

# MEMORANDUM

---

**To:** Billy Meyer

**From:** Christie Zawtocky, PE  
Timothy Klotz

**Date:** September 10, 2014

**Project:** One Hour Martinizing Site, DSCA ID 32-0013  
1103 W Club Blvd, Durham, NC

**Subject:** Project Update

---

Hart & Hickman, PC (H&H) is submitting this update regarding monitoring activities completed at the One Hour Martinizing site in July 2014, approximately six months after completion of groundwater remedial activities at the site. The groundwater remedial action, which consisted of injecting EHC into the source area aquifer, was completed at the site between January 8 and 25, 2014. An *EHC Injection Report* was submitted to the DSCA Program on March 31, 2014. Figures 1A and 1B depict the EHC injection locations. A brief summary of recent post-injection sampling activities is provided below. An updated project calendar is provided in Attachment A.

### *Post-Injection Groundwater Sampling Activities*

H&H completed a post-injection groundwater sampling event in July 2014 to evaluate site conditions approximately six months after the EHC injection. The sampling activities were completed during the week of July 7, 2014. To evaluate the effectiveness of the injection, groundwater samples were collected from the following locations:

- Source property: MW-3R, MW-3I, MW-4R, MW-4I, MW-21, MW-22S, MW-22I, MW-23S, MW-23I
- West of source property: MW-10
- South of source property: MW-15S, MW-15I, MW-18
- East of source property: MW-14S, MW-14I, MW-16S, MW-16I

The samples were analyzed for volatile organic compounds (VOCs), methane, ethane, ethene, total iron, and total organic carbon (TOC). Field measurements of dissolved oxygen (DO), oxidation-reduction potential (ORP), temperature, pH, and conductivity were also collected. Samples from MW-4R/I were also analyzed for RCRA metals.

In addition, groundwater samples were collected from the remaining site monitoring wells and from five monitoring wells associated with an underground storage tank (UST) incident to the north/northwest of the source property. The samples from the UST incident monitoring wells

were collected on July 31, 2014.

The VOC analytical results for the sampled monitoring wells are summarized on the attached Table 1, along with historical site data. The results for the other parameters are summarized on Table 2.

The goal of the EHC injection is to reduce tetrachloroethene (PCE) groundwater concentrations in the source area. Graphs of PCE concentration versus time are provided in Attachment B, and Figures 2A and 2B depict the July 2014 post-injection groundwater PCE concentrations in the shallow and intermediate monitoring zones, respectively. For comparison, the December 2013 pre-injection groundwater PCE concentration maps for the shallow and intermediate monitoring zones are included as Figures 2C and 2D.

As shown in the graphs, six months post-injection, reductions in PCE have been observed in the following monitoring wells located within the injection area: MW-15S, MW-22S, MW-22I, MW-23S, and MW-23I. PCE was reduced by between 39% and 99% in these injection area monitoring wells. PCE concentrations were more variable in the remaining monitoring wells with some increases and some decreases observed. The PCE concentrations in the remaining monitoring wells are generally within the range of historical concentrations, except for MW-4R where PCE concentrations appear to be increasing over time. PCE concentrations outside of the injection area are expected to eventually decrease over time as a result of the source area remedial activities. Future monitoring will further evaluate concentration trends in monitoring wells located outside of the injection area.

The EHC injection promotes abiotic and biotic degradation of PCE. The degradation process results 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. As expected, increases in TCE, cis-1,2-DCE, and VC were observed in several of the injection area monitoring wells during the post-injection sampling events. In July 2014, the highest concentrations of degradation products were detected in monitoring wells MW-15S, MW-22I, and MW-23S located within the injection area. Concentrations of these constituents are expected to eventually decrease as further degradation occurs. Ethene and ethane, the final degradation end products, were also detected in the injection area monitoring wells confirming that complete biodegradation is occurring. Graphs depicting concentrations of PCE and its degradation products in the injection area monitoring wells are provided in Appendix B.

Other notable VOC concentration changes observed during the six-month post-injection period include detections of acetone and 2-butanone (MEK). Short-term increases in acetone and MEK are commonly observed after injection of bioremediation products, such as EHC. These constituents are produced during fermentation of the organic carbon matter in the EHC material. Acetone and MEK were detected in several of the injection area monitoring wells after the EHC injection. Six months post-injection detectable concentrations of these constituents are limited with acetone detected in MW-23S and MEK detected in MW-15S. Concentrations of acetone and MEK are expected to substantially decrease over time.

The analytical results for the geochemical parameters are summarized in Table 2. The objective of the EHC injection was to distribute organic carbon and iron into the source area aquifer to stimulate abiotic and biotic degradation of PCE. Increases in TOC and iron indicate good distribution of the EHC material 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 wells MW-15S, MW-22S, MW-22I, and MW-23S indicated high concentrations of TOC and iron one month after the injection confirming the EHC was effectively distributed throughout the target injection areas. Six months post-injection TOC and iron concentrations have decreased in most wells, but remain elevated above pre-injection levels confirming the EHC material remains in the subsurface. DO concentrations have also decreased in the injection area monitoring wells and increases in methane have been observed suggesting anaerobic conditions favorable for PCE degradation have been achieved and continue to persist three months post-injection. Graphs depicting changes in TOC, iron, DO, ORP, and methane for the injection area monitoring wells are provided in Appendix B.

In summary, the results for the first six months of post-injection sampling indicate that the EHC was effectively distributed throughout the target injection areas, conditions favorable for degradation of PCE have been created within the injection area, and substantial reductions in PCE concentrations have been observed in several monitoring wells. The next post-injection groundwater monitoring event is scheduled for October 2014, approximately nine months post-injection.

### ***Post-Injection Soil Gas Sampling Activities***

H&H conducted a six-month post-injection soil gas sampling event at the site on July 7, 2014. The following soil gas sample points were sampled during the July 2014 event:

- Source property: SV-8S/I, SV-14, SV-55S/I
- West of source property: SV-49D, SV-50
- South of source property: SV-27S/D, SV-28D
- East of source property: SV-18, SV-19, SV-20S/D, SV-21S/D, SV-24S/D, SV-25S/D, SV-29S/D, SV-35S/D, SV-36S/D

Samples were collected from each location and analyzed for PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride using EPA Method TO-15.

The soil gas sample analytical results are summarized in the attached Table 3 and shown on Figure 3. The results for the source property and properties to the west are compared to the Division of Waste Management (DWM) Non-Residential Soil Gas Screening Levels (SGSLs), and the results for the non-source properties to the south and east are compared to the DWM Residential SGSLs. PCE concentrations in sampled soil gas sample points have shown variable changes compared to the December 2013 pre-injection sampling event. In general, PCE soil gas concentrations on the source property and west of the source property have decreased since the injection. PCE soil gas concentrations on properties to the east and south have been more variable with some increases and some decreases observed over time. Additional monitoring is

planned to further evaluate the effects of the EHC injection on soil gas concentrations. The next soil gas sampling event is scheduled for October 2014, approximately nine months post-injection.

### ***Indoor Air Monitoring***

In June and July 2014, H&H collected post-injection indoor air samples at the three structures adjacent to the source property where vapor mitigation systems are in place (1419 Dollar Ave, 1421 Dollar Ave, and 1414 Watts St). The samples were collected following installation of additional vapor mitigation measures in May 2014. The mitigation systems at 1419 and 1421 Dollar Ave were modified to include sub-membrane depressurization in the crawlspaces and sub-slab depressurization in the basements. The mitigation system at 1414 Watts St was modified to include additional sub-slab vapor extraction points and vent fans. The modified mitigation systems were started up on May 12, 2014.

On June 22, 2014 and July 22, 2014, H&H collected two Summa canister indoor air samples from the Triangle Family Church at 1414 Watts St during the church's Sunday service. The samples were collected over a time period of approximately three hours. For the residences at 1419 and 1421 Dollar Ave, H&H collected two 14-day indoor air samples from the each residence using passive Radiello sampling devices. The sampling dates are shown on the attached calendar for both June and July. The results for the June 2014 samples collected at 1414 Watts Ave were discussed in the last monthly update and, therefore, are not discussed below.

The indoor air samples were submitted for laboratory analysis of PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and VC. The analytical results for the indoor air samples are summarized in Table 4 and presented on Figure 4.

PCE was detected in each of the indoor air samples collected at 1414 Watts St at concentrations of  $2.5 \mu\text{g}/\text{m}^3$  (1414-Front) and  $3.7 \mu\text{g}/\text{m}^3$  (1414-Rear) in July 2014. The detected PCE concentrations at the Triangle Family Church are lower than historical concentrations indicating that the mitigation system improvements are effectively reducing indoor air concentrations. To evaluate the risk associated with the detected indoor air concentrations, H&H evaluated a residential exposure scenario assuming 6 hours per week of exposure time, which is typical of a Triangle Family Church parishioner. As shown in the worksheets provided in Attachment B, the calculated cumulative carcinogenic risk levels are  $9.9 \times 10^{-9}$  and  $1.5 \times 10^{-8}$  and the hazard index levels are from 0.0022 and 0.0033 for the 1414-Front and 1414-Rear samples, respectively. These risk levels are well within acceptable levels.

PCE was detected in each of the indoor air samples collected from the residences at 1419 Dollar Ave and 1421 Dollar Ave during the June 2014 and July 2014 sampling events. The detected PCE concentrations ranged from  $0.54 \mu\text{g}/\text{m}^3$  to  $3.5 \mu\text{g}/\text{m}^3$  for 1419 Dollar Ave and from  $1.2 \mu\text{g}/\text{m}^3$  to  $3.5 \mu\text{g}/\text{m}^3$  for 1421 Dollar Ave. The detected PCE concentrations in both residences are below the DWM Residential Indoor Air Screening Level (IASL) of  $8.34 \mu\text{g}/\text{m}^3$ . TCE was only detected in one sample collected from the first floor of the 1421 Dollar Ave residence at a

concentration of  $0.75 \mu\text{g}/\text{m}^3$ . This concentration exceeds the DWM Residential IASL of  $0.43 \mu\text{g}/\text{m}^3$ . H&H calculated the risk associated with the detected indoor air concentrations during each sampling event. As shown in the worksheets in Attachment C, the carcinogenic risk levels are less than  $1 \times 10^{-5}$  and the hazard index levels are substantially less than 1.

Concurrent with the July indoor air sampling at 1419 Dollar Ave, H&H collected one outdoor air sample (1419-Side Out) between the sub-membrane/sub-slab depressurization system vent pipe and the adjacent residential property. PCE was detected in the outdoor air sample at a concentration of  $0.88 \mu\text{g}/\text{m}^3$ . The low concentration of PCE detected near the sub-slab depressurization system vent pipe is consistent with historical outdoor air sample data and does not represent a concern for adjacent residences. The sample location and results are shown on Figure 4.

### ***Soil Vapor Field Screening***

H&H completed a post-injection soil vapor field screening event at the site on July 15 and 16, 2014. The event included measuring total volatile organic compounds (VOCs), methane, carbon dioxide, and oxygen in soil vapor, indoor air, and outdoor ambient air. The primary purpose of the sampling is to confirm methane levels are within acceptable standards. Measurements were collected at the following locations:

- Soil Vapor Monitoring Points: SV-8S/I, SV-14, SV-18, SV-19, SV-20S/D, SV-21S/D, SV-25S/D, SV-27S/D, SV-28D, SV-29S/D, SV-36S/D, SV-49S/D, SV-50, SV-55S/I
- Excavation Vent Exhaust Pipe
- Sub-Slab Depressurization (SSD) System Exhaust and Indoor Air at 1414 Watts St (Triangle Family Church)
- Ambient, Outdoor Air on Source Property

The field screening data are summarized in the attached Table 5, and the methane readings collected between July 2013 and July 2014 are shown on the attached Figure 5. Recorded field measurements indicate that methane was only detected at a low concentration of 0.2% by volume in one soil vapor monitoring point (SV-50) during the July 2014 field screening event. This methane reading is well within acceptable levels.

Methane was not detected in the vapors from the excavation passive exhaust vent during the July 2014 sampling event. These vapors are exhausted into the atmosphere through the stack installed on the source property where they dissipate into the atmosphere. Ambient air monitoring conducted near ground level in the immediate vicinity of the exhaust vent did not detect any measurable methane. Methane also was not detected in the sub-slab depressurization system exhaust or indoor air at the Triangle Family Church at 1414 Watts St.

VOCs were detected in each of the monitored soil vapor points, except for SV-25S/D and SV-55I. In general, the soil vapor VOC concentrations are lower than the pre-injection concentrations. The highest VOC concentration was detected in soil vapor point SV-14 (5,120 ppm) located on the northern portion of the source property.

### ***Future Sampling Activities***

A project calendar identifying planned sampling activities through January 2015 is provided in Attachment A. Details regarding the planned sampling activities were provided in the May 13, 2014 update. The next sampling activities include methane field screening, indoor air sampling, groundwater sampling, and soil gas sampling in October 2014. H&H anticipates providing the next update in early December after receiving the results from the October sampling event.

## **TABLES**













**Table 1: Analytical Data for Groundwater**

**ADT 1**

**DSCA ID No.: 32-0013**

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-22I	01/03/13	<0.1	<b>2.8</b>	<0.1	<0.1	<0.1	<b>67</b>	<0.5	<0.1	<b>1.4</b>	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<5.0	<0.5	1.3	<0.1
	01/11/13	<0.5	<b>4.1</b>	<0.5	<0.5	<0.5	<b>70</b>	<2.5	<0.5	<b>1.6</b>	<0.5	<1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<25	<2.5	<5.0	<0.5
	08/21/13	<0.001	<b>1.26</b>	<0.001	<0.001	<0.005	<b>57.7</b>	0.00895	<0.05	<b>1.04</b>	<b>0.0596</b>	<0.002	<0.001	<0.001	<0.001	<b>0.0290</b>	<b>0.0138</b>	0.0558	<b>0.00852</b>	<0.05	<0.001
	12/16/13	<0.001	<b>0.380</b>	<0.001	<0.001	<0.005	<b>70.7</b>	0.00924	0.00593	<b>0.451</b>	<b>0.0375</b>	<0.003	<0.001	<0.001	<0.001	<b>0.0410</b>	<b>0.00983</b>	0.0435	<b>0.0107</b>	<0.05	<0.001
	02/28/14	<0.1	<b>14.7</b>	<0.1	<0.1	<0.5	<b>12.1</b>	0.0420J	<b>0.187</b>	<b>2.77</b>	<b>0.0967J</b>	<0.3	<0.1	<0.1	<0.1	<0.1	<b>0.0826J</b>	0.617J	<b>0.0333J</b>	<b>4.36J</b>	<0.1
	03/28/14	<b>0.00143</b>	<b>17.6</b>	<0.001	<0.001	<0.005	<b>9.61</b>	0.0349	<b>0.121</b>	<b>2.06</b>	<b>0.0835</b>	<0.003	<0.001	<0.001	<0.001	<b>0.0177</b>	<b>0.0777</b>	0.581	<b>0.0014</b>	<5.0	<0.001
	04/24/14	<b>0.00102</b>	<b>47.2</b>	<0.001	<0.001	<0.005	<b>0.0147</b>	0.0110	<1.0	<b>0.00925</b>	<b>0.172</b>	<0.003	<b>0.00266</b>	<0.001	<0.001	<b>0.00516</b>	<b>0.192</b>	0.406	<0.001	<0.05	<0.001
07/10/14	<0.001	<b>64.4</b>	<0.001	<0.001	<0.005	<b>0.858</b>	0.0107	<0.001	<b>0.0708</b>	<b>0.261</b>	<0.002	<b>0.00438</b>	<0.001	<0.001	0.00437	<b>0.189</b>	<0.025	<b>0.00110</b>	<0.05	<0.001	
MW-23S	08/19/13	<0.001	0.00395	0.00133	<0.001	<b>0.00592</b>	<b>80.9</b>	0.00432	<0.001	<b>0.0101</b>	<0.001	0.00488	<0.001	<0.001	<b>0.00542</b>	<b>0.0545</b>	<0.001	0.0787	<b>0.0149</b>	<0.050	<0.001
	12/17/13	<0.001	0.0191	0.00141	<0.001	<b>0.0105</b>	<b>92.4</b>	0.00619	<0.001	<b>0.0144</b>	<0.001	0.00526	<0.001	<0.001	<b>0.00412</b>	<b>0.0563</b>	<0.001	0.180	<b>0.0163</b>	0.161	<0.001
	02/28/14	<0.1	0.0390J	<0.1	<0.1	<b>0.0504J</b>	<b>49.4</b>	<0.1	<0.1	<b>0.348</b>	<0.1	<0.3	<0.1	<0.1	<0.1	<b>0.0399J</b>	<0.1	0.593J	<b>0.0436J</b>	0.434J	<0.1
	03/28/14	<0.001	0.0159	<0.001	<0.001	<b>0.00737</b>	<b>39.1</b>	0.00256	0.00315	<b>0.282</b>	<b>0.00197</b>	<0.3	<0.001	<0.001	<b>0.00140</b>	<b>0.0158</b>	<b>0.0195</b>	0.255	<b>0.00473</b>	0.307	<0.001
	04/25/14	<0.001	0.0306	<0.001	<0.001	<b>0.0146</b>	<b>59.5</b>	0.00521	0.00365	<b>0.399</b>	<b>0.00224</b>	<0.3	<0.001	<0.001	<b>0.00276</b>	<b>0.0283</b>	<b>0.0389</b>	0.424	<b>0.00917</b>	0.659	<0.001
	07/10/14	<0.001	<b>24.1</b>	<0.001	<0.001	<b>0.00832</b>	<b>34.5</b>	0.00255	<0.001	<b>1.37</b>	<b>0.0398</b>	<0.002	<b>0.00125</b>	<0.001	<b>0.00144</b>	<b>0.0116</b>	<b>0.0549</b>	0.444	<b>0.00427</b>	<0.05	<0.001
MW-23I	08/19/13	<0.001	<0.001	<0.001	<0.001	<0.005	<b>1.76</b>	<0.001	<0.001	<b>0.00140</b>	<0.001	<0.002	<0.001	<0.001	<0.001	<b>0.00461</b>	<0.001	<0.005	<b>0.00147</b>	<0.050	<0.001
	12/17/13	<0.001	<0.001	<0.001	<0.001	<0.005	<b>0.659</b>	<0.001	<0.001	<0.001	<0.001	<0.003	<0.001	<0.001	<0.001	<b>0.00180</b>	<0.001	<0.005	<0.001	<0.050	<0.001
	02/28/14	<0.001	<b>0.316</b>	<0.001	<0.001	<0.005	<b>0.0453</b>	0.00113	0.00430J	<b>0.0133</b>	<0.001	<0.003	0.000236J	<0.001	<0.001	0.000557J	0.000949J	<0.005	<0.001	<0.050	<0.001
	03/28/14	<0.001	<b>0.257</b>	<0.001	<0.001	<0.005	<b>0.00115</b>	<0.001	<0.01	<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	<b>0.145</b>	<0.001	<0.001	<0.005	<b>0.169</b>	<0.001	<0.01	<b>0.00976</b>	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.025	<0.001	<0.050	<0.001
	07/10/14	<0.001	<b>0.118</b>	<0.001	<0.001	<0.005	<b>0.400</b>	<0.001	<0.001	<b>0.0139</b>	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.025	<0.001	<0.05	<0.001
<b>UST Incident No. 15968 (Northgate Shell) Permanent Monitoring Wells</b>																					
UST-MW-1	07/31/14	<0.001	0.0411	<0.001	<b>0.114</b>	<0.005	<b>0.0781</b>	<0.001	<0.001	<b>0.0274</b>	<b>0.00609</b>	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.025	<0.001	<0.050	<0.001
UST-MW-10	07/31/14	<b>1.15</b>	<b>0.401</b>	<b>1.79</b>	<b>0.445</b>	<b>0.414</b>	<b>0.00965</b>	0.203	<0.025	<b>0.0258</b>	<b>0.00495</b>	<b>3.44</b>	<0.001	<0.001	0.00100	<b>0.00298</b>	0.00166	<0.025	<b>0.00915</b>	<0.050	<b>0.00179</b>
UST-MW-12	07/31/14	<0.001	<0.001	<0.001	0.00606	<0.005	<0.001	<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
UST-MW-16	07/31/14	<0.001	<b>0.00196</b>	0.00202	<0.001	<0.005	<b>0.0308</b>	0.00133	<0.001	<b>0.00672</b>	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.025	<0.001	<0.050	<0.001
UST-MW-19	07/31/14	<b>0.0833</b>	<b>0.711</b>	<b>1.04</b>	<b>0.396</b>	<b>0.269</b>	<b>0.00223</b>	0.0375	<0.025	<b>0.00352</b>	<b>0.0580</b>	<b>1.88</b>	<0.001	<0.001	<0.001	<0.001	<b>0.00289</b>	<0.025	<0.001	<0.050	<0.001
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. <b>Bold</b> 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 4. 2-Chlorotoluene (0.0766 mg/L) and 1,2,3-trichloropropane (0.00411 mg/L) were detected in UST-MW-10 on 7/31/14.																					













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

**ADT 1(1)**

DSCA ID No.: 32-0013																						
Groundwater Sampling Point	Sampling Date (mm/dd/yy)	Chlorobenzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Diisopropyl ether	Isopropylbenzene	n-Propylbenzene	p-Isopropyltoluene	1,1,1,2-Tetrachloroethane	4-Methyl-2-pentanone (MIBK)	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,4-Dichlorobenzene	1,2-Dichloropropane	1,2,3-Trimethylbenzene	Chloromethane	Dichlorodifluoromethane	Trichlorofluoromethane	Methylene Chloride	
		[mg/L]																				
MW-22I	01/03/13	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	
	01/11/13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	
	08/21/13	0.00558	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<b>0.0742</b>	0.0124	0.00357	0.00110	<0.001	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.005	
	12/16/13	0.00658	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<b>0.0596</b>	0.0122	0.00432	0.00132	<0.001	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.005	
	02/28/14	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<b>0.0239J</b>	
	03/28/14	0.00265	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01	0.00166	<0.001	<0.001	<0.001	0.00108	NA	<0.001	<0.001	<0.001	<0.005
	04/24/14	0.00350	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.010	0.00237	<0.001	<0.001	<0.001	0.00111	NA	<0.001	<0.001	<0.001	<0.005
07/10/14	0.00359	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	0.00104	0.0106	0.00237	<0.001	<0.001	<0.001	<0.001	0.00123	NA	0.00284	<0.001	<0.001	<0.005	
MW-23S	08/19/13	0.00353	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<b>0.142</b>	0.00650	0.00197	0.00100	<0.001	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.005	
	12/17/13	0.00394	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<b>0.128</b>	0.0155	0.00242	0.00113	<0.001	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.005	
	02/28/14	0.00394	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<b>0.0334J</b>	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.5	
	03/28/14	0.00173	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<b>0.0133</b>	<0.010	0.00156	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.005	
	04/25/14	0.00293	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<b>0.0152</b>	<0.010	0.00195	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.005	
	07/10/14	0.00249	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<b>0.0297</b>	<0.010	0.00110	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.005	
MW-23I	08/19/13	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<b>0.00730</b>	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.005	
	12/17/13	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	0.00214	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.005	
	02/28/14	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	0.000959J	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.005	
	03/28/14	<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	NA	<0.001	<0.001	<0.001	<0.005	
	04/25/14	<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	NA	<0.001	<0.001	<0.001	<0.005	
	07/10/14	<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	NA	<0.001	<0.001	<0.001	<0.005	
<b>UST Incident No. 15968 (Northgate Shell) Permanent Monitoring Wells</b>																						
UST-MW-1	07/31/14	<0.001	<0.001	0.00293	<0.001	0.0321	<0.001	<0.001	<0.001	<0.001	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.005	
UST-MW-10	07/31/14	<0.001	0.0191	0.00789	<0.001	<b>0.133</b>	0.0685	<b>0.167</b>	0.00554	<0.001	<0.010	<b>0.614</b>	0.169	<0.001	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<b>0.0836</b>	
UST-MW-12	07/31/14	<0.001	<0.001	<0.001	<0.001	0.00236	<0.001	<0.001	<0.001	<0.001	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.005	
UST-MW-16	07/31/14	<0.001	<0.001	<0.001	<0.001	0.0100	<0.001	<0.001	<0.001	<0.001	<0.010	0.00135	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.005	
UST-MW-19	07/31/14	<0.001	0.0250	0.0180	<0.001	0.00614	<b>0.174</b>	<b>0.256</b>	0.0128	<0.001	<0.010	<b>0.601</b>	0.237	<0.001	<0.001	<b>0.00221</b>	NA	<0.001	<0.001	<0.001	<0.005	
Tier 1 RBSL (or NC 2L Standard)		0.050	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	NE	0.0030	0.0014	2.0	0.005	
Notes:																						
1. <b>Bold</b> 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																						
4. 2-Chlorotoluene (0.0766 mg/L) and 1,2,3-trichloropropane (0.00411 mg/L) were detected in UST-MW-10 on 7/31/14.																						

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

**ADT 2**

**DSCA ID No.: 32-0013**

Sample ID	Sampling Date (mm/dd/yy)	Dissolved oxygen (DO)	Methane	Oxidation reduction potential (ORP)	Conductivity	pH	Temperature	Total organic carbon (TOC)	Ethane	Ethene	Total Iron	Barium	Chromium	Lead
	Units	mg/L	mg/L	mV	µs/cm <sup>2</sup>	std unit	° C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MW-3R	08/05/11	6.57	<0.00072	44.87	125	5.42	20.36	NA	<0.001	<0.0023	NA	NA	NA	NA
	05/18/12	NA	<0.010	NA	NA	NA	NA	NA	<0.013	<0.013	NA	NA	NA	NA
	08/20/13	2.75	<0.005	196.2	127	5.52	21.07	2.76	<0.005	<0.005	1.79	NA	NA	NA
	12/16/13	2.52	0.0216	68.1	104	5.21	17.06	NA	<0.005	<0.005	NA	NA	NA	NA
	02/26/14	3.91	<0.005	214.2	138	4.92	16.41	1.19	<0.005	<0.005	0.448	NA	NA	NA
	03/28/14	4.39	<0.005	-262.1	116	5.58	18.65	3.38	<0.005	<0.005	0.801	NA	NA	NA
	04/25/14	3.91	<0.005	100.9	151	5.91	17.28	9.13	<0.005	<0.005	0.360	NA	NA	NA
	07/09/14	1.92	0.00800	200.6	107	5.17	21.54	3.32	<0.005	<0.005	0.590	NA	NA	NA
MW-3I	08/05/11	3.02	<0.00072	65.90	413	5.94	20.79	NA	<0.001	<0.0023	NA	NA	NA	NA
	05/18/12	NA	<0.010	NA	NA	NA	NA	NA	<0.013	<0.013	NA	NA	NA	NA
	08/20/13	1.14	<0.005	-38.8	410	6.72	21.38	1.16	<0.005	<0.005	0.162	NA	NA	NA
	12/16/13	1.55	<0.005	60.5	367	6.68	18.28	NA	<0.005	<0.005	NA	NA	NA	NA
	02/26/14	1.39	<0.005	99.3	482	6.76	16.98	1.05	<0.005	<0.005	1.51	NA	NA	NA
	03/28/14	1.26	0.00927	-298.4	347	6.61	18.84	<1.00	<0.005	<0.005	<0.100	NA	NA	NA
	04/25/14	1.55	<0.005	108.9	400	6.67	17.61	1.16	<0.005	<0.005	0.265	NA	NA	NA
	07/09/14	1.3	<0.005	138.5	354	6.46	22.22	<1.00	<0.005	<0.005	0.158	NA	NA	NA
MW-4R	05/17/12	NA	0.011	NA	NA	NA	NA	NA	<0.013	<0.013	NA	NA	NA	NA
	08/20/13	0.93	<0.005	157.9	88	5.59	20.46	<1.0	<0.005	<0.005	0.814	NA	NA	NA
	12/17/13	2.47	<0.005	89.1	84	5.59	15.16	NA	<0.005	<0.005	NA	0.150	0.00540	<0.00500
	02/26/14	1.55	<0.005	209.8	105	5.50	16.15	<1.00	<0.005	<0.005	1.19	0.150	0.00540	<0.00500
	03/27/14	1.97	<0.005	-263.1	88	6.19	15.25	<1.00	<0.005	<0.005	0.179	0.135	<0.00500	<0.00500
	04/24/14	1.92	<0.005	-103.4	102	7.78	15.75	<1.00	<0.005	<0.005	0.486	0.133	<0.00500	<0.00500
	07/09/14	1.79	<0.005	181.2	92	5.79	22.58	<1.00	<0.005	<0.005	0.393	0.137	<0.00500	<0.00500
MW-4I	05/17/12	NA	<0.010	NA	NA	NA	NA	NA	<0.013	<0.013	NA	NA	NA	NA
	08/20/13	4.85	<0.005	171.9	55	5.98	21.74	<1.0	<0.005	<0.005	1.16	NA	NA	NA
	12/17/13	6.12	0.0127	39.6	52	6.22	13.98	NA	<0.005	<0.005	NA	0.0281	<0.00500	0.00720
	02/26/14	5.64	<0.005	146.0	190	6.18	16.67	NA	<0.005	<0.005	0.559	0.0252	<0.00500	<0.00500
	03/27/14	6.4	<0.005	-228.8	43	6.04	14.23	<1.0	<0.005	<0.005	0.657	0.0244	<0.00500	<0.00500
	04/24/14	5.62	<0.005	-39.7	59	8.70	15.60	<1.0	<0.005	<0.005	4.83	0.0351	<0.00500	<0.00500
07/09/14	4.9	<0.005	135.7	54	5.94	26.45	<1.0	<0.005	<0.005	3.88	0.0304	0.00500	<0.00500	

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

**ADT 2**

**DSCA ID No.: 32-0013**

Sample ID	Sampling Date (mm/dd/yy)	Dissolved oxygen (DO)	Methane	Oxidation reduction potential (ORP)	Conductivity	pH	Temperature	Total organic carbon (TOC)	Ethane	Ethene	Total Iron	Barium	Chromium	Lead
	Units	mg/L	mg/L	mV	µs/cm <sup>2</sup>	std unit	° C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MW-6	08/19/13	1.11	NA	154.4	210	5.58	21.11	NA	NA	NA	NA	NA	NA	NA
	07/08/14	1.82	NA	74.8	188	5.81	24.12	NA	NA	NA	NA	NA	NA	NA
MW-7	08/22/13	1.55	NA	140.3	98	5.83	19.69	NA	NA	NA	NA	NA	NA	NA
	07/08/14	2.58	NA	199	95	5.54	23.38	NA	NA	NA	NA	NA	NA	NA
MW-8	08/21/13	3.69	NA	133.8	200	6.26	22.00	NA	NA	NA	NA	NA	NA	NA
	07/08/14	2.93	NA	192.7	89	5.29	25.34	NA	NA	NA	NA	NA	NA	NA
MW-9	08/22/13	0.62	NA	161.2	273	4.98	21.61	NA	NA	NA	NA	NA	NA	NA
	07/09/14	0.31	NA	244.1	235	4.76	20.07	NA	NA	NA	NA	NA	NA	NA
MW-10	05/17/12	NA	0.48	NA	NA	NA	NA	NA	<0.013	<0.013	NA	NA	NA	NA
	08/21/13	0.33	0.393	-58.2	940	6.68	23.12	4.48	<0.005	<0.005	9.18	NA	NA	NA
	12/16/13	1.56	1.55	-82.3	897	6.70	20.05	NA	0.00792	<0.005	NA	NA	NA	NA
	02/28/14	0.94	0.777	77.0	1,095	6.65	12.63	3.17	<0.005	<0.005	1.41	NA	NA	NA
	03/27/14	1.00	0.243	-295.5	1,633	6.65	17.85	2.76	<0.005	<0.005	2.60	NA	NA	NA
	04/25/14	0.30	0.164	30.7	2,332	7.17	21.83	2.80	<0.005	<0.005	0.849	NA	NA	NA
MW-11	07/08/14	0.26	0.143	67.2	2,088	6.85	24.48	2.43	<0.005	<0.005	0.107	NA	NA	NA
	08/20/13	0.48	NA	179.1	503	6.12	21.14	NA	NA	NA	NA	NA	NA	NA
MW-12	07/08/14	1.96	NA	13.7	539	6.32	23.8	NA	NA	NA	NA	NA	NA	NA
	08/20/13	0.50	NA	153.7	134	5.31	20.37	NA	NA	NA	NA	NA	NA	NA
MW-13	07/08/14	0.21	NA	243.9	127	5	22.1	NA	NA	NA	NA	NA	NA	NA
	08/20/13	0.25	NA	391.5	191	5.01	21.12	NA	NA	NA	NA	NA	NA	NA
MW-14S	07/08/14	0.28	NA	506.3	181	4.78	22.98	NA	NA	NA	NA	NA	NA	NA
	05/18/12	NA	<0.010	NA	NA	NA	NA	NA	<0.013	<0.013	NA	NA	NA	NA
	08/22/13	3.39	<0.005	0.4	213	6.54	20.95	1.97	<0.005	<0.005	5.23	NA	NA	NA
	12/20/13	5.13	0.0176	123.8	132	6.26	15.30	NA	0.0441	<0.005	NA	NA	NA	NA
	02/27/14	5.95	0.0189	194.4	102	5.94	12.50	NA	<0.005	<0.005	3.71	NA	NA	NA
	03/27/14	5.14	<0.005	185.8	101	5.97	12.73	1.29	<0.005	<0.005	2.94	NA	NA	NA
04/24/14	5.25	0.00718	-36.3	85	7.62	16.35	1.29	<0.005	<0.005	8.14	NA	NA	NA	
07/09/14	3.49	0.00823	95.6	86	5.81	23.83	<1.0	<0.005	<0.005	5.53	NA	NA	NA	

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

**ADT 2**

**DSCA ID No.: 32-0013**

Sample ID	Sampling Date (mm/dd/yy)	Dissolved oxygen (DO)	Methane	Oxidation reduction potential (ORP)	Conductivity	pH	Temperature	Total organic carbon (TOC)	Ethane	Ethene	Total Iron	Barium	Chromium	Lead
	Units	mg/L	mg/L	mV	µs/cm <sup>2</sup>	std unit	° C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MW-14I	05/18/12	NA	<0.010	NA	NA	NA	NA	NA	<0.013	<0.013	NA	NA	NA	NA
	08/22/13	2.77	<0.005	15.1	219	6.62	22.07	<1.0	<0.005	<0.005	1.23	NA	NA	NA
	12/19/13	5.25	<0.005	127.8	54	6.04	16.24	NA	<0.005	<0.005	NA	NA	NA	NA
	02/27/14	7.25	<0.005	194.1	56	5.87	15.12	<1.0	<0.005	<0.005	64.7	NA	NA	NA
	03/27/14	5.61	<0.005	175.1	52	5.86	13.90	18.5	<0.005	<0.005	1.18	NA	NA	NA
	04/24/14	9.74	<0.005	-65	54	7.26	16.41	5.24	<0.005	<0.005	26.0	NA	NA	NA
	07/09/14	4.16	<0.005	79.6	61	6.23	21.85	<1.0	<0.005	<0.005	16.3	NA	NA	NA
MW-15S	08/19/13	7.22	NA	170.5	62	5.00	19.41	NA	NA	NA	NA	NA	NA	NA
	12/20/13	6.23	<0.005	132.6	87	6.72	15.83	NA	<0.005	<0.005	NA	NA	NA	NA
	02/26/14	1.01	0.00925	67.0	1,872	4.39	13.61	2,690	<0.005	<0.005	345	NA	NA	NA
	03/26/14	3.42	0.0398	-334.6	1,614	4.64	13.08	1,750	0.00577	0.00835	146	NA	NA	NA
	04/25/14	1.35	0.341	60.6	1,623	6.13	19.42	1,060	0.00529	0.00816	122	NA	NA	NA
	07/10/14	0.24	1.80	-14.7	1,656	5.46	22.36	975	<0.005	0.00582	135	NA	NA	NA
MW-15I	08/19/13	2.56	NA	208.6	127	5.64	19.85	NA	NA	NA	NA	NA	NA	NA
	12/17/13	2.60	<0.005	124.1	117	5.65	16.72	NA	<0.005	<0.005	NA	NA	NA	NA
	02/26/14	1.31	<0.005	127.0	262	5.71	13.02	3.16	<0.005	<0.005	1.61	NA	NA	NA
	03/26/14	1.04	<0.005	-258.2	115	5.76	13.69	9.15	<0.005	<0.005	2.14	NA	NA	NA
	04/25/14	1.14	0.0118	92.3	134	5.78	18.36	5.12	<0.005	<0.005	8.33	NA	NA	NA
	07/10/14	0.91	0.0364	99.0	134	5.58	21.52	1.93	<0.005	<0.005	1.43	NA	NA	NA
MW-16S	05/18/12	NA	<0.010	NA	NA	NA	NA	NA	<0.013	<0.013	NA	NA	NA	NA
	08/21/13	4.40	<0.005	201.0	80	5.74	20.89	1.35	<0.005	<0.005	8.99	NA	NA	NA
	12/19/13	3.89	<0.005	108.0	82	5.96	15.69	NA	<0.005	<0.005	NA	NA	NA	NA
	02/27/14	8.16	<0.005	278.3	87	6.33	14.30	1.14	<0.005	<0.005	107	NA	NA	NA
	03/27/14	6.60	<0.005	207.6	82	6.12	13.85	<1.0	<0.005	<0.005	5.03	NA	NA	NA
	04/23/14	4.25	<0.005	-6.5	86	7.68	18.14	1.15	<0.005	<0.005	2.13	NA	NA	NA
	07/10/14	3.49	<0.005	31.9	83	6.06	21.49	1.60	<0.005	<0.005	3.79	NA	NA	NA

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

**ADT 2**

**DSCA ID No.: 32-0013**

Sample ID	Sampling Date (mm/dd/yy)	Dissolved oxygen (DO)	Methane	Oxidation reduction potential (ORP)	Conductivity	pH	Temperature	Total organic carbon (TOC)	Ethane	Ethene	Total Iron	Barium	Chromium	Lead
	Units	mg/L	mg/L	mV	µs/cm <sup>2</sup>	std unit	° C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MW-16I	05/18/12	NA	<0.010	NA	NA	NA	NA	NA	<0.013	<0.013	NA	NA	NA	NA
	08/21/13	4.69	<0.005	194.1	82	5.90	22.31	<1.0	<0.005	<0.005	0.811	NA	NA	NA
	12/19/13	6.64	<0.005	96.2	41	5.80	15.81	NA	<0.005	<0.005	NA	NA	NA	NA
	02/27/14	7.35	<0.005	215.0	52	5.79	14.17	<1.0	<0.005	<0.005	22.5	NA	NA	NA
	03/27/14	6.61	<0.005	182.5	49	5.81	13.60	<1.0	<0.005	<0.005	<0.100	NA	NA	NA
	04/23/14	6.10	<0.005	21.8	52	7.20	16.95	1.24	<0.005	<0.005	2.86	NA	NA	NA
	07/10/14	5.99	<0.005	98.1	51	6.00	19.71	<1.0	<0.005	<0.005	11.9	NA	NA	NA
MW-17S	08/21/13	2.55	NA	47.8	245	6.18	22.55	NA	NA	NA	NA	NA	NA	NA
	07/09/14	1.32	NA	62.3	211	6.12	18.46	NA	NA	NA	NA	NA	NA	NA
MW-17I	08/21/13	5.20	NA	128.4	74	6.12	22.38	NA	NA	NA	NA	NA	NA	NA
	07/09/14	3.45	NA	35.7	61	6.04	20.02	NA	NA	NA	NA	NA	NA	NA
MW-18	05/18/12	NA	<0.010	NA	NA	NA	NA	NA	<0.013	<0.013	NA	NA	NA	NA
	08/19/13	4.92	<0.005	155.5	74	5.38	19.09	1.01	<0.005	<0.005	13.1	NA	NA	NA
	12/17/13	5.76	<0.005	109.8	41	5.59	16.70	NA	<0.005	<0.005	NA	NA	NA	NA
	02/26/14	5.81	<0.005	188.4	50	5.29	14.46	<1.00	<0.005	<0.005	NA	NA	NA	NA
	03/26/14	6.57	<0.005	-258.4	40	5.55	15.12	<1.00	<0.005	<0.005	0.639	NA	NA	NA
	04/24/14	5.19	0.00895	-44.3	51	6.86	18.25	1.81	<0.005	<0.005	1.95	NA	NA	NA
	07/08/14	5.18	0.00596	122.2	43	5.68	22.93	<1.00	<0.005	<0.005	0.815	NA	NA	NA
MW-19	08/19/13	2.01	NA	144.3	426	6.49	21.95	NA	NA	NA	NA	NA	NA	NA
	07/08/14	1.62	NA	47.4	482	6.64	25.58	NA	NA	NA	NA	NA	NA	NA
MW-20S	07/07/14	2.01	NA	235.5	209	5.58	18.48	NA	NA	NA	NA	NA	NA	NA
MW-21	08/20/13	1.02	<0.005	-183.2	447	6.82	21.32	1.25	<0.005	<0.005	4.44	NA	NA	NA
	12/16/13	1.78	<0.005	13.1	411	6.85	19.63	NA	<0.005	<0.005	NA	NA	NA	NA
	02/26/14	1.57	<0.005	197.0	471	6.55	15.92	1.28	<0.005	<0.005	1.79	NA	NA	NA
	03/27/14	1.29	<0.005	-277.4	394	6.89	15.85	1.14	<0.005	<0.005	1.20	NA	NA	NA
	04/25/14	1.00	0.00516	19.8	475	7.47	20.41	1.38	<0.005	<0.005	0.268	NA	NA	NA
	07/08/14	1.19	0.0731	47.3	497	6.85	24.48	<1.00	<0.005	<0.005	0.535	NA	NA	NA

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

**ADT 2**

**DSCA ID No.: 32-0013**

Sample ID	Sampling Date (mm/dd/yy)	Dissolved oxygen (DO)	Methane	Oxidation reduction potential (ORP)	Conductivity	pH	Temperature	Total organic carbon (TOC)	Ethane	Ethene	Total Iron	Barium	Chromium	Lead
	Units	mg/L	mg/L	mV	µs/cm <sup>2</sup>	std unit	° C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MW-22S	08/21/13	0.39	3.61	-57.1	568	6.56	22.78	4.48	0.160	0.0158	9.17	NA	NA	NA
	12/17/13	1.03	2.65	-40.5	302	6.35	15.02	NA	0.293	0.129	NA	NA	NA	NA
	02/28/14	0.75	8.87	-85.0	2,286	6.54	12.09	569	0.0293	<0.005	344	NA	NA	NA
	03/28/14	0.36	6.02	-319.2	1,637	6.63	19.26	59.2	0.0182	<0.005	144	NA	NA	NA
	04/24/14	0.52	5.75	-113.8	1,528	8.45	19.01	22.1	0.0169	<0.005	60.4	NA	NA	NA
	07/10/14	0.26	3.62	-70.6	1,099	6.51	22.95	10.9	0.0183	<0.005	32.2	NA	NA	NA
MW-22I	08/21/13	1.91	0.0318	28.5	218	6.66	22.91	1.72	0.0163	0.0192	0.245	NA	NA	NA
	12/16/13	2.37	0.0295	18.2	169	6.87	18.49	NA	0.00965	0.00937	NA	NA	NA	NA
	02/28/14	0.98	0.0920	99.6	2,438	4.88	10.66	1,610	0.0770	0.0224	284	NA	NA	NA
	03/28/14	0.51	0.0422	-295.8	2,039	4.96	18.60	1,650	0.0348	0.0144	242	NA	NA	NA
	04/24/14	0.76	0.125	-52.9	3,530	7.83	17.90	246	0.120	0.0288	505	NA	NA	NA
	07/10/14	0.43	0.678	-23.2	2,859	5.63	22.13	1,500	0.142	0.0508	345	NA	NA	NA
MW-23S	08/19/13	7.40	0.0196	184.4	65	5.87	20.89	1.89	<0.005	<0.005	2.05	NA	NA	NA
	12/17/13	1.41	0.0898	106.8	60	5.77	19.14	NA	<0.005	<0.005	NA	NA	NA	NA
	02/28/14	0.98	0.0545	129.8	1,608	4.63	15.05	861	0.0136	0.0121	173	NA	NA	NA
	03/28/14	1.07	0.0872	-326.3	895	5.46	15.96	476	0.0149	0.0140	157	NA	NA	NA
	04/25/14	0.58	0.103	1.7	593	6.00	16.61	383	0.0138	0.0238	131	NA	NA	NA
	07/10/14	0.41	0.0772	36.7	477	5.32	21.43	162	0.00907	0.0146	48.9	NA	NA	NA
MW-23I	08/19/13	8.13	<0.005	188.5	75	6.31	21.69	1.01	<0.005	<0.005	26.0	NA	NA	NA
	12/17/13	7.01	<0.005	127.4	54	5.81	17.69	NA	<0.005	<0.005	NA	NA	NA	NA
	02/28/14	1.03	<0.005	76.7	70	6.20	12.46	2.54	<0.005	<0.005	7.64	NA	NA	NA
	03/28/14	0.59	<0.005	-306.0	106	6.50	15.76	8.25	<0.005	<0.005	2.45	NA	NA	NA
	04/25/14	0.34	<0.005	28.7	72	6.88	17.70	1.72	<0.005	<0.005	7.31	NA	NA	NA
	07/10/14	0.44	<0.005	100.1	55	5.82	21.41	1.03	<0.005	<0.005	10.8	NA	NA	NA

Note: NA denotes not analyzed.



**Table 3: Analytical Data for Soil Gas**

**ADT 3**

**DSCA ID No.: 32-0013**

Sample ID	Depth [feet bgs]	Sample Duration <sup>1</sup>	Sampling Date (mm/dd/yy)	cis-1,2-Dichloroethylene	Tetrachloroethylene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride
SV-8S	5	N/A	05/29/09	<6,300	<b>2,600,000</b>	<6,300	<8,600	<4,100
		16m	05/16/12	<63	<b>88,000</b>	<63	<86	<41
		10m	11/27/12	<7,900	<b>1,000,000</b>	<7,900	<b>12,000</b>	<5,100
		N/A	01/08/13	<1,600	<b>1,600,000</b>	<1,600	<2,100	<1,000
		1h	10/09/13	<4.0	3,400	<4.0	<5.4	<2.6
		1h 20m	12/17/13	<7,900	<b>5,000,000</b>	<7,900	<11,000	<5,100
		1h 19m	02/24/14	<7.9	<b>3,400,000</b>	<7.9	130	<5.1
		10m	03/24/14	<2,000	<b>1,500,000</b>	<2,000	<2,700	<1,300
		6m	04/21/14	<7,900	<b>2,300,000</b>	<7,900	<11,000	<5,100
		11m	07/07/14	<16	<b>2,600,000</b>	<16	<b>580</b>	<10
SV-8I	17	9m	11/27/12	<63,000	<b>9,500,000</b>	<63,000	<86,000	<41,000
		N/A	01/08/13	<32,000	<b>39,000,000</b>	<32,000	<43,000	<20,000
		1h	10/09/13	<16,000	<b>27,000,000</b>	<16,000	<21,000	<10,000
		1h 18m	12/17/13	<32,000	<b>36,000,000</b>	<32,000	<43,000	<20,000
		1h 20m	02/24/14	180	<b>30,000,000</b>	70	<b>3,900</b>	120
		18m	03/24/14	<2,000	<b>12,000,000</b>	<2,000	<b>11,000</b>	<1,300
		1h 26m	04/21/14	<16,000	<b>9,000,000</b>	<16,000	<b>11,000J</b>	<10,000
		1h 21m	07/07/14	390	<b>7,400,000</b>	220	<b>11,000</b>	310
SV-14	5	N/A	07/29/09	<28.94	<b>227,177</b>	<28.94	41.92	<18.66
		1 hr 29m	12/18/13	<4.0	<b>250,000</b>	<4.0	33	<2.6
		1 hr 12m	02/24/14	<7.9	<b>200,000</b>	<7.9	27	<5.1
		10m	03/25/14	<400	<b>110,000</b>	<400	<540	<260
		5m	04/22/14	<400	<b>310,000</b>	<400	<540	<260
		10m	07/07/14	<16	<b>290,000</b>	<16	38	<10
SV-18	5	N/A	09/10/09	<1.6	<b>105,000</b>	<1.6	11.3	<1.0
		N/A	11/17/09	<71.7	<b>21,435</b>	<138	<97	<45.2
		6m	05/17/12	<1,600	<b>2,400,000</b>	<1,600	<2,100	<1,000
		11m	11/27/12	<63	<b>57,000</b>	<63	<86	<41
		N/A	01/08/13	<32	<b>81,000</b>	<32	<43	<20
		1h 15m	10/09/13	<4.0	<b>1,200</b>	<4.0	<5.4	<2.6
		1h 10m	12/18/13	<4.0	<b>180,000</b>	<4.0	4.7J	<2.6
		1h 22m	02/24/14	<7.9	<b>120,000</b>	<7.9	3.2J	<5.1
		10m	03/25/14	<4.0	<b>74,000</b>	<4.0	6.8	<2.6
		6m	04/21/14	<400	<b>240,000</b>	<400	<540	<260
SV-19	5	9m	07/07/14	<16	<b>180,000</b>	<16	<21	<10
		N/A	09/10/09	<13.0	<b>3,910</b>	<13.0	<17.6	<8.3
		16m	05/16/12	<1.6	<b>2,100</b>	<1.6	<2.1	<1.0
		18m	11/27/12	<6.3	<b>2,100</b>	<6.3	<8.6	<4.1
		N/A	01/08/13	<1.6	<b>2,600</b>	<1.6	<2.1	<1.0
		1h 10m	10/09/13	<4.0	<b>15,000</b>	<4.0	<5.4	<2.6
		1h 21m	12/18/13	<4.0	<b>9,500</b>	<4.0	<5.4	<2.6
		1h 16m	02/25/14	<7.9	<b>5,500</b>	<7.9	<11	<5.1
		10m	03/25/14	<4.0	<b>3,400</b>	<4.0	<5.4	<2.6
		5m	04/22/14	<7.9	<b>6,700</b>	<7.9	<11	<5.1
8m	07/07/14	<0.79	<b>1,500</b>	<0.79	<1.1	<0.51		

**Table 3: Analytical Data for Soil Gas**

**ADT 3**

**DSCA ID No.: 32-0013**

Sample ID	Depth [feet bgs]	Sample Duration <sup>1</sup>	Sampling Date (mm/dd/yy)	cis-1,2-Dichloroethylene	Tetrachloroethylene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride
SV-20S	8	N/A	11/17/09	<69.4	<b>257,085</b>	<133	<94	<43.7
		19m	05/16/12	<63	<b>140,000</b>	<63	<86	<41
		10m	11/27/12	<63	<b>120,000</b>	<63	<86	<41
		N/A	01/08/13	<63	<b>210,000</b>	<63	<b>100</b>	<41
		1h	10/09/13	<4.0	<b>330,000</b>	<4.0	6.0	<2.6
		1h 15m	12/18/13	<4.0	<b>230,000</b>	<4.0	4.0J	<2.6
		10m	03/25/14	<4.0	<b>300,000</b>	<4.0	<b>23</b>	<2.6
		5m	04/22/14	<400	<b>550,000</b>	<400	<540	<260
		8m	07/07/14	<16	<b>570,000</b>	<16	<21	<10
SV-20D	20	N/A	11/17/09	<71.7	<b>786.9</b>	<138	<97.2	<45.2
		14m	05/16/12	<63	<b>200,000</b>	<63	<86	<41
		1h 5m	10/09/13	<4.0	<b>390,000</b>	<4.0	<b>17</b>	<2.6
		1h 5m	12/18/13	<4.0	<b>350,000</b>	<4.0	<b>14</b>	<2.6
		1h 15m	02/25/14	<0.79	<b>150,000</b>	<0.79	<1.1	<0.51
		8m	03/25/14	<4.0	<b>170,000</b>	<4.0	5.2J	<2.6
		6m	04/22/14	<790	<b>660,000</b>	<790	<1,100	<510
		8m	07/07/14	<16	<b>350,000</b>	<16	<b>20</b>	<10
SV-21S	8	N/A	11/17/09	<69.4	<b>79,364</b>	<133	<94	<43.7
		14m	05/16/12	<16	<b>39,000</b>	<16	<21	<10
		1h 5m	10/09/13	<4.0	<b>90,000</b>	<4.0	<b>13</b>	<2.6
		1 hr 9m	12/18/13	<4.0	<b>100,000</b>	<4.0	<b>14</b>	<2.6
		1 hr 15m	02/25/14	<7.9	<b>64,000</b>	<7.9	8.2J	<5.1
		19m	03/25/14	<4.0	<b>61,000</b>	<4.0	10	<2.6
		9m	04/22/14	<400	<b>89,000</b>	<400	<540	<260
		8m	07/07/14	<0.79	<b>9,400</b>	<0.79	<b>19</b>	<0.51
SV-21D	20	N/A	11/17/09	<11.5	<b>19,468</b>	<22	<15.6	<7.4
		11m	05/16/12	<63	<b>140,000</b>	<63	<86	<41
		1h	10/09/13	<4.0	<b>180,000</b>	<4.0	<b>27</b>	<2.6
		1h 15m	12/18/13	<4.0	<b>170,000</b>	<4.0	<b>28</b>	<2.6
		1h 17m	02/25/14	<7.9	<b>130,000</b>	<7.9	<b>22</b>	<5.1
		12m	03/25/14	<4.0	<b>150,000</b>	<4.0	<b>45</b>	<2.6
		4m	04/22/14	<400	<b>350,000</b>	<400	<540	<260
		9m	07/07/14	<0.79	<b>5,600</b>	<0.79	<b>43</b>	<0.51
SV-24S	8	11m	07/07/14	<0.79	<b>1,100</b>	<0.79	1.4	<0.51
SV-24D	20	8m	07/07/14	<0.79	<b>3,800</b>	<0.79	<1.1	<0.51
SV-25S	8	10m	05/16/12	<1.6	230	<1.6	<2.1	<1.0
		1h 5m	12/18/13	<0.40	140	<0.40	<0.54	<0.26
		1h 14m	02/25/14	<0.40	140	<0.40	<0.54	<0.26
		30m	03/25/14	<4.0	<b>4,500</b>	<4.0	<5.4	<2.6
		1h 32m	04/21/14	<7.9	<b>4,400</b>	<7.9	<11	<5.1
		9m	07/07/14	<7.9	<b>2,000</b>	<7.9	<11	<5.1

**Table 3: Analytical Data for Soil Gas**

**ADT 3**

**DSCA ID No.: 32-0013**

Sample ID	Depth [feet bgs]	Sample Duration <sup>1</sup>	Sampling Date (mm/dd/yy)	cis-1,2-Dichloroethylene	Tetrachloroethylene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride
SV-25D	20	10m	05/16/12	<1.6	<b>460</b>	<1.6	<2.1	<1.0
		1h 5m	12/18/13	<0.40	<b>530</b>	<0.40	<0.54	<0.26
		10m	03/25/14	<4.0	<b>1,200</b>	<4.0	<5.4	<2.6
		5m	04/21/14	<0.40	<b>580</b>	<0.40	<0.54	<0.26
		11m	07/07/14	<7.9	<b>620</b>	<7.9	<11	<5.1
SV-27S	8	1h 17m	12/07/09	<23.4	<b>419,604</b>	<23.4	61.3J	<25.7
		12m	05/16/12	<1.6	<b>2,200,000</b>	<1,600	<2,100	<1,000
		1h 10m	10/09/13	<4.0	<b>2,200,000</b>	1.5	97	<2.6
		1h 9m	12/17/13	<4.0	<b>1,600,000</b>	<4.0	81	<2.6
		1h 3m	02/24/14	<7.9	<b>2,000,000</b>	2.5J	150	<5.1
		13m	03/24/14	<2,000	<b>2,500,000</b>	<2,000	<2,700	<1,300
		10m	04/21/14	<4,000	<b>3,400,000</b>	<4,000	<5,400	<2,600
SV-27D	20	13m	07/07/14	19	<b>1,700,000</b>	<16	<b>970</b>	<10
		1h 16m	12/07/09	<33.9	<b>294,741</b>	<33.9	117J	<37.3
		18m	05/16/12	<6,300	<b>1,000,000</b>	<6,300	<8,600	<4,100
		1h 5m	10/09/13	<16,000	<b>9,200,000</b>	<16,000	<21,000	<10,000
		1h 15m	12/17/13	<7,900	<b>5,500,000</b>	<7,900	<11,000	<5,100
		2h 3m	02/24/14	74	<b>3,800,000</b>	19	<b>560</b>	11
		12m	03/24/14	<2,000	<b>4,700,000</b>	<2,000	<2,700	1,300
SV-28D	20	13m	04/21/14	4,600J	<b>11,000,000</b>	<7,900	<11,000	<5,100
		1h 4m	07/07/14	5,500	<b>1,800,000</b>	18	<b>1,500</b>	640
		2 h 15m	01/07/10	<0.186	12.5	<0.186	0.407	<0.205
		2h 20m	05/16/12	<6.3	<b>18,000</b>	<6.3	<8.6	<4.1
		1h 45m	10/09/13	5.5	<b>77,000</b>	<4.0	8.2	<2.6
		2h 20m	12/17/13	<4.0	<b>5,600</b>	<4.0	<5.4	<2.6
		2h 22m	02/24/14	<0.79	<b>7,600</b>	<0.79	1.8	<0.51
SV-29S	8	33m	03/24/14	<0.40	<b>5,600</b>	<0.40	0.93	<0.26
		57m	04/21/14	<16	<b>13,000</b>	<16	<21	<10
		34m	07/07/14	<0.79	<b>15,000</b>	<0.79	4.5	<0.51
		N/A	11/17/09	<69.4	<b>2,190,984</b>	<133	<94	<116
		33m	05/17/12	<1,600	<b>2,200,000</b>	<1,600	<2,100	<1,000
		10m	11/27/12	<630	<b>610,000</b>	<630	<860	<410
		N/A	01/08/13	<630	<b>810,000</b>	<630	<860	<410
SV-29D	20	1h 25m	10/09/13	<4.0	<b>1,900,000</b>	<4.0	<b>34</b>	<2.6
		1h 5m	12/18/13	<4.0	<b>1,500,000</b>	<4.0	<b>26</b>	<2.6
		1h 14m	02/24/14	<7.9	<b>1,100,000</b>	<7.9	<b>31</b>	<5.1
		10m	03/25/14	2,400	<b>1,400,000</b>	<b>3,000</b>	<b>4,400</b>	<b>1,800</b>
		9m	04/21/14	<4,000	<b>3,000,000</b>	<4,000	<5,400	<2,600
SV-29D	20	9m	07/07/14	<16	<b>1,600,000</b>	<16	27	<10
		N/A	11/17/09	<2,220	<b>1,465,178</b>	<4,280	<3,003	<3,720
		19m	05/17/12	<6,300	<b>1,200,000</b>	<6,300	<8,600	<4,100
		1 hr 5m	12/18/13	<7,900	<b>11,000,000</b>	<7,900	<11,000	<5,100
		9m	03/25/14	<400	<b>4,100,000</b>	<400	<b>810</b>	<260
		5m	04/21/14	<7,900	<b>13,000,000</b>	<7,900	<11,000	<5,100
8m	07/07/14	<7,900	<b>6,500,000</b>	<7,900	<11,000	<5,100		

**Table 3: Analytical Data for Soil Gas** **ADT 3**

DSCA ID No.: 32-0013								
Sample ID	Depth [feet bgs]	Sample Duration <sup>1</sup>	Sampling Date (mm/dd/yy)	cis-1,2-Dichloroethylene	Tetrachloroethylene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride
SV-35S	8	1h 20m	12/07/09	<1.09	<b>9,142</b>	<1.09	<2.25	<1.20
		9m	07/07/14	<16	<b>140,000</b>	<16	9	<10
SV-35D	20	1h 43m	12/07/09	<3.87	<b>28,656</b>	<3.87	<7.98	<4.26
		11m	07/07/14	<16	<b>99,000</b>	<16	9.9	<10
SV-36S	8	50m	01/08/10	<4.35	<b>470,000</b>	<4.35	<b>27.6</b>	<4.79
		9m	05/17/12	<630	<b>1,200,000</b>	<630	<860	<410
		1h 32m	02/24/14	28	<b>750,000</b>	13	<b>170</b>	<5.1
		10m	03/25/14	43	<b>1,400,000</b>	26	<b>270</b>	<2.6
		6m	04/21/14	<2,000	<b>2,700,000</b>	<2,000	<2,700	<1,300
		10m	07/07/14	35	<b>1,400,000</b>	34	<b>340</b>	<10
SV-36D	20	1h	01/08/10	15.9J	<b>308,000</b>	14.2J	<b>75.2J</b>	<4.83
		18m	05/17/12	<630	<b>1,000,000</b>	<630	<860	<410
		9m	03/25/14	<4.0	<b>1,300,000</b>	<4.0	<b>32</b>	<2.6
		5m	04/21/14	<2,000	<b>860,000</b>	<2,000	<2,700	<1,300
SV-49S	8	15m	07/07/14	<16	<b>860,000</b>	<16	<b>28</b>	<10
		45m	01/07/10	20.1	24.1	1.88J	8.33	121
		17m	05/16/12	<1.6	35	<1.6	4.9	<1.0
		1h 2m	12/17/13	<4.0	2,600	<4.0	3.3J	<2.6
		1h 19m	02/24/14	<2.0	3,000	<2.0	1.5J	<1.3
SV-49D	14.5	9m	03/24/14	<0.40	22	0.19J	0.30J	<0.26
		1h 10m	01/07/10	<0.183	0.493J	0.196J	<0.377	<0.201
		16m	05/16/12	<1.6	26	<1.6	6.4	<1.0
		1h 7m	12/17/13	0.94	150	<0.40	2.4	<0.26
		1h 18m	02/24/14	0.84	13	<0.40	1.1	<0.26
		8m	03/24/14	<0.40	8.4	<0.40	0.19J	<0.26
		5m	04/22/14	<0.40	28	<0.40	1.6	<0.26
SV-50	7.5	10m	07/07/14	<0.40	61	<0.40	2.4	<0.26
		1h 10m	01/07/10	<4.68	9.80J	<4.68	<9.65	<5.15
		14m	05/16/12	<63	<b>4,900</b>	<63	<86	<41
		1h 2m	12/17/13	<4.0	2,400	<4.0	<5.4	<2.6
		1h 24m	02/24/13	<0.40	170	<0.40	<0.54	<0.26
		10m	03/24/14	<0.40	330	<0.40	<0.54	<0.26
		6m	04/22/14	<7.9	24	<7.9	<11	<5.1
SV-55S	5	11m	07/07/14	<16	<b>530</b>	<16	<21	<10
		15m	11/27/12	<630	<b>1,200,000</b>	<630	<860	<410
		N/A	01/08/13	<1,600	<b>2,500,000</b>	<1,600	<4,100	<1,000
		1h 5m	10/09/13	310	<b>3,800,000</b>	1.1 J	<b>890</b>	1.4 J
		1h 46m	12/18/13	<4,000	<b>2,700,000</b>	<4,000	<5,400	<2,600
		7h 3m	02/24/14	<7.9	<b>140,000</b>	<7.9	20	<5.1
		9m	03/24/14	<2,000	<b>850,000</b>	<2,000	<2,700	<1,300
		10m	04/21/14	<4,000	<b>1,500,000</b>	<4,000	<5,400	<2,600
15m	07/07/14	<16	<b>1,100,000</b>	<16	<b>680</b>	<10		

**Table 3: Analytical Data for Soil Gas**

**ADT 3**

**DSCA ID No.: 32-0013**

Sample ID	Depth [feet bgs]	Sample Duration <sup>1</sup>	Sampling Date (mm/dd/yy)	cis-1,2-Dichloroethylene	Tetrachloroethylene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride
SV-55I	17	1h 30m	11/27/12	<6,300	<b>6,800,000</b>	<6,300	<8,600	<4,100
		N/A	01/08/13	<6,300	<b>6,200,000</b>	<6,300	<b>9,600</b>	<4,100
		5h 10m	10/09/13	8.3	<b>320,000</b>	1.7 J	33	3.0
		4h 26m	12/18/13	<4.0	<b>93,000</b>	<4.0	12	<2.6
		1h 8m	07/07/14	24	<b>940,000</b>	<16	<b>280</b>	<10
DWM Residential Soil Gas Screening Level				NE	250	378	12.6	48.0
DWM Non-Residential Soil Gas Screening Level				NE	3,510	5,200	176	2,800

Notes:

1. NA = Not Analyzed; NE = Not Established; N/A = Not Available
2. Bold exceeds Division of Waste Management (DWM) Residential Soil Gas Screening Level or DWM Non-Residential Soil Gas Screening Level.
3. Analytical data for the following sample points compared to DWM Non-Residential Soil Gas Screening Levels: SV-8S/I, SV-14, SV-49S/D, SV-50, and SV-55S/I. Remaining data compared to DWM Residential Soil Gas Screening Levels.
4. J flag denotes estimated concentration between laboratory reporting limit and method detection limit.

**Table 4: Analytical Data for Indoor Air** **ADT 4**

**DSCA ID No.: 32-0013**

Sample ID	Sampling Date (mm/dd/yy)	Sample Location <sup>1</sup>	Sampling Method <sup>2</sup>	Sampling Duration <sup>3</sup>	cis-1,2-Dichloroethylene	Tetrachloroethylene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride
					[µg/m <sup>3</sup> ]				
<b>1414 Watts St</b>									
BG-1414	05/07/10		SU	6h	<0.0339	2.11	<0.0339	0.0162J	<0.0129
	05/14/10		P	7d	<0.24	2.1	<0.24	<0.14	<0.38
	03/17/11		P	7d	<0.15	0.36	<0.15	<0.092	<0.24
	11/11/12		SU	3h	<0.079	0.38	<0.079	<0.11	<0.051
1414-South	07/29/09	C	SU	3h	<34	<b>814</b>	<34	<45	<22
1414-Chase	03/17/11	C	P	7d	<0.15	31	<0.15	<0.092	<0.24
1414-Front	07/16/09	C	SU	1h	<3.2	<b>510</b>	<3.2	<4.3	<2.0
	07/29/09		SU	3h	<32	<b>692</b>	<32	<43	<21
	03/15/10		SU	6h	<0.0336	<b>163</b>	<95.5	0.0892	<0.0128
	04/09/10		SU	6h	<0.0348	<b>143</b>	<0.0348	0.0403J	<0.0132
	05/07/10		SU	6h	<0.0305	<b>90.4</b>	0.105	0.0740	<0.0116
	05/14/10		P	7d	<0.24	<b>89</b>	<0.24	<0.14	<0.38
	03/17/11		P	7d	<0.15	19	<0.15	<0.091	<0.24
	08/11/11		P	30d	<0.052	<b>100</b>	<0.052	<0.031	<0.084
	09/25/11		SU	3h	<b>1.7</b>	<b>55</b>	0.24	1.3	<0.051
	01/29/12		SU	3h	<b>0.48</b>	28	<0.079	<b>0.42</b>	<0.051
	04/22/12		SU	3h	<b>1.8</b>	5.4	<0.079	<0.11	<0.051
	11/11/12		SU	3h	<0.079	<b>320</b>	<0.079	<0.11	<0.051
	01/13/13		SU	3h	<0.079	<b>61</b>	<0.079	<0.11	<0.051
	07/28/13		SU	3h	0.33	<b>150</b>	<0.079	<0.11	<0.051
	09/15/13		SU	3h	<0.14	<b>66</b>	<0.14	<0.19	<0.090
	12/08/13		SU	3h	<0.14	<b>120</b>	<0.14	<0.19	<0.090
	02/23/14		SU	3h	<0.14	<b>91</b>	<0.14	<0.19	<0.090
	03/16/14		SU	3h	<0.14	<b>120</b>	<0.14	<0.19	<0.090
	04/13/14		SU	2h 45m	<0.14	11	<0.14	<b>0.072J</b>	<0.090
	05/25/14		SU	2h 6m	<0.14	1.9	<0.14	<0.19	<0.090
06/22/14	SU	3h 10m	<0.14	2.8	<0.14	<0.19	<0.090		
07/22/14	SU	3h	<0.14	2.5	<0.14	<0.19	<0.090		
1414-Rear	07/29/09	C	SU	3h	<35	<b>841</b>	<35	<47	<22
	12/28/09		SU	6h	<0.191	<b>99</b>	<0.20	<0.395	<0.21
	03/15/10		SU	6h	<0.0345	<b>181</b>	<0.0345	0.0870	<0.0131
	04/09/10		SU	6h	<0.0336	<b>213</b>	<0.0336	0.0785	<0.0128
	05/07/10		SU	6h	<0.0344	<b>104</b>	0.0978	0.0717	<0.0131
	05/14/10		P	7d	<0.24	<b>120</b>	<0.24	<0.14	<0.38
	03/17/11		P	7d	<0.15	30	<0.15	<0.092	<0.24
	08/11/11		P	30d	<0.052	<b>110</b>	<0.052	<0.031	<0.084
	09/25/11		SU	3h	1.4	<b>95</b>	<0.079	0.17	<0.051
	01/29/12		SU	3h	2.6	<b>81</b>	<0.079	<0.11	<0.051
	04/22/12		SU	3h	1.2	25	<0.079	<0.11	<0.051
	11/11/12		SU	3h	<0.079	<b>190</b>	<0.079	<0.11	<0.051
	01/13/13		SU	3h	<0.079	<b>180</b>	<0.079	<0.11	<0.051
	07/28/13		SU	3h	0.29	<b>240</b>	<0.079	<0.11	<0.051
	09/15/13		SU	3h	<0.14	<b>210</b>	<0.14	0.057 J	<0.090
	12/08/13		SU	3h	<0.14	<b>280</b>	<0.14	0.068 J	<0.090
	02/23/14		SU	3h 5m	<0.14	<b>160</b>	<0.14	<0.19	<0.090
	03/16/14		SU	3h	<0.14	<b>180</b>	<0.14	<0.19	<0.090
	04/13/14		SU	2h 55m	<0.14	<b>43</b>	<0.14	<0.19	<0.090
	05/25/14		SU	2h 1m	<0.14	2.2	<0.14	<0.19	<0.090
06/22/14	SU	3h	<0.14	4.1	<0.14	<0.19	<0.090		
07/22/14	SU	3h	<0.3	3.7	<0.3	<0.40	<0.19		

**Table 4: Analytical Data for Indoor Air** **ADT 4**

DSCA ID No.: 32-0013									
Sample ID	Sampling Date (mm/dd/yy)	Sample Location <sup>1</sup>	Sampling Method <sup>2</sup>	Sampling Duration <sup>3</sup>	cis-1,2-Dichloroethylene	Tetrachloroethylene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride
					[µg/m <sup>3</sup> ]				
<b>1419 Dollar Ave</b>									
1419-SUMP	03/30/10	R	SU	24h	<0.0310	0.581	<0.0310	0.0318J	<0.0142
BG-1419	03/30/10	R	SU	24h	<0.0332	0.369	<0.0332	0.0198J	<0.0126
	01/07/11		SU	24h	<0.079	1.0	<0.079	<0.11	<0.051
	01/07/11		P	24h	<1.7 C	<1.2	<1.7	<1.0	<2.7
	03/14/11		P	30d	<0.060 C	0.35	<0.060 C	<0.036	<0.096 C
	04/14/11		P	28d	<0.060 C	0.42	<0.060 C	<0.036	<0.096 C
	12/05/12		P	30d	<0.077 C	1.2	<0.080 C	<0.035	<0.11 C
	02/01/13		P	30d	<0.074 C	0.49	<0.077 C	<0.034	<0.10 C
1419-OUT	06/02/14		P	14d	<0.16 C	1.4	<0.16 C	<0.072	<0.22 C
1419-Side out	07/29/14		P	14d	<0.16 C	0.88	<0.16 C	<0.072	<0.22 C
1419-UP	10/15/09	R	SU	24h	<1.1	1.2J	<1.1	<1.5	<0.7
	11/10/09		SU	24h	3.73	<b>16.3</b>	<5.15	<b>7.52</b>	<1.74
	11/16/09		SU	24h	0.276	<b>9.15</b>	<0.04	0.07J	<0.0153
	11/24/09		SU	24h	4.36	<b>21.69</b>	<5.15	<b>5.91</b>	<1.74
	12/28/09		SU	24h	<0.040	3.13	<0.0749	0.193J	<0.0141
	03/30/10		SU	24h	0.512	2.71	<0.0324	0.0501	<0.0123
	01/07/11		SU	24h	<0.079	4.8	<0.079	<0.11	<0.051
	01/07/11		P	24h	<1.7 C	5.2	<1.7 C	<1.0	<2.7 C
	03/14/11		P	30d	<0.060 C	3.1	<0.060 C	<0.036	<0.096 C
	04/14/11		P	28d	<0.060 C	4.8	<0.060 C	<0.036	<0.096 C
	10/05/11		P	34d	<0.049 C	5.8	<0.049 C	<0.029	<0.079 C
	02/13/12		P	30d	<0.060 C	6.7	<0.060 C	<0.036	<0.096 C
	05/16/12		SU	24h	<0.079	<b>17.0</b>	<0.079	<0.11	<0.051
	05/21/12		P	30d	<0.051 C	5.4	<0.051 C	<0.030	<0.082 C
	12/05/12		P	30d	<0.077 C	6.0	<0.080 C	<0.035	<0.11 C
	02/01/13		P	30d	<0.074 C	4.7	<0.077 C	<0.034	<0.10 C
	10/01/13		P	14d	<0.16 C	5.1	<0.17 C	<0.072	<0.22 C
	12/17/13		P	14d	<0.16 C	5.2	<0.17 C	<0.072	<0.22 C
	02/20/14		SU	24h	<0.14	4.8	<0.14	<0.19	<0.090
	03/06/14		P	14d	<0.12 C	5.7	<0.60 C	<b>1.4</b>	<0.077 C
	03/18/14		SU	24h	<0.14	2.2	<0.14	<0.19	<0.090
	04/01/14		P	14d	<0.12	6.5	<0.60	<b>0.88</b>	<0.077
	04/15/14		SU	24h	<0.14	<b>9.6</b>	<0.14	<0.19	<0.090
	04/29/14		P	14d	<0.12 C	6.2	<0.60 C	<b>1.2</b>	<0.077 C
	06/02/14		P	14d	<0.16 C	0.66	<0.16 C	<0.072	<0.22 C
	07/01/14		P	14d	<0.12 C	2.0	<0.60 C	<0.14	<0.077 C
	07/29/14		P	14d	<0.16 C	0.54	<0.16 C	<0.072	<0.22 C

**Table 4: Analytical Data for Indoor Air**

**ADT 4**

**DSCA ID No.: 32-0013**

Sample ID	Sampling Date (mm/dd/yy)	Sample Location <sup>1</sup>	Sampling Method <sup>2</sup>	Sampling Duration <sup>3</sup>	cis-1,2-Dichloroethylene	Tetrachloroethylene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride
					[µg/m <sup>3</sup> ]				
1419-DOWN	10/15/09	R	SU	24h	<1.1	6.1	<1.1	<1.5	<0.7
	11/10/09		SU	24h	<55.09	<b>54.2</b>	<106.21	<b>63.39J</b>	<35.006
	11/16/09		SU	24h	0.165	<b>8.47</b>	<0.0346	0.0468J	<0.014
	11/24/09		SU	24h	4.4	<b>18</b>	<5.15	<b>5.9</b>	<1.74
	12/28/09		SU	24h	<0.03	1.78	<0.030	0.021J	<0.0114
	03/30/10		SU	24h	<0.0347	2.83	<0.0347	<b>0.0219J</b>	<0.0132
	01/07/11		SU	24h	<0.079	5.2	<0.079	<0.11	<0.051
	01/07/11		P	24h	<1.7 C	5.7	<1.7 C	<1.0	<2.7 C
	03/14/11		P	30d	<0.060 C	6.6	<0.060 C	<0.036	<0.096 C
	04/14/11		P	28d	<0.060 C	<b>8.6</b>	<0.060 C	<0.036	<0.096 C
	10/05/11		P	34d	<0.049 C	<b>12</b>	<0.049 C	<0.029	<0.079 C
	02/13/12		P	30d	<0.060 C	5.1	<0.060 C	<0.036	<0.096 C
	05/16/12		SU	24h	<0.079	<b>12</b>	<0.079	<0.11	<0.051
	05/21/12		P	30d	<0.051 C	<b>10</b>	<0.051 C	<0.030	<0.082 C
	12/05/12		P	30d	<0.077 C	7.3	<0.080 C	<0.035	<0.11 C
	02/01/13		P	30d	<0.074 C	6.3	<0.077 C	<0.034	<0.10 C
	10/01/13		P	14d	<0.16 C	6.1	<0.17 C	<0.072	<0.22 C
	12/17/13		P	14d	<0.16 C	6.2	<0.17 C	<0.072	<0.22 C
	02/20/14		SU	24h	<0.14	<b>9.8</b>	<0.14	<0.19	<0.090
	03/06/14		P	14d	<0.12 C	7.7	<0.60 C	<0.14	<0.077 C
	03/18/14		SU	24h	<0.14	2.0	<0.14	<0.19	<0.090
	04/01/14		P	14d	<0.12	5.5	<0.60	<0.14	<0.077
	04/15/14		SU	24h	<0.14	<b>24</b>	<0.14	<0.19	<0.090
	04/29/14		P	14d	<0.12 C	5.9	<0.60 C	<0.14	<0.077 C
	06/02/14		P	14d	<0.16 C	0.77	<0.16 C	<0.072	<0.22 C
	07/01/14		P	14d	<0.12 C	3.5	<0.60 C	<0.14	<0.077 C
	07/29/14		P	14d	<0.16 C	0.60	<0.16 C	<0.072	<0.22 C



Table 4: Analytical Data for Indoor Air								ADT 4	
DSCA ID No.: 32-0013									
Sample ID	Sampling Date (mm/dd/yy)	Sample Location <sup>1</sup>	Sampling Method <sup>2</sup>	Sampling Duration <sup>3</sup>	cis-1,2-Dichloroethylene	Tetrachloroethylene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride
					[µg/m <sup>3</sup> ]				
<b>1421 Dollar Ave</b>									
BG-1421	03/02/10		SU	24h	<0.0270	0.0626	<0.0270	0.0109J	<0.0103
1421-OUT	06/02/14		P	14d	<0.16 C	1.4	<0.16 C	<0.072	<0.22 C
1421-UP	10/06/09	R	SU	24h	<1.1	4.70	<1.1	<1.5	<1.8653
	11/10/09		SU	24h	<2.93	6.24	<5.55	<b>8.59</b>	<1.8653
	11/16/09		SU	24h	0.14	2.23	<0.03	0.045J	<0.01265
	11/24/09		SU	24h	4.76	<b>10.85</b>	<5.15	<b>8.06</b>	<1.738
	12/28/09		SU	24h	<0.0345	0.64	<0.0345	0.03J	0.01661J
	01/13/10		SU	24h	<0.029	0.98	<0.029	0.0334J	<0.011
	03/02/10		SU	24h	<0.0297	0.564	<0.0297	0.0125J	<0.0113
	06/03/10		SU	24h	<0.0352	1.07	<0.0352	0.0302J	<0.0134
	01/07/11		SU	24h	0.36	2.2	<0.079	<0.11	<0.051
	01/07/11		P	24h	<1.7 C	2.3	<1.7 C	<1.0	<2.7 C
	04/14/11		P	28d	<0.049 C	3.7	<0.049 C	<0.029	<0.079 C
	02/13/12		P	30d	<0.060 C	1.1	<0.060 C	<0.036	<0.096 C
	05/16/12		SU	24h	0.75	2.5	<0.079	<0.11	<0.051
	05/21/12		P	30d	<0.054 C	1.6	<0.054 C	<0.032	<0.087 C
	12/05/12		P	30d	<0.077 C	6.7	<0.080 C	<0.035	<0.110 C
	02/01/13		P	30d	<0.074 C	2.1	<0.077 C	<0.034	<0.100 C
	09/19/13		P	13.3 d	<0.17 C	7.2	<0.17 C	<0.076	<0.23 C
	12/17/13		P	14 d	<0.16 C	<b>13</b>	<0.17 C	<0.072	<0.22 C
	02/25/14		SU	24h	<0.14	1.3	<0.14	<0.19	<0.090
	03/11/14		P	14d	<0.12 C	1.7	<0.60 C	<b>1.0</b>	<0.077 C
	03/18/14		SU	24h	<0.14	0.47	<0.14	<0.19	<0.090
	04/01/14		P	14d	<0.12 C	1.1	<0.60 C	<b>0.98</b>	<0.60 C
	04/22/14		SU	24h	<0.14	1.9	<0.14	<0.19	<0.090
05/06/14	P	14d	0.37 C	2.0	<0.60 C	<b>0.47</b>	<0.077 C		
06/02/14	P	14d	<0.16 C	1.6	<0.16 C	<0.072	<0.22 C		
07/01/14	P	14d	0.50 C	2.5	<0.56 C	<b>0.75</b>	<0.072 C		
07/31/14	P	14d	<0.16 C	1.2	<0.16 C	<0.072	<0.22 C		

**Table 4: Analytical Data for Indoor Air**

**ADT 4**

**DSCA ID No.: 32-0013**

Sample ID	Sampling Date (mm/dd/yy)	Sample Location <sup>1</sup>	Sampling Method <sup>2</sup>	Sampling Duration <sup>3</sup>	cis-1,2-Dichloroethylene	Tetrachloroethylene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride
					[µg/m <sup>3</sup> ]				
1421-DOWN	10/06/09	R	SU	24h	<21.7	<b>86.4</b>	<21.7	<b>18.9J</b>	<13.9
	11/10/09		SU	24h	<2.77	<b>9.5</b>	<5.15	<3.8	<1.738
	11/16/09		SU	24h	0.07	3.32	<0.03	0.0430J	<0.0128
	11/24/09		SU	24h	3.84	<b>11.53</b>	<5.15	<b>7.0</b>	<1.738
	12/28/09		SU	24h	<0.033	0.71	<0.033	0.0215J	0.01536J
	01/13/10		SU	24h	<0.0298	1.32	<0.030	0.0327J	<0.01132
	03/02/10		SU	24h	<0.0279	0.927	<0.0279	0.0119J	<0.0106
	06/03/10		SU	24h	<0.0348	2.44	<0.035	0.0184	<0.01324
	01/07/11		SU	24h	0.11	2.9	<0.079	<0.11	<0.051
	01/07/11		P	24h	<1.7 C	3.5	<1.7	<1.0	<2.7
	04/14/11		P	28d	<0.049 C	7.0	<0.049 C	<0.029	<0.079 C
	02/13/12		P	30d	<0.060 C	1.9	<0.060 C	<0.036	<0.096 C
	05/16/12		SU	24h	0.21	5.6	<0.079	<0.11	<0.051
	05/21/12		P	30d	<0.054 C	4.3	<0.054 C	<0.032	<0.087 C
	12/05/12		P	30d	<0.077 C	<b>11</b>	<0.080 C	<0.035	<0.110 C
	02/01/13		P	30d	<0.074 C	3.5	<0.077 C	<0.034	<0.100 C
	09/19/13		P	13.3 d	<0.17 C	<b>13</b>	<0.17 C	<0.076	<0.23 C
	12/17/13		P	14 d	<0.16 C	<b>27</b>	<0.17 C	<0.072	<0.22 C
	02/25/14		SU	24h	<0.14	1.9	<0.14	<0.19	<0.090
	03/11/14		P	14d	<0.12 C	2.6	<0.60 C	<b>26</b>	<0.077 C
	03/18/14		SU	24h	<0.14	0.41	<0.14	<0.19	<0.090
	04/01/14		P	14d	<0.12 C	1.7	<0.60	<0.14 C	<0.077 C
	04/22/14		SU	24h	<0.14	4.8	<0.14	<0.19	<0.090
	05/06/14		P	14d	<0.12 C	2.4	<0.60 C	<0.14	<0.077 C
	06/02/14		P	14d	<0.16 C	3.6	<0.16 C	<0.072	<0.22 C
	07/01/14		P	14d	<0.11 C	3.5	<0.56 C	<0.13	<0.072 C
	07/31/14		P	14d	<0.16 C	1.9	<0.16 C	<0.072	<0.22 C
	DWM Residential IASLs					NE	8.34	NE	0.417
DWM Non-Residential IASLs					NE	35.0	NE	1.75	2.79

Notes:  
 1. "C" denotes commercial space; "R" denotes residence.  
 2. "SU" denotes Summa canister. "P" denotes passive sampler.  
 3. Bold exceeds June 2014 DWM Indoor Air Screening Levels (IASLs) for Target Risk = 1.0E-05. 1414 Watts St samples are compared to Non-Residential IASLs, and 1419 and 1421 Dollar Ave samples are compared to Residential IASLs.  
 4. NA = Not Analyzed; NE = Not Established  
 5. J denotes estimated concentration between laboratory reporting limit and method detection limit.  
 6. Additional vapor mitigation measures were completed at 1414 Watts St, 1419 Dollar Ave and 1421 Dollar Ave on May 12, 2014.

Table 5: Soil Vapor Point and Indoor/Outdoor Air Field Measurements						ADT 5
DSCA ID No.: 32-0013						
Sample ID	Depth [feet bgs]	Sampling Date (mm/dd/yy)	Total Volatile Organic Compounds (VOC)	Methane	Carbon Dioxide	Oxygen
			ppm			
SV-8S	5.0	11/27/12	427	0.1	1.7	20.0
		01/08/13	1,833	0.8	2.2	18.7
		02/07/13	NA	0.1	2.0	19.2
		03/08/13	NA	0.0	2.4	18.8
		04/08/13	465	0.0	2.4	17.7
		05/08/13	473	0.0	4.1	15.7
		06/13/13	360	0.0	5.7	13.7
		07/08/13	349	0.0	5.8	13.4
		08/14/13	427	0.1	5.4	15.6
		09/11/13	423	0.2	4.1	15.1
		10/09/13	313	0.3	3.0	18.0
		11/13/13	385	0.2	3.4	16.2
		12/19/13	390	0.2	3.1	16.1
		01/08/14	492	0.2	3.8	18.4
		02/03/14	50.8	0.1	1.5	19.5
		02/17/14	140	0.0	1.5	18.8
		03/17/14	109	0.0	2.0	18.4
		04/14/14	164	0.0	3.0	16.2
		05/22/14	324	0.0	8.0	8.4
		06/17/14	223	0.0	0.1	20.4
07/15/14	378	0.0	0.0	20.4		
SV-8I	17.0	11/27/12	>9,999	0.0	2.5	18.8
		01/08/13	2222	1.3	2.8	18.3
		02/07/13	NM	0.2	2.2	18.6
		03/08/13	NM	0.1	2.4	17.9
		04/08/13	4,098	0.2	1.8	17.6
		05/08/13	1,720	0.2	3.9	13.3
		06/13/13	248	0.2	1.8	16.5
		07/08/13	305	0.2	2.3	15.9
		08/14/13	165	0.3	2.1	15.6
		09/11/13	3,056	0.2	1.2	11.2
		10/09/13	119	0.5	2.5	15.9
		11/13/13	310	0.3	1.8	12.4
		12/19/13	320	0.4	2.1	13.4
		01/08/14	534	0.2	2.4	19.4
		02/03/14	NM	NM	NM	NM
		02/17/14	317	0.0	3.8	19.1
		03/17/14	265	0.0	4.1	19.5
		04/14/14	92.5	0.0	1.3	20.2
		05/22/14	249	0.3	29.1	0.9
		06/17/14	NM	NM	NM	NM
07/15/14	282	0	4.8	16.7		
SV-14	5.0	05/22/14	220	0.0	5.8	13.3
		06/17/14	68.9	0.0	5.5	14.5
		07/15/14	5120	0.0	9.6	10.3

Table 5: Soil Vapor Point and Indoor/Outdoor Air Field Measurements						ADT 5
DSCA ID No.: 32-0013						
Sample ID	Depth [feet bgs]	Sampling Date (mm/dd/yy)	Total Volatile Organic Compounds (VOC)	Methane	Carbon Dioxide	Oxygen
			ppm	%	%	%
SV-18	5.0	11/27/12	22.3	0.0	2.5	19.2
		01/08/13	51.1	0.4	0.0	21.5
		02/07/13	NM	0.0	2.3	18.6
		03/08/13	NM	0.0	4.1	16.9
		04/08/13	2.1	0.0	2.5	18.1
		05/08/13	14.9	0.0	4.9	15.9
		06/13/13	20.7	0.0	4.7	16.2
		08/14/13	26.1	0.1	3.0	18.2
		09/11/13	84.5	0.1	2.9	16.5
		10/09/13	201	0.0	3.5	17.5
		11/13/13	102	0.0	3.1	16.8
		12/19/13	100	0.0	3.2	15.8
		01/08/14	52.5	0.0	3.6	18.5
		02/03/14	25.7	0.2	1.3	20.8
		02/17/14	22.1	0.1	0.9	20.8
		03/17/14	NM	NM	NM	NM
		04/14/14	6.3	0.0	3.0	18.1
		05/23/14	11.5	0.0	5.2	14.8
		06/17/14	26.4	0.0	3.5	17.8
07/15/14	4.2	0.0	3.5	16.7		
SV-19	5.0	11/27/12	2.25	0.0	10.8	11.5
		01/08/13	4.50	0.6	9.1	13.3
		02/07/13	NM	0.0	8.6	13.9
		03/08/13	NM	0.0	8.3	13.5
		04/08/13	1.2	0.0	8.3	13.7
		05/08/13	0.9	0.0	9.1	13.0
		06/13/13	6.2	0.0	9.7	11.7
		08/15/13	4.4	0.0	9.2	12.1
		09/11/13	22.9	0.0	10.1	9.3
		10/09/13	156	0.0	11.9	9.8
		11/13/13	86.4	0.0	9.8	10.4
		12/19/13	92.6	0.0	8.7	13.4
		01/08/14	91.6	0.0	9.8	13.5
		02/03/14	16.4	0.2	3.3	18.8
		02/17/14	19.7	0.0	2.8	19.4
		03/17/14	0.0	0.0	2.8	20.2
		04/14/14	0.0	0.0	2.5	18.5
05/23/14	552.0	0.0	4.4	16.6		
06/17/14	22.7	0.0	2.3	17.9		
07/15/14	14.6	0.0	9.2	10.7		

Table 5: Soil Vapor Point and Indoor/Outdoor Air Field Measurements						ADT 5
DSCA ID No.: 32-0013						
Sample ID	Depth [feet bgs]	Sampling Date (mm/dd/yy)	Total Volatile Organic Compounds (VOC)	Methane	Carbon Dioxide	Oxygen
			ppm	%	%	%
SV-20S	5.0	11/27/12	75.5	0.0	6.3	16.1
		01/08/13	15.0	1.3	5.0	16.9
		02/07/13	NM	0.1	6.4	15.5
		03/08/13	NM	0.0	5.0	16.0
		04/08/13	47.4	0.0	5.2	15.3
		05/08/13	62.5	0.0	6.3	14.6
		06/13/13	64.0	0.0	7.7	13.1
		08/15/13	61.8	0.0	6.8	13.6
		09/11/13	60.4	0.1	5.1	15.3
		10/09/13	89.7	0.1	7.0	15.3
		11/13/13	78.1	0.0	6.8	14.4
		12/19/13	84.1	0.0	7.2	14.8
		01/08/14	104.0	0.0	7.3	15.5
		02/03/14	20.8	0.2	2.5	19.3
		02/17/14	28.4	0.0	3.4	18.4
		03/17/14	7.6	0.0	4.7	18.8
		04/14/14	13.4	0.0	3.5	17.3
		05/23/14	80.5	0.0	4.3	15.7
		06/17/14	81.4	0.0	5.2	15.8
07/15/14	42.4	0.0	5.5	15.6		
SV-20D	20.0	01/08/13	11.10	0.4	7.6	15.2
		02/07/13	NM	0.1	6.7	15.6
		03/08/13	NM	0.0	6.8	14.9
		04/08/13	46.8	0.0	6.7	15.2
		05/08/13	61.4	0.0	5.8	15.1
		06/13/13	58.9	0.0	7.1	13.5
		08/15/13	60.1	0.0	6.6	14.1
		09/11/13	93.1	0.1	7.6	12.5
		10/09/13	113	0.1	8.8	13.4
		11/13/13	101	0.0	8.2	12.8
		12/19/13	98.6	0.0	8.6	11.4
		01/08/14	115	0.0	8.6	15.3
		02/03/14	31.9	0.2	1.9	20.1
		02/17/14	34.4	0.0	2.5	19.5
		03/17/14	11.4	0.0	2.7	19.7
		04/14/14	23.9	0.0	3.1	18.3
05/23/14	65.2	0.0	5.3	14.6		
06/17/14	88.1	0.0	4.8	14.7		
07/15/14	59.2	0.0	6.9	13.0		
SV-21S	8.0	05/23/14	131	0.0	8.8	10.5
		06/17/14	40.7	0.0	6.6	14.6
		07/15/14	32.6	0.0	7.5	14.2
SV-21D	20.0	05/22/14	98.9	0.0	6.6	13.3
		06/17/14	13.6	0.0	3.4	16.6
		07/15/14	40.8	0.0	8.7	11.7

Table 5: Soil Vapor Point and Indoor/Outdoor Air Field Measurements						ADT 5
DSCA ID No.: 32-0013						
Sample ID	Depth [feet bgs]	Sampling Date (mm/dd/yy)	Total Volatile Organic Compounds (VOC)	Methane	Carbon Dioxide	Oxygen
			ppm			
SV-25S	8.0	06/17/14	280	0.0	1.5	17.9
		07/15/14	0.0	0.0	4.9	16.1
SV-25D	20.0	06/17/14	14.1	0.0	3.2	16.6
		07/15/14	0.0	0.0	6.1	13.4
SV-27S	8.0	05/22/14	250	0.0	5.4	10.9
		06/17/14	157	0.0	1.9	17.5
		07/15/14	445	0.0	5.0	15.5
SV-27D	20.0	06/17/14	254	0.0	0.2	19.9
		07/15/14	130	0.0	0.5	19.4
SV-28D	20.0	05/22/14	37.2	0.0	8.1	8.0
		06/17/14	0.0	0.0	1.4	18.0
		07/15/14	86.0	0.0	1.2	19.0
SV-29S	5.0	11/27/12	344	0.0	1.9	19.9
		01/08/13	96.3	0.3	2.0	19.8
		02/07/13	NM	0.1	2.3	18.6
		03/08/13	NM	0.0	2.8	17.6
		04/08/13	235	0.0	2.6	17.2
		05/08/13	151	0.0	3.3	16.7
		06/13/13	197	0.0	3.6	16.2
		08/14/13	317	0.1	3.4	17.7
		09/11/13	268	0.1	2.2	17.6
		10/09/13	356	0.0	3.2	18.0
		11/13/13	294	0.0	2.8	17.8
		12/19/13	264	0.0	3.1	15.4
		01/08/14	475	0.0	3.4	18.8
		02/03/14	266	0.2	1.2	20.6
		02/17/14	104	0.0	1.0	20.6
		03/17/14	56.4	0.0	0.7	20.6
		04/14/14	117	0.0	0.9	19.5
		05/23/14	22.3	0.0	1.9	18.7
SV-29D	20.0	06/17/14	169	0.0	1.4	18.4
		07/15/14	204	0.0	2.9	17.0
		05/23/14	1019	0.0	3.9	14.0
SV-36S	8.0	06/17/14	1365	0.0	2.1	15.5
		07/15/14	2570	0.0	3.1	12.5
		06/17/14	341	0.0	2.9	15.9
SV-36D	20.0	07/15/14	355	0.0	3.5	15.3
		06/17/14	131	0.0	4.2	16.0
SV-49S	8.0	07/15/14	211	0.0	4.5	16.1
		05/22/14	148	0.0	0.5	18.5
		06/17/14	0.0	0.0	0.0	19.9
SV-49D	14.5	07/16/14	17.9	0.0	0.3	20.2
		05/22/14	97	0.0	1.2	17.4
		06/17/14	0.0	0.0	7.0	4.2
		07/16/14	10.0	0.0	0.0	20.6

Table 5: Soil Vapor Point and Indoor/Outdoor Air Field Measurements						ADT 5
DSCA ID No.: 32-0013						
Sample ID	Depth [feet bgs]	Sampling Date (mm/dd/yy)	Total Volatile Organic Compounds (VOC)	Methane	Carbon Dioxide	Oxygen
			ppm	%	%	%
SV-50	7.5	06/17/14	1090	0.0	7.6	7.4
		07/16/14	54.7	0.2	8.7	7.9
SV-55S	5.0	11/27/12	430	0.2	0.2	21.1
		01/08/13	295	4.1	3.0	14.7
		02/07/13	NM	2.1	2.8	14.6
		03/08/13	NM	1.8	3.1	14.0
		04/08/13	311	1.4	3.0	14.3
		05/08/13	290	1.1	3.9	13.3
		06/13/13	295	0.8	4.5	11.8
		07/08/13	258	0.7	4.9	11.1
		08/14/13	133	0.2	1.8	17.8
		09/11/13	229	0.9	5.5	10.6
		10/09/13	501	0.8	5.4	13.6
		11/13/13	444	0.4	4.8	11.1
		12/19/13	421	0.6	4.2	16.2
		01/08/14	191	0.6	5.2	14.0
		02/03/14	58.3	0.4	3.6	18.1
		02/17/14	NM	NM	NM	NM
		03/17/14	7.3	0.3	1.4	19
		04/14/14	57.3	0.0	2.3	17.1
05/22/14	176	0.1	5.3	11.3		
06/17/14	23.9	0.0	0.9	19.4		
07/15/14	102	0.0	0	20.1		
SV-55I	17.0	11/27/12	12	4.1	0.6	12.4
		01/08/13	442	3.6	2.0	12.1
		02/07/13	NM	1.4	2.9	14.8
		03/08/13	NM	1.6	3.5	14.6
		04/08/13	NM	NM	NM	NM
		05/08/13	NM	1.6	2.7	10.7
		06/13/13	86.5	1.5	1.6	11.0
		07/08/13	NM	1.5	2.1	10.6
		08/14/13	26.7	0.3	0.2	16.5
		09/11/13	31.3	0.3	1.9	15.4
		10/09/13	4.9	0.1	0.0	21.2
		11/13/13	17.4	0.2	1.0	16.5
		12/19/13	19.4	0.4	1.0	18.1
		01/08/14	127	0.7	3.2	16.9
		02/03/14	NM	NM	NM	NM
		02/17/14	NM	NM	NM	NM
		03/17/14	NM	NM	NM	NM
		04/14/14	NM	NM	NM	NM
05/22/14	NM	NM	NM	NM		
06/17/14	NM	NM	NM	NM		
07/15/14	0.0	0.0	0.0	20.1		

Table 5: Soil Vapor Point and Indoor/Outdoor Air Field Measurements						ADT 5
DSCA ID No.: 32-0013						
Sample ID	Depth [feet bgs]	Sampling Date (mm/dd/yy)	Total Volatile Organic Compounds (VOC)	Methane	Carbon Dioxide	Oxygen
			ppm	%	%	%
Vent Exhaust Pipe		11/27/12	38.0	12.5	11.1	9.7
		01/08/13	173	11.0	9.3	10.6
		02/07/13	NM	17.3	15.9	1.5
		03/08/13	NM	16.4	15.0	1.7
		04/08/13	6.5	12.6	11.7	4.9
		05/08/13	10.8	15.0	14.4	1.9
		06/13/13	9.6	14.9	13.4	0.7
		07/08/13	9.6	14.5	13.0	0.8
		08/14/13	17.7	15.2	14.5	1.7
		09/11/13	14.7	15.7	13.4	1.5
		10/09/13	16.0	13.8	10.4	6.7
		11/13/13	15.8	12.9	11.1	4.4
		12/19/13	12.8	10.9	10.0	3.8
		01/08/14	9.2	8.7	12.0	5.1
		02/03/14	7.5	0.2	0.0	21.9
		02/17/14	30.7	23.2	16.2	6.1
		03/17/14	0.0	0.0	0.0	21.6
		04/14/14	0.0	6.4	6.1	13.2
		05/22/14	287.0	4.2	4.3	14.1
		06/17/14	580	4.6	4.6	14.1
	07/15/14	70	0.0	0.0	20.0	
SSD System Triangle Family Church 1414 Watts Street		11/27/12	2.4	0.1	0.0	21.0
		01/08/13	159	1.0	0.0	21.1
		02/07/13	NM	0.2	0.0	21.4
		03/08/13	NM	0.0	0.0	20.8
		04/08/13	0.0	0.0	0.0	20.8
		05/08/13	0.0	0.0	0.0	20.6
		06/13/13	0.0	0.0	0.0	20.4
		07/08/13	0.0	0.0	0.0	20.5
		08/14/13	4.4	0.1	0.0	20.5
		09/18/13	0.5	0.1	0.0	20.2
		10/09/13	6.1	0.1	0.1	21.1
		11/13/13	4.6	0.0	0.0	20.8
		12/19/13	5.2	0.0	0.0	21.4
		01/08/14	NM	NM	NM	NM
		02/03/14	NM	NM	NM	NM
		02/19/14	0.0	0.0	0.1	21.1
		03/17/14	0.0	0.0	0.0	21.4
		04/14/14	0.0	0.0	0.0	20.8
		05/22/14	NM	NM	NM	NM
		06/17/14	0.0/0.0	0.0/0.0	0.0/0.0	20.6/20.9
	07/15/14	29.2/23.5	0.0/0.0	0.0/0.0	20.2/20.1	



Table 5: Soil Vapor Point and Indoor/Outdoor Air Field Measurements						ADT 5
DSCA ID No.: 32-0013						
Sample ID	Depth [feet bgs]	Sampling Date (mm/dd/yy)	Total Volatile Organic Compounds (VOC)	Methane	Carbon Dioxide	Oxygen
			ppm	%	%	%
Indoor Air Triangle Family Church 1414 Watts Street		11/27/12	0.0	0.0	0.0	21.0
		01/08/13	0.0	0.0	0.0	20.9
		02/07/13	NM	0.0	0.0	20.8
		03/08/13	NM	0.0	0.0	21.0
		04/08/13	0.0	0.0	0.0	20.9
		05/08/13	0.0	0.0	0.0	20.5
		06/13/13	0.0	0.0	0.0	20.5
		07/08/13	0.0	0.0	0.0	20.5
		08/14/13	0.0	0.1	0.0	20.6
		09/18/13	0.0	0.0	0.0	20.3
		10/09/13	0.0	0.1	0.0	21.2
		11/13/13	0.0	0.0	0.0	20.8
		12/19/13	0.0	0.0	0.0	21.2
		01/08/14	NM	NM	NM	NM
		02/03/14	NM	NM	NM	NM
		02/17/14	0.0	0.0	0.1	21.1
		03/17/14	0.0	0.0	0.0	21.6
		04/14/14	NM	NM	NM	NM
		05/22/14	0.0	0.0	0.0	20.6
	Ambient, Outdoor Air (near excavation area on subject site)		11/27/12	0.0	0.0	0.0
		01/08/13	0.0	0.0	0.0	20.9
		02/07/13	NM	0.0	0.0	21.5
		03/08/13	NM	0.0	0.0	20.9
		04/08/13	0.0	0.0	0.0	20.9
		05/08/13	0.0	0.0	0.0	20.4
		06/13/13	0.0	0.0	0.0	20.4
		07/08/13	0.0	0.0	0.0	20.4
		08/14/13	0.0	0.0	0.0	20.6
		09/11/13	0.0	0.0	0.0	20.3
		10/09/13	0.0	0.3	0.0	21.3
		11/13/13	0.0	0.0	0.0	22.1
		12/19/13	0.0	0.0	0.0	22.4
		01/08/14	0.0	0.2	0.2	20.6
		02/03/14	0.5	0.1	0.0	21.3
		02/17/14	0.0	0.0	0.1	21.3
		03/17/14	0.0	0.0	0.0	21.3
		04/14/14	0.0	0.0	0.0	21.2
	05/22/14	0.0	0.0	0.0	20.9	
	06/17/14	0.0	0.0	0.0	20.9	
	07/16/14	0.0	0.0	0.0	20.7	

Table 5: Soil Vapor Point and Indoor/Outdoor Air Field Measurements						ADT 5
DSCA ID No.: 32-0013						
Sample ID	Depth [feet bgs]	Sampling Date (mm/dd/yy)	Total Volatile Organic Compounds (VOC)	Methane	Carbon Dioxide	Oxygen
			ppm	%	%	%
Notes: 1. VOC concentrations measured using a photoionization detector (PID) 2. Methane, carbon dioxide, and oxygen concentrations measured using GEM 2000 multi-gas meter. 3. NM denotes not measured; NA denotes not available. 4. New sub-slab depressurization (SSD) systems were installed at the Triangle Family Church in May 2014. Subsequent readings are reported for the front fan/rear fan.						


## **FIGURES**



**LEGEND**

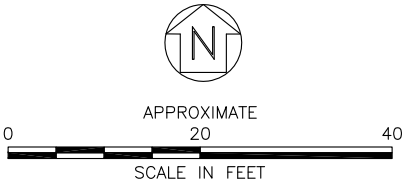
- SOURCE PROPERTY BOUNDARY
- - - PROPERTY PARCEL LINE
- ⊕ TYPE II MONITORING WELL
- Ⓢ INJECTION POINT
- ▨ EXCAVATION AREA




TITLE <b>SHALLOW INJECTION POINT LOCATION MAP</b>	
PROJECT <b>ONE HOUR MARTINIZING DSCA ID NO: 32-0013 1103 WEST CLUB BLVD DURHAM, NORTH CAROLINA</b>	
 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: 9-9-14	REVISION NO. 0
JOB NO. DS0-84	FIGURE. 1A



- LEGEND**
- SOURCE PROPERTY BOUNDARY
  - - - PROPERTY PARCEL LINE
  - ⊕ TYPE II MONITORING WELL
  - Ⓢ INJECTION POINT
  - ▨ EXCAVATION AREA



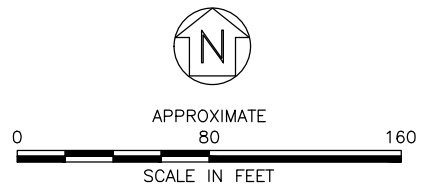
TITLE <b>INTERMEDIATE INJECTION POINT LOCATION MAP</b>	
PROJECT <b>ONE HOUR MARTINIZING DSCA ID NO: 32-0013 1103 WEST CLUB BLVD DURHAM, NORTH CAROLINA</b>	
 2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology	
DATE: 9-9-14	REVISION NO. 0
JOB NO. DS0-84	FIGURE. 1B

S:\AAA-Master Projects\DSCA - DSO\DSO-84 One Hr Martinizing (former BB&T)\Website Updates\Sept 2014\post-inj July 2014 GW.dwg, ATT2A PCE



- LEGEND**
- SITE PROPERTY BOUNDARY
  - - - - - PROPERTY PARCEL
  - ⊕ TYPE II MONITORING WELL
  - 0.0517 PCE CONCENTRATION IN mg/L
  - 0.07 PCE ISOCONTOUR LINE IN mg/L (DASHED WHERE INFERRED)
  - [Lightest Green Box] PCE CONCENTRATION >0.007 AND <0.07
  - [Medium Green Box] PCE CONCENTRATION >0.07 AND <0.7
  - [Darker Green Box] PCE CONCENTRATION >0.7 AND <7.0
  - [Darkest Green Box] PCE CONCENTRATION >7.0

- NOTES:**
1. SAMPLES FROM PERMANENT GROUNDWATER MONITORING WELLS COLLECTED ON 07/07/14 - 07/10/14.
  2. NS = NOT SAMPLED

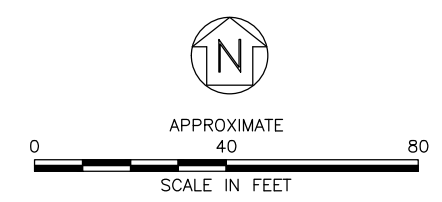


<b>TITLE</b> POST-INJECTION SHALLOW GROUNDWATER PCE ISOCONCENTRATION (JULY 2014)	
<b>PROJECT</b> ONE HOUR MARTINIZING DSCA ID NO: 32-0013 1103 WEST CLUB BLVD DURHAM, NORTH CAROLINA	
2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology	
DATE: 09/09/14	REVISION NO. 0
JOB NO. DS0-84	ATTACHMENT NO. 2A

**LEGEND**

- SITE PROPERTY BOUNDARY
- - - PROPERTY PARCEL
- ⊕ TYPE II MONITORING WELL
- 0.0288 PCE CONCENTRATION IN mg/L
- 0.07 PCE ISOCONTOUR LINE IN mg/L (DASHED WHERE INFERRED)
- [Dotted Pattern] EXCAVATION AREA
- [Light Green Box] PCE CONCENTRATION >0.007 AND <0.007
- [Medium Green Box] PCE CONCENTRATION >0.007 AND <0.07
- [Dark Green Box] PCE CONCENTRATION >0.07 AND <0.7
- [Darkest Green Box] PCE CONCENTRATION >0.7

NOTES:  
 1. SAMPLES WERE COLLECTED ON 07/07/14 - 07/10/14.  
 2. NS = NOT SAMPLED



<b>TITLE</b> POST-INJECTION INTERMEDIATE GROUNDWATER PCE ISOCONCENTRATION MAP (JULY 2014)	
<b>PROJECT</b> ONE HOUR MARTINIZING DSCA ID NO: 32-0013 1103 WEST CLUB BLVD DURHAM, DURHAM COUNTY	
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: 9-9-14	REVISION NO. 0
JOB NO. DS0-84	FIGURE NO. 2B

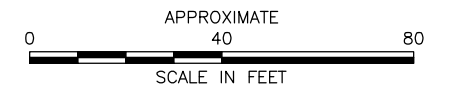


S:\AAA-Master Projects\DSCA - DS0\DS0-84 One Hr Martinizing (former BB&T)\Website Updates\2014 Website Updates\Sept 2014\Fig 2B and 3B.dwg, PostInjection PCE\_int

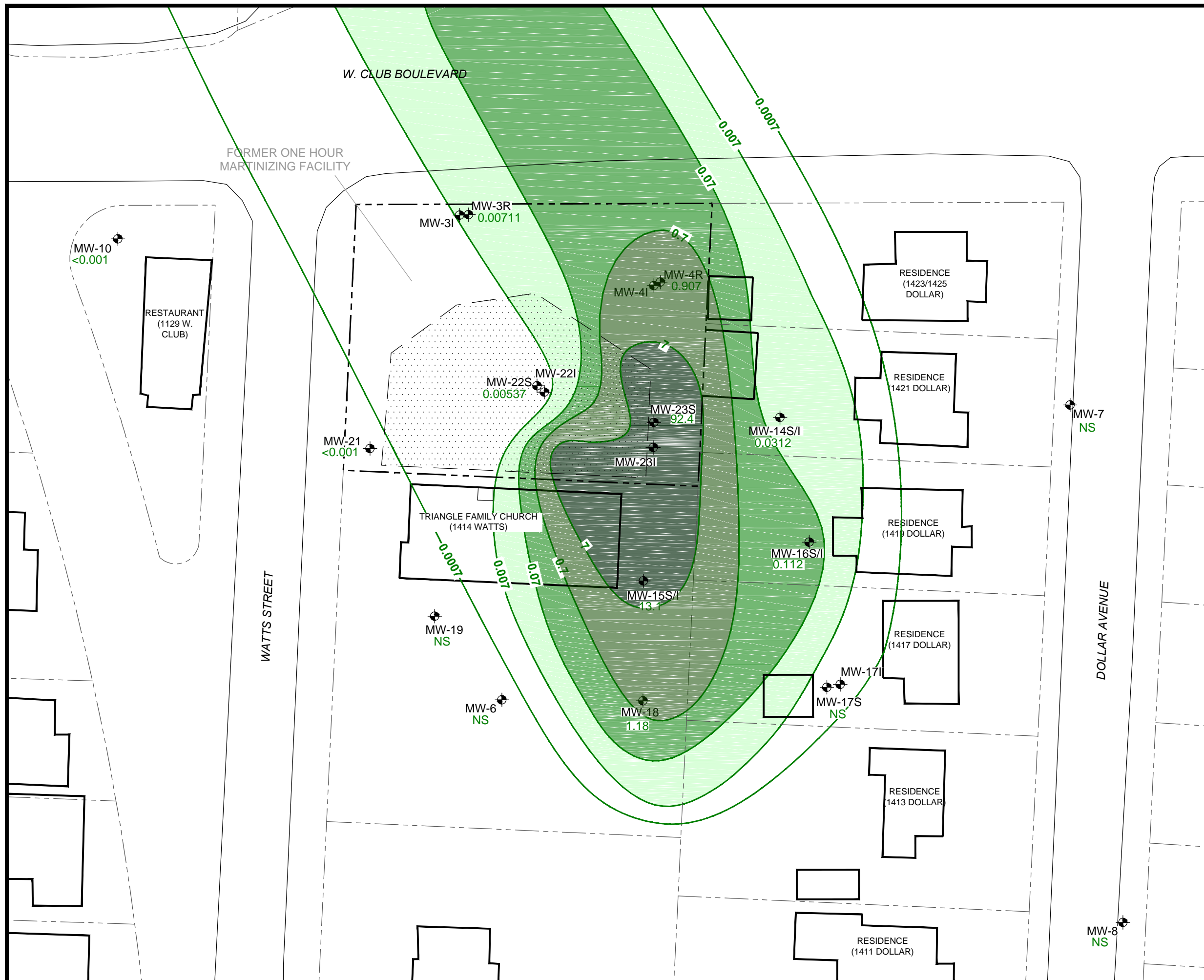
LEGEND

- SITE PROPERTY BOUNDARY
- - - PROPERTY PARCEL
- ⊕ TYPE II MONITORING WELL
- 0.907 PCE CONCENTRATION IN mg/L
- 0.07 PCE ISOCONTOUR LINE IN mg/L (DASHED WHERE INFERRED)
- [Hatched Box] EXCAVATION AREA
- [Light Green Box] PCE CONCENTRATION >0.007 AND <0.007
- [Medium Green Box] PCE CONCENTRATION >0.007 AND <0.07
- [Dark Green Box] PCE CONCENTRATION >0.07 AND <0.7
- [Very Dark Green Box] PCE CONCENTRATION >0.7 AND <7.0
- [Darkest Green Box] PCE CONCENTRATION >7.0

NOTES:  
 1. SAMPLES WERE COLLECTED ON 12/16/13 - 12/20/13.  
 2. NS = NOT SAMPLED



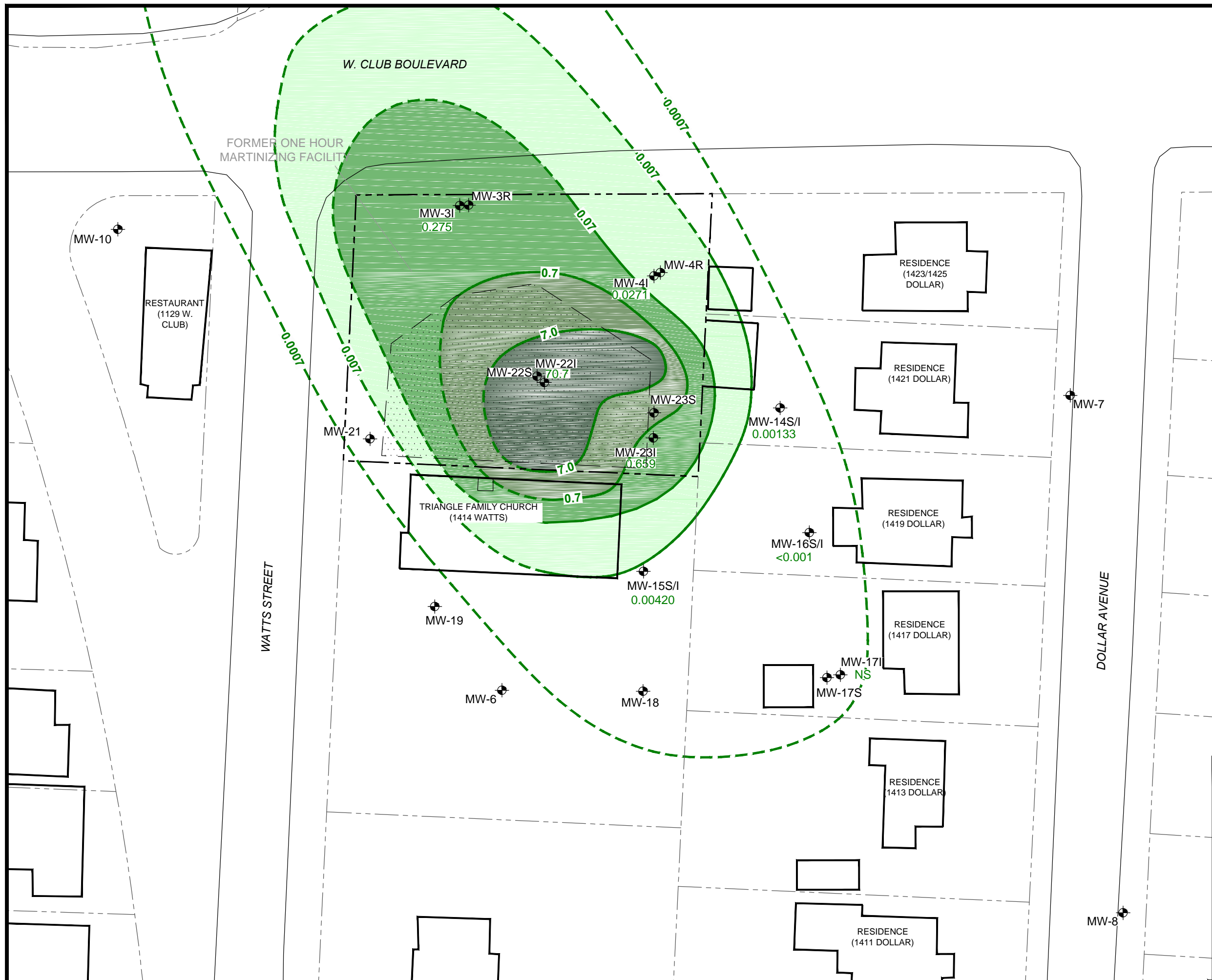
<p><b>TITLE</b> PRE-INJECTION SHALLOW GROUNDWATER PCE ISOCONCENTRATION MAP (DECEMBER 2013)</p>	
<p><b>PROJECT</b> ONE HOUR MARTINIZING DSCA ID NO: 32-0013 1103 WEST CLUB BLVD DURHAM, DURHAM COUNTY</p>	
<p><b>hart hickman</b> 2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology</p>	
<p>DATE: 05/12/14</p>	<p>REVISION NO. 0</p>
<p>JOB NO. DS0-84</p>	<p>FIGURE NO. 2C</p>



S:\AAA-Master Projects\DSCA - DS0\DS0-84 One Hr Martinizing (former BB&T)\Website Updates\2014 Website Updates\Sept 2014\DC320013\_20140908\_Figures.dwg, PreInjection PCE, shallow

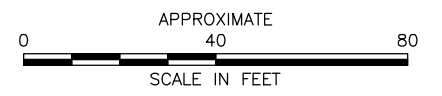



S:\AAA-Master Projects\DSCA - DS0\DS0-84 One Hr Martinizing (former BB&T)\Website Updates\2014 Website Updates\2014 DC20013\_20140908\_Figures.dwg, PreInjection\_PCE\_int



- LEGEND**
- SITE PROPERTY BOUNDARY
  - - - PROPERTY PARCEL
  - ⊕ TYPE II MONITORING WELL
  - 0.907 PCE CONCENTRATION IN mg/L
  - 0.07 PCE ISOCONTOUR LINE IN mg/L (DASHED WHERE INFERRED)
  - [Hatched Box] EXCAVATION AREA
  - [Light Green Box] PCE CONCENTRATION >000.7 AND <0.007
  - [Medium Green Box] PCE CONCENTRATION >0.007 AND <0.07
  - [Dark Green Box] PCE CONCENTRATION >0.07 AND <0.7
  - [Very Dark Green Box] PCE CONCENTRATION >0.7 AND <7.0
  - [Darkest Green Box] PCE CONCENTRATION >7.0

**NOTES:**  
 1. SAMPLES WERE COLLECTED ON 12/16/13 - 12/20/13.  
 2. NS = NOT SAMPLED



<b>TITLE</b> PRE-INJECTION INTERMEDIATE GROUNDWATER PCE ISOCONCENTRATION MAP (DECEMBER 2013)	
<b>PROJECT</b> ONE HOUR MARTINIZING DSCA ID NO: 32-0013 1103 WEST CLUB BLVD DURHAM, DURHAM COUNTY	
 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: 05/12/14	REVISION NO. 0
JOB NO. DS0-84	FIGURE NO. 2D

W. CLUB BOULEVARD

LEGEND

- SOURCE PROPERTY BOUNDARY
- - - - - PROPERTY PARCEL
- ▲ SOIL GAS MONITORING POINT

SV-14		← SAMPLE IDENTIFICATION
PCE	290,000	← CONCENTRATION (µg/m³)
TCE	38	
		← CONSTITUENT

FORMER ONE HOUR MARTINIZING FACILITY

	SV-55S	SV-55I
PCE	1,100,000	940,000
TCE	680	280
CIS-1,2-DCE	<16	24

	SV-27S	SV-27D
PCE	1,700,000	1,800,000
TCE	970	1,500
CIS-1,2-DCE	19	5,500
TRANS-1,2-DCE	<16	18
VC	<10	640

SV-8I	
PCE	7,400,000
CIS-1,2-DCE	390
TRANS-1,2-DCE	220
VC	310

SV-8S	
PCE	2,600,000
TCE	580

	SV-21S	SV-21D
PCE	9,400	5,600
TCE	19	43

	SV-24S	SV-24D
PCE	1,100	3,800
TCE	1.4	<1.1

	SV-25S	SV-25D
PCE	2,000	620

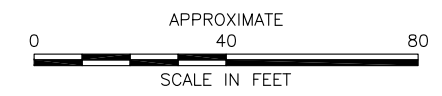
	SV-20S	SV-20D
PCE	570,000	350,000
TCE	<21	20J

SV-18	
PCE	180,000

	SV-35S	SV-35D
PCE	140,000	99,000
TCE	9.0J	9.9J

	SV-36S	SV-36D
PCE	1,400,000	860,000
TCE	340	28
CIS-1,2-DCE	35	<16
TRANS-1,2-DCE	34	<16

- NOTES:
- BOLD** EXCEEDS DWM SOIL GAS SCREENING LEVEL (SGSL). SV-8S/I, SV-14, SV-49S/D, SV-50 AND SV-55S/I COMPARED TO NON-RESIDENTIAL SGSLs. OTHER SAMPLES COMPARED TO RESIDENTIAL SGSLs.
  - SOIL GAS SAMPLES WERE COLLECTED ON 07/07/14.
  - J DENOTES ESTIMATED CONCENTRATION BETWEEN LABORATORY REPORTING LIMIT AND METHOD DETECTION LIMIT.



TITLE <b>POST-INJECTION SOIL GAS CONTAMINANT CONCENTRATION MAP (JULY 2014)</b>	
PROJECT <b>ONE HOUR MARTINIZING DSCA ID NO: 32-0013 1103 WEST CLUB BLVD DURHAM, DURHAM COUNTY</b>	
<b>hart hickman</b> 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: 9-9-14	REVISION NO. 0
JOB NO. DS0-84	FIGURE NO. 3

WATTS STREET

DOLLAR AVENUE

RESTAURANT  
(1129 W. CLUB)

TRIANGLE FAMILY CHURCH  
(1414 WATTS)

RESIDENCE  
(1423/1425 DOLLAR)

RESIDENCE  
(1421 DOLLAR)

RESIDENCE  
(1419 DOLLAR)

RESIDENCE  
(1417 DOLLAR)

RESIDENCE  
(1413 DOLLAR)

RESIDENCE  
(1411 DOLLAR)

SV-50	
PCE	530

SV-14	
PCE	290,000
TCE	38

SV-49D	
PCE	61
TCE	2.4

SV-28D	
PCE	15,000
TCE	4.5

	SV-29S	SV-29D
PCE	1,600,000	6,500,000
TCE	27	<11,000

SV-48S/D

SV-47S/D

SV-51S/D

SV-38S/D

SV-44S/D

SV-49S/D

SV-50

SV-11

SV-14

SV-17

SV-16

SV-15

SV-55S/I

SV-8I

SV-8S

SV-29S/D

SV-18

SV-30S

SV-33

SV-36S/D

SV-35S/D

SV-37S/D

SV-37S/D

SV-37S/D

SV-32

SV-34S

SV-42S

SV-43S

SV-19

SV-25S

SV-20S

SV-18

SV-38S/D

SV-44S/D

W. CLUB BOULEVARD

FORMER ONE HOUR MARTINIZING FACILITY

RESTAURANT  
(1129 W. CLUB)

TRIANGLE FAMILY CHURCH  
(1414 WATTS)

RESIDENCE  
(1423/1425 DOLLAR)

RESIDENCE  
(1421 DOLLAR)

RESIDENCE  
(1419 DOLLAR)

RESIDENCE  
(1417 DOLLAR)

RESIDENCE  
(1413 DOLLAR)

RESIDENCE  
(1411 DOLLAR)

1414-FRONT	06/22/14	07/22/14
PCE	2.8	2.5
TCE	<0.19	<0.19

1414-REAR	06/22/14	07/22/14
PCE	4.1	3.7
TCE	<0.19	<0.40

1419-SIDE OUT	07/29/14
PCE	0.88
TCE	<0.072

1421-UP	07/01/14	07/31/14
PCE	2.5	1.2
TCE	<b>0.75</b>	<0.072

1421-DOWN	07/01/14	07/31/14
PCE	3.5	1.9
TCE	<0.13	<0.072

1419-UP	07/01/14	07/29/14
PCE	2.0	0.54
TCE	<0.14	<0.072

1419-DOWN	07/01/14	07/29/14
PCE	3.5	0.60
TCE	<0.14	<0.072

LEGEND

- SOURCE PROPERTY BOUNDARY
- - - PROPERTY PARCEL
- ⊗ INDOOR OR OUTDOOR AIR SAMPLE

SAMPLE IDENTIFICATION

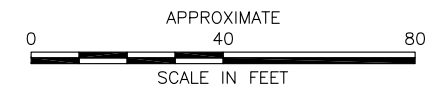
SAMPLE IDENTIFICATION	SAMPLE DATE	
	06/22/14	07/22/14
1414-REAR	PCE	4.1
	TCE	<0.19
		3.7
		<0.40

CONCENTRATION (µg/m³)

CONSTITUENT

NOTES:

1. INDOOR AIR SAMPLES FROM 1414 WATTS ST WERE COLLECTED USING SUMMA CANISTERS OVER A 3-HR PERIOD.
2. INDOOR AIR SAMPLES FROM 1419 AND 1421 DOLLAR WERE COLLECTED USING PASSIVE RADIELLO SAMPLERS DEPLOYED FOR 14 DAYS.
3. **BOLD** CONCENTRATIONS EXCEED DIVISION OF WASTE MANAGEMENT RESIDENTIAL INDOOR AIR SCREENING LEVELS.



TITLE	<b>INDOOR AIR CONTAMINANT CONCENTRATION MAP (JUNE 2014 AND JULY 2014)</b>	
PROJECT	<b>ONE HOUR MARTINIZING DSCA ID NO: 32-0013</b> 1103 WEST CLUB BLVD DURHAM, DURHAM COUNTY	
	<b>hart hickman</b> 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: 9-9-14	REVISION NO. 0	
JOB NO. DS0-84	FIGURE NO. 4	

W. CLUB BOULEVARD

FORMER ONE HOUR MARTINIZING FACILITY

PASSIVE EXCAVATION VENT STACK

07/08/13	14.5%
08/14/13	15.2%
09/11/13	15.7%
10/09/13	13.8%
11/13/13	12.9%
12/19/13	10.9%
01/08/14	8.7%
02/03/14	0.2%
02/17/14	23.2%
03/17/14	0.0%
04/14/14	6.4%
05/22/14	4.2%
06/17/14	4.6%
07/15/14	0.0%

SV-50

06/17/14	0.0%
07/15/14	0.2%

SV-14

05/22/14	0.0%
06/17/14	0.0%
07/15/14	0.0%

	SV-8S	SV-8I
07/08/13	0.0%	0.2%
08/14/13	0.1%	0.3%
09/11/13	0.2%	0.2%
10/09/13	0.3%	0.5%
11/13/13	0.2%	0.3%
12/19/13	0.2%	0.4%
01/08/14	0.2%	0.2%
02/03/14	0.1%	NM
02/17/14	0.0%	0.0%
03/17/14	0.0%	0.0%
04/14/14	0.0%	0.0%
05/22/14	0.0%	0.3%
06/17/14	0.0%	NM
07/15/14	0.0%	0.0%

	SV-21S	SV-21D
05/22/14	0.0%	0.0%
06/17/14	0.0%	0.0%
07/15/14	0.0%	0.0%

SV-19

08/15/13	0.0%
09/11/13	0.0%
10/09/13	0.0%
11/13/13	0.0%
12/19/13	0.0%
01/08/14	0.0%
02/03/14	0.2%
02/17/14	0.0%
03/17/14	0.0%
04/14/14	0.0%
05/22/14	0.0%
06/17/14	0.0%
07/15/14	0.0%

SV-19

08/15/13	0.0%
09/11/13	0.0%
10/09/13	0.0%
11/13/13	0.0%
12/19/13	0.0%
01/08/14	0.0%
02/03/14	0.2%
02/17/14	0.0%
03/17/14	0.0%
04/14/14	0.0%
05/22/14	0.0%
06/17/14	0.0%
07/15/14	0.0%

	SV-25S	SV-25D
06/17/14	0.0%	0.0%
07/15/14	0.0%	0.0%

	SV-20S	SV-20D
08/15/13	0.0%	0.0%
09/11/13	0.1%	0.1%
10/09/13	0.1%	0.1%
11/13/13	0.0%	0.0%
12/19/13	0.0%	0.0%
01/08/14	0.0%	0.0%
02/03/14	0.2%	0.2%
02/17/14	0.0%	0.0%
03/17/14	0.0%	0.0%
04/14/14	0.0%	0.0%
05/22/14	0.0%	0.0%
06/17/14	0.0%	0.0%
07/15/14	0.0%	0.0%

	SV-49S	SV-49D
05/22/14	0.0%	0.0%
06/17/14	0.0%	0.0%
07/16/14	0.0%	0.0%

	SV-55S	SV-55I
07/08/13	0.7%	1.5%
08/14/13	0.2%	0.3%
09/11/13	0.9%	0.3%
10/09/13	0.8%	0.1%
11/13/13	0.4%	0.2%
12/19/13	0.6%	0.4%
01/08/14	0.6%	0.7%
02/03/14	0.4%	NM
02/17/14	NM	NM
03/17/14	0.3%	NM
04/14/14	0.0%	NM
05/22/14	0.1%	NM
06/17/14	0.0%	NM
07/15/14	0.0%	0.0%

SSD SYSTEM EXHAUST FAN

07/08/13	0.0%
08/14/13	0.1%
09/11/13	0.1%
10/09/13	0.1%
11/13/13	0.0%
12/19/13	0.0%
01/08/14	NM
02/03/14	NM
02/17/14	0.0%
03/17/14	0.0%
04/14/14	0.0%
05/22/14	NM
06/17/14	0.0%/0.0%
07/15/14	0.0%/0.0%

SV-28D

05/22/14	0.0%
06/17/14	0.0%
07/15/14	0.0%

	SV-36S	SV-36D
06/17/14	0.0%	0.0%
07/15/14	0.0%	0.0%

SV-29S

08/14/13	0.1%
09/11/13	0.1%
10/09/13	0.0%
11/13/13	0.0%
12/19/13	0.0%
01/08/14	0.0%
02/03/14	0.2%
02/17/14	0.0%
03/17/14	0.0%
04/14/14	0.0%
05/22/14	0.0%
06/17/14	0.0%
07/15/14	0.0%

SV-18

08/14/13	0.1%
09/11/13	0.1%
10/09/13	0.0%
11/13/13	0.0%
12/19/13	0.0%
01/08/14	0.0%
02/03/14	0.2%
02/17/14	0.1%
03/17/14	NM
04/14/14	0.0%
05/22/14	0.0%
06/17/14	0.0%
07/15/14	0.0%

LEGEND

- SOURCE PROPERTY BOUNDARY
- - - PROPERTY PARCEL
- ▲ SOIL GAS MONITORING POINT

← SAMPLE IDENTIFICATION

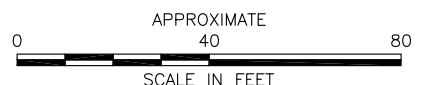
← METHANE % BY VOLUME

← SAMPLE DATE

METHANE WAS NOT DETECTED IN AMBIENT AIR AT GROUND LEVEL AT THE SUBJECT SITE IN JULY 2014

METHANE WAS NOT DETECTED IN THE TRIANGLE FAMILY CHURCH IN JULY 2014.

- NOTES:
1. METHANE FIELD READINGS WERE MEASURED USING A GEM 2000 MULTI-GAS METER
  2. NM = NOT MEASURED
  3. A NEW SUB-SLAB DEPRESSURIZATION SYSTEM WAS INSTALLED AT 1414 WATTS IN MAY 2014. THE NEW FANS AND EXHAUST PIPES ARE LOCATED ON THE EXTERIOR OF THE BUILDING NEAR THE MAINTENANCE ROOM. FORMER FAN WAS LOCATED INSIDE THE MAINTENANCE ROOM. READINGS AFTER MAY 2014 ARE REPORTED FOR THE FRONT FAN/REAR FAN.



<b>TITLE</b> METHANE FIELD MEASUREMENTS (JULY 2013 - JULY 2014)	
<b>PROJECT</b> ONE HOUR MARTINIZING DSCA ID NO: 32-0013 1103 WEST CLUB BLVD DURHAM, DURHAM COUNTY	
<b>hart hickman</b> 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: 9-9-14	REVISION NO. 0
JOB NO. DS0-84	FIGURE NO. 5

**ATTACHMENT A**  
**PROJECT CALENDAR**

**~ June 2014 ~**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
<b>14-Day Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>						
8	9	10	11	12	13	14
15	16	17	18	19	20	21
<b>3-Hour Summa Canister Indoor Air Sampling at 1414 Watts St</b>		<b>Methane Field Screening</b>				
		<b>14-Day Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>				
22	23	24	25	26	27	28
<b>14-Day Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>						
29	30	<p>Note: Schedule tentative and subject to change. Please check <a href="http://portal.ncdenr.org/web/wm/dsca/bbt_updates">http://portal.ncdenr.org/web/wm/dsca/bbt_updates</a> regularly for any changes in the schedule.</p>				
<b>14-Day Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>						

## ~ July 2014 ~

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9	10	11	12
	<b>Post-Injection Groundwater and Soil Vapor Sampling</b>					
13	14	15	16	17	18	19
<b>3-Hour Summa Canister Indoor Air Sampling at 1414 Watts St</b>		<b>Methane Field Screening</b>				
		<b>14-Day Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>				
20	21	22	23	24	25	26
<b>14-Day Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>						
27	28	29	30	31	Note: Schedule tentative and subject to change. Please check <a href="http://portal.ncdenr.org/web/wm/dsca/bbt_updates">http://portal.ncdenr.org/web/wm/dsca/bbt_updates</a> regularly for any changes in the schedule.	
<b>14-Day Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>						

# ~ August 2014 ~

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Note: Schedule tentative and subject to change. Please check <a href="http://portal.ncdenr.org/web/wm/dsca/bbt_updates">http://portal.ncdenr.org/web/wm/dsca/bbt_updates</a> 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



## ~ September 2014 ~

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 <a href="http://portal.ncdenr.org/web/wm/dsca/bbt_updates">http://portal.ncdenr.org/web/wm/dsca/bbt_updates</a> regularly for any changes in the schedule.			

## ~ October 2014 ~

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Note: Schedule tentative and subject to change. Please check <a href="http://portal.ncdenr.org/web/wm/dsca/bbt_updates">http://portal.ncdenr.org/web/wm/dsca/bbt_updates</a> regularly for any changes in the schedule.			1	2	3	4
	5	6	7	8	9	10
Post-Injection Groundwater and Soil Vapor Sampling						
12	13	14	15	16	17	18
<b>3-Hour Summa Canister Indoor Air Sampling at 1414 Watts St</b>		<b>Methane Field Screening</b>	<b>14-Day Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>			
19	20	21	22	23	24	25
<b>14-Day Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>						
26	27	28	29	30	31	
<b>14-Day Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>						

## ~ November 2014 ~

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Note: Schedule tentative and subject to change. Please check <a href="http://portal.ncdenr.org/web/wm/dsca/bbt_updates">http://portal.ncdenr.org/web/wm/dsca/bbt_updates</a> 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 2014 ~

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	31	Note: Schedule tentative and subject to change. Please check <a href="http://portal.ncdenr.org/web/wm/dsca/bbt_updates">http://portal.ncdenr.org/web/wm/dsca/bbt_updates</a> regularly for any changes in the schedule.		

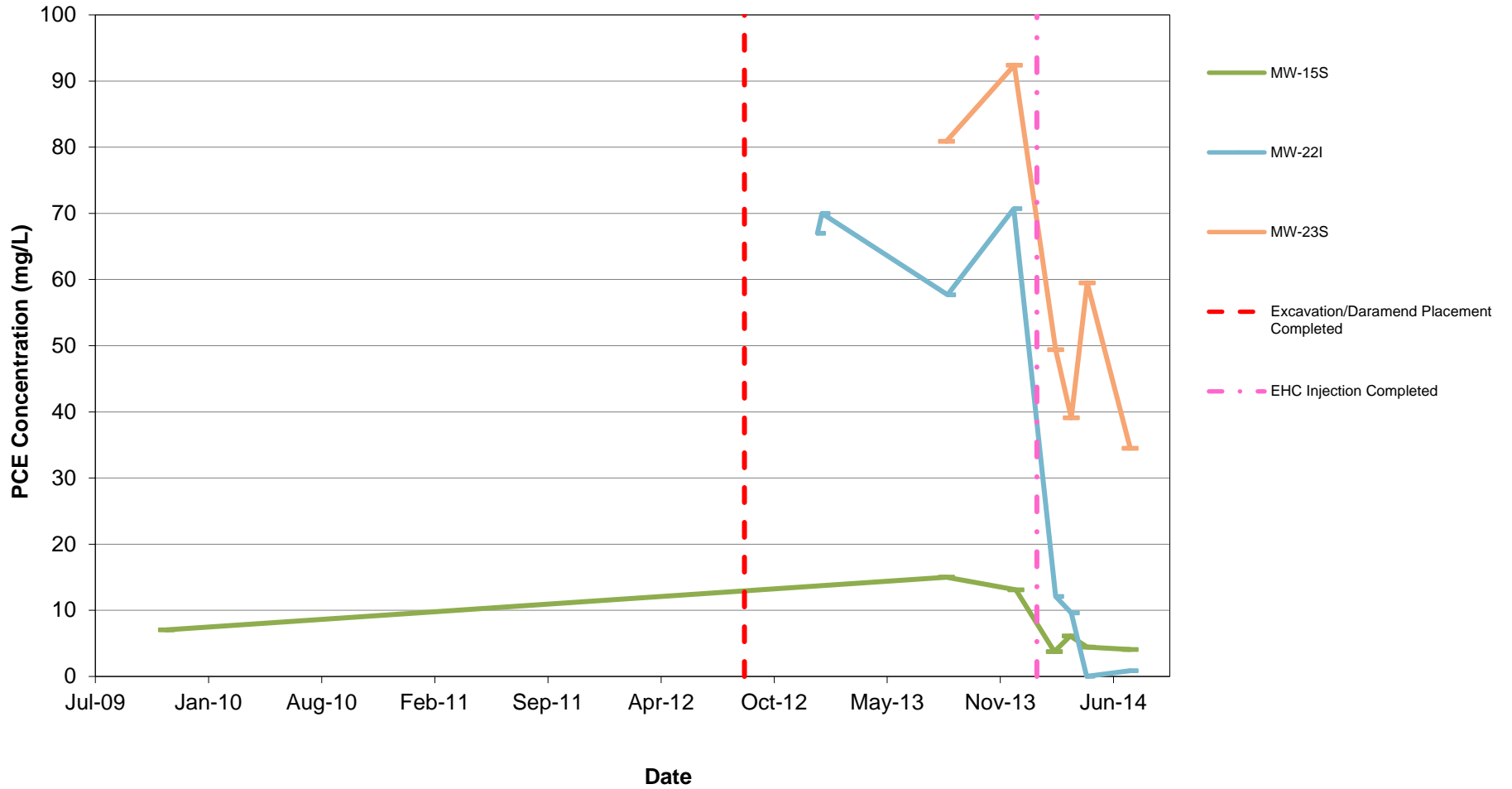
## ~ January 2015 ~

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Note: Schedule tentative and subject to change. Please check <a href="http://portal.ncdenr.org/web/wm/dsca/bbt_updates">http://portal.ncdenr.org/web/wm/dsca/bbt_updates</a> regularly for any changes in the schedule.						
4	5	6	7	8	9	10
Post-Injection Groundwater and Soil Vapor Sampling						
11	12	13	14	15	16	17
<b>3-Hour Summa Canister Indoor Air Sampling at 1414 Watts St</b>		<b>Methane Field Screening</b>				
<b>14-Day Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>						
18	19	20	21	22	23	24
<b>14-Day Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>						
25	26	27	28	29	30	31
<b>14-Day Radiello Indoor Air Sampling at 1419 &amp; 1421 Dollar Ave</b>						

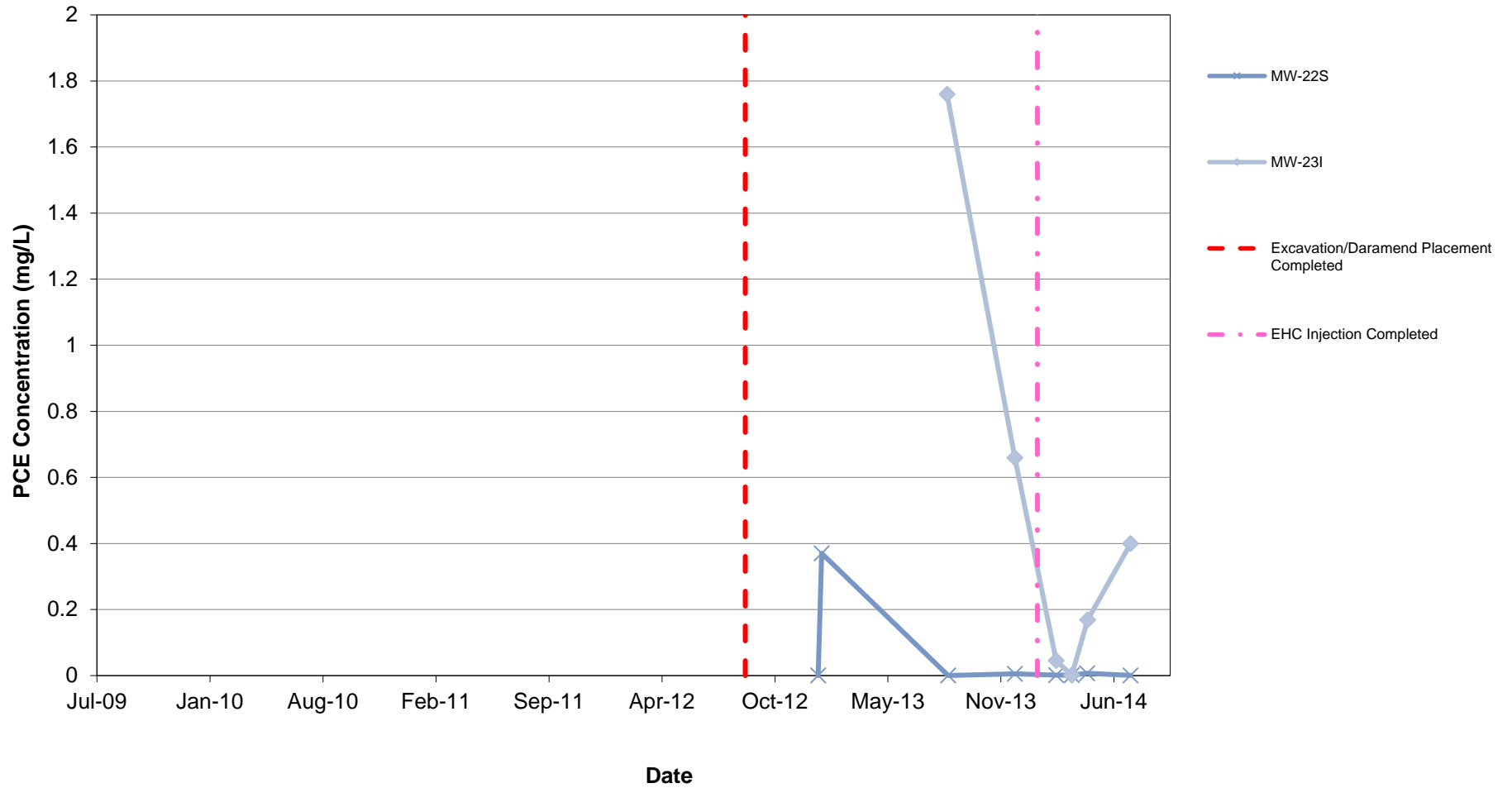
**ATTACHMENT B**

**GRAPHS**

**PCE Groundwater Concentrations vs. Time**  
**Injection Area MWs: MW-15S, MW-22I, MW-23S**  
**One Hour Martinizing, Durham, Durham County**  
**DSCA ID: 32-0013**



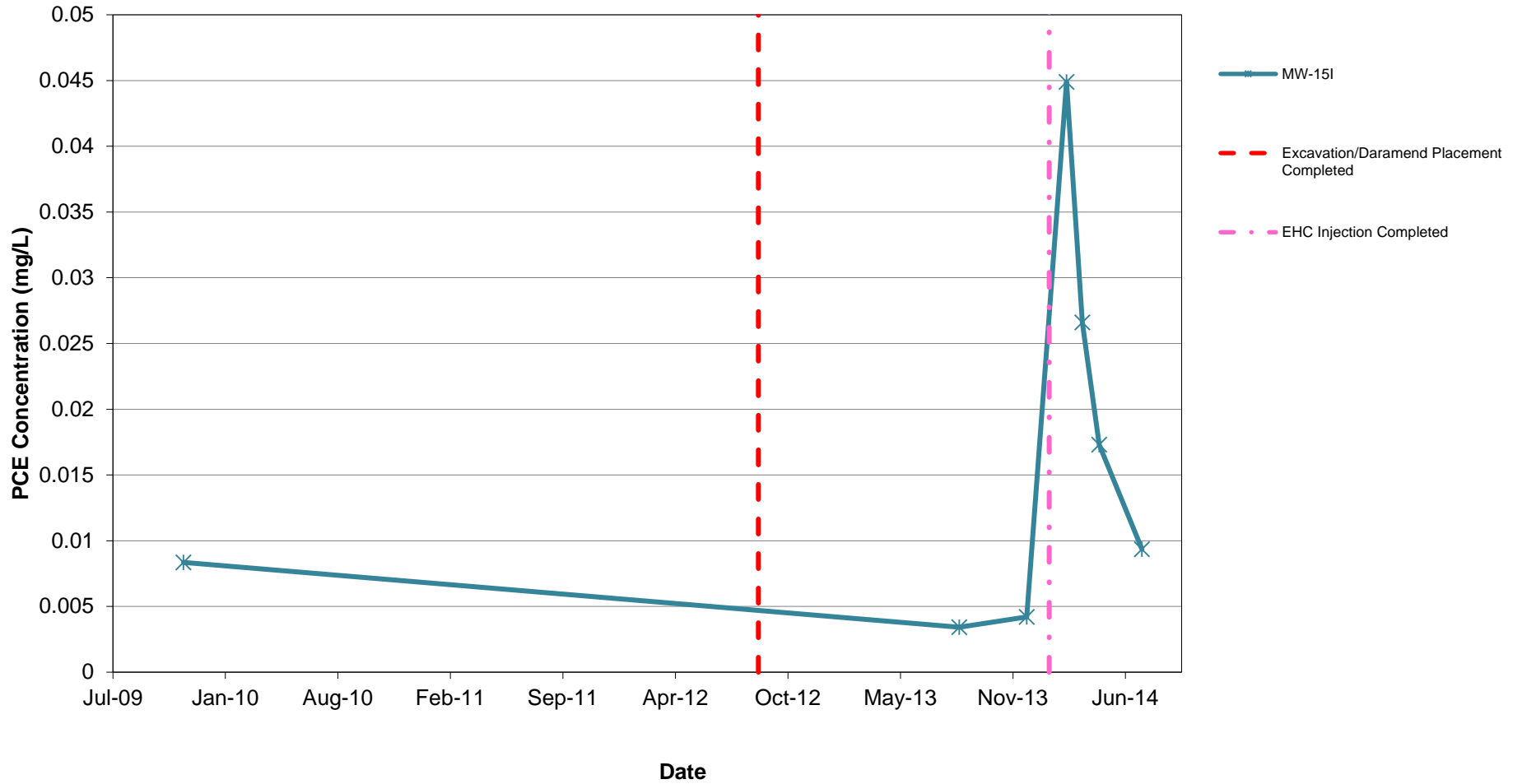
**PCE Groundwater Concentrations vs. Time**  
**Injection Area MWs: MW-22S and MW-23I**  
**One Hour Martinizing, Durham, Durham County**  
**DSCA ID: 32-0013**



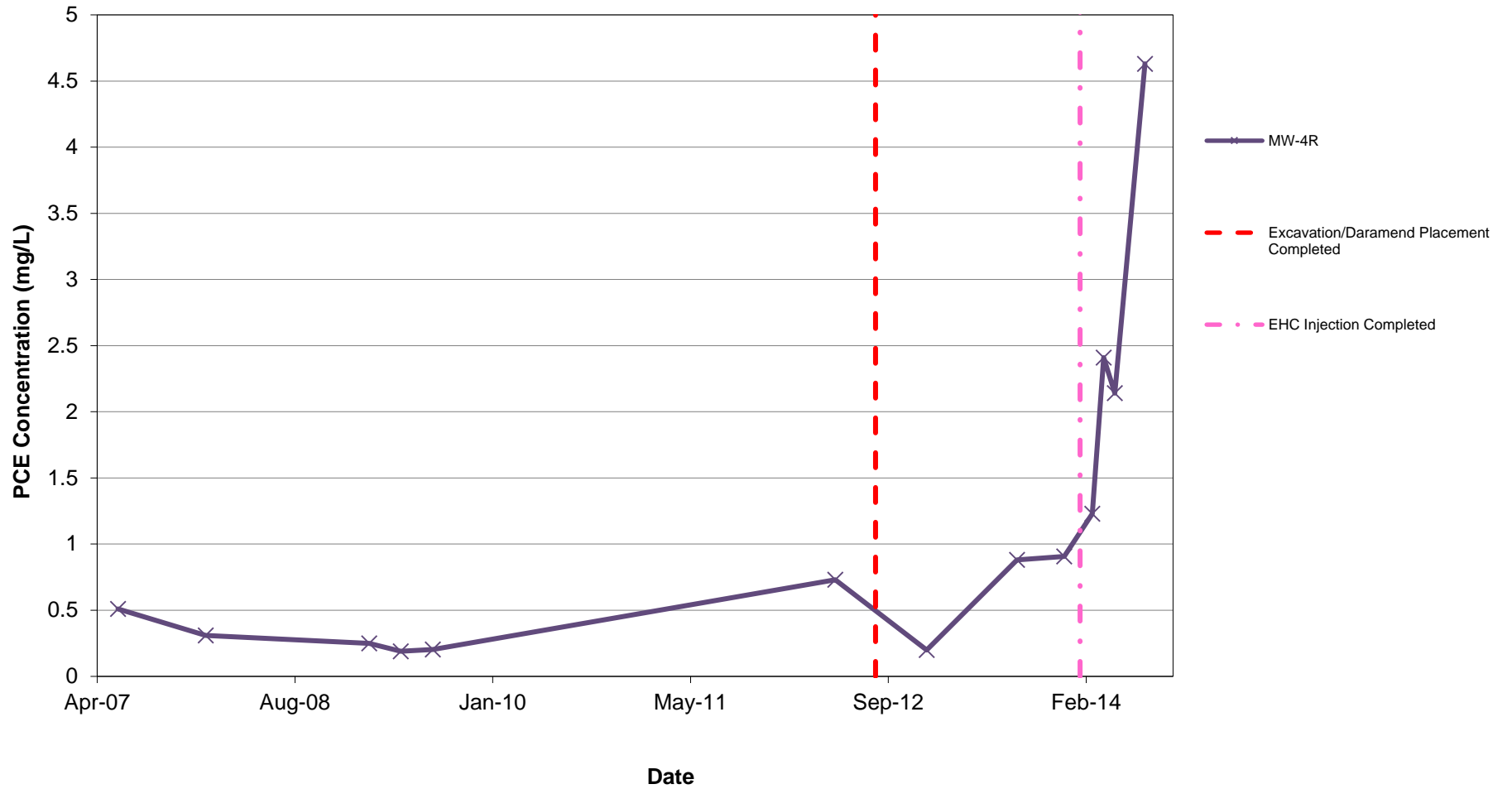
Note: Non-detect values are graphed as half the laboratory method detection limit.



**PCE Groundwater Concentrations vs. Time**  
**Injection Area MWs: MW-15I**  
**One Hour Martinizing, Durham, Durham County**  
**DSCA ID: 32-0013**

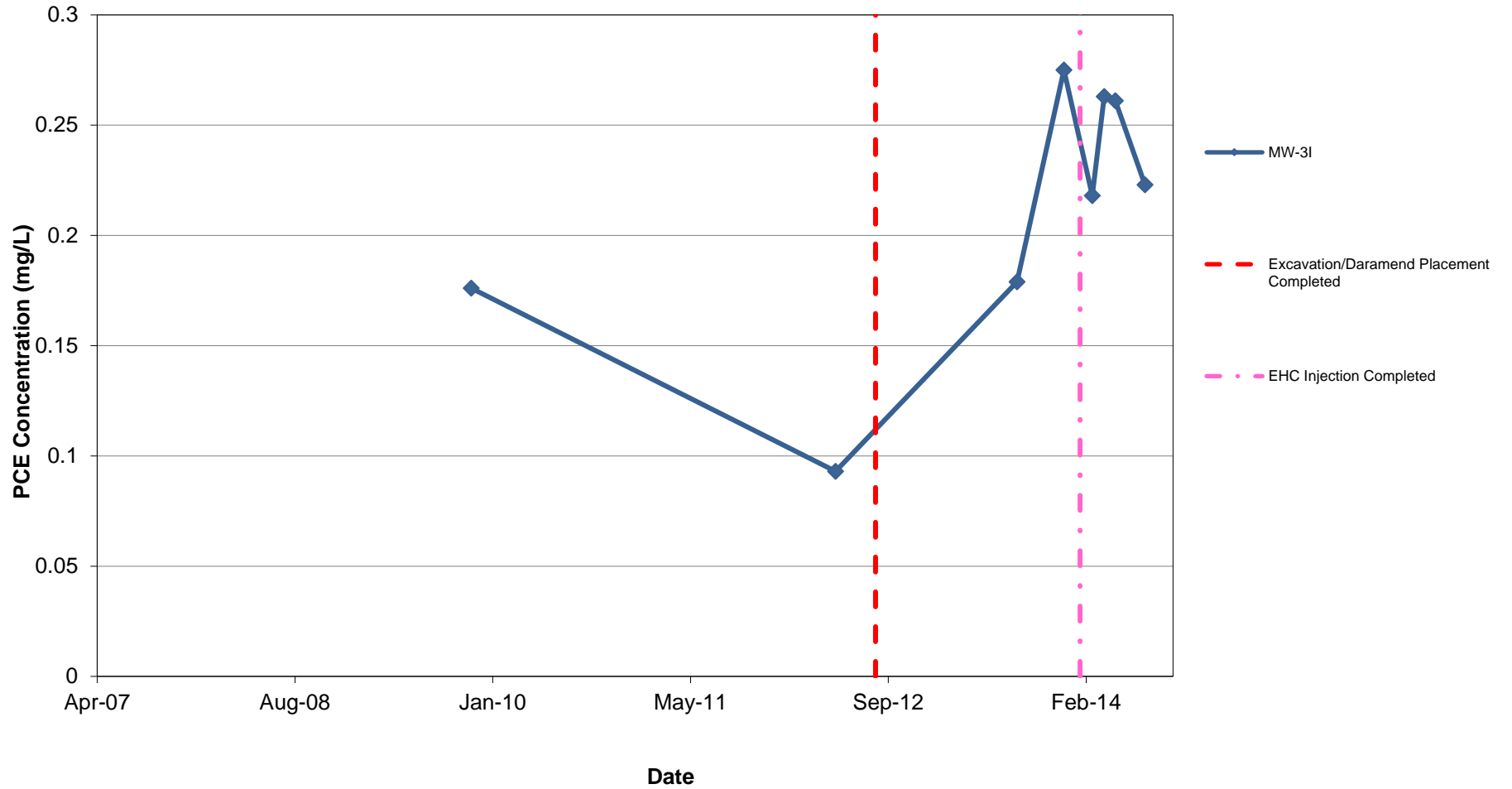


**PCE Groundwater Concentrations vs. Time**  
**MWs North of Injection Area: MW-4R**  
**One Hour Martinizing, Durham, Durham County**  
**DSCA ID: 32-0013**



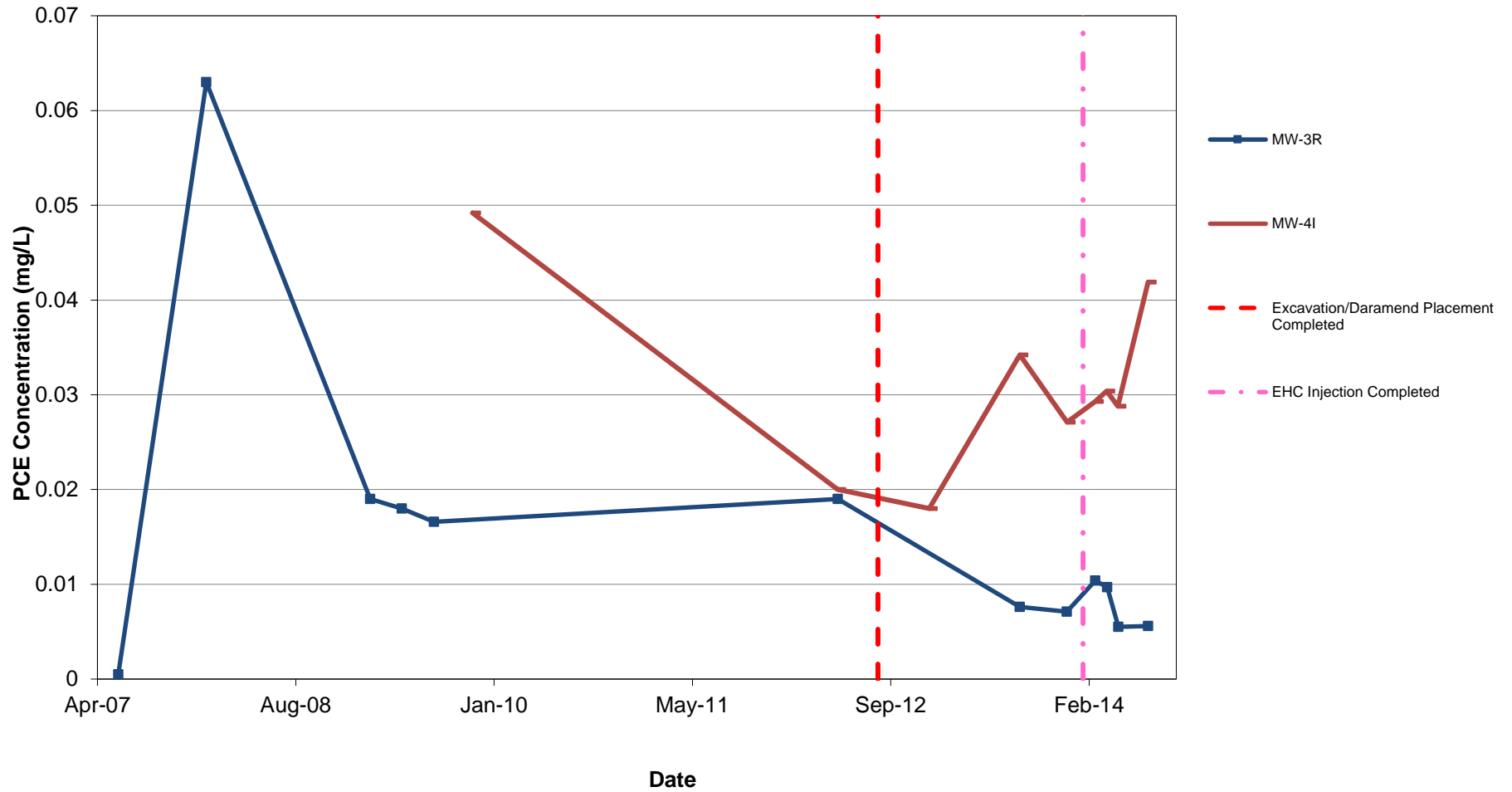
Note: Non-detect values are graphed as half the laboratory method detection limit.

**PCE Groundwater Concentrations vs. Time**  
**MWs North of Injection Area: MW-3I**  
**One Hour Martinizing, Durham, Durham County**  
**DSCA ID: 32-0013**



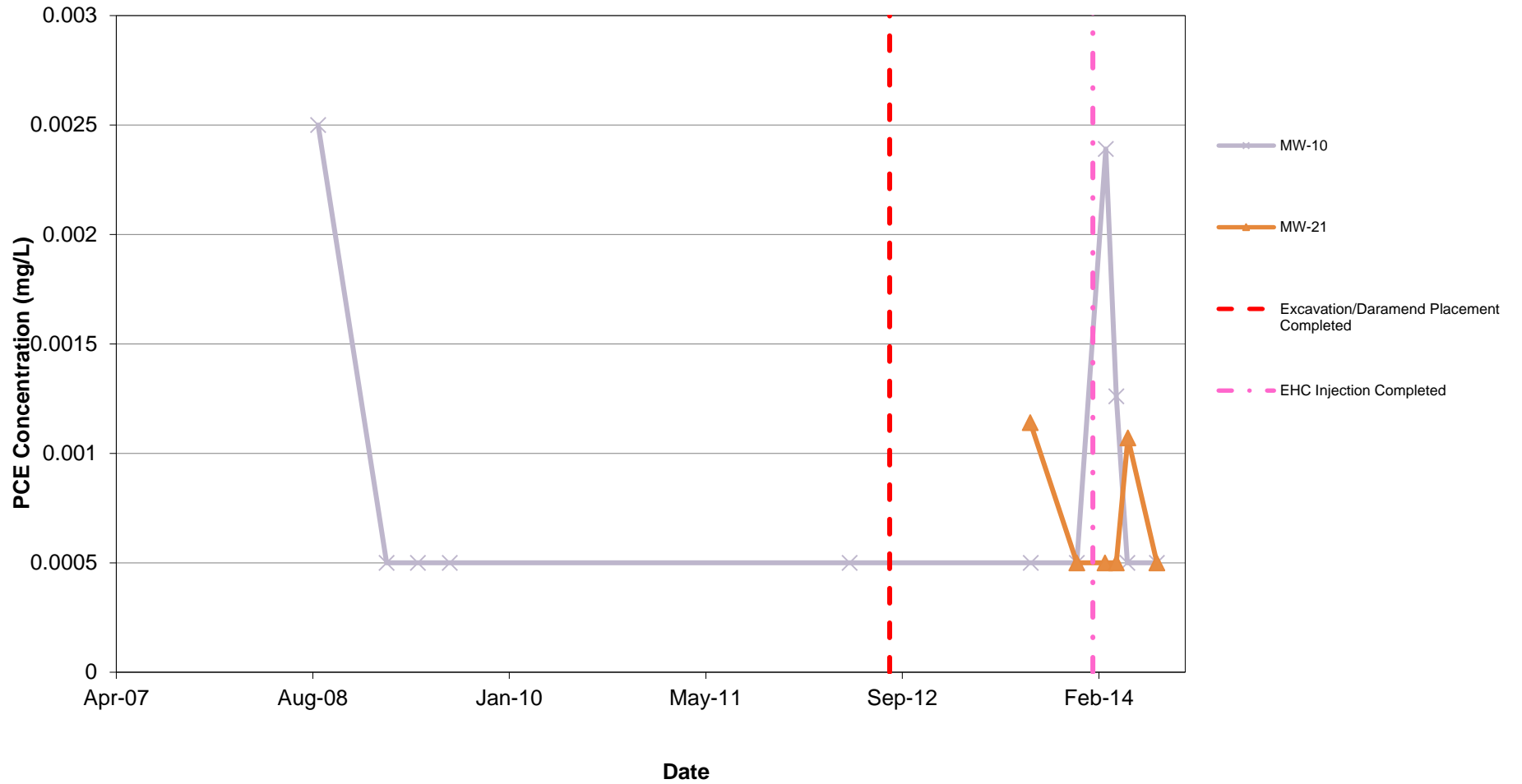
Note: Non-detect values are graphed as half the laboratory method detection limit.

**PCE Groundwater Concentrations vs. Time**  
**MWs North of Injection Area: MW-3R and MW-4I**  
**One Hour Martinizing, Durham, Durham County**  
**DSCA ID: 32-0013**



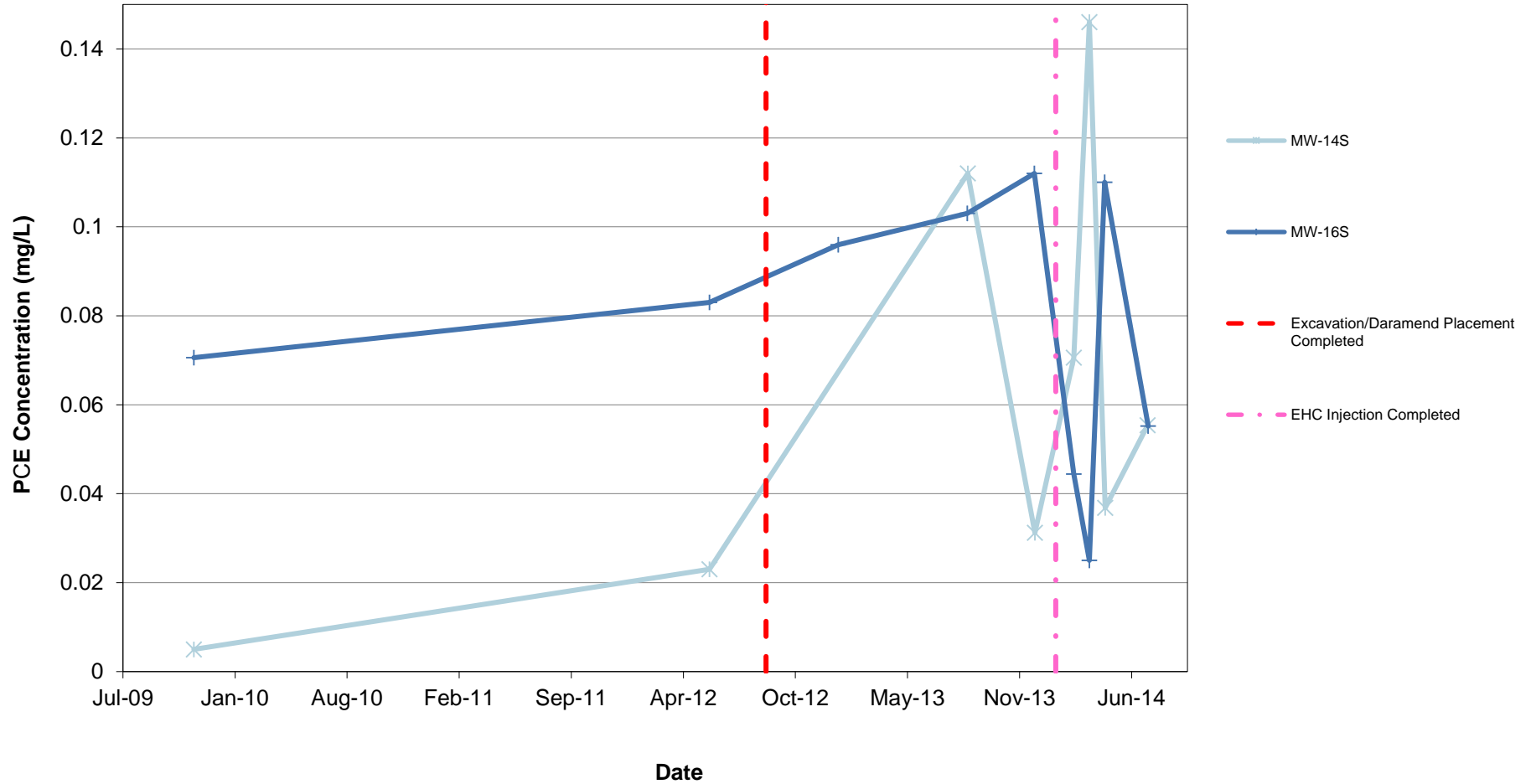
Note: Non-detect values are graphed as half the laboratory method detection limit.

**PCE Groundwater Concentrations vs. Time**  
**MWs West of Injection Area: MW-10, MW-21**  
**One Hour Martinizing, Durham, Durham County**  
**DSCA ID: 32-0013**



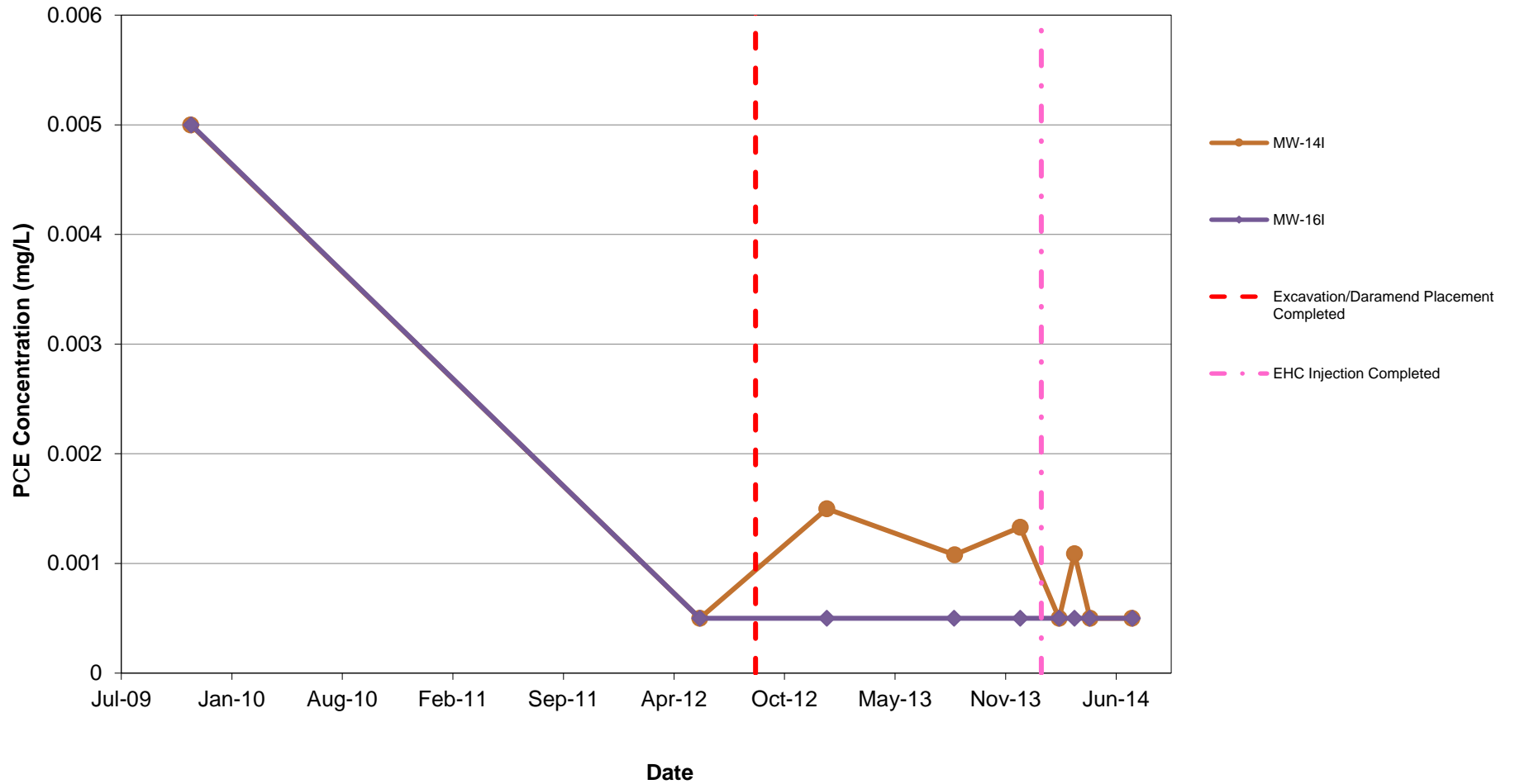
Note: Non-detect values are graphed as half the laboratory method detection limit.

**PCE Groundwater Concentrations vs. Time**  
**MWs East of Injection Area: MW-14S and MW-16S**  
**One Hour Martinizing, Durham, Durham County**  
**DSCA ID: 32-0013**



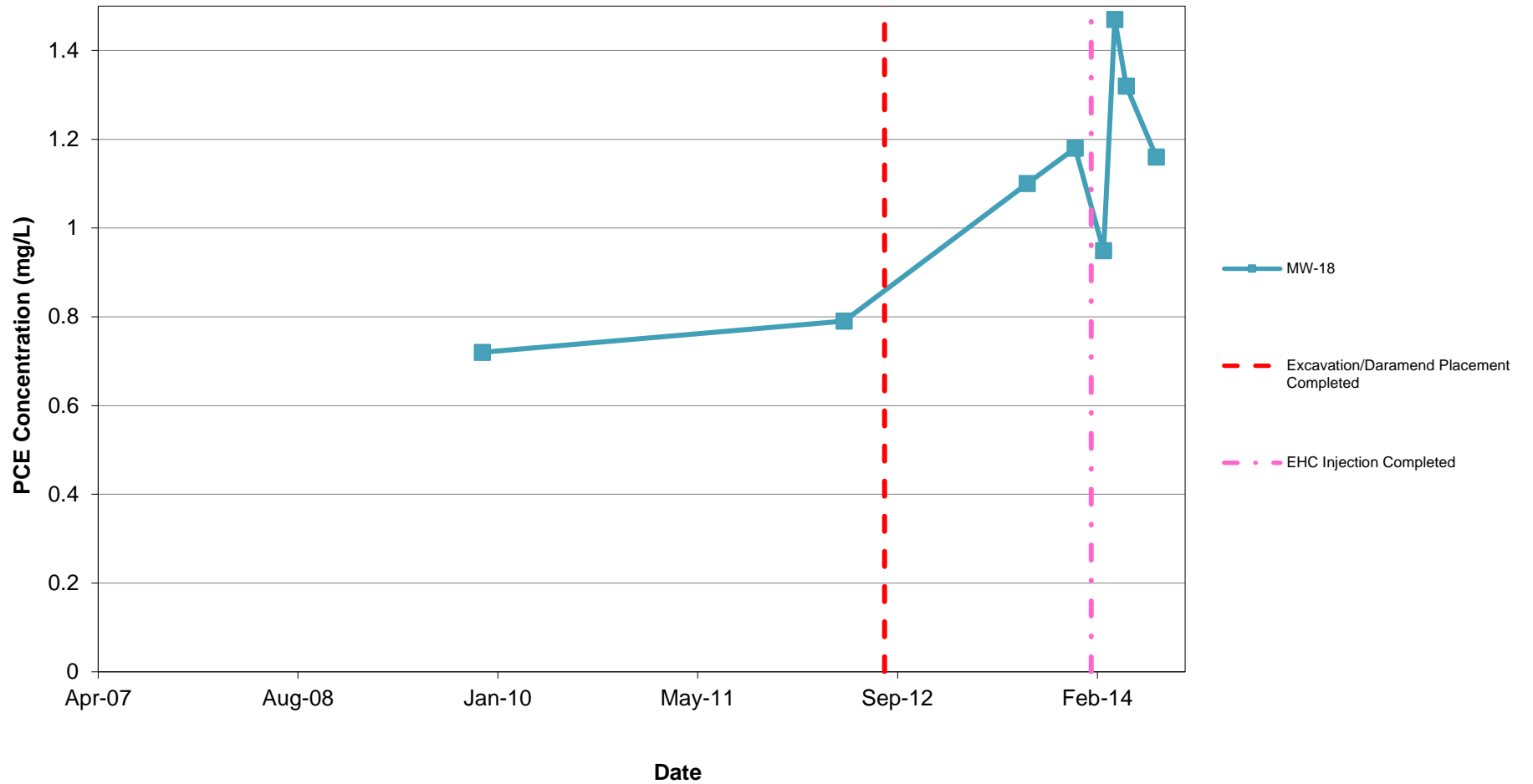
Note: Non-detect values are graphed as half the laboratory method detection limit.

**PCE Groundwater Concentrations vs. Time**  
**MWs East of Injection Area: MW-14I, and MW-16I**  
**One Hour Martinizing, Durham, Durham County**  
**DSCA ID: 32-0013**



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

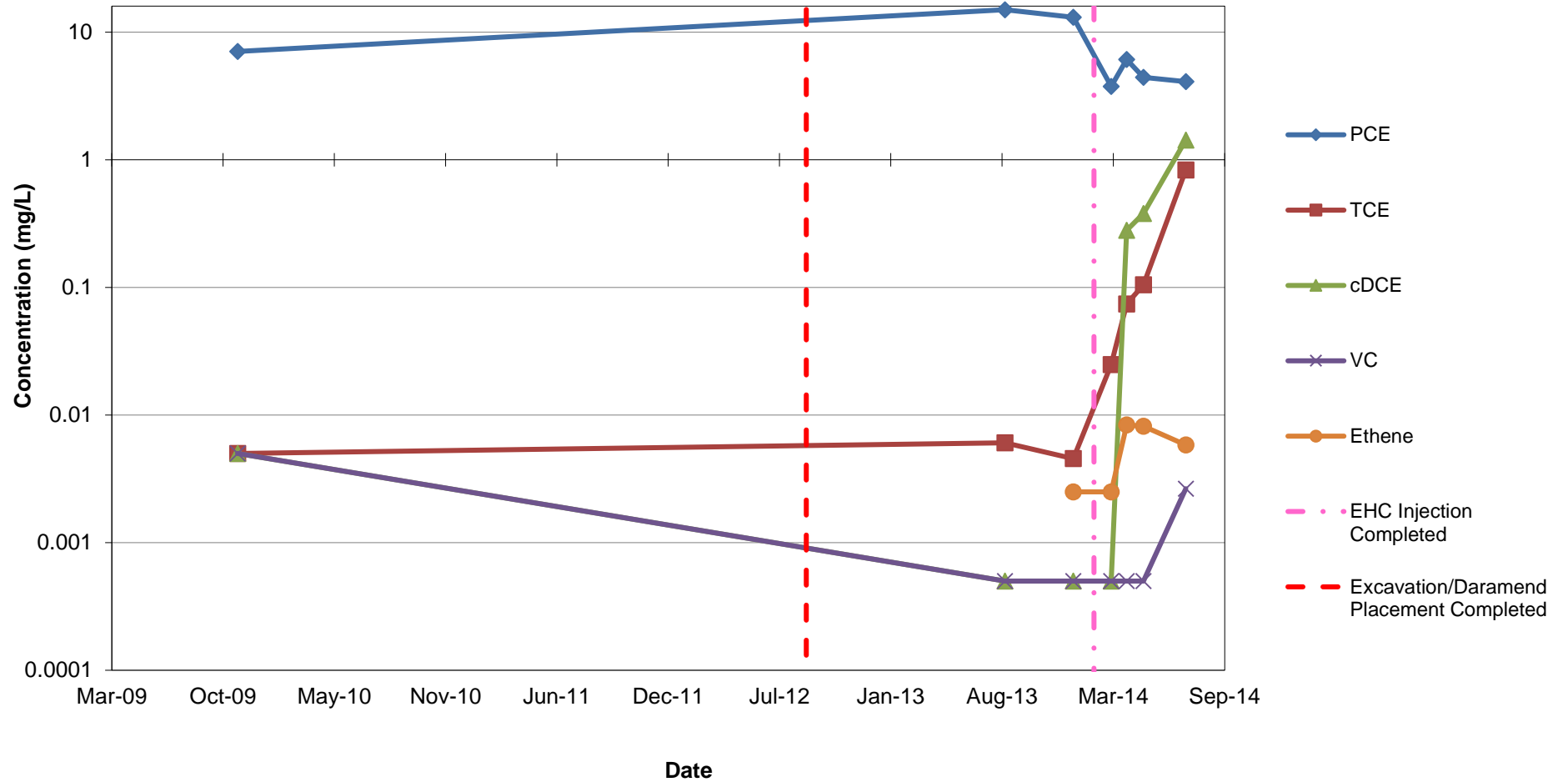
**PCE Groundwater Concentrations vs. Time**  
**MWs South of Injection Area: MW-18**  
**One Hour Martinizing, Durham, Durham County**  
**DSCA ID: 32-0013**



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

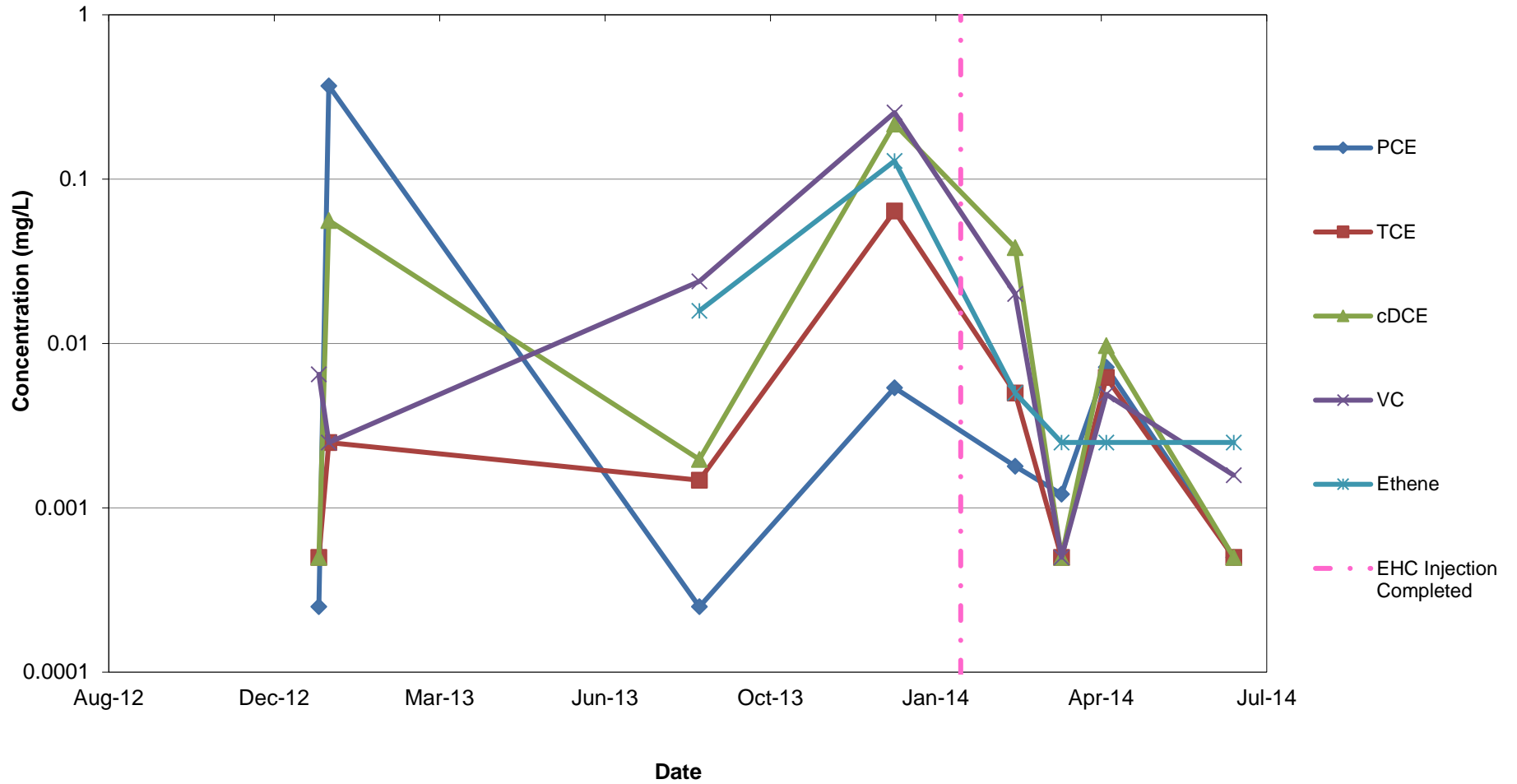


**Chlorinated Ethene Groundwater Concentrations vs. Time**  
**MW-15S**  
**One Hour Martinizing, Durham, Durham County**  
**DSCA ID: 32-0013**



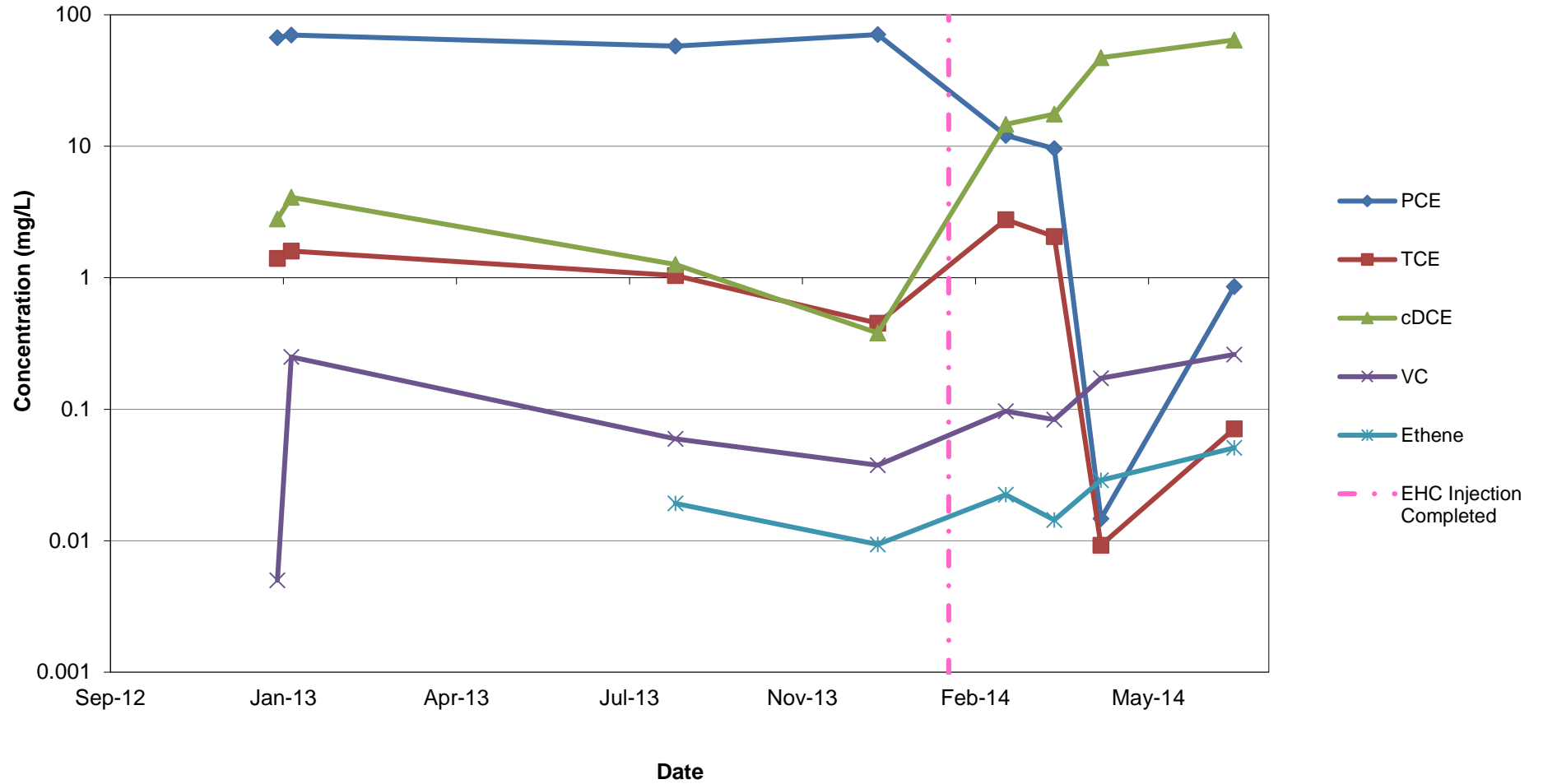
Note: Non-detect values are graphed as half the laboratory method detection limit.

**Chlorinated Ethene Groundwater Concentrations vs. Time**  
**MW-22S**  
**One Hour Martinizing, Durham, Durham County**  
**DSCA ID: 32-0013**



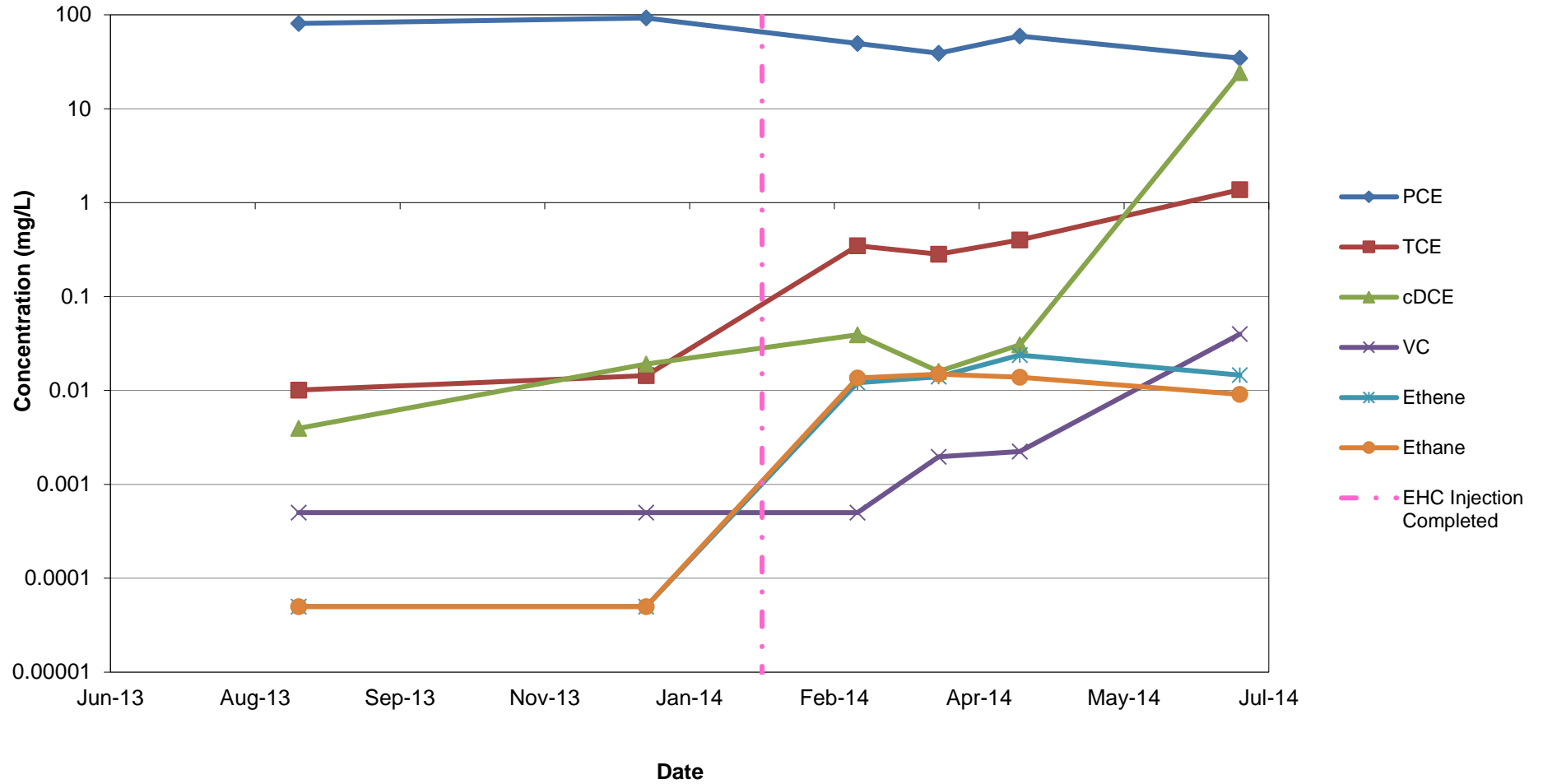
Note: Non-detect values are graphed as half the laboratory method detection limit.

**Chlorinated Ethene Groundwater Concentrations vs. Time**  
**MW-22I**  
**One Hour Martinizing, Durham, Durham County**  
**DSCA ID: 32-0013**



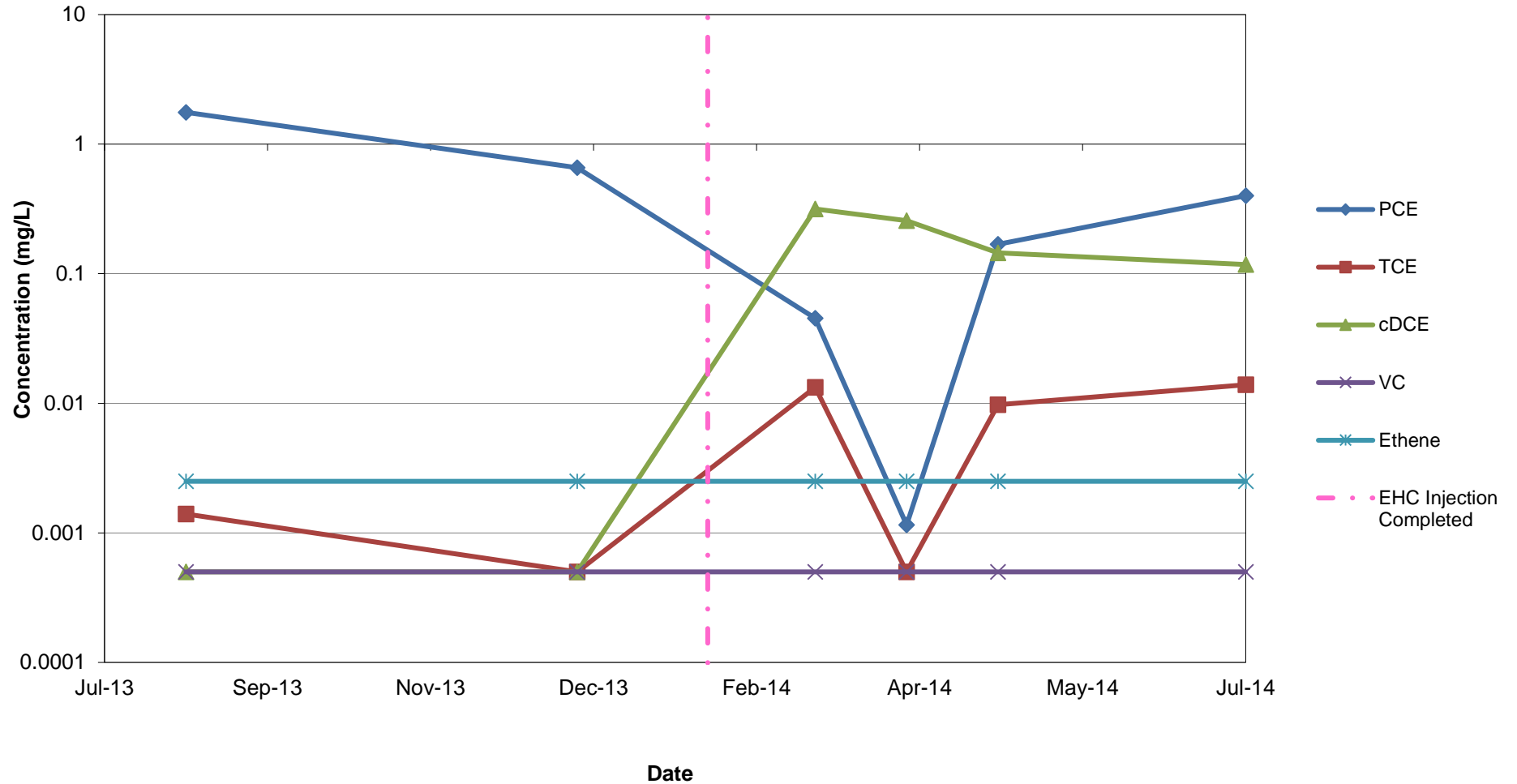
Note: Non-detect values are graphed as half the laboratory method detection limit.

**Chlorinated Ethene Groundwater Concentrations vs. Time**  
**MW-23S**  
**One Hour Martinizing, Durham, Durham County**  
**DSCA ID: 32-0013**



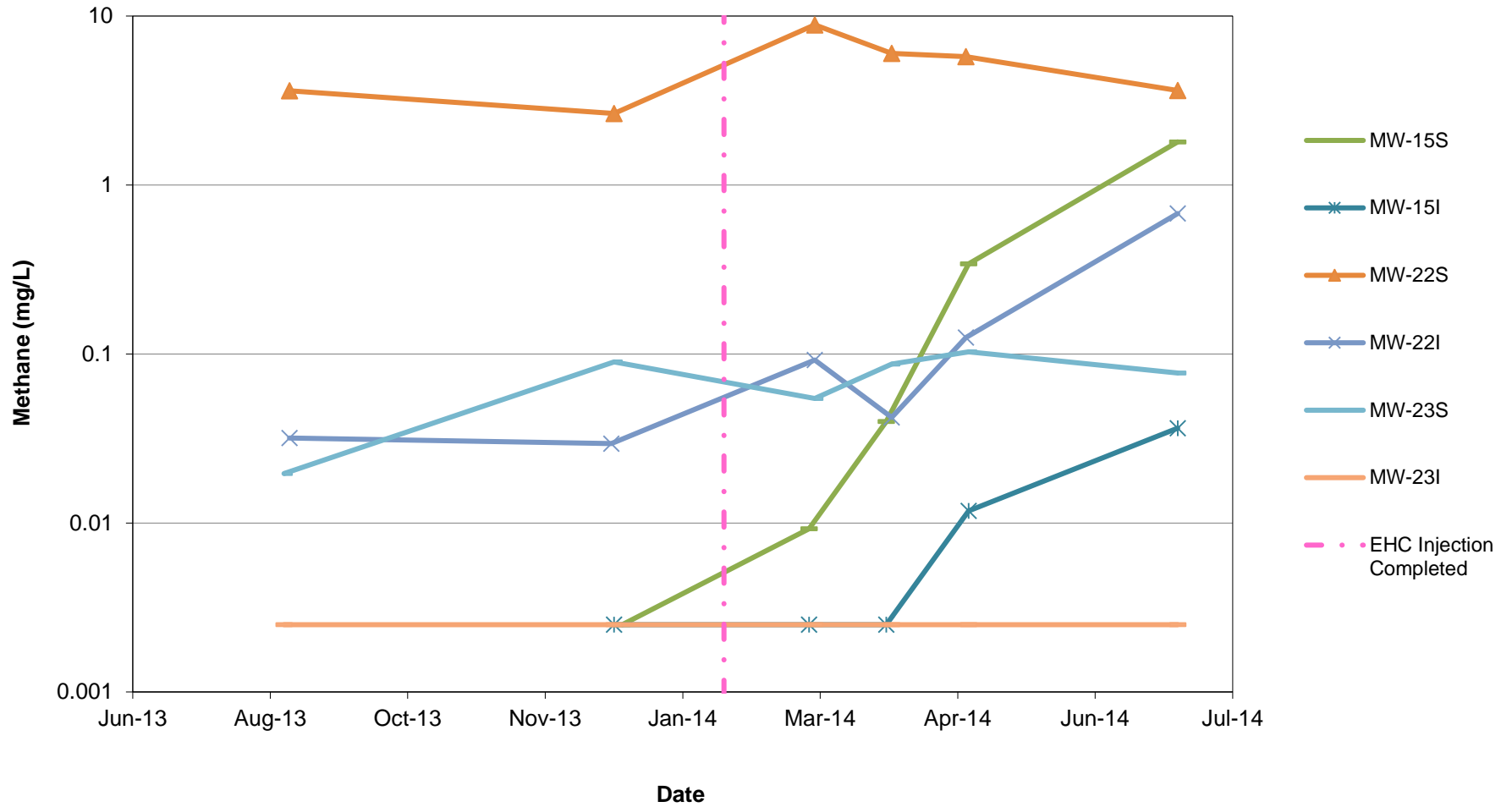
Note: Non-detect values are graphed as half the laboratory method detection limit.

**Chlorinated Ethene Groundwater Concentrations vs. Time**  
**MW-23I**  
**One Hour Martinizing, Durham, Durham County**  
**DSCA ID: 32-0013**



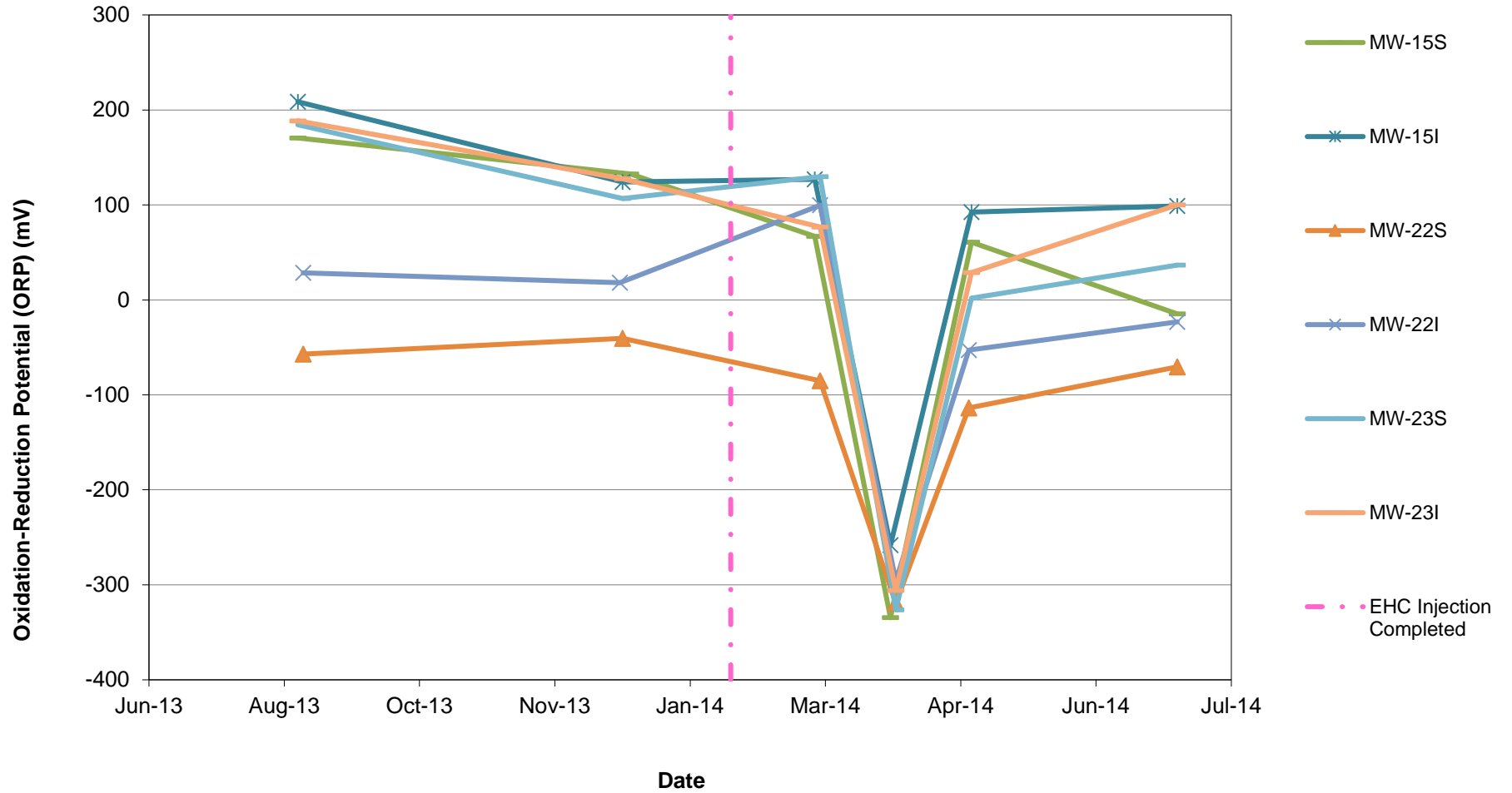
Note: Non-detect values are graphed as half the laboratory method detection limit.

**Methane vs. Time**  
**Injection Area Monitoring Wells**  
**One Hour Martinizing, Durham, Durham County**  
**DSCA ID: 32-0013**



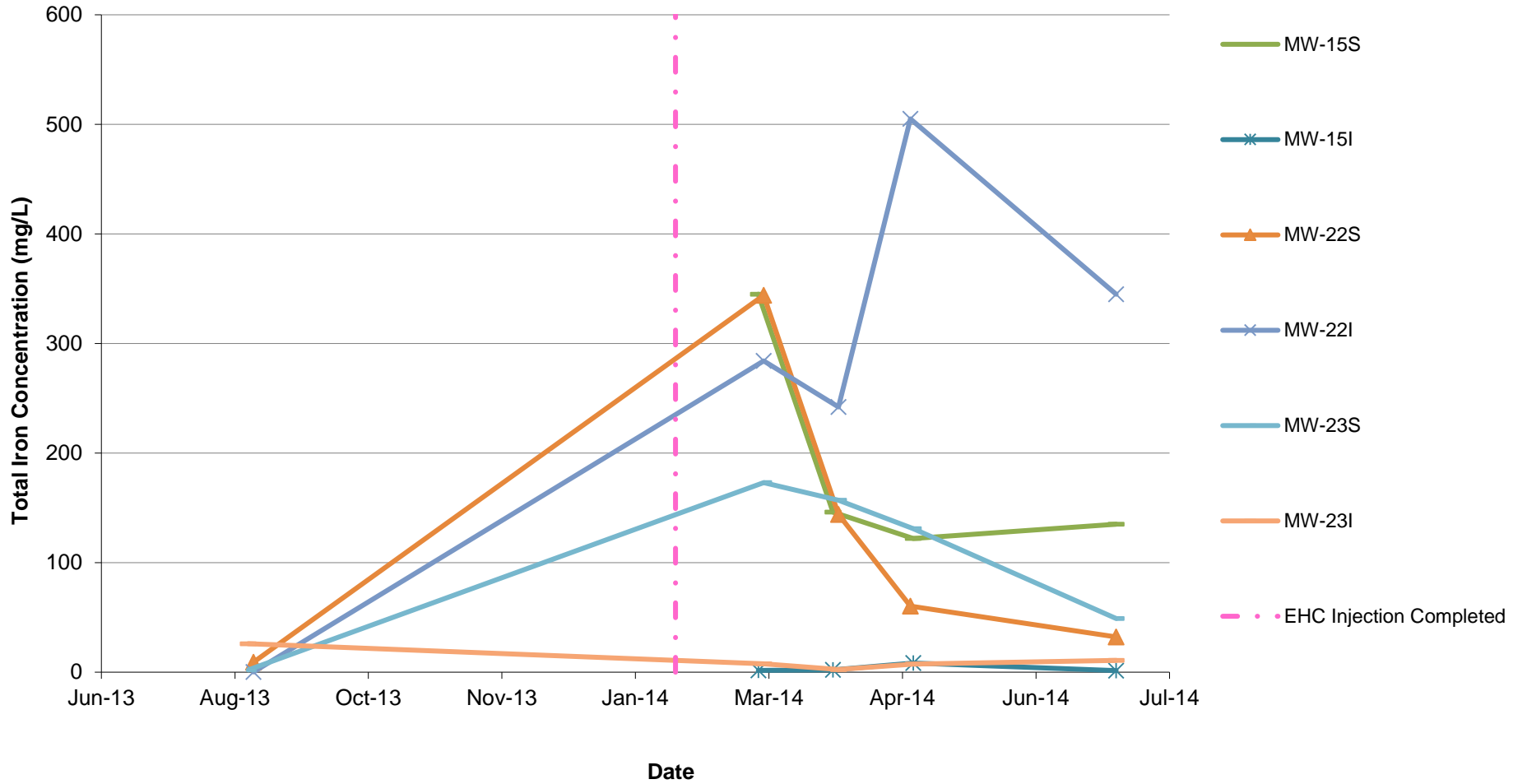
Note: Non-detect values are graphed as half the laboratory method detection limit.

**Oxidation-Reduction Potential (ORP) vs. Time**  
**Injection Area Monitoring Wells**  
**One Hour Martinizing, Durham, Durham County**  
**DSCA ID: 32-0013**



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

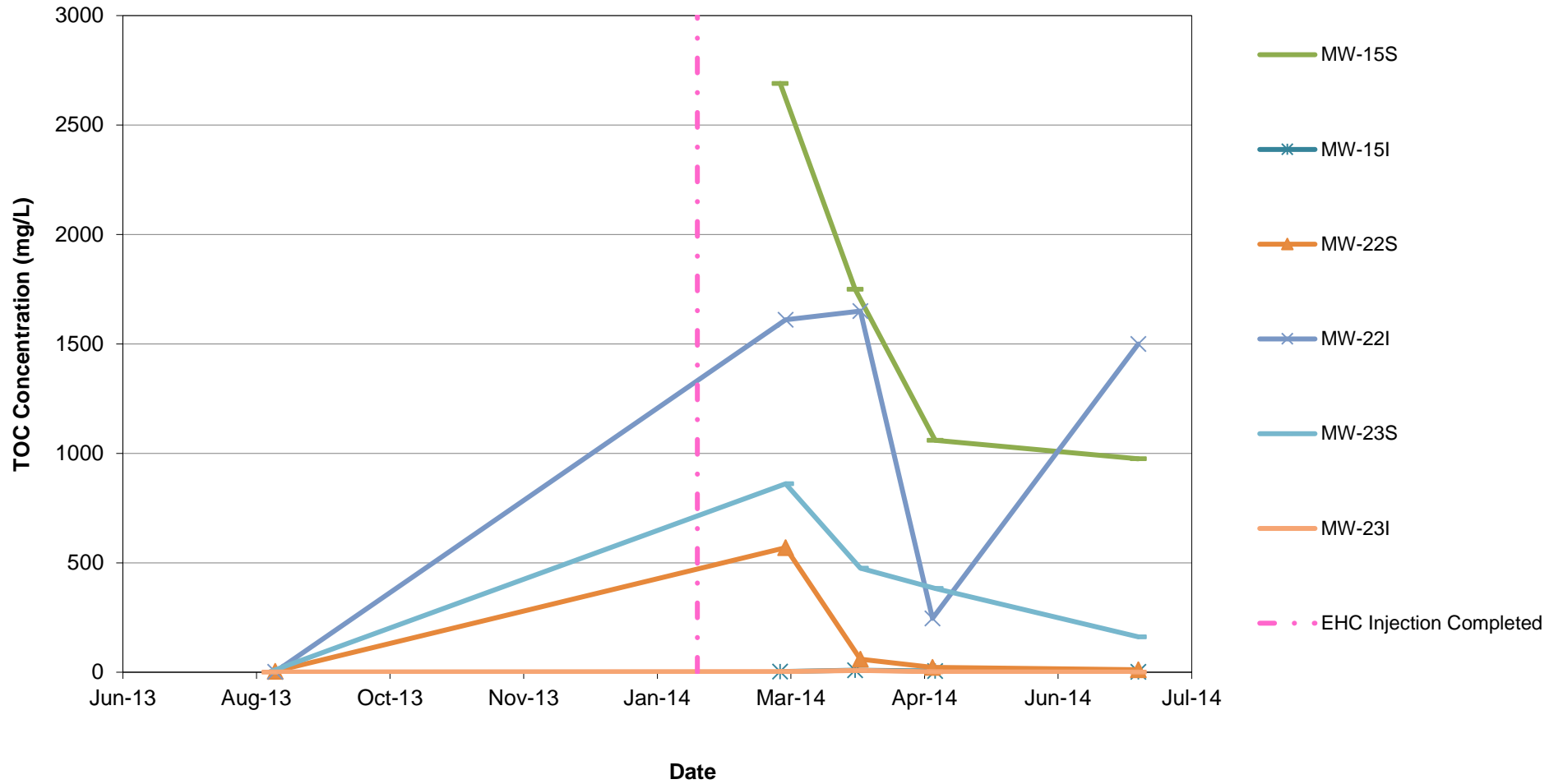
**Total Iron Groundwater Concentrations vs. Time  
Injection Area Monitoring Wells  
One Hour Martinizing, Durham, Durham County  
DSCA ID: 32-0013**



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

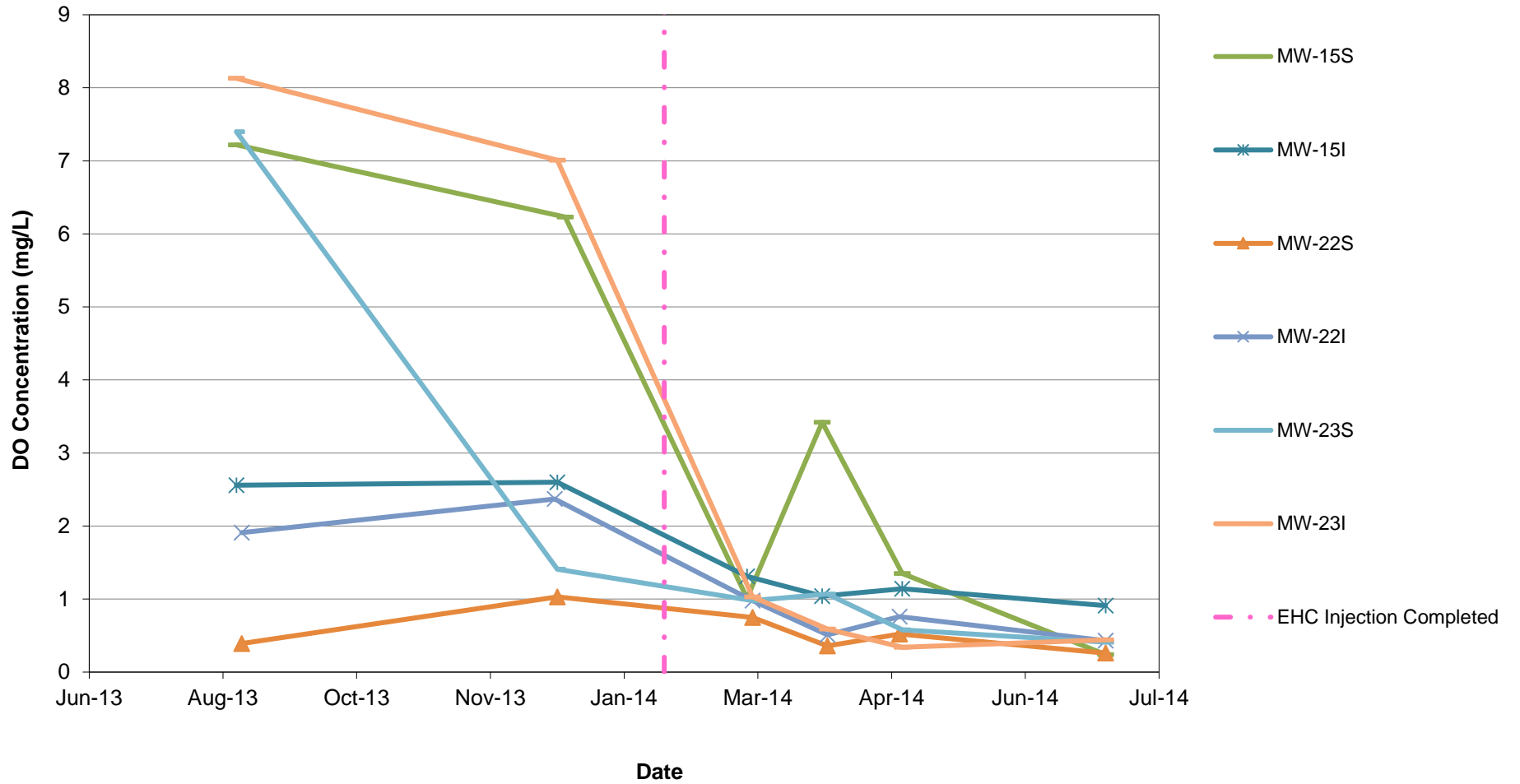


**TOC Groundwater Concentrations vs. Time**  
**Injection Area Monitoring Wells**  
**One Hour Martinizing, Durham, Durham County**  
**DSCA ID: 32-0013**



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

**DO Groundwater Concentrations vs. Time  
Injection Area Monitoring Wells  
One Hour Martinizing, Durham, Durham County  
DSCA ID: 32-0013**



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

**ATTACHMENT C**  
**INDOOR AIR RISK CALCULATORS**

**Calculated Cumulative Indoor Air Risks (June 2014)  
Triangle Family Church, 1414 Watts Street, Durham, NC  
One Hour Martinizing Site, DSCA ID 32-0013  
H&H Job No. DS0-84**

Risk Exposure Scenario: Residential exposure based on 6 hrs per week occupancy (typical parishioner)

Cumulative Carcinogenic Risk								
Unit	Compound	Exposure Conc. ug/m <sup>3</sup>	IUR (ug/m <sup>3</sup> ) <sup>-1</sup>	AT days	EF days/yr	ED years	ET hr/day	LICR
1414-Front	Tetrachloroethene	2.5	2.60E-07	25550	208	30	1.500	0.00000001
							<b>Total</b>	<b>9.9E-09</b>
1414-Rear	Tetrachloroethene	3.7	2.60E-07	25550	208	30	1.500	0.00000001
							<b>Total</b>	<b>1.5E-08</b>

Cumulative Non-Carcinogenic Risk								
Unit	Compound	Exposure Conc. ug/m <sup>3</sup>	Rfc mg/m <sup>3</sup>	AT days	EF days/yr	ED years	ET hr/day	Hazard Index
1414-Front	Tetrachloroethene	2.5	4.00E-02	10950	208	30	1.5	0.00222603
							<b>Total</b>	<b>0.0022</b>
1414-Rear	Tetrachloroethene	3.7	4.00E-02	10950	208	30	1.5	0.00329452
							<b>Total</b>	<b>0.0033</b>

Notes:

IUR and Rfc concentrations from EPA Regional Screening Level (RSL) Residential Air Table, May 2014.

LICR = Lifetime Incremental Cancer Risk

AT = Averaging Time

IUR = Inhalation Unit Rate

Rfc = Reference Concentration

EF = Exposure Frequency

ED = Exposure Duration

ET = Exposure Time

**DSCA Indoor Air Risk Calculator - Cumulative Risk for Resident**  
Version 2, 6/24/2014

DSCA ID No: 32-0013  
 Name/Address of DSCA Site: One Hour Martinizing, 1103 West Club Blvd, Durham, NC  
 Name/Address of Sampling Location: Drey Residence, 1419 Dollar Ave, Durham, NC  
 Sampling Date: 7/1/2014  
 Sample ID: 1419-UP

CAS	Chemical Name	Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m <sup>3</sup> )	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	2	1.08E+01	8.34E+00	1.85E-07	0.0479

<b>Cumulative:</b>	1.85E-07	0.05
--------------------	----------	------

Notes:

1. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
2. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10<sup>-6</sup>

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1\*

\* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1.

**DSCA Indoor Air Risk Calculator - Cumulative Risk for Resident**  
Version 2, 6/24/2014

DSCA ID No: 32-0013  
 Name/Address of DSCA Site: One Hour Martinizing, 1103 West Club Blvd, Durham, NC  
 Name/Address of Sampling Location: Drey Residence, 1419 Dollar Ave, Durham, NC

Sampling Date: 7/29/2014  
 Sample ID: 1419-DOWN

CAS	Chemical Name	Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m <sup>3</sup> )	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	0.6	1.08E+01	8.34E+00	5.56E-08	0.0144

<b>Cumulative:</b>	5.56E-08	0.01
--------------------	----------	------

Notes:

1. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
2. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10<sup>-6</sup>

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1\*

\* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1.

**DSCA Indoor Air Risk Calculator - Cumulative Risk for Resident**  
Version 2, 6/24/2014

DSCA ID No: 32-0013  
 Name/Address of DSCA Site: One Hour Martinizing, 1103 West Club Blvd, Durham, NC  
 Name/Address of Sampling Location: Gilligan Residence, 1421 Dollar Ave, Durham, NC  
 Sampling Date: 7/3/2014  
 Sample ID: 1421-DOWN

CAS	Chemical Name	Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m <sup>3</sup> )	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	3.5	1.08E+01	8.34E+00	3.24E-07	0.0839

<b>Cumulative:</b>	3.24E-07	0.08
--------------------	----------	------

Notes:

1. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
2. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10<sup>-6</sup>

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1\*

\* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1.

**DSCA Indoor Air Risk Calculator - Cumulative Risk for Resident**  
Version 2, 6/24/2014

DSCA ID No: 32-0013  
 Name/Address of DSCA Site: One Hour Martinizing, 1103 West Club Blvd, Durham, NC  
 Name/Address of Sampling Location: Gilligan Residence, 1421 Dollar Ave, Durham, NC  
 Sampling Date: 7/31/2014  
 Sample ID: 1421-DOWN

CAS	Chemical Name	Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m <sup>3</sup> )	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	1.9	1.08E+01	8.34E+00	1.76E-07	0.0455

<b>Cumulative:</b>	1.76E-07	0.05
--------------------	----------	------

Notes:

1. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
2. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10<sup>-6</sup>

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1\*

\* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1.



**DSCA Indoor Air Risk Calculator - Cumulative Risk for Resident**  
Version 2, 6/24/2014

DSCA ID No: 32-0013  
 Name/Address of DSCA Site: One Hour Martinizing, 1103 West Club Blvd, Durham, NC  
 Name/Address of Sampling Location: Gilligan Residence, 1421 Dollar Ave, Durham, NC

Sampling Date: 7/31/2014  
 Sample ID: 1421-UP

CAS	Chemical Name	Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m <sup>3</sup> )	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	1.2	1.08E+01	8.34E+00	1.11E-07	0.0288

<b>Cumulative:</b>	1.11E-07	0.03
--------------------	----------	------

Notes:

1. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
2. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10<sup>-6</sup>

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1\*

\* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1.

**DSCA Indoor Air Risk Calculator - Cumulative Risk for Resident**  
Version 2, 6/24/2014

DSCA ID No: 32-0013  
 Name/Address of DSCA Site: One Hour Martinizing, 1103 West Club Blvd, Durham, NC  
 Name/Address of Sampling Location: Gilligan Residence, 1421 Dollar Ave, Durham, NC

Sampling Date: 7/3/2014  
 Sample ID: 1421-UP

CAS	Chemical Name	Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m <sup>3</sup> )	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	2.5	1.08E+01	8.34E+00	2.32E-07	0.0599
79-01-6	Trichloroethylene	0.75	4.78E-01	4.17E-01	1.57E-06	0.3596
<b>Cumulative:</b>					1.80E-06	0.42

Notes:

1. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
2. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_1/SL_1) + (Conc_2/SL_2) + (Conc_3/SL_3)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10<sup>-6</sup>

$$HI = [(Conc_1/SL_1) + (Conc_2/SL_2) + (Conc_3/SL_3)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1\*

\* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1.

**DSCA Indoor Air Risk Calculator - Cumulative Risk for Resident**  
Version 2, 6/24/2014

DSCA ID No: 32-0013  
 Name/Address of DSCA Site: One Hour Martinizing, 1103 West Club Blvd, Durham, NC  
 Name/Address of Sampling Location: Drey Residence, 1419 Dollar Ave, Durham, NC

Sampling Date: 7/29/2014  
 Sample ID: 1419-UP

CAS	Chemical Name	Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m <sup>3</sup> )	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	0.54	1.08E+01	8.34E+00	5.00E-08	0.0129

<b>Cumulative:</b>	5.00E-08	0.01
--------------------	----------	------

Notes:

1. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
2. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10<sup>-6</sup>

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1\*

\* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1.

**DSCA Indoor Air Risk Calculator - Cumulative Risk for Resident**  
Version 2, 6/24/2014

DSCA ID No: 32-0013  
 Name/Address of DSCA Site: One Hour Martinizing, 1103 West Club Blvd, Durham, NC  
 Name/Address of Sampling Location: Drey Residence, 1419 Dollar Ave, Durham, NC  
 Sampling Date: 7/1/2014  
 Sample ID: 1419-DOWN

CAS	Chemical Name	Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m <sup>3</sup> )	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	3.5	1.08E+01	8.34E+00	3.24E-07	0.0839

<b>Cumulative:</b>	3.24E-07	0.08
--------------------	----------	------

Notes:

1. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
2. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10<sup>-6</sup>

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1\*

\* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1.