sulfur	sulfur odor	odor	strong sulfur odor	strong sulfur odor	sulfur odor
Oxidation Reduction Potential	mV	111	227	297	235	-132	195.3	-199.2	-219.6	-152.6	-70.2	-28.0	-134	-345	-374	-358	-301.6	-351.9	-346.1	-349.2	-288.8	-248.2
pH, Field	S.U.	6.87	7.25	7.28	7.33	7.09	7.16	6.90	7.37	8.47	7.26	7.18	6.93	6.73	7.22	6.68	6.87	6.77	8.04	6.78	6.93	6.79
Temperature, Field	deg C	20.46	20.49	19.22	20.43	19.4	21.3	18.9	18.7	19.6	19.4	19.2	17.9	14.27	13.28	15.9	20.1	14.0	11.7	18.7	18.6	15.0
Turbidity, Field	NTU	58.5	31.3	3.44	9.75	4.41	17.6	4.99	4.36	5.56	3.56	47.8	4.21	-0.29	5.79	0.70	3.92	1.72	2.31	3.53	3.66	1.52
Volume Purged	gal	0.6	3 -	3.5 -	2.0	1.0	1.1	2.7	1.3	1.35	1.0	0.3	1.5	1.1	0.5	1.3	1.2	3.6	1.6	2.0	1.5	1.5

*parameters at the end of low flow purge; ORP was 16 at end of volumetric purge by bailer

See Notes on Last Page

Table 2
 Summary of Field Parameters in Groundwater – September 2011 to October 2013
 WARD STREET SITE
 GERMANOW-SIMON CORPORATION
 ROCHESTER, NY

Area of Interest		Off-Site Area 1: MW-16/ Ward Street																				
Sample Location		MW16										MW16R										
Sample Date		27-Sep-11	3-Feb-12	2-Mar-12	5-Jun-12	5-Sep-12	23-Jan-13	11-Apr-13	3-Jul-13	9-Oct-13	17-Jun-15*	28-Sep-11	5-Jan-12	3-Feb-12	1-Mar-12	5-Jun-12	5-Sep-12	23-Jan-13	11-Apr-13	3-Jul-13	9-Oct-13	17-Jun-15*
Sample ID	Units	WSR-MW-16-GW-18	WSR-MW-16-GW-19	WSR-MW-16-GW-20	WSR-MW-16-GW-21	WSR-MW-16-GW-22	WSR-MW-16-GW	WSR-MW-16-GW	WSR-MW-16-GW	WSR-MW-16-GW	WSR-MW-16-GW	WSR-MW-16R-GW-18	WSR-MW-16R-GW-19	WSR-MW-16R-GW-20	WSR-MW-16R-GW-21	WSR-MW-16R-GW-22	WSR-MW-16R-GW	WSR-MW-16R-GW	WSR-MW-16R-GW	WSR-MW-16R-GW	WSR-MW-16R-GW	
Sampling Company		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	
Field Parameters																						
Color (Visual)	none	sl.red	clear	slightly cloudy	clear	clear	clear	clear with black precipitate	clear with black precipitate	clear with black specks	clear with black sulfide deposits	clear	clear	clear	clear w/ black flecks	clear	clear	murky	Slightly clouded	clear with black precipitate	clear with black precipitate	clear with black particulate
Conductivity, Field	mS/cm	6.72	0.762	2.33	0.843	10.52	7.63	10.63	9.73	10.13	11.94	4.31	3.75	0.782	4.90	0.629	5.19	5.32	4.06	4.40	2.67	8.04
Dissolved Oxygen, Field	mg/L	0	0.0	0.00	1.09	0.40	0.51	0.8	0.19	0.10	0.35	1.12	2.63	0.00	0.00	1.00	0.16	0.90	0.76	0.25	0.14	0.16
Odor	none	0	no odor	no odor	no odor	sulfur	sewage odor	Sulfur odor	slight sulfur odor	sulfur odor	none	none	no odor	no odor	stale odor	no odor	sulfur	sulfur	Sulfur odor	slight sulfur odor	sulfur odor	none
Oxidation Reduction Potential	mV	-107	-259	-181	-291	-319.5	-208.0	-361.2	-207.6	-188.0	-150.0	-62	104	-247	-196	-247	-328.6	-346.8	-313.9	-354.5	-264.3	-205.9
pH, Field	S.U.	6.82	7.13	7.52	7.20	7.26	7.06	7.10	7.13	7.33	7.08	6.56	7.53	6.84	7.04	6.53	6.96	6.76	7.04	6.90	6.58	7.00
Temperature, Field	deg C	19.29	11.68	11.23	19.6	21.7	8.7	8.3	18.1	19.3	16.5	17.78	7.26	12.28	10.95	18.3	20.9	11.1	8.3	19.0	19.7	16.0
Turbidity, Field	NTU	30	11.1	17.6	37.0	7.11	1.01	4.55	8.59	11.4	8.98	37	44.3	12.7	29	15.0	11.48	3.97	13.9	12.50	6.42	9.79
Volume Purged	gal	0.9	3.0	1.9	0.5	1.1	2.8	3.3	1.3	0.8	1.0	1.0	0.6	2.7	2.1	0.8	1.9	1.2	2.8	2.0	1.1	0.3

See Notes on Last Page

*parameters at the end of low-flow purge

*parameters at the end of low-flow purge

Table 2
 Summary of Field Parameters in Groundwater – September 2011 to October 2013
 WARD STREET SITE
 GERMANOW-SIMON CORPORATION
 ROCHESTER, NY

Area of Interest		8-28 Ward St																					
Sample Location		MW23											MW23R										
Sample Date		28-Sep-11	5-Jan-12	6-Feb-12	2-Mar-12	5-Jun-12	6-Sep-12	24-Jan-13	10-Apr-13	5-Jul-13	10-Oct-13	17-Jun-15*	28-Sep-11	5-Jan-12	6-Feb-12	2-Mar-12	5-Jun-12	6-Sep-12	24-Jan-13	10-Apr-13	5-Jul-13	10-Oct-13	17-Jun-15
Sample ID		WSR-MW-23-GW-7	828-MW-23-GW-8	828-MW-23-GW-9	828-MW-23-GW-10	828-MW-23-GW-11	828-MW-23-GW-12	828-MW-23-GW	828-MW-23-GW	828-MW-23-GW	828-MW-23-GW	828-MW-23R-GW-7	828-MW-23R-GW-8	828-MW-23R-GW-9	828-MW-23R-GW-10	828-MW-23R-GW-11	828-MW-23R-GW-12	828-MW-23R-GW	828-MW-23R-GW	828-MW-23R-GW	828-MW-23R-GW	828-MW-23R-GW	
Sampling Company	Units	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	
Field Parameters																							
Color (Visual)	none	clear	clear	clear w/ black flecks	clear w/ black flecks	clear, no black flecks	clear/black pieces	clear w/ black flecks	Black precipitate	clear with black precipitate	clear with black precipitate	slightly yellow, brown particulate	clear	clear w/ black flecks	clear w/ black flecks	clear w/ black flecks	clear w/ black flecks	black	murky	0	clear with black precipitate	clear with black precipitate	clear, black sulfide deposits
Conductivity, Field	mS/cm	7.37	7.12	0.596	6.06	0.828	6.62	4.66	4.38	3.48	5.96	4.34	3.44	4.24	0.671	7.03	0.635	4.74	6.34	6.52	6.45	5.28	5.18
Dissolved Oxygen, Field	mg/L	0.0	2.61	0.00	0.00	0.42	0.16	0.35	0.22	0.11	0.13	0.47	0.00	0.00	0.00	0.00	0.57	0.24	0.33	0.11	0.11	0.41	0.14
Odor	none	none	no odor	no odor	no odor	no odor	no odor	sewage odor	No odor	slight sulfur odor	sulfur odor	none	none	no odor	odor	sulfur odor	no odor	sulfur	slight sulfur odor	0	strong sulfur odor	strong sulfur odor	sulfur odor
Oxidation Reduction Potential	mV	31	-135	-187	-238	-211	-147.1	-232.0	-149.2	-271.7	-149.3	-101.3	-23	-168	-262	-317	-211	-375.3	-438.3	-358.9	-408.0	-347.1	-307.0
pH, Field	S.U.	6.66	6.73	7.09	7.57	6.71	7.04	7.09	7.13	6.44	6.93	7.13	6.63	7.38	6.71	6.86	6.59	7.02	6.65	6.67	6.79	6.97	7.16
Temperature, Field	deg C	14.63	11.85	6.47	12.18	13.8	21.0	11.0	9.8	18.1	15.3	15.8	22.26	12.61	11.12	12.97	16.1	19.7	11.5	10.8	17.5	15.5	14.3
Turbidity, Field	NTU	45	12.2	9.78	.24	1.35	9.14	3.72	9.72	9.23	3.66	25.3	3.3	6.24	1.04	11.3	3.27	0.92	1.60	1.25	0.82	3.84	2.87
Volume Purged	gal	2.1	1.6	0.5	0.6	2.5	1.6	0.9	1.0	1.1	1.2	0.8	0.7	1.3	1.7	2.2	1.1	1.4	1.5	2.3	2.3	0.9	1.8

*parameters at the end of low-flow purge

See Notes on Last Page

Table 2
Summary of Field Parameters in Groundwater – September 2011 to October 2013
WARD STREET SITE
GERMANOW-SIMON CORPORATION
ROCHESTER, NY

Notes:

deg C degrees Celsius
gal gallons
mg/l milligrams per liter
mS/cm millisiemens per centimeter
mV millivolts
NTU nephelometric turbidity unit
S.U. standard units
During the June 2015 event, excessive drawdown at several wells resulted in a switch from low-flow purging to volumetric purge by bailer. The parameters reported here, including the volume purged, are from the end of low-flow purging.

Table 3
 Comparison of Constituents of Concern in Groundwater Samples- 2006 to 2015
 GERMANOW-SIMON CORPORATION
 PERIODIC REVIEW REPORT, WARD STREET SITE
 ROCHESTER, NY

Well	MW-16			MW-16R			MW-23		
Parameter	8/23/06	6/17/15	% Change	10/23/06	6/18/15	% Change	10/17/07	6/17/15	% Change
Chlorinated VOCs									
PCE (ug/L)	14,800	< 2.00	-100.0	2,780	694	-75.0	810	663	-18.1
TCE (ug/L)	2,950	< 2.00	-99.9	1,450	350	-75.9	40	251	527.5
cis-1,2-DCE (ug/L)	3,860	165	-95.7	1,570	1520	-3.2	66	1040	1475.8
trans-1/2-DCE (ug/L)	< 200	8.33	-95.8	< 200	36	-82.0	< 80	< 20	-75.0
VC (ug/L)	< 200	140	-30.0	< 200	537	168.5	< 80	73.3	-8.4

Well	MW-23R			MW-105			MW-207R		
Parameter	10/17/07	6/17/15	% Change	8/22/06	6/18/15	% Change	8/23/06	6/18/15	% Change
Chlorinated VOCs									
PCE (ug/L)	72	< 2.00	-97.2	86.1	1.38 J	-98.4	230	< 40	-82.6
TCE (ug/L)	41	< 2.00	-95.1	992	9.94	-99.0	829	20.5	-97.5
cis-1,2-DCE (ug/L)	13.8	1.46 J	-89.4	67.1	111.0	65.4	3,050	537	-82.4
trans-1/2-DCE (ug/L)	< 4.00	< 2.00	-50.0	< 20.0	130.0	550.0	93.5	< 40	-57.2
VC (ug/L)	< 4.00	< 2.00	-50.0	< 20.0	48.5	142.5	117	829	608.5

Notes:
 J Indicates estimated value.

PERIODIC REVIEW REPORT
WARD STREET SITE – SITE NO. C828117
AND
8-28 WARD STREET SITE - NO. C828136

Appendices

Appendix A

New York State Department of Environmental Conservation
Division of Environmental Remediation, 11th Floor
625 Broadway, Albany, New York 12233
Phone: (518) 402-9553 **Fax:** (518) 402-9577
Website: www.dec.ny.gov



10/20/2015

Andrew Germanow
President
Gremanow - Simon Corporation
408 St. Paul Street - P.O. Box 101
Rochester, NY 14603-1091

Re: Reminder Notice: Site Management Periodic Review Report and IC/EC Certification Submittal

Site Name: Ward Street Site
Site No.: C828117
Site Address: Corner of Ward St. & St. Paul St.
Rochester, NY 14603

Dear Andrew Germanow:

This letter serves as a reminder that sites in active Site Management (SM) require the submittal of a periodic progress report. This report, referred to as the Periodic Review Report (PRR), must document the implementation of, and compliance with, site specific SM requirements. Section 6.3(b) of DER-10 *Technical Guidance for Site Investigation and Remediation* (available online at <http://www.dec.ny.gov/regulations/67386.html>) provides guidance regarding the information that must be included in the PRR. Further, if the site is comprised of multiple parcels, then you as the Certifying Party must arrange to submit one PRR for all parcels that comprise the site. The PRR must be received by the Department no later than **December 15, 2015**. Guidance on the content of a PRR is enclosed.

Site Management is defined in regulation (6 NYCRR 375-1.2(at)) and in Chapter 6 of DER-10. Depending on when the remedial program for your site was completed, SM may be governed by multiple documents (e.g., Operation, Maintenance, and Monitoring Plan; Soil Management Plan) or one comprehensive Site Management Plan.

A Site Management Plan (SMP) may contain one or all of the following elements, as applicable to the site: a plan to maintain institutional controls and/or engineering controls ("IC/EC Plan"); a plan for monitoring the performance and effectiveness of the selected remedy ("Monitoring Plan"); and/or a plan for the operation and maintenance of the selected remedy ("O&M Plan"). Additionally, the technical requirements for SM are stated in the decision document (e.g., Record of Decision) and, in some cases, the legal agreement directing the remediation of the site (e.g., order on consent, voluntary agreement, etc.).

When you submit the PRR (by the due date above), include the enclosed forms documenting that all SM requirements are being met. The Institutional Controls (ICs) portion of the form (Box 6) must be signed by you or your designated representative. The Engineering Controls (ECs) portion of the form (Box 7) must be signed by a Professional Engineer (PE). If you cannot certify that all SM requirements are being met, you must submit a Corrective Measures Work Plan that identifies the actions to be taken to restore compliance. The work plan must include a schedule to be approved by the Department. The Periodic Review process will not be considered complete until all necessary corrective measures are completed and all required controls are certified. Instructions for completing the certifications are enclosed.

All site-related documents and data, including the PRR, are to be submitted in electronic format to the Department of Environmental Conservation. The Department will not approve the PRR unless all documents and data generated in support of that report have been submitted in accordance with the electronic submissions protocol. In addition, the certification forms are required to be submitted in both paper and electronic formats.

Information on the format of the data submissions can be found at:
<http://www.dec.ny.gov/regulations/2586.html>

The signed certification forms should be sent to Todd Caffoe, Project Manager, at the following address:

New York State Department of Environmental Conservation
6274 East Avon-Lima Road
Avon, NY 14414

Phone number: 585-226-5350. E-mail: todd.caffoe@dec.ny.gov

The contact information above is also provided so that you may notify the project manager about upcoming inspections, or for any other questions or concerns that may arise in regard to the site.

Enclosures

PRR General Guidance
Certification Form Instructions
Certification Forms

ec: w/ enclosures

Todd Caffoe, Project Manager
Bernette Schilling, Hazardous Waste Remediation Engineer, Region 8

Enclosure 1

Certification Instructions

I. Verification of Site Details (Box 1 and Box 2):

Answer the three questions in the Verification of Site Details Section. The Owner and/or Qualified Environmental Professional (QEP) may include handwritten changes and/or other supporting documentation, as necessary.

II. Certification of Institutional Controls/ Engineering Controls (IC/ECs)(Boxes 3, 4, and 5)

1.1.1. Review the listed IC/ECs, confirming that all existing controls are listed, and that all existing controls are still applicable. If there is a control that is no longer applicable the Owner / Remedial Party should petition the Department separately to request approval to remove the control.

2. In Box 5, complete certifications for all Plan components, as applicable, by checking the corresponding checkbox.

3. If you cannot certify "YES" for each Control listed in Box 3 & Box 4, sign and date the form in Box 5. Attach supporting documentation that explains why the **Certification** cannot be rendered, as well as a plan of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is completed.

If the Department concurs with the explanation, the proposed corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Department's Project Manager. Once the corrective measures are complete, a new Periodic Review Report (with IC/EC Certification) must be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

III. IC/EC Certification by Signature (Box 6 and Box 7):

If you certified "YES" for each Control, please complete and sign the IC/EC Certifications page as follows:

- For the Institutional Controls on the use of the property, the certification statement in Box 6 shall be completed and may be made by the property owner or designated representative.
- For the Engineering Controls, the certification statement in Box 7 must be completed by a Professional Engineer or Qualified Environmental Professional, as noted on the form.



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



	Site Details	Box 1
Site No. C828117		
Site Name Ward Street Site		
Site Address: Corner of Ward St. & St. Paul St.	Zip Code: 14603	
City/Town: Rochester		
County: Monroe		
Site Acreage: 1.9		
Reporting Period: November 15, 2014 to November 15, 2015		
		YES NO
1. Is the information above correct?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Box 2
		YES NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Are all ICs/ECs in place and functioning as designed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.		
A Corrective Measures Work Plan must be submitted along with this form to address these issues.		
_____ Signature of Owner, Remedial Party or Designated Representative		_____ Date

Box 2A

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

YES NO

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

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

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

SITE NO. C828117

Box 3

Description of Institutional Controls

<u>Parcel</u>	<u>Owner</u>	<u>Institutional Control</u>
106.62-01-028	Germanow-Simon Corporation	Ground Water Use Restriction Soil Management Plan Landuse Restriction Site Management Plan O&M Plan
Operate a multiphase extraction system until cleanup goals are achieved or DEC approves shutdown. Maintain asphalt and concrete surfaces in the area of contamination. Restrict site usage to commercial or industrial. Restrict groundwater use. Any on-site soil excavation shall comply with the approved Soil Management Plan; and maintain Environmental Easement Agreement made on December 19, 2006		
106.62-01-029	Germanow-Simon Corporation	Site Management Plan O&M Plan Ground Water Use Restriction Soil Management Plan Landuse Restriction
Operate a multiphase extraction system until cleanup goals are achieved or DEC approves shutdown. Maintain asphalt and concrete surfaces in the area of contamination. Restrict site usage to commercial or industrial. Restrict groundwater use. Any on-site soil excavation shall comply with the approved Soil Management Plan; and maintain Environmental Easement Agreement made on December 19, 2006.		
106.62-01-030	Germanow-Simon Corporation	Site Management Plan O&M Plan Ground Water Use Restriction Soil Management Plan Landuse Restriction
Operate a multiphase extraction system until cleanup goals are achieved or DEC approves shutdown. Maintain asphalt and concrete surfaces in the area of contamination. Restrict site usage to commercial or industrial. Restrict groundwater use. Any on-site soil excavation shall comply with the approved Soil Management Plan; and maintain Environmental Easement Agreement made on December 19, 2006.		
106.62-01-031	Germanow-Simon Corporation	Site Management Plan O&M Plan Ground Water Use Restriction Soil Management Plan Landuse Restriction
Operate a multiphase extraction system until cleanup goals are achieved or DEC approves shutdown. Maintain asphalt and concrete surfaces in the area of contamination. Restrict site usage to commercial or industrial. Restrict groundwater use. Any on-site soil excavation shall comply with the approved Soil Management Plan; and maintain Environmental Easement Agreement made on December 19, 2006.		
106.62-01-032	Germanow-Simon Corporation	Ground Water Use Restriction Soil Management Plan Landuse Restriction Site Management Plan O&M Plan
Operate a multiphase extraction system until cleanup goals are achieved or DEC approves shutdown. Maintain asphalt and concrete surfaces in the area of contamination. Restrict site usage to commercial or industrial. Restrict groundwater use. Any on-site soil excavation shall comply with the approved Soil Management Plan; and maintain Environmental Easement Agreement made on December 19, 2006. Operate a sub-slab depressurization system after shutdown of MPVE system.		

106.62-01-057

Germanow-Simon Corporation

Site Management Plan
Ground Water Use Restriction
Landuse Restriction
Monitoring Plan
Soil Management Plan

Operate a multiphase extraction system until cleanup goals are achieved or DEC approves shutdown. Maintain asphalt and concrete surfaces in the area of contamination. Restrict site usage to commercial or industrial. Restrict groundwater use. Any on-site soil excavation shall comply with the approved Soil Management Plan; and maintain Environmental Easement Agreement made on December 19, 2006.

106.62-01-21

Germanow-Simon Corporation

Ground Water Use Restriction
Soil Management Plan
Landuse Restriction
Site Management Plan
O&M Plan

Operate a multiphase extraction system until cleanup goals are achieved or DEC approves shutdown. ~~Operate a sub-slab depressurization system after shutdown of the MPVE system.~~ Maintain asphalt and concrete surfaces in the area of contamination. Restrict site usage to commercial or industrial. Restrict groundwater use. Any on-site soil excavation shall comply with the approved Soil Management Plan; and maintain Environmental Easement Agreement made on December 19, 2006

Box 4

Description of Engineering Controls

Parcel

Engineering Control

106.62-01-028

Cover System

Operate a multiphase extraction system until cleanup goals are achieved or DEC approves shutdown. Maintain asphalt and concrete surfaces in the area of contamination.

106.62-01-029

Cover System

Operate a multiphase extraction system until cleanup goals are achieved or DEC approves shutdown. Maintain asphalt and concrete surfaces in the area of contamination.

106.62-01-030

Cover System

Operate a multiphase extraction system until cleanup goals are achieved or DEC approves shutdown. Maintain asphalt and concrete surfaces in the area of contamination. Restrict site usage to commercial or industrial.

106.62-01-031

Cover System

Operate a multiphase extraction system until cleanup goals are achieved or DEC approves shutdown. Maintain asphalt and concrete surfaces in the area of contamination.

106.62-01-032

Cover System

Operate a multiphase extraction system until cleanup goals are achieved or DEC approves shutdown. Maintain asphalt and concrete surfaces in the area of contamination.
Operate a sub-slab depressurization system after shutdown of the MPVE system.

106.62-01-057

Cover System

Operate a multiphase extraction system until cleanup goals are achieved or DEC approves shutdown. Maintain asphalt and concrete surfaces in the area of contamination. Restrict site usage to commercial or industrial.

106.62-01-21

Vapor Mitigation
Cover System

Operate a multiphase extraction system until cleanup goals are achieved or DEC approves shutdown. ~~Operate a sub-slab depressurization system after shutdown of the MPVE system until DEC approves shutdown.~~ Maintain asphalt and concrete surfaces in the area of contamination.

Per NYSDEC approval, the MPVE system was shut down on February 22, 2011 and has not been restarted since that time. At that time, the previously installed sub-slab depressurization system beneath the Building B Annex was turned on. The MPVE system was decommissioned during the last reporting period. Per NYSDEC approval, Stantec implemented an enhanced reductive dechlorination program at the site.

Periodic Review Report (PRR) Certification Statements

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

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

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

YES NO

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

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

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

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

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

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

YES NO

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

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

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. C828117

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

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

I Andy Germanow at Germanow-Simon Corp., 408 St. Paul Street
Rochester, NY 14605
print name print business address

am certifying as owner (Owner or Remedial Party)

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



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

12/14/15
Date

IC/EC CERTIFICATIONS

Box 7

Professional Engineer Signature

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

Stantec Consulting Services Inc.
61 Commercial Street Suite 100
Rochester, NY 14614

I Peter Nielsen at Rochester, NY 14614
print name print business address

am certifying as a Professional Engineer for the owner
(Owner or Remedial Party)



12/8/15

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

Stamp (Required for PE)

Date

Enclosure 3
Periodic Review Report (PRR) General Guidance

- I. Executive Summary: (1/2-page or less)
 - A. Provide a brief summary of site, nature and extent of contamination, and remedial history.
 - B. Effectiveness of the Remedial Program - Provide overall conclusions regarding;
 1. progress made during the reporting period toward meeting the remedial objectives for the site
 2. the ultimate ability of the remedial program to achieve the remedial objectives for the site.
 - C. Compliance
 1. Identify any areas of non-compliance regarding the major elements of the Site Management Plan (SMP, i.e., the Institutional/Engineering Control (IC/EC) Plan, the Monitoring Plan, and the Operation & Maintenance (O&M) Plan).
 2. Propose steps to be taken and a schedule to correct any areas of non-compliance.
 - D. Recommendations
 1. recommend whether any changes to the SMP are needed
 2. recommend any changes to the frequency for submittal of PRRs (increase, decrease)
 3. recommend whether the requirements for discontinuing site management have been met.
- II. Site Overview (one page or less)
 - A. Describe the site location, boundaries (figure), significant features, surrounding area, and the nature and extent of contamination prior to site remediation.
 - B. Describe the chronology of the main features of the remedial program for the site, the components of the selected remedy, cleanup goals, site closure criteria, and any significant changes to the selected remedy that have been made since remedy selection.
- III. Evaluate Remedy Performance, Effectiveness, and Protectiveness
Using tables, graphs, charts and bulleted text to the extent practicable, describe the effectiveness of the remedy in achieving the remedial goals for the site. Base findings, recommendations, and conclusions on objective data. Evaluations and should be presented simply and concisely.
- IV. IC/EC Plan Compliance Report (if applicable)
 - A. IC/EC Requirements and Compliance
 1. Describe each control, its objective, and how performance of the control is evaluated.
 2. Summarize the status of each goal (whether it is fully in place and its effectiveness).
 3. Corrective Measures: describe steps proposed to address any deficiencies in ICECs.
 4. Conclusions and recommendations for changes.
 - B. IC/EC Certification
 1. The certification must be complete (even if there are IC/EC deficiencies), and certified by the appropriate party as set forth in a Department-approved certification form(s).
- V. Monitoring Plan Compliance Report (if applicable)
 - A. Components of the Monitoring Plan (tabular presentations preferred) - Describe the requirements of the monitoring plan by media (i.e., soil, groundwater, sediment, etc.) and by any remedial technologies being used at the site.
 - B. Summary of Monitoring Completed During Reporting Period - Describe the monitoring tasks actually completed during this PRR reporting period. Tables and/or figures should be used to show all data.
 - C. Comparisons with Remedial Objectives - Compare the results of all monitoring with the remedial objectives for the site. Include trend analyses where possible.
 - D. Monitoring Deficiencies - Describe any ways in which monitoring did not fully comply with the monitoring plan.
 - E. Conclusions and Recommendations for Changes - Provide overall conclusions regarding the monitoring completed and the resulting evaluations regarding remedial effectiveness.
- VI. Operation & Maintenance (O&M) Plan Compliance Report (if applicable)
 - A. Components of O&M Plan - Describe the requirements of the O&M plan including required activities, frequencies, recordkeeping, etc.
 - B. Summary of O&M Completed During Reporting Period - Describe the O&M tasks actually completed during this PRR reporting period.
 - C. Evaluation of Remedial Systems - Based upon the results of the O&M activities completed, evaluated

the ability of each component of the remedy subject to O&M requirements to perform as designed/expected.

- D. O&M Deficiencies - Identify any deficiencies in complying with the O&M plan during this PRR reporting period.
- E. Conclusions and Recommendations for Improvements - Provide an overall conclusion regarding O&M for the site and identify any suggested improvements requiring changes in the O&M Plan.

VII. Overall PRR Conclusions and Recommendations

- A. Compliance with SMP - For each component of the SMP (i.e., IC/EC, monitoring, O&M), summarize;
 - 1. whether all requirements of each plan were met during the reporting period
 - 2. any requirements not met
 - 3. proposed plans and a schedule for coming into full compliance.
- B. Performance and Effectiveness of the Remedy - Based upon your evaluation of the components of the SMP, form conclusions about the performance of each component and the ability of the remedy to achieve the remedial objectives for the site.
- C. Future PRR Submittals
 - 1. Recommend, with supporting justification, whether the frequency of the submittal of PRRs should be changed (either increased or decreased).
 - 2. If the requirements for site closure have been achieved, contact the Departments Project Manager for the site to determine what, if any, additional documentation is needed to support a decision to discontinue site management.

VIII. Additional Guidance

Additional guidance regarding the preparation and submittal of an acceptable PRR can be obtained from the Departments Project Manager for the site.

**New York State Department of Environmental Conservation
Division of Environmental Remediation, 11th Floor**

625 Broadway, Albany, New York 12233

Phone: (518) 402-9553 **Fax:** (518) 402-9577

Website: www.dec.ny.gov



Basil Seggos
Commissioner

10/20/2015

Andrew Germanow
President
Germanow-Simon Corporation
408 St. Paul Street
Rochester, NY 14603-1061

Re: Reminder Notice: Site Management Periodic Review Report and IC/EC Certification Submittal

Site Name: 8-28 Ward Street

Site No.: C828136

Site Address: 8-28 Ward Street
Rochester, NY 14603-1061

Dear Andrew Germanow:

This letter serves as a reminder that sites in active Site Management (SM) require the submittal of a periodic progress report. This report, referred to as the Periodic Review Report (PRR), must document the implementation of, and compliance with, site specific SM requirements. Section 6.3(b) of DER-10 *Technical Guidance for Site Investigation and Remediation* (available online at <http://www.dec.ny.gov/regulations/67386.html>) provides guidance regarding the information that must be included in the PRR. Further, if the site is comprised of multiple parcels, then you as the Certifying Party must arrange to submit one PRR for all parcels that comprise the site. The PRR must be received by the Department no later than **December 15, 2015**. Guidance on the content of a PRR is enclosed.

Site Management is defined in regulation (6 NYCRR 375-1.2(at)) and in Chapter 6 of DER-10. Depending on when the remedial program for your site was completed, SM may be governed by multiple documents (e.g., Operation, Maintenance, and Monitoring Plan; Soil Management Plan) or one comprehensive Site Management Plan.

A Site Management Plan (SMP) may contain one or all of the following elements, as applicable to the site: a plan to maintain institutional controls and/or engineering controls ("IC/EC Plan"); a plan for monitoring the performance and effectiveness of the selected remedy ("Monitoring Plan"); and/or a plan for the operation and maintenance of the selected remedy ("O&M Plan"). Additionally, the technical requirements for SM are stated in the decision document (e.g., Record of Decision) and, in some cases, the legal agreement directing the remediation of the site (e.g., order on consent, voluntary agreement, etc.).

When you submit the PRR (by the due date above), include the enclosed forms documenting that all SM requirements are being met. The Institutional Controls (ICs) portion of the form (Box 6) must be signed by you or your designated representative. The Engineering Controls (ECs) portion of the form (Box 7) must be signed by a Professional Engineer (PE). If you cannot certify that all SM requirements are being met, you must submit a Corrective Measures Work Plan that identifies the actions to be taken to restore compliance. The work plan must include a schedule to be approved by the Department. The Periodic Review process will not be considered complete until all necessary corrective measures are completed and all required controls are certified. Instructions for completing the certifications are enclosed.

All site-related documents and data, including the PRR, are to be submitted in electronic format to the Department of Environmental Conservation. The Department will not approve the PRR unless all documents and data generated in support of that report have been submitted in accordance with the electronic submissions protocol. In addition, the certification forms are required to be submitted in both paper and electronic formats.

Information on the format of the data submissions can be found at:
<http://www.dec.ny.gov/regulations/2586.html>

The signed certification forms should be sent to Todd Caffoe, Project Manager, at the following address:

New York State Department of Environmental Conservation
6274 East Avon-Lima Road
Avon, NY 14414

Phone number: 585-226-5350. E-mail: todd.caffoe@dec.ny.gov

The contact information above is also provided so that you may notify the project manager about upcoming inspections, or for any other questions or concerns that may arise in regard to the site.

Enclosures

PRR General Guidance
Certification Form Instructions
Certification Forms

ec: w/ enclosures

Todd Caffoe, Project Manager
Bernette Schilling, Hazardous Waste Remediation Engineer, Region 8

Enclosure 1

Certification Instructions

I. Verification of Site Details (Box 1 and Box 2):

Answer the three questions in the Verification of Site Details Section. The Owner and/or Qualified Environmental Professional (QEP) may include handwritten changes and/or other supporting documentation, as necessary.

II. Certification of Institutional Controls/ Engineering Controls (IC/ECs)(Boxes 3, 4, and 5)

1.1.1. Review the listed IC/ECs, confirming that all existing controls are listed, and that all existing controls are still applicable. If there is a control that is no longer applicable the Owner / Remedial Party should petition the Department separately to request approval to remove the control.

2. In Box 5, complete certifications for all Plan components, as applicable, by checking the corresponding checkbox.

3. If you cannot certify "YES" for each Control listed in Box 3 & Box 4, sign and date the form in Box 5. Attach supporting documentation that explains why the **Certification** cannot be rendered, as well as a plan of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is completed.

If the Department concurs with the explanation, the proposed corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Department's Project Manager. Once the corrective measures are complete, a new Periodic Review Report (with IC/EC Certification) must be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

III. IC/EC Certification by Signature (Box 6 and Box 7):

If you certified "YES" for each Control, please complete and sign the IC/EC Certifications page as follows:

- For the Institutional Controls on the use of the property, the certification statement in Box 6 shall be completed and may be made by the property owner or designated representative.
- For the Engineering Controls, the certification statement in Box 7 must be completed by a Professional Engineer or Qualified Environmental Professional, as noted on the form.



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



	Site Details	Box 1	
Site No. C828136			
Site Name 8-28 Ward Street			
Site Address: 8-28 Ward Street	Zip Code: 14603-1061		
City/Town: Rochester			
County: Monroe			
Site Acreage: 1.2			
Reporting Period: November 15, 2014 to November 15, 2015			
		YES	NO
1. Is the information above correct?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
If NO, include handwritten above or on a separate sheet.			
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?		<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?		<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?		<input type="checkbox"/>	<input checked="" type="checkbox"/>
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.			
5. Is the site currently undergoing development?		<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Box 2	
		YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial		<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Are all ICs/ECs in place and functioning as designed?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.			
A Corrective Measures Work Plan must be submitted along with this form to address these issues.			
_____ Signature of Owner, Remedial Party or Designated Representative		_____ Date	

Box 2A

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

YES NO

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

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

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

SITE NO. C828136

Box 3**Description of Institutional Controls**ParcelOwnerInstitutional Control**106.63-1-16**

Germanow-Simon Corporation

Ground Water Use Restriction
 Soil Management Plan
 Landuse Restriction
 Site Management Plan

Groundwater use is prohibited;

A Site Management Plan (SMP) must be implemented;

Soils shall be managed in accordance with the SMP;

The potential for vapor intrusion for any new buildings must be evaluated and mitigated as necessary;

Periodic review is required to certify all controls are in place.

Description of Engineering Controls**Box 4**ParcelEngineering Control**106.63-1-16**

Groundwater Treatment System
 Cover System

Per NYSDEC approval, the MPVE system was shutdown on February 22, 2011 and has not been restarted since that time. The MVPE system was decommissioned during the current reporting period. Per NYSDEC approval, Stantec implemented an enhanced reductive dechlorination program at the site.

A multi-phase vacuum extraction system ("MPVE") shall be operated beneath on-site and beneath off-site within the right-of-way for Ward Street until cleanup goals are achieved or DEC approves shutdown.

Existing surface and near surface soils, asphalt-paved surfaces, concrete-paved surfaces, and any existing buildings act as a cover system and must be maintained.

Periodic Review Report (PRR) Certification Statements

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

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

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

YES NO

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

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

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

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

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

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

YES NO

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

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

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. C828136

Box 6


SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

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

I Andy Germanow at Germanow-Simon Corp., 408 St. Paul Street
Rochester, NY 14605
print name print business address

am certifying as owner (Owner or Remedial Party)

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


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

12/14/15
Date

IC/EC CERTIFICATIONS

Box 7

Professional Engineer Signature

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

Stantec Consulting Services Inc.
61 Commercial Street Suite 100

I Peter Nielsen at Rochester, NY 14614
print name print business address

I am certifying as a Professional Engineer for the owner
(Owner or Remedial Party)



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

Stamp (Required for PE)

12/8/15

Date

Enclosure 3
Periodic Review Report (PRR) General Guidance

- I. Executive Summary: (1/2-page or less)
 - A. Provide a brief summary of site, nature and extent of contamination, and remedial history.
 - B. Effectiveness of the Remedial Program - Provide overall conclusions regarding;
 1. progress made during the reporting period toward meeting the remedial objectives for the site
 2. the ultimate ability of the remedial program to achieve the remedial objectives for the site.
 - C. Compliance
 1. Identify any areas of non-compliance regarding the major elements of the Site Management Plan (SMP, i.e., the Institutional/Engineering Control (IC/EC) Plan, the Monitoring Plan, and the Operation & Maintenance (O&M) Plan).
 2. Propose steps to be taken and a schedule to correct any areas of non-compliance.
 - D. Recommendations
 1. recommend whether any changes to the SMP are needed
 2. recommend any changes to the frequency for submittal of PRRs (increase, decrease)
 3. recommend whether the requirements for discontinuing site management have been met.

- II. Site Overview (one page or less)
 - A. Describe the site location, boundaries (figure), significant features, surrounding area, and the nature and extent of contamination prior to site remediation.
 - B. Describe the chronology of the main features of the remedial program for the site, the components of the selected remedy, cleanup goals, site closure criteria, and any significant changes to the selected remedy that have been made since remedy selection.

- III. Evaluate Remedy Performance, Effectiveness, and Protectiveness
Using tables, graphs, charts and bulleted text to the extent practicable, describe the effectiveness of the remedy in achieving the remedial goals for the site. Base findings, recommendations, and conclusions on objective data. Evaluations and should be presented simply and concisely.

- IV. IC/EC Plan Compliance Report (if applicable)
 - A. IC/EC Requirements and Compliance
 1. Describe each control, its objective, and how performance of the control is evaluated.
 2. Summarize the status of each goal (whether it is fully in place and its effectiveness).
 3. Corrective Measures: describe steps proposed to address any deficiencies in ICECs.
 4. Conclusions and recommendations for changes.
 - B. IC/EC Certification
 1. The certification must be complete (even if there are IC/EC deficiencies), and certified by the appropriate party as set forth in a Department-approved certification form(s).

- V. Monitoring Plan Compliance Report (if applicable)
 - A. Components of the Monitoring Plan (tabular presentations preferred) - Describe the requirements of the monitoring plan by media (i.e., soil, groundwater, sediment, etc.) and by any remedial technologies being used at the site.
 - B. Summary of Monitoring Completed During Reporting Period - Describe the monitoring tasks actually completed during this PRR reporting period. Tables and/or figures should be used to show all data.
 - C. Comparisons with Remedial Objectives - Compare the results of all monitoring with the remedial objectives for the site. Include trend analyses where possible.
 - D. Monitoring Deficiencies - Describe any ways in which monitoring did not fully comply with the monitoring plan.
 - E. Conclusions and Recommendations for Changes - Provide overall conclusions regarding the monitoring completed and the resulting evaluations regarding remedial effectiveness.

- VI. Operation & Maintenance (O&M) Plan Compliance Report (if applicable)
 - A. Components of O&M Plan - Describe the requirements of the O&M plan including required activities, frequencies, recordkeeping, etc.
 - B. Summary of O&M Completed During Reporting Period - Describe the O&M tasks actually completed during this PRR reporting period.
 - C. Evaluation of Remedial Systems - Based upon the results of the O&M activities completed, evaluated the ability of each component of the remedy subject to O&M requirements to perform as

designed/expected.

- D. O&M Deficiencies - Identify any deficiencies in complying with the O&M plan during this PRR reporting period.
- E. Conclusions and Recommendations for Improvements - Provide an overall conclusion regarding O&M for the site and identify any suggested improvements requiring changes in the O&M Plan.

VII. Overall PRR Conclusions and Recommendations

- A. Compliance with SMP - For each component of the SMP (i.e., IC/EC, monitoring, O&M), summarize;
 - 1. whether all requirements of each plan were met during the reporting period
 - 2. any requirements not met
 - 3. proposed plans and a schedule for coming into full compliance.
- B. Performance and Effectiveness of the Remedy - Based upon your evaluation of the components of the SMP, form conclusions about the performance of each component and the ability of the remedy to achieve the remedial objectives for the site.
- C. Future PRR Submittals
 - 1. Recommend, with supporting justification, whether the frequency of the submittal of PRRs should be changed (either increased or decreased).
 - 2. If the requirements for site closure have been achieved, contact the Departments Project Manager for the site to determine what, if any, additional documentation is needed to support a decision to discontinue site management.

VIII. Additional Guidance

Additional guidance regarding the preparation and submittal of an acceptable PRR can be obtained from the Departments Project Manager for the site.

PERIODIC REVIEW REPORT
WARD STREET SITE – SITE NO. C828117
AND
8-28 WARD STREET SITE - NO. C828136

Appendix B

**WORK PLAN
Remedial Program Supplement
Enhanced Reductive Dechlorination
Ward Street Sites
Rochester, New York**

**Site Nos. C828117 & C828136
Index Nos. B8-0566-99-10 & B8-0566-99-10**

Prepared for:

NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
6274 EAST AVON-LIMA ROAD
AVON, NEW YORK 14414

Prepared on behalf of:

GERMANOW-SIMON CORPORATION
408 ST. PAUL STREET
ROCHESTER, NEW YORK 14601-0144

Prepared by:

STANTEC CONSULTING SERVICES INC.
61 COMMERCIAL STREET
ROCHESTER, NEW YORK 14614

190500014.210



Stantec

March 2011

Stantec

**WORK PLAN
REMEDIAL PROGRAM SUPPLEMENT
ENHANCED REDUCTIVE DECHLORINATION
WARD STREET SITES**

CERTIFICATION

I, David P. Belaskas, certify that I am currently a NYS registered professional engineer and that this Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

David P. Belaskas
Signature

3/25/2011
Date



Executive Summary

This Work Plan has been prepared by Stantec Consulting Services Inc. (Stantec) for the Ward Street Site (Brownfield Cleanup Program Site No. C828117) and the 8-28 Ward Street Site (BCP Site No. C828136). The two sites (the “Sites”) are on adjacent properties owned and occupied by the Germanow-Simon Corporation. The Sites are located at the intersection of St. Paul and Ward Streets in the City of Rochester, Monroe County, New York.

A Multi Phase Vacuum Extraction (MPVE) remedial system has been in operation since October 5, 2006 to address subsurface contamination by chlorinated volatile organic compounds (chlorinated VOCs) at the Ward Street Site. The MPVE system was expanded in October 2008 to also address chlorinated VOCs in the subsurface at the 8-28 Ward Street Site.

Data collected since the commissioning of the MPVE system demonstrate that the trend in the rate of contaminant mass removal had reached an asymptotic condition – that is, that the rate of mass removal that was being achieved by operation of the system had declined over time to essentially its lower limit. That limit was not zero, but the monitoring data demonstrated that the rate of mass removal that could be anticipated going forward would be minimal, and that groundwater conditions would not be significantly improved by the continued operation of the system.

Because the trend in the rate of VOC removal had reached an asymptotic condition, it was agreed to by the Department that operation of the MPVE system could be suspended indefinitely beginning in February 2011, that the existing sub-slab depressurization system (SSDS) for the Building B Annex Area be turned on at the time the MPVE operation is suspended, and that an enhanced in-situ bioremediation polishing program be initiated in the spring of 2011 to reduce residual contamination by VOCs in the subsurface.

This work plan describes the activities to be undertaken to implement the supplemental bioremediation program. The program is designed on the basis of results of treatability testing described in Stantec’s “Treatability Testing Report, Enhanced Reductive Dechlorination (ERD) Treatment Technology” that was submitted to the Department as Appendix D in Progress Report #6 (June 2009). The program will involve using the MPVE system equipment and wells to inject and distribute a solution containing a carbon source material that functions as an ERD electron donor (sodium lactate or an equivalent) into the subsurface in the areas of the Sites where the VOC concentrations in groundwater remain above applicable Department standards and guidance levels. Following the injection of the ERD electron donor into the subsurface of those areas, the existing monitoring and recovery well network will be used for groundwater sampling to monitor site conditions and evaluate the remedial performance of the ERD program.

**WORK PLAN
REMEDIAL PROGRAM SUPPLEMENT
ENHANCED REDUCTIVE DECHLORINATION
WARD STREET SITES**March 2011

It is proposed that decommissioning of the MPVE system be deferred until the effectiveness of the ERD program in reducing the levels of residual has been evaluated. However, it is anticipated that the eventual decommissioning of the MPVE system in accordance with the closure process specified in the November 2006 Final Engineering Report for the Ward Street Site will be possible at the conclusion of the ERD program.

**REMEDIAL PROGRAM SUPPLEMENT
 ENHANCED REDUCTIVE DECHLORINATION
 WARD STREET SITES**

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**WORK PLAN
REMEDIAL PROGRAM SUPPLEMENT
ENHANCED REDUCTIVE DECHLORINATION
WARD STREET SITES**

1.0 Introduction

Stantec Consulting Services Inc. (Stantec) prepared this Work Plan for implementation of a program of enhanced in-situ bioremediation to reduce residual subsurface contamination at the contiguous Ward Street and 8-28 Ward Street Sites (the Sites) located in the City of Rochester, Monroe County, New York. The Sites are located along the north side of Ward Street and to the east of the intersection of Ward Street with St. Paul Street. A map showing the location of the Sites is provided in Figure 1.

The Sites are on adjacent properties owned and occupied by the Germanow-Simon Corporation. The work plan was prepared for Germanow-Simon, and is submitted to fulfill the obligation of Germanow-Simon as a volunteer under the Brownfield Cleanup Agreements (BCAs) for each of the Sites. The Ward Street Site is identified in the Brownfield Cleanup Program as Site #C828117. The 8-28 Ward Street Site is identified as BCP Site #C828136.

Germanow-Simon implemented a multi-phase vacuum extraction (MPVE) system to address subsurface contamination of soil and groundwater by the volatile organic compounds (VOCs) tetrachloroethene (PCE) and trichloroethene (TCE), which are chlorinated solvent compounds, and cis-1,2-dichloroethene (cis-1,2-DCE) and vinyl chloride (VC), which are compounds formed from the breakdown of the solvents in the environment. Minor occurrences of other organic solvent compounds and solvent breakdown products are also present in the areas addressed by the MPVE system.

The MPVE system was designed to withdraw groundwater and soil vapor from a network of extraction wells (Figure 2) installed in contaminant source areas and adjacent, downgradient plume areas. The operation of the extraction system exposes soil and bedrock in the contaminated horizons to a flow of air, thereby increasing the removal of contaminants. Prior to discharge, extracted water and vapor were treated as necessary to reduce VOC concentrations.

The Ward Street Site portion of the MPVE system was commissioned in October 2006, and in 2008 the system was expanded to cover the 8-28 Ward Street Site. Data from the monitoring of system performance and monitoring of site conditions during the operating period have indicated that the rate of VOC removal using the MPVE system declined over time to an asymptotic level. With the Department's approval, the system operating mode was modified during the last year of operation in an attempt to enhance mass removal with a program of quarterly one-month-long shut down periods that was designed to allow for increased saturation of the contaminated intervals and potential transfer of contaminants sorbed to soil and bedrock to groundwater. The data indicated that in February 2011 the trend in the VOC removal rate continued to be asymptotic and that continued operation of the MPVE system was no longer serving to significantly improve subsurface conditions at the site or to remove significant

**WORK PLAN
REMEDIAL PROGRAM SUPPLEMENT
ENHANCED REDUCTIVE DECHLORINATION
WARD STREET SITES**

March 2011

quantities of VOCs. The asymptotic trend of VOC removal is a typical feature of MPVE remediation programs at sites with similar conditions. The most recent data summary was submitted to the Department in Progress Report No. 8 for Operations, Maintenance & Monitoring activities at the Sites (Stantec, February 11, 2011).

A supplemental remediation program is therefore proposed to reduce residual contamination in the area of the Sites where VOC concentrations in groundwater remain at levels above New York State standards.

The proposed supplemental remediation program will employ enhanced reductive dechlorination (ERD). A solution of a carbon source material will be injected in the subsurface to provide reducing conditions and a source of electrons that will enhance the breakdown of residual contaminants by naturally occurring bacteria. The ERD program will make use of the existing extraction and monitoring well network and MPVE remedial system equipment to inject a solution of sodium lactate in the areas affected by residual contamination. Sampling and analysis activities will be performed to establish baseline site conditions prior to implementation of the ERD program, monitor the effectiveness of the injection process, monitor the effectiveness of the subsequent enhanced biodegradation process, and monitor site conditions at the end of the ERD program.

A bench scale treatability test of the proposed approach was conducted in 2008. The treatability study demonstrated the following:

- a viable population of the requisite bacteria was found to be present in the subsurface at the site;
- three commonly-used electron donor materials (carbon amendments) were each found to be effective in promoting complete elimination of the chlorinated VOCs in microcosm samples of site soil and groundwater (VOC concentrations fell to below detectable levels in the samples); and
- sodium lactate was found to be both the most efficient and most long lived of the three carbon amendments tested.

This work plan presents the technical basis for implementing an ERD program at the Sites and describes the scope of work to be completed as part of the ERD program. The design of the program is based on Stantec's understanding of Site conditions and the results of the previously conducted ERD bench-scale treatability study (results of which were previously submitted to the Department).

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2.0 Technology Description

2.1 OVERVIEW

Reductive dechlorination is a natural process in which native bacteria present in the subsurface degrade contaminants in the environment. Contaminant degradation is dependent on the presence of the appropriate microorganisms, nutrients, and energy sources. The biochemical transformation of contaminants is the result of enzymes produced by the microorganisms that act as catalysts for the degradation reactions.

In this process, the chlorinated solvent compound serves as an electron acceptor (or weak oxidizing agent) that is reduced by electrochemical reactions with other chemicals in the groundwater that serve as electron donors. Typical naturally occurring electron donors include natural organic carbon, dissolved hydrocarbon gases and dissolved hydrogen.

For reductive dechlorination to occur, the supply of electron donors must meet or exceed the concentration of chlorinated solvents in the groundwater when evaluated in terms of an electron balance. The available electron donors must also be capable of driving the desired biochemical reactions without interferences from other electron acceptors. At sites with higher concentrations of chlorinated solvents, natural reductive processes often are limited by an inadequate supply of electron donors. At these sites, enhanced reductive dechlorination can be accomplished by adding a supplemental electron donor into the groundwater to balance the electrochemistry.

The artificial electron donor should be carbon-based so that it also provides the substrate necessary to fuel biological growth. This carbon source may consist of carbohydrates, organic acids, alcohols, alkanes, aromatics, glycerides, or other hydrocarbons that possess some degree of aqueous solubility. Carbohydrates or lactate are most often added to the subsurface to increase the availability of electron donors to enhance reductive dechlorination, but other carbon-based electron donors may also be used.

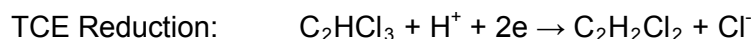
2.1.1 Electron Acceptor Competition

The major driving force for biodegradation involves the transfer of energy in the form of electrons. During reductive dechlorination, the halogenated hydrocarbon acts as an electron acceptor, and therefore an additional carbon source is required for the reaction to proceed. Hydrogen and electrons are produced as this carbon source undergoes a variety of cleavage, hydrolysis, dehydrogenation, and/or substitution reactions. The resulting energy is then used to replace the chlorine with hydrogen through reductive reactions such as hydrogenolysis or

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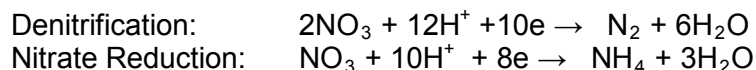
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dihaloelimination (dechlorination in the case of chlorinated compounds). The following reaction shows the reduction of TCE to cis-1,2-DCE:



In anaerobic environments, complete degradation of organic contaminants typically occurs from the interactions between several specialized microorganisms. Metabolite intermediates produced by one organism are often required by others within the group. As a result, several inorganic electron acceptors, including nitrates, sulfates, carbonates, ferric iron, and manganese oxide, may also be consumed during the overall biological process.

The addition of supplemental electron donors to the subsurface can result in competition with other electron acceptors for the new supply of electrons. Oxygen will scavenge electron donors faster than most other electron acceptors, and is a significant interference to reductive dechlorination. Similarly, denitrification occurs readily in the presence of dissolved carbon, so nitrates typically out-compete the chlorinated solvents for electrons. Denitrification and nitrate reduction may occur by the following reactions:



Ferric iron (Fe^{+3}) and manganese (Mn^{+4}) also compete for electrons from supplemental carbon sources, but the limited solubility of these metals makes them less of an interference when compared to nitrates or oxygen. Iron and manganese reduction occur by the following reactions:

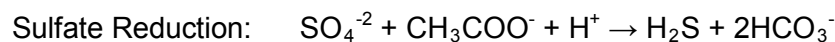


Reductive dechlorination will occur simultaneously with iron and manganese reduction. Therefore, the presence of these dissolved metals in groundwater is typically viewed as an indicator of favorable reductive conditions, rather than a competitive threat. However, the increased concentrations of dissolved iron and manganese associated with reductive treatment may require secondary post-treatment to geochemically sequester the metals back into a non-soluble state. After the enhanced reductive dechlorination has taken place and chlorinated compounds have reached cleanup standards, any iron and/or manganese releases can be controlled, if necessary, by adjusting the pH of the groundwater to prevent dissolution and to precipitate dissolved metals in place. This can be accomplished by the injection of soluble bases like sodium carbonates or hydroxides. The treatment is repeated until the pH within the plume has been raised to a level of approximately 9.3. At this pH, manganese and iron are readily oxidized to the +4 and +3 respectively, valence states where they become insoluble.

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Sulfates may compete with chlorinated solvents as an electron acceptor. An example of this reaction with acetate is shown below:



The issue of whether sulfate will inhibit reductive dechlorination appears to be related to overall Site geochemistry issues rather than sulfate itself. Hoelen and Reinhard¹ demonstrated that dehalogenation of chlorinated ethenes can occur in moderately high sulfate concentrations in the range of 100 to 250 milligrams per liter (mg/l). Some patented biological treatment processes for dehalogenation actually require the addition of sulfates as part of the process.² Thus, the presence of elevated sulfate concentrations does not necessarily mean that enhanced reductive treatment processes will be inhibited. In fact, the kinetics of reductive dechlorination have been observed to substantially increase under sulfate reducing conditions. The normally slower degradation rates of daughter products from TCE such as 1,2-DCE can approach the degradation rate of TCE under sulfate reducing or methanogenic conditions.

Methanogenic reduction occurs in electron-acceptor starved systems where carbon dioxide serves as the electron donor via the following reaction:



Since the chlorinated contaminants serve as electron acceptors, subsurface conditions need to be optimized during enhanced reductive dechlorination applications to ensure that competition reactions with the naturally-occurring electron acceptors are minimized. The potential free energy that can be generated by a microorganism determines the preference for an individual electron acceptor. As subsurface conditions become more reduced, the preference for contaminant reduction increases. Consequently, more chlorinated compounds will be reduced under methanogenic conditions than denitrification.

2.1.2 Biological Factors

Reductive dechlorination in this report is discussed primarily in terms of the electrochemical reactions that surround the reductive dechlorination process. These reactions are biologically driven and will proceed only if the indigenous bacteria in the subsurface are capable of producing the desired biochemical reactions. Bacteria such as *dehalospirillum multivorans*, *dehalobacter restrictus*, *desulfitobacterium*, *clostridium bifermentans*, *desulfuromonas*,

¹ T.P. Hoelen and M. Reinhard, *Complete biological dehalogenation of chlorinated ethylenes in sulfate containing groundwater*, BIOREMEDIATION, Vol. 15, pp. 395-403, 2004.

² Beeman, U.S. Pat. 5,277,815; Saunders, U.S. Pat. 5,833,855; Suthersan, U.S. Pat. 6,322,700

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dehalococcoides ethenogenes and others are responsible for the degradation of chlorinated solvents in subsurface environments.

The treatability study performed by Stantec in 2008 on samples of site soil and groundwater focused on *dehalococcoides*. *Dehalococcoides* bacteria are responsible for the complete dechlorination of cis-1,2-DCE, and in the absence of *Dehalococcoides*, the overall reductive dechlorination process stalls with the production of cis-1,2-DCE. Therefore, baseline population data for *dehalococcoides* were obtained as part of the bench-scale test. The testing involved the collection of groundwater from the planned treatment area for polymerase chain reaction (PCR) testing to detect specific target sequences of DNA unique to the 16s ribosomal ribonucleic acid (rRNA) gene of *dehalococcoides* bacteria.

Vinyl chloride has been detected in multiple wells during regular groundwater monitoring events conducted at the Site. The presence of VC indicates that a *dehalococcoides* population likely exists at the Site, but it does not confirm a site-wide spatial population. Bench-scale testing is often used to determine if low populations of *dehalococcoides* (i.e. false negatives by PCR analysis due to low cell count) can be stimulated under reducing conditions. Therefore a portion of the treatability study focused on *in-situ* chemical enhancements to increase the kinetics of reductive dechlorination by indigenous bacteria rather than bacteria identification.

2.1.3 Electron Donor Selection

Selection of the proper electron donor is dependent on the physical properties of the contaminants, the geology of the subsurface, and the estimated clean-up time frames. The complexity and solubility of the proposed carbon source needs to be accounted for when evaluating contact limitation and availability issues. Many studies and projects have been completed using carbon sources ranging from simple sugars to more complex food oils.

Less complex electron donors such as sucrose, alcohols, lactate, and acetate can be advantageous due to their higher solubility and lower molecular weight. These compounds readily dissolve in groundwater and are quickly accessible for the indigenous microorganisms. The lower molecular weight compounds are more easily metabolized, thereby minimizing acclimation periods.

The same physical properties can prove disadvantageous for long-term remedial applications, however. Since the compounds are readily accessible to the microorganisms, they are more quickly metabolized. Frequent, repeat injections can be required for replacement of the carbon source. These injections increase overall capital and operational costs. In addition, frequent injections have been documented to cause fouling within the subsurface surrounding the injection point, thereby restricting delivery of the required substrate to the microorganisms.

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To increase the long-term availability of a carbon source for the desired biological processes, more complex hydrocarbons may be introduced to the subsurface. The lower solubility of these compounds provides a slow release of electron donors to the microorganisms. The increased molecular weights also mean that once dissolved into the groundwater, metabolic transformation of the carbon source and subsequent donation of hydrogen and electrons has a longer time frame.

The use of more complex compounds as electron donors significantly reduces the number of injections required, often requiring only a single injection. The rates of dissolution for these compounds needs to be accurately identified to ensure that sufficient amounts are provided to microorganisms to sustain optimal rates of reductive dechlorination. One disadvantage of the more complex, less soluble electron donors is that an increased acclimation period is observed before increased microbial activity is initiated.

2.2 SUMMARY OF BENCH-SCALE TREATABILITY TESTING RESULTS

Stantec's Treatability Testing Laboratory conducted a 126-day bench-scale test during the fall of 2008 to evaluate the use of various electron donors in mixed systems of native Site soil and groundwater to evaluate the effectiveness of electron donor additions for increasing biodegradation rates of chlorinated compounds. The testing evaluated the potential use of sodium acetate, sodium lactate, and a mixture of organic acids to stimulate indigenous bacteria populations to degrade the chlorinated compounds of concern at the Site. The bench-scale testing included microcosm tests. The objectives of the testing were to determine the following:

- whether there was a need for native microbes to be supplemented;
- identification of an effective electron donor;
- what would be the magnitude of release from soil and bedrock of naturally-occurring manganese, iron and arsenic ;
- what to expect for longevity in the subsurface of injected electron donor solutions that might be used; and
- what would be the reductive dechlorination reaction kinetics for destruction of chlorinated solvent compounds.

A brief comparison of these test objectives to the bench-scale test results is provided below.

2.2.1 Evaluation of Native Microbes

The presence of PCE and TCE, along with the daughter products of cis-1,2-DCE and VC, in groundwater samples collected as part of historical monitoring activities indicates a population

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of dehalococcoides bacteria exists at the Site. This was confirmed by the results of the PCR analyses conducted by SiREM Laboratories, Inc. (SiREM) on the groundwater sample collected from Site well MW-22. The generation of daughter compounds and complete destruction of all VOCs of concern observed during the treatability testing for all three evaluated electron donors shows the ERD process can successfully stimulate indigenous bacteria populations to degrade contaminants. Based on the results of this testing, it is not believed that bioaugmentation with commercially-available bacteria inoculums is required for the Site.

2.2.2 Most Effective Electron Donor

All three electron donors evaluated during treatability testing successfully provided complete destruction of the contaminants of concern at the Site. The samples amended with sodium lactate provided contaminant reduction through the production of VC within the first 12 days and generated the lowest amount of this compound, when compared to samples amended with sodium acetate and a mixture of organic acids (a mixture prepared by biodegrading a soluble mixture of sucrose and a galactomannan polysaccharide). In addition, the rates of total organic carbon (TOC) consumption indicate sodium lactate had the greatest longevity of the three electron donor solutions. Therefore, based on contaminant reduction, electron donor longevity, cost, and ease of implementation, it is believed that sodium lactate represents the most effective electron donor for field application at the Sites.

2.2.3 Manganese, Iron, and Arsenic Release

Testing was conducted to evaluate the potential for reduced conditions generated by the ERD process to release manganese, iron, and/or arsenic from the soils into the groundwater during field application of the technology. Over the course of the first 122 days of testing the release of arsenic was minimal, with only the sodium acetate sample showing a slightly elevated concentration. The bench-scale treatment resulted in samples exceeding state and federal standards for iron (greater than 0.300 mg/l) for all three electron donor amendments, with a concentration of 1.42 mg/l detected in the sodium lactate microcosm sample at the end of the trial. The manganese concentration (state standard of 0.300 mg/l) was slightly elevated in the sodium lactate microcosm sample after 122 days (0.145 mg/l); manganese concentrations at the end of the trial were 0.05 mg/l in the sodium acetate sample and 0.359 mg/l in the organic acids microcosm sample.

The treatability testing indicates pH adjustment could potentially be needed for iron fixation following an ERD program using sodium lactate. However, there may be sufficient natural buffering in the bedrock and soil at the site such that it will not be needed. Furthermore, the use of groundwater at the Sites and in the surrounding area is prohibited, since groundwater use is prohibited within the City of Rochester, and there are no water supply wells reported to exist in

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the vicinity of the Sites. Therefore, at this time it is not proposed that pH adjustment be performed following VOC treatment.

2.2.4 Electron Donor Longevity

Electron donor longevity was evaluated as part of the testing. Approximately 29% of the TOC originating from sodium lactate and 53% from sodium acetate was consumed during the first 122 days of testing. The organic acid mixture, microcosm sample showed a reduction in TOC of 94% over the same timeframe. Actual degradation rates are anticipated to be faster during field application. However, the data indicate that, especially with sodium lactate, donor solution longevity will be adequate for a prolonged treatment period.

2.2.5 Reductive Dechlorination Reaction Kinetics

Monitoring was conducted during the treatability study to evaluate the rate and degree of reduction in concentrations of the VOCs of concern in the individual microcosm samples over time. Complete destruction was observed for TCE, cis-1,2-DCE, and VC. (PCE was not present in the microcosm samples at the beginning of the tests.) Reaction kinetics calculations estimated the half-lives for these compounds during bench-scale testing to be less than 3 days for TCE, less than 1.5 weeks for cis-1,2-DCE, and less than one week for VC.

Degradation rates observed in the field during a full-scale application would likely be slower than those observed in the laboratory due to contact limitations associated with delivery of the electron donor solution into the soil and bedrock matrix of the affected subsurface horizons. Typically for applications where the contaminated horizon is in unconsolidated overburden, degradation rates are one order of magnitude slower than those observed in the corresponding microcosm test.

At the Ward Street Sites, where the lower portion of the zone of contaminated impacts occurs in the top several feet of the bedrock that underlies the base of the overburden, contact between residual contaminant mass and electron donor solution will be limited by both the effectiveness of the delivery of the solution into the network of bedrock fractures and by the degree to which contaminants are diffused into the rock matrix along the walls of fractures. It's therefore difficult to predict at this time what the rate of remediation will be in the bedrock portion of the contaminated horizon.

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3.0 Design Assumptions

The results of recent monitoring of the remedial progress of the MPVE system indicated that VOC extraction rates had reached an asymptotic, low level. Shut-down of the MPVE system and implementation of an in-situ bioremediation polishing program for the areas of the Sites with VOC concentrations above state groundwater standards is therefore proposed. ERD technology will be used to stimulate indigenous bacteria populations to anaerobically degrade the VOCs of concern.

The following assumptions have been used in design of the ERD program.

- The primary area of remaining contamination is isolated to the contaminant source area beneath the Building B Annex Area of the Ward Street Site and adjacent downgradient areas of the Ward Street and 8-28 Ward Street Sites.
- PCE and TCE along with the daughter products cis-1,2-DCE and VC are the primary contaminants of concern identified in groundwater.
- Based on the results of the treatability testing performed, ERD operations will be conducted using sodium lactate as the electron donor solution.
- The soil in the source area consists of glacial till (fine to medium silty sand) extending to 19 to 23 feet bgs. Overburden is underlain by fractured dolostone bedrock.
- The ERD process will be applied to address saturated intervals in overburden and bedrock.
- Depth to groundwater is approximately 10 to 14.5 feet bgs in the project area, and the depth to the top of bedrock is approximately 18 to 20 feet bgs.
- Groundwater flow is to the southwest in the proposed treatment area.
- Soil porosity is approximately 23 to 28 percent.
- Injection of sodium lactate into the subsurface will be completed using the existing MPVE system extraction and monitoring wells.
- Injection activities will target a 10-foot ROI around the individual MPVE wells.
- The target volume for electron donor solution will be 0.25 pore volumes.
- The concentration of electron donor solution to be utilized will be 10,000 mg/l.

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4.0 REMEDIAL ACTIVITY WORK SCOPE

Groundwater monitoring conducted in August 2010 identified 6 overburden wells (MW-15, MW-16, MW-22, MW-23, MW-105, and MW-200) and 8 bedrock wells (MW-16R, MW-22R, MW-23R, MW-200R, MW-206R, MW-207R, MW-211R, and MW-212R) with VOC concentrations above state groundwater standards. The locations of these wells are shown on Figure 2. The proposed in-situ bioremediation polishing program has been designed to address the areas surrounding and between these wells.

Remediation activities will be conducted in the following phases:

- project preparation and permitting and baseline data collection;
- electron donor injection;
- post-injection monitoring;
- evaluation of results.

Each phase of the proposed ERD remediation program is discussed in greater detail below.

4.1 PROJECT PREPARATION, PERMITTING AND BASELINE SAMPLING

During this phase the following work will be completed:

- review of the existing database of soil sampling and groundwater monitoring results and as-built information on the MPVE system well and piping network and related equipment;
- performance of a pre-injection baseline sampling event;
- procurement of equipment and materials;
- scheduling and coordination activities; and
- acquisition of required permits.

4.1.1 Underground Injection Control Permit

The ERD remediation activities will involve the injection of an electron donor solution into the subsurface to enhance in-situ biodegradation. Injection of treatment solutions into the groundwater for remedial purposes is permitted by rule under 40 CFR §144 since it involves a beneficial use, Class V, underground injection control (UIC) well for aquifer remediation

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(classified as a category 5X26 well in EPA 570/9-87-006). However, there are inventory reporting requirements as described in 40 CFR §144.83.

Because New York is a direct implementation state, USEPA is in charge of the Class V UIC program in New York. The inventory reporting requirements to USEPA can be satisfied by submitting a completed Office of Management and Budget No. 2040-0042 form to the UIC Program Director in USEPA Region 2. This form may be submitted before or after installation of the Class V UIC well. If it is submitted after well installation, there may be a requirement to wait 90 days prior to performing any injection activities, although the UIC Program Direction can authorize an earlier injection. All wells to be used for injection during the planned ERD program are existing (previously-installed) MPVE system extraction and/or monitoring wells.

4.1.2 Baseline Data Collection

Prior to initiating electron donor injection operations, baseline geochemical conditions will be determined by collecting groundwater samples from 22 existing monitoring and extraction wells.

Groundwater samples will be collected using low-flow/low-stress sampling procedures. The following time-dependent parameters will be monitored on-site with field instrumentation:

- pH;
- Oxidation reduction potential (ORP);
- Temperature;
- Dissolved oxygen (DO); and
- Conductivity.

Laboratory analyses will be performed by Paradigm Environmental Services, Inc. (Paradigm) for the following parameters:

- VOCs (by U.S. EPA Method 8260B);
- TOC (EPA 415.1);
- Na⁺ (EPA 6010);
- Fe³⁺ (EPA 6010/7000);
- Mn²⁺ (EPA 6010/7000); and
- As (EPA 6010/7000).

Samples from the following nine wells will be analyzed for field parameters and all of the laboratory parameters listed above:

- MW-15 (overburden well)
- MW-16, -16R (overburden and bedrock well pair)

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- MW-22, -22R (pair)
- MW-23, -23R (pair)
- MW-105 (overburden)
- MW-212R (bedrock well)

Samples from the following 13 wells will be analyzed for field parameters and VOCs only:

- MW-200, -200R (pair)
- MW-203, -203R (pair)
- MW-205, -205R (pair)
- MW-206R (bedrock well)
- MW-207R (bedrock well)
- MW-208, -208R (pair)
- MW-210, -210R (pair)
- MW-211R (bedrock well)

In addition, samples will be collected from the MW-22 and MW-22R wells and sent to SiREM for dehalococoides and VC reductase gene analyses by PCR.

Quality Assurance\Quality Control levels and procedures will be the same as those in effect for the MPVE system OM&M groundwater monitoring activities. Refer to Section 5.0 for additional information on sample collection, preservation and analytical methods.

4.2 ELECTRON DONOR INJECTION OPERATIONS

The following conceptual design is proposed for the ERD injection activities. The conceptual design may be modified pending the review and baseline sampling activities described in Section 4.1 above. Any proposed modifications to the conceptual design will be submitted for Department approval prior to initiation of the injection activities.

The electron donor solution will be prepared and injected in a batch process using potable water obtained from the Germanow-Simon facility. The water will be pumped into a 1,000-gallon poly tank equipped with a submersible pump and sufficient sodium lactate added to provide a 10,000 mg/l solution.

The submersible pump in the batch tank will connect to a valved distribution manifold line with in-line flowmeters to regulate injection flow. The injection plumbing will be configured to utilize 1-inch diameter hoses with Camlock fittings to connect to the individual existing MPVE system wells. The system will be capable of injecting into three wells simultaneously.

The MPVE system will be operated during injection activities to enable extraction of groundwater water from extraction wells surrounding and/or adjacent to injection wells and

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thereby assist with distribution of the electron donor solution within each target subsurface zone. At this time, it is anticipated that injection and extraction activities will begin with injection in overburden wells. Field monitoring will be used to determine the pattern and pairings of injection and extraction wells to optimize both radial and vertical distribution of the electron donor solution throughout the saturated overburden soils and top 10 feet of underlying bedrock.

At this time, it is anticipated that the overburden wells to be utilized for injection will include MW-16, MW-22, MW-23, MW-200, MW-201, MW-202, MW-204, and MW-212, and that the bedrock wells to be used for injection will include MW-16R, MW-22R, MW-23R, MW-200R, MW-206R, MW-207R, MW-211R, and MW-212R. Additional overburden or bedrock wells will be added to (or, if appropriate, subtracted from) the injection list if warranted by the results of the baseline sampling activities described in Section 4.1.

The injection design will be based on a 0.25 pore volume exchange within a 10-foot radius from each injection well. Assuming a saturated interval of 10 feet in the overburden and 10 feet in the bedrock, a porosity of approximately 25%, and an injection area encompassing the injection wells listed in the preceding paragraph, at this time it is estimated that a total of approximately 2,100 pounds of sodium lactate will be needed, and that the total volume of electron donor solution will be approximately 25,000 gallons. This estimate (and the assumptions underlying it) will be adjusted as warranted pending the results of the baseline sampling activities described in Section 4.1.

4.3 POST-INJECTION MONITORING

Upon completing the electron donor injection, a post-injection monitoring program will be initiated to evaluate the effectiveness of the treatment. The following wells will be monitored monthly for the first three months after electron donor injection operations are completed and on a quarterly basis thereafter for the next three successive quarters:

- MW-15 (overburden well)
- MW-16, -16R (overburden and bedrock well pair)
- MW-22, -22R (pair)
- MW-23, -23R (pair)
- MW-105 (overburden)
- MW-212R (bedrock well)

Depending on the results of the baseline sampling event and observations made during the ERD injection activities, other wells from the baseline sampling event list may be added to the post-injection monitoring list for one or more of the post-injection monitoring events.

Groundwater samples will be collected using low-flow/low-stress sampling procedures. The following field and laboratory analytical parameters will be included for each sampling event:

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- pH (field measurement)
- ORP (field measurement)
- Conductivity (field measurement)
- Temperature (field measurement)
- DO (field measurement)
- VOCs (8260B)
- TOC (EPA 415.1)
- Na⁺ (6010)
- Fe³⁺ (6010/7000)
- Mn²⁺ (6010/7000)
- As (6010/7000)

In addition to the parameters described above, samples of groundwater will be collected from wells MW-22 and MW-22R for analysis of dehalococoides and the VC reductase gene; this sampling will be conducted 3 months, 6 months, and 1 year after electron donor injection operations are completed.

Quality Assurance\Quality Control levels and procedures will be the same as those in effect for the MPVE system OM&M groundwater monitoring activities. Refer to Section 5.0 for additional information on sample collection, preservation and analytical methods.

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5.0 ANALYTICAL METHODS

As specified in Section 4 above, groundwater samples collected during the ERD program will be analyzed in the field for specific field parameters, and some will be sent to the Paradigm and SiREM laboratories for additional laboratory analysis. The various analytes, methods, sample containers, preservatives, and holding times for these samples are listed in Table 1 below. (As specified in Section 4 above, not all samples will be analyzed for all parameters.)

TABLE 1 Analytical Parameters and Methods ERD Technical Work Plan – Ward Street Site				
Analyte(s)	Method	Sample Container	Preservative	Holding Time
Temperature	Field	None	None	NA
Conductivity	Field	None	None	NA
pH	Field	None	None	NA
DO	Field	None	None	NA
ORP	Field	None	None	NA
VOCs	EPA 8260B	3-40mL glass vials	HCl, keep cool ¹	14 days
TOC	EPA 415.1	1-250mL amber bottle	keep cool ¹ , H ₂ SO ₄	28 days
Mn, Fe, As	EPA 6010/7000	1- 1L HDPE bottle	HNO ₃ to pH < 2 (lab)	6 months
Na ⁺	EPA 6010/7000	1- 1L HDPE bottle	HNO ₃ to pH < 2 (lab)	6 months
Dehalococcoides and VC reductase ²	PCR	1 – 1L HDPE bottle	Keep cool ¹	14 days
Notes: ¹ keep cool at 4° C ² Analyzed by SiREM Laboratories, Inc. NA = Not Applicable				

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6.0 DATA MANAGEMENT

Laboratory analyses for most ERD process parameters will be performed by Paradigm. Paradigm will receive the samples, analyze the samples, and submit the results to Stantec electronically in both PDF and NYSDEC EDD formats.

Parameters measured in the field will include pH, ORP, conductivity, DO, and temperature. The results for these parameters will be recorded on field log sheets.

Analyses for dehalococoides and the VC reductase gene will be performed by SiREM. Results will be supplied to Stantec as a PDF file.

The data from the various field and laboratory analyses will be summarized and presented in tabular and graphical form in ERD program progress reports. Original analytical reports will be included as appendices of submitted ERD progress reports. An electronic database file of field and laboratory analysis data will be prepared for submittal to the Department in the NYSDEC EDD format.

7.0 EVALUATION AND REPORTING OF RESULTS

Stantec will prepare a post-injection summary report detailing the methodologies, activities, and results obtained during implementation of the ERD technology at the Ward Street Sites. The report will cover electron donor injection activities and the post-treatment groundwater sampling results for the first three months following ERD injection. Subsequent quarterly ERD post-injection performance monitoring data will be provided in quarterly progress reports.

Results will be evaluated in accordance with DER-10 guidance to determine whether residual contamination present at the Sites is being or has been reduced to a level that meets the remedial action objectives for the Sites.

**WORK PLAN
REMEDIAL PROGRAM SUPPLEMENT
ENHANCED REDUCTIVE DECHLORINATION
WARD STREET SITES**

March 2011

8.0 CONTINGENCY RECOGNITION AND RESPONSE

8.1 MOBILIZATION OF NATURALLY-OCCURRING METALS

When anaerobic reducing conditions are created in the subsurface, the potential for metals to reduce and dissolve into groundwater arises. Bench-scale testing showed that dissolved iron could potentially exceed secondary drinking water standards (standards established to regulate color and taste in water) if sodium lactate is used (as planned) as the electron donor. However, the bench-scale study concentrations of dissolved iron did not exceed typical risk-based values applied to human consumption. Furthermore, groundwater in the area of the Sites is not used for potable purposes

To monitor the potential for reducing conditions to cause increases in dissolved metal concentrations in groundwater, groundwater samples will be collected from wells MW-15, MW-16, MW-16R, MW-22, MW-22R, MW-23, MW-23R, MW-105, MW-200, MW-200R, MW-206R, MW-207R, MW-211R, and MW-212R for dissolved arsenic, iron and manganese analysis. Typically, dissolved metal concentrations are proportional to TOC concentrations, and while initial increases may be observed following electron donor addition, metal concentrations begin to decline as TOC degradation occurs. The potential need for metals fixation (by pH adjustment or hydrogen peroxide addition) will be evaluated and discussed with the Department following VOC treatment.

8.2 MULTIPLE INJECTION EVENTS OR ADDITIONAL REMEDIAL MEASURES

It is anticipated that one donor injection event will be required for the ERD remediation program. The results of the post-injection groundwater monitoring will be evaluated to determine if, where and when injection activities may need to be repeated. Additional injection events would be completed, if necessary, based on an evaluation of the monitoring results after one year of post-injection monitoring.

If groundwater contaminant levels show an increasing trend over time or become asymptotic at a level that is not acceptable to the Department, additional treatment and/or control measures will be evaluated and implemented as necessary.

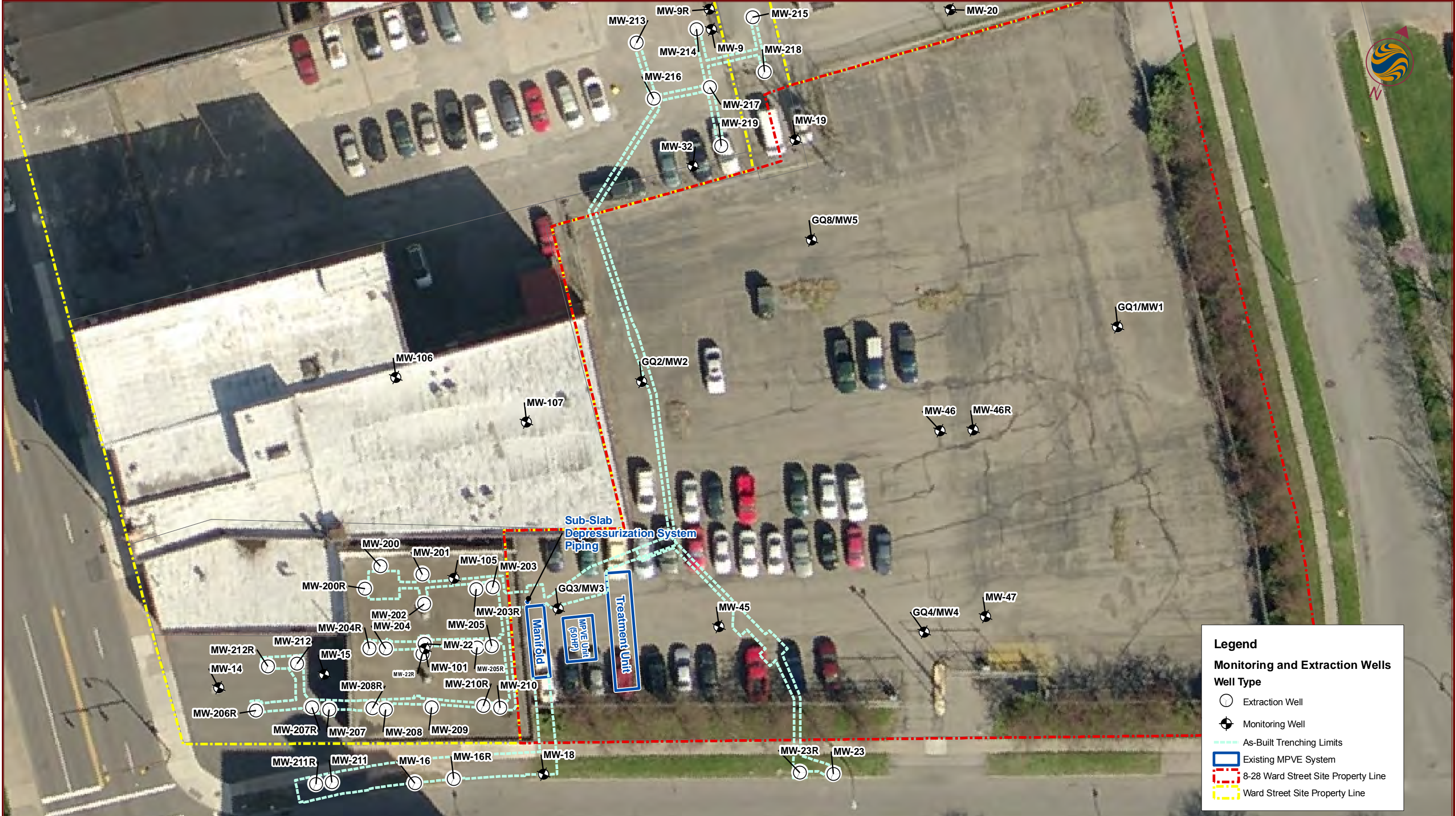


Geographic Information Systems

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Figure 1 - Site Location Map

Ward Street Site
Rochester, NY



Legend

Monitoring and Extraction Wells

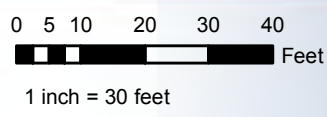
Well Type

- Extraction Well
- ⊕ Monitoring Well
- - - As-Built Trenching Limits
- ▭ Existing MPVE System
- ▭ 8-28 Ward Street Site Property Line
- ▭ Ward Street Site Property Line



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Cartographic Design By: Andrew Less

U:\1405205\docs\ERD\Figures

Figure 2 - Well Locations

Ward Street Site
Rochester, NY

New York State Department of Environmental Conservation

Division of Environmental Remediation, Region 8

6274 East Avon-Lima Road, Avon, New York 14414-9519

Phone: (585) 226-5353 • Fax: (585) 226-8139

Website: www.dec.ny.gov



Joe Martens
Commissioner

November 14, 2011

Andrew Germanow
President
Germanow-Simon Corporation
408 St. Paul Street, P.O. Box 1091
Rochester, New York 14603-1091

**RE: Remedial Work Plan Supplement Enhanced Reductive Dechlorination (March 2011)
Ward Street Sites C828117 and C828136
Rochester(C), Monroe(C)**

Dear Mr. Germanow:

The New York State Department of Environmental Conservation (the Department) and the New York State Department of Health (NYSDOH) have reviewed the referenced work plan. The November 7, 2011 e-mail from Mike Storonsky of Stantec Consulting Services, Inc. adequately addresses my concerns with the work plan. The work plan is hereby approved.

Please keep me advised of the work schedule. Thank you for your continued cooperation.

Sincerely,

Todd M. Caffoe, P.E.
Division of Environmental Remediation
Email: tmcaffoe@gw.dec.state.ny.us

cc: B. Putzig
D. McNaughton
J. Charles
M. Storonsky
M. Gregor



Stantec Consulting Services Inc.
61 Commercial Street
Rochester NY 14614
Tel: (585) 475-1440
Fax: (585) 272-1814

Stantec

December 21, 2012
File: 190500014

Mr. Todd Caffoe, P.E.
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 8
6274 East Avon-Lima Road
Avon, NY 14414

**RE: Enhanced Reductive Dechlorination
Supplemental Injection Program Summary Report
Ward Street Site, BCA Site No.: C828117, Index #B8-0566-99-10
8-28 Ward Street Site, BCA Site No.: C828136, Index #B8-0566-99-10
Rochester, New York**

Dear Todd:

On behalf of Germanow-Simon Corporation (Germanow-Simon), and pursuant to the Department-approved Enhanced Reductive Dechlorination Supplemental Injection Plan and associated correspondence, Stantec Consulting Services Inc. (Stantec) has prepared this Supplemental Injection Summary Report for the remedial measures implemented at the two above-referenced Ward Street Sites located in Rochester, New York during November 2012.

1. Background

The supplemental enhanced reductive dechlorination (ERD) injection activities described herein were performed in accordance with the Remedial Program Supplement, Enhanced Reductive Dechlorination Work Plan, dated March 2011 (Stantec, 2011), the Department's November 14, 2011 approval letter, Stantec's ERD Update and Proposed Supplemental Injection Program correspondence dated October 24, 2012, and the Department's November 6, 2012 approval letter, except where noted herein.

The November 2012 injection program was intended to supplement the original sodium lactate injection program that occurred at the Ward Street Sites in November-December 2011. The original injection program, along with pre-injection groundwater monitoring data, and three rounds of post injection groundwater monitoring data are summarized in Stantec's June 2012 ERD Program Progress Report No. 1. June 2012 groundwater monitoring data are presented in Stantec's August 30, 2012 ERD Update and Request for Sampling Modification correspondence. The Department approved the ERD Sampling Plan Modifications in a letter dated September 19, 2012. September 2012 groundwater monitoring data are presented in Stantec's October 24, 2012 ERD Update and Proposed Supplemental Injection Program correspondence.

2 Supplemental Injection Activities Completed

The November 2012 injection program involved injecting a sodium lactate and water solution, which was mixed in a batch process in a 1,500 gallon tank, into the subsurface via a total of 26 wells. The intent was to distribute the solution throughout the impacted saturated zone within the treatment area. Injection took place from November 9, 2012 to November 28, 2012. During this time, approximately 13,667 gallons of 20,000 milligrams per liter (mg/L) sodium lactate solution were injected. The 20,000 mg/l solution represented a doubling of the concentration used during the November 2011 injections. This was done in an effort to focus operations on those areas of the Site requiring continued enhancement of the monitored natural attenuation (MNA) process, and to reduce the timeframe required for injection activities

The quantities injected into the various wells during the November 2012 injection program are summarized in the table below. A number of the identified injection wells were slow or unable to receive the target volumes of

**Reference: Enhanced Reductive Dechlorination Supplemental Injection Program Summary Report
 Ward Street Site, BCA Site No. C828117, Index #B8-0566-99-10
 8-28 Ward Street Site, BCA Site No. C282136, Index #B8-0566-99-10
 Rochester, New York**

sodium lactate solution due to formation restrictions. In these cases, additional injections were performed in nearby wells to provide the desired injection coverage in those areas.

Injection Well	Start Date	Stop Date	Target Gallons	Injected Gallons	% Complete	Comment(s)
MW-16	11/9/2012	11/27/2012	750	427	57	Well slow to accept injection
MW-16R	11/9/2012	11/12/2012	375	477	127	Additional volume injected to compensate for adjacent well
MW-22	11/16/2012	11/26/2012	750	1239	165	Additional volume injected to compensate for adjacent well
MW-22R	11/15/2012	11/15/2012	375	391	104	
MW-23	11/9/2012	11/27/2012	750	215	29	Well unable to accept target volume
MW-23R	11/9/2012	11/26/2012	375	1293	345	Additional volume injected to compensate for adjacent well
MW-105	11/21/2012	11/21/2012	150	15	10	One-inch diameter well unable to accept target volume
MW-200	11/14/2012	11/15/2012	750	772	103	
MW-200R	11/14/2012	11/14/2012	375	376	100	
MW-201	11/19/2012	11/21/2012	750	752	100	
MW-202	11/15/2012	11/16/2012	750	753	100	
MW-203	11/13/2012	11/15/2012	750	776	103	Well added to program due to formation restrictions elsewhere
MW-203R	11/13/2012	11/28/2012	375	5	1	Well unable to accept target volume
MW-204	11/27/2012	11/28/2012	750	484	65	Well added to program due to formation restrictions elsewhere
MW-204R	11/27/2012	11/27/2012	375	3	1	Well added to program but unable to accept target volume
MW-205	11/13/2012	11/14/2012	750	755	101	
MW-205R	11/16/2012	11/28/2012	375	10	3	Well unable to accept target volume
MW-207	11/27/2012	11/27/2012	750	12	2	Well added to program but unable to accept target volume
MW-207R	11/9/2012	11/12/2012	375	386	103	
MW-208	11/19/2012	11/20/2012	750	1017	136	Additional volume injected to compensate for adjacent well
MW-208R	11/20/2012	11/21/2012	375	408	109	
MW-209	11/19/2012	11/21/2012	750	1270	169	Additional volume injected to compensate for adjacent well
MW-210	11/13/2012	11/21/2012	750	1062	142	Additional volume injected to compensate for adjacent well
MW-210R	11/13/2012	11/28/2012	375	14	4	Well unable to accept target volume
MW-212	11/27/2012	11/28/2012	750	369	49	Well added to program due to formation restrictions elsewhere
MW-212R	11/12/2012	11/13/2012	375	386	103	

**Reference: Enhanced Reductive Dechlorination Supplemental Injection Program Summary Report
 Ward Street Site, BCA Site No. C828117, Index #B8-0566-99-10
 8-28 Ward Street Site, BCA Site No. C282136, Index #B8-0566-99-10
 Rochester, New York**

Figure 2 presents well locations injected into during both the November/December 2011 and November 2012 injection programs.

3. Post-Injection Groundwater Monitoring Program

In accordance with the Remedial Program Supplement, Enhanced Reductive Dechlorination Work Plan, dated March 2011, and subsequent Department approved modifications, post-injection groundwater monitoring will be continued in order to evaluate the effectiveness of the November 2012 supplemental injection event as outlined below.

Dates	Wells to be sampled	Field parameters to be collected	Laboratory analytical parameters (all wells and all events unless otherwise specified below)
January 2013	<ul style="list-style-type: none"> • MW-16 • MW-16R 	<ul style="list-style-type: none"> • Temperature 	<ul style="list-style-type: none"> • TCL VOCs (by USEPA Method 8260)
April 2013	<ul style="list-style-type: none"> • MW-22 • MW-22R 	<ul style="list-style-type: none"> • pH • Specific conductivity 	<ul style="list-style-type: none"> • TOC (by Standard Method 5310)
July 2013	<ul style="list-style-type: none"> • MW-23 • MW-23R 	<ul style="list-style-type: none"> • Turbidity • Dissolved oxygen 	<ul style="list-style-type: none"> • Total Na (by USEPA Method 3005/6010)
October 2013	<ul style="list-style-type: none"> • MW-105 • MW-200 • MW-200R • MW-207R • MW-208 • MW-209 • MW-212R 	<ul style="list-style-type: none"> • ORP 	<ul style="list-style-type: none"> • Dissolved Fe, Mn and As (by USEPA Method 6010) – only during April 2012 event • <i>Dehalococcoides</i> microbes and vinyl chloride reductase gene- MW-22 and MW-22R only during April 2012 event

Quality Assurance/Quality Control procedures will be the same as those in effect for the MPVE system OM&M groundwater monitoring activities. Groundwater samples will continue to be collected using low-flow/low-stress sampling procedures. For each sampling event, one duplicate sample will be collected and analyzed for VOCs by USEPA Method 8260. Laboratory analysis will be conducted by Paradigm Environmental Services, Inc., of Rochester, NY with the exception of the analysis of *Dehalococcoides* microbes and the vinyl chloride reductase gene, which will be conducted by SiREM laboratory of Guelph, Ontario.

Depending on the results of the supplemental post-injection groundwater monitoring program, the Department may be petitioned to allow the substitution, deletion or addition of other wells to the monitoring program for one or more of the monitoring events.

**Reference: Enhanced Reductive Dechlorination Supplemental Injection Program Summary Report
Ward Street Site, BCA Site No. C828117, Index #B8-0566-99-10
8-28 Ward Street Site, BCA Site No. C282136, Index #B8-0566-99-10
Rochester, New York**

Closing

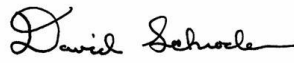
On behalf of Germanow-Simon, Stantec looks forward to continuing to work with the Department to complete the groundwater polishing phase of the Brownfield Cleanup Program at the Ward Street Sites during 2013. Please do not hesitate to contact us should you have any questions the information presented herein or the proposed 2013 groundwater monitoring program.

Sincerely,

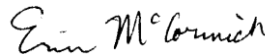
STANTEC CONSULTING SERVICES INC.



Michael P. Storonsky
Project Manager
Tel: (585) 413-5266
mike.storonsky@stantec.com



Dave Schroder
Senior Scientist
Tel: (419) 843-1518
david.schroder@stantec.com



Erin McCormick, EIT
Environmental Engineer
Tel: (585) 413-5268
erin.mccormick@stantec.com

Attachments:

Figure 1 – Site Location Map
Figure 2 – Well Locations

- ec. Bart Putzig, P.E. (NYSDEC)
- James Charles Esq. (NYSDEC)
- Jeff Kosmala (MCDOH)
- Debby McNaughton (NYSDOH)
- Mark Gregor (City of Rochester)
- John Dole (Germanow-Simon)
- Thomas F. Walsh (Hiscock & Barclay, LLP)

PERIODIC REVIEW REPORT
WARD STREET SITE – SITE NO. C828117
AND
8-28 WARD STREET SITE - NO. C828136

Appendix C

From: Storonsky, Mike
To: [Caffoe, Todd \(DEC\) \(todd.caffoe@dec.ny.gov\)](mailto:todd.caffoe@dec.ny.gov)
Subject: RE: Ward Street Sites (c828117 and C828136), 2015 Groundwater Data
Date: Monday, November 02, 2015 5:38:00 PM
Attachments: [report.C828117.C828136.20151030.GW_Summary.pdf](#)

Todd,

As a follow-up to our discussion, attached is the revised groundwater report regarding the Ward Street sites. My apologies for the delay in getting this to you and for the omission of the 2015 field monitoring data which has been added to Table 2. As you will note, the wells continue to maintain negative ORP values.

Please let me know if you have any further questions after reviewing this additional data, or after conferring with others at the Department.

Sincerely,
Mike

Michael P. Storonsky

Managing Principal, Environmental Services
Stantec
61 Commercial Street Suite 100 Rochester NY 14614-1009
Phone: (585) 413-5266
Cell: (585) 298-2386
Fax: (585) 272-1814
mike.storonsky@stantec.com

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From: Storonsky, Mike
Sent: Thursday, October 29, 2015 4:41 PM
To: Caffoe, Todd (DEC) (todd.caffoe@dec.ny.gov)
Subject: Ward Street Sites (c828117 and C828136), 2015 Groundwater Data

Todd,

As discussed, attached are figures and tables which present the recent 2015 groundwater monitoring results, along with results dating back to 2011, for the two Ward Street Sites.

As per the most recent PRR, six wells were sampled this year. The results show that we have continued to maintain anaerobic and reducing geochemical conditions at each of the wells. However, as discussed, the results at some of the wells sampled show increases in some of the contaminants of concern.

1. MW-16 – The parent compounds (PCE and TCE) remain below detection limits in this overburden well. Increases were observed in the daughter compounds (DCE and VC).
2. MW-16R – Increases were observed for all contaminants of concern in this bedrock well.
3. MW-23 - Increases were observed for PCE, TCE and DCE, while VC decreased in this overburden well.

4. MW-23R – Good results were observed for this bedrock well. Only a trace concentration of cis-1,2-DCE was detected. All contaminants of concern for the Site were below groundwater standards at this well location.
5. MW-105 - Decreased concentrations were observed for all contaminants of concern in this overburden well.
6. MW-207R - An estimated concentration of TCE, and increased concentrations of DEC and VC, were observed in this bedrock well.

Once you have had a chance to review this data, please give me a call so we can discuss the options for moving forward.

Sincerely,
Mike

Michael P. Storonsky

Managing Principal, Environmental Services
Stantec
61 Commercial Street Suite 100 Rochester NY 14614-1009
Phone: (585) 413-5266
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Fax: (585) 272-1814
mike.storonsky@stantec.com

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WARD STREET SITE – SITE NO. C828117
AND
8-28 WARD STREET SITE - NO. C828136

Figures

Almira



Geographic Information Systems

Document Path: U:\1405205\docs\ERD\Figures\June 2013\Fig 1 Site Location Map.mxd

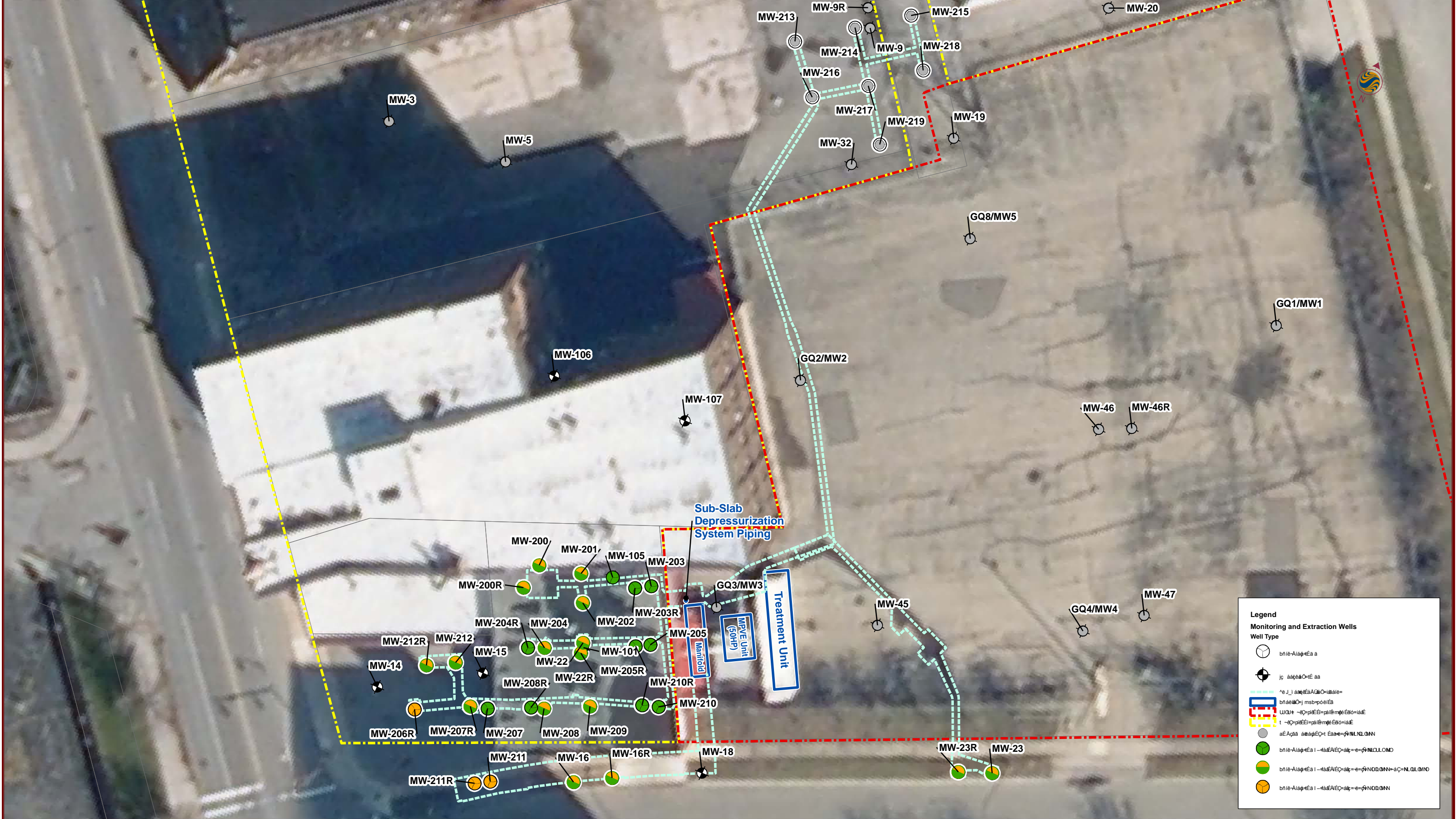
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Figure 1 - Site Location Map

Ward Street Sites
Rochester, NY



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Legend
Monitoring and Extraction Wells
Well Type

- Monitoring Well
- Extraction Well
- Sub-Slab Depressurization System Piping
- Manifold
- Treatment Unit
- Well Type 1
- Well Type 2
- Well Type 3

Geographic Information Systems

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Figure 2 - Well Locations
 Ward Street Sites
 Rochester, NY

FIGURE 3-1: Dissolved-Phase VOC Concentrations versus Time - MW-16

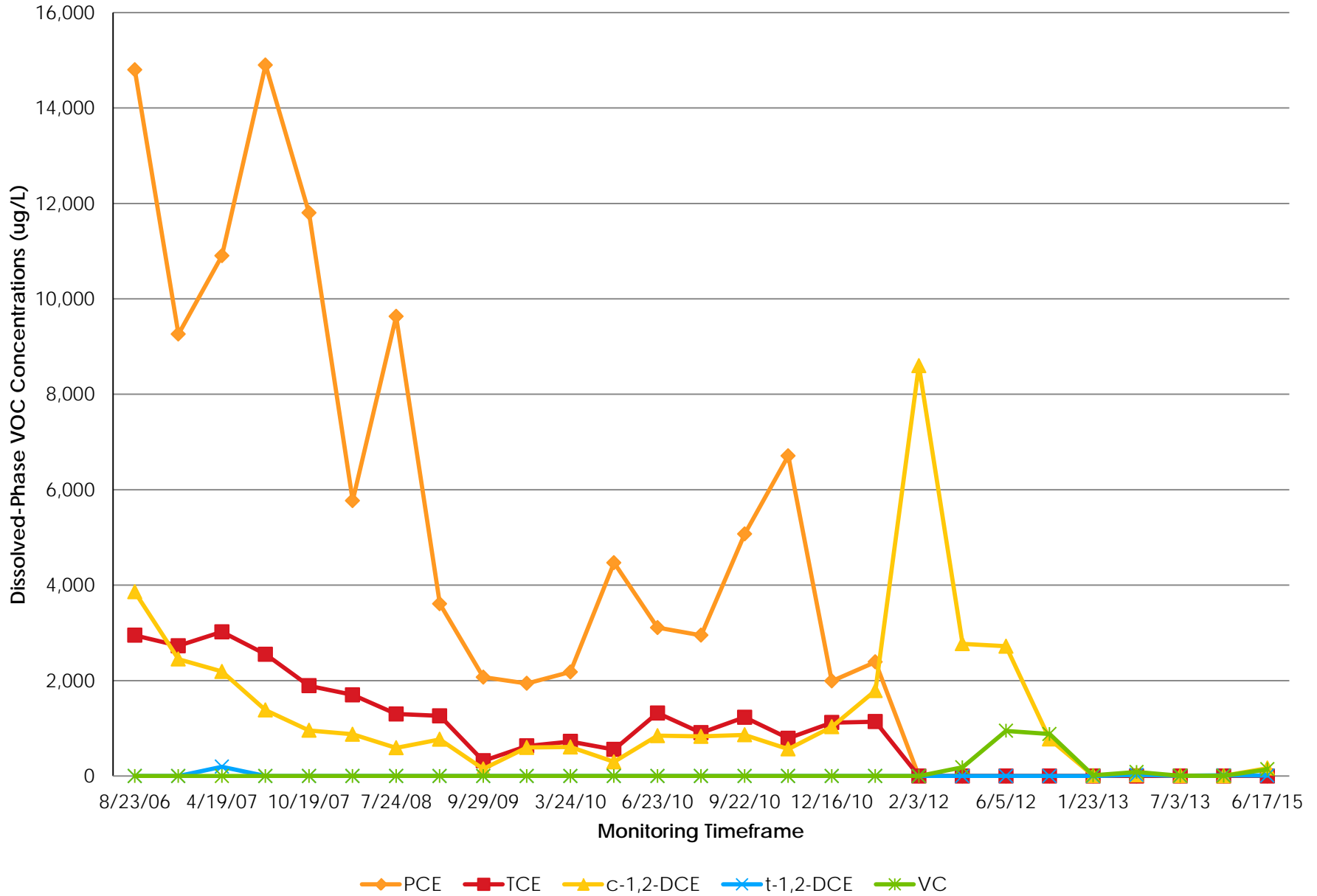


FIGURE 3-2: Dissolved-Phase VOC Concentrations versus Time - MW-16R

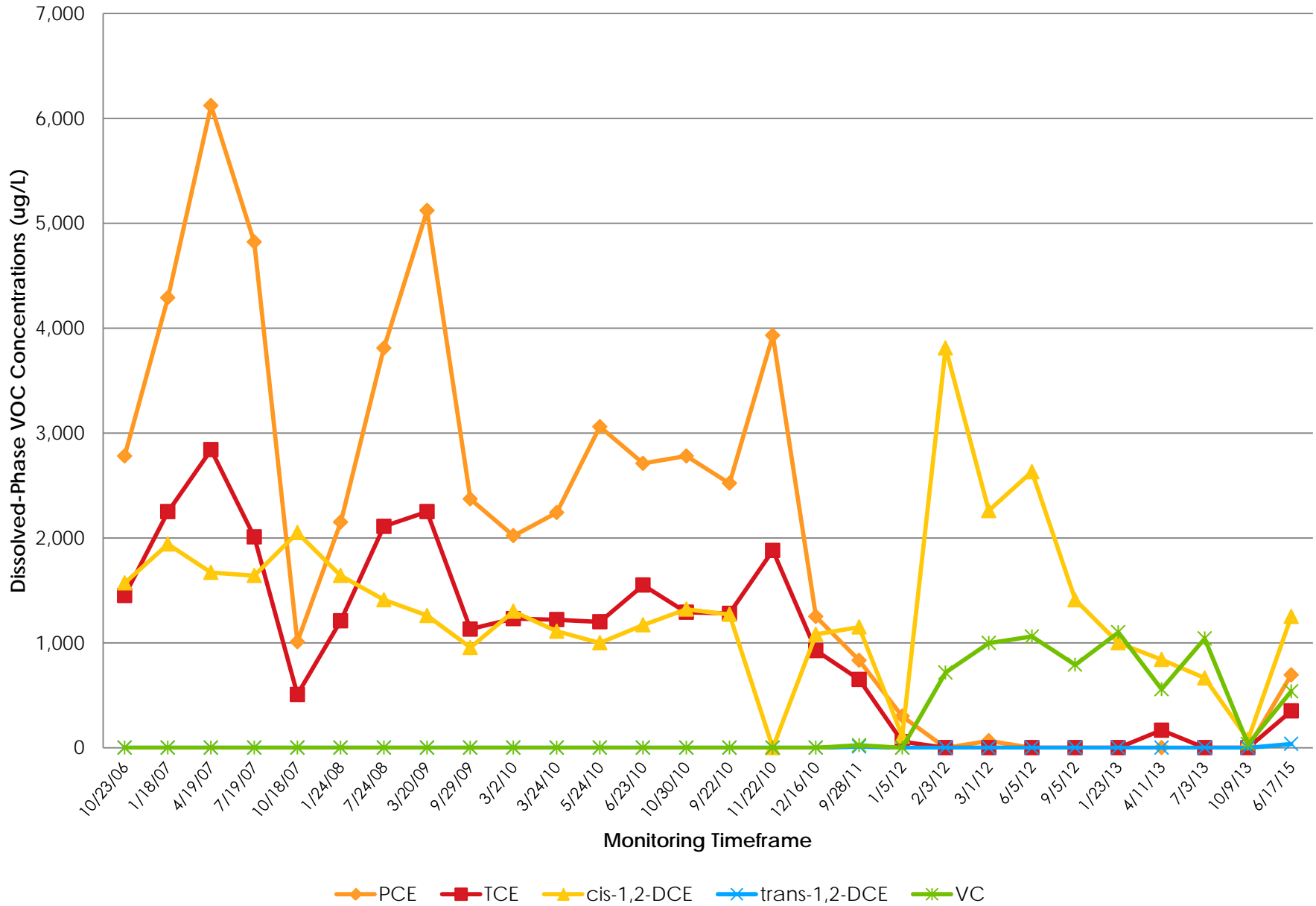


FIGURE 3-3: Dissolved-Phase VOC Concentrations versus Time - MW-23

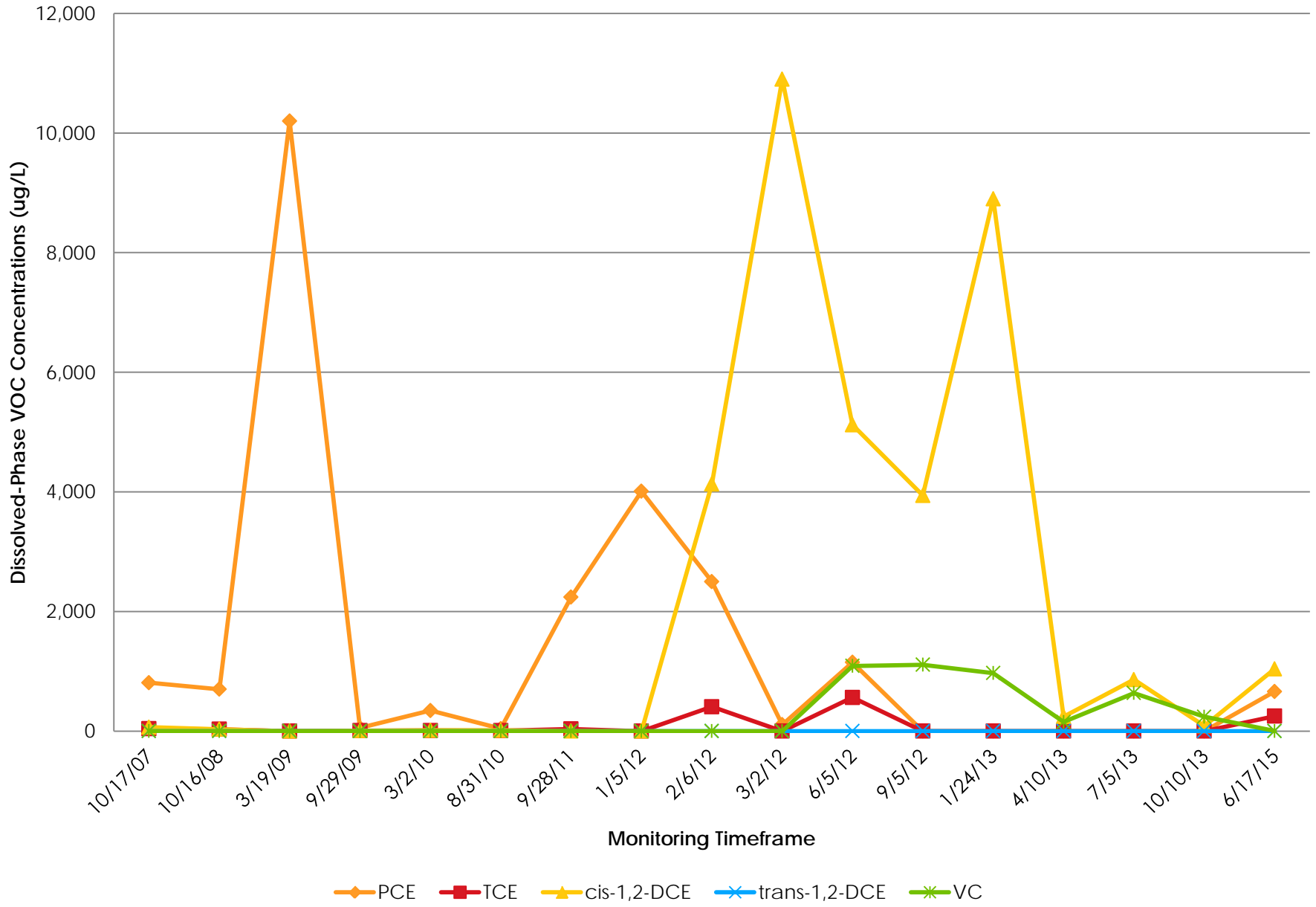


FIGURE 3-4: Dissolved-Phase VOC Concentrations versus Time - MW-23R

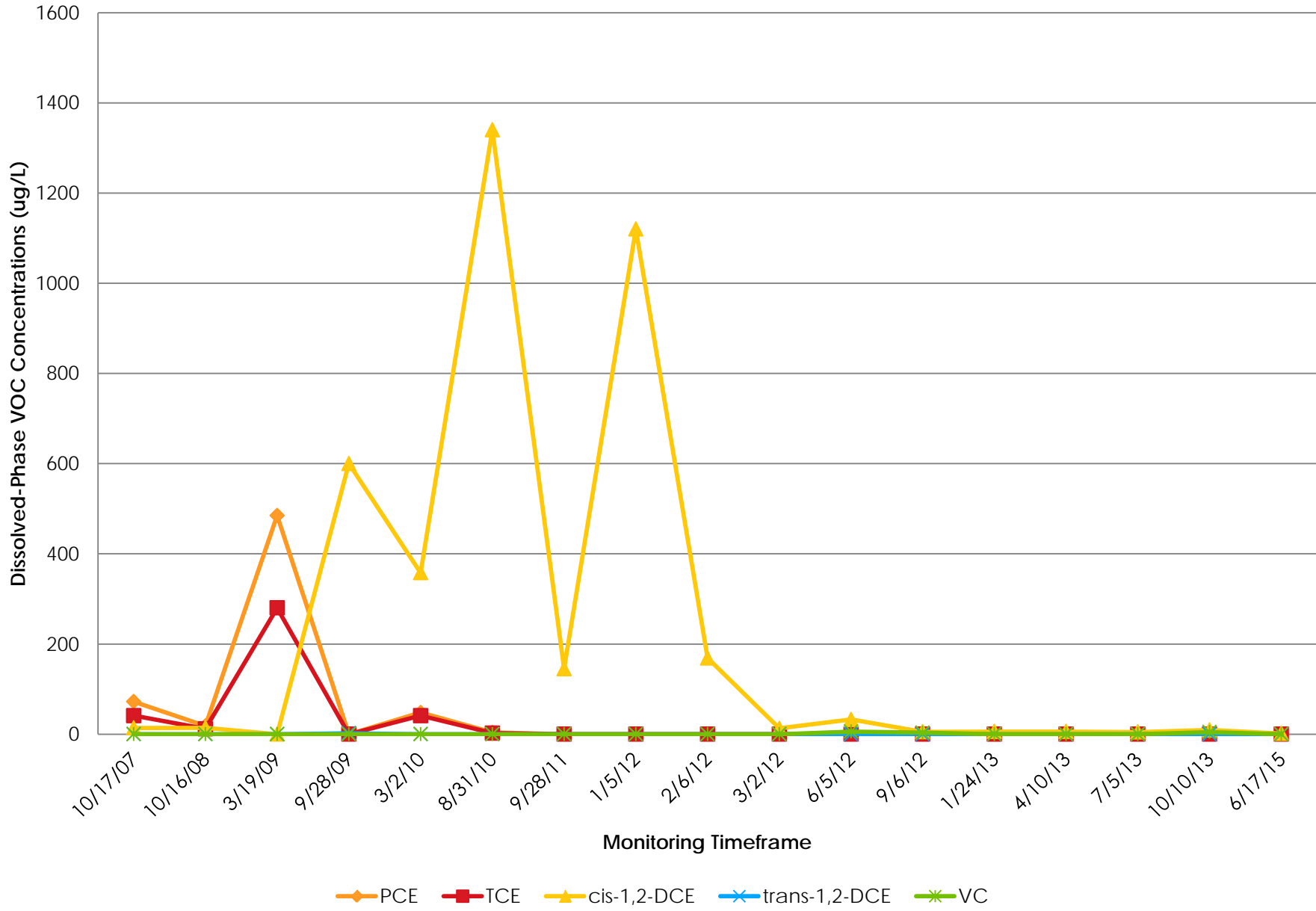


FIGURE 3-5: Dissolved-Phase VOC Concentrations versus Time - MW-105

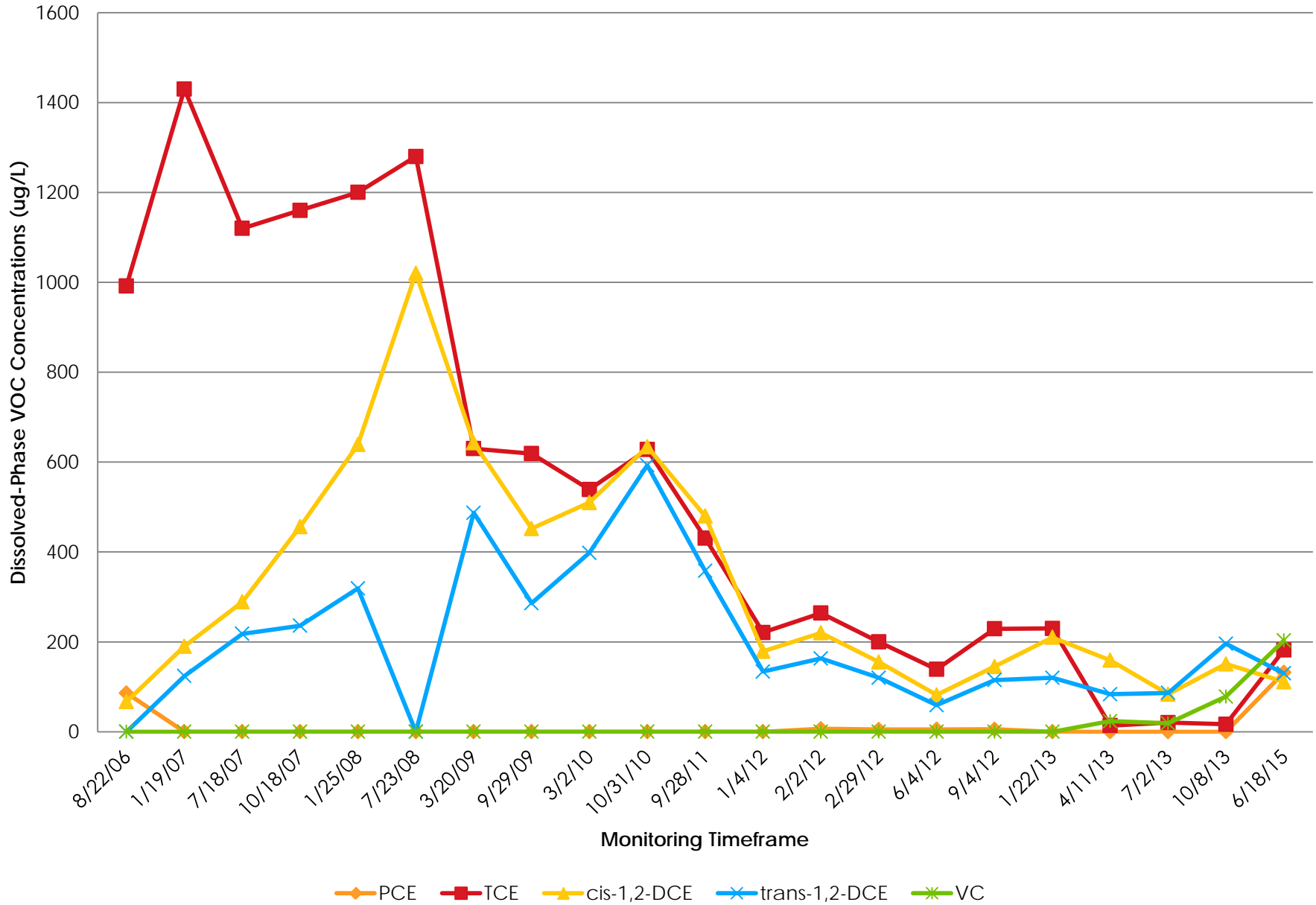
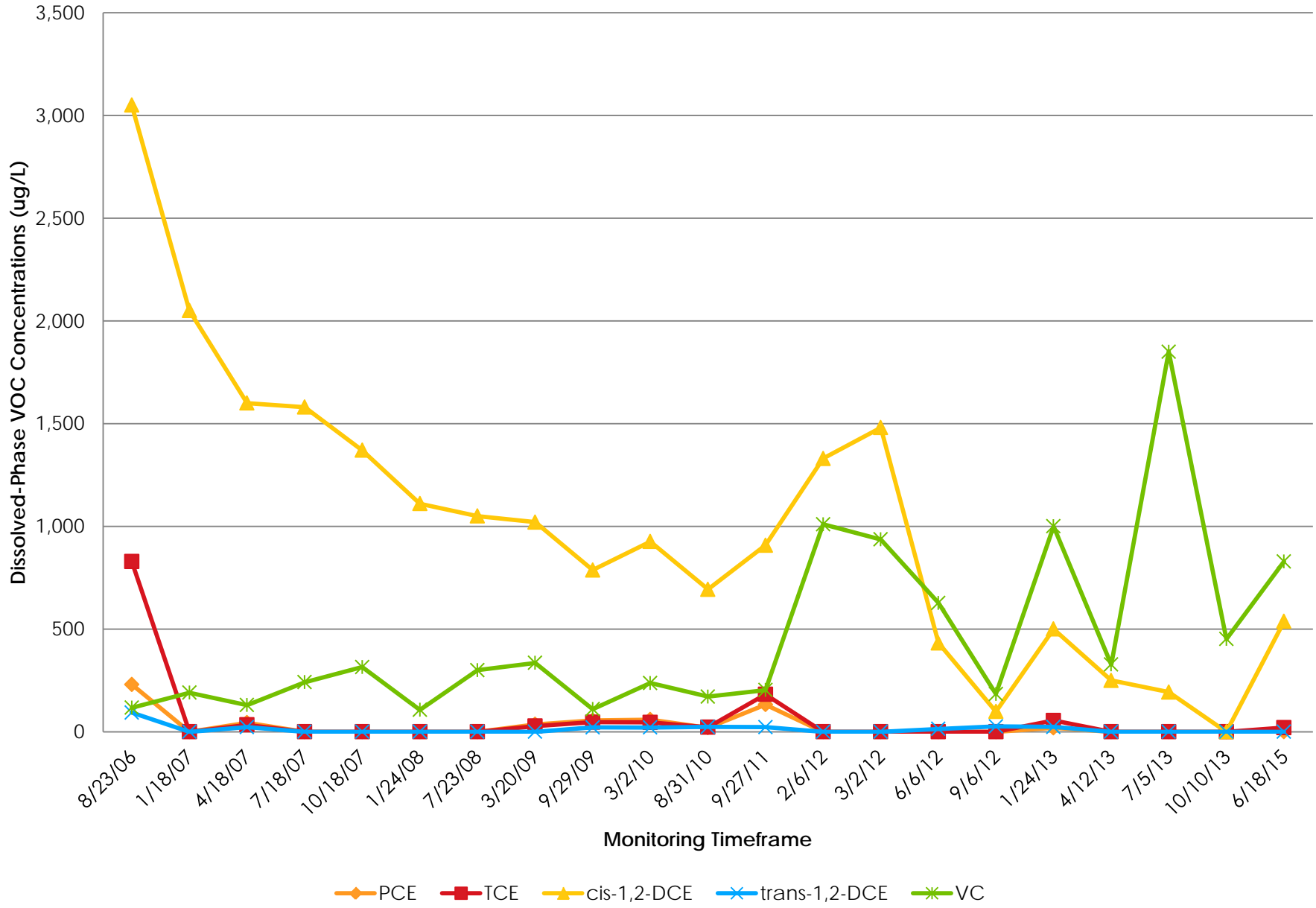


FIGURE 3-6: Dissolved-Phase VOC Concentrations versus Time - MW-207R



WARD STREET SITE – SITE NO. C828117
AND
8-28 WARD STREET SITE - NO. C828136

Tables

Table 1
Summary of Volatile Organic Compounds in Groundwater – September 2011 to June 2015
WARD STREET SITES
GERMANOW-SIMON CORPORATION
ROCHESTER, NY

Notes:

- TOGS NYSDEC TOGS 1.1.1 (Reissued June 1998 with errata in January 1999 and addenda in April 2000 and June 2004)
- A TOGS 1.1.1 - Table 1 - Ambient Water Quality Standards and Guidance Values, Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1); Guidance
- B TOGS 1.1.1 - Table 1 - Ambient Water Quality Standards and Guidance Values, Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1); Standards
- 6.5^A Concentration exceeds the indicated standard.
- 15.2 Measured concentration was less than the applicable standard.
- 0.50 U Laboratory reporting limit was greater than the applicable standard.
- 0.03 U Analyte was not detected at a concentration greater than the laboratory reporting limit.
- n/v No standard/guideline value.
- Parameter not analyzed / not available.
- The standard for Iron and Manganese is 500 ug/L, which applies to the sum of these substances. As individual standards, the standard is 300 ug/L.
- The principal organic contaminant standard for groundwater of 5 ug/L (described elsewhere in the TOGS table) applies to this substance.
- p Applies to the sum of cis- and trans-1,3-dichloropropene.
- B Indicates analyte was found in associated blank, as well as in the sample.
- J The reported result is an estimated value.
- L Detection limit adjustment for sample matrix effects.
- M Denotes matrix spike recoveries outside QC limits. Matrix bias indicated.
- UJ Indicates estimated non-detect.

Table 2
 Summary of Field Parameters in Groundwater – September 2011 to October 2013
 WARD STREET SITE
 GERMANOW-SIMON CORPORATION
 ROCHESTER, NY

Area of Interest		On-Site Area 1: Building B Annex																				
		MW105											MW207R									
Sample Location	Units	28-Sep-11	4-Jan-12	2-Feb-12	29-Feb-12	4-Jun-12	4-Sep-12	22-Jan-13	11-Apr-13	2-Jul-13	8-Oct-13	18-Jun-15*	27-Sep-11	6-Feb-12	2-Mar-12	6-Jun-12	6-Sep-12	24-Jan-13	12-Apr-13	5-Jul-13	10-Oct-13	18-Jun-15
Sample Date		WSR-MW-105-GW-12	WSR-MW-105-GW-13	WSR-MW-105-GW-14	WSR-MW-105-GW-15	WSR-MW-105-GW-16	WSR-MW-105-GW-17	WSR-MW-105-GW	WSR-MW-105-GW	WSR-MW-105-GW	WSR-MW-105-GW	WSR-MW-105-GW	WSR-MW-207R-GW-12	WSR-MW-207R-GW-13	WSR-MW-207R-GW-14	WSR-MW-207R-GW-15	WSR-MW-207R-GW-16	WSR-MW-207R-GW	WSR-MW-207R-GW	WSR-MW-207R-GW	WSR-MW-207R-GW	WSR-MW-207R-GW
Sample ID		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Sampling Company		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Field Parameters																						
Color (Visual)	none	clear	clear	clear	clear	clear	cloudy	clear	Black precipitate	clear with some brown precipitate	clear	cloudy	clear	clear w/ black flecks	clear w/ black flecks	clear	clear w/ black flecks	murky w/ black flecks	Black precipitate	clear with black precipitate	clear with black particulates	slightly yellow
Conductivity, Field	mS/cm	2.50	2.72	0.267	2.36	0.318	2.60	4.66	2.71	2.55	2.76	2.24	0.50	0.541	4.32	0.490	4.59	49.93	3.85	4.00	3.57	3.84
Dissolved Oxygen, Field	mg/L	0.00	0.53	0.00	0.25	0.97	0.53	0.17	0.79	0.32	0.21	0.42	0.7	0.00	0.00	0.62	0.41	0.36	0.74	0.15	0.14	0.67
Odor	none	none	no odor	no odor	no odor	sulfur odor	no odor	sulfur odor	Strong sulfur odor	none	none	none	sulfur odor	odor	sulfur odor	strong sulfur odor	sulfur	sulfur odor	odor	strong sulfur odor	strong sulfur odor	sulfur odor
Oxidation Reduction Potential	mV	111	227	297	235	-132	195.3	-199.2	-219.6	-152.6	-70.2	-28.0	-134	-345	-374	-358	-301.6	-351.9	-346.1	-349.2	-288.8	-248.2
pH, Field	S.U.	6.87	7.25	7.28	7.33	7.09	7.16	6.90	7.37	8.47	7.26	7.18	6.93	6.73	7.22	6.68	6.87	6.77	8.04	6.78	6.93	6.79
Temperature, Field	deg C	20.46	20.49	19.22	20.43	19.4	21.3	18.9	18.7	19.6	19.4	19.2	17.9	14.27	13.28	15.9	20.1	14.0	11.7	18.7	18.6	15.0
Turbidity, Field	NTU	58.5	31.3	3.44	9.75	4.41	17.6	4.99	4.36	5.56	3.56	47.8	4.21	-0.29	5.79	0.70	3.92	1.72	2.31	3.53	3.66	1.52
Volume Purged	gal	0.6	3 -	3.5 -	2.0	1.0	1.1	2.7	1.3	1.35	1.0	0.3	1.5	1.1	0.5	1.3	1.2	3.6	1.6	2.0	1.5	1.5

*parameters at the end of low flow purge; ORP was 16 at end of volumetric purge by bailer

See Notes on Last Page

Table 2
 Summary of Field Parameters in Groundwater – September 2011 to October 2013
 WARD STREET SITE
 GERMANOW-SIMON CORPORATION
 ROCHESTER, NY

Area of Interest		Off-Site Area 1: MW-16/ Ward Street																				
Sample Location		MW16										MW16R										
Sample Date	Units	27-Sep-11	3-Feb-12	2-Mar-12	5-Jun-12	5-Sep-12	23-Jan-13	11-Apr-13	3-Jul-13	9-Oct-13	17-Jun-15*	28-Sep-11	5-Jan-12	3-Feb-12	1-Mar-12	5-Jun-12	5-Sep-12	23-Jan-13	11-Apr-13	3-Jul-13	9-Oct-13	17-Jun-15*
Sample ID		WSR-MW-16-GW-18	WSR-MW-16-GW-19	WSR-MW-16-GW-20	WSR-MW-16-GW-21	WSR-MW-16-GW-22	WSR-MW-16-GW	WSR-MW-16-GW	WSR-MW-16-GW	WSR-MW-16-GW	WSR-MW-16-GW	WSR-MW-16R-GW-18	WSR-MW-16R-GW-19	WSR-MW-16R-GW-20	WSR-MW-16R-GW-21	WSR-MW-16R-GW-22	WSR-MW-16R-GW	WSR-MW-16R-GW	WSR-MW-16R-GW	WSR-MW-16R-GW	WSR-MW-16R-GW	
Sampling Company		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	
Field Parameters																						
Color (Visual)	none	sl.red	clear	slightly cloudy	clear	clear	clear	clear with black precipitate	clear with black precipitate	clear with black specks	clear with black sulfide deposits	clear	clear	clear	clear w/ black flecks	clear	clear	murky	Slightly clouded	clear with black precipitate	clear with black precipitate	clear with black particulate
Conductivity, Field	mS/cm	6.72	0.762	2.33	0.843	10.52	7.63	10.63	9.73	10.13	11.94	4.31	3.75	0.782	4.90	0.629	5.19	5.32	4.06	4.40	2.67	8.04
Dissolved Oxygen, Field	mg/L	0	0.0	0.00	1.09	0.40	0.51	0.8	0.19	0.10	0.35	1.12	2.63	0.00	0.00	1.00	0.16	0.90	0.76	0.25	0.14	0.16
Odor	none	0	no odor	no odor	no odor	sulfur	sewage odor	Sulfur odor	slight sulfur odor	sulfur odor	none	none	no odor	no odor	stale odor	no odor	sulfur	sulfur	Sulfur odor	slight sulfur odor	sulfur odor	none
Oxidation Reduction Potential	mV	-107	-259	-181	-291	-319.5	-208.0	-361.2	-207.6	-188.0	-150.0	-62	104	-247	-196	-247	-328.6	-346.8	-313.9	-354.5	-264.3	-205.9
pH, Field	S.U.	6.82	7.13	7.52	7.20	7.26	7.06	7.10	7.13	7.33	7.08	6.56	7.53	6.84	7.04	6.53	6.96	6.76	7.04	6.90	6.58	7.00
Temperature, Field	deg C	19.29	11.68	11.23	19.6	21.7	8.7	8.3	18.1	19.3	16.5	17.78	7.26	12.28	10.95	18.3	20.9	11.1	8.3	19.0	19.7	16.0
Turbidity, Field	NTU	30	11.1	17.6	37.0	7.11	1.01	4.55	8.59	11.4	8.98	37	44.3	12.7	29	15.0	11.48	3.97	13.9	12.50	6.42	9.79
Volume Purged	gal	0.9	3.0	1.9	0.5	1.1	2.8	3.3	1.3	0.8	1.0	1.0	0.6	2.7	2.1	0.8	1.9	1.2	2.8	2.0	1.1	0.3

See Notes on Last Page

*parameters at the end of low-flow purge

*parameters at the end of low-flow purge

Table 2
 Summary of Field Parameters in Groundwater – September 2011 to October 2013
 WARD STREET SITE
 GERMANOW-SIMON CORPORATION
 ROCHESTER, NY

Area of Interest		8-28 Ward St																					
Sample Location		MW23										MW23R											
Sample Date		28-Sep-11	5-Jan-12	6-Feb-12	2-Mar-12	5-Jun-12	6-Sep-12	24-Jan-13	10-Apr-13	5-Jul-13	10-Oct-13	17-Jun-15*	28-Sep-11	5-Jan-12	6-Feb-12	2-Mar-12	5-Jun-12	6-Sep-12	24-Jan-13	10-Apr-13	5-Jul-13	10-Oct-13	17-Jun-15*
Sample ID		WSR-MW-23-GW-7	828-MW-23-GW-8	828-MW-23-GW-9	828-MW-23-GW-10	828-MW-23-GW-11	828-MW-23-GW-12	828-MW-23-GW	828-MW-23-GW	828-MW-23-GW	828-MW-23-GW	WSR-MW-23R-GW-7	828-MW-23R-GW-8	828-MW-23R-GW-9	828-MW-23R-GW-10	828-MW-23R-GW-11	828-MW-23R-GW-12	828-MW-23R-GW	828-MW-23R-GW	828-MW-23R-GW	828-MW-23R-GW	828-MW-23R-GW	
Sampling Company		STANTEC																					
Field Parameters																							
Field Parameters	Units	clear	clear	clear w/ black flecks	clear w/ black flecks	clear, no black flecks	clear/black pieces	clear w/ black flecks	Black precipitate	clear with black precipitate	clear with black precipitate	slightly yellow, brown particulate	clear	clear w/ black flecks	clear w/ black flecks	clear w/ black flecks	clear w/ black flecks	black	murky	0	clear with black precipitate	clear with black precipitate	clear, black sulfide deposits
Color (Visual)	none	clear	clear	clear w/ black flecks	clear w/ black flecks	clear, no black flecks	clear/black pieces	clear w/ black flecks	Black precipitate	clear with black precipitate	clear with black precipitate	slightly yellow, brown particulate	clear	clear w/ black flecks	clear w/ black flecks	clear w/ black flecks	clear w/ black flecks	black	murky	0	clear with black precipitate	clear with black precipitate	clear, black sulfide deposits
Conductivity, Field	mS/cm	7.37	7.12	0.596	6.06	0.828	6.62	4.66	4.38	3.48	5.96	4.34	3.44	4.24	0.671	7.03	0.635	4.74	6.34	6.52	6.45	5.28	5.18
Dissolved Oxygen, Field	mg/L	0.0	2.61	0.00	0.00	0.42	0.16	0.35	0.22	0.11	0.13	0.47	0.00	0.00	0.00	0.00	0.57	0.24	0.33	0.11	0.11	0.41	0.14
Odor	none	none	no odor	no odor	no odor	no odor	no odor	sewage odor	No odor	slight sulfur odor	sulfur odor	none	none	no odor	odor	sulfur odor	no odor	sulfur	slight sulfur odor	0	strong sulfur odor	strong sulfur odor	sulfur odor
Oxidation Reduction Potential	mV	31	-135	-187	-238	-211	-147.1	-232.0	-149.2	-271.7	-149.3	-101.3	-23	-168	-262	-317	-211	-375.3	-438.3	-358.9	-408.0	-347.1	-307.0
pH, Field	S.U.	6.66	6.73	7.09	7.57	6.71	7.04	7.09	7.13	6.44	6.93	7.13	6.63	7.38	6.71	6.86	6.59	7.02	6.65	6.67	6.79	6.97	7.16
Temperature, Field	deg C	14.63	11.85	6.47	12.18	13.8	21.0	11.0	9.8	18.1	15.3	15.8	22.26	12.61	11.12	12.97	16.1	19.7	11.5	10.8	17.5	15.5	14.3
Turbidity, Field	NTU	45	12.2	9.78	.24	1.35	9.14	3.72	9.72	9.23	3.66	25.3	3.3	6.24	1.04	11.3	3.27	0.92	1.60	1.25	0.82	3.84	2.87
Volume Purged	gal	2.1	1.6	0.5	0.6	2.5	1.6	0.9	1.0	1.1	1.2	0.8	0.7	1.3	1.7	2.2	1.1	1.4	1.5	2.3	2.3	0.9	1.8

See Notes on Last Page

*parameters at the end of low-flow purge

Table 2
Summary of Field Parameters in Groundwater – September 2011 to October 2013
WARD STREET SITE
GERMANOW-SIMON CORPORATION
ROCHESTER, NY

Notes:

deg C degrees Celsius
gal gallons
mg/l milligrams per liter
mS/cm millisiemens per centimeter
mV millivolts
NTU nephelometric turbidity unit
S.U. standard units
During the June 2015 event, excessive drawdown at several wells resulted in a switch from low-flow purging to volumetric purge by bailer. The parameters reported here, including the volume purged, are from the end of low-flow purging.

PERIODIC REVIEW REPORT
WARD STREET SITE – SITE NO. C828117
AND
8-28 WARD STREET SITE - NO. C828136

Appendix D

SPECIALTY SHORT TERM DISCHARGE PERMIT

County of Monroe Pure Waters District No. 8575

ST- Permit No: ST-290

Expires: 12/31/15

Fee: \$125.00

Firm Name Germanow-Simon Corporation
Address 408 St. Paul Street
Rochester, NY 14605

Type of Business or Service Scientific instrument manufacturing

I. The above-named applicant is permitted to discharge wastes into the Monroe County Pure Waters Sewer system or Tributary thereto as applied for by an application dated 6/22/2015 and verified by the applicant except the Director of Pure Waters requires the following terms and conditions to govern the permitted discharge:

- A. _____
- B. _____
- C. _____

II. The applicant further agrees to:

1. Accept and abide by all provisions of the Sewer Use Law of Monroe County and of all pertinent rules or regulations now in force or shall be adopted in the future.
2. Notify the Director of Pure Waters in writing of any revision to the plant sewer system or any change in industrial wastes discharge to the public sewers as listed in the application. The latter encompasses either (1) an increase or decrease in average daily volume or strength of wastes listed in the application or (2) new wastes that were not listed in the application.
3. Furnish the Director of Pure Waters upon request any additional information related to the installation or use of sewer or drain for which this permit is sought.
4. Operate and maintain any waste pretreatment facilities, as may be required as a condition of the acceptance into the public sewer of the industrial wastes involved, in an efficient manner at all times, and at no expense to the County.
5. Cooperate with the Director of Pure Waters or his representatives in their inspecting, sampling, and study of wastes, or the facilities provided for pretreatment.
6. Notify the Director of Pure Waters immediately of any accident, negligence, breakdown of pretreatment equipment, or other occurrence that occasions discharge to the public sewers of any wastes or process waters not covered by this permit.

Applicant's Name (please print) Andrew Germanow

Applicant's Signature  Date 6/22/15

Applicant's Title President Phone (585) 295-0200

Emergency Contact John Dole Phone (585) 295-0220

Renewal Approved by:  Issued this 24 day of July 20 15

Michael J. Garland, P.E.
Director of Environmental Services-Pure Waters
Monroe County

**COUNTY OF MONROE
SEWER USE PERMIT ENCLOSURE**

Germanow Simon Corp.
408 St. Paul Street
Rochester, NY 14605

PERMIT NUMBER: ST-290
DISTRICT NUMBER: 8575

TYPE OF BUSINESS: Former Industrial and Dry Cleaning Operation
SAMPLE POINT: 55-gal Drum

REQUIRED MONITORING

SELF-MONITORING FREQUENCY: **Each and Every Batch Discharge**

SAMPLING PROTOCOL: Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto. In the absence of 40 CFR Part 136 testing methodology, a New York State Department of Health, approved method is acceptable.

A grab sample, collected from the above noted sample point shall be analyzed for the following:

<u>Analyte</u>	<u>Limit</u>
Volatile Organic Compounds	*

* The summation of all volatile organic compounds reported greater than 10 µg/l shall not exceed 2.13 mg/L.

SPECIAL CONDITIONS:

- 1. Sample results must be reviewed and approved by Monroe County prior to each discharge.**
- 2. A discharge location must be approved by Monroe County.**



Stantec Consulting Services Inc.
61 Commercial Street Suite 100
Rochester NY 14614-1009
Phone: (585) 475-1440
Fax: (585) 272-1814

To:	Erin Magee	From:	Michael P. Storonsky
Company:	Monroe County Department of Environmental Services	<input type="checkbox"/>	For Your Information
Address:	145 Paul Rd Bldg. 1 Rochester, NY 14624	<input checked="" type="checkbox"/>	For Your Approval
Phone:	(585) 753-7506	<input checked="" type="checkbox"/>	For Your Review
Date:	July 2, 2015	<input type="checkbox"/>	As Requested
File:	190500014		
Delivery:	Regular Mail		

**Reference: Ward Street and 8-28 Ward Street Sites
Temporary Discharge Permit Application**

Attachment:

Copies	Description
1	Specialty Short Term Discharge Permit Application
1	Check
1	Short Term Discharge Permit Application Letter
1	Sewer Use Permit #912 and Closeout Documentation

On behalf of Germanow-Simon Corporation, please find enclosed a temporary discharge permit application. This permit is being requested to discharge purge water generated during a recently completed groundwater sampling event and decontamination water generated during upcoming well decommissioning activities.

Sincerely,

STANTEC CONSULTING SERVICES INC.

Mike Storonsky
Principal
Phone: (585) 413-5266
Fax: (585) 424-5951
mike.storonsky@stantec.com

Design with community in mind



July 2, 2015
File: 190500014

Attention: Erin Magee
Monroe County Department of Environmental Services
Industrial Waste Control
145 Paul Road, Bldg. 1
Rochester, New York 14624

Dear Erin,

**Reference: Ward Street and 8-28 Ward Street Sites
Temporary Discharge Permit Application**

On behalf of Germanow-Simon Corporation, Stantec Consulting Services Inc. respectfully submits this application for a Specialty Short Term Discharge Permit. This permit is being requested to discharge purge water generated during a recently completed groundwater sampling event and decontamination water generated during upcoming well decommissioning activities.

SITE HISTORY AND ENVIRONMENTAL BACKGROUND

The contiguous Ward Street and 8-28 Ward Street Brownfield Cleanup Program sites (collectively referred to herein as the Sites) are owned by the Germanow-Simon Corporation. The Sites are located in the City of Rochester, Monroe County, New York along the north side of Ward Street between the intersection of Ward Street with St. Paul Street on the southwest and Emmett Street on the northeast. A map showing the locations of the Sites is presented on Figure 1. Germanow-Simon currently occupies the Site and employs approximately 85 individuals at a manufacturing facility that produces bimetal thermometers, plastic optics, and gauge and watch crystals.

The site is comprised of the following parcels:

Site Property	Monroe County Tax Map Identifier Numbers
376 St. Paul Street	106.620-01-021
384 St. Paul Street	106.620-01-28
388-392 St. Paul Street	106.620-01-29
398 St. Paul Street	106.620-01-30
408 St. Paul Street	106.620-01-31
19-23 Emmett Street	106.620-01-32

The Site contains three major buildings that have been designated Buildings A, B and C (Figure 1). The site structures are currently identified as Building A at 408 St. Paul Street, main offices; Building B



July 2, 2015
Erin Magee
Page 2 of 3

**Reference: Ward Street and 8-28 Ward Street Sites
Temporary Discharge Permit Application**

at 392 St. Paul Street, Thermometer Division of Tel-Tru Mg. Co.; and Building C at 23 Emmett Street, Optics Division of Germanow-Simon Corporation. Review of historic information (including Sanborn Maps) identified a former dry cleaning establishment once operated by the Lilac Laundry Inc. in the parking lot between Building A and B and to the east on the High Falls Brewing Company (HFBC) parking lot. The historic mapping also identified a former gasoline station which was once occupied by S. Dinaburg, a distributor of dry cleaning and industrial solvents, on the southwest portion of the Site, in part beneath the Building B Annex.

Mr. John Dole, Facilities Manager, indicated Germanow-Simon purchased the property around 1970 and the building remained vacant for several years. In 1976 the building was occupied by the manufacturing division that produced screw machine parts. In 1981, the Optics Division of Germanow-Simon, which was previously located in Building A, moved into Building C. An addition was constructed at the northwest corner of Building C in 1999.

Germanow-Simon and the Department agreed to pursue a program of environmental investigation and cleanup activities at the Sites to address past releases of industrial and dry-cleaning solvents and petroleum products that resulted in subsurface contamination by volatile organic compounds (VOCs). The BCP activities led to the implementation of a Multi-Phase Vacuum Extraction (MPVE) cleanup system for the Sites. MPVE is a contaminant remediation technology that uses a vacuum pump and extraction wells to remove VOCs from subsurface soils, soil vapor and groundwater.

Construction, initiation and commissioning of MPVE at the Ward Street Site were completed in October 2006. The 8-28 Ward Street Site component of the MPVE system was added in October 2008. Pursuant to NYSDEC approval, the MPVE system was shut down on February 22, 2011 and has not been restarted since that time. At that time, the previously installed sub-slab depressurization (SSD) system beneath the Building B Annex Area was turned on (as it had been during previous sampling or MPVE maintenance related shut-down periods). A NYSDEC-approved in-situ bioremediation polishing program was conducted in November/December 2011 and a supplemental in-situ bioremediation polishing program was conducted in November 2012 to address groundwater contamination at the site.

The groundwater sampling event conducted in October 2013 reported that VOC reduction continued to proceed very well within the treatment area. Figure 2 presents well locations and Table 1 presents the results of groundwater sampling events at the Sites from 2011 to 2013. Based on the significant reductions in dissolved-phase VOC concentrations observed since the commencement of remedial measures, and the continued success of the ERD process, it has been proposed to NYSDEC to discontinue the ERD groundwater treatment program at the Sites. A groundwater sampling program was conducted in June 2015 to evaluate remedial progress and the proposal to discontinue the ERD program. If these groundwater sampling results continue to



July 2, 2015
Erin Magee
Page 3 of 3

**Reference: Ward Street and 8-28 Ward Street Sites
Temporary Discharge Permit Application**

indicate that contaminant degradation is continuing to progress, further reduction of sampling frequency and the decommissioning of many of the wells at the Sites is proposed.

PROPOSED DISCHARGE ACTIVITIES

On June 17th and 18th, 2015, a groundwater sampling event was performed at six wells at the Sites which generated approximately 25 gallons of purge water. The water is being stored in a 55-gallon drum on-site. As Permit #912, which was formerly in use for the Sites, has been closed out and the groundwater treatment system has been disconnected from the sewer, we are requesting this Specialty Short Term Discharge Permit to dispose of the purge water to the sewer. Pursuant to Permit #912, grab samples were collected and are being analyzed for total volatile organic compounds using EPA Method 624. Upon their receipt, the sampling results for the drummed purge water will be forwarded to MCDES for review and approval and discharge of this water to the sewer in conjunction with the short term permit application. Based on the results, it is anticipated that a driller will be mobilized to the Sites within the next few months to decommission a number of the wells. It is anticipated that some water will be generated during those activities. We respectfully request that the short term discharge permit be available to allow the discharge of that water to the sewer following a similar testing and approval process.

Should you have any questions, please contact us.

Regards,

STANTEC CONSULTING SERVICES INC.

Mike Storonsky
Principal
Phone: (585) 413-5266
mike.storonsky@stantec.com

AnneMarie Glose
Environmental Scientist
Phone: (585) 413-5328
annemarie.glose@stantec.com

Attachment: Figure 1 – Site Location
Figure 2 – Well Locations
Table 1 - Summary of Volatile Organic Compounds in Select Groundwater Wells –
September 2011 to October 2013

c. Andrew Germanow

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Almira



Geographic Information Systems

Document Path: U:\1405205\docs\ERD\Figures\June 2013\Fig 1 Site Location Map.mxd

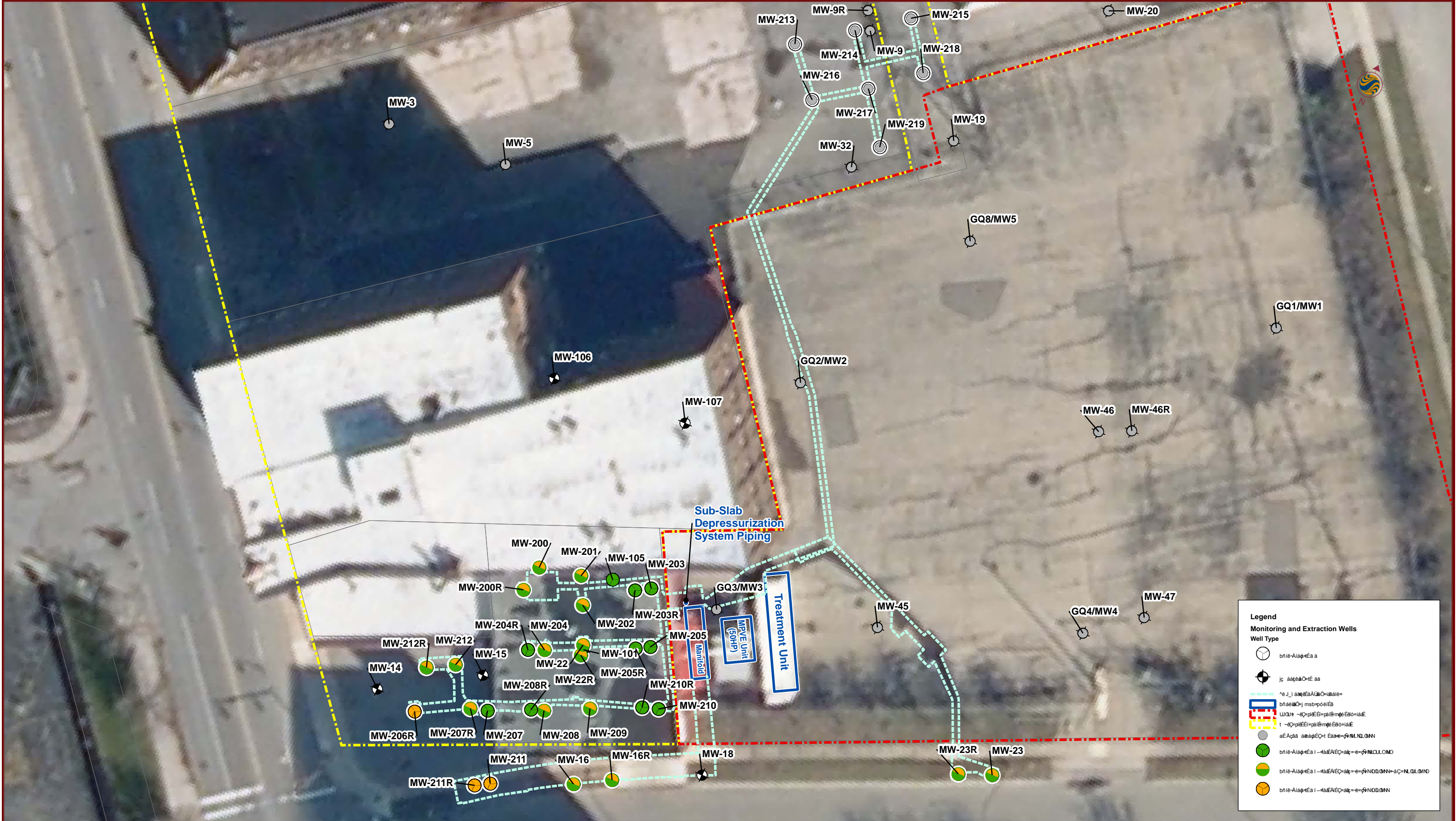
Stantec Consulting
61 Commercial Street
Rochester, NY 14614
Phone 585.475.1440 Fax 585.272.1814
www.stantec.com
Copyright 2013

Figure 1 - Site Location Map

Ward Street Sites
Rochester, NY



Stantec



Legend
Monitoring and Extraction Wells

Well Type

- Monitoring Well
- Extraction Well
- Sub-Slab Depressurization System Piping
- Extraction Piping
- Treatment Piping
- Manifold
- Monitoring Well - 10' to 15' Depth
- Monitoring Well - 15' to 20' Depth
- Monitoring Well - 20' to 30' Depth

Figure 2 - Well Locations
Ward Street Sites
Rochester, NY

Table 1
Summary of Volatile Organic Compounds in Groundwater – September 2011 to October 2013
GERMANOW-SIMON CORPORATION
PERIODIC REVIEW REPORT, WARD STREET SITE
ROCHESTER, NY

Area of Interest Sample Location			On-Site Area 1: Building B Annex																																	
			MW105																		MW207R															
Sample Date	Units	TOGS	22-Aug-06	19-Jan-07	19-Apr-07	18-Jul-07	18-Oct-07	25-Jan-08	23-Jul-08	20-Mar-09	29-Sep-09	2-Mar-10	31-Aug-10	28-Sep-11	4-Jan-12	2-Feb-12	29-Feb-12	4-Jun-12	4-Sep-12	22-Jan-13	11-Apr-13	2-Jul-13	8-Oct-13	23-Aug-06	18-Jan-07	18-Apr-07	18-Jul-07	18-Oct-07	24-Jan-08	23-Jul-08	20-Mar-09	29-Sep-09				
Sample ID			WSR-MW-105-GW	WSR-MW-105-GW-2	WSR-MW-105-GW-3	WSR-MW-105-GW-4	WSR-MW-105-GW-5	WSR-MW-105-GW-6	WSR-MW-105-GW-7	WSR-MW-105-GW-8	WSR-MW-105-GW-9	WSR-MW-105-GW-10	WSR-MW-105-GW-11	WSR-MW-105-GW-12	WSR-MW-105-GW-13	WSR-MW-105-GW-14	WSR-MW-105-GW-15	WSR-MW-105-GW-16	WSR-MW-105-GW-17	WSR-MW-105-GW	WSR-MW-105-GW	WSR-MW-105-GW	WSR-MW-105-GW	WSR-MW-207R-GW	WSR-MW-207R-GW-2	WSR-MW-207R-GW-3	WSR-MW-207R-GW-4	WSR-MW-207R-GW-5	WSR-MW-207R-GW-6	WSR-MW-207R-GW-7	WSR-MW-207R-GW-8	WSR-MW-207R-GW-9				
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC				
Laboratory			PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH	PARAROCH				
Laboratory Work Order			P06-2523	P07-0326	P07-1294	P07-2505	P07-3837	P08-0399	P08-2574	P09-1012	P09-3543	P10-0857	P10-3551	P11-4106	P12-0041	12-0443	12-0868	12-2335	12-3644	13-0329	131259	132471	133927	P06-2546	P07-0306	P07-1284	P07-2505	P07-3837	P08-0380	P08-2574	P09-1012	P09-3543				
Laboratory Sample ID			8425	1664	4743	8401	12585	1883	8666	3609	10932	3524	11570	14152	12-0041-02	12-0443-02	12-0868-02	12-2335-05	12-3644-02	13-0329-05	131259-02	132471-02	133927-02	8484	1602	4715	8402	12586	1838	8661	3606	10925				
Volatile Organic Compounds																																				
Acetone	µg/L	50 ^U	100 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U		
Benzene	µg/L	1 ^A	7.00 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U		
Bromobenzene	µg/L	5 ^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Bromochloromethane	µg/L	50 ^U	20.0 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U		
Bromoform (Tribromomethane)	µg/L	50 ^U	20.0 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U		
Bromomethane (Methyl bromide)	µg/L	5 ^A	20.0 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U		
Butylbenzene, n-	µg/L	5 ^A	-	-	100 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	
Butylbenzene, sec- (2-Phenylbutane)	µg/L	5 ^A	-	-	100 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	
Butylbenzene, tert-	µg/L	5 ^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Carbon Disulfide	µg/L	60 ^A	50.0 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U		
Carbon Tetrachloride (tetrachloromethane)	µg/L	5 ^A	20.0 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	
Chlorobenzene (Monochlorobenzene)	µg/L	5 ^A	20.0 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	
Chlorobromomethane	µg/L	5 ^A	20.0 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	
Chloroethane (Ethyl Chloride)	µg/L	5 ^A	20.0 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	
Chloroethyl Vinyl Ether, 2-	µg/L	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Chloroform (Trichloromethane)	µg/L	7 ^A	20.0 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	
Chloromethane	µg/L	5 ^A	20.0 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	
Cyclohexane	µg/L	n/v	100 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	
Dibromo-3-Chloropropane, 1,2- (DBCP)	µg/L	0.04 ^A	20.0 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	
Dibromochloromethane	µg/L	50 ^U	20.0 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	
Dichlorobenzene, 1,2-	µg/L	3 ^A	20.0 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	
Dichlorobenzene, 1,3-	µg/L	3 ^A	20.0 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	
Dichlorobenzene, 1,4-	µg/L	3 ^A	20.0 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	
Dichlorodifluoromethane (Freon 12)	µg/L	5 ^A	20.0 U	100 U	100 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	
Dichloroethane, 1,1-	µg/L	5 ^A	20.0 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	
Dichloroethane, 1,2-	µg/L	0.6 ^A	20.0 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	
Dichloroethene, 1,1-	µg/L	5 ^A	20.0 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	
Dichloroethene, cis-1,2-	µg/L	5 ^A	67.1 ^A	190 ^A	154 ^A	289 ^A	456 ^A																													

Table 1
Summary of Volatile Organic Compounds in Groundwater – September 2011 to October 2013
 GERMANOW-SIMON CORPORATION
 PERIODIC REVIEW REPORT, WARD STREET SITE
 ROCHESTER, NY

Area of Interest Sample Location	Sample Date	Sample ID	Sampling Company	Laboratory	Laboratory Work Order	Laboratory Sample ID	Sample Type	On-Site Area 1: Building B Annex MW207R													Off-Site Area 1: MW-16/ Ward Street MW16																	
								Units	TOGS	2-Mar-10	31-Aug-10	27-Sep-11	27-Sep-11	6-Feb-12	2-Mar-12	6-Jun-12	6-Sep-12	24-Jan-13	12-Apr-13	5-Jul-13	10-Oct-13	23-Aug-06	18-Jan-07	19-Apr-07	19-Apr-07	19-Jul-07	19-Oct-07	24-Jan-08	24-Jul-08	20-Mar-09	29-Sep-09	2-Mar-10	24-Mar-10	24-May-10	23-Jun-10	30-Aug-10	22-Sep-10	22-Nov-10
Acetone	µg/L	50 ^U	100 U	50.0 U	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	200 U	200 U	1000 U	1000 U	500 U	500 U	1000 U	1000 U	500 U	500 U	250 U	500 U	250 U	500 U	500 U	250 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	1000 U
Total VOC	µg/L	n/v	1288.8	929	1447.7	1462.3	2340	2416	1072.9	308.4	1738	638	2043	451	21610.0	14440.0	16305.0	15475.0	18830.0	14646.0	8344	11520	5659.1	2535	3194.8	3546.1	5322	5298.7	4687	7161	8066	4140						

Table 1
Summary of Volatile Organic Compounds in Groundwater – September 2011 to October 2013
GERMANOW-SIMON CORPORATION
PERIODIC REVIEW REPORT, WARD STREET SITE
ROCHESTER, NY

Area of Interest	Sample Location	Sample Date	Sample ID	Sampling Company	Laboratory	Laboratory Work Order	Laboratory Sample ID	Sample Type	Units	Off-Site Area 1: MW-16/ Ward Street																											
										MW16									MW16R									MW16R									
										27-Sep-11 WSR-MW-16-GW-18	3-Feb-12 WSR-MW-16-GW-19	2-Mar-12 WSR-MW-16-GW-20	5-Jun-12 WSR-MW-16-GW-21	5-Sep-12 WSR-MW-16-GW-22	23-Jan-13 WSR-MW-16-GW	11-Apr-13 WSR-MW-16-GW	3-Jul-13 WSR-MW-16-GW	9-Oct-13 WSR-MW-16-GW	23-Aug-06 PARAROCH	18-Jan-07 PARAROCH	19-Apr-07 PARAROCH	19-Jul-07 PARAROCH	19-Jul-07 PARAROCH	18-Oct-07 PARAROCH	24-Jan-08 PARAROCH	24-Jul-08 PARAROCH	20-Mar-09 PARAROCH	20-Mar-09 PARAROCH	29-Sep-09 PARAROCH	2-Mar-10 PARAROCH	24-Mar-10 PARAROCH	24-May-10 PARAROCH	23-Jun-10 PARAROCH	30-Aug-10 PARAROCH	22-Sep-10 PARAROCH	22-Nov-10 PARAROCH	16-Dec-10 PARAROCH
Volatile Organic Compounds																																					
Acetone	µg/L	50 ^u	500 U	500 U	500 U	500 U	500 U	10 U	10.0 U	10.0 U	13.6 J	1000 U	1000 U	500 U	500 U	500 U	500 U	500 U	250 U	250 U	250 U	500 U	250 U	500 U	500 U	250 U	500 U	500 U	250 U	1000 U	50.0 U	25.0 U					
Benzene	µg/L	1 ^h	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	0.70 U	0.70 U	0.70 U	1 U	70.0 U	70.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	35.0 U	17.5 U	17.5 U	17.5 U	35.0 U	17.5 U	35.0 U	35.0 U	35.0 U	35.0 U	22.1 ^h	70.0 U	3.50 U	1.75 U					
Bromobenzene	µg/L	5 ^A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Bromochloromethane	µg/L	50 ^h	100 U	100 U	100 U	100 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	200 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	100 U	50.0 U	100 U	100 U	200 U	10.0 U	5.00 U					
Bromoforn (Tribromomethane)	µg/L	50 ^h	250 U	250 U	250 U	250 U	250 U	5.0 U	5.0 U	5.0 U	5.0 U	200 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	125 U	125 U	125 U	250 U	125 U	250 U	250 U	125 U	250 U	250 U	500 U	25.0 U	12.5 U					
Bromomethane (Methyl bromide)	µg/L	5 ^A	100 U	100 U	100 U	100 U	100 U	-	-	-	-	200 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	100 U	50.0 U	100 U	100 U	200 U	10.0 U	5.00 U					
Butylbenzene, n-	µg/L	5 ^A	250 U	100 U	100 U	100 U	-	-	-	-	-	-	-	-	100 U	250 U	250 U	250 U	250 U	125 U	125 U	125 U	250 U	125 U	250 U	250 U	100 U	50.0 U	200 U	25.0 U	12.5 U						
Butylbenzene, sec- (2-Phenylbutane)	µg/L	5 ^A	250 U	100 U	100 U	100 U	-	-	-	-	-	-	-	-	100 U	250 U	250 U	250 U	250 U	125 U	125 U	125 U	250 U	125 U	250 U	250 U	100 U	50.0 U	200 U	25.0 U	12.5 U						
Butylbenzene, tert-	µg/L	5 ^A	250 U	100 U	100 U	100 U	-	-	-	-	-	-	-	-	100 U	250 U	250 U	250 U	250 U	125 U	125 U	125 U	250 U	125 U	250 U	250 U	100 U	50.0 U	200 U	25.0 U	12.5 U						
Carbon Disulfide	µg/L	60 ^h	250 U	100 U	100 U	100 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	500 U	500 U	250 U	250 U	250 U	250 U	250 U	250 U	125 U	125 U	125 U	250 U	125 U	250 U	250 U	100 U	50.0 U	200 U	25.0 U	12.5 U						
Carbon Tetrachloride (tetrachloromethane)	µg/L	5 ^A	100 U	100 U	100 U	100 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	200 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	100 U	50.0 U	100 U	100 U	200 U	10.0 U	5.00 U					
Chlorobenzene (Monochlorobenzene)	µg/L	5 ^A	100 U	100 U	100 U	100 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	200 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	100 U	50.0 U	100 U	100 U	200 U	10.0 U	5.00 U					
Chlorobromomethane	µg/L	5 ^A	250 U	250 U	250 U	250 U	-	-	-	-	-	200 U	500 U	250 U	250 U	250 U	250 U	250 U	250 U	125 U	125 U	125 U	250 U	125 U	250 U	250 U	100 U	50.0 U	200 U	25.0 U	12.5 U						
Chloroethane (Ethyl Chloride)	µg/L	5 ^A	100 U	100 U	100 U	100 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	200 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	100 U	50.0 U	100 U	100 U	200 U	10.0 U	5.00 U					
Chloroethyl Vinyl Ether, 2-	µg/L	n/v	-	-	-	-	500 U	10.0 U	10.0 U	-	-	-	-	-	200 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Chloroform (trichloromethane)	µg/L	7 ^h	100 U	100 U	100 U	100 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	200 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	100 U	50.0 U	100 U	100 U	200 U	10.0 U	5.00 U					
Chloromethane	µg/L	5 ^A	100 U	100 U	100 U	100 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	200 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	100 U	50.0 U	100 U	100 U	200 U	10.0 U	5.00 U					
Cyclohexane	µg/L	n/v	500 U	500 U	500 U	500 U	500 U	10.0 U	10.0 U	10.0 U	10.0 U	1000 U	1000 U	500 U	500 U	500 U	500 U	500 U	500 U	250 U	250 U	250 U	500 U	250 U	500 U	500 U	250 U	500 U	500 U	1000 U	50.0 U	25.0 U					
Dibromo-3-Chloropropane, 1,2- (DBCP)	µg/L	0.04 ^h	500 U	500 U	500 U	500 U	500 U	10.0 U	10.0 U	10.0 U	10.0 U	200 U	1000 U	500 U	500 U	500 U	500 U	500 U	500 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	100 U	50.0 U	100 U	100 U	50.0 U	20.0 U	5.00 U					
Dibromochloromethane	µg/L	50 ^h	100 U	100 U	100 U	100 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	200 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	100 U	50.0 U	100 U	100 U	200 U	10.0 U	5.00 U					
Dichlorobenzene, 1,2-	µg/L	3 ^h	100 U	100 U	100 U	100 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	200 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	100 U	50.0 U	100 U	100 U	200 U	10.0 U	5.00 U					
Dichlorobenzene, 1,3-	µg/L	3 ^h	100 U	100 U	100 U	100 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	200 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	100 U	50.0 U	100 U	100 U	200 U	10.0 U	5.00 U					
Dichlorobenzene, 1,4-	µg/L	3 ^h	100 U	100 U	100 U	100 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	200 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	100 U	50.0 U	100 U	100 U	200 U	10.0 U	5.00 U					
Dichlorodifluoromethane (Freon 12)	µg/L	5 ^A	250 U	100 U	100 U	100 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	200 U	200 U	100 U	250 U	250 U	250 U	250 U	250 U	125 U	125 U	125 U	250 U	125 U	250 U	250 U	100 U	50.0 U	200 U	25.0 U	12.5 U						
Dichloroethane, 1,1-	µg/L	5 ^A	100 U	100 U	100 U	100 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	200 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	100 U	50.0 U	100 U	100 U	200 U	10.0 U	5.00 U					
Dichloroethane, 1,2-	µg/L	5 ^A	100 U	100 U	100 U	100 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	200 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	100 U	50.0 U	100 U	100 U	200 U	10.0 U	5.00 U					
Dichloroethane, 1,1-	µg/L	5 ^A	100 U	100 U	100 U	100 U	100 U	2.0 U	2.0 U	2.0 U	2.0 U	200 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	100 U	50.0 U	100 U	100 U	200 U	10.0 U	5.00 U					
Dichloroethylene, cis-1,2-	µg/L	5 ^A	1790 ^h	8600 ^h	2770 ^h	2720 ^h	772 ^h	8.3 ^h	23.6 ^h	9.39 ^h	2.89	1570 ^h	1940 ^h	1670 ^h	1640 ^h	1570 ^h	2050 ^h	1640 ^h	1410 ^h	1260 ^h	995 ^h	955 ^h	1300 ^h	1110 ^h	1000 ^h	1370 ^h	1320 ^h	1270 ^h	50.0 U	1080 ^h	1150 ^h	110 ^h					
Dichloroethylene, trans-1,2-	µg/L	5 ^A	100 U	100 U	100 U	100 U	100 U	2.0 U	24.3 ^h	4.89	13.3 ^h	200 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	100 U	50.0 U	100 U	100 U	200 U	10.0 U	5.00 U					
Dichloropropane, 1,2-	µg/L	1 ^h	100 U	100 U	100 U	100 U	100 U	-	-	-	-	200 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	100 U	50.0 U	100 U	100 U	200 U	10.0 U	5.00 U					
Dichloropropane, 1,3-	µg/L	5 ^A	-	-	-	-	-	2.0 U	2.0 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Dichloropropane, 2,2-	µg/L	5 ^A	-	-	-	-	-	2.0 U	2.0 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Dichloropropene, cis-1,3-	µg/L	0.4 ^h	100 U	100 U	100 U	100 U	100 U	-	-	2.0 U	2.0 U	200 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	100 U	50.0 U	100 U	100 U	200 U	10.0 U	5.00 U					
Dichloropropene, trans-1,3-	µg/L	0.4 ^h	100 U	100 U	100 U	100 U	100 U	-	-	2.0 U	2.0 U	200 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	50.0 U	50.0 U	50.0 U	100 U	50.0 U	100 U	100 U	50.0 U	100 U	100 U	200 U	10.0 U	5.00 U					
Dioxane, 1,4-	µg/L	n/v	-	-	-	-	-																														

Table 1
Summary of Volatile Organic Compounds in Groundwater – September 2011 to October 2013
GERMANOW-SIMON CORPORATION
PERIODIC REVIEW REPORT, WARD STREET SITE
ROCHESTER, NY

Notes:

- TOGS NYSDEC TOGS 1.1.1 (Reissued June 1998 with errata in January 1999 and addenda in April 2000 and June 2004)
- ^A TOGS 1.1.1 - Table 1 - Ambient Water Quality Standards and Guidance Values, Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1); Standards
- ^B TOGS 1.1.1 - Table 1 - Ambient Water Quality Standards and Guidance Values, Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1); Guidance
- 6.5^A** Concentration exceeds the indicated standard.
- 15.2 Concentration was detected but did not exceed applicable standards.
- 0.50 U** Laboratory reportable detection limit exceeded standard.
- 0.03 U The analyte was not detected above the laboratory reportable detection limit.
- n/v No standard/guideline value.
- Parameter not analyzed / not available.
- ^A The standard for Iron and Manganese is 500 ug/L, which applies to the sum of these substances. As individual standards, the standard is 300 ug/L.
- The principal organic contaminant standard for groundwater of 5 ug/L (described elsewhere in the TOGS table) applies to this substance.
- * Indicates analysis is not within the quality control limits.
- ^p Applies to the sum of cis- and trans-1,3-dichloropropene.
- ^x Topsoil: surface A, L, F, H and O horizons on the control area, or the equivalent surface soil where these horizons are not present.
- B Indicates analyte was found in associated blank, as well as in the sample.
- BN Surrogate recoveries were outside of limits. Re-analysis was performed, but it was outside of holding times, so initial analysis is reported.
- E Result exceeded calibration range.
- J Indicates estimated value.
- L Detection limit adjustment for sample matrix effects.
- M Denotes matrix spike recoveries outside QC limits. Matrix bias indicated.
- N Indicates presumptive evidence of a compound. Identification of tentatively identified compound is based on a mass spectral library search.
- NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.



Department of Environmental Services

Monroe County, New York

Maggie Brooks
County Executive

Michael J. Garland, P.E.
Director

July 13, 2012

Mr. Andrew Germanow
Germanow Simon Corp
408 St. Paul Street
Rochester, NY 14605

Re: Sewer Use Permit

Dear Mr. Andrew Germanow:

Attached you will find your Sewer Use Permit No. 912 , which will expire on August 31, 2015. Prior to expiration, we will mail you a renewal application.

This issue of the above permit is in compliance with the requirements of Section 6.1 of the Monroe County Sewer Use Law. In no way does it imply that you have complied with all present regulations. During the next six (6) months, a representative from the Industrial Waste Section may inspect your premises and sample the industrial wastewater discharge. If there should be any violations, you will be notified by mail.

If you have any questions regarding the permit, please call Sean Keenan at (585) 753-7658.

Sincerely,

Harry M. Reiter
Pretreatment Coordinator

COUNTY OF MONROE
SEWER USE PERMIT RENEWAL

Firm Name: Germanow Simon Corp
408 St. Paul Street

Permit Number: 912
Fee: \$ 75.00
Expires: August 31, 2015

Mailing Addr: 408 St. Paul Street
Rochester, NY 14605

W/C Expire: 9/25/12
District No: 8575

Business Type:

Has there been any revision to the plant sewer system or any change in industrial wastes discharged to the public sewer in the past twelve months

Yes: ___ No: X If yes, please explain in a separate letter.

Average monthly consumption for the past twelve (12) months:

Water Account No.(s) N/A (cu ft/gal) 8,100

In consideration of the granting of this renewal permit the undersigned agrees to comply with all the requirements in the Initial Permit as listed under II.

Name of person to be contacted for inspection & sampling purposes:

Type or Print: JOHN DOLE Phone No: 585-732-0202

YOUR PERMIT MUST BE SIGNED AS FOLLOWS:

- For a corporation: by a responsible corporate officer. A corporate officer means:
 - A president, secretary, treasurer or vice - president of the corporation in charge of a principal business function, or any other person who performs similar policy - or decision - making functions for the corporation; or
 - The manager of one or more manufacturing, production, or operation facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second - quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
- For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
- By a duly authorized representative of the individual designated in items (1) or (2) above if:
 - The authorization is made in writing by the individual described in items (1) or (2);
 - The authorization specifies either an individual or a position having responsibility for the overall operation of the facility from which the Industrial Discharge originates such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company; (A duly authorized representative may thus be either a named individual or any individual occupying named position); and
 - The written authorization is submitted to this Department.

Print or Type: Andrew Germanow

Phone No: 585-295-0254

Signature: [Signature]

Date: 7/10/12

Title: President

Renewal Approved by: [Signature]

Issued this 13 day of July 2012.

Michael J. Garland, P.E.
Director of Environmental Services-PureWaters
Monroe County

**COUNTY OF MONROE
SEWER USE PERMIT ENCLOSURE**

Germanow Simon Corp.
408 St. Paul Street
Rochester, NY 14605

PERMIT NUMBER: 912
DISTRICT NUMBER: 8575

TYPE OF BUSINESS: Groundwater Remediation
SIC CODE: N/A
SAMPLE POINT: IWC-912.1 - Final effluent after carbon treatment

REGULATORY MONITORING & EFFLUENT LIMITS

SAMPLE POINT: IWC-912.1 - Final effluent after carbon treatment

SELF-MONITORING FREQUENCY: **MONTHLY**

SAMPLING PROTOCOL: Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto. In the absence of 40 CFR Part 136 testing methodology, a New York State Department of Health, approved method is acceptable.

A grab sample, collected from the above noted sample point shall be analyzed for the following:

Total Volatile Organic Compounds (TVOC's)

DISCHARGE LIMITATIONS: The summation of all VOC's shall not exceed 2.13 ppm.

SPECIAL CONDITIONS:

1. All groundwater must be treated regardless of the influent concentrations. Discharge location must be approved by this office.
2. Monthly flow summaries shall accompany the monthly monitoring reports for billing purposes. It is imperative these summaries are submitted in a timely manner.

07-13-2012

SURCHARGE CONCENTRATIONS:

Concentration and/or characteristics of normal sewage:

“Normal Sewage” shall mean sewage, industrial wastes or other wastes, which when analyzed, show concentration values with the following characteristics based on daily maximum limits:

- | | |
|---------------------------|----------|
| a. B. O. D. | 300 mg/l |
| b. Total Suspended Solids | 300 mg/l |
| c. Total Phosphorus, as P | 10 mg/l |

Annual average concentrations above normal sewage are subject to surcharge as defined in Article X of the sewer use law.

DISCHARGE LIMITATIONS (SEWER USE LIMITS)

Permissible concentrations of toxic substances and/or substances the Department wishes to control:

The concentration in sewage of any of the following toxic substances and/or substances the Department wishes to control shall not exceed the concentration limits specified when discharged into the County Sewer System; metal pollutants are expressed as total metals in mg/l (ppm): the following pollutant limits are based on daily maximum values:

- | | |
|-------------------|-----------|
| a. Antimony (Sb) | 1.0 mg/l |
| b. Arsenic (As) | 0.5 mg/l |
| c. Barium (Ba) | 2.0 mg/l |
| d. Beryllium (Be) | 5.0 mg/l |
| e. Cadmium (Cd) | 1.0 mg/l |
| f. Chromium (Cr) | 3.0 mg/l |
| g. Copper (Cu) | 3.0 mg/l |
| h. Cyanide (CN) | 1.0 mg/l |
| i. Iron (Fe) | 5.0 mg/l |
| j. Lead (Pb) | 1.0 mg/l |
| k. Manganese (Mn) | 5.0 mg/l |
| l. Mercury (Hg) | 0.05 mg/l |
| m. Nickel (Ni) | 3.0 mg/l |
| n. Selenium (Se) | 2.0 mg/l |
| o. Silver (Ag) | 2.0 mg/l |
| p. Thallium (Tl) | 1.0 mg/l |
| q. Zinc (Zn) | 5.0 mg/l |

REPORTING REQUIREMENTS:

- A. Per the requirements of 40 CFR, Part 403.5, Significant Industrial Users must submit Periodic Reports on Continued Compliance to the Control Authority on a biannual (2/yr) basis. Deadline dates of submission for these reports will be August 15 and February 15, respectively.
- B. Discharge monitoring reports shall be submitted to the Control Authority upon receipt from the permittee's testing laboratory.
- C. Any Industrial User subject to the reporting requirements of the General Pretreatment Regulations shall maintain records of all information resulting from any monitoring activities required by 403.12 for a minimum of three (3) years. These records shall be available for inspection and copying by the Control Authority. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Industrial User or the operation of the POTW Pretreatment Program or when requested by the Director or the Regional Administrator.

SNC DEFINITION:

In accordance with 40 CFR 403.8 (f) (vii), an Industrial User is in significant noncompliance (SNC) if its violations meet one or more of the following criteria:

- A.** Chronic violations of wastewater discharge limits – defined as those which 66% or more of all the measurements taken during a six-month period exceed (by any magnitude) the daily maximum limit or the average limit for the same pollutant parameter. This criteria does NOT apply to the following Monroe County surchargeable parameters: Biochemical Oxygen Demand, Total Suspended Solids, Chlorine Demand and Total Phosphorus (ref. Article X – Monroe County Sewer Use Law).
- B.** Technical review criteria (TRC) violations – defined as those in which 33% or more of all the measurements for each pollutant parameter taken during a six month period equal or exceed the product of the daily maximum limit or the average limit times the applicable TRC. This criteria does NOT apply to the following Monroe County surchargeable parameters: Biochemical Oxygen Demand, Total Suspended Solids, Chlorine Demand and Total Phosphorus (ref. Article X – Monroe County Sewer Use Law).
- C.** Any other violation of a pretreatment effluent limit (daily maximum or longer-term average) that the Control Authority determines has caused, alone or in combination with other discharges, interference or pass-through (including endangering the health or POTW personnel or the general public).
- D.** Any discharge of a pollutant that has caused imminent endangerment to human health, welfare or the environment or has resulted in the POTW's exercise of its emergency authority under paragraph (t)(1)(vi)(8) of 40 CFR part 403 to prevent such a discharge.
- E.** Failure to meet, within 90 days after the scheduled date, a compliance schedule milestone contained in a local control mechanism or enforcement order, for starting construction, completing construction or attaining final compliance.
- F.** Failure to provide, within 30 days after the due date, required reports such as BMRs, 90 day compliance reports, period reports on continued compliance.
- G.** Failure to accurately report noncompliance.
- H.** Any other violation or group of violations that the Control Authority determines will adversely affect the operation and implementation of the local Pretreatment Program.

PENALTIES

Should the facility be considered in Significant Non-Compliance (SNC), based on the above mentioned criteria, the minimum enforcement response by Monroe County will be the publication of the company name in the Gannett Rochester newspaper. The company will be published as an Industrial User in Significant Non-Compliance (SNC). Fines and criminal penalties may follow this publication (ref. Article XII – Monroe County Sewer Use Law).

Nothing in this permit shall be construed to relieve the permittees from civil/criminal penalties for noncompliance under Article XII, Section 12.1(D) of the Sewer Use Law of the County of Monroe. Article XII, Section 12.1(D) provides that any person who violates a permit condition is subject to a civil penalty not to exceed \$10,000 for any one case and an additional penalty not to exceed \$10,000 for each day of continued violation.



Department of Environmental Services

Monroe County, New York

Maggie Brooks
County Executive

Michael J. Garland, P.E.
Director

July 24, 2014

Mr. Andrew Germanow
Germanow Simon Corp
408 St. Paul Street
Rochester, NY 14605

Re: Germanow Simon Remediation Site
Termination of Sewer Use Permit #912

Dear Mr. Germanow:

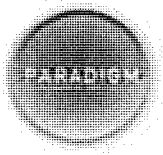
This office has proceeded to have the facility at 408 St Paul St, Rochester, NY taken off permit, thus terminating permit #912. Upon inspection of the facility on July 24, 2014, groundwater treatment was verified to be shut down as well as the connection to the sewer severed. If in the future remediation starts and a discharge to the sewer resumes at this location, then a new Sewer Use Permit application will need to be filed with this office. If you have any questions, please contact me at (585) 753-7506.

Sincerely,

Erin Magee
Industrial Waste Assistant

cc: Michael Storonsky
John Dole
File

145 Paul Rd. Bldg. 10 Rochester, NY 14624
(585) 753-7600 option 4 • fax: (585) 324-1213
www.monroecounty.gov



PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report For

Stantec

For Lab Project ID

152493

Referencing

Ward St 190500014

Prepared

Wednesday, July 01, 2015

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

A handwritten signature in black ink, consisting of several overlapping, slanted lines, positioned above a horizontal line.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958



Client: Stantec
Project Reference: Ward St 190500014

Sample Identifier: WARD-DRUM1-61815
Lab Sample ID: 152493-08 **Date Sampled:** 6/18/2015
Matrix: Groundwater **Date Received:** 6/18/2015

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		6/29/2015 20:16
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		6/29/2015 20:16
1,1,2-Trichloroethane	< 2.00	ug/L		6/29/2015 20:16
1,1-Dichloroethane	< 2.00	ug/L		6/29/2015 20:16
1,1-Dichloroethene	< 2.00	ug/L		6/29/2015 20:16
1,2-Dichlorobenzene	< 2.00	ug/L		6/29/2015 20:16
1,2-Dichloroethane	< 2.00	ug/L		6/29/2015 20:16
1,2-Dichloropropane	< 2.00	ug/L		6/29/2015 20:16
1,3-Dichlorobenzene	< 2.00	ug/L		6/29/2015 20:16
1,4-Dichlorobenzene	< 2.00	ug/L		6/29/2015 20:16
2-Chloroethyl vinyl Ether	< 10.0	ug/L		6/29/2015 20:16
Benzene	< 1.00	ug/L		6/29/2015 20:16
Bromodichloromethane	< 2.00	ug/L		6/29/2015 20:16
Bromoform	< 5.00	ug/L		6/29/2015 20:16
Bromomethane	< 2.00	ug/L		6/29/2015 20:16
Carbon Tetrachloride	< 2.00	ug/L		6/29/2015 20:16
Chlorobenzene	< 2.00	ug/L		6/29/2015 20:16
Chloroethane	< 2.00	ug/L		6/29/2015 20:16
Chloroform	< 2.00	ug/L		6/29/2015 20:16
Chloromethane	< 2.00	ug/L		6/29/2015 20:16
cis-1,3-Dichloropropene	< 2.00	ug/L		6/29/2015 20:16
Dibromochloromethane	< 2.00	ug/L		6/29/2015 20:16
Ethylbenzene	< 2.00	ug/L		6/29/2015 20:16
Methylene chloride	< 5.00	ug/L		6/29/2015 20:16
Tetrachloroethene	177	ug/L		6/29/2015 20:16
Toluene	< 2.00	ug/L		6/29/2015 20:16
trans-1,2-Dichloroethene	6.75	ug/L		6/29/2015 20:16
trans-1,3-Dichloropropene	< 2.00	ug/L		6/29/2015 20:16
Trichloroethene	114	ug/L		6/29/2015 20:16

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.



Client: Stantec

Project Reference: Ward St 190500014

Sample Identifier: WARD-DRUM1-61815

Lab Sample ID: 152493-08

Date Sampled: 6/18/2015

Matrix: Groundwater

Date Received: 6/18/2015

Trichlorofluoromethane	< 2.00	ug/L	6/29/2015 20:16
Vinyl chloride	131	ug/L	6/29/2015 20:16

Method Reference(s): EPA 624

Data File: x24203.D



Method Blank Report

Client: Stantec
Project Reference: Ward St 190500014
Lab Project ID: 152493
SDG #: 2493-01
Matrix: Groundwater

Volatile Organics

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>	
1,1,1-Trichloroethane	<2.00	ug/L		6/29/2015	13:16
1,1,2,2-Tetrachloroethane	<2.00	ug/L		6/29/2015	13:16
1,1,2-Trichloroethane	<2.00	ug/L		6/29/2015	13:16
1,1-Dichloroethane	<2.00	ug/L		6/29/2015	13:16
1,1-Dichloroethene	<2.00	ug/L		6/29/2015	13:16
1,2,3-Trichlorobenzene	<5.00	ug/L		6/29/2015	13:16
1,2,4-Trichlorobenzene	<5.00	ug/L		6/29/2015	13:16
1,2-Dibromo-3-Chloropropane	<10.0	ug/L		6/29/2015	13:16
1,2-Dibromoethane	<2.00	ug/L		6/29/2015	13:16
1,2-Dichlorobenzene	<2.00	ug/L		6/29/2015	13:16
1,2-Dichloroethane	<2.00	ug/L		6/29/2015	13:16
1,2-Dichloropropane	<2.00	ug/L		6/29/2015	13:16
1,3-Dichlorobenzene	<2.00	ug/L		6/29/2015	13:16
1,4-Dichlorobenzene	<2.00	ug/L		6/29/2015	13:16
1,4-dioxane	<20.0	ug/L		6/29/2015	13:16
2-Butanone	<10.0	ug/L		6/29/2015	13:16
2-Hexanone	<5.00	ug/L		6/29/2015	13:16
4-Methyl-2-pentanone	<5.00	ug/L		6/29/2015	13:16
Acetone	<10.0	ug/L		6/29/2015	13:16
Benzene	<1.00	ug/L		6/29/2015	13:16
Bromochloromethane	<5.00	ug/L		6/29/2015	13:16
Bromodichloromethane	<2.00	ug/L		6/29/2015	13:16
Bromoform	<5.00	ug/L		6/29/2015	13:16
Bromomethane	<2.00	ug/L		6/29/2015	13:16
Carbon disulfide	<2.00	ug/L		6/29/2015	13:16
Carbon Tetrachloride	<2.00	ug/L		6/29/2015	13:16
Chlorobenzene	<2.00	ug/L		6/29/2015	13:16
Chloroethane	<2.00	ug/L		6/29/2015	13:16

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.



Method Blank Report

Client: Stantec
Project Reference: Ward St 190500014
Lab Project ID: 152493
SDG #: 2493-01
Matrix: Groundwater

Volatile Organics

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>	
Chloroform	<2.00	ug/L		6/29/2015	13:16
Chloromethane	<2.00	ug/L		6/29/2015	13:16
cis-1,2-Dichloroethene	<2.00	ug/L		6/29/2015	13:16
cis-1,3-Dichloropropene	<2.00	ug/L		6/29/2015	13:16
Cyclohexane	<10.0	ug/L		6/29/2015	13:16
Dibromochloromethane	<2.00	ug/L		6/29/2015	13:16
Dichlorodifluoromethane	<2.00	ug/L		6/29/2015	13:16
Ethylbenzene	<2.00	ug/L		6/29/2015	13:16
Freon 113	<2.00	ug/L		6/29/2015	13:16
Isopropylbenzene	<2.00	ug/L		6/29/2015	13:16
m,p-Xylene	<2.00	ug/L		6/29/2015	13:16
Methyl acetate	<2.00	ug/L		6/29/2015	13:16
Methyl tert-butyl Ether	<2.00	ug/L		6/29/2015	13:16
Methylcyclohexane	<2.00	ug/L		6/29/2015	13:16
Methylene chloride	<5.00	ug/L		6/29/2015	13:16
o-Xylene	<2.00	ug/L		6/29/2015	13:16
Styrene	<5.00	ug/L		6/29/2015	13:16
Tetrachloroethene	<2.00	ug/L		6/29/2015	13:16
Toluene	<2.00	ug/L		6/29/2015	13:16
trans-1,2-Dichloroethene	<2.00	ug/L		6/29/2015	13:16
trans-1,3-Dichloropropene	<2.00	ug/L		6/29/2015	13:16
Trichloroethene	<2.00	ug/L		6/29/2015	13:16
Trichlorofluoromethane	<2.00	ug/L		6/29/2015	13:16
Vinyl chloride	<2.00	ug/L		6/29/2015	13:16



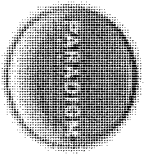
Method Blank Report

Client: Stantec
Project Reference: Ward St 190500014
Lab Project ID: 152493
SDG #: 2493-01
Matrix: Groundwater

Volatile Organics

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>	
<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>	
1,2-Dichloroethane-d4	96.0	82.3 - 115		6/29/2015	13:16
4-Bromofluorobenzene	93.2	85.5 - 111		6/29/2015	13:16
Pentafluorobenzene	95.4	91.2 - 107		6/29/2015	13:16
Toluene-D8	95.9	90.9 - 108		6/29/2015	13:16

Method Reference(s): EPA 8260C
 EPA 5030
Data File: x24185.D
QC Batch ID: voaw062915
QC Number: 1



QC Report for Laboratory Control Sample

Client: Stantec

Project Reference: Ward St 190500014

Lab Project ID: 152493

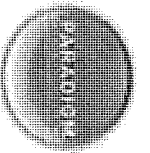
SDG #: 2493-01

Matrix: Groundwater

Volatile Organics

Analyte	Spike Added	Spike Units	LCS Result	LCS % Recovery	% Rec Limits	LCS Outliers	Date Analyzed
1,1,1-Trichloroethane	20.0	ug/L	19.3	96.7	77.9 - 120		6/29/2015
1,1,2,2-Tetrachloroethane	20.0	ug/L	18.9	94.5	81.7 - 119		6/29/2015
1,1,2-Trichloroethane	20.0	ug/L	18.0	89.9	79.6 - 115		6/29/2015
1,1-Dichloroethane	20.0	ug/L	18.9	94.6	84.5 - 114		6/29/2015
1,1-Dichloroethene	20.0	ug/L	19.7	98.7	71.3 - 125		6/29/2015
1,2-Dichlorobenzene	20.0	ug/L	19.8	98.9	82.6 - 119		6/29/2015
1,2-Dichloroethane	20.0	ug/L	17.8	89.0	79.7 - 120		6/29/2015
1,2-Dichloropropane	20.0	ug/L	18.6	92.8	84.5 - 114		6/29/2015
1,3-Dichlorobenzene	20.0	ug/L	18.6	92.9	77.8 - 115		6/29/2015
1,4-Dichlorobenzene	20.0	ug/L	18.6	93.2	76.7 - 114		6/29/2015
Benzene	20.0	ug/L	19.9	99.4	85.6 - 120		6/29/2015
Bromodichloromethane	20.0	ug/L	18.7	93.4	78.4 - 118		6/29/2015
Bromoform	20.0	ug/L	17.0	85.0	59.9 - 114		6/29/2015
Bromomethane	20.0	ug/L	19.4	96.9	59.1 - 170		6/29/2015
Carbon Tetrachloride	20.0	ug/L	19.7	98.7	71.9 - 124		6/29/2015

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QC Report for Laboratory Control Sample

Client: Stantec

Project Reference: Ward St 190500014

Lab Project ID: 152493

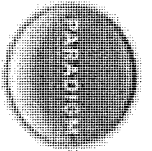
SDG #: 2493-01

Matrix: Groundwater

Volatile Organics

<u>Analyte</u>	<u>Spike Added</u>	<u>Spike Units</u>	<u>LCS Result</u>	<u>LCS % Recovery</u>	<u>% Rec Limits</u>	<u>LCS Outliers</u>	<u>Date Analyzed</u>
Chlorobenzene	20.0	ug/L	19.0	95.2	81.9 - 115		6/29/2015
Chloroethane	20.0	ug/L	20.1	101	74.1 - 134		6/29/2015
Chloroform	20.0	ug/L	19.1	95.5	84.1 - 117		6/29/2015
Chloromethane	20.0	ug/L	17.5	87.7	79.4 - 129		6/29/2015
cis-1,3-Dichloropropene	20.0	ug/L	21.1	105	89.6 - 123		6/29/2015
Dibromochloromethane	20.0	ug/L	18.5	92.3	64.8 - 121		6/29/2015
Ethylbenzene	20.0	ug/L	20.1	101	83.4 - 117		6/29/2015
Methylene chloride	20.0	ug/L	18.3	91.7	71.9 - 127		6/29/2015
Tetrachloroethene	20.0	ug/L	18.4	92.2	72.6 - 130		6/29/2015
Toluene	20.0	ug/L	19.4	97.2	84.3 - 117		6/29/2015
trans-1,2-Dichloroethene	20.0	ug/L	19.4	97.2	74.7 - 129		6/29/2015
trans-1,3-Dichloropropene	20.0	ug/L	19.8	98.8	68 - 118		6/29/2015
Trichloroethene	20.0	ug/L	19.9	99.5	84.1 - 117		6/29/2015
Trichlorofluoromethane	20.0	ug/L	19.2	95.8	72.2 - 133		6/29/2015
Vinyl chloride	20.0	ug/L	19.7	98.3	79.7 - 134		6/29/2015

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QC Report for Laboratory Control Sample

Client: Stantec

Project Reference: Ward St 190500014

Lab Project ID: 152493

SDG #: 2493-01

Matrix: Groundwater

Volatile Organics

Analyte	Method Reference(s):	EPA 8260C	EPA 5030	Spike Added	Spike Units	LCS Result	LCS % Recovery	% Rec Limits	LCS Outliers	Date Analyzed
	Data File:		x24184.D							
	QC Number:		1							
	QC Batch ID:		VOAW062915							

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.



Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

Each page of this document is part of a multipage report. This document may not be reproduced except in its entirety, without the prior consent of Paradigm Environmental Services, Inc.

All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.

"E" = Result has been estimated, calibration limit exceeded.

"Z" = See case narrative.

"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.

"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.

"B" = Method blank contained trace levels of analyte. Refer to included method blank report.

"J" = Result estimated between the quantitation limit and half the quantitation limit.

"L" = Laboratory Control Sample recovery outside accepted QC limits.

"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.

"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*

"(1)" = Indicates data from primary column used for QC calculation.

GENERAL TERMS AND CONDITIONS

LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, term or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

- Warranty.** Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.
- Scope and Compensation.** LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB will use LAB default method for all tests unless specified otherwise on the Work Order. Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.
- Prices.** Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.
- Limitations of Liability.** In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services. LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results. All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB. Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.
- Hazard Disclosure.** Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.
- Sample Handling.** Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises. Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on the final report. Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples. LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.
- Legal Responsibility.** LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.
- Assignment.** LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.
- Force Majeure.** LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.
- Law.** This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

2062



Chain of Custody Supplement

Client: Stantec Completed by: Molly Kail
 Lab Project ID: 152493 Date: 6/18/15

Sample Condition Requirements
 Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt		
	Yes	No	N/A
Container Type	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			
Transferred to method-compliant container	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Headspace (<1 mL)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			
Preservation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			
Chlorine Absent (<0.10 ppm per test strip)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comments			
Holding Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			
Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments	6°C iced 6/18/15 1430 custody seals N/A client delivered		
Sufficient Sample Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			



Department of Environmental Services

Monroe County, New York

Maggie Brooks
County Executive

Michael J. Garland, P.E.
Director

RE: Specialty Short Term Discharge Permit

Enclosed is an application for a Short Term Discharge Permit. Be advised this Permit is a legal document. Please provide all requested information accurately. An officer of the company must sign the permit or appoint a duly authorized representative. The letter of appointment must be included with the permit package.

Monroe County Pure Waters, under Section 57 of the Worker's Compensation Law and Section 220 – Subdivision 8 of the Disability Benefits Law, is required to have on file proof that your company has workers compensation and disability benefits for your employees. A form from your insurance carrier stating such coverage will thus be required before your permit can be processed.

A check for the permit fee of \$125.00 should be made payable to the Director of Finance, County of Monroe. All copies of the application, the form from your insurance carrier, and the check should be mailed to the following address:

Monroe County Department of Environmental Services
Industrial Waste Control
145 Paul Road, Bldg. 1
Rochester, New York 14624

Should you have any questions regarding the permit application, please feel free to call Industrial Waste Control at (585) 753-7600, Option #4.

APPLICATION PROCEDURE

- 1) The applicant must submit a letter requesting permission to discharge and a completed permit application. The letter must contain the information listed in item #2 below.
- 2) The following information is required before considering a request for discharge:
 - a) Contractor or environmental representative name
 - b) Contact person name, office phone #, cell phone #, fax #, email
 - c) Site name, address
 - d) Description of site work and history of site. Site history should include current and past businesses and activities or products produced.
 - e) Former/current contents of underground storage tanks and/or material spilled and/or history of site contaminants.
 - f) Quantity of wastewater to be discharged
 - g) Method of treatment (if applicable)
 - h) Method to control solids discharge (if applicable)
 - i) Expected date of discharge
 - j) Project duration
- 3) Monroe County Pure Waters, under Section 57 of the Worker's Compensation Law and Section 220 - Subdivision 8 of the Disability Benefits Law, is required to have on file proof that your company has worker's compensation and disability benefits for your employees. A form from your insurance carrier stating such coverage will thus be required before your permit can be processed.
- 4) A check, for the initial permit fee of \$125.00, should be made payable to the Director of Finance, County of Monroe. The request to discharge letter, the application, the insurance form and the check should be mailed to:

Monroe County Department of Environmental Services
Industrial Waste Control
145 Paul Road, Bldg. 1
Rochester, New York 14624

As an alternative - the request to discharge letter, the completed application and the insurance form may be faxed to (585) 324-1213. The check may be given to the inspector at time of field inspection.

- 5) Monroe County will schedule an inspection of the site upon receipt of the above listed material.
- 6) Please call the Industrial Waste Control at (585) 753-7600, Option #4, for additional information.

PETROLEUM IMPACTED WATER RULES AND REGULATIONS

1) A Specialty Short Term Discharge Permit is required for discharges to the Monroe County Sewer System or Wastewater Treatment Plant respectively. The permit fee is \$125.00 (payable to the Director of Finance, County of Monroe).

2) The following conditions shall apply to this permit:

a) Required analytical testing of wastewater shall be submitted to this office for review prior to discharge.

b) The Monroe County limit for the summation of all purgeable halocarbons, aromatics, and polynuclear aromatic hydrocarbons is 2.13 mg/l. Detection levels must be at or less than 10 ug/l. Any detection level above 10 ug/l will be treated as a measured concentration.

c) Required testing includes, but is not limited to:

(1) Gasoline impacted water – Purgeable Aromatics; and

Methyl Tertiary Butyl Ether (MTBE) - monitoring only. Limit not applicable at this time.

(2) Diesel or Fuel Oil impacted water – Polynuclear Aromatic Hydrocarbons.

d) The applicant must identify a suitable sanitary sewer discharge point. Monroe County will confirm the discharge point in the City of Rochester and the Towns of Gates, Chili and Ogden. Should the applicant be working in a location NOT described above, it will be the applicant's responsibility to contact the applicable Town and/or Village for similar service. The Towns/Villages of Webster, Scottsville, and Honeoye Falls are NOT part of the Monroe County Sewer System.

e) A maximum of 10 gpm discharge rate is permitted. Approval must be received from the appropriate agency (noted above) to exceed this rate.

f) Monroe County will conduct a field inspection of the site and issue a permit pending the completion and/or submission of all required information.

SPECIALTY SHORT TERM DISCHARGE PERMIT

County of Monroe Pure Waters District No. _____

ST- Permit No: _____

Expires: _____

Fee: \$125.00

Firm Name Germanow-Simon Corporation
Address 408 St. Paul Street
Rochester, NY 14605

Type of Business or Service Scientific instrument manufacturing

I. The above-named applicant is permitted to discharge wastes into the Monroe County Pure Waters Sewer system or Tributary thereto as applied for by an application dated 6/22/2015 and verified by the applicant except the Director of Pure Waters requires the following terms and conditions to govern the permitted discharge:

- A. _____
B. _____
C. _____

II. The applicant further agrees to:

1. Accept and abide by all provisions of the Sewer Use Law of Monroe County and of all pertinent rules or regulations now in force or shall be adopted in the future.
2. Notify the Director of Pure Waters in writing of any revision to the plant sewer system or any change in industrial wastes discharge to the public sewers as listed in the application. The latter encompasses either (1) an increase or decrease in average daily volume or strength of wastes listed in the application or (2) new wastes that were not listed in the application.
3. Furnish the Director of Pure Waters upon request any additional information related to the installation or use of sewer or drain for which this permit is sought.
4. Operate and maintain any waste pretreatment facilities, as may be required as a condition of the acceptance into the public sewer of the industrial wastes involved, in an efficient manner at all times, and at no expense to the County.
5. Cooperate with the Director of Pure Waters or his representatives in their inspecting, sampling, and study of wastes, or the facilities provided for pretreatment.
6. Notify the Director of Pure Waters immediately of any accident, negligence, breakdown of pretreatment equipment, or other occurrence that occasions discharge to the public sewers of any wastes or process waters not covered by this permit.

Applicant's Name (please print) Andrew Germanow

Applicant's Signature _____ Date _____

Applicant's Title President Phone (585) 295-0200

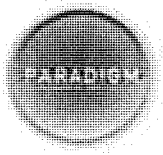
Emergency Contact John Dole Phone (585) 295-0220

Renewal Approved by: _____ Issued this ___ day of _____ 20 ___.

Michael J. Garland, P.E.
Director of Environmental Services-Pure Waters
Monroe County

PERIODIC REVIEW REPORT
WARD STREET SITE – SITE NO. C828117
AND
8-28 WARD STREET SITE - NO. C828136

Appendix E



PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report For

Stantec

For Lab Project ID

152493

Referencing

Ward St 190500014

Prepared

Wednesday, July 01, 2015

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

A handwritten signature in black ink, consisting of several overlapping, slanted lines that form a stylized, somewhat abstract shape. The signature is positioned above a horizontal line that spans the width of the page.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958



Client: Stantec
Project Reference: Ward St 190500014

Sample Identifier: 828-MW-23R-GW
Lab Sample ID: 152493-01
Matrix: Groundwater

Date Sampled: 6/17/2015
Date Received: 6/18/2015

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		6/29/2015 17:56
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		6/29/2015 17:56
1,1,2-Trichloroethane	< 2.00	ug/L		6/29/2015 17:56
1,1-Dichloroethane	< 2.00	ug/L		6/29/2015 17:56
1,1-Dichloroethene	< 2.00	ug/L		6/29/2015 17:56
1,2,3-Trichlorobenzene	< 5.00	ug/L		6/29/2015 17:56
1,2,4-Trichlorobenzene	< 5.00	ug/L		6/29/2015 17:56
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		6/29/2015 17:56
1,2-Dibromoethane	< 2.00	ug/L		6/29/2015 17:56
1,2-Dichlorobenzene	< 2.00	ug/L		6/29/2015 17:56
1,2-Dichloroethane	< 2.00	ug/L		6/29/2015 17:56
1,2-Dichloropropane	< 2.00	ug/L		6/29/2015 17:56
1,3-Dichlorobenzene	< 2.00	ug/L		6/29/2015 17:56
1,4-Dichlorobenzene	< 2.00	ug/L		6/29/2015 17:56
1,4-dioxane	< 20.0	ug/L		6/29/2015 17:56
2-Butanone	< 10.0	ug/L		6/29/2015 17:56
2-Hexanone	< 5.00	ug/L		6/29/2015 17:56
4-Methyl-2-pentanone	< 5.00	ug/L		6/29/2015 17:56
Acetone	< 10.0	ug/L		6/29/2015 17:56
Benzene	< 1.00	ug/L		6/29/2015 17:56
Bromochloromethane	< 5.00	ug/L		6/29/2015 17:56
Bromodichloromethane	< 2.00	ug/L		6/29/2015 17:56
Bromoform	< 5.00	ug/L		6/29/2015 17:56
Bromomethane	< 2.00	ug/L		6/29/2015 17:56
Carbon disulfide	< 2.00	ug/L		6/29/2015 17:56
Carbon Tetrachloride	< 2.00	ug/L		6/29/2015 17:56
Chlorobenzene	< 2.00	ug/L		6/29/2015 17:56
Chloroethane	< 2.00	ug/L		6/29/2015 17:56
Chloroform	< 2.00	ug/L		6/29/2015 17:56

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.



Client: Stantec

Project Reference: Ward St 190500014

Sample Identifier: 828-MW-23R-GW

Lab Sample ID: 152493-01

Date Sampled: 6/17/2015

Matrix: Groundwater

Date Received: 6/18/2015

Chloromethane	< 2.00	ug/L		6/29/2015 17:56
cis-1,2-Dichloroethene	1.46	ug/L	J	6/29/2015 17:56
cis-1,3-Dichloropropene	< 2.00	ug/L		6/29/2015 17:56
Cyclohexane	< 10.0	ug/L		6/29/2015 17:56
Dibromochloromethane	< 2.00	ug/L		6/29/2015 17:56
Dichlorodifluoromethane	< 2.00	ug/L		6/29/2015 17:56
Ethylbenzene	< 2.00	ug/L		6/29/2015 17:56
Freon 113	< 2.00	ug/L		6/29/2015 17:56
Isopropylbenzene	< 2.00	ug/L		6/29/2015 17:56
m,p-Xylene	< 2.00	ug/L		6/29/2015 17:56
Methyl acetate	< 2.00	ug/L		6/29/2015 17:56
Methyl tert-butyl Ether	< 2.00	ug/L		6/29/2015 17:56
Methylcyclohexane	1.59	ug/L	J	6/29/2015 17:56
Methylene chloride	< 5.00	ug/L		6/29/2015 17:56
o-Xylene	< 2.00	ug/L		6/29/2015 17:56
Styrene	< 5.00	ug/L		6/29/2015 17:56
Tetrachloroethene	< 2.00	ug/L		6/29/2015 17:56
Toluene	< 2.00	ug/L		6/29/2015 17:56
trans-1,2-Dichloroethene	< 2.00	ug/L		6/29/2015 17:56
trans-1,3-Dichloropropene	< 2.00	ug/L		6/29/2015 17:56
Trichloroethene	< 2.00	ug/L		6/29/2015 17:56
Trichlorofluoromethane	< 2.00	ug/L		6/29/2015 17:56
Vinyl chloride	< 2.00	ug/L		6/29/2015 17:56

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	121	82.3 - 115	*	6/29/2015 17:56
4-Bromofluorobenzene	90.0	85.5 - 111		6/29/2015 17:56
Pentafluorobenzene	102	91.2 - 107		6/29/2015 17:56
Toluene-D8	95.3	90.9 - 108		6/29/2015 17:56

Method Reference(s): EPA 8260C
EPA 5030
Data File: x24197.D



Client: Stantec
Project Reference: Ward St 190500014

Sample Identifier: 828-MW-23R-GW
Lab Sample ID: 152493-01
Matrix: Groundwater

Date Sampled: 6/17/2015
Date Received: 6/18/2015

Total Organic Carbon

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Total Organic Carbon	6.8	mg/L		6/29/2015
Method Reference(s):	SM 5310 C			
Subcontractor ELAP ID:	10709			



Client: Stantec
Project Reference: Ward St 190500014

Sample Identifier: 828-MW-23-GW
Lab Sample ID: 152493-02
Matrix: Groundwater

Date Sampled: 6/17/2015
Date Received: 6/18/2015

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 20.0	ug/L		6/29/2015 18:19
1,1,2,2-Tetrachloroethane	< 20.0	ug/L		6/29/2015 18:19
1,1,2-Trichloroethane	< 20.0	ug/L		6/29/2015 18:19
1,1-Dichloroethane	< 20.0	ug/L		6/29/2015 18:19
1,1-Dichloroethene	< 20.0	ug/L		6/29/2015 18:19
1,2,3-Trichlorobenzene	< 50.0	ug/L		6/29/2015 18:19
1,2,4-Trichlorobenzene	< 50.0	ug/L		6/29/2015 18:19
1,2-Dibromo-3-Chloropropane	< 100	ug/L		6/29/2015 18:19
1,2-Dibromoethane	< 20.0	ug/L		6/29/2015 18:19
1,2-Dichlorobenzene	< 20.0	ug/L		6/29/2015 18:19
1,2-Dichloroethane	< 20.0	ug/L		6/29/2015 18:19
1,2-Dichloropropane	< 20.0	ug/L		6/29/2015 18:19
1,3-Dichlorobenzene	< 20.0	ug/L		6/29/2015 18:19
1,4-Dichlorobenzene	< 20.0	ug/L		6/29/2015 18:19
1,4-dioxane	< 200	ug/L		6/29/2015 18:19
2-Butanone	< 100	ug/L		6/29/2015 18:19
2-Hexanone	< 50.0	ug/L		6/29/2015 18:19
4-Methyl-2-pentanone	< 50.0	ug/L		6/29/2015 18:19
Acetone	< 100	ug/L		6/29/2015 18:19
Benzene	< 10.0	ug/L		6/29/2015 18:19
Bromochloromethane	< 50.0	ug/L		6/29/2015 18:19
Bromodichloromethane	< 20.0	ug/L		6/29/2015 18:19
Bromoform	< 50.0	ug/L		6/29/2015 18:19
Bromomethane	< 20.0	ug/L		6/29/2015 18:19
Carbon disulfide	< 20.0	ug/L		6/29/2015 18:19
Carbon Tetrachloride	< 20.0	ug/L		6/29/2015 18:19
Chlorobenzene	< 20.0	ug/L		6/29/2015 18:19
Chloroethane	< 20.0	ug/L		6/29/2015 18:19
Chloroform	< 20.0	ug/L		6/29/2015 18:19

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Client: Stantec

Project Reference: Ward St 190500014

Sample Identifier: 828-MW-23-GW

Lab Sample ID: 152493-02

Date Sampled: 6/17/2015

Matrix: Groundwater

Date Received: 6/18/2015

Chloromethane	< 20.0	ug/L	6/29/2015	18:19
cis-1,2-Dichloroethene	1040	ug/L	6/29/2015	18:19
cis-1,3-Dichloropropene	< 20.0	ug/L	6/29/2015	18:19
Cyclohexane	< 100	ug/L	6/29/2015	18:19
Dibromochloromethane	< 20.0	ug/L	6/29/2015	18:19
Dichlorodifluoromethane	< 20.0	ug/L	6/29/2015	18:19
Ethylbenzene	< 20.0	ug/L	6/29/2015	18:19
Freon 113	< 20.0	ug/L	6/29/2015	18:19
Isopropylbenzene	< 20.0	ug/L	6/29/2015	18:19
m,p-Xylene	< 20.0	ug/L	6/29/2015	18:19
Methyl acetate	< 20.0	ug/L	6/29/2015	18:19
Methyl tert-butyl Ether	< 20.0	ug/L	6/29/2015	18:19
Methylcyclohexane	< 20.0	ug/L	6/29/2015	18:19
Methylene chloride	< 50.0	ug/L	6/29/2015	18:19
o-Xylene	< 20.0	ug/L	6/29/2015	18:19
Styrene	< 50.0	ug/L	6/29/2015	18:19
Tetrachloroethene	663	ug/L	6/29/2015	18:19
Toluene	< 20.0	ug/L	6/29/2015	18:19
trans-1,2-Dichloroethene	< 20.0	ug/L	6/29/2015	18:19
trans-1,3-Dichloropropene	< 20.0	ug/L	6/29/2015	18:19
Trichloroethene	251	ug/L	6/29/2015	18:19
Trichlorofluoromethane	< 20.0	ug/L	6/29/2015	18:19
Vinyl chloride	73.3	ug/L	6/29/2015	18:19

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	122	82.3 - 115	*	6/29/2015 18:19
4-Bromofluorobenzene	87.5	85.5 - 111		6/29/2015 18:19
Pentafluorobenzene	101	91.2 - 107		6/29/2015 18:19
Toluene-D8	94.5	90.9 - 108		6/29/2015 18:19

Method Reference(s): EPA 8260C
EPA 5030
Data File: x24198.D



Client: Stantec
Project Reference: Ward St 190500014

Sample Identifier: 828-MW-23-GW
Lab Sample ID: 152493-02
Matrix: Groundwater

Date Sampled: 6/17/2015
Date Received: 6/18/2015

Total Organic Carbon

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Total Organic Carbon	3.5	mg/L		6/29/2015
Method Reference(s):	SM 5310 C			
Subcontractor ELAP ID:	10709			



Client: Stantec
Project Reference: Ward St 190500014

Sample Identifier: 828-MW-16-GW
Lab Sample ID: 152493-03
Matrix: Groundwater

Date Sampled: 6/17/2015
Date Received: 6/18/2015

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		6/29/2015 18:43
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		6/29/2015 18:43
1,1,2-Trichloroethane	< 2.00	ug/L		6/29/2015 18:43
1,1-Dichloroethane	< 2.00	ug/L		6/29/2015 18:43
1,1-Dichloroethene	< 2.00	ug/L		6/29/2015 18:43
1,2,3-Trichlorobenzene	< 5.00	ug/L		6/29/2015 18:43
1,2,4-Trichlorobenzene	< 5.00	ug/L		6/29/2015 18:43
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		6/29/2015 18:43
1,2-Dibromoethane	< 2.00	ug/L		6/29/2015 18:43
1,2-Dichlorobenzene	< 2.00	ug/L		6/29/2015 18:43
1,2-Dichloroethane	< 2.00	ug/L		6/29/2015 18:43
1,2-Dichloropropane	< 2.00	ug/L		6/29/2015 18:43
1,3-Dichlorobenzene	< 2.00	ug/L		6/29/2015 18:43
1,4-Dichlorobenzene	< 2.00	ug/L		6/29/2015 18:43
1,4-dioxane	< 20.0	ug/L		6/29/2015 18:43
2-Butanone	< 10.0	ug/L		6/29/2015 18:43
2-Hexanone	< 5.00	ug/L		6/29/2015 18:43
4-Methyl-2-pentanone	< 5.00	ug/L		6/29/2015 18:43
Acetone	< 10.0	ug/L		6/29/2015 18:43
Benzene	< 1.00	ug/L		6/29/2015 18:43
Bromochloromethane	< 5.00	ug/L		6/29/2015 18:43
Bromodichloromethane	< 2.00	ug/L		6/29/2015 18:43
Bromoform	< 5.00	ug/L		6/29/2015 18:43
Bromomethane	< 2.00	ug/L		6/29/2015 18:43
Carbon disulfide	< 2.00	ug/L		6/29/2015 18:43
Carbon Tetrachloride	< 2.00	ug/L		6/29/2015 18:43
Chlorobenzene	< 2.00	ug/L		6/29/2015 18:43
Chloroethane	< 2.00	ug/L		6/29/2015 18:43
Chloroform	< 2.00	ug/L		6/29/2015 18:43

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Client: Stantec
Project Reference: Ward St 190500014

Sample Identifier: 828-MW-16-GW
Lab Sample ID: 152493-03 **Date Sampled:** 6/17/2015
Matrix: Groundwater **Date Received:** 6/18/2015

Chloromethane	< 2.00	ug/L	6/29/2015 18:43
cis-1,2-Dichloroethene	165	ug/L	6/29/2015 18:43
cis-1,3-Dichloropropene	< 2.00	ug/L	6/29/2015 18:43
Cyclohexane	< 10.0	ug/L	6/29/2015 18:43
Dibromochloromethane	< 2.00	ug/L	6/29/2015 18:43
Dichlorodifluoromethane	< 2.00	ug/L	6/29/2015 18:43
Ethylbenzene	< 2.00	ug/L	6/29/2015 18:43
Freon 113	< 2.00	ug/L	6/29/2015 18:43
Isopropylbenzene	< 2.00	ug/L	6/29/2015 18:43
m,p-Xylene	< 2.00	ug/L	6/29/2015 18:43
Methyl acetate	< 2.00	ug/L	6/29/2015 18:43
Methyl tert-butyl Ether	< 2.00	ug/L	6/29/2015 18:43
Methylcyclohexane	< 2.00	ug/L	6/29/2015 18:43
Methylene chloride	< 5.00	ug/L	6/29/2015 18:43
o-Xylene	< 2.00	ug/L	6/29/2015 18:43
Styrene	< 5.00	ug/L	6/29/2015 18:43
Tetrachloroethene	< 2.00	ug/L	6/29/2015 18:43
Toluene	< 2.00	ug/L	6/29/2015 18:43
trans-1,2-Dichloroethene	8.33	ug/L	6/29/2015 18:43
trans-1,3-Dichloropropene	< 2.00	ug/L	6/29/2015 18:43
Trichloroethene	< 2.00	ug/L	6/29/2015 18:43
Trichlorofluoromethane	< 2.00	ug/L	6/29/2015 18:43
Vinyl chloride	140	ug/L	6/29/2015 18:43

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	123	82.3 - 115	*	6/29/2015 18:43
4-Bromofluorobenzene	89.6	85.5 - 111		6/29/2015 18:43
Pentafluorobenzene	101	91.2 - 107		6/29/2015 18:43
Toluene-D8	91.8	90.9 - 108		6/29/2015 18:43

Method Reference(s): EPA 8260C
EPA 5030
Data File: x24199.D



Client: Stantec
Project Reference: Ward St 190500014

Sample Identifier: 828-MW-16-GW
Lab Sample ID: 152493-03
Matrix: Groundwater

Date Sampled: 6/17/2015
Date Received: 6/18/2015

Total Organic Carbon

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Total Organic Carbon	15	mg/L		6/29/2015
Method Reference(s):	SM 5310 C			
Subcontractor ELAP ID:	10709			



Client: Stantec
Project Reference: Ward St 190500014

Sample Identifier: TRIP-06172015, T-633
Lab Sample ID: 152493-04
Matrix: Water

Date Sampled: 6/17/2015
Date Received: 6/18/2015

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		6/29/2015 17:32
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		6/29/2015 17:32
1,1,2-Trichloroethane	< 2.00	ug/L		6/29/2015 17:32
1,1-Dichloroethane	< 2.00	ug/L		6/29/2015 17:32
1,1-Dichloroethene	< 2.00	ug/L		6/29/2015 17:32
1,2,3-Trichlorobenzene	< 5.00	ug/L		6/29/2015 17:32
1,2,4-Trichlorobenzene	< 5.00	ug/L		6/29/2015 17:32
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		6/29/2015 17:32
1,2-Dibromoethane	< 2.00	ug/L		6/29/2015 17:32
1,2-Dichlorobenzene	< 2.00	ug/L		6/29/2015 17:32
1,2-Dichloroethane	< 2.00	ug/L		6/29/2015 17:32
1,2-Dichloropropane	< 2.00	ug/L		6/29/2015 17:32
1,3-Dichlorobenzene	< 2.00	ug/L		6/29/2015 17:32
1,4-Dichlorobenzene	< 2.00	ug/L		6/29/2015 17:32
1,4-dioxane	< 20.0	ug/L		6/29/2015 17:32
2-Butanone	< 10.0	ug/L		6/29/2015 17:32
2-Hexanone	< 5.00	ug/L		6/29/2015 17:32
4-Methyl-2-pentanone	< 5.00	ug/L		6/29/2015 17:32
Acetone	< 10.0	ug/L		6/29/2015 17:32
Benzene	< 1.00	ug/L		6/29/2015 17:32
Bromochloromethane	< 5.00	ug/L		6/29/2015 17:32
Bromodichloromethane	< 2.00	ug/L		6/29/2015 17:32
Bromoform	< 5.00	ug/L		6/29/2015 17:32
Bromomethane	< 2.00	ug/L		6/29/2015 17:32
Carbon disulfide	< 2.00	ug/L		6/29/2015 17:32
Carbon Tetrachloride	< 2.00	ug/L		6/29/2015 17:32
Chlorobenzene	< 2.00	ug/L		6/29/2015 17:32
Chloroethane	< 2.00	ug/L		6/29/2015 17:32
Chloroform	< 2.00	ug/L		6/29/2015 17:32

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Client: Stantec

Project Reference: Ward St 190500014

Sample Identifier: TRIP-06172015, T-633

Lab Sample ID: 152493-04

Date Sampled: 6/17/2015

Matrix: Water

Date Received: 6/18/2015

Chloromethane	< 2.00	ug/L	6/29/2015 17:32
cis-1,2-Dichloroethene	< 2.00	ug/L	6/29/2015 17:32
cis-1,3-Dichloropropene	< 2.00	ug/L	6/29/2015 17:32
Cyclohexane	< 10.0	ug/L	6/29/2015 17:32
Dibromochloromethane	< 2.00	ug/L	6/29/2015 17:32
Dichlorodifluoromethane	< 2.00	ug/L	6/29/2015 17:32
Ethylbenzene	< 2.00	ug/L	6/29/2015 17:32
Freon 113	< 2.00	ug/L	6/29/2015 17:32
Isopropylbenzene	< 2.00	ug/L	6/29/2015 17:32
m,p-Xylene	< 2.00	ug/L	6/29/2015 17:32
Methyl acetate	< 2.00	ug/L	6/29/2015 17:32
Methyl tert-butyl Ether	< 2.00	ug/L	6/29/2015 17:32
Methylcyclohexane	< 2.00	ug/L	6/29/2015 17:32
Methylene chloride	< 5.00	ug/L	6/29/2015 17:32
o-Xylene	< 2.00	ug/L	6/29/2015 17:32
Styrene	< 5.00	ug/L	6/29/2015 17:32
Tetrachloroethene	< 2.00	ug/L	6/29/2015 17:32
Toluene	< 2.00	ug/L	6/29/2015 17:32
trans-1,2-Dichloroethene	< 2.00	ug/L	6/29/2015 17:32
trans-1,3-Dichloropropene	< 2.00	ug/L	6/29/2015 17:32
Trichloroethene	< 2.00	ug/L	6/29/2015 17:32
Trichlorofluoromethane	< 2.00	ug/L	6/29/2015 17:32
Vinyl chloride	< 2.00	ug/L	6/29/2015 17:32

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	119	82.3 - 115	*	6/29/2015 17:32
4-Bromofluorobenzene	88.0	85.5 - 111		6/29/2015 17:32
Pentafluorobenzene	97.2	91.2 - 107		6/29/2015 17:32
Toluene-D8	94.0	90.9 - 108		6/29/2015 17:32

Method Reference(s): EPA 8260C
EPA 5030
Data File: x24196.D



Client: Stantec
Project Reference: Ward St 190500014

Sample Identifier: 828-MW-16R-GW
Lab Sample ID: 152493-05 **Date Sampled:** 6/18/2015
Matrix: Groundwater **Date Received:** 6/18/2015

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 20.0	ug/L		6/29/2015 19:06
1,1,2,2-Tetrachloroethane	< 20.0	ug/L		6/29/2015 19:06
1,1,2-Trichloroethane	< 20.0	ug/L		6/29/2015 19:06
1,1-Dichloroethane	< 20.0	ug/L		6/29/2015 19:06
1,1-Dichloroethene	< 20.0	ug/L		6/29/2015 19:06
1,2,3-Trichlorobenzene	< 50.0	ug/L		6/29/2015 19:06
1,2,4-Trichlorobenzene	< 50.0	ug/L		6/29/2015 19:06
1,2-Dibromo-3-Chloropropane	< 100	ug/L		6/29/2015 19:06
1,2-Dibromoethane	< 20.0	ug/L		6/29/2015 19:06
1,2-Dichlorobenzene	< 20.0	ug/L		6/29/2015 19:06
1,2-Dichloroethane	< 20.0	ug/L		6/29/2015 19:06
1,2-Dichloropropane	< 20.0	ug/L		6/29/2015 19:06
1,3-Dichlorobenzene	< 20.0	ug/L		6/29/2015 19:06
1,4-Dichlorobenzene	< 20.0	ug/L		6/29/2015 19:06
1,4-dioxane	< 200	ug/L		6/29/2015 19:06
2-Butanone	< 100	ug/L		6/29/2015 19:06
2-Hexanone	< 50.0	ug/L		6/29/2015 19:06
4-Methyl-2-pentanone	< 50.0	ug/L		6/29/2015 19:06
Acetone	< 100	ug/L		6/29/2015 19:06
Benzene	< 10.0	ug/L		6/29/2015 19:06
Bromochloromethane	< 50.0	ug/L		6/29/2015 19:06
Bromodichloromethane	< 20.0	ug/L		6/29/2015 19:06
Bromoform	< 50.0	ug/L		6/29/2015 19:06
Bromomethane	< 20.0	ug/L		6/29/2015 19:06
Carbon disulfide	< 20.0	ug/L		6/29/2015 19:06
Carbon Tetrachloride	< 20.0	ug/L		6/29/2015 19:06
Chlorobenzene	< 20.0	ug/L		6/29/2015 19:06
Chloroethane	< 20.0	ug/L		6/29/2015 19:06
Chloroform	< 20.0	ug/L		6/29/2015 19:06

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Client: Stantec

Project Reference: Ward St 190500014

Sample Identifier: 828-MW-16R-GW

Lab Sample ID: 152493-05

Date Sampled: 6/18/2015

Matrix: Groundwater

Date Received: 6/18/2015

Chloromethane	< 20.0	ug/L	6/29/2015	19:06
cis-1,2-Dichloroethene	1520	ug/L	6/29/2015	19:06
cis-1,3-Dichloropropene	< 20.0	ug/L	6/29/2015	19:06
Cyclohexane	< 100	ug/L	6/29/2015	19:06
Dibromochloromethane	< 20.0	ug/L	6/29/2015	19:06
Dichlorodifluoromethane	< 20.0	ug/L	6/29/2015	19:06
Ethylbenzene	< 20.0	ug/L	6/29/2015	19:06
Freon 113	< 20.0	ug/L	6/29/2015	19:06
Isopropylbenzene	< 20.0	ug/L	6/29/2015	19:06
m,p-Xylene	< 20.0	ug/L	6/29/2015	19:06
Methyl acetate	< 20.0	ug/L	6/29/2015	19:06
Methyl tert-butyl Ether	< 20.0	ug/L	6/29/2015	19:06
Methylcyclohexane	< 20.0	ug/L	6/29/2015	19:06
Methylene chloride	< 50.0	ug/L	6/29/2015	19:06
o-Xylene	< 20.0	ug/L	6/29/2015	19:06
Styrene	< 50.0	ug/L	6/29/2015	19:06
Tetrachloroethene	694	ug/L	6/29/2015	19:06
Toluene	< 20.0	ug/L	6/29/2015	19:06
trans-1,2-Dichloroethene	36.0	ug/L	6/29/2015	19:06
trans-1,3-Dichloropropene	< 20.0	ug/L	6/29/2015	19:06
Trichloroethene	350	ug/L	6/29/2015	19:06
Trichlorofluoromethane	< 20.0	ug/L	6/29/2015	19:06
Vinyl chloride	537	ug/L	6/29/2015	19:06

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	120	82.3 - 115	*	6/29/2015 19:06
4-Bromofluorobenzene	85.7	85.5 - 111		6/29/2015 19:06
Pentafluorobenzene	99.9	91.2 - 107		6/29/2015 19:06
Toluene-D8	93.4	90.9 - 108		6/29/2015 19:06

Method Reference(s): EPA 8260C
EPA 5030
Data File: x24200.D



Client: Stantec
Project Reference: Ward St 190500014

Sample Identifier: 828-MW-16R-GW
Lab Sample ID: 152493-05
Matrix: Groundwater

Date Sampled: 6/18/2015
Date Received: 6/18/2015

Total Organic Carbon

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Total Organic Carbon	3.9	mg/L		6/29/2015
Method Reference(s):	SM 5310 C			
Subcontractor ELAP ID:	10709			



Client: Stantec
Project Reference: Ward St 190500014

Sample Identifier: WSR-MW-207R-GW
Lab Sample ID: 152493-06 **Date Sampled:** 6/18/2015
Matrix: Groundwater **Date Received:** 6/18/2015

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 40.0	ug/L		6/29/2015 19:29
1,1,2,2-Tetrachloroethane	< 40.0	ug/L		6/29/2015 19:29
1,1,2-Trichloroethane	< 40.0	ug/L		6/29/2015 19:29
1,1-Dichloroethane	< 40.0	ug/L		6/29/2015 19:29
1,1-Dichloroethene	< 40.0	ug/L		6/29/2015 19:29
1,2,3-Trichlorobenzene	< 100	ug/L		6/29/2015 19:29
1,2,4-Trichlorobenzene	< 100	ug/L		6/29/2015 19:29
1,2-Dibromo-3-Chloropropane	< 200	ug/L		6/29/2015 19:29
1,2-Dibromoethane	< 40.0	ug/L		6/29/2015 19:29
1,2-Dichlorobenzene	< 40.0	ug/L		6/29/2015 19:29
1,2-Dichloroethane	< 40.0	ug/L		6/29/2015 19:29
1,2-Dichloropropane	< 40.0	ug/L		6/29/2015 19:29
1,3-Dichlorobenzene	< 40.0	ug/L		6/29/2015 19:29
1,4-Dichlorobenzene	< 40.0	ug/L		6/29/2015 19:29
1,4-dioxane	< 400	ug/L		6/29/2015 19:29
2-Butanone	< 200	ug/L		6/29/2015 19:29
2-Hexanone	< 100	ug/L		6/29/2015 19:29
4-Methyl-2-pentanone	< 100	ug/L		6/29/2015 19:29
Acetone	< 200	ug/L		6/29/2015 19:29
Benzene	< 20.0	ug/L		6/29/2015 19:29
Bromochloromethane	< 100	ug/L		6/29/2015 19:29
Bromodichloromethane	< 40.0	ug/L		6/29/2015 19:29
Bromoform	< 100	ug/L		6/29/2015 19:29
Bromomethane	< 40.0	ug/L		6/29/2015 19:29
Carbon disulfide	< 40.0	ug/L		6/29/2015 19:29
Carbon Tetrachloride	< 40.0	ug/L		6/29/2015 19:29
Chlorobenzene	< 40.0	ug/L		6/29/2015 19:29
Chloroethane	< 40.0	ug/L		6/29/2015 19:29
Chloroform	< 40.0	ug/L		6/29/2015 19:29

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Client: Stantec

Project Reference: Ward St 190500014

Sample Identifier: WSR-MW-207R-GW

Lab Sample ID: 152493-06

Date Sampled: 6/18/2015

Matrix: Groundwater

Date Received: 6/18/2015

Chloromethane	< 40.0	ug/L		6/29/2015 19:29
cis-1,2-Dichloroethene	537	ug/L		6/29/2015 19:29
cis-1,3-Dichloropropene	< 40.0	ug/L		6/29/2015 19:29
Cyclohexane	< 200	ug/L		6/29/2015 19:29
Dibromochloromethane	< 40.0	ug/L		6/29/2015 19:29
Dichlorodifluoromethane	< 40.0	ug/L		6/29/2015 19:29
Ethylbenzene	< 40.0	ug/L		6/29/2015 19:29
Freon 113	< 40.0	ug/L		6/29/2015 19:29
Isopropylbenzene	< 40.0	ug/L		6/29/2015 19:29
m,p-Xylene	< 40.0	ug/L		6/29/2015 19:29
Methyl acetate	< 40.0	ug/L		6/29/2015 19:29
Methyl tert-butyl Ether	< 40.0	ug/L		6/29/2015 19:29
Methylcyclohexane	< 40.0	ug/L		6/29/2015 19:29
Methylene chloride	< 100	ug/L		6/29/2015 19:29
o-Xylene	< 40.0	ug/L		6/29/2015 19:29
Styrene	< 100	ug/L		6/29/2015 19:29
Tetrachloroethene	< 40.0	ug/L		6/29/2015 19:29
Toluene	< 40.0	ug/L		6/29/2015 19:29
trans-1,2-Dichloroethene	< 40.0	ug/L		6/29/2015 19:29
trans-1,3-Dichloropropene	< 40.0	ug/L		6/29/2015 19:29
Trichloroethene	20.5	ug/L	J	6/29/2015 19:29
Trichlorofluoromethane	< 40.0	ug/L		6/29/2015 19:29
Vinyl chloride	829	ug/L		6/29/2015 19:29

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	119	82.3 - 115	*	6/29/2015 19:29
4-Bromofluorobenzene	88.1	85.5 - 111		6/29/2015 19:29
Pentafluorobenzene	98.6	91.2 - 107		6/29/2015 19:29
Toluene-D8	93.8	90.9 - 108		6/29/2015 19:29

Method Reference(s): EPA 8260C
EPA 5030
Data File: x24201.D



Client: Stantec

Project Reference: Ward St 190500014

Sample Identifier: WSR-MW-207R-GW

Lab Sample ID: 152493-06

Date Sampled: 6/18/2015

Matrix: Groundwater

Date Received: 6/18/2015

Total Organic Carbon

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Total Organic Carbon	4.1	mg/L		6/29/2015
Method Reference(s):	SM 5310 C			
Subcontractor ELAP ID:	10709			



Client: Stantec
Project Reference: Ward St 190500014

Sample Identifier: WSR-MW-105-GW
Lab Sample ID: 152493-07 **Date Sampled:** 6/18/2015
Matrix: Groundwater **Date Received:** 6/18/2015

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		6/29/2015 19:53
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		6/29/2015 19:53
1,1,2-Trichloroethane	< 2.00	ug/L		6/29/2015 19:53
1,1-Dichloroethane	< 2.00	ug/L		6/29/2015 19:53
1,1-Dichloroethene	< 2.00	ug/L		6/29/2015 19:53
1,2,3-Trichlorobenzene	< 5.00	ug/L		6/29/2015 19:53
1,2,4-Trichlorobenzene	< 5.00	ug/L		6/29/2015 19:53
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		6/29/2015 19:53
1,2-Dibromoethane	< 2.00	ug/L		6/29/2015 19:53
1,2-Dichlorobenzene	< 2.00	ug/L		6/29/2015 19:53
1,2-Dichloroethane	< 2.00	ug/L		6/29/2015 19:53
1,2-Dichloropropane	< 2.00	ug/L		6/29/2015 19:53
1,3-Dichlorobenzene	< 2.00	ug/L		6/29/2015 19:53
1,4-Dichlorobenzene	< 2.00	ug/L		6/29/2015 19:53
1,4-dioxane	< 20.0	ug/L		6/29/2015 19:53
2-Butanone	< 10.0	ug/L		6/29/2015 19:53
2-Hexanone	< 5.00	ug/L		6/29/2015 19:53
4-Methyl-2-pentanone	< 5.00	ug/L		6/29/2015 19:53
Acetone	< 10.0	ug/L		6/29/2015 19:53
Benzene	< 1.00	ug/L		6/29/2015 19:53
Bromochloromethane	< 5.00	ug/L		6/29/2015 19:53
Bromodichloromethane	< 2.00	ug/L		6/29/2015 19:53
Bromoform	< 5.00	ug/L		6/29/2015 19:53
Bromomethane	< 2.00	ug/L		6/29/2015 19:53
Carbon disulfide	< 2.00	ug/L		6/29/2015 19:53
Carbon Tetrachloride	< 2.00	ug/L		6/29/2015 19:53
Chlorobenzene	< 2.00	ug/L		6/29/2015 19:53
Chloroethane	< 2.00	ug/L		6/29/2015 19:53
Chloroform	< 2.00	ug/L		6/29/2015 19:53

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Client: Stantec

Project Reference: Ward St 190500014

Sample Identifier: WSR-MW-105-GW

Lab Sample ID: 152493-07

Date Sampled: 6/18/2015

Matrix: Groundwater

Date Received: 6/18/2015

Chloromethane	< 2.00	ug/L		6/29/2015 19:53
cis-1,2-Dichloroethene	111	ug/L		6/29/2015 19:53
cis-1,3-Dichloropropene	< 2.00	ug/L		6/29/2015 19:53
Cyclohexane	< 10.0	ug/L		6/29/2015 19:53
Dibromochloromethane	< 2.00	ug/L		6/29/2015 19:53
Dichlorodifluoromethane	< 2.00	ug/L		6/29/2015 19:53
Ethylbenzene	< 2.00	ug/L		6/29/2015 19:53
Freon 113	< 2.00	ug/L		6/29/2015 19:53
Isopropylbenzene	< 2.00	ug/L		6/29/2015 19:53
m,p-Xylene	< 2.00	ug/L		6/29/2015 19:53
Methyl acetate	< 2.00	ug/L		6/29/2015 19:53
Methyl tert-butyl Ether	< 2.00	ug/L		6/29/2015 19:53
Methylcyclohexane	< 2.00	ug/L		6/29/2015 19:53
Methylene chloride	< 5.00	ug/L		6/29/2015 19:53
o-Xylene	< 2.00	ug/L		6/29/2015 19:53
Styrene	< 5.00	ug/L		6/29/2015 19:53
Tetrachloroethene	1.38	ug/L	J	6/29/2015 19:53
Toluene	< 2.00	ug/L		6/29/2015 19:53
trans-1,2-Dichloroethene	130	ug/L		6/29/2015 19:53
trans-1,3-Dichloropropene	< 2.00	ug/L		6/29/2015 19:53
Trichloroethene	9.94	ug/L		6/29/2015 19:53
Trichlorofluoromethane	< 2.00	ug/L		6/29/2015 19:53
Vinyl chloride	48.5	ug/L		6/29/2015 19:53

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	127	82.3 - 115	*	6/29/2015 19:53
4-Bromofluorobenzene	86.0	85.5 - 111		6/29/2015 19:53
Pentafluorobenzene	100	91.2 - 107		6/29/2015 19:53
Toluene-D8	96.0	90.9 - 108		6/29/2015 19:53

Method Reference(s): EPA 8260C

EPA 5030

Data File: x24202.D



Client: Stantec
Project Reference: Ward St 190500014

Sample Identifier: WSR-MW-105-GW
Lab Sample ID: 152493-07
Matrix: Groundwater

Date Sampled: 6/18/2015
Date Received: 6/18/2015

Total Organic Carbon

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Total Organic Carbon	2.5	mg/L		6/29/2015
Method Reference(s):	SM 5310 C			
Subcontractor ELAP ID:	10709			



Client: Stantec
Project Reference: Ward St 190500014

Sample Identifier: WARD-DRUM1-61815
Lab Sample ID: 152493-08 **Date Sampled:** 6/18/2015
Matrix: Groundwater **Date Received:** 6/18/2015

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		6/29/2015 20:16
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		6/29/2015 20:16
1,1,2-Trichloroethane	< 2.00	ug/L		6/29/2015 20:16
1,1-Dichloroethane	< 2.00	ug/L		6/29/2015 20:16
1,1-Dichloroethene	< 2.00	ug/L		6/29/2015 20:16
1,2-Dichlorobenzene	< 2.00	ug/L		6/29/2015 20:16
1,2-Dichloroethane	< 2.00	ug/L		6/29/2015 20:16
1,2-Dichloropropane	< 2.00	ug/L		6/29/2015 20:16
1,3-Dichlorobenzene	< 2.00	ug/L		6/29/2015 20:16
1,4-Dichlorobenzene	< 2.00	ug/L		6/29/2015 20:16
2-Chloroethyl vinyl Ether	< 10.0	ug/L		6/29/2015 20:16
Benzene	< 1.00	ug/L		6/29/2015 20:16
Bromodichloromethane	< 2.00	ug/L		6/29/2015 20:16
Bromoform	< 5.00	ug/L		6/29/2015 20:16
Bromomethane	< 2.00	ug/L		6/29/2015 20:16
Carbon Tetrachloride	< 2.00	ug/L		6/29/2015 20:16
Chlorobenzene	< 2.00	ug/L		6/29/2015 20:16
Chloroethane	< 2.00	ug/L		6/29/2015 20:16
Chloroform	< 2.00	ug/L		6/29/2015 20:16
Chloromethane	< 2.00	ug/L		6/29/2015 20:16
cis-1,3-Dichloropropene	< 2.00	ug/L		6/29/2015 20:16
Dibromochloromethane	< 2.00	ug/L		6/29/2015 20:16
Ethylbenzene	< 2.00	ug/L		6/29/2015 20:16
Methylene chloride	< 5.00	ug/L		6/29/2015 20:16
Tetrachloroethene	177	ug/L		6/29/2015 20:16
Toluene	< 2.00	ug/L		6/29/2015 20:16
trans-1,2-Dichloroethene	6.75	ug/L		6/29/2015 20:16
trans-1,3-Dichloropropene	< 2.00	ug/L		6/29/2015 20:16
Trichloroethene	114	ug/L		6/29/2015 20:16

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Client: Stantec

Project Reference: Ward St 190500014

Sample Identifier: WARD-DRUM1-61815

Lab Sample ID: 152493-08

Date Sampled: 6/18/2015

Matrix: Groundwater

Date Received: 6/18/2015

Trichlorofluoromethane	< 2.00	ug/L	6/29/2015 20:16
Vinyl chloride	131	ug/L	6/29/2015 20:16

Method Reference(s): EPA 624
Data File: x24203.D



Method Blank Report

Client: Stantec
Project Reference: Ward St 190500014
Lab Project ID: 152493
SDG #: 2493-01
Matrix: Groundwater

Volatile Organics

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>	
1,1,1-Trichloroethane	<2.00	ug/L		6/29/2015	13:16
1,1,2,2-Tetrachloroethane	<2.00	ug/L		6/29/2015	13:16
1,1,2-Trichloroethane	<2.00	ug/L		6/29/2015	13:16
1,1-Dichloroethane	<2.00	ug/L		6/29/2015	13:16
1,1-Dichloroethene	<2.00	ug/L		6/29/2015	13:16
1,2,3-Trichlorobenzene	<5.00	ug/L		6/29/2015	13:16
1,2,4-Trichlorobenzene	<5.00	ug/L		6/29/2015	13:16
1,2-Dibromo-3-Chloropropane	<10.0	ug/L		6/29/2015	13:16
1,2-Dibromoethane	<2.00	ug/L		6/29/2015	13:16
1,2-Dichlorobenzene	<2.00	ug/L		6/29/2015	13:16
1,2-Dichloroethane	<2.00	ug/L		6/29/2015	13:16
1,2-Dichloropropane	<2.00	ug/L		6/29/2015	13:16
1,3-Dichlorobenzene	<2.00	ug/L		6/29/2015	13:16
1,4-Dichlorobenzene	<2.00	ug/L		6/29/2015	13:16
1,4-dioxane	<20.0	ug/L		6/29/2015	13:16
2-Butanone	<10.0	ug/L		6/29/2015	13:16
2-Hexanone	<5.00	ug/L		6/29/2015	13:16
4-Methyl-2-pentanone	<5.00	ug/L		6/29/2015	13:16
Acetone	<10.0	ug/L		6/29/2015	13:16
Benzene	<1.00	ug/L		6/29/2015	13:16
Bromochloromethane	<5.00	ug/L		6/29/2015	13:16
Bromodichloromethane	<2.00	ug/L		6/29/2015	13:16
Bromoform	<5.00	ug/L		6/29/2015	13:16
Bromomethane	<2.00	ug/L		6/29/2015	13:16
Carbon disulfide	<2.00	ug/L		6/29/2015	13:16
Carbon Tetrachloride	<2.00	ug/L		6/29/2015	13:16
Chlorobenzene	<2.00	ug/L		6/29/2015	13:16
Chloroethane	<2.00	ug/L		6/29/2015	13:16

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Method Blank Report

Client: Stantec
Project Reference: Ward St 190500014
Lab Project ID: 152493
SDG #: 2493-01
Matrix: Groundwater

Volatile Organics

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>	
Chloroform	<2.00	ug/L		6/29/2015	13:16
Chloromethane	<2.00	ug/L		6/29/2015	13:16
cis-1,2-Dichloroethene	<2.00	ug/L		6/29/2015	13:16
cis-1,3-Dichloropropene	<2.00	ug/L		6/29/2015	13:16
Cyclohexane	<10.0	ug/L		6/29/2015	13:16
Dibromochloromethane	<2.00	ug/L		6/29/2015	13:16
Dichlorodifluoromethane	<2.00	ug/L		6/29/2015	13:16
Ethylbenzene	<2.00	ug/L		6/29/2015	13:16
Freon 113	<2.00	ug/L		6/29/2015	13:16
Isopropylbenzene	<2.00	ug/L		6/29/2015	13:16
m,p-Xylene	<2.00	ug/L		6/29/2015	13:16
Methyl acetate	<2.00	ug/L		6/29/2015	13:16
Methyl tert-butyl Ether	<2.00	ug/L		6/29/2015	13:16
Methylcyclohexane	<2.00	ug/L		6/29/2015	13:16
Methylene chloride	<5.00	ug/L		6/29/2015	13:16
o-Xylene	<2.00	ug/L		6/29/2015	13:16
Styrene	<5.00	ug/L		6/29/2015	13:16
Tetrachloroethene	<2.00	ug/L		6/29/2015	13:16
Toluene	<2.00	ug/L		6/29/2015	13:16
trans-1,2-Dichloroethene	<2.00	ug/L		6/29/2015	13:16
trans-1,3-Dichloropropene	<2.00	ug/L		6/29/2015	13:16
Trichloroethene	<2.00	ug/L		6/29/2015	13:16
Trichlorofluoromethane	<2.00	ug/L		6/29/2015	13:16
Vinyl chloride	<2.00	ug/L		6/29/2015	13:16



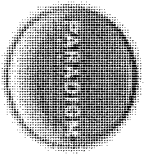
Method Blank Report

Client: Stantec
Project Reference: Ward St 190500014
Lab Project ID: 152493
SDG #: 2493-01
Matrix: Groundwater

Volatile Organics

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>	
<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>	
1,2-Dichloroethane-d4	96.0	82.3 - 115		6/29/2015	13:16
4-Bromofluorobenzene	93.2	85.5 - 111		6/29/2015	13:16
Pentafluorobenzene	95.4	91.2 - 107		6/29/2015	13:16
Toluene-D8	95.9	90.9 - 108		6/29/2015	13:16

Method Reference(s): EPA 8260C
 EPA 5030
Data File: x24185.D
QC Batch ID: voaw062915
QC Number: 1



QC Report for Laboratory Control Sample

Client: Stantec

Project Reference: Ward St 190500014

Lab Project ID: 152493

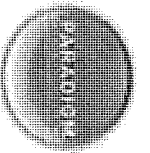
SDG #: 2493-01

Matrix: Groundwater

Volatile Organics

Analyte	Spike Added	Spike Units	LCS Result	LCS % Recovery	% Rec Limits	LCS Outliers	Date Analyzed
1,1,1-Trichloroethane	20.0	ug/L	19.3	96.7	77.9 - 120		6/29/2015
1,1,2,2-Tetrachloroethane	20.0	ug/L	18.9	94.5	81.7 - 119		6/29/2015
1,1,2-Trichloroethane	20.0	ug/L	18.0	89.9	79.6 - 115		6/29/2015
1,1-Dichloroethane	20.0	ug/L	18.9	94.6	84.5 - 114		6/29/2015
1,1-Dichloroethene	20.0	ug/L	19.7	98.7	71.3 - 125		6/29/2015
1,2-Dichlorobenzene	20.0	ug/L	19.8	98.9	82.6 - 119		6/29/2015
1,2-Dichloroethane	20.0	ug/L	17.8	89.0	79.7 - 120		6/29/2015
1,2-Dichloropropane	20.0	ug/L	18.6	92.8	84.5 - 114		6/29/2015
1,3-Dichlorobenzene	20.0	ug/L	18.6	92.9	77.8 - 115		6/29/2015
1,4-Dichlorobenzene	20.0	ug/L	18.6	93.2	76.7 - 114		6/29/2015
Benzene	20.0	ug/L	19.9	99.4	85.6 - 120		6/29/2015
Bromodichloromethane	20.0	ug/L	18.7	93.4	78.4 - 118		6/29/2015
Bromoform	20.0	ug/L	17.0	85.0	59.9 - 114		6/29/2015
Bromomethane	20.0	ug/L	19.4	96.9	59.1 - 170		6/29/2015
Carbon Tetrachloride	20.0	ug/L	19.7	98.7	71.9 - 124		6/29/2015

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QC Report for Laboratory Control Sample

Client: Stantec

Project Reference: Ward St 190500014

Lab Project ID: 152493

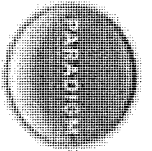
SDG #: 2493-01

Matrix: Groundwater

Volatile Organics

<u>Analyte</u>	<u>Spike Added</u>	<u>Spike Units</u>	<u>LCS Result</u>	<u>LCS % Recovery</u>	<u>% Rec Limits</u>	<u>LCS Outliers</u>	<u>Date Analyzed</u>
Chlorobenzene	20.0	ug/L	19.0	95.2	81.9 - 115		6/29/2015
Chloroethane	20.0	ug/L	20.1	101	74.1 - 134		6/29/2015
Chloroform	20.0	ug/L	19.1	95.5	84.1 - 117		6/29/2015
Chloromethane	20.0	ug/L	17.5	87.7	79.4 - 129		6/29/2015
cis-1,3-Dichloropropene	20.0	ug/L	21.1	105	89.6 - 123		6/29/2015
Dibromochloromethane	20.0	ug/L	18.5	92.3	64.8 - 121		6/29/2015
Ethylbenzene	20.0	ug/L	20.1	101	83.4 - 117		6/29/2015
Methylene chloride	20.0	ug/L	18.3	91.7	71.9 - 127		6/29/2015
Tetrachloroethene	20.0	ug/L	18.4	92.2	72.6 - 130		6/29/2015
Toluene	20.0	ug/L	19.4	97.2	84.3 - 117		6/29/2015
trans-1,2-Dichloroethene	20.0	ug/L	19.4	97.2	74.7 - 129		6/29/2015
trans-1,3-Dichloropropene	20.0	ug/L	19.8	98.8	68 - 118		6/29/2015
Trichloroethene	20.0	ug/L	19.9	99.5	84.1 - 117		6/29/2015
Trichlorofluoromethane	20.0	ug/L	19.2	95.8	72.2 - 133		6/29/2015
Vinyl chloride	20.0	ug/L	19.7	98.3	79.7 - 134		6/29/2015

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.



QC Report for Laboratory Control Sample

Client: Stantec

Project Reference: Ward St 190500014

Lab Project ID: 152493

SDG #: 2493-01

Matrix: Groundwater

Volatile Organics

Analyte	Method Reference(s):	EPA 8260C	EPA 5030	Spike Added	Spike Units	LCS Result	LCS % Recovery	% Rec Limits	LCS Outliers	Date Analyzed
	Data File:	x24184.D								
	QC Number:	1								
	QC Batch ID:	VOAW062915								

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Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.

"E" = Result has been estimated, calibration limit exceeded.

"Z" = See case narrative.

"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.

"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.

"B" = Method blank contained trace levels of analyte. Refer to included method blank report.

"J" = Result estimated between the quantitation limit and half the quantitation limit.

"L" = Laboratory Control Sample recovery outside accepted QC limits.

"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.

"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*

"(1)" = Indicates data from primary column used for QC calculation.

GENERAL TERMS AND CONDITIONS

LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, term or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

- Warranty.** Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.
- Scope and Compensation.** LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB will use LAB default method for all tests unless specified otherwise on the Work Order. Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.
- Prices.** Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.
- Limitations of Liability.** In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services. LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results. All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB. Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.
- Hazard Disclosure.** Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.
- Sample Handling.** Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises. Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on the final report. Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples. LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.
- Legal Responsibility.** LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.
- Assignment.** LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.
- Force Majeure.** LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.
- Law.** This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

CHAIN OF CUSTODY



PARADIGM

REPORT TO:

INVOICE TO:

LAB PROJECT ID

CLIENT: Stantec ADDRESS: 610 Commercial St. Suite 100 CITY: Rochester STATE: NY ZIP: 14614 PHONE: (585) 413-5266

CLIENT: Same ADDRESS: CITY: STATE: ZIP: PHONE:

PROJECT REFERENCE: WARD Street 190500014 ATTN: MIKE STORONSKY Matrix Codes: AQ - Aqueous Liquid WA - Water WG - Groundwater DW - Drinking Water SO - Soil SD - Solid WP - Wipe OL - Oil NQ - Non-Aqueous Liquid WG - Groundwater WW - Wastewater SL - Sludge PT - Paint CK - Caulk AR - Air

REQUESTED ANALYSIS: TCL VOCs (826) TOC (5310) VOCs (624)

ATTN: ANNEMANE GLOSE Email: MIKE.STORONSKY@STANTEC.COM

Quotation #: 152493

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRADES	SAMPLE IDENTIFIER	MATERIALS	CONTAINERS	TESTS	REMARKS	PARADIGM LAB SAMPLE NUMBER
6/17/15	1025	X		828 - MW - 23R - GW	WG	4	X	Per client, run HOLD sample	01
6/17/15	1520	X		828 - MW - 23 - GW	WG	4	X	For requested analysis. 6/23/15	02
6/17/15	1535	X		828 - MW - 16 - GW	WG	4	X		03
6/17/15	0900	X		TRIP - 06172015 T-633	WA	1	X		04
6/18/15	0800	X		828 - MW - 16R - GW	WG	4	X		05
6/18/15	0920	X		828 - MW - 207R - GW	WG	4	X		06
6/18/15	1055	X		MSR - MW - 105 - GW	WG	4	X		07
6/18/15	1115	X		WARD - DRUM 1 - 61815	WG	2	X	*on hold	08
6/18/15									

Turnaround Time
 Availability contingent upon lab approval; additional fees may apply.

Standard per MW Batch QC Basic EDD
 Rush 3 day per MW Category A NYSDEC EDD
 Rush 2 day Category B
 Rush 1 day
 Other Other EDD
 please indicate: Stantec

Report Supplements

Sampled By: [Signature] Date/Time: 6/18/2015 1200
 Relinquished By: [Signature] Date/Time: 6/18/2015 1355
 Received By: [Signature] Date/Time: 6/18/15 1501
 Received @ Lab By: [Signature] Date/Time:

Total Cost:

PLIF:

critical 6/18/15 1430hrs auto by 6/18/15 client retained

1072

2062

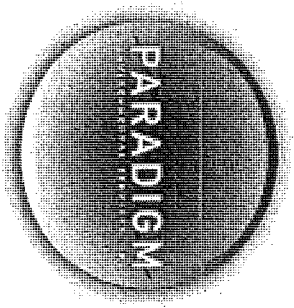


Chain of Custody Supplement

Client: Stantec Completed by: Molly Kail
 Lab Project ID: 152493 Date: 6/18/15

Sample Condition Requirements
 Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt		
	Yes	No	N/A
Container Type	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			
Transferred to method-compliant container	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Headspace (<1 mL)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			
Preservation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			
Chlorine Absent (<0.10 ppm per test strip)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comments			
Holding Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			
Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments	6°C iced 6/18/15 1430 custody seals N/A client delivered		
Sufficient Sample Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			



150619007

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

ADIRONDACK: ELAP ID: 10709

106

REPORT TO: **Paradigm Environmental** INVOICE TO: **Same**

COMPANY: **Paradigm Environmental** COMPANY: **Same**

ADDRESS: _____ ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____ CITY: _____ STATE: _____ ZIP: _____

PHONE: _____ FAX: _____ PHONE: _____ FAX: _____

ATTN: **Kate Hansen** ATTN: **Meridith Dillman**

COMMENTS: **Please email results to khansen@paradigmenv.com and reporting@paradigmenv.com**

LAB PROJECT #: _____ CLIENT PROJECT #: _____

TURNAROUND TIME: (WORKING DAYS) 1 2 3 5 OTHER

Date Due: **6/19/15 for data**

DATE	TIME	COMPOSITE	GRA B	SAMPLE LOCATION/FIELD ID	MATRIX	CONTAMINANTS	REQUESTED ANALYSIS	REMARKS	PARADIGM LAB SAMPLE NUMBER
10/17/15	1035			15-2493-01	GW	2	X	ASPC Cat 4 package Dist 7113	
2	1530							SOC checked	
3	1535							SW-546 HTS	
4	0815								
5	0920								
6	1055								
7									
8									
9									
10									

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

Receipt Parameter: **NEIAC Compliance**

Container Type: Y N

Preservation: Y N

Holding Time: Y N

Temperature: Y N

Client: **NY State**

Sampled By: **Michael** Date/Time: **6/18/15 1600**

Relinquished By: **Michael** Date/Time: **6/19/15 8:39am**

Received By: **Michael** Date/Time: **6/19/15 8:39am**

Received @ Lab By: **Michael** Date/Time: **6/19/15 8:39am**

Total Cost: _____ P.L.F.