# MEMORANDUM

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SMARTER ENVIRONMENTAL SOLUTIONS

**To:** Billy Meyer

**From:** Christie Zawtocki, PE
Greg Kanellis, PE

**Date:** August 19, 2016

**Project:** One Hour Martinizing Site, DSCA ID #DC320013
1103 W Club Blvd, Durham, NC

**Subject:** Project Update

Hart & Hickman, PC (H&H) is submitting this update regarding groundwater monitoring activities completed at the One Hour Martinizing site in July 2016. The groundwater monitoring was conducted approximately one year after completion of the July 2015 PlumeStop™ injection on the source property. A brief summary of the monitoring activities and results is provided below, and an updated project calendar is provided as Attachment A.

***Groundwater Sampling Activities and Results***

In July 2016, H&H completed a limited post-injection groundwater sampling event to evaluate site conditions approximately one year after the PlumeStop™ injection. Figure 1 depicts the PlumeStop™ injection locations. The goal of the PlumeStop™ injection was to address increasing PCE concentrations downgradient of the EHC injection area in the vicinity of monitoring well MW-4R and limit further migration of the plume.

The sampling activities were completed on July 13, 2016. To evaluate the effectiveness of the injection, groundwater samples were collected from the following locations:

- Source property: MW-3R, MW-4R, MW-24S
- North of source property: MW-11

The samples were analyzed for volatile organic compounds (VOCs), methane, ethane, ethene, and total organic carbon (TOC). Field measurements of dissolved oxygen (DO), oxidation-reduction potential (ORP), temperature, pH, and conductivity were also collected. In addition, H&H collected samples from MW-4R and MW-24S for analysis of RCRA metals. The VOC analytical results for the sampled monitoring wells are summarized in the attached Table 1, along with historical site data. The results for the other parameters are summarized in Table 2.

PCE Results

The primary constituent of concern at the site is the dry-cleaning solvent PCE, and the injection activities were targeted at this compound. Graphs of PCE concentration versus time are provided in Attachment B. Because of the limited number of monitoring wells sampled, PCE groundwater plume maps were not prepared. However, the results are shown on Figure 2 along with historical pre- and post-injection data.

Within and immediately downgradient of the PlumeStop™ injection area, substantial reductions in PCE concentrations have been observed. MW-4R (located immediately adjacent to the PlumeStop™ injection area) indicated a reduction in PCE from 3.29 mg/L in June 2015 (pre-injection) to non-detectable levels (<0.005 mg/L) in July 2016 (one year post-injection). PCE concentrations in downgradient well MW-24S have also been reduced non-detectable levels (<0.0005 mg/L) compared to a pre-injection concentration of 0.435 mg/L (June 2015).

Outside of the PlumeStop™ injection area, post-injection PCE concentrations in MW-3 (cross-gradient) and MW-11 (downgradient) have generally been stable with detected concentrations generally within the range of historical data.

PCE Degradation Products

The PlumeStop™ injection was designed to quickly reduce concentrations of PCE through sorption and also promote long-term biodegradation. The degradation processes stimulated by the injection activities can result in temporary increases in trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride (VC), as the PCE is degraded to the eventual end products of ethene and ethane. Concentrations of these PCE degradation products are expected to decrease in the injection areas as further degradation occurs. Graphs depicting concentrations of PCE and its degradation products in the injection area monitoring wells are provided in Attachment B.

In the PlumeStop™ injection area, concentrations of PCE degradation products have generally decreased. In monitoring well MW-4R, notable reductions in TCE, cis-1,2-DCE, and VC have been observed compared to pre-injection levels with only cis-1,2-DCE (0.10 mg/L) and VC (0.079 mg/L) detected during the July 2016 sampling event. Only a low detection (0.00086 mg/L) of cis-1,2-DCE was observed in MW-24S in July 2016. Concentrations of PCE degradation products are expected to continue to decrease in the injection areas as further degradation occurs. Ethene and ethane were detected in injection area monitoring well MW-4R confirming that complete biodegradation is occurring.

Outside of the PlumeStop™ injection area, concentrations of PCE degradation products have benerally remained stable in downgradient monitoring well MW-11. Consistent with previous sampling events, there were no degradation products detected in cross-gradient monitoring well MW-3R.

Acetone and MEK

Short-term increases in acetone and/or 2-butanone (MEK) are commonly observed after injection of bioremediation products, such as HRC (which was injected as part of the PlumeStop™

injection). These constituents are produced during fermentation of the organic carbon matter in the HRC material. During the July 2016 sampling event, acetone and MEK were detected in source property monitoring well MW-4R at concentrations of 9.9 mg/L and 0.076 mg/L, respectively. Similar increases were observed after placement of the Daramend material in the excavation and after the EHC injection. Concentrations of acetone and MEK are expected to substantially decrease over time.

Geochemical Parameters

The analytical results for the geochemical parameters are summarized in Table 2, and graphs are provided in Attachment B. Organic carbon (HRC) was injected as part of the PlumeStop™ injection and is designed to promote biodegradation of PCE, similar to the EHC injection. Increases in TOC indicate good distribution of the injected materials in the subsurface. Decreases in DO and ORP and increases in methane are indicative of anaerobic conditions favorable for PCE biodegradation.

As shown in Table 2, injection area monitoring well MW-4R indicated high concentrations of TOC in July 2016 confirming the injected organic carbon material remains in the subsurface. TOC concentrations in downgradient monitoring well MW-24S remain elevated compared to pre-injection levels confirming the presence of organic carbon material at this location. As expected, TOC concentrations have not increased in cross-gradient monitoring well MW-3R and downgradient monitoring well MW-11.

DO concentrations in MW-4R (0.27 mg/L) and MW-24S (0.27 mg/L) are indicative of anaerobic conditions favorable for continued degradation of PCE and its degradation products. In the July 2016 sampling event, methane concentrations remained elevated in MW-4R and increased in MW-24S, further confirming that anaerobic conditions favorable for PCE degradation remain in the PlumeStop™ injection area.

In summary, the post-injection sampling results indicate that the PlumeStop™ materials were effectively distributed throughout the target injection areas, conditions favorable for degradation of PCE were created, and substantial reductions in PCE concentrations have been observed in several monitoring wells. One year after injection of the PlumeStop™, notable reductions in PCE have been achieved and conditions favorable for PCE degradation have been observed. Additional monitoring will further evaluate the effectiveness of the injections.

***Future Sampling Activities***

The following additional sampling activities are planned through January 2017, as shown in the calendar in Attachment A.

Groundwater

The monitoring requirements associated with the UIC permit for the injection activities have been fulfilled. The current groundwater monitoring plan includes semi-annual sampling for the more recent PlumeStop™ injection and annual sampling for the EHC injection area. The next sampling event will be completed in January 2017.

During the January 2017 event, samples will be collected from the following monitoring wells:

- Source property: MW-3R, MW-4R, MW-22S, MW-23S, MW-24S
- North of source property: MW-11
- South of source property: MW-15S, MW-18
- East of source property: MW-14S, MW-16S

Samples from all of the wells will be analyzed for VOCs and will be field measured for DO, ORP, temperature, pH, and conductivity: In addition, samples from MW-4R, MW-15S, MW-22S, MW-23S, and MW-24S will be analyzed for methane, ethane, and ethene, and samples from MW-4R and MW-24S will be analyzed for RCRA metals.

# TABLES

**Table 1: Analytical Data for Groundwater** **ADT 1**

**DSCA ID No.: DC320013**

| Groundwater Sampling Point | Sampling Date (mm/dd/yy) | Benzene | cis-1,2-Dichloroethylene | Ethylbenzene | Methyl tert-butyl ether (MTBE) | Naphthalene | Tetrachloroethylene | Toluene | trans-1,2-Dichloroethylene | Trichloroethylene | Vinyl chloride | Xylenes (total) | 1,2-Dichloroethane | 1,1,1-Trichloroethane | 1,1,2,2-Tetrachloroethane | 1,1,2-Trichloroethane | 1,1-Dichloroethylene | Acetone | Chloroform | 2-Butanone (MEK) | Bromodichloromethane |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | [mg/L] | | | | | | | | | | | | | | | | | | | |
| MW-3 | 10/14/93 | N/A | N/A | N/A | N/A | N/A | **0.095** | N/A | N/A | BDL | N/A | N/A | BDL | N/A | BDL | BDL | N/A | N/A | BDL | N/A | N/A |
| MW-3R | 05/31/07 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | <0.001 | <0.005 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.05 | <0.005 | <0.01 | <0.001 |
| | 01/08/08 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.063** | <0.005 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.05 | <0.005 | <0.01 | <0.001 |
| | 02/24/09 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.019** | <0.005 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.05 | <0.005 | <0.01 | <0.001 |
| | 05/15/09 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.018** | <0.005 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.05 | <0.005 | <0.01 | <0.001 |
| | 08/04/09 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | **0.0166** | <0.001 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.025 | <0.001 | <0.005 | <0.001 |
| | 05/18/12 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.019** | <0.005 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.05 | <0.005 | <0.01 | <0.001 |
| | 08/20/13 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.00762** | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | <0.001 | <0.050 | <0.001 |
| | 12/16/13 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.00711** | <0.001 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | <0.001 | <0.050 | <0.001 |
| | 02/26/14 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.0104** | <0.001 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.00105** | <0.050 | <0.001 |
| | 03/28/14 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.00968** | <0.001 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.025 | <0.001 | <0.050 | <0.001 |
| | 04/25/14 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.00551** | <0.001 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.025 | <0.001 | <0.050 | <0.001 |
| | 07/09/14 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.00559** | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.025 | <0.001 | <0.050 | <0.001 |
| | 10/08/14 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.00498** | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.025 | <0.001 | <0.050 | <0.001 |
| | 01/06/15 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.00235** | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.025 | <0.001 | <0.050 | <0.001 |
| | 04/20/15 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.00447** | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.025 | <0.001 | <0.050 | <0.001 |
| | 06/12/15 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.00570** | <0.001 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.025 | <0.001 | <0.050 | <0.001 |
| | 07/06/15 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.00498** | <0.001 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.025 | <0.001 | <0.050 | <0.001 |
| | 08/27/15 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.00593** | <0.001 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.025 | **0.00139** | <0.050 | <0.001 |
| | 10/05/15 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | <0.001 | <0.001 | <0.001 | <0.005 | <0.001 | <0.025 | <0.001 | <0.025 | <0.001 |
| | 01/05/16 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.00383** | <0.001 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.025 | <0.001 | <0.050 | <0.001 |
| | 07/13/16 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.001 | **0.0039** | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0015 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.005 | **0.00087** | <0.005 | <0.0005 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | [mg/L] | | | | | | | | | | | | | | | | | | | |
| MW-4 | 11/19/93 | N/A | N/A | N/A | N/A | N/A | **0.30** | N/A | N/A | **0.0012** | N/A | N/A | BDL | N/A | BDL | BDL | N/A | N/A | BDL | N/A | N/A |
| MW-4R | 05/31/07 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.51** | <0.005 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.05 | <0.005 | <0.01 | <0.001 |
| | 01/08/08 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.31** | <0.005 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.05 | <0.005 | <0.01 | <0.001 |
| | 02/24/09 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.25** | <0.005 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.05 | <0.005 | <0.01 | <0.001 |
| | 05/15/09 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.19** | <0.005 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.05 | <0.005 | <0.01 | <0.001 |
| | 08/04/09 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | **0.203** | <0.001 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.025 | <0.001 | <0.005 | <0.001 |
| | 05/17/12 | <0.005 | <0.005 | <0.005 | <0.005 | <0.025 | **0.73** | <0.025 | <0.005 | <0.005 | <0.005 | <0.015 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.05 | <0.025 | <0.01 | <0.005 |
| | 01/03/13 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | **0.20** | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.05 | <0.05 | <0.10 | <0.01 |
| | 08/20/13 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.880** | <0.001 | <0.001 | **0.00118** | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | <0.001 | <0.050 | <0.001 |
| | 12/17/13 | <0.001 | <0.001 | <0.001 | <0.005 | <0.005 | **0.907** | <0.001 | <0.001 | **0.00143** | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | <0.001 | <0.050 | <0.001 |
| | 02/26/14 | <0.001 | <0.001 | <0.001 | <0.005 | <0.005 | **1.23** | <0.001 | <0.001 | **0.00139** | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | <0.001 | <0.050 | <0.001 |
| | 03/27/14 | <0.001 | <0.001 | <0.001 | <0.005 | <0.005 | **2.41** | <0.001 | <0.001 | **0.00193** | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.025 | <0.001 | <0.050 | <0.001 |
| | 04/24/14 | <0.001 | 0.00169 | <0.001 | <0.001 | <0.005 | **2.14** | <0.001 | <0.001 | **0.00216** | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.025 | <0.001 | <0.050 | <0.001 |
| | 07/09/14 | <0.001 | 0.0173 | <0.001 | <0.001 | <0.005 | **4.63** | <0.001 | <0.001 | **0.00696** | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.025 | <0.001 | <0.050 | <0.001 |
| | 10/08/14 | <0.010 | 0.0125 | <0.010 | <0.010 | <0.050 | **5.78** | <0.010 | <0.010 | <0.010 | <0.010 | <0.020 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.25 | <0.010 | <0.50 | <0.010 |
| | 01/06/15 | <0.010 | **0.248** | <0.010 | <0.010 | <0.050 | **6.28** | <0.010 | <0.010 | **0.0320** | <0.010 | <0.020 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.25 | <0.010 | <0.50 | <0.010 |
| | 04/21/15 | <0.001 | **1.11** | <0.001 | <0.001 | <0.005 | **4.19** | <0.001 | <0.010 | **0.0862** | **0.0495** | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | **0.00288** | <0.025 | <0.001 | <0.050 | <0.001 |
| | 06/12/15 | <0.001 | **1.02** | <0.001 | <0.001 | <0.005 | **3.29** | <0.001 | <0.010 | **0.126** | **0.116** | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | **0.00353** | <0.025 | <0.001 | **0.189** | <0.001 |
| | 07/06/15 | <0.001 | **1.33** | <0.001 | <0.001 | <0.005 | **2.41** | <0.001 | <0.010 | **0.0824** | **0.369** | <0.003 | <0.001 | <0.001 | **0.00138** | <0.001 | **0.00340** | <0.025 | <0.001 | **0.200** | <0.001 |
| | 08/27/15 | <0.005 | **0.208** | <0.005 | <0.005 | <0.025 | **2.22** | <0.005 | <0.005 | **0.017** | **0.0478** | <0.015 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.125 | <0.005 | <0.250 | <0.005 |
| | 10/07/15 | <0.005 | **0.146** | <0.005 | <0.005 | <0.005 | **1.26** | <0.005 | <0.005 | **0.0166** | **0.0388** | <0.025 | <0.005 | <0.005 | <0.005 | <0.025 | <0.005 | <0.125 | <0.005 | <0.125 | <0.005 |
| | 01/06/16 | <0.010 | **1.71** | <0.010 | <0.010 | <0.050 | **0.108** | <0.010 | <0.010 | **0.0187** | **0.582** | <0.030 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.25 | <0.010 | <0.50 | <0.010 |
| | 07/13/16 | <0.005 | **0.10** | <0.005 | <0.005 | <0.010 | <0.005 | <0.005 | <0.005 | <0.005 | **0.079** | <0.015 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | **9.9** | <0.005 | 0.076 | <0.005 |

**Table 1: Analytical Data for Groundwater** **ADT 1**

**DSCA ID No.: DC320013**

| Groundwater Sampling Point | Sampling Date (mm/dd/yy) | Benzene | cis-1,2-Dichloroethylene | Ethylbenzene | Methyl tert-butyl ether (MTBE) | Naphthalene | Tetrachloroethylene | Toluene | trans-1,2-Dichloroethylene | Trichloroethylene | Vinyl chloride | Xylenes (total) | 1,2-Dichloroethane | 1,1,1-Trichloroethane | 1,1,2,2-Tetrachloroethane | 1,1,2-Trichloroethane | 1,1-Dichloroethylene | Acetone | Chloroform | 2-Butanone (MEK) | Bromodichloromethane |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | [mg/L] | | | | | | | | | | | | | | | | | | | |
| MW-11 | 09/03/08 | <0.001 | **0.83** | <0.001 | **0.023** | <0.005 | **0.047** | <0.005 | 0.0093 | **0.16** | **0.020** | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | 0.0026 | <0.05 | <0.005 | <0.01 | <0.001 |
| | 02/24/09 | <0.001 | **0.38** | <0.001 | 0.012 | <0.005 | **0.051** | <0.005 | 0.0058 | **0.15** | **0.010** | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | 0.0010 | <0.05 | <0.005 | <0.01 | <0.001 |
| | 05/15/09 | <0.001 | **0.67** | <0.001 | 0.017 | <0.005 | **0.052** | <0.005 | 0.0085 | **0.17** | **0.0078** | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | 0.0012 | <0.05 | <0.005 | <0.01 | <0.001 |
| | 08/04/09 | <0.001 | **0.739** | <0.001 | 0.0185 | <0.001 | **0.0587** | <0.001 | 0.0090 | **0.224** | **0.0113** | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | 0.0012 | <0.025 | <0.001 | <0.005 | <0.001 |
| | 08/20/13 | <0.001 | **0.623** | <0.001 | 0.0170 | <0.005 | **0.0578** | <0.001 | 0.0108 | **0.182** | **0.0152** | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | 0.00208 | <0.005 | <0.001 | <0.050 | <0.001 |
| | 07/08/14 | <0.001 | **0.789** | <0.001 | 0.0155 | <0.005 | **0.0517** | <0.001 | 0.0136 | **0.195** | **0.0114** | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | 0.00194 | <0.025 | <0.001 | <0.050 | <0.001 |
| | 08/27/15 | <0.001 | **0.837** | <0.001 | 0.00849 | <0.005 | **0.0651** | <0.001 | 0.011 | **0.168** | **0.0142** | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | 0.00191 | <0.025 | <0.001 | <0.050 | <0.001 |
| | 10/06/15 | <0.002 | **0.509** | <0.002 | 0.00572 | <0.002 | **0.0514** | <0.002 | 0.00857 | **0.127** | **0.0121** | <0.010 | <0.002 | <0.002 | <0.002 | <0.010 | <0.002 | <0.050 | <0.002 | <0.050 | <0.002 |
| | 01/04/16 | <0.001 | **0.496** | <0.001 | <0.001 | <0.005 | **0.0509** | <0.001 | 0.00929 | **0.118** | **0.0139** | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | 0.00111 | <0.025 | <0.001 | <0.050 | <0.001 |
| | 07/13/16 | 0.00058 | **0.77** | <0.0005 | 0.0072 | <0.001 | **0.069** | <0.0005 | 0.010 | **0.14** | <0.0005 | <0.0015 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | 0.0034 | <0.005 | <0.0005 | <0.005 | <0.0005 |
| MW-24S | 06/12/15 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | **0.435** | <0.001 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.025 | <0.001 | <0.050 | <0.001 |
| | 08/27/15 | <1.0 | <1.0 | <1.0 | <1.0 | <5.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <3.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <25 | <1.0 | <50 | <1.0 |
| | 10/07/15 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | <0.001 | <0.001 | <0.001 | <0.005 | <0.001 | <0.025 | **0.00508** | <0.025 | <0.001 |
| | 01/06/16 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.025 | <0.001 | <0.050 | <0.001 |
| | 07/13/16 | <0.0005 | 0.00086 | <0.0005 | <0.0005 | <0.001 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0015 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | 0.050 | <0.0005 | 0.0012 J | <0.0005 |
| Tier 1 RBSL (or NC 2L Standard) | | 0.001 | 0.07 | 0.003 | 0.02 | 0.004 | 0.0007 | 0.6 | 0.076 | 0.001 | 0.00003 | 0.094 | 0.0004 | 0.20 | 0.0002 | 0.0012 | 0.007 | 6.0 | 0.00073 | 4.0 | 0.0006 |

Notes:

1. **Bold** concentration exceeds DSCA Program Tier 1 RBSL (or NC 2L Standard, if no RBSL established).
2. J flag denotes estimated concentration between laboratory reporting limit and method detection limit.
3. NA = Not Analyzed; N/A = Not Available; BDL = Below Detection Limit (detection limits not available); NE = Not Established

**Table 1(1): Analytical Data for Groundwater (User Specified Chemicals)** **ADT 1(1)**

**DSCA ID No.: DC320013**

| Groundwater Sampling Point | Sampling Date (mm/dd/yy) | Chlorobenzene | Chloroethane | n-Butylbenzene | sec-Butylbenzene | tert-Butylbenzene | Diisopropyl ether | Isopropylbenzene | n-Propylbenzene | p-Isopropyltoluene | 1,1,1,2-Tetrachloroethane | 4-Methyl-2pentanone (MIBK) | 1,2,4-Trimethylbenzene | 1,3,5-Trimethylbenzene | 1,2-Dichlorobenzene | 1,4-Dichlorobenzene | 1,2-Dichloropropane | Chloromethane | Dichlorodifluoromethane | Trichlorofluoromethane | Carbon Disulfide | Methylene Chloride |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | [mg/L] | | | | | | | | | | | | | | | | | | | | |
| MW-3 | 10/14/93 | BDL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | BDL | BDL | BDL | NA | NA |
| MW-3R | 05/31/07 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | NA | <0.005 |
| | 01/08/08 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.0025 | <0.005 | <0.005 | NA | <0.005 |
| | 02/24/09 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.0025 | <0.005 | <0.005 | NA | <0.005 |
| | 05/15/09 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.0025 | <0.005 | <0.005 | NA | <0.005 |
| | 08/04/09 | <0.001 | NA | NA | NA | NA | <0.001 | NA | NA | <0.001 | <0.001 | <0.005 | NA | NA | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | NA | <0.002 |
| | 05/18/12 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | NA | <0.005 |
| | 08/20/13 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 12/16/13 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 02/26/14 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 03/28/14 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 04/25/14 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 07/09/14 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 10/08/14 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 01/06/15 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 04/20/15 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 06/12/15 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 07/06/15 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 08/27/15 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 10/05/15 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.025 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 01/05/16 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 07/13/16 | <0.0005 | <0.0005 | <0.001 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.001 | <0.0005 | <0.005 | <0.001 |

**Table 1(1): Analytical Data for Groundwater (User Specified Chemicals)** **ADT 1(1)**

**DSCA ID No.: DC320013**

| Groundwater Sampling Point | Sampling Date (mm/dd/yy) | Chlorobenzene | Chloroethane | n-Butylbenzene | sec-Butylbenzene | tert-Butylbenzene | Diisopropyl ether | Isopropylbenzene | n-Propylbenzene | p-Isopropyltoluene | 1,1,1,2-Tetrachloroethane | 4-Methyl-2pentanone (MIBK) | 1,2,4-Trimethylbenzene | 1,3,5-Trimethylbenzene | 1,2-Dichlorobenzene | 1,4-Dichlorobenzene | 1,2-Dichloropropane | Chloromethane | Dichlorodifluoromethane | Trichlorofluoromethane | Carbon Disulfide | Methylene Chloride |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | [mg/L] | | | | | | | | | | | | | | | | | | | | |
| MW-4 | 11/19/93 | BDL | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | BDL | BDL | BDL | NA | N/A |
| MW-4R | 05/31/07 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | 0.0024 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | NA | <0.005 |
| | 01/08/08 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.0025 | <0.005 | <0.005 | NA | <0.005 |
| | 02/24/09 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.0025 | <0.005 | <0.005 | NA | <0.005 |
| | 05/15/09 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.0025 | <0.005 | <0.005 | NA | <0.005 |
| | 08/04/09 | <0.001 | NA | NA | NA | NA | <0.001 | NA | NA | <0.001 | <0.001 | <0.005 | NA | NA | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | NA | <0.002 |
| | 05/17/12 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.05 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | NA | <0.025 |
| | 01/03/13 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.10 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | NA | <0.05 |
| | 08/20/13 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 12/17/13 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 02/26/14 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 03/27/14 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 04/24/14 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 07/09/14 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | 0.0018 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 10/08/14 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.020 | <0.010 | <0.010 | <0.010 | <0.010 | <0.100 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.050 |
| | 01/06/15 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.020 | <0.010 | <0.010 | <0.010 | <0.010 | <0.100 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.050 |
| | 04/21/15 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | **0.00149** | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 06/12/15 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | **0.00163** | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 07/06/15 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | **0.00138** | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 08/27/15 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.010 | <0.005 | <0.005 | <0.005 | <0.005 | <0.050 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.025 |
| | 10/07/15 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.125 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.025 |
| | 01/06/16 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.020 | <0.010 | <0.010 | <0.010 | <0.010 | <0.100 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.050 |
| | 07/13/16 | <0.005 | <0.005 | <0.010 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.05 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.01 | <0.005 | <0.05 | <0.01 |

**Table 1(1): Analytical Data for Groundwater (User Specified Chemicals)** **ADT 1(1)**

**DSCA ID No.: DC320013**

| Groundwater Sampling Point | Sampling Date (mm/dd/yy) | Chlorobenzene | Chloroethane | n-Butylbenzene | sec-Butylbenzene | tert-Butylbenzene | Diisopropyl ether | Isopropylbenzene | n-Propylbenzene | p-Isopropyltoluene | 1,1,1,2-Tetrachloroethane | 4-Methyl-2pentanone (MIBK) | 1,2,4-Trimethylbenzene | 1,3,5-Trimethylbenzene | 1,2-Dichlorobenzene | 1,4-Dichlorobenzene | 1,2-Dichloropropane | Chloromethane | Dichlorodifluoromethane | Trichlorofluoromethane | Carbon Disulfide | Methylene Chloride |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | [mg/L] | | | | | | | | | | | | | | | | | | | | |
| MW-11 | 09/03/08 | <0.001 | <0.005 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.0025 | <0.005 | <0.005 | NA | <0.005 |
| | 02/24/09 | <0.001 | <0.005 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.0025 | <0.005 | <0.005 | NA | <0.005 |
| | 05/15/09 | <0.001 | <0.005 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.0025 | <0.005 | <0.005 | NA | <0.005 |
| | 08/04/09 | <0.001 | <0.001 | NA | NA | NA | <0.001 | NA | NA | <0.001 | <0.001 | <0.005 | NA | NA | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | NA | <0.002 |
| | 08/20/13 | <0.001 | <0.001 | <0.001 | 0.00235 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 07/08/14 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 08/27/15 | <0.001 | <0.001 | <0.001 | 0.00113 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 10/06/15 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.050 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.010 |
| | 01/04/16 | <0.001 | <0.001 | <0.001 | 0.00127 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 07/13/16 | <0.0005 | <0.0005 | <0.001 | 0.0019 | 0.00067 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.001 | <0.0005 | <0.005 | <0.001 |
| MW-24S | 06/12/15 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 08/27/15 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <10 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <5.0 |
| | 10/07/15 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.025 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 01/06/16 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.005 |
| | 07/13/16 | <0.0005 | <0.0005 | <0.001 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0050 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.001 | <0.0005 | <0.005 | <0.001 |
| Tier 1 RBSL (or NC 2L Standard) | | 0.050 | 3.0 | 0.070 | 0.070 | 0.070 | 0.070 | 0.070 | 0.070 | 0.025 | 0.0032 | 0.10 | 0.0058 | 0.4 | 0.02 | 0.0022 | 0.0022 | 0.0030 | 0.0014 | 2.0 | 0.25 | 0.005 |

Notes:

1. **Bold** concentration exceeds DSCA Program Tier 1 RBSL (or NC 2L Standard, if no RBSL established).
2. J flag denotes estimated concentration between laboratory reporting limit and method detection limit.
3. NA = Not Analyzed; N/A = Not Available; BDL = Below Detection Limit (detection limits not available); NE = Not Established

**Table 2: Analytical Data for Natural Attenuation Parameters** **ADT 2**

**DSCA ID No.: DC320013**

| Sample ID | Sampling Date (mm/dd/yy) | Dissolved oxygen (DO) | Sulfate | Methane | Ferrous Iron | Oxidation reduction potential (ORP) | Alkalinity | Conductivity | pH | Temperature | Turbidity | Total organic carbon (TOC) | Ethane | Ethene | Total Iron | Arsenic | Barium | Cadmium | Chromium | Lead | Selenium |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Units | mg/L | mg/L | mg/L | mg/L | mV | mg/L | µs/cm$^2$ | std unit | ° C | NTU | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| MW-3R | 08/05/11 | 6.57 | 2.3 | <0.00072 | 10 | 44.87 | NA | 125 | 5.42 | 20.36 | NA | NA | <0.001 | <0.0023 | NA | NA | NA | NA | NA | NA | NA |
| | 05/18/12 | NA | NA | <0.010 | NA | NA | NA | NA | NA | NA | NA | NA | <0.013 | <0.013 | NA | NA | NA | NA | NA | NA | NA |
| | 08/20/13 | 2.75 | NA | <0.005 | NA | 196.2 | NA | 127 | 5.52 | 21.07 | NA | 2.76 | <0.005 | <0.005 | 1.79 | NA | NA | NA | NA | NA | NA |
| | 12/16/13 | 2.52 | NA | 0.0216 | NA | 68.1 | NA | 104 | 5.21 | 17.06 | NA | NA | <0.005 | <0.005 | NA | NA | NA | NA | NA | NA | NA |
| | 02/26/14 | 3.91 | NA | <0.005 | NA | 214.2 | NA | 138 | 4.92 | 16.41 | NA | 1.19 | <0.005 | <0.005 | 0.448 | NA | NA | NA | NA | NA | NA |
| | 03/28/14 | 4.39 | NA | <0.005 | NA | -262.1 | NA | 116 | 5.58 | 18.65 | NA | 3.38 | <0.005 | <0.005 | 0.801 | NA | NA | NA | NA | NA | NA |
| | 04/25/14 | 3.91 | NA | <0.005 | NA | 100.9 | NA | 151 | 5.91 | 17.28 | NA | 9.13 | <0.005 | <0.005 | 0.360 | NA | NA | NA | NA | NA | NA |
| | 07/09/14 | 1.92 | NA | 0.00800 | NA | 200.6 | NA | 107 | 5.17 | 21.54 | NA | 3.32 | <0.005 | <0.005 | 0.590 | NA | NA | NA | NA | NA | NA |
| | 10/08/14 | 2.82 | NA | <0.005 | NA | 98.4 | NA | 110 | 5.52 | 21.10 | NA | 3.48 | <0.005 | <0.005 | 0.336 | NA | NA | NA | NA | NA | NA |
| | 01/06/15 | 2.52 | NA | <0.005 | NA | 100.2 | NA | 94 | 7.03 | 17.60 | NA | 8.07 | <0.005 | <0.005 | 0.436 | NA | NA | NA | NA | NA | NA |
| | 04/20/15 | 2.68 | NA | <0.005 | NA | 188.7 | NA | 117 | 5.57 | 20.89 | NA | 1.25 | <0.005 | <0.005 | 3.17 | NA | NA | NA | NA | NA | NA |
| | 06/12/15 | 2.85 | <2.0 | <0.005 | ND | 122.5 | 14.5 | 125 | 5.45 | 21.38 | NA | 2.26 | <0.005 | <0.005 | NA | NA | NA | NA | NA | NA | NA |
| | 07/06/15 | 3.25 | NA | <0.005 | NA | 141.2 | NA | 126 | 5.68 | 21.93 | 6.10 | 2.14 | <0.005 | <0.005 | 0.599 | NA | NA | NA | NA | NA | NA |
| | 08/27/15 | 3.26 | 2.51 | <0.005 | ND | 97.3 | 16.3 | 103 | 5.32 | 20.72 | 7.56 | 2.04 | <0.005 | <0.005 | NA | NA | NA | NA | NA | NA | NA |
| | 10/06/15 | 3.85 | <2.0 | <0.005 | ND | -52.6 | 153 | 214 | 6.66 | 24.47 | 4.35 | 10.6 | <0.005 | <0.005 | 0.620 | NA | NA | NA | NA | NA | NA |
| | 01/05/16 | 4.96 | <2.0 | <0.005 | ND | 126.4 | 12.4 | 124 | 5.86 | 13.86 | 1.83 | 2.06 | 0.00571 | 0.00599 | 0.349 | NA | NA | NA | NA | NA | NA |
| | 07/13/16 | 2.72 | NA | <0.002 | NA | 111.1 | NA | 123 | 5.45 | 24.13 | NA | 4.1 | <0.001 | <0.001 | NA | NA | NA | NA | NA | NA | NA |
| MW-4R | 05/17/12 | NA | NA | 0.011 | NA | NA | NA | NA | NA | NA | NA | NA | <0.013 | <0.013 | NA | NA | NA | NA | NA | NA | NA |
| | 08/20/13 | 0.93 | NA | <0.005 | NA | 157.9 | NA | 88 | 5.59 | 20.46 | NA | <1.0 | <0.005 | <0.005 | 0.814 | NA | NA | NA | NA | NA | NA |
| | 12/17/13 | 2.47 | NA | <0.005 | NA | 89.1 | NA | 84 | 5.59 | 15.16 | NA | NA | <0.005 | <0.005 | NA | <0.0100 | 0.150 | <0.00100 | 0.00540 | <0.00500 | <0.0100 |
| | 02/26/14 | 1.55 | NA | <0.005 | NA | 209.8 | NA | 105 | 5.50 | 16.15 | NA | <1.00 | <0.005 | <0.005 | 1.19 | <0.0100 | 0.150 | <0.00100 | 0.00540 | <0.00500 | <0.0100 |
| | 03/27/14 | 1.97 | NA | <0.005 | NA | -263.1 | NA | 88 | 6.19 | 15.25 | NA | <1.00 | <0.005 | <0.005 | 0.179 | <0.0100 | 0.135 | <0.00100 | <0.00500 | <0.00500 | <0.0100 |
| | 04/24/14 | 1.92 | NA | <0.005 | NA | -103.4 | NA | 102 | 7.78 | 15.75 | NA | <1.00 | <0.005 | <0.005 | 0.486 | <0.0100 | 0.133 | <0.00100 | <0.00500 | <0.00500 | <0.0100 |
| | 07/09/14 | 1.79 | NA | <0.005 | NA | 181.2 | NA | 92 | 5.79 | 22.58 | NA | <1.00 | <0.005 | <0.005 | 0.393 | <0.0100 | 0.137 | <0.00100 | <0.00500 | <0.00500 | <0.0100 |
| | 10/08/14 | 3.03 | NA | <0.005 | NA | 100.2 | NA | 92 | 5.70 | 20.58 | NA | <1.00 | <0.005 | <0.005 | 0.149 | <0.0100 | 0.109 | <0.00100 | <0.00500 | <0.00500 | <0.0100 |
| | 01/06/15 | 2.18 | NA | <0.005 | NA | 100.2 | NA | 87 | 5.98 | 14.93 | NA | 1.20 | <0.005 | <0.005 | 0.102 | <0.0100 | 0.146 | <0.00100 | <0.00500 | <0.00500 | <0.0100 |
| | 04/21/15 | 1.81 | NA | 0.0209 | NA | 520.5 | NA | 156 | 5.61 | 18.12 | NA | 1.77 | <0.005 | <0.005 | <0.100 | <0.0100 | 0.236 | <0.00100 | <0.00500 | <0.00500 | <0.0100 |
| | 06/12/15 | 0.76 | 11.3 | 0.0906 | ND | 47.2 | 85.9 | 274 | 5.90 | 20.59 | NA | 2.60 | <0.005 | <0.005 | NA | NA | NA | NA | NA | NA | NA |
| | 07/06/15 | 0.50 | NA | 0.147 | NA | 113.1 | NA | 386 | 6.06 | 21.56 | 5.44 | 2.86 | <0.005 | <0.005 | <0.100 | <0.0100 | 0.662 | <0.00100 | <0.00500 | <0.00500 | <0.0100 |
| | 08/27/15 | 1.14 | 12.7 | 0.148 | ND | 126.3 | 142 | 321 | 6.08 | 24.04 | 37.18 | 1.40 | <0.005 | 0.00817 | NA | <0.0100 | 0.785 | <0.00100 | <0.00500 | <0.00500 | <0.0100 |
| | 10/07/15 | 0.75 | 9.31 | 0.423 | ND | -103.9 | 163 | 513 | 6.70 | 17.87 | 7.54 | 3.47 | <0.005 | 0.0232 | <0.100 | <0.0100 | 0.766 | <0.00100 | <0.00500 | <0.00500 | <0.0100 |
| | 01/06/16 | 1.65 | <2.0 | 7.95 | 2.5 | -111.3 | 580 | 1327 | 6.60 | 14.34 | 3.32 | 194 | <0.005 | 0.0586 | 12.5 | <0.0100 | 1.36 | 0.00180 | 0.00610 | 0.00530 | 0.0108 |
| | 07/13/16 | 0.27 | NA | 7.65 | NA | -85.7 | NA | 1605 | 6.51 | 23.49 | NA | 190 | 0.00512 | 0.0134 | NA | <0.010 | 1.5 | <0.0010 | <0.0050 | <0.0050 | <0.020 |

**Table 2: Analytical Data for Natural Attenuation Parameters** **ADT 2**

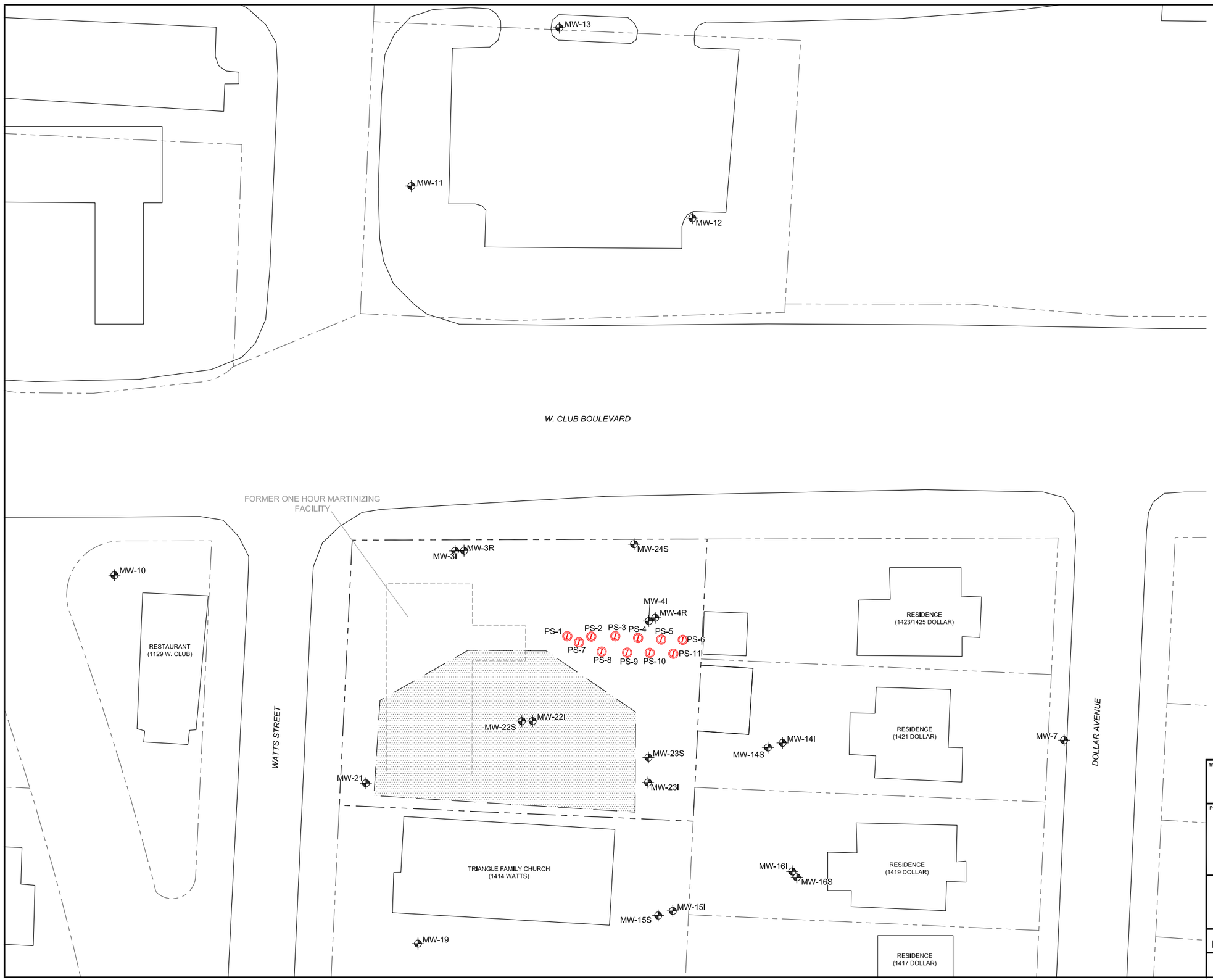
**DSCA ID No.: DC320013**

| Sample ID | Sampling Date (mm/dd/yy) | Dissolved oxygen (DO) | Sulfate | Methane | Ferrous Iron | Oxidation reduction potential (ORP) | Alkalinity | Conductivity | pH | Temperature | Turbidity | Total organic carbon (TOC) | Ethane | Ethene | Total Iron | Arsenic | Barium | Cadmium | Chromium | Lead | Selenium |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Units | mg/L | mg/L | mg/L | mg/L | mV | mg/L | µs/cm$^2$ | std unit | ° C | NTU | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| MW-11 | 08/20/13 | 0.48 | NA | NA | NA | 179.1 | NA | 503 | 6.12 | 21.14 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 07/08/14 | 1.96 | NA | NA | NA | 13.7 | NA | 539 | 6.32 | 23.8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 08/27/15 | 1.47 | 7.68 | 0.0994 | ND | 142.5 | 237 | 465 | 6.15 | 20.69 | 373.5 | 2.51 | 0.0162 | <0.005 | NA | NA | NA | NA | NA | NA | NA |
| | 10/06/15 | 0.26 | NA | 0.0988 | NA | -99.6 | NA | 515 | 6.61 | 18.84 | NA | 2.57 | 0.0135 | <0.005 | 7.56 | NA | NA | NA | NA | NA | NA |
| | 01/04/16 | 1.81 | 9.01 | 0.108 | 0.1 | 100.4 | 245 | 593 | 6.41 | 11.32 | 67.46 | 2.33 | 0.0215 | <0.005 | NA | NA | NA | NA | NA | NA | NA |
| | 07/13/16 | 0.23 | NA | 0.0259 | NA | 100.1 | NA | 607 | 6.35 | 25.21 | NA | 2.5 J | 0.00585 | <0.001 | NA | NA | NA | NA | NA | NA | NA |
| MW-24S | 06/12/15 | 6.00 | <2.0 | <0.005 | ND | 104.2 | 22.0 | 65 | 5.85 | 23.60 | NA | 1.10 | <0.005 | <0.005 | NA | <0.0100 | 0.0678 | <0.00100 | <0.00500 | <0.00500 | <0.000200 |
| | 07/08/15 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1.49 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 08/28/15 | 5.64 | 16.7 | <0.005 | NA* | 139.7 | 87.0 | 22.4 | 6.75 | 23.25 | NA | 160 | <0.005 | <0.005 | NA | 0.0104 | 2.30 | 0.00300 | 0.0587 | 0.0434 | <0.000200 |
| | 10/07/15 | 4.55 | <2.0 | <0.005 | NA* | -69.0 | 46.4 | 128 | 6.51 | 19.75 | >1,999 | 11.5 | <0.005 | 0.00563 | NA | NA | NA | NA | NA | NA | NA |
| | 01/06/16 | 5.70 | 2.06 | <0.005 | NA* | 155.0 | 30.1 | 151 | 6.36 | 12.82 | >1,999 | 2.37 | <0.005 | <0.005 | NA | <0.0100 | 0.259 | <0.00100 | 0.0204 | 0.0111 | <0.000200 |
| | 07/13/16 | 0.27 | NA | 0.0101 | NA | -67.8 | NA | 333 | 6.46 | 22.93 | NA | 23.0 | <0.001 | <0.001 | NA | <0.010 | 0.28 | <0.010 | <0.0050 | <0.0050 | <0.020 |

Notes:

NA denotes not analyzed; ND denotes non-detect; NA* denotes ferrous iron measurement not recordable due to poor visibility in water sample

**FIGURES**




NOTE:
1. DATA SOURCES: DURHAM COUNTY GIS, WITHERS & RAVENEL.

TITLE

# PLUMESTOP™ INJECTION LAYOUT

PROJECT

ONE HOUR MARTINIZING
DSCA ID NO: 32-0013
1103 WEST CLUB BLVD
DURHAM, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)
License # C-1269 / #C-245 Geology

| | |
|---|---|
| DATE: 8-19-16 | REVISION NO. 0 |
| JOB NO. DS0-84 | FIGURE NO. 1 |

S:\AAA-Master Projects\DSCA - DS0\DS0-84 One Hr Martinizing (former B&T)\Website Updates\2016 Website Updates\July 2016\Figures\Plumestop Injection Layout.dwg


| MW-11 | 8/27/15 | 10/6/15 | 1/4/16 | 7/13/16 |
|---|---|---|---|---|
| PCE | **0.0651** | **0.0514** | **0.0509** | **0.069** |
| TCE | **0.168** | **0.127** | **0.118** | **0.14** |
| cis-1,2-DCE | **0.837** | **0.509** | **0.496** | **0.77** |
| VC | **0.0142** | **0.0121** | **0.0139** | <0.0005 |

| MW-3R | 6/12/15 | 7/6/15 | 8/27/15 | 10/5/15 | 1/5/16 | 7/13/16 |
|---|---|---|---|---|---|---|
| PCE | **0.00570** | **0.00498** | **0.00593** | <0.001 | **0.00383** | **0.0039** |
| TCE | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.0005 |
| cis-1,2-DCE | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.0005 |
| VC | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.0005 |

| MW-24S | 6/12/15 | 8/27/15 | 10/7/15 | 1/6/16 | 7/13/16 |
|---|---|---|---|---|---|
| PCE | **0.435** | <1.0 | <0.001 | <0.001 | <0.0005 |
| TCE | <0.001 | <1.0 | <0.001 | <0.001 | <0.0005 |
| cis-1,2-DCE | <0.001 | <1.0 | <0.001 | <0.001 | 0.00086 |
| VC | <0.001 | <1.0 | <0.001 | <0.001 | <0.0005 |

| MW-4R | 6/12/15 | 7/6/15 | 8/27/15 | 10/7/15 | 1/6/16 | 7/13/16 |
|---|---|---|---|---|---|---|
| PCE | **3.29** | **2.41** | **2.22** | **1.26** | **0.108** | <0.005 |
| TCE | **0.126** | **0.0824** | **0.017** | **0.0166** | **0.0187** | <0.005 |
| cis-1,2-DCE | **1.02** | **1.33** | **0.208** | **0.146** | **1.71** | **0.10** |
| VC | **0.116** | **0.369** | **0.0478** | **0.0388** | **0.582** | **0.079** |

LEGEND

- SITE PROPERTY BOUNDARY
- PROPERTY PARCEL
- TYPE II MONITORING WELL
- INJECTION POINT
- EXCAVATION AREA

SAMPLE ID / SAMPLE DATE

| MW-11 | 8/27/15 | 10/6/15 | 1/4/16 | 7/13/16 |
|---|---|---|---|---|
| PCE | **0.0651** | **0.0514** | **0.0509** | **0.069** |
| TCE | **0.168** | **0.127** | **0.118** | **0.14** |
| cis-1,2-DCE | **0.837** | **0.509** | **0.496** | **0.77** |
| VC | **0.0142** | **0.0121** | **0.0139** | <0.0005 |

CONSTITUENT / CONCENTRATION (mg/L)

NOTES:

1. BOLD CONCENTRATIONS EXCEED DSCA TIER I RBSL.
2. ONLY DRY-CLEANING RELATED CONSTITUENTS ARE SHOWN ON FIGURE.
3. PLUMESTOP INJECTION WAS COMPLETED JULY 14-16, 2015.

N

APPROXIMATE
0 40 80
SCALE IN FEET

TITLE
GROUNDWATER CONTAMINANT CONCENTRATION MAP

PROJECT
ONE HOUR MARTINIZING
DSCA ID NO: 32-0013
1103 WEST CLUB BLVD
DURHAM, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)
License # C-1269 / #C-245 Geology

DATE: 8-19-16 | REVISION NO. 0

JOB NO. DS0-84 | FIGURE NO. 2

S:\AAA-Master Projects\DSCA - DS0\DS0-84 One Hr Martinizing (former B&B(T))\Website Updates\2016 Website Updates\July 2016\Figures\Plumestop Injection Layout.dwg

**ATTACHMENT A**

**PROJECT CALENDAR**

# ~ August 2016 ~

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | Note: Schedule tentative and subject to change. Please check https://ncdenr.s3.amazonaws.com/s3fs-public/Waste%20Management/DWM/SF/DSCA/One%20Hour%20Martinizing%202014/DC320013_20151215_Calendar.pdf regularly for any changes in the schedule. | | | |

# ~ September 2016 ~

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| Note: Schedule tentative and subject to change. Please check https://ncdenr.s3.amazonaws.com/s3fs-public/Waste%20Management/DWM/SF/DSCA/One%20Hour%20Martinizing%202014/DC320013_20151215_Calendar.pdf regularly for any changes in the schedule. | | | | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 |

# ~ October 2016 ~

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| Note: Schedule tentative and subject to change. Please check https://ncdenr.s3.amazonaws.com/s3fs-public/Waste%20Management/DWM/SF/DSCA/One%20Hour%20Martinizing%202014/DC320013_20151215_Calendar.pdf regularly for any changes in the schedule. | | | | | | 1 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 30 | 24 31 | 25 | 26 | 27 | 28 | 29 |

# ~ November 2016 ~

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| Note: Schedule tentative and subject to change. Please check https://ncdenr.s3.amazonaws.com/s3fs-public/Waste%20Management/DWM/SF/DSCA/One%20Hour%20Martinizing%202014/DC320013_20151215_Calendar.pdf regularly for any changes in the schedule. | | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | | | |

# ~ December 2016 ~

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| Note: Schedule tentative and subject to change. Please check https://ncdenr.s3.amazonaws.com/s3fs-public/Waste%20Management/DWM/SF/DSCA/One%20Hour%20Martinizing%202014/DC320013_20151215_Calendar.pdf regularly for any changes in the schedule. | | | | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 |

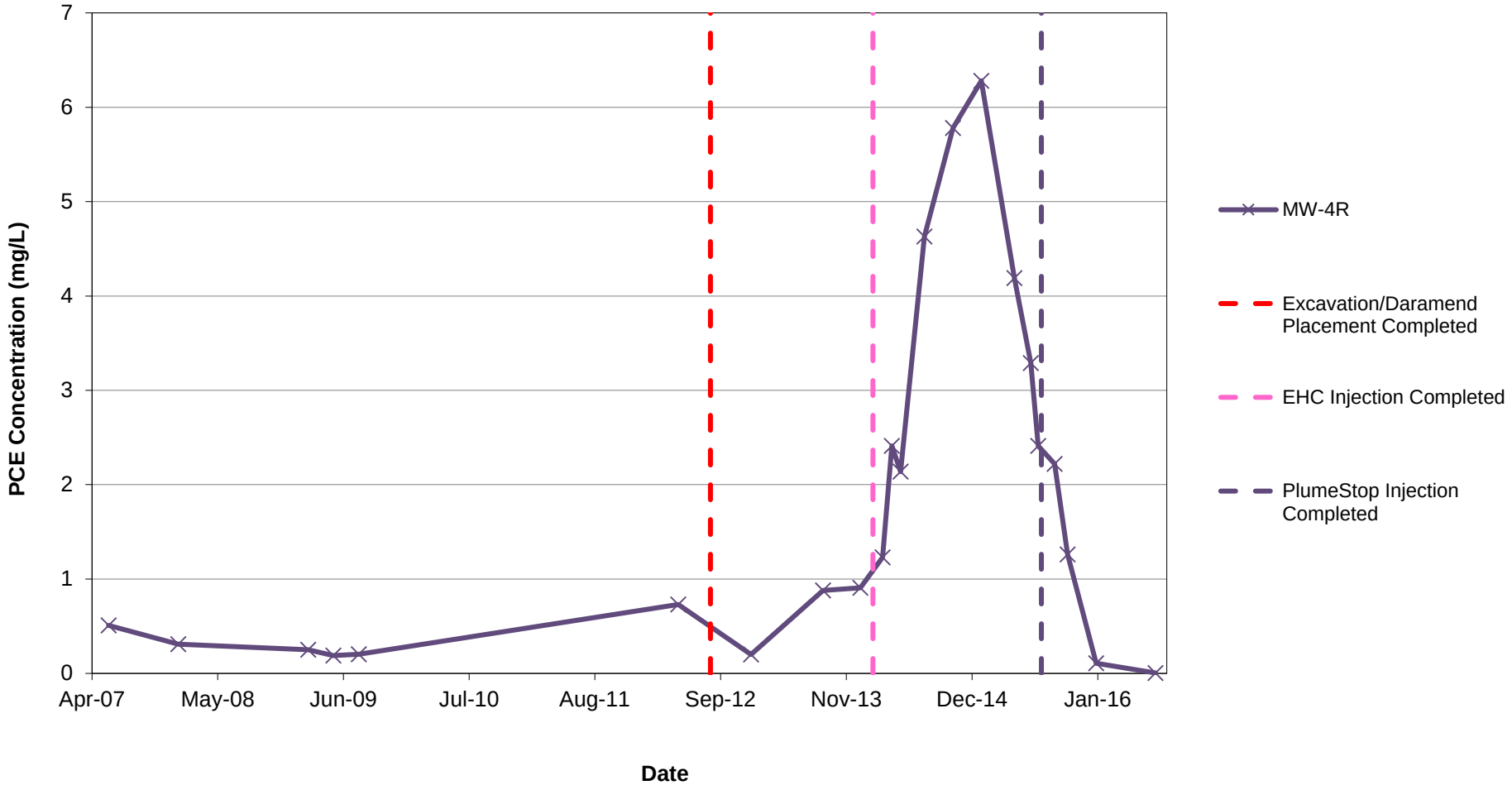
# ~ January 2017~

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| Note: Schedule tentative and subject to change. Please check https://ncdenr.s3.amazonaws.com/s3fs-public/Waste%20Management/DWM/SF/DSCA/One%20Hour%20Martinizing%202014/DC320013_20151215_Calendar.pdf regularly for any changes in the schedule. | | | | | | |
| 1 | 2 | 3 | 4 **Annual Groundwater Sampling** | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |

**ATTACHMENT B**

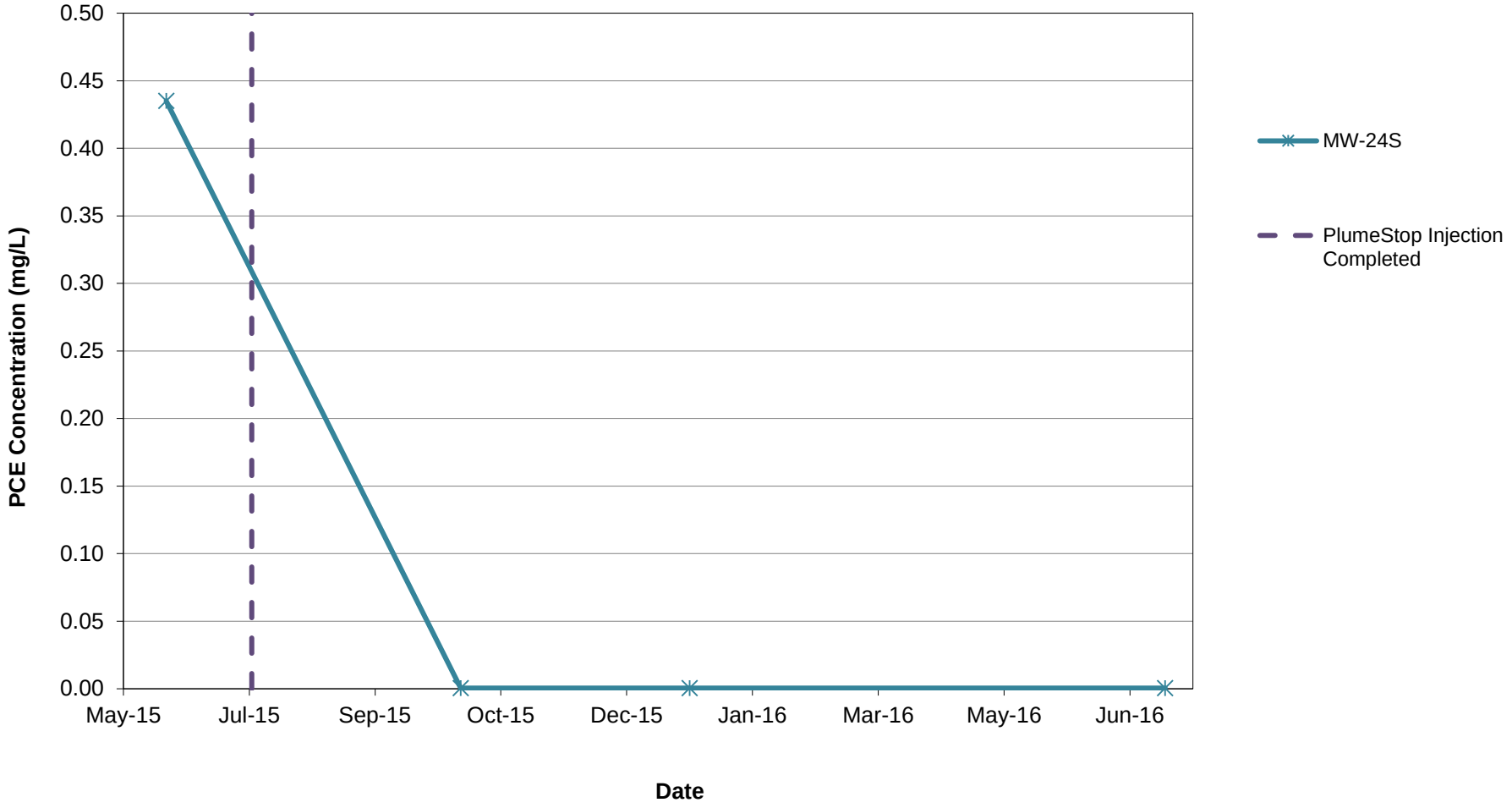
**GRAPHS**

**PCE Groundwater Concentrations vs. Time**
**PlumeStop Injection Area: MW-4R**
**One Hour Martinizing, Durham, Durham County**
**DSCA ID: DC320013**



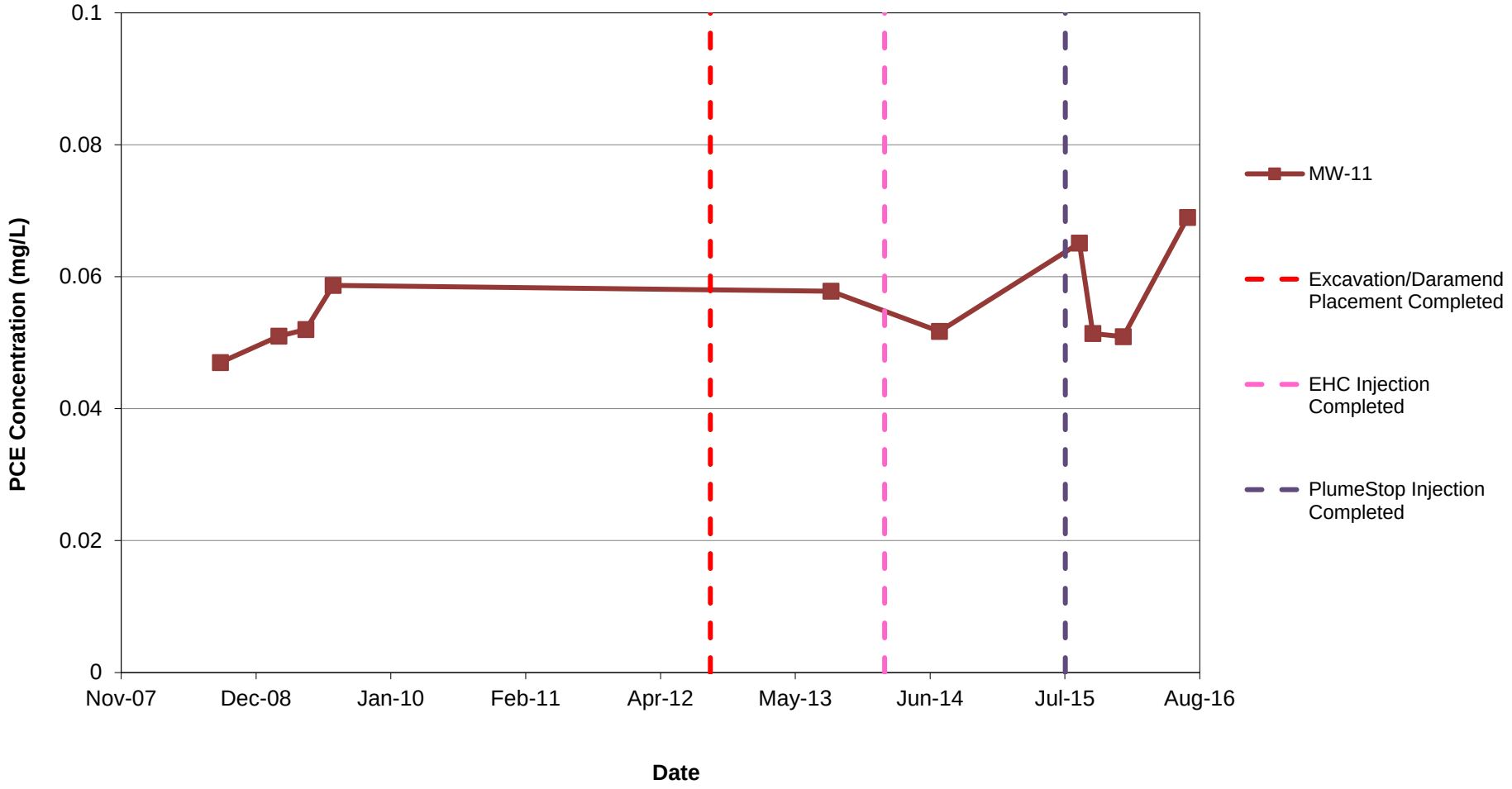

Note: Non-detect values are graphed as half the laboratory method detection limit.

**PCE Groundwater Concentrations vs. Time**
**PlumeStop Injection Area: MW-24S**
**One Hour Martinizing, Durham, Durham County**
**DSCA ID: DC320013**



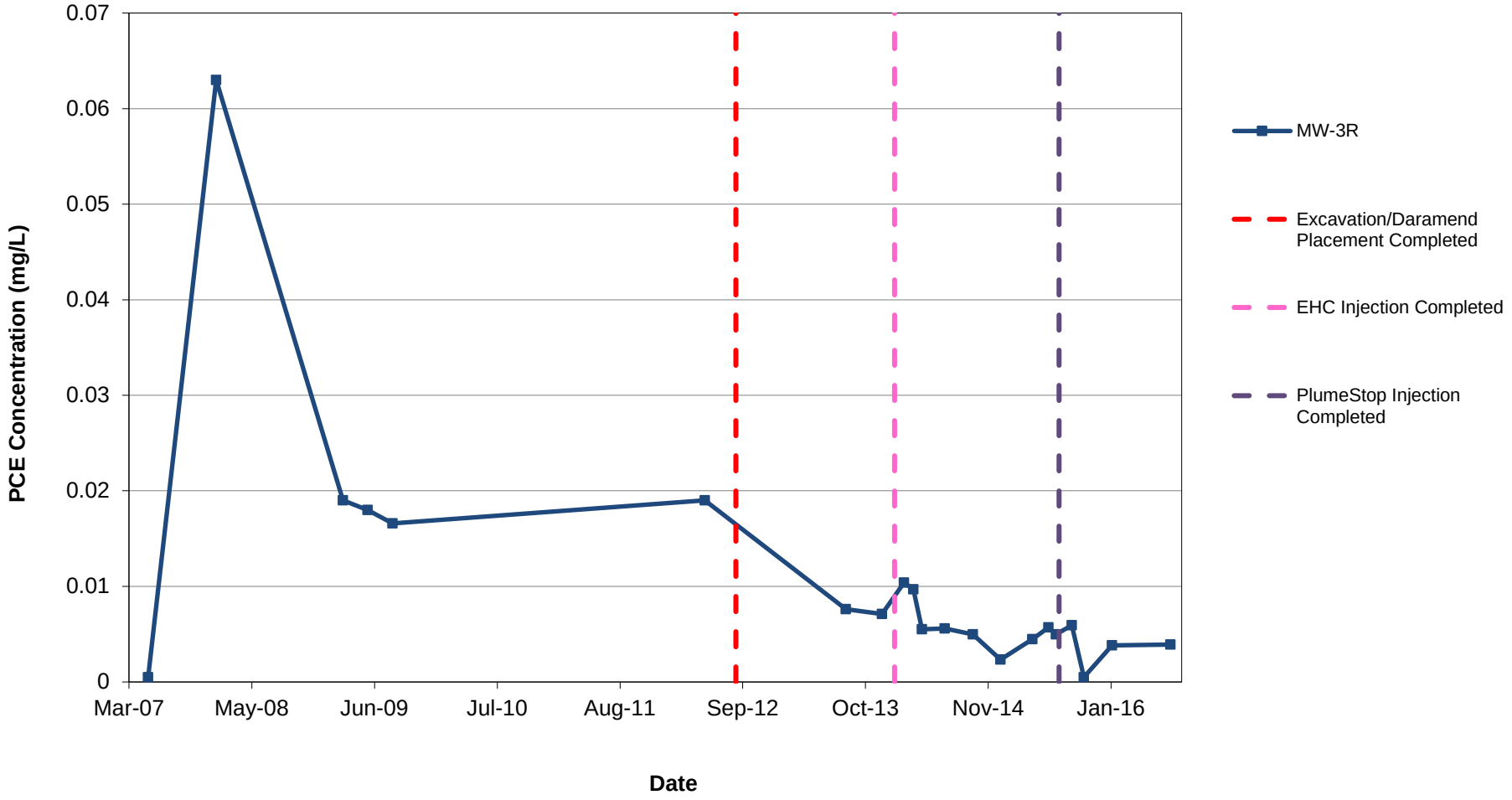

Note: Non-detect values are graphed as half the laboratory method detection limit.

**PCE Groundwater Concentrations vs. Time**
**North of PlumeStop Injection Area: MW-11**
**One Hour Martinizing, Durham, Durham County**
**DSCA ID: DC320013**



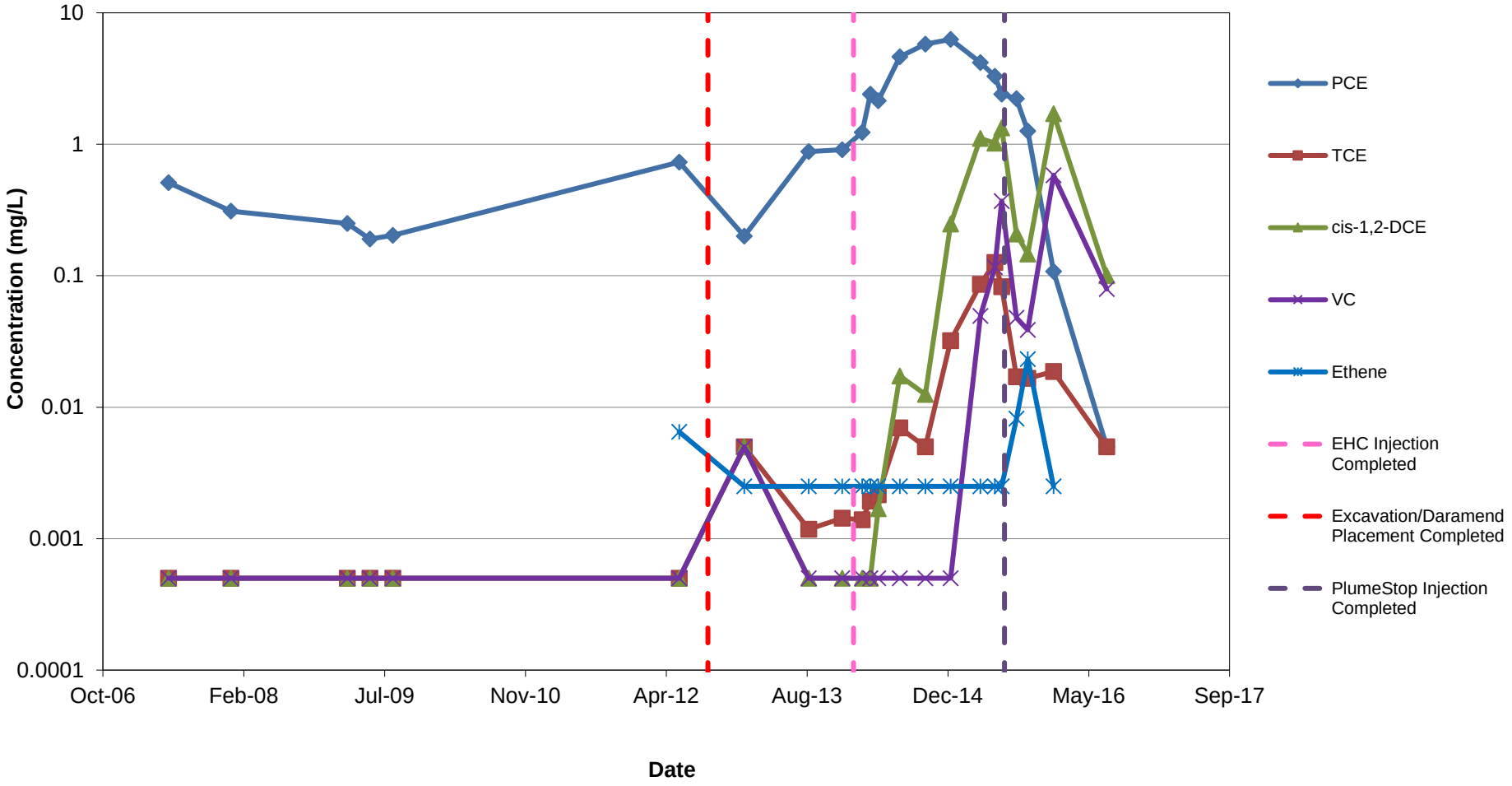

Note: Non-detect values are graphed as half the laboratory method detection limit.

**PCE Groundwater Concentrations vs. Time**
**West of PlumeStop Injection Area: MW-3R**
**One Hour Martinizing, Durham, Durham County**
**DSCA ID: DC320013**



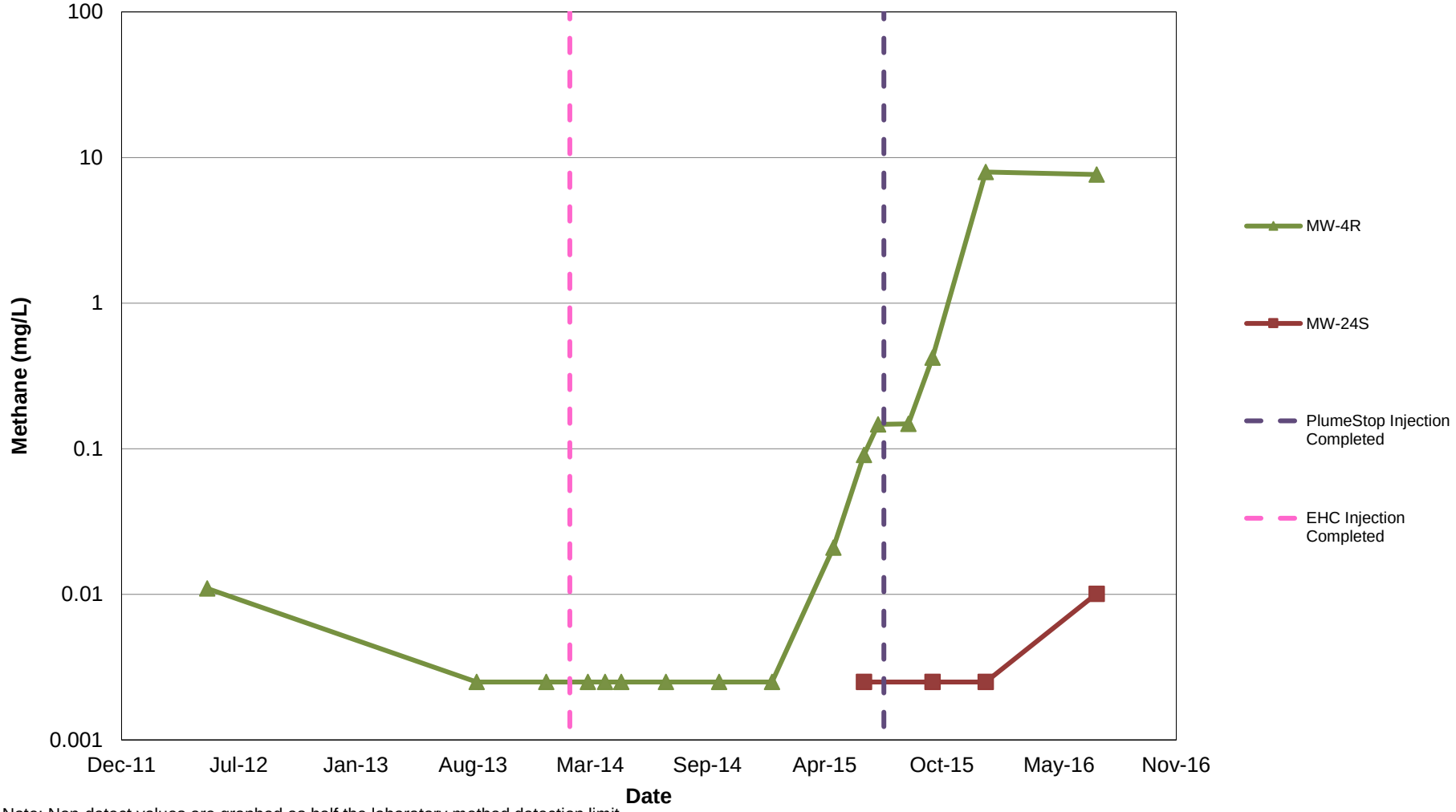

Note: Non-detect values are graphed as half the laboratory method detection limit.

## Chlorinated Ethene Groundwater Concentrations vs. Time
## MW-4R
## One Hour Martinizing, Durham, Durham County
## DSCA ID: DC320013



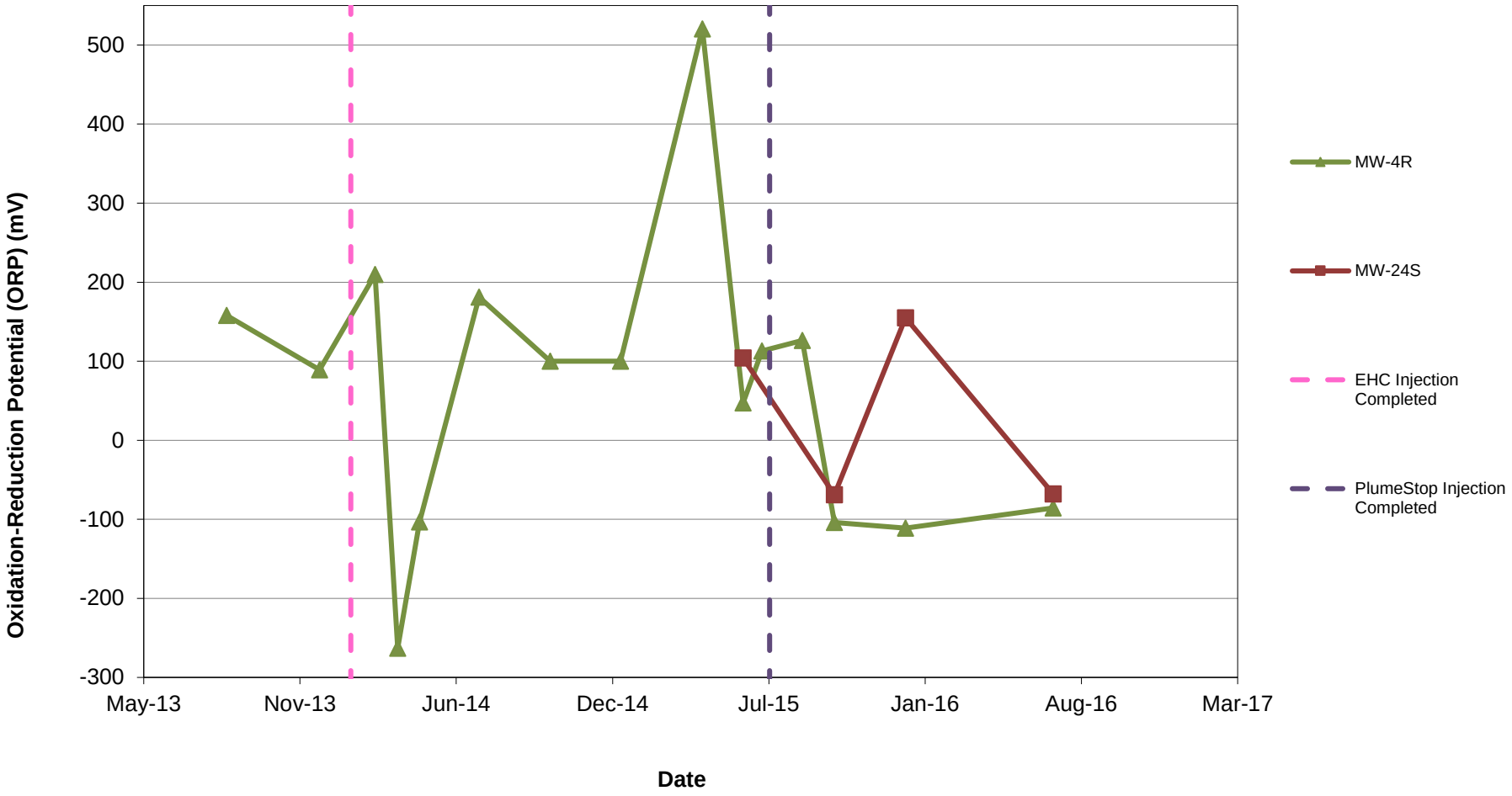

Note: Non-detect values are graphed as half the laboratory method detection limit.

**Methane vs. Time**
**PlumeStop Injection Area Monitoring Wells**
**One Hour Martinizing, Durham, Durham County**
**DSCA ID: DC320013**



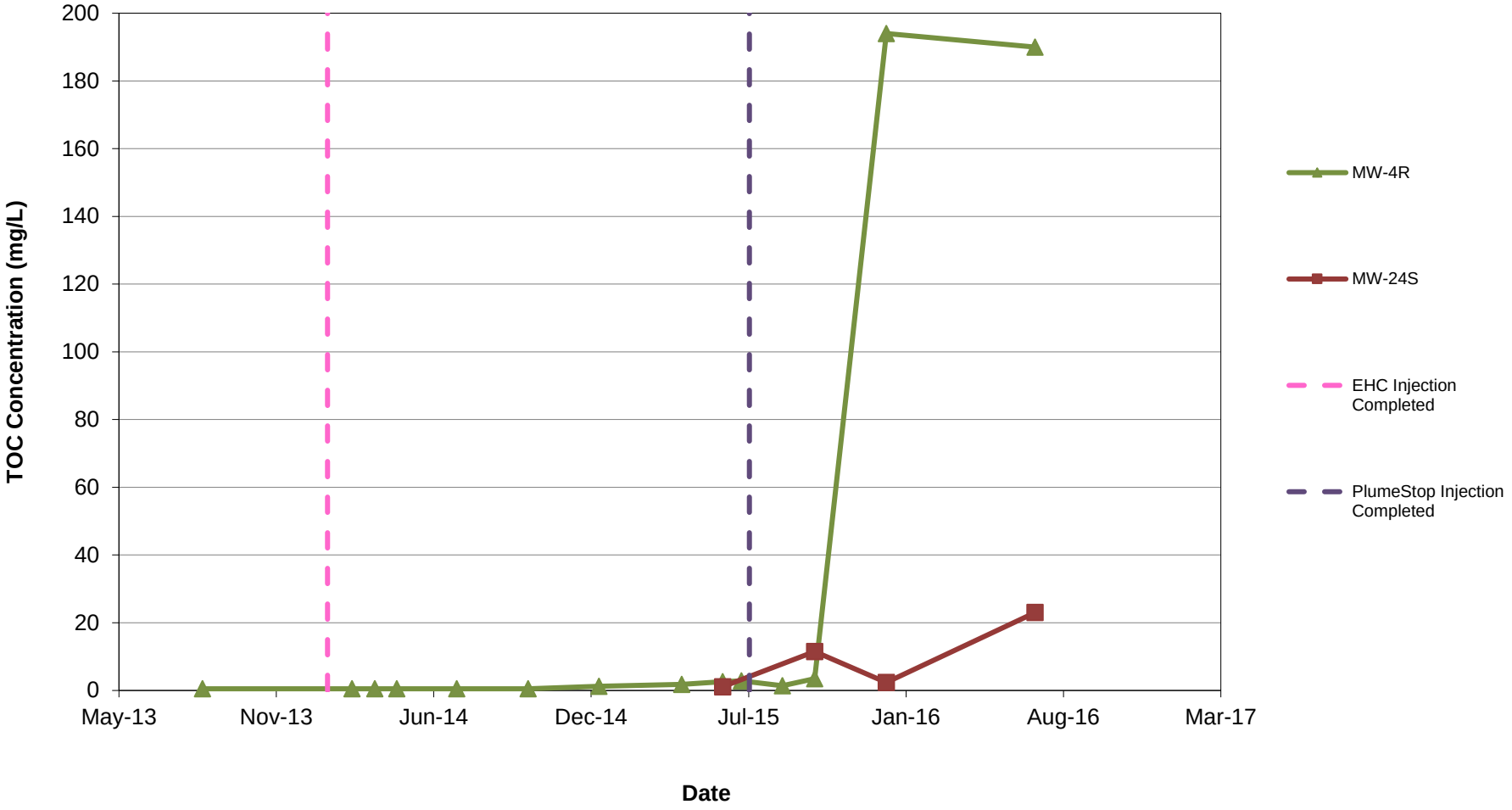

Note: Non-detect values are graphed as half the laboratory method detection limit.

**Oxidation-Reduction Potential (ORP) vs. Time**
**PlumeStop Injection Area Monitoring Wells**
**One Hour Martinizing, Durham, Durham County**
**DSCA ID: DC320013**



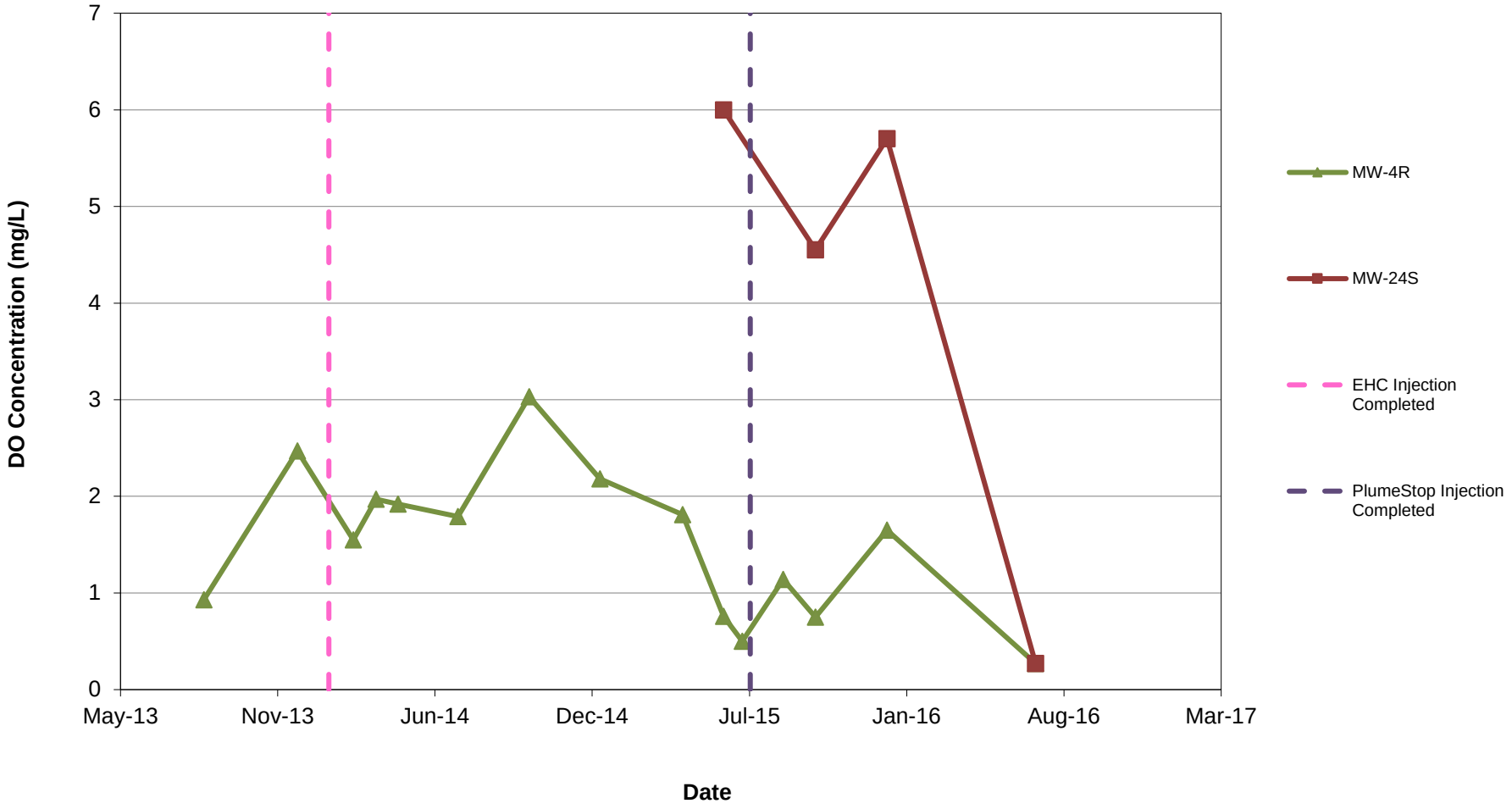

Note: Non-detect values are graphed as half the laboratory method detection limit.

**TOC Groundwater Concentrations vs. Time**
**PlumeStop Injection Area Monitoring Wells**
**One Hour Martinizing, Durham, Durham County**
**DSCA ID: DC320013**




Note: Non-detect values are graphed as half the laboratory method detection limit.

**Dissolved Oxygen vs. Time**
**PlumeStop Injection Area Monitoring Wells**
**One Hour Martinizing, Durham, Durham County**
**DSCA ID: DC320013**




Note: Non-detect values are graphed as half the laboratory method detection limit.