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Annual Report of Groundwater Monitoring at Centralia, Kansas, in 2011

Environmental Science Division

USDA United States Department of Agriculture

Work sponsored by Commodity Credit Corporation,
United States Department of Agriculture

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by
Applied Geosciences and Environmental Management Section
Environmental Science Division, Argonne National Laboratory

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Notation

AGEM	Applied Geosciences and Environmental Management
AMSL	above mean sea level
BGL	below ground level
°C	degree(s) Celsius
CAS	Corrective Action Study
CCC	Commodity Credit Corporation
CD	compact disc
COC	chain of custody
DO	dissolved oxygen
EPA	U.S. Environmental Protection Agency
ft	foot (feet)
IM	interim measure
in.	inch(es)
ISCR	*in situ* chemical reduction
KDHE	Kansas Department of Health and Environment
L	liter(s)
µg/L	microgram(s) per liter
µS/cm	microsiemen(s) per centimeter
mg/L	milligram(s) per liter
mi	mile(s)
mV	millivolt(s)
ORP	oxidation-reduction potential
RBSL	risk-based screening level
TOC	top of casing
USDA	U.S. Department of Agriculture
VOC	volatile organic compound
yr	year(s)

Annual Report of Groundwater Monitoring at Centralia, Kansas, in 2011

1 Introduction and Background

Periodic sampling is performed at Centralia, Kansas, on behalf of the Commodity Credit Corporation of the U.S. Department of Agriculture (CCC/USDA) by Argonne National Laboratory, in accord with the current interim monitoring program approved by the Kansas Department of Health and Environment (KDHE 2009). The objective is to monitor levels of carbon tetrachloride contamination identified in the groundwater sitewide (Argonne 2003, 2004, 2005a), as well as the response to the interim measure (IM) pilot test that is in progress (Argonne 2007b).

An earlier monitoring plan (Argonne 2005b) was also approved by the KDHE (2005). Under this earlier plan, the groundwater was sampled twice yearly from September 2005 until September 2007 for analyses for volatile organic compounds (VOCs), as well as measurement of selected geochemical parameters to aid in the evaluation of possible natural contaminant degradation processes (reductive dechlorination) in the subsurface environment (Argonne 2006, 2007a, 2008a). The results from the two-year sampling program demonstrated the presence of carbon tetrachloride contamination at levels exceeding the KDHE Tier 2 risk-based screening level (RBSL) of 5 μg/L for this compound, in a localized groundwater plume that has shown little movement. The relative concentrations of chloroform, the primary degradation product of carbon tetrachloride, suggested that some degree of reductive dechlorination or natural biodegradation was talking place *in situ* at the former CCC/USDA facility on a localized scale.

After two years of monitoring under the earlier plan, the CCC/USDA developed an *Interim Measure Conceptual Design* (Argonne 2007b), proposing a pilot test of the Adventus EHC technology for *in situ* chemical reduction (ISCR). The proposed IM was approved by the KDHE in November 2007 (KDHE 2007). Implementation of the pilot test occurred in November-December 2007. The objective was to create highly reducing conditions that would enhance both chemical and biological reductive dechlorination in the injection test area (Argonne 2009a).

The KDHE (2008a) requested that sitewide monitoring continue until a final remedy is selected and implemented. In response to this request, the established sampling across the site and additional sampling in the IM pilot test area continued in 2008 (Argonne 2008b, 2009a,b).

On the basis of results of the 2005-2008 sitewide monitoring and the 2008 IM pilot test monitoring, the CCC/USDA recommended a revised sampling program for both the wider site and the IM pilot test area (Section 4.2 in Argonne 2009b). The elements of this *interim monitoring plan* are currently as follows:

- Annual sampling of
    - Twelve monitoring points across the site (Figure 1.1) and
    - Five outlying IM pilot test monitoring points (PMP4, PMP5, PMP6, PMP7, PMP9; Figure 1.2).
- Twice yearly sampling of five IM pilot test monitoring points inside the injection area (PMP1-PMP3, PMP8, MW02; Figure 1.2).

With the approval of the KDHE (2009), groundwater sampling for VOCs and geochemical analyses under the current interim monitoring plan was previously conducted in 2009 and 2010 (Argonne 2010, 2011). The present report documents the findings of the 2011 monitoring events, conducted on April 19 and September 29-October 1, 2011.

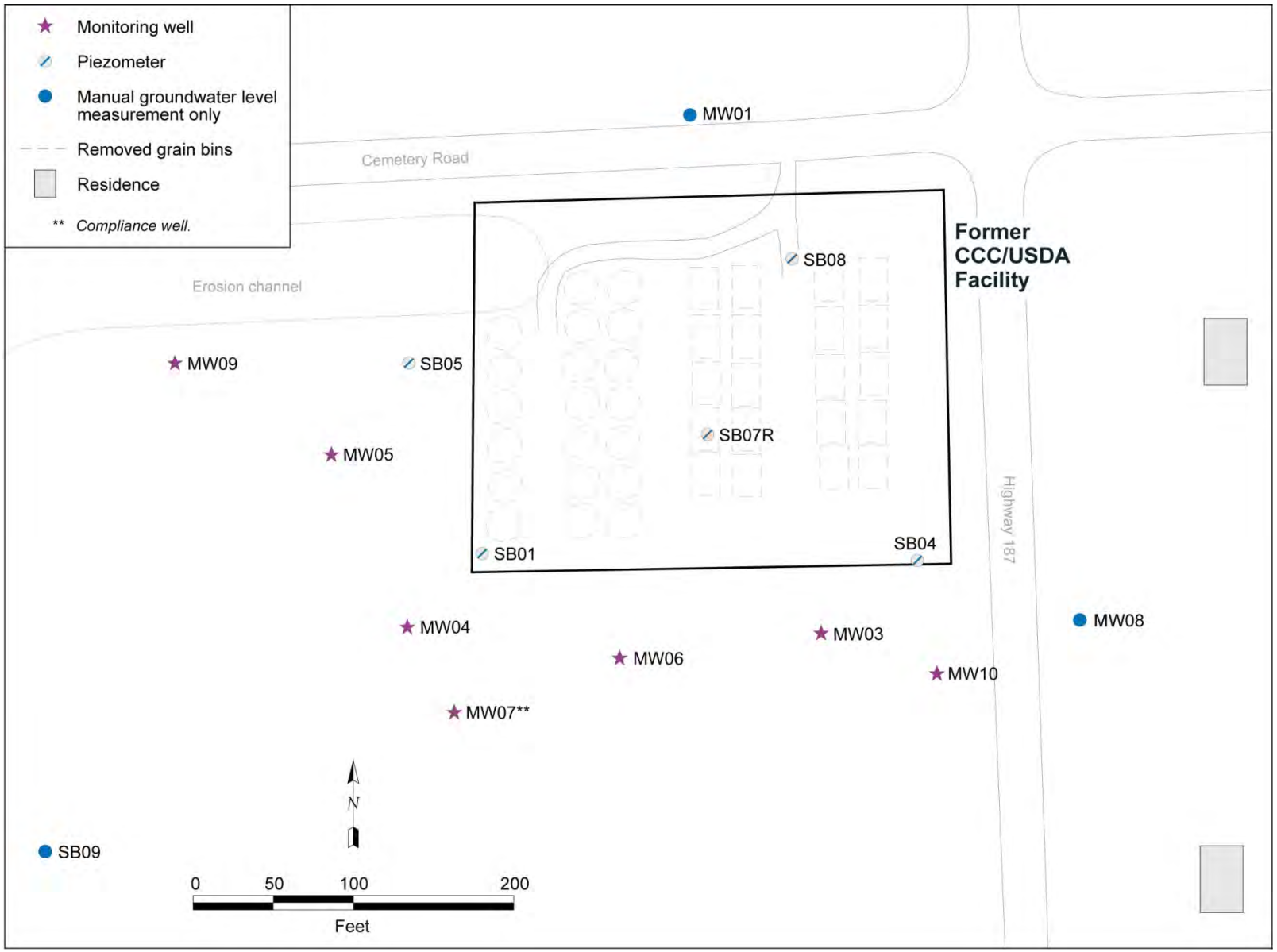

FIGURE 1.1 Currently approved annual sitewide monitoring network.

FIGURE 1.2 Pilot test monitoring points currently approved for annual or twice-yearly sampling.

2 Sampling and Analysis Activities

2.1 Measurement of Groundwater Levels

Pilot test monitoring points PMP1-PMP3, PMP8, and MW02 (Figure 1.2) were sampled on April 19, 2011. Pilot test monitoring points PMP1-PMP9 and MW02 (Figure 1.2) and sitewide monitoring points MW03-MW07, MW09, MW10, SB01, SB04, SB05, SB07R, and SB08 (Figure 1.1) were sampled on September 29-October 1, 2011. In conjunction with these sampling events, a water level indicator was used to measure the depth to groundwater (prior to sampling) from the top of the well casing at each sampled IM monitoring point (Figure 1.2), as well as in all of the sitewide monitoring wells (Figure 1.1). The groundwater level data are presented and discussed in Section 3.1.

Automated measurement of the groundwater levels at Centralia was initiated in April 2002 and continued in selected wells until 2010 (Argonne 2011). The results of this program, in conjunction with periodic manual determinations of the water levels in all available monitoring points, demonstrated long-term consistency in both the groundwater levels and the interpreted patterns of groundwater flow across the investigation site. In light of these findings, automated measurement of the groundwater levels was terminated in 2010 (Argonne 2011).

2.2 Monitoring Well and Piezometer Sampling and Analyses

After manual measurement of water levels, each monitoring point was purged of a small volume by using a bladder pump or a Waterra pump. With the approval of the KDHE (2008b), the purging was performed by using low-flow techniques in accord with U.S. Environmental Protection Agency (EPA) procedure EPA/540/S-95/504 (Puls and Barcelona 1996) and the equipment manufacturers' instructions. Field measurements of temperature, pH, conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP) were taken during purging until the measurements stabilized. Field measurements of iron(II) were made as outlined in the (2005-2007) monitoring plan (Argonne 2005b), in accord with procedures in the *Master Work Plan* (Argonne 2002). The sequence of activities during the April and September 2011 sampling events is summarized in Appendix A, Table A.1.

Groundwater samples designated for VOCs analyses were collected in appropriate laboratory containers, labeled, packaged, and chilled to 4°C by placement in ice-filled coolers. The samples were shipped by an overnight delivery service to the Applied Geosciences and Environmental Management (AGEM) Laboratory at Argonne for VOCs analyses by EPA Method 524.2 (EPA 1995). Aliquots of selected samples (chosen in the field) were also shipped to TestAmerica Laboratories, Inc., South Burlington, Vermont, for verification VOCs analyses.

The analytical results for groundwater samples are discussed in Section 3.2.

2.3 Handling and Disposal of Investigation-Derived Waste

Purge water generated as potentially contaminated investigation-derived waste was containerized on-site. The accumulated purge water was sampled on October 31, 2011 (along with wastewater from several other CCC/USDA sites in Kansas). The water was analyzed by Pace Analytical Services, Inc., Lenexa, Kansas, for VOCs on November 4 by EPA Method 5030/8260; for ethylene dibromide on November 8 by EPA Method 504.1; and for nitrate/nitrite nitrogen on November 2 by EPA Method 353.2. Carbon tetrachloride was detected at 1.3 µg/L. Nitrate/nitrite nitrogen was present at 4.4 mg/L. Ethylene dibromide was not detected. The laboratory results are in Supplement 1, on the compact disc (CD) inside the back cover of this report. The water was delivered on December 19, 2011 (together with purge water from several other CCC/USDA investigation sites in Kansas), for disposal at the Sabetha publicly owned wastewater treatment plant.

2.4 Quality Control for Sample Collection, Handling, and Analysis

Quality assurance/quality control procedures followed during the April and September 2011 monitoring events are described in detail in the *Master Work Plan* (Argonne 2002). The results are summarized as follows:

- Sample collection and handling activities were monitored by the documentation of samples as they were collected and the use of chain-of-custody forms and custody seals to ensure sample integrity during handling and shipment.

- Samples designated for VOCs analyses were received with custody seals intact and at the appropriate preservation temperature. All samples were analyzed within the required holding times.

- Quality control samples collected to monitor sample handling activities (equipment rinsates and trip blanks; Table B.1 in Appendix B) and method blanks analyzed with the samples to monitor analytical methodologies were all free of carbon tetrachloride and chloroform contamination.

- Groundwater samples were analyzed for VOCs at the AGEM Laboratory with the purge-and-trap method on a gas chromatograph-mass spectrometer system (modified EPA Method 524.2 [EPA 1995]). Calibration checks with each sample delivery group were required to be within ±20% of the standard. Surrogate standard determinations performed on samples and blanks were within the specified range of 80-120% for all samples, in either the initial analysis or a successful reanalysis. Accuracy and precision of the analytical methodology was evident in the analysis of 3 replicate samples and duplicate analysis of 4 additional samples, with average relative percent difference values of approximately 2% between the initial analysis and the associated quality control analysis for both carbon tetrachloride and chloroform (Table B.1 in Appendix B). The groundwater analytical data from the AGEM Laboratory are acceptable for quantitative determination of contaminant distribution.

- In accordance with the quality control procedures defined in the *Master Work Plan* (Argonne 2002), the analyses of water samples at the AGEM Laboratory were verified by a second laboratory. Two groundwater samples collected during the April 2011 monitoring event (from MW02 and PMP3) and three samples from the September-October 2011 event (from MW04, PMP6, and PMP9) were submitted to TestAmerica for verification organic analysis according to EPA Contract Laboratory Program methodology (EPA Method SOM01.2 for trace volatiles). The results (Table B.2 in Appendix B) showed good agreement over the range of contaminant concentrations detected, with average relative percent difference values of $< 20\%$ for both carbon tetrachloride and chloroform. The detection of methylene chloride, a

secondary dechlorination by product of carbon tetrachloride, was confirmed in the verification analyses. The verification organic analyses from TestAmerica are in Supplement 2 (on CD).

3 Results and Discussion

3.1 Groundwater Level Data

Depths to groundwater were measured manually in the sitewide monitoring wells, plus wells MW01, MW08, and SB09 (Figure 1.1), and in the IM monitoring points sampled on April 19 and September 29-October 1, 2011 (Figure 1.2). The hand-measured water level data are in Table 3.1. The potentiometric surfaces determined from these sets of measurements are depicted, respectively, in Figures 3.1 and 3.2.

The recent results are consistent with previous interpretations (Argonne 2006, 2007a, 2008a,b, 2009b, 2010, 2011), indicating an apparent groundwater flow direction toward the southwest across much of the former CCC/USDA facility. Like previous depictions, Figures 3.1 and 3.2 indicate that groundwater flow appears focused toward a localized low in the potentiometric surface, defined by the water level measurements at SB01, MW04, MW06, and MW07. Argonne's earlier investigations (Argonne 2003, 2004) suggested that the increased hydraulic gradients observed near these wells are a reflection of relatively low-permeability silts and clays that compose the aquifer unit in this portion of the study area, in comparison to the coarser-grained deposits identified in the northern and eastern portions of the site. The results of the sitewide groundwater analyses discussed in Section 3.2.1 support an interpretation of slow groundwater flow (and carbon tetrachloride migration) to the south-southwest, in keeping with the observed water level patterns.

3.2 Groundwater Analysis Results

In September-October 2011, sitewide groundwater sampling was performed, with the approval of the KDHE (2009), in a suite of 12 monitoring points (Figure 1.1). More detailed sampling in the IM pilot test area was conducted in April and September-October 2011, in the wells identified in Figure 1.2. The results of the 2011 sitewide (September-October) and IM pilot test area (April and September-October) monitoring efforts are summarized, respectively, in Section 3.2.1 and Section 3.2.2.

3.2.1 Sitewide Monitoring Results

The analytical data for VOCs in the groundwater samples collected in the network of sitewide monitoring wells in September-October 2011 are in Table 3.2, together with data generated since sampling of the monitoring wells began in 2004. The September 2011 sitewide data for carbon tetrachloride are illustrated in Figure 3.3, along with the lateral margins of the contaminant distribution, as interpreted on the basis of each of the sitewide groundwater sampling events summarized in Table 3.2.

Carbon tetrachloride was detected in September-October 2011 at 9 of the 12 sitewide monitoring locations on and downgradient from the former CCC/USDA facility (Figure 3.3), at concentrations ranging from 3.1 μg/L (at MW04) to a maximum of 276 μg/L (at SB01). Chloroform concentrations ranging from < 1 μg/L to 22 μg/L were detected at 6 of the 12 sampled locations (Table 3.2).

The carbon tetrachloride concentrations identified in the sitewide monitoring wells in 2011 were generally comparable to the measurements obtained in the previous (2010) monitoring period, except at well SB05, where the concentration decreased from 374 μg/L in 2010 to 245 μg/L in 2011. These results reversed an apparently increasing trend at SB05 from 2004 to 2010. Minor decreases in carbon tetrachloride concentrations were also observed at monitoring points SB01 and MW05, in the apparent direction of groundwater flow near the west margin of the groundwater plume. These results indicate no detectable expansion of the contaminant distribution in this area in 2011. The results in Table 3.2 and Figure 3.3 continue to reflect, however, the trend (observed since 2004) of slightly increasing carbon tetrachloride levels at monitoring point MW03, along the southeastern margin of the groundwater plume. The concentrations at locations SB07R and SB08 in the more central part of the plume showed little change in 2011.

The results of field measurements on the groundwater samples from wells in the sitewide monitoring network are summarized in Table 3.3. The presence of trace to relatively low levels of chloroform at most of the monitoring points having detectable levels of carbon tetrachloride (Table 3.2) suggests that some degradation of carbon tetrachloride is occurring at these locations. The relatively high DO concentrations (3.11-10.45 mg/L) and positive ORP levels (76 mV to 243 mV) identified at the sitewide monitoring points (Table 3.3) do not, however, support the

widespread occurrence of anaerobic reducing conditions in the Centralia aquifer outside the treatment area.

Table 3.3 documents erratic fluctuations in DO concentrations and ORP levels at monitoring well MW06 since 2004. The low DO concentrations (< 1 mg/L) and negative ORP values (-96 mV and -72 mV, respectively) at MW06 in September 2008 and October 2009 (Table 3.3) were interpreted as possibly suggesting the transient development of increasingly anaerobic reducing conditions at this location (Section 3.2.1 in Argonne 2010); however, these results were not reproduced in 2010 or 2011.

3.2.2 Monitoring Results for the IM Pilot Test Area

Baseline groundwater sampling was conducted within and adjacent to the IM pilot test area in September and November 2007, prior to the injection of the ISCR materials, to provide a basis for assessment of the ISCR treatment technology over time. The pre-treatment concentrations of carbon tetrachloride and the values of DO and ORP identified during this sampling (Argonne 2009a) are illustrated in Figures 3.4-3.6, respectively.

Injection of the ISCR materials in November-December 2007 initially generated extremely reducing, oxygen-depleted groundwater conditions (conducive to the reductive dechlorination of carbon tetrachloride) in the injection field. Less dramatic reductions in DO and ORP were observed at monitoring points outside the treatment area. The extremely low DO and ORP levels were, however, maintained for only approximately 5-7 weeks after injection. Subsequent monitoring in 2008 (Argonne 2009a,b) demonstrated that the DO and ORP levels remained consistently lower in the injection field than outside that area, but the results showed no clear indication of geochemical effects outside the injection field.

Reductions of 96-99% in the concentrations of carbon tetrachloride in groundwater in the injection field and of 20-70% at most monitoring points near the injection area were observed in the first 5-7 weeks after injection. Continued monitoring in 2008 showed that carbon tetrachloride concentrations in the injection field generally remained near the initial post-injection levels or decreased slightly more, while the concentrations at points bordering or outside the injection area showed little consistency and variably decreased, increased, or

remained relatively unchanged (Argonne 2009a) after the initial 5-7 weeks following the injection.

The analytical data for VOCs in the groundwater samples collected from the IM pilot test monitoring points (PMP1-PMP9 and MW02; Figure 1.2) in April and September-October 2011 are in Table 3.4, together with data collected at these locations since September 2008. The corresponding field measurements for these locations and sampling events are in Table 3.5. Time series diagrams summarizing the complete sequence of analysis results for carbon tetrachloride, chloroform, methylene chloride, DO, and ORP at each IM monitoring point since ISCR pilot test implementation in November 2007 are in Appendix C, Figures C.1-C.10.

Carbon tetrachloride was detected at 3 of the 5 pilot test area locations sampled in April 2011 and at 7 of the 10 locations sampled in September-October 2011. In April 2011, carbon tetrachloride concentrations ranging from < 1 μg/L to 317 μg/L were identified at PMP1, PMP2, and PMP3. In September-October 2011, concentrations ranging from 27 μg/L (at PMP4) to 600 μg/L (at PMP5) were detected at piezometers PMP1, PMP2, PMP4-PMP7, and PMP9 (Table 3.4). No carbon tetrachloride was detected at monitoring points MW02 and PMP8 during either 2011 sampling event.

The results of the September 2010 and September-October 2011 analyses for carbon tetrachloride are compared in Figure 3.7. At location PMP5, the carbon tetrachloride concentration in groundwater decreased from 779 μg/L in 2010 to 600 μg/L in 2011. The concentrations at the other locations changed little or increased slightly during this period. The graphs in Figures C.1-C.10 in Appendix C illustrate the trends in carbon tetrachloride concentrations in 2008-2011 at the IM monitoring locations. The scales on the vertical axes vary among the graphs, reflecting higher and lower VOCs concentrations at the various monitoring points.

The recorded carbon tetrachloride concentrations at monitoring point PMP1, in the injection field, have varied since 2008 (Table 3.4 and Appendix C, Figure C.2) in a pattern suggesting a long-term decrease with higher concentrations in the fall than in the spring. No indication of a seasonal influence in the carbon tetrachloride concentrations has been identified at any other IM monitoring point, including immediately adjacent well PMP2 (Figure 3.7).

The DO concentrations and ORP levels identified in the pilot test area in September 2010 and September-October 2011 are summarized in Table 3.5 and Figures 3.8 and 3.9, respectively. The ORP levels (Figure 3.9) at most of the IM monitoring points were relatively stable or decreased slightly from 2010 to 2011, with the most significant decreases occurring within the injection field at points PMP1-PMP3 and PMP8. Consistently lower (and predominantly negative) ORP values have persisted in the injection field relative to monitoring points outside this area. These observations demonstrate a continuing localized influence of the ISCR treatment. Similarly, DO concentrations have remained consistently lower, although somewhat more variable, in the injection field than at nearby locations outside this area (with the possible exception of PMP7; Table 3.5, Figure 3.8, and Figures C.1-C.10).

Additional evidence of the persistence of the ISCR material in the injection field is the continued observation of gray color and unpleasant odor in some groundwater samples, though the number of affected samples and the intensity of the color and odor have diminished since the initial observations after injection (Argonne 2009a).

Relatively high levels of chloroform (≥ 10% of the carbon tetrachloride concentrations; Table 3.4 and graphs in Appendix C) were observed at PMP1, PMP2, and PMP7 in 2011. Methylene chloride (≤ 6% of the carbon tetrachloride concentrations) was detected at PMP2 and PMP7 at values of 1.1 µg/L and 5.8 µg/L, respectively, during the September 2011 sampling event. The level of methylene chloride in PMP7 exceeds the KDHE Tier 2 RBSL value of 5.0 µg/L. Chloroform and methylene chloride are both breakdown products of carbon tetrachloride. Together, these findings indicate that geochemical conditions favorable to the reductive dechlorination of carbon tetrachloride persist in and (to an extent) downgradient of the pilot test area as a result of the November 2007 ISCR injections.

Data discussed previously (Argonne 2010) indicated that DO and ORP values decreased from September 2008 to October 2009 at monitoring points PMP4, PMP6, PMP7, and PMP9 immediately to the south, west, and downgradient of the pilot test injection field. Slightly lower concentrations of carbon tetrachloride were also identified at PMP4 and PMP7 in October 2009 (Table 3.4). These relationships suggested slow expansion of the range of influence of the ISCR treatment technology with time, in the direction of natural groundwater flow to the southwest. Additional monitoring in the pilot test area might support this hypothesis, though the suggestion of coupled geochemical and concentration trends cannot be substantiated on the basis of the 2011 and 2010 results alone.

TABLE 3.1 Hand-measured water levels in 2011.

		April 19, 2011[a]		September 29-October 1, 2011[a]	
Well	Top of Casing Elevation[b] (ft AMSL)	Depth to Groundwater[c] (ft TOC)	Groundwater Elevation (ft AMSL)	Depth to Groundwater[c] (ft TOC)	Groundwater Elevation (ft AMSL)
MW01	1329.17	12.48	1316.69	11.75	1317.42
MW02	1334.67	20.96	1313.71	21.93	1312.74
MW03	1334.51	20.68	1313.83	21.35	1313.16
MW04	1322.57	23.85	1298.72	24.55	1298.02
MW05	1317.97	8.86	1309.11	13.65	1304.32
MW06	1329.63	35.76	1293.87	36.76	1292.87
MW07	1324.76	27.24	1297.52	29.56	1295.20
MW08	1332.34	18.47	1313.87	19.78	1312.56
MW09	1310.41	NR[d]		6.23	1304.18
MW10	1334.39	20.52	1313.87	21.89	1312.50
SB01	1325.15	18.65	1306.50	20.28	1304.87
SB04	1335.67	21.82	1313.85	22.72	1312.95
SB05	1321.28	10.73	1310.55	13.33	1307.95
SB07R	1331.57	17.72	1313.85	19.63	1311.94
SB08	1332.48	18.62	1313.86	19.66	1312.82
SB09	1311.07	5.40	1305.67	9.32	1301.75
PMP1	1333.70	19.96	1313.74	21.38	1312.32
PMP2	1333.67	20.11	1313.56	21.38	1312.29
PMP3	1334.57	20.78	1313.79	NR	
PMP4	1331.99			0.83	1331.16
PMP5	1335.07			22.77	1312.30
PMP6	1335.19			21.97	1313.22
PMP7	1334.06			21.47	1312.59
PMP8	1332.94	20.31	1312.63	20.32	1312.62
PMP9	1331.83			17.97	1313.86

[a] Measurements made during sampling.

[b] 2009 surveyed elevations.

[c] Depths measured from the top of casing (TOC).

[d] No measurement recorded.

TABLE 3.2 Analytical results from the AGEM Laboratory for volatile organic compounds in groundwater samples collected from the sitewide monitoring points, August 2004 to October 2011.

Well	Screen Interval (ft BGL)	Sample	Sample Date	Concentration (μg/L) Carbon Tetrachloride	Chloroform	Methylene Chloride
MW01	54.5-64.5	CNMW01-W-16158	8/24/04	ND[a]	ND	ND
		CNMW01-W-19276	9/10/05	ND	ND	ND
		CNMW01-W-16308	10/11/05	ND	ND	ND
		CNMW01-W-19890	3/15/06	ND	ND	ND
		CNMW01-W-22501	9/25/06	ND	ND	ND
		CNMW01-W-16326	3/29/07	ND	ND	ND
		CNMW01-W-16228	9/26/07	1.0 R[b]	ND	ND
		CNMW01-W-26023	3/19/08	ND	ND	ND
		CNMW01-W-26673	9/9/08	ND	ND	ND
MW02[c]	49.5-59.5	CNMW02-W-16159	8/26/04	215	6.2	ND
		CNMW02-W-19282	9/11/05	776	33	ND
		CNMW02-W-16309	10/12/05	528	21	ND
		CNMW02-W-19908	3/16/06	847	21	ND
		CNMW02-W-22508	9/26/06	1233	25	ND
		CNMW02-W-15489	3/26/07	829	14	ND
		CNMW02-W-16227	9/26/07	1138	18	ND
MW03	50.5-60.5	CNMW03-W-16178	8/24/04	1.2	ND	ND
		CNMW03-W-19277	9/10/05	1.6	ND	ND
		CNMW03-W-16310	10/11/05	1.8	ND	ND
		CNMW03-W-19909	3/17/06	2.6	0.2 J[d]	ND
		CNMW03-W-22513	9/26/06	2.7	ND	ND
		CNMW03-W-15494	3/27/07	2.5	ND	ND
		CNMW03-W-16223	9/25/07	3.5	ND	ND
		CNMW03-W-26001	3/12/08	2.3	ND	ND
		CNMW03-W-26675	9/9/08	3.2	0.3 J	ND
		CNMW03-W-27151	10/6/09	6.2	ND	ND
		CNMW03-W-27188	9/19/10	7.5	0.3 J	ND
		CNMW03-W-27228	9/29/11	8.3	ND	ND
MW04	37.5-47.5	CNMW04-W-16180	8/24/04	ND	ND	ND
		CNMW04-W-19280	9/11/05	0.9 J	ND	ND
		CNMW04-W-16311	10/11/05	0.8 J	ND	ND
		CNMW04-W-19891	3/15/06	1.3	ND	ND
		CNMW04-W-22506	9/25/06	1.4	0.1 J	ND
		CNMW04-W-16210	3/28/07	2.1	ND	ND
		CNMW04-W-16220	9/24/07	2.0	ND	ND
		CNMW04-W-26024	3/19/08	1.3	ND	ND
		CNMW04-W-26676	9/9/08	2.0	ND	ND
		CNMW04-W-27152	10/7/09	2.9	ND	ND
		CNMW04-W-27189	9/20/10	2.2	ND	ND
		CNMW04-W-27229	9/29/11	3.1	ND	ND

TABLE 3.2 (Cont.)

Well	Screen Interval (ft BGL)	Sample	Sample Date	Concentration (μg/L) Carbon Tetrachloride	Chloroform	Methylene Chloride
MW05	34.5-44.5	CNMW05-W-16183	8/25/04	ND	ND	ND
		CNMW05-W-19279	9/10/05	1.9	ND	ND
		CNMW05-W-16312	10/11/05	1.5	ND	ND
		CNMW05-W-19976	3/15/06	1.3	ND	ND
		CNMW05-W-22505	9/25/06	1.3	ND	ND
		CNMW05-W-16213	3/28/07	0.5 J	ND	ND
		CNMW05-W-16218	9/24/07	1.2	ND	ND
		CNMW05-W-26025	3/19/08	1.9	ND	ND
		CNMW05-W-26677	9/10/08	13	0.7 J	ND
		CNMW05-W-27153	10/7/09	18	1.1	ND
		CNMW05-W-27190	9/20/10	22	1.4	ND
		CNMW05-W-27230	9/30/11	12	0.9 J	ND
MW06	46.5-56.5	CNMW06-W-16184	8/25/04	ND	ND	ND
		CNMW06-W-19278	9/10/05	ND	ND	ND
		CNMW06-W-16313	10/11/05	0.3 J	ND	ND
		CNMW06-W-19889	3/15/06	0.2 J	ND	ND
		CNMW06-W-22511	9/27/06	ND	ND	ND
		CNMW06-W-16208	3/27/07	ND	ND	ND
		CNMW06-W-16222	9/24/07	ND	ND	ND
		CNMW06-W-26026	3/19/08	ND	ND	ND
		CNMW06-W-26678	9/9/08	ND	ND	ND
		CNMW06-W-27154	10/6/09	ND	ND	ND
		CNMW06-W-27191	9/20/10	ND	ND	ND
		CNMW06-W-27231	9/30/11	ND	ND	ND
MW07	45-55	CNMW07-W-19887	3/14/06	0.4 J	0.6 J	ND
		CNMW07-W-22512	9/26/06	1.1	ND	ND
		CNMW07-W-15492	3/26/07	1.8	ND	ND
		CNMW07-W-16221	9/24/07	2.4	ND	ND
		CNMW07-W-26027	3/19/08	3.0	ND	ND
		CNMW07-W-26679	9/9/08	4.0	0.2 J	ND
		CNMW07-W-27155	10/6/09	5.1	0.6 J	ND
		CNMW07-W-27192	9/20/10	6.6	0.3 J	ND
		CNMW07-W-27232	9/30/11	6.3	0.7 J	ND
MW08	38-53	CNMW08-W-19284	3/14/06	ND	ND	ND
		CNMW08-W-22507	9/26/06	ND	ND	ND
		CNMW08-W-15493	3/27/07	ND	ND	ND
		CNMW08-W-16226	9/25/07	ND	ND	ND
		CNMW08-W-26028	3/20/08	ND	ND	ND
		CNMW08-W-26680	9/10/08	ND	ND	ND
MW09	25-35	CNMW09-W-19285	3/15/06	ND	ND	ND
		CNMW09-W-22504	9/25/06	ND	ND	ND
		CNMW09-W-16209	3/27/07	ND	ND	ND
		CNMW09-W-16219	9/24/07	ND	ND	ND
		CNMW09-W-26029	3/20/08	ND	ND	ND
		CNMW09-W-26681	9/10/08	ND	ND	ND
		CNMW09-W-27157	10/6/09	ND	ND	ND
		CNMW09-W-27194	9/19/10	ND	ND	ND
		CNMW09-W-27234	9/30/11	ND	ND	ND

TABLE 3.2 (Cont.)

Well	Screen Interval (ft BGL)	Sample	Sample Date	Concentration (μg/L) Carbon Tetrachloride	Chloroform	Methylene Chloride
MW10	30-45	CNMW10-W-19886	3/14/06	ND	ND	ND
		CNMW10-W-22510	9/26/06	ND	ND	ND
		CNMW10-W-16215	3/28/07	ND	ND	ND
		CNMW10-W-16224	9/25/07	ND	ND	ND
		CNMW10-W-26030	3/20/08	ND	ND	ND
		CNMW10-W-26682	9/9/08	ND	ND	ND
		CNMW10-W-27158	10/6/09	ND	ND	ND
		CNMW10-W-27195	9/19/10	ND	ND	ND
		CNMW10-W-27235	9/30/11	ND	ND	ND
SB01	40-50	CNSB01-W-16188	8/26/04	186	6.5	ND
		CNSB01-W-19274	9/9/05	269	6.8	ND
		CNSB01-W-16314	10/12/05	288	6.6	ND
		CNSB01-W-19979	3/17/06	320	5.7	ND
		CNSB01-W-22516	9/27/06	267	6.3	ND
		CNSB01-W-15491	3/27/07	222	4.9	ND
		CNSB01-W-16232	9/27/07	283	4.6	ND
		CNSB01-W-26031	3/20/08	325	4.8	ND
		CNSB01-W-26683	9/10/08	378	4.1	ND
		CNSB01-W-27159	10/7/09	396	5.0	ND
		CNSB01-W-27196	9/20/10	319	4.7	ND
		CNSB01-W-27236	10/1/11	276	4.3	ND
SB04	51-61	CNSB04-W-16189	8/26/04	30	ND	ND
		CNSB04-W-19273	9/9/05	47	0.6 J	ND
		CNSB04-W-16315	10/12/05	44	0.5 J	ND
		CNSB04-W-19906	3/16/06	51	0.5 J	0.4 J B[e]
		CNSB04-W-22503	9/25/06	54	0.7 J	ND
		CNSB04-W-16216	3/28/07	44	0.5 J	ND
		CNSB04-W-16230	9/26/07	36	0.4 J	ND
		CNSB04-W-26002	3/12/08	30	0.3 J	ND
		CNSB04-W-26684	9/9/08	15	0.3 J	ND
		CNSB04-W-27160	10/8/09	17	0.3 J	ND
		CNSB04-W-27197	9/20/10	17	0.3 J	ND
		CNSB04-W-27237	9/30/11	8.7	ND	ND
SB05	32-42	CNSB05-W-16190	8/26/04	59	5.5	ND
		CNSB05-W-19275	9/9/05	77	7.2	ND
		CNSB05-W-16323	10/12/05	54	5.5	ND
		CNSB05-W-19904	3/17/06	104	7.2	ND
		CNSB05-W-19940	9/27/06	139	12	ND
		CNSB05-W-16212	3/28/07	138	12	ND
		CNSB05-W-16233	9/26/07	221	16	ND
		CNSB05-W-26032	3/20/08	224	17	ND
		CNSB05-W-26685	9/9/08	256	20	ND
		CNSB05-W-27161	10/8/09	289	19	ND
		CNSB05-W-27198	9/21/10	374	32	ND
		CNSB05-W-27238	9/30/11	245	22	ND

TABLE 3.2 (Cont.)

Well	Screen Interval (ft BGL)	Sample	Sample Date	Concentration (µg/L) Carbon Tetrachloride	Chloroform	Methylene Chloride
SB07R	45-60	CNSB07R-W-19978	3/15/06	41	2.7	ND
		CNSB07R-W-19924	9/26/06	30	1.7	ND
		CNSB07R-W-15490	3/26/07	30	1.7	ND
		CNSB07R-W-16225	9/25/07	50	2.4	ND
		CNSB07R-W-26003	3/12/08	13	0.9 J	ND
		CNSB07R-W-26686	9/9/08	21	1.4	ND
		CNSB07R-W-27162	10/7/09	38	1.7	ND
		CNSB07R-W-27199	9/20/10	42	2.5	ND
		CNSB07R-W-27239	9/30/11	44	2.5	ND
SB08	52-62	CNSB08-W-16192	8/26/04	79	3.1	ND
		CNSB08-W-19272	9/8/05	80	2.6	ND
		CNSB08-W-16317	10/12/05	77	2.8	ND
		CNSB08-W-19903	3/17/06	91	2.7	ND
		CNSB08-W-22500	9/21/06	53	1.6	ND
		CNSB08-W-16214	3/28/07	64	2.0	ND
		CNSB08-W-16229	9/26/07	68	1.8	ND
		CNSB08-W-26004	3/12/08	28	1.1	ND
		CNSB08-W-26687	9/8/08	22	1.2	ND
		CBSB08-W-27163	10/8/09	29	1.2	ND
		CNSB08-W-27200	9/20/10	16	0.9 J	ND
		CNSB08-W-27240	10/1/11	13	1.0	ND
SB09	32-42	CNSB09-W-16193	8/26/04	ND	ND	ND
		CNSB09-W-19281	9/11/05	ND	ND	ND
		CNSB09-W-16318	10/11/05	ND	ND	ND
		CNSB09-W-19902	3/17/06	ND	ND	ND
		CNSB09-W-22502	9/25/06	ND	ND	ND
		CNSB09-W-16211	3/28/07	ND	ND	ND
		CNSB09-W-16231	9/26/07	ND	ND	ND
		CNSB09-W-26033	3/20/08	ND	ND	ND
		CNSB09-W-26688	9/10/08	ND	ND	ND

[a] ND, not detected at instrument detection limit of 0.1 µg/L.

[b] Qualifier R indicates that the contaminant was present in the associated equipment rinsate.

[c] Data are for samples collected prior to implementation of the IM ISCR pilot test in November 2007. More recent results are in Table 3.4.

[d] Qualifier J indicates an estimated concentration below the method quantitation limit of 1.0 µg/L.

[e] Qualifier B indicates that the contaminant was present in the associated method blank.

TABLE 3.3 Field measurements for groundwater samples collected from the sitewide monitoring points, August 2004 to October 2011.

Well	Screen Interval (ft BGL)	Sample Date	Temperature (°C)	pH	Conductivity (µS/cm)	Concentrations (mg/L) Dissolved Oxygen	Carbon Dioxide	Iron(II)	ORP (mV)
MW01	54.5-64.5	8/24/04	16.3	7.39	652	0.06	25	0.00	230
		9/10/05	16.3	7.26	599	6.31	–[a]	0.00	104
		10/11/05	16.4	6.45	634	–	–	–	–
		3/15/06	14.3	7.56	621	9.33	30	0.04	297
		9/25/06	13.3	7.01	782	6.82	50	0.31	92
		3/29/07	16.5	6.54	629	4.39	–	0.00	174
		9/26/07	17.8	7.06	630	0.89	35	0.09	146
		3/19/08	9.5	7.31	613	3.34	–	–	122
		9/9/08	13.9	7.28	595	5.18	20	0.03	28
MW02[b]	49.5-59.5	8/26/04	14.4	7.31	729	0.16	20	0.12	235
		9/11/05	15.3	7.02	739	1.28	–	–	–
		10/12/05	14.8	6.60	766	–	–	–	–
		3/16/06	14.2	6.78	759	1.24	–	0.00	295
		9/26/06	13.2	6.98	957	3.05	40	0.06	67
		3/26/07	15.7	6.39	739	2.29	50	–	67
		9/26/07	15.4	7.04	763	3.39	25	0.00	156
MW03	50.5-60.5	8/24/04	13.1	7.28	783	0.10	55	0.21	230
		9/10/05	15.1	7.05	715	10.42	65	0.00	142
		10/11/05	16.3	6.46	765	–	–	–	–
		3/17/06	13.8	6.75	753	9.39	77	0.00	290
		9/26/06	13.2	6.92	960	11.57	45	0.08	251
		3/27/07	15.3	6.40	774	7.73	25	–	268
		9/25/07	14.3	6.97	738	8.44	30	0.00	162
		3/12/08	14.6	7.12	777	7.90	–	3.13	88
		9/9/08	14.9	7.13	763	9.60	110	0.12	66
		10/6/09	13.8	7.08	770	9.66	95	0.03	216
		9/19/10	14.7	6.98	762	10.48	–	0.08	178
		9/29/11	15.2	7.61	647	10.19	–	0.00	243
MW04	37.5-47.5	8/24/04	16.2	7.39	717	0.11	40	0.04	210
		9/11/05	15.4	7.18	665	8.43	60	0.00	226
		10/11/05	14.4	7.14	811	–	–	–	–
		3/15/06	13.5	7.78	675	6.82	55	0.06	283
		9/25/06	–	7.02	613	9.13	40	0.19	46
		3/28/07	15.4	6.47	678	5.46	–	0.00	197
		9/24/07	17.4	7.10	667	6.94	35	0.24	261
		3/19/08	11.2	7.32	636	7.55	–	–	164
		9/9/08	14.2	7.14	648	8.68	100	0.00	72
		10/7/09	13.9	7.17	671	8.64	100	0.02	183
		9/20/10	16.2	7.18	572	8.91	–	0.10	164
		9/29/11	15.8	7.57	566	7.66	–	0.09	242

TABLE 3.3 (Cont.)

Well	Screen Interval (ft BGL)	Sample Date	Temperature (°C)	pH	Conductivity (µS/cm)	Concentrations (mg/L) Dissolved Oxygen	Carbon Dioxide	Iron(II)	ORP (mV)
MW05	34.5-44.5	8/25/04	14.3	7.14	613	0.08	25	0.06	215
		9/10/05	14.2	6.80	620	1.40	110	0.00	160
		10/11/05	14.8	6.35	610	–	–	–	–
		3/15/06	14.3	6.90	701	0.90	30	0.06	156
		9/25/06	13.6	6.95	768	0.09	50	0.02	55
		3/28/07	14.4	6.44	573	4.53	35	0.00	295
		9/24/07	15.8	7.06	368	3.09	45	0.00	182
		3/19/08	12.9	7.42	642	5.42	–	–	177
		9/10/08	13.9	7.11	663	7.14	95	0.00	130
		10/7/09	14.2	7.11	672	7.05	90	0.00	194
		9/20/10	17.2	7.18	675	6.07	–	0.01	183
		9/30/11	14.4	7.71	540	6.50	–	0.03	163
MW06	46.5-56.5	8/25/04	15.9	7.50	637	0.05	15	0.00	215
		9/10/05	14.6	7.23	659	0.04	60	0.00	41
		10/11/05	15.8	6.99	638	–	–	–	–
		3/15/06	14.1	7.38	630	9.87	35	0.02	263
		9/27/06	13.1	6.16	652	0.05	45	1.12	63
		3/27/07	19.0	6.42	466	0.11	20	0.00	13
		9/24/07	16.8	7.11	463	8.00	25	0.41	191
		3/19/08	14.1	7.01	552	7.00	–	–	172
		9/9/08	14.4	7.20	437	0.36	105	0.07	-96
		10/6/09	13.5	6.69	255	0.61	110	0.06	-72
		9/20/10	15.6	6.97	369	2.48	–	0.04	86
		9/30/11	14.8	7.55	411	5.49	–	0.04	172
MW07	45-55	3/14/06	14.7	6.61	709	0.34	–	0.03	143
		9/26/06	13.1	7.23	642	2.91	50	0.00	–
		3/26/07	15.8	6.50	642	1.87	30	0.00	261
		9/24/07	19.0	7.18	609	9.05	60	0.18	190
		3/19/08	12.5	7.29	647	2.70	–	–	215
		9/9/08	15.6	7.10	629	1.41	68	0.00	16
		10/6/09	13.9	7.19	618	1.42	70	0.00	53
		9/20/10	16.6	7.22	622	2.93	–	0.00	132
		9/30/11	16.3	7.57	545	3.11	–	0.01	132
MW08	38-53	3/14/06	13.5	6.35	854	5.32	–	0.00	145
		9/26/06	13.3	6.75	1095	0.16	50	0.18	37
		3/27/07	15.8	6.31	874	1.49	30	0.21	237
		9/25/07	15.8	6.92	627	1.42	45	0.14	219
		3/20/08	13.5	7.19	869	2.11	–	–	185
		9/10/08	16.3	7.03	864	1.17	100	0.03	117
MW09	25-35	3/15/06	17.7	7.33	664	0.95	55	0.09	214
		9/25/06	12.8	6.87	859	1.59	45	0.18	90
		3/27/07	14.9	6.35	689	4.10	30	0.69	152
		9/24/07	16.6	6.94	1999	3.86	55	0.14	186
		3/20/08	13.5	7.17	720	4.70	–	–	173
		9/10/08	14.7	7.02	706	3.68	110	0.07	120
		10/6/09	13.2	7.00	715	3.73	110	0.08	148
		9/19/10	14.6	6.99	711	3.60	–	0.09	159
		9/30/11	15.4	7.40	609	3.49	–	0.08	182

TABLE 3.3 (Cont.)

Well	Screen Interval (ft BGL)	Sample Date	Temperature (°C)	pH	Conductivity (µS/cm)	Concentrations (mg/L) Dissolved Oxygen	Carbon Dioxide	Iron(II)	ORP (mV)
MW10	30-45	3/14/06	14.8	6.60	834	6.42	65	0.00	166
		9/26/06	13.6	6.87	1058	6.94	50	0.50	51
		3/28/07	17.0	6.36	834	5.09	35	0.00	270
		9/25/07	15.8	6.94	827	6.64	35	0.21	199
		3/20/08	10.9	7.18	898	6.12	–	–	187
		9/9/08	14.8	7.05	879	7.18	100	0.06	94
		10/6/09	13.7	7.04	883	6.67	95	0.08	201
		9/19/10	15.1	6.95	882	6.76	–	0.00	186
		9/30/11	15.6	7.46	759	6.03	–	0.07	193
SB01	40-50	8/26/04	26.0	7.46	699	5.21	30	0.00	210
		9/9/05	25.0	7.11	674	6.25	95	0.00	140
		10/12/05	13.8	7.23	686	–	–	–	–
		3/17/06	12.4	7.30	692	5.98	55	0.00	185
		9/27/06	14.4	7.03	832	6.54	40	0.52	198
		3/27/07	18.0	6.37	659	3.81	25	0.23	173
		9/27/07	13.5	7.24	720	6.55	45	1.04	143
		3/20/08	15.6	7.29	783	8.02	–	–	182
		9/10/08	16.5	7.10	676	2.89	100	0.17	100
		10/7/09	14.8	7.11	761	7.69	105	0.07	215
		9/20/10	17.1	7.24	679	7.10	–	0.00	163
		10/1/11	18.7	7.51	632	10.45	–	0.07	207
SB04	51-61	8/26/04	17.9	7.14	765	3.78	55	0.37	230
		9/9/05	16.0	7.09	708	8.67	100	–	206
		10/12/05	13.9	7.17	813	–	–	–	–
		3/16/06	13.0	7.57	799	5.96	30	–	276
		9/25/06	14.9	7.16	791	9.32	70	1.18	64
		3/28/07	16.2	6.45	850	6.18	–	0.23	266
		9/26/07	19.8	7.03	760	6.61	30	0.00	202
		3/12/08	15.5	7.04	819	6.16	–	0.09	154
		9/9/08	16.5	7.11	802	6.48	100	0.02	70
		10/8/09	12.2	7.11	797	7.43	95	0.09	238
		9/20/10	22.3	7.04	806	6.98	–	0.06	143
		9/30/11	16.1	7.06	663	7.33	–	0.00	158
SB05	32-42	8/26/04	15.7	7.25	761	–	25	0.06	220
		9/9/05	16.9	6.98	687	7.58	100	–	–
		10/12/05	14.0	7.00	728	–	–	–	–
		3/17/06	13.3	7.67	718	4.80	40	0.18	253
		9/27/06	13.7	6.58	763	4.70	50	0.25	78
		3/28/07	16.7	4.03	1100	2.58	35	0.07	296
		9/26/07	15.1	6.98	810	4.10	30	0.50	221
		3/20/08	14.5	7.11	870	5.56	–	–	206
		9/9/08	13.7	6.79	890	7.60	90	0.09	56
		10/8/09	12.7	7.09	874	6.63	100	0.08	209
		9/21/10	14.4	7.18	862	7.69	–	0.54	60
		9/30/11	13.2	7.28	652	4.87	–	0.00	86

TABLE 3.3 (Cont.)

Well	Screen Interval (ft BGL)	Sample Date	Temperature (°C)	pH	Conductivity (µS/cm)	Concentrations (mg/L) Dissolved Oxygen	Carbon Dioxide	Iron(II)	ORP (mV)
SB07R	45-60	3/15/06	16.8	7.24	685	7.41	60	0.08	83
		9/26/06	13.2	6.89	842	6.17	55	0.26	67
		3/26/07	19.0	6.38	668	5.08	40	0.07	237
		9/25/07	17.4	7.06	642	6.30	35	0.11	170
		3/12/08	17.3	7.18	639	5.33	–	0.00	108
		9/9/08	14.1	7.06	631	5.08	100	0.07	55
		10/7/09	13.3	7.11	629	6.67	110	0.10	224
		9/20/10	15.5	7.04	648	5.87	–	0.13	161
		9/30/11	15.5	7.44	556	5.80	–	0.00	189
SB08	52-62	8/26/04	19.5	7.31	635	0.16	20	0.53	235
		9/8/05	21.2	7.27	598	3.21	75	0.00	111
		10/12/05	13.9	7.15	630	–	–	–	–
		3/17/06	12.9	7.14	645	3.40	40	0.00	246
		9/21/06	14.1	6.96	809	4.53	40	0.00	37
		3/28/07	15.8	6.53	645	3.57	35	0.24	208
		9/26/07	17.4	7.11	617	4.56	40	0.77	156
		3/12/08	17.1	7.17	642	3.63	–	0.14	102
		9/8/08	13.6	7.14	626	2.70	90	0.00	230
		10/8/09	12.3	7.22	617	4.43	95	0.00	221
		9/20/10	15.2	7.12	616	3.73	–	0.05	166
		10/1/11	15.4	7.90	492	3.35	–	0.01	76
SB09	32-42	8/26/04	30.9	7.09	910	0.26	75	0.00	185
		9/11/05	14.6	6.71	877	0.13	225	0.00	–
		10/11/05	13.9	6.85	910	–	–	–	–
		3/17/06	11.7	7.03	969	1.53	99	0.00	206
		9/25/06	14.2	7.00	976	0.29	70	0.38	86
		3/28/07	14.3	6.32	957	0.89	40	0.09	236
		9/26/07	15.2	6.77	969	1.53	45	0.12	199
		3/20/08	10.1	6.94	1000	1.57	–	–	221
		9/10/08	18.4	6.87	977	0.56	160	0.11	109

[a] No measurement obtained.

[b] Data are for samples collected prior to implementation of the IM ISCR pilot test in November 2007. More recent results are in Table 3.5.

TABLE 3.4 Analytical results from the AGEM Laboratory for volatile organic compounds in groundwater samples collected from the IM pilot test monitoring points, September 2008 to October 2011.

Well	Screen Interval (ft BGL)	Sample	Sample Date	Concentration (μg/L) Carbon Tetrachloride	Chloroform	Methylene Chloride
MW02[a]	49.5-59.5	CNMW02-W-26674	9/8/08	18	57	11
		CNMW02-W-27140	4/22/09	ND[b]	ND	1.8
		CNMW02-W-27150	10/8/09	ND	ND	ND
		CNMW02-W-27179	4/5/10	ND	ND	ND
		CNMW02-W-27187	9/20/10	1.7	ND	ND
		CNMW02-W-27218	4/19/11	ND	ND	ND
		CNMW02-W-27227	9/29/11	ND	ND	ND
PMP1	50-60	CNPMP1-W-26689	9/9/08	136	30	ND
		CNPMP1-W-27141	4/22/09	102	21	–[c]
		CNPMP1-W-27165	10/7/09	167	20	ND
		CNPMP1-W-27180	4/5/10	91	15	ND
		CNPMP1-W-27202	9/21/10	103	11	ND
		CNPMP1-W-27219	4/19/11	63	8.4	ND
		CNPMP1-W-27242	9/29/11	134	13	ND
PMP2	50-60	CNPMP2-W-26690	9/9/08	1854	318	5.6
		CNPMP2-W-27142	4/22/09	1398	299	–[c]
		CNPMP2-W-27166	10/7/09	1384	272	6.6
		CNPMP2-W-27181	4/5/10	991	182	5.1
		CNPMP2-W-27203	9/21/10	117	55	2.3
		CNPMP2-W-27220	4/19/11	317	59	–[c]
		CNPMP2-W-27243	9/29/11	277	45	1.1
PMP3	50-60	CNPMP3-W-26691	9/9/08	21	57	6.2
		CNPMP3-W-27143	4/22/09	3.2	5.8	ND
		CNPMP3-W-27167	10/7/09	0.5 J[d]	3.9	ND
		CNPMP3-W-27182	4/5/10	ND	ND	ND
		CNPMP3-W-27204	9/21/10	ND	ND	ND
		CNPMP3-W-27221	4/19/11	0.1 J	ND	ND
		CNPMP3-W-27244	9/29/11	ND	ND	ND
PMP4	48.75-58.75	CNPMP4-W-26692	9/9/08	49	4.2	ND
		CNPMP4-W-27168	10/6/09	39	2.9	ND
		CNPMP4-W-27205	9/21/10	28	1.8	ND
		CNPMP4-W-27245	9/29/11	27	1.4	ND
PMP5	50-60	CNPMP5-W-26693	9/10/08	418	46	1.6
		CNPMP5-W-27169	10/8/09	728	43	1.2
		CNPMP5-W-27206	9/20/10	779	35	0.9 J
		CNPMP5-W-27246	10/1/11	600	27	–[c]
PMP6	50-60	CNPMP6-W-26694	9/8/08	110	7.8	ND
		CNPMP6-W-27170	10/6/09	199	12	ND
		CNPMP6-W-27207	9/21/10	143	9.6	ND
		CNPMP6-W-27247	9/29/11	152	9.9	ND

TABLE 3.4 (Cont.)

Well	Screen Interval (ft BGL)	Sample	Sample Date	Concentration (µg/L) Carbon Tetrachloride	Chloroform	Methylene Chloride
PMP7	50-60	CNPMP7-W-26695	9/9/08	119	13	ND
		CNPMP7-W-27171	10/6/09	84	23	1.8
		CNPMP7-W-27208	9/21/10	98	37	4.0
		CNPMP7-W-27248	9/29/11	103	41	5.8
PMP8	50-60	CNPMP8-W-26696	9/9/08	72	125	3.4
		CNPMP8-W-27144	4/22/09	3.2	5.6	1.9
		CNPMP8-W-27172	10/7/09	16	21	1.8
		CNPMP8-W-27183	4/5/10	0.4 J	0.7 J	ND
		CNPMP8-W-27209	9/21/10	0.7 J	ND	ND
		CNPMP8-W-27222	4/19/11	ND	ND	ND
		CNPMP8-W-27249	9/29/11	ND	ND	ND
PMP9	50-60	CNPMP9-W-26697	9/9/08	7.6	0.4 J	ND
		CNPMP9-W-27173	10/7/09	29	0.5 J	ND
		CNPMP9-W-27210	9/21/10	24	0.2 J	ND
		CNPMP9-W-27250	9/29/11	28	ND	ND

[a] Data are for samples collected after implementation of the IM ISCR pilot test in November 2007. Earlier data are in Table 3.2.

[b] ND, not detected at instrument detection limit of 0.1 µg/L.

[c] No analysis.

[d] Qualifier J indicates an estimated concentration below the method quantitation limit of 1.0 µg/L.

TABLE 3.5 Field measurements for groundwater samples collected from the IM pilot test monitoring points, September 2008 to October 2011.

Well	Screen Interval (ft BGL)	Sample Date	Temperature (°C)	pH	Conductivity (µS/cm)	Concentrations (mg/L) Dissolved Oxygen	Carbon Dioxide	Iron(II)	ORP (mV)
MW02[a]	49.5-59.5	9/8/08	13.1	6.12	6821	0.40	50	3.30[b]	-74
		4/22/09	14.8	6.71	2943	0.60	110	2.70	-131
		10/8/09	12.7	6.98	1829	0.44	50	3.06	-138
		4/5/10	15.0	8.79	1675	0.08	115	2.36	-72
		9/20/10	15.7	6.98	1608	0.01	–	3.30[b]	-139
		4/19/11	11.4	7.16	1004	0.56	–	2.23	-143
		9/29/11	15.6	7.63	770	0.46	–	1.07	-128
PMP1	50-60	9/9/08	14.4	5.54	700	1.37	115	0.23	40
		4/22/09	15.1	6.97	667	3.62	115	0.60	-79
		10/7/09	13.8	7.30	623	0.56	110	0.33	-34
		4/5/10	15.0	7.13	545	0.24	110	0.00	53
		9/21/10	15.8	6.83	617	0.53	–	0.67	34
		4/19/11	11.6	7.18	444	0.49	–	0.24	-83
PMP2	50-60	9/9/08	14.4	7.09	997	0.05	180	1.68	-41
		4/22/09	15.0	6.91	829	3.57	150	1.36	-101
		10/7/09	13.9	7.65	775	0.19	160	1.53	-89
		4/5/10	13.6	7.05	667	0.22	140	1.87	-93
		9/21/10	15.8	6.82	747	0.21	–	3.06	-90
		4/19/11	11.5	7.12	514	0.09	–	1.51	-158
		9/29/11	13.6	7.81	531	0.14	–	0.14	-140
PMP3	50-60	9/9/08	14.5	6.98	1301	0.03	150	3.30[b]	-150
		4/22/09	14.3	7.13	506	2.64	130	2.51	-114
		10/7/09	14.0	8.06	472	0.17	140	0.37	-129
		4/5/10	13.3	7.59	433	0.16	140	0.24	-175
		9/21/10	16.1	7.28	492	2.02	–	1.18	-138
		4/19/11	11.6	7.50	362	0.03	–	0.42	-203
							–		
PMP4	48.75-58.75	9/9/08	14.3	4.97	738	4.87	100	0.49	134
		10/6/09	13.2	6.46	705	2.20	110	0.08	43
		9/21/10	15.5	7.15	747	5.66	–	0.25	36
		9/29/11	13.6	7.79	553	4.12	–	0.01	25
PMP5	50-60	9/10/08	16.9	7.20	875	2.51	105	0.18	117
		10/8/09	10.7	7.10	839	3.18	100	0.00	43
		9/20/10	20.0	7.05	904	3.35	–	0.12	92
		10/1/11	15.9	7.87	742	3.64	–	0.06	76
PMP6	50-60	9/8/08	13.2	6.87	787	3.32	75	0.09	173
		10/6/09	13.5	6.80	692	2.30	80	0.07	159
		9/21/10	15.5	7.22	777	1.90	–	0.59	91
		9/29/11	14.2	7.54	607	0.37	–	0.08	147
PMP7	50-60	9/9/08	14.2	6.30	807	2.18	70	0.18	15
		10/6/09	13.4	6.74	655	0.46	70	0.12	-13
		9/21/10	15.2	7.23	664	0.20	–	0.07	-38
		9/29/11	13.9	7.93	509	0.08	–	0.14	-32

TABLE 3.5 (Cont.)

Well	Screen Interval (ft BGL)	Sample Date	Temperature (^{o}C)	pH	Conductivity (µS/cm)	Concentrations (mg/L) Dissolved Oxygen	Carbon Dioxide	Iron(II)	ORP (mV)
PMP8	50-60	9/9/08	14.4	7.05	1388	0.03	60	2.72	-129
		4/22/09	15.2	7.30	776	1.74	150	2.03	-139
		10/7/09	13.9	7.69	688	0.81	120	0.27	-155
		4/5/10	13.3	7.46	555	0.19	145	0.92	-156
		9/21/10	14.8	7.44	592	2.00	–	1.66	-138
		4/19/11	11.0	7.47	416	2.01	–	0.00	-157
							–		
PMP9	50-60	9/9/08	14.0	6.36	606	7.78	120	0.10	45
		10/7/09	13.7	7.50	568	5.82	125	0.06	-1
		9/21/10	15.2	7.26	605	6.67	–	0.15	44
		9/29/11	13.4	7.80	459	6.75	–	0.05	-12

[a] Data are for samples collected after implementation of the IM ISCR pilot test in November 2007. Earlier results are in Table 3.3.

[b] Maximum reading from instrument.

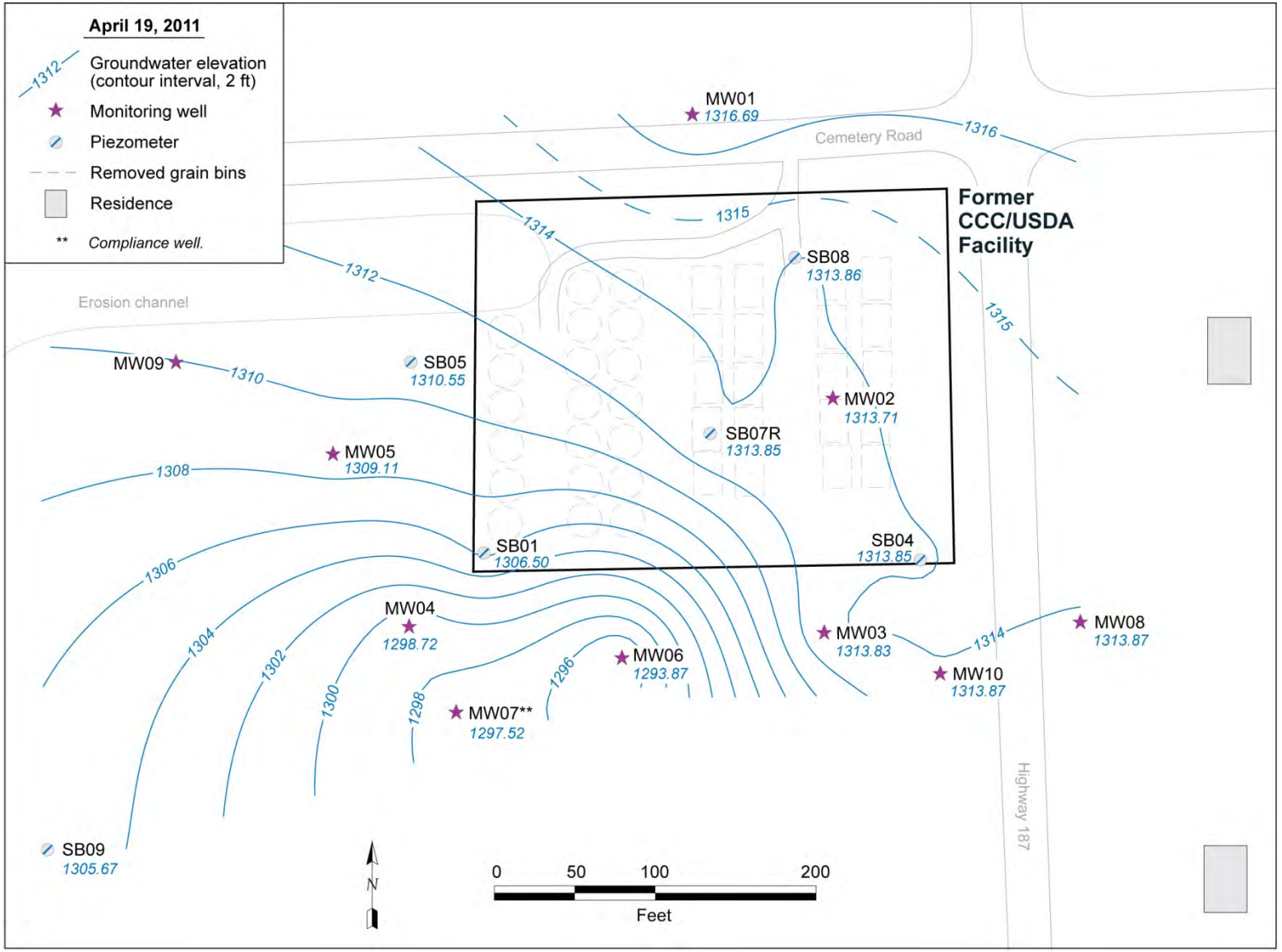

FIGURE 3.1 Potentiometric surface, based on water levels measured manually on April 19, 2011.

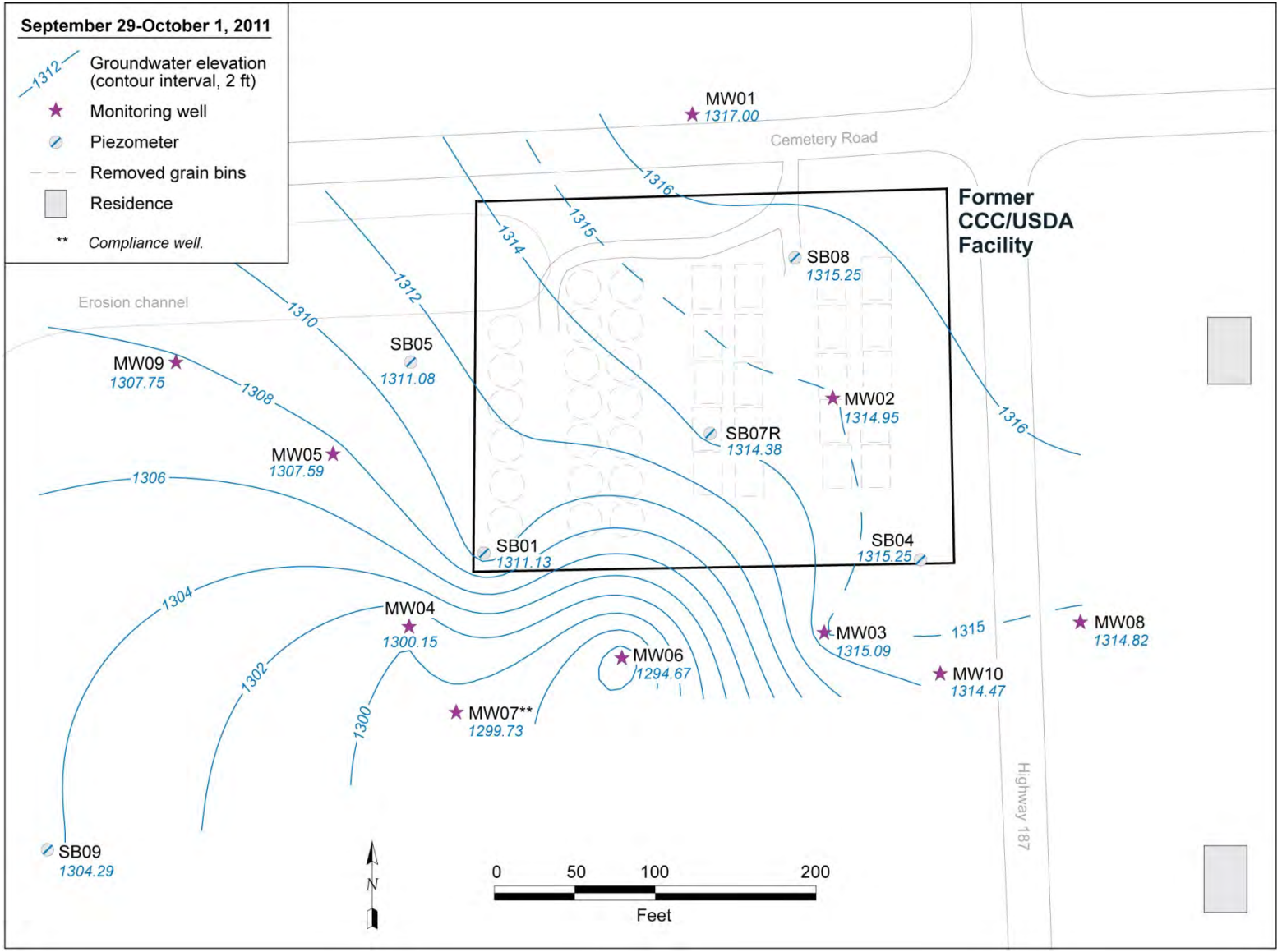

FIGURE 3.2 Potentiometric surface, based on water levels measured manually on September 29-October 1, 2011.

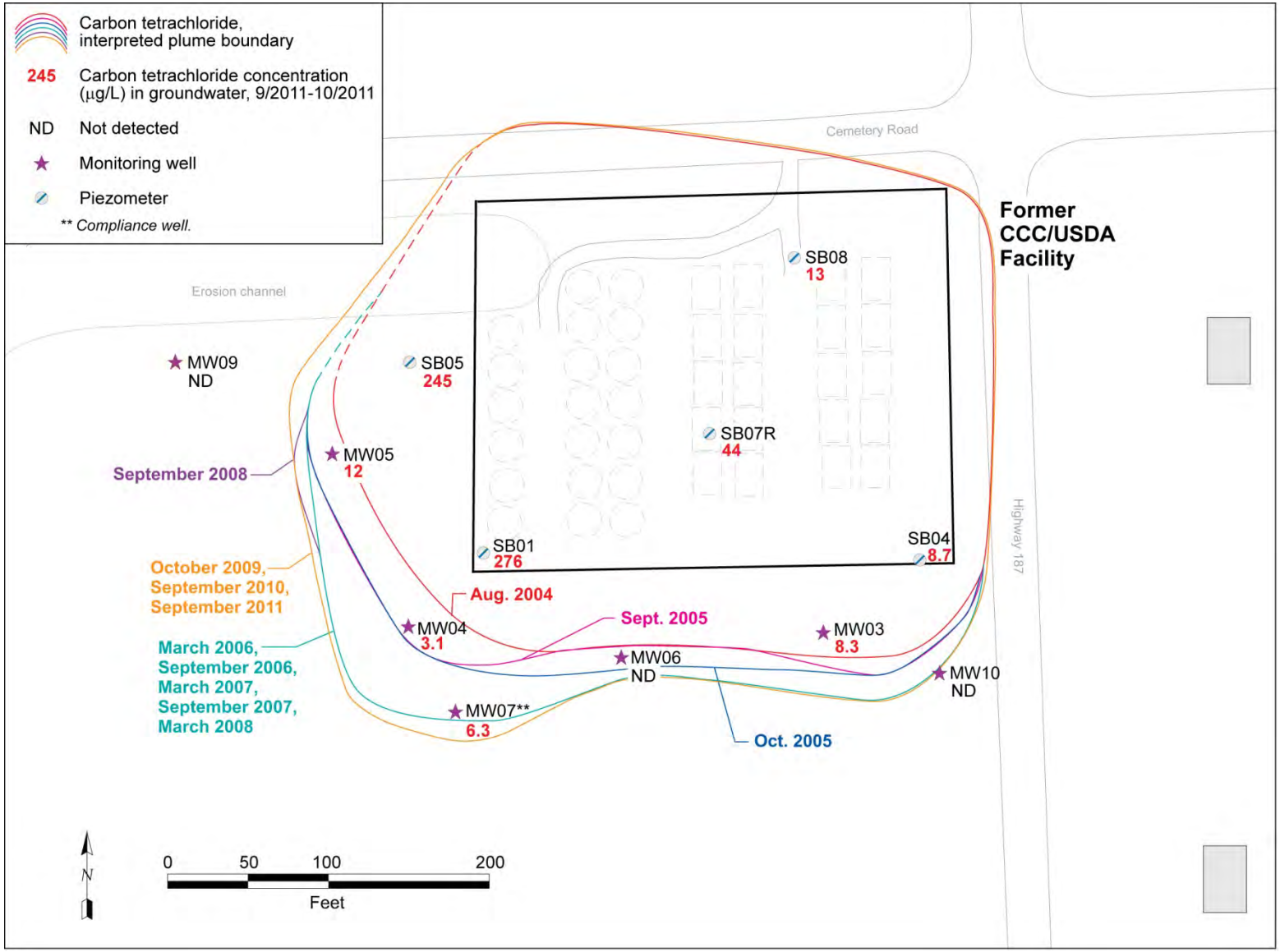

FIGURE 3.3 Carbon tetrachloride concentrations in groundwater in the sitewide monitoring wells sampled in September-October 2011, with the interpreted lateral extent of the contaminant at intervals since August 2004.

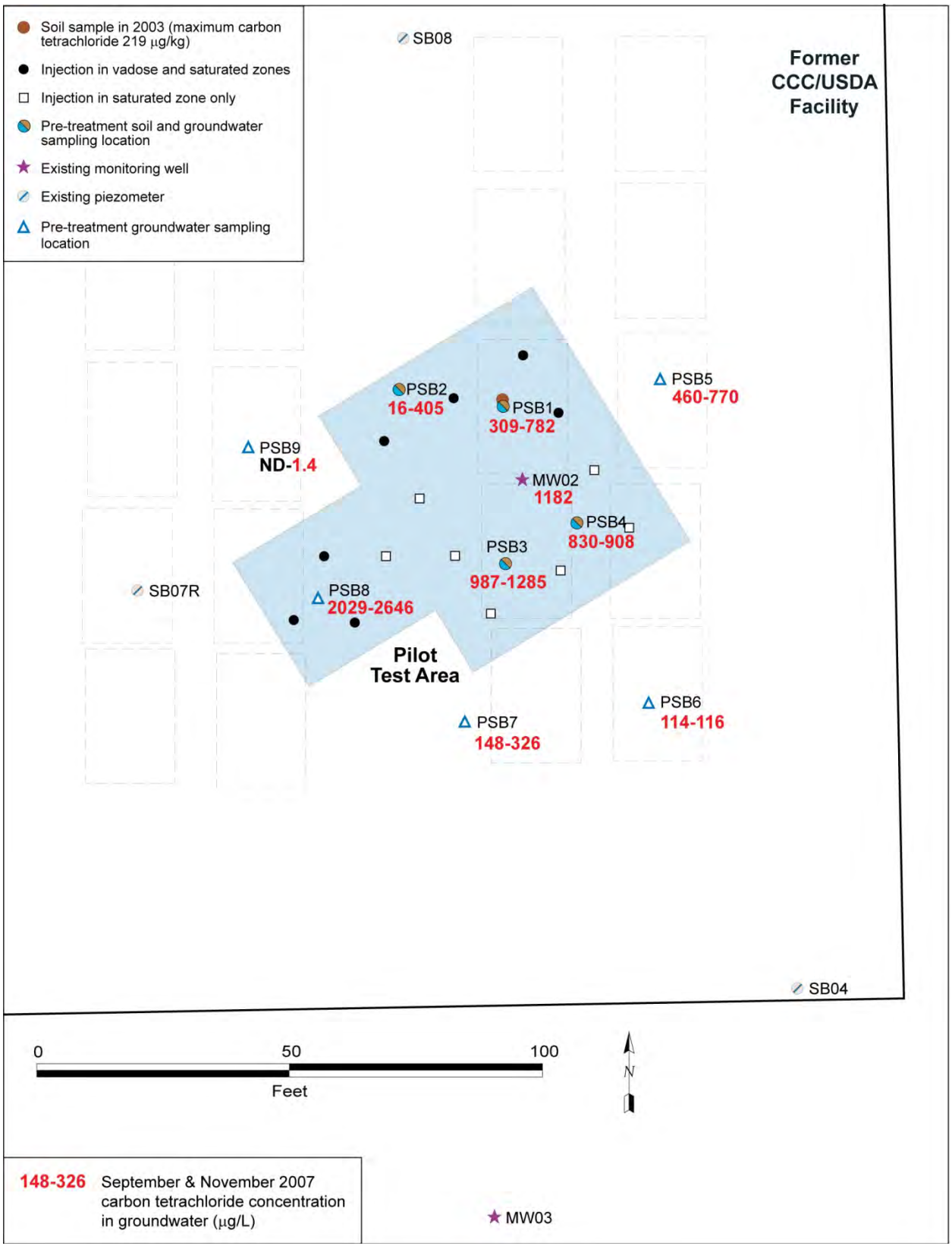

FIGURE 3.4 Carbon tetrachloride in groundwater samples collected during the pre-injection baseline sampling, September and November 2007.

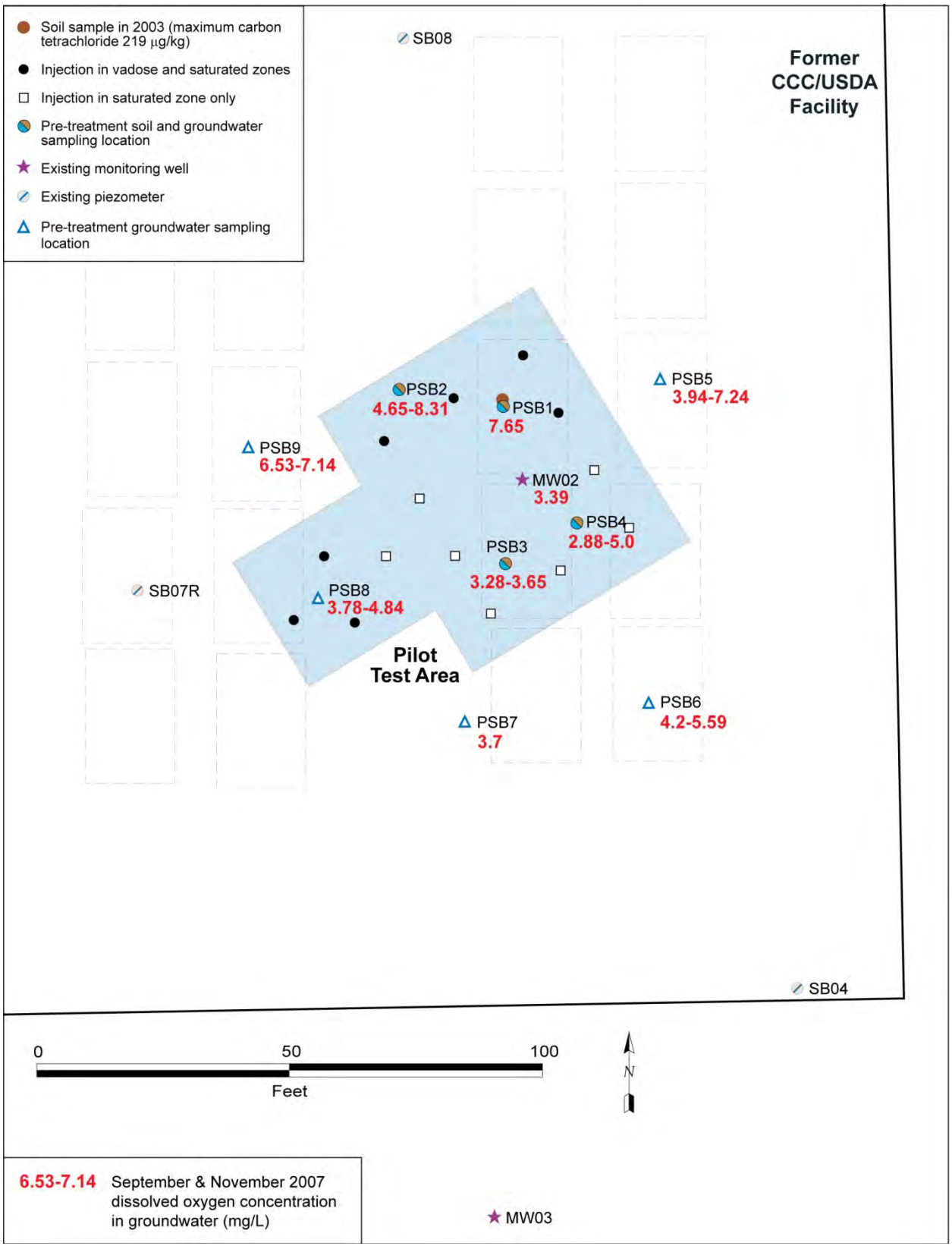

FIGURE 3.5 Field-measured results for DO in groundwater samples collected during the pre-injection baseline sampling, September and November 2007.

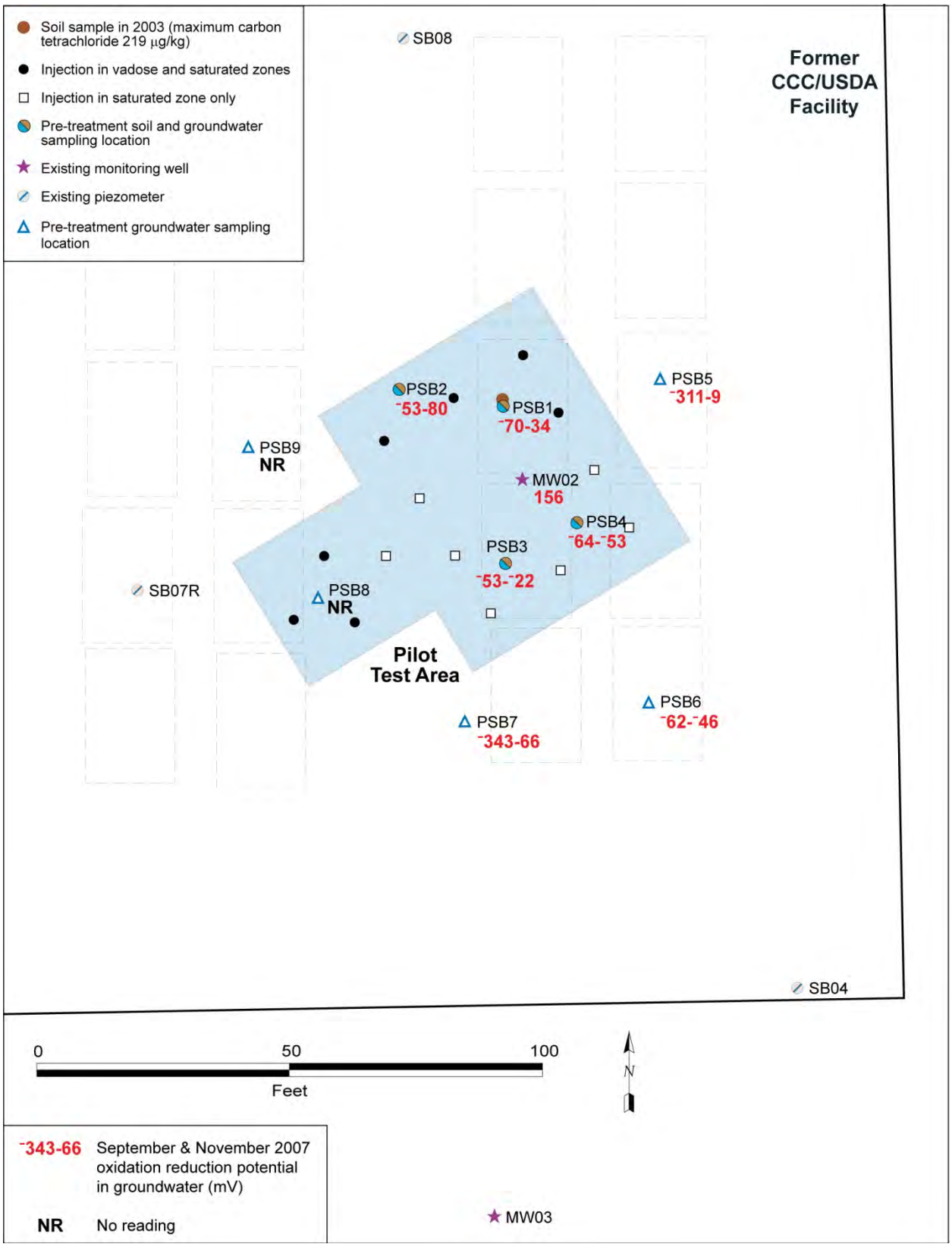

FIGURE 3.6 Field-measured results for ORP in groundwater samples collected during the pre-injection baseline sampling, September and November 2007.

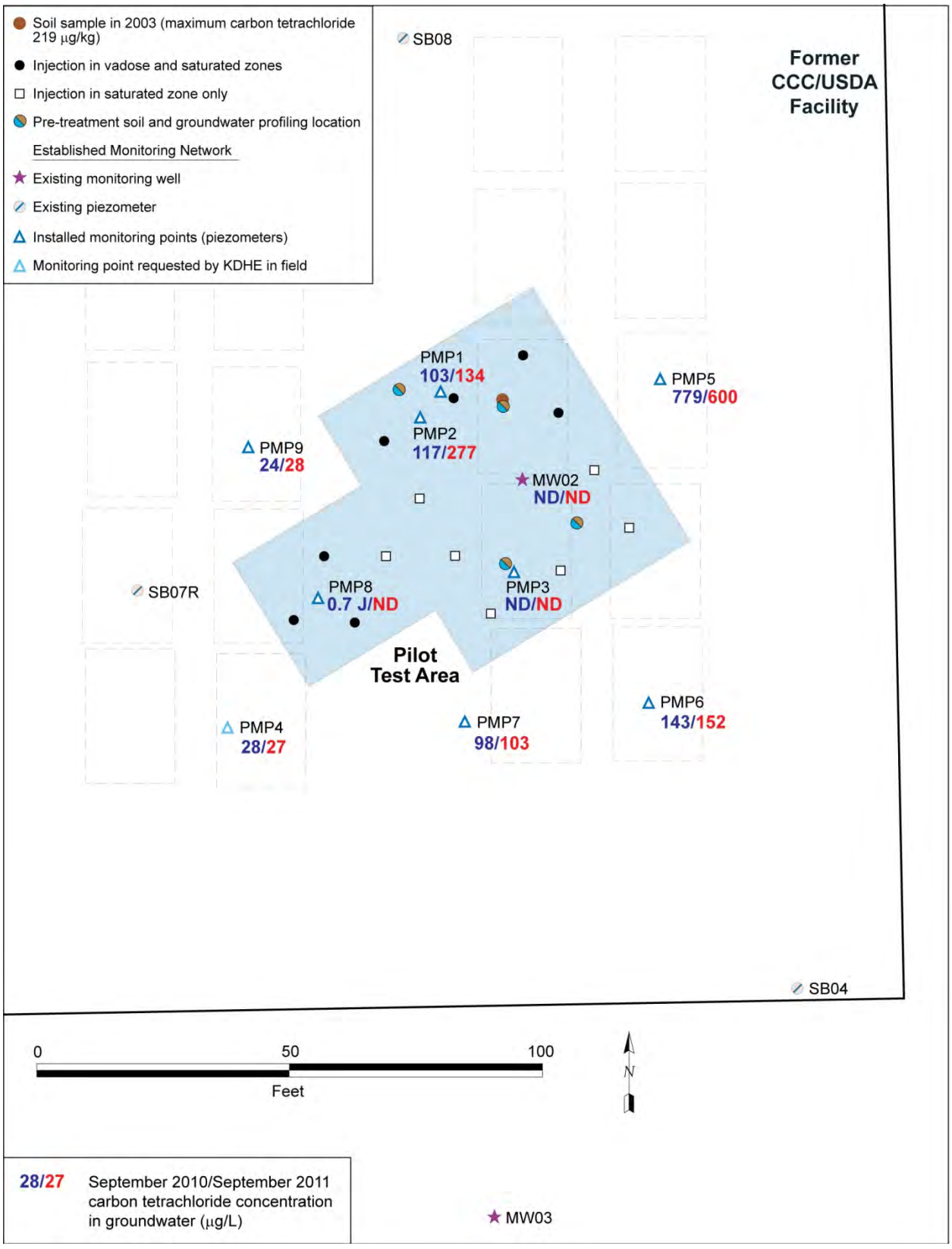

FIGURE 3.7 Analytical results for carbon tetrachloride in groundwater samples collected in September 2010 and September-October 2011 at the IM pilot test monitoring points.

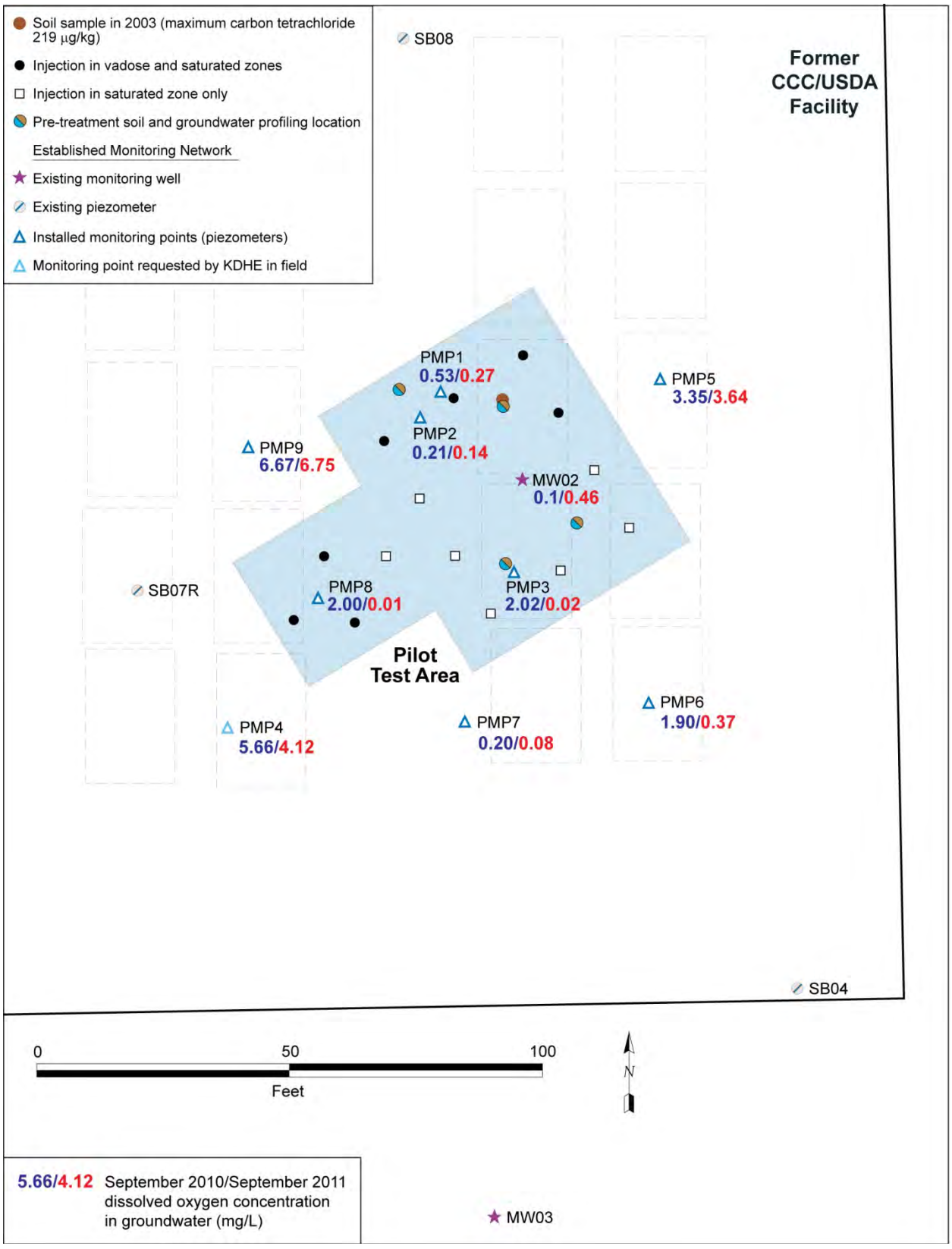

FIGURE 3.8 Field-measured results for DO in groundwater samples collected in September 2010 and September-October 2011 at the IM pilot test monitoring points.

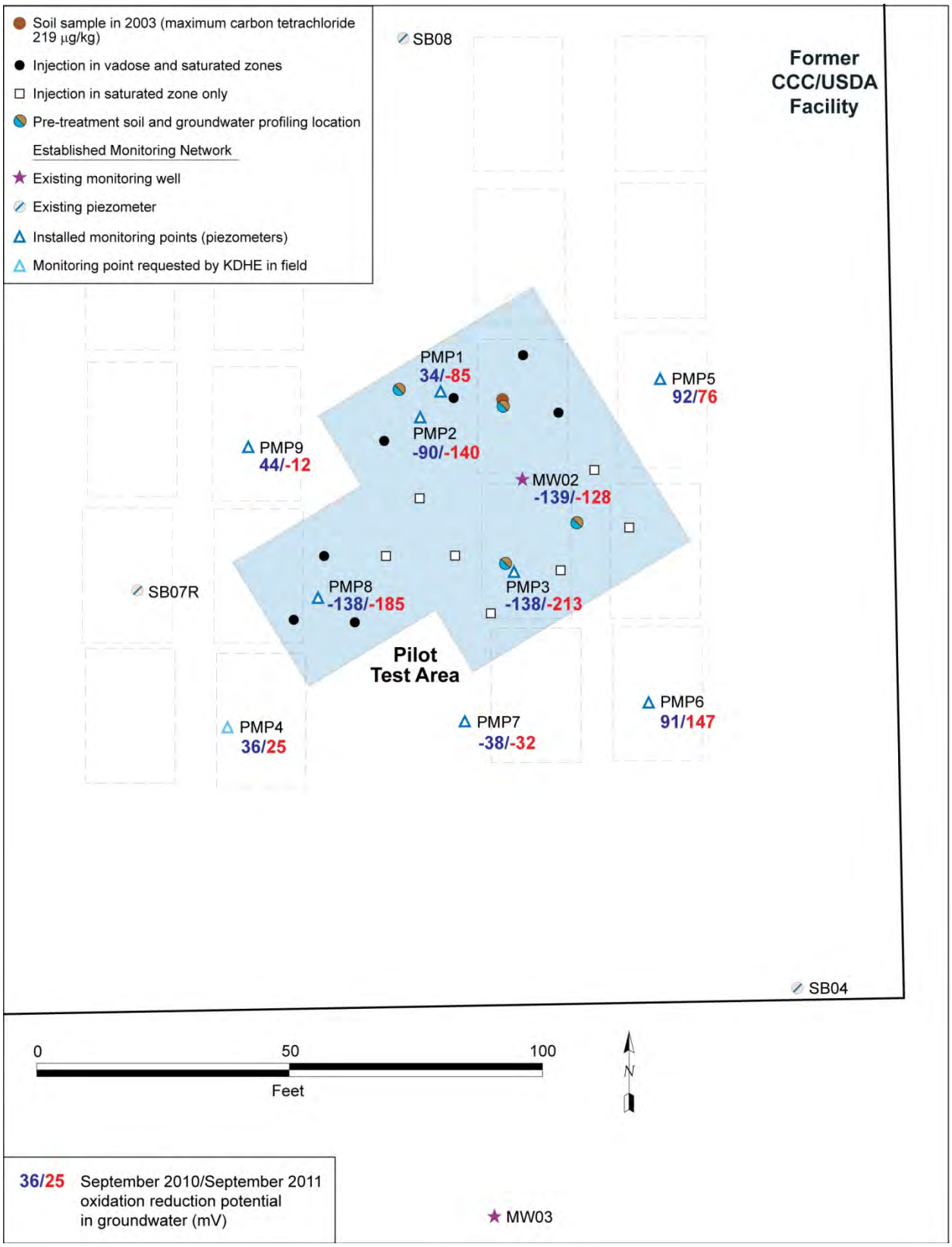

FIGURE 3.9 Field-measured results for ORP in groundwater samples collected in September 2010 and September-October 2011 at the IM pilot test monitoring points.

4 Conclusions and Recommendations

4.1 Conclusions

The findings of the sitewide monitoring in September-October 2011 support the following conclusions for the wider investigation area:

- Manual measurements of groundwater levels continued to indicate a groundwater flow direction to the south-southwest across the former CCC/USDA facility.

- The September-October 2011 carbon tetrachloride data for monitoring points in the approved sitewide network were generally consistent with previous results. Decreases in carbon tetrachloride concentrations were observed near the western and southwestern margins of the groundwater plume, in the apparent direction of groundwater flow, suggesting that no detectable expansion of the contaminant distribution occurred in this area in 2011. A continuing longer-term trend of slightly increasing carbon tetrachloride concentrations along the southeastern margin of the contaminant distribution in groundwater suggested very slow downgradient expansion of the plume in this direction.

- The presence of trace to relatively low concentrations of chloroform at most of the sitewide monitoring points having detectable carbon tetrachloride concentrations suggests that some degradation of carbon tetrachloride is occurring at these locations, even outside the pilot test area.

- The relatively high DO concentrations and positive ORP levels identified at the sitewide monitoring points indicate that — notwithstanding the observed chloroform concentrations — anaerobic reducing conditions conducive to the reductive dechlorination of carbon tetrachloride are not widely developed outside the pilot test area.

- Although the low DO concentrations and negative ORP levels detected at monitoring well MW06 in September 2008 and October 2009 hinted at possible development of increasingly anaerobic reducing conditions at this location, such values did not persist in 2010 and 2011. The variability in these parameters (particularly the negative ORP levels) is somewhat greater at MW06 than at other monitoring locations, for reasons that are not clear.

The findings of the IM pilot test monitoring in April and September-October 2011 support the following conclusions for the pilot test area:

- The concentrations of carbon tetrachloride in groundwater in the IM pilot test injection field remained considerably below pre-injection levels in 2011, although no significant decreases were observed from September 2010 to September-October 2011. Carbon tetrachloride levels in the injection area occurred at levels up to 317 µg/L (PMP2), which is well above the KDHE Tier 2 RBSL of 5.0 µg/L. The largest reduction observed outside the injection field (from 779 µg/L in September 2010 to 600 µg/L in September-October 2011) occurred at piezometer PMP5, to the northeast and slightly upgradient of the injection field.

- The 2011 results confirmed that relatively oxygen-depleted, chemically reducing conditions favorable to the degradation of carbon tetrachloride via reductive dechlorination persist in the injection field as a result of the ISCR injections in November 2007. The apparent longevity (4 yr to date) indicated by these observations for the ISCR material confirms the range of 1-5 yr estimated by the manufacturer (Adventus 2012). Continued observations will track the ongoing viability of the ISCR material.

- Decreases in DO and ORP values observed from September 2008 to October 2009 immediately southwest and downgradient of the pilot test injection field suggested that the range of influence of the injected ISCR treatment technology might be slowly increasing with time, in the direction of natural groundwater flow. Data from the 2010 and 2011 sampling events did not, however, confirm this trend.

4.2 Recommendations

The groundwater sampling conducted at Centralia in April 2011 and September-October 2011 represented the third year of monitoring performed under the interim site monitoring plan (Section 1) approved by the KDHE (2009). The results support the following recommendations:

- Analytical results continue to indicate that groundwater movement and contaminant migration are slow and predictable. These findings demonstrate that the present KDHE-approved frequency for groundwater monitoring is sufficient to remain protective of human health and the environment.

- Continued monitoring in the pilot test area is appropriate, because the geochemical impacts of the injected ISCR material are still evident. The full effects of the treatment and the lifetime of these impacts under the subsurface conditions at Centralia remain to be determined.

- Continued monitoring is needed to evaluate and confirm observations made previously. For example, more time is needed to test the hypothesis (suggested by geochemical and contaminant concentrations observed in 2009) that the range of influence of the ISCR material is expanding slowly with time in the direction of natural groundwater flow.

- Manual water level measurements made in conjunction with groundwater sampling are adequate to confirm the established groundwater flow direction.

- The rate of change in contaminant concentrations, ORP, and DO in the treatment area is not rapid enough to warrant continuation of twice yearly sampling in that area. The CCC/USDA recommends a change in sampling frequency from twice yearly to once yearly at pilot test monitoring points PMP1-PMP3, PMP8, and MW02.

- Under an annual sampling schedule, the next sampling event will occur in September 2012, at locations PMP1-PMP9 and MW02 in the injection area and at sitewide monitoring points MW03-MW07, MW09, MW10, SB01, SB04, SB05, SB07R, and SB08.

- Reporting of 2012 monitoring results will occur in January 2013.

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Appendix A:

Sequence of Sampling Activities in 2011

TABLE A.1 Sequence of sampling activities at Centralia in 2011.

Sample Date and Time	Sample	Sample Type	Location	Depth (ft BGL)	Chain of Custody	Shipping Date	Sample Description
April 2011 sampling event							
4/19/11 17:02	CNPMP1-W-27219	MW	PMP1	50-60	4821	4/20/11	Depth to water = 19.96 ft. Depth of 0.5-in. well 60 ft. Sample collected by using low-flow bladder pump positioned at 55 ft after purging of 5.5 L.
4/19/11 17:03	CNPMP1DUP-W-27223[b]	MW	PMP1	50-60	4821	4/20/11	Replicate of sample CNPMP1-W-27219.
4/19/11 17:35	CNMW02-W-27218	MW	MW02	49.5-59.5	4821	4/20/11	Depth to water = 20.96 ft. Depth of 4-in. well = 61.22 ft. Sample collected by using low-flow bladder pump positioned at 54.5 ft after purging of 11.5 L.
4/19/11 17:36	CNPMP2-W-27220	MW	PMP2	50-60	4821	4/20/11	Depth to water = 20.11 ft. Depth of 0.5-in. well = 60 ft. Sample collected by using low-flow bladder pump positioned at 55 ft after purging of 5.5 L.
4/19/11 18:08	CNPMP3-W-27221	MW	PMP3	50-60	4821	4/20/11	Depth to water = 20.78 ft. Depth of 0.5-in. well = 60 ft. Sample collected by using low-flow bladder pump positioned at 55 ft after purging of 5.5 L.
4/19/11 18:40	CNPMP8-W-27222	MW	PMP8	50-60	4821	4/20/11	Depth to water = 20.31 ft. Depth of 0.5-in. well = 60 ft. Sample collected by using low-flow bladder pump positioned at 55 ft after purging of 5.5 L.
4/19/11 18:52	CNQCIR-W-27224[b]	RI	QC	–	4821	4/20/11	Rinsate of decontaminated sampling line after collection of sample CNPMP8-W-27222.
4/19/11 19:00	CNQCTB-W-27225[b]	TB	QC	–	4821	4/20/11	Trip blank with water samples to AGEM Laboratory for organic analysis listed on COC 4821.
September 2011 sampling event							
9/29/11 14:05	CNMW01-W-27226	MW	MW01	54.5-64.5	3184	9/29/11	Depth to water = 11.75 ft. Depth of 4-in. well = 64.5 ft. Sample collected by using low-flow bladder pump positioned at 59.5 ft after purging of 9 L. Water clear.
9/29/11 14:12	CNPMP6-W-27247	MW	PMP6	50-60	3184	9/29/11	Depth to water = 21.97 ft. Depth of 0.5-in. well = 60 ft. Sample collected by using low-flow bladder pump positioned at 55 ft after purging of 6 L. Water tan.
9/29/11 14:58	CNPMP7-W-27248	MW	PMP7	50-60	3184	9/29/11	Depth to water = 21.47 ft. Depth of 0.5-in. well = 60 ft. Sample collected by using low-flow bladder pump positioned at 55 ft after purging of 6 L. Water clear with slight odor.

TABLE A.1 (Cont.)

Sample Date and Time	Sample	Sample Type	Location	Depth (ft BGL)	Chain of Custody	Shipping Date	Sample Description
September 2011 sampling event (cont.)							
9/29/11 15:14	CNMW03-W-27228	MW	MW03	50.5-60.5	3184	9/29/11	Depth to water = 21.35 ft. Depth of 4-in. well = 60.5 ft. Sample collected by using low-flow bladder pump positioned at 55.5 ft after purging of 8 L. Water clear.
9/29/11 15:36	CNPMP4-W-27245	MW	PMP4	48.75-58.75	3184	9/29/11	Depth to water = 19.56 ft. Depth of 0.5-in. well = 58.75 ft. Sample collected by using low-flow bladder pump positioned at 55 ft after purging of 6.5 L.
9/29/11 16:13	CNMW04-W-27229	MW	MW04	37.5-47.5	3184	9/29/11	Depth to water = 24.55 ft. Depth of 4-in. well = 7.5 ft. Sample collected by using low-flow bladder pump positioned at 42.5 ft after purging of 8 L. Water clear.
9/29/11 16:26	CNPMP3-W-27244	MW	PMP3	50-60	3184	9/29/11	Depth to water not recorded. Depth of 0.5-in. well = 60 t. Sample collected by using low-flow bladder pump positioned at 55 ft after purging of 6 L. Water gray with strong odor.
9/29/11 17:04	CNPMP8-W-27249	MW	PMP8	50-60	3184	9/29/11	Depth to water = 20.32 ft. Depth of 0.5-in. well = 60 ft. Sample collected by using low-flow bladder pump positioned at 55 ft after purging of 6.7 L.
9/29/11 17:22	CNMW02-W-27227	MW	MW02	49.5-59.5	3184	9/29/11	Depth to water = 21.93 ft. Depth of 4-in. well = 59.5 ft. Sample collected by using low-flow bladder pump positioned at 54.5 ft after purging of 7 L. Water clear.
9/29/11 17:23	CNMW02DUP-W-27251[b]	MW	MW02	49.5-59.5	3184	9/29/11	Replicate of sample CNMW02-W-27227.
9/29/11 17:44	CNPMP9-W-27250	MW	PMP9	50-60	3184	9/29/11	Depth to water = 17.97 ft. Depth of 0.5-in. well = 60 ft. Sample collected by using low-flow bladder pump positioned at 55 ft after purging of 9 L.
9/29/11 18:18	CNPMP2-W-27243	MW	PMP2	50-60	3184	9/29/11	Depth to water = 21.38 ft. Depth of 0.5-in. well = 60 ft. Sample collected by using low-flow bladder pump positioned at 55 ft after purging of 7 L. Water clear with strong odor.
9/29/11 18:30	CNQCTB-W-27256[b]	TB	QC	–	3184	9/29/11	Trip blank sent to the AGEM Laboratory for VOCs analysis with water samples listed on chain-of-custody form (COC) 3184.
9/29/11 18:38	CNPMP1-W-27242	MW	PMP1	50-60	3184	9/29/11	Depth to water = 21.38 ft. Depth of 0.5-in. well = 60 ft. Sample collected by using low-flow bladder pump positioned at 55 ft after purging of 7 L. Water brown and silty.

TABLE A.1 (Cont.)

Sample Date and Time		Sample	Sample Type	Location	Depth (ft BGL)	Chain of Custody	Shipping Date	Sample Description
September 2011 sampling event (cont.)								
9/30/11	11:20	CNMW05-W-27230	MW	MW05	34.5-44.5	3185	10/1/11	Depth to water = 13.65 ft. Depth of 4-in. well = 44.5 ft. Sample collected by using low-flow bladder pump positioned at 39.5 ft after purging of 8 L. Water clear.
9/30/11	12:17	CNMW06-W-27231	MW	MW06	46.5-56.5	3185	10/1/11	Depth to water = 36.76 ft. Depth of 4-in. well = 56.5 ft. Sample collected by using low-flow bladder pump positioned at 51.5 ft after purging of 6 L. Water clear.
9/30/11	12:40	CNQCIR-W-27253[b]	RI	QC	–	3185	10/1/11	Rinsate of decontaminated sampling line after collection of sample CNMW06-W-27231.
9/30/11	12:56	CNSB05-W-27238	MW	SB05	32-42	3185	10/1/11	Depth to water = 13.33 ft. Depth of 1-in. well = 42 ft. Sample collected by using low-flow bladder pump positioned at 37 ft after purging of 16 L.
9/30/11	13:27	CNMW07-W-27232	MW	MW07	45-55	3185	10/1/11	Depth to water = 29.56 ft. Depth of 2-in. well = 55 ft. Sample collected by using low-flow bladder pump positioned at 50 ft after purging of 4 L. Water clear.
9/30/11	14:43	CNMW08-W-27233	MW	MW08	38-53	3185	10/1/11	Depth to water = 19.78 ft. Depth of 2-in. well = 53 ft. Sample collected by using low-flow bladder pump positioned at 45.5 ft after purging of 7 L. Water silty.
9/30/11	15:30	CNMW09-W-27234	MW	MW09	25-35	3185	10/1/11	Depth to water = 6.23 ft. Depth of 2-in. well = 35 ft. Sample collected by using low-flow bladder pump positioned at 30 ft after purging of 6 L. Water clear.
9/30/11	16:48	CNMW10-W-27235	MW	MW10	30-45	3185	10/1/11	Depth to water = 21.89 ft. Depth of 2-in. well = 45 ft. Sample collected by using low-flow bladder pump positioned at 37.5 ft after purging of 6 L. Water clear.
9/30/11	17:50	CNSB07R-W-27239	MW	SB07R	45-60	3185	10/1/11	Depth to water = 19.63 ft. Depth of 2-in. well = 60 ft. Sample collected by using low-flow bladder pump positioned at 52.5 ft after purging of 6 L. Water clear.
9/30/11	18:00	CNSB04-W-27237	MW	SB04	51-61	3185	10/1/11	Depth to water = 22.72 ft. Depth of 1-in. well = 47.5 ft. Sample collected by using low-flow bladder pump positioned at 42.5 ft after purging of 1.5 L.
9/30/11	18:01	CNSB04DUP-W-27252[b]	MW	SB04	51-61	3186	10/1/11	Replicate of sample CNSB04-W-27237.
9/30/11	18:30	CNQCIR-W-27254[b]	RI	QC	–	3185	10/1/11	Rinsate of decontaminated sampling line after collection of sample CNSB04-W-27237 and replicate CNSB04DUP-W-27252.

TABLE A.1 (Cont.)

Sample Date and Time		Sample	Sample Type	Location	Depth (ft BGL)	Chain of Custody	Shipping Date	Sample Description
September 2011 sampling event (cont.)								
10/1/11	11:24	CNSB08-W-27240	MW	SB08	52-62	3186	10/1/11	Depth to water = 19.66 ft. Depth of 1-in. well = 53 ft. Sample collected by using low-flow bladder pump positioned at 45.5 ft after purging of 2.5 L.
10/1/11	11:25	CNSB09-W-27241	MW	SB09	32-42	3186	10/1/11	Depth to water = 9.32 ft. Depth of 1-in. well = 42 ft. Sample collected by using low-flow bladder pump positioned at 37 ft after purging of 2 L. Water clear.
10/1/11	12:00	CNDIH2O-W-27255[b]	FB	QC	–	3186	10/1/11	Field blank of water used for equipment decontamination during the sampling event on 9/29/11-10/1/11.
10/1/11	12:10	CNQCTB-W-27257[b]	TB	QC	–	3186	10/1/11	Trip blank sent to the AGEM Laboratory for VOCs analysis with water samples listed on COCs 3185 and 3186.
10/1/11	12:30	CNSB01-W-27236	MW	SB01	40-50	3186	10/1/11	Depth to water = 20.28 ft. Depth of 1-in. well = 50 ft. Sample collected by using low-flow bladder pump positioned at 45 ft after purging of 3 L. Water clear.
10/1/11	12:38	CNPMP5-W-27246	MW	PMP5	50-60	3186	10/1/11	Depth to water = 22.77 ft. Depth of 0.5-in. well = 60 ft. Sample collected by using low-flow bladder pump positioned at 55 ft after purging of 2.2 L.

[a] Sample types: FB, field blank; MW, monitoring well; RI, rinsate; TB, trip blank.

[b] Quality control sample.

Appendix B:

Quality Control Data Summary

TABLE B.1 Analytical results from the AGEM Laboratory for quality control samples collected in 2011.

Location	Sample	Sample Date	Depth (ft BGL)	Concentration (μg/L)			Analysis Type
				Carbon Tetrachloride	Chloroform	Methylene Chloride	
PMP1	CNPMP1-W-27219	4/19/11	50-60	63	8.4	ND[a]	Primary sample
PMP1	CNPMP1DUP-W-27223	4/19/11	50-60	67	8.6	ND	Replicate
PMP8	CNPMP8-W-27222	4/19/11	50-60	ND	ND	ND	Primary sample
PMP8	CNPMP8-W-27222DUP	4/19/11	50-60	ND	ND	ND	Duplicate analysis
QC	CNQCIR-W-27224	4/19/11	–	ND	ND	ND	Equipment rinsate
QC	CNQCTB-W-27225	4/19/11	–	ND	ND	ND	Trip blank
MW02	CNMW02-W-27227	9/29/11	49.5-59.5	ND	ND	ND	Primary sample
MW02	CNMW02DUP-W-27251	9/29/11	49.5-59.5	ND	ND	ND	Replicate
QC	CNQCTB-W-27256	9/29/11	–	ND	ND	ND	Trip blank
PMP1	CNPMP1-W-27242	9/29/11	50-60	134	13	ND	Primary sample
PMP1	CNPMP1-W-27242DUP	9/29/11	50-60	139	14	ND	Duplicate analysis
QC	CNQCIR-W-27253	9/30/11	–	ND	ND	ND	Equipment rinsate
SB05	CNSB05-W-27238	9/30/11	32-42	245	22	ND	Primary sample
SB05	CNSB05-W-27238DUP	9/30/11	32-42	244	23	ND	Duplicate analysis
SB04	CNSB04-W-27237	9/30/11	51-61	8.7	ND	ND	Primary sample
SB04	CNSB04-W-27237DUP	9/30/11	51-61	8.8	ND	ND	Duplicate analysis
SB04	CNSB04DUP-W-27252	9/30/11	51-61	8.4	ND	ND	Replicate
QC	CNQCIR-W-27254	9/30/11	–	ND	ND	ND	Equipment rinsate
QC	CNQCTB-W-27257	10/1/11	–	ND	ND	ND	Trip blank

[a] ND, not detected at an instrument detection limit of 0.1 μg/L.

TABLE B.2 Analytical results for verification groundwater samples from the AGEM Laboratory and TestAmerica.

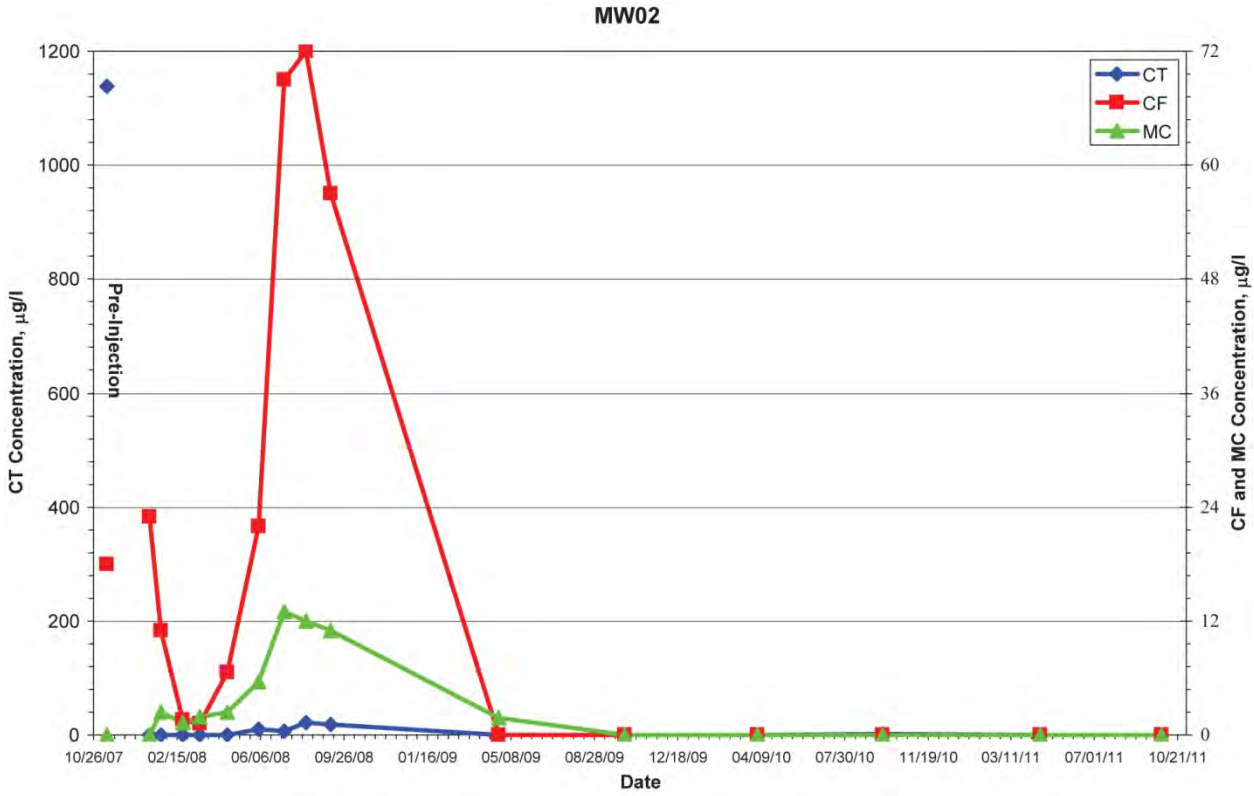
				Concentration (µg/L)					
				AGEM Laboratory			TestAmerica		
Location	Sample	Sample Date	Depth (ft BGL)	Carbon Tetrachloride	Chloroform	Methylene Chloride	Carbon Tetrachloride	Chloroform	Methylene Chloride
MW02	CNMW02-W-27218	4/19/11	49.5-59.5	ND[a]	ND	ND	0.025 J[b]	ND	ND
PMP3	CNPMP3-W-27221	4/19/11	50-60	0.1 J	ND	ND	0.14 J	0.17 J	ND
PMP6	CNPMP6-W-27247	9/29/11	50-60	152	9.9	ND	120	7.3	0.13 J
MW04	CNMW04-W-27229	9/29/11	37.5-47.5	3.1	ND	ND	2.6	0.19 J	ND
PMP9	CNPMP9-W-27250	9/29/11	50-60	28	ND	ND	22	0.24 J	ND

[a] ND, not detected at an instrument detection limit of 0.1 µg/L for analyses by the AGEM Laboratory or 0.01 µg/L for analyses by TestAmerica.

[b] Qualifier J indicates an estimated concentration below the quantitation limit of 1.0 µg/L for modified EPA Method 524.2 at the AGEM Laboratory or 0.5 µg/L for EPA Method SOM01.2 at TestAmerica.

Appendix C:

Time Series Diagrams for Selected Parameters at IM Monitoring Points



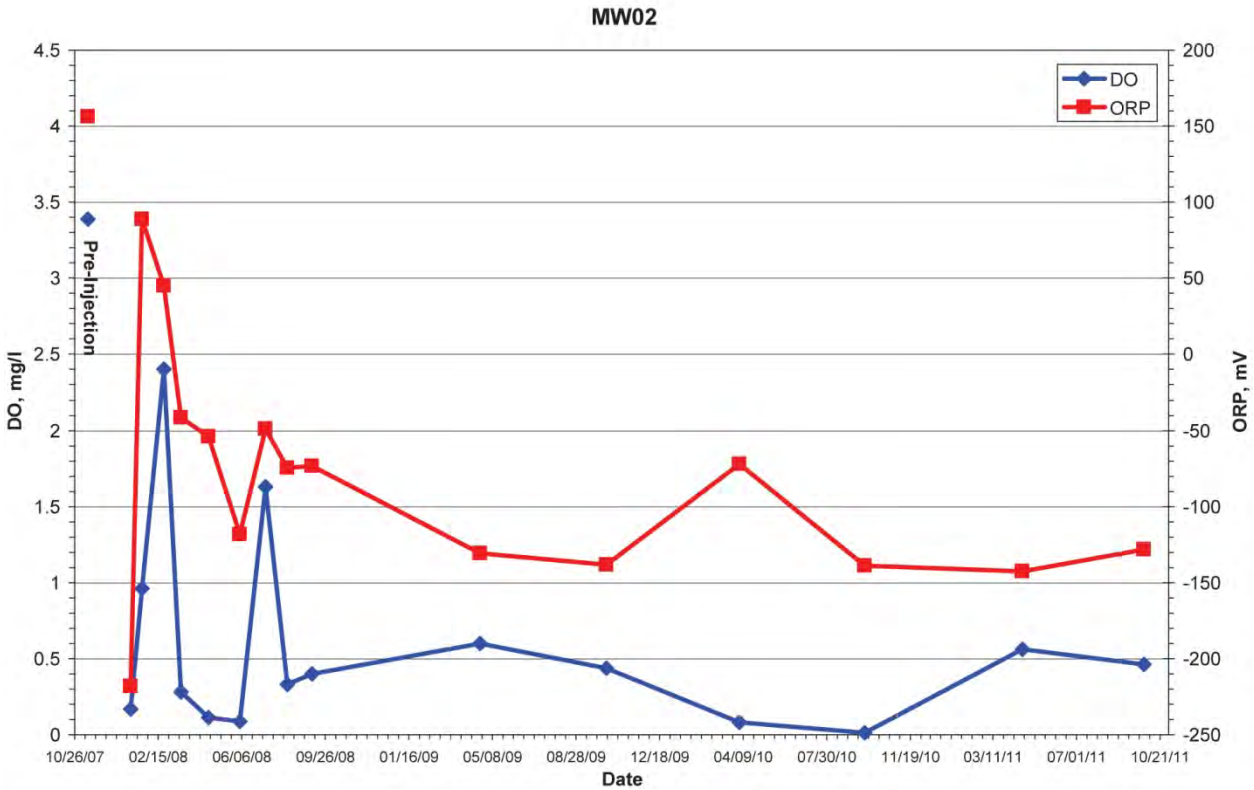


FIGURE C.1 Analytical results for VOCs, DO, and ORP in groundwater samples collected at location MW02, November 2007 to October 2011.

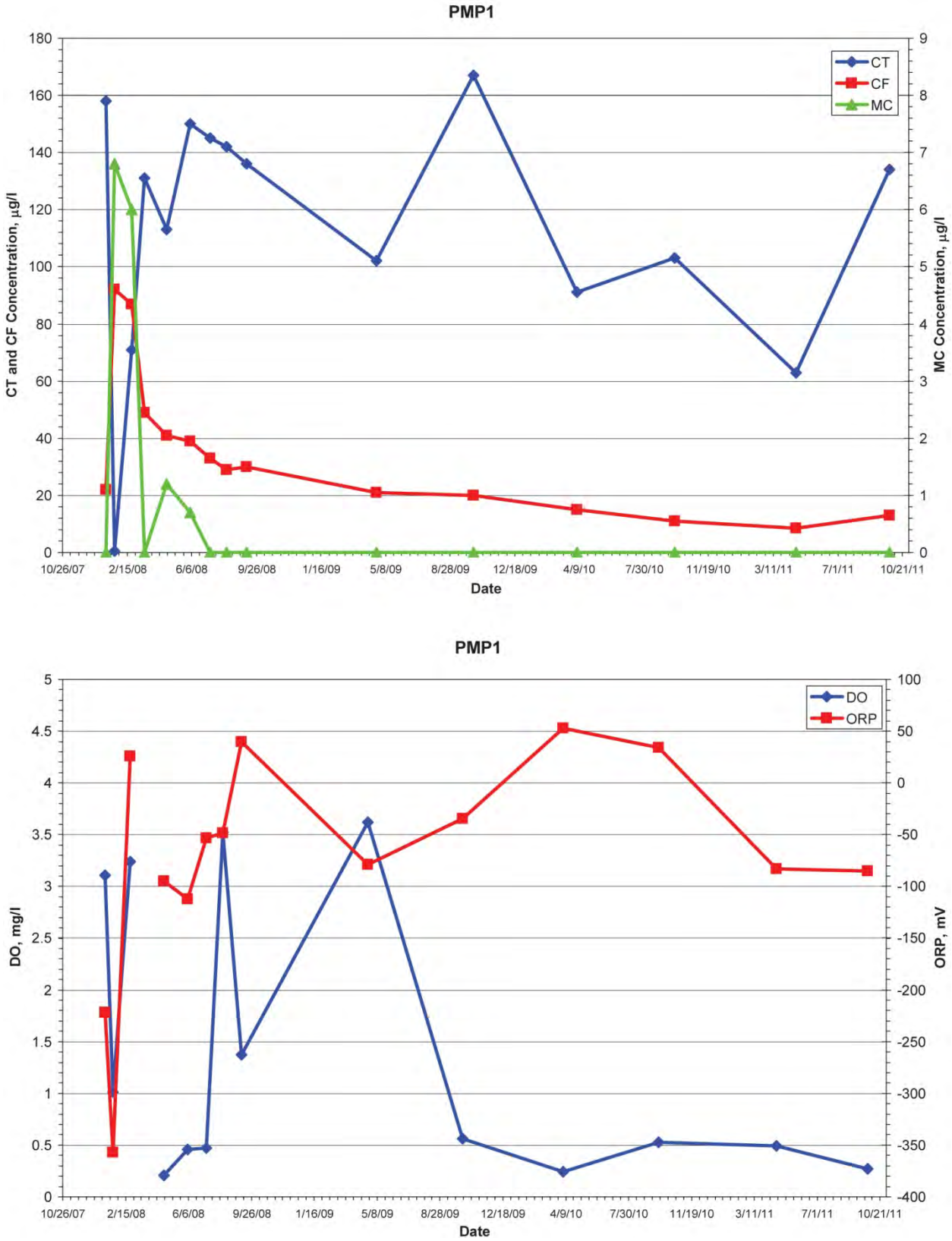


FIGURE C.2 Analytical results for VOCs, DO, and ORP in groundwater samples collected at location PMP1, January 2008 to October 2011.

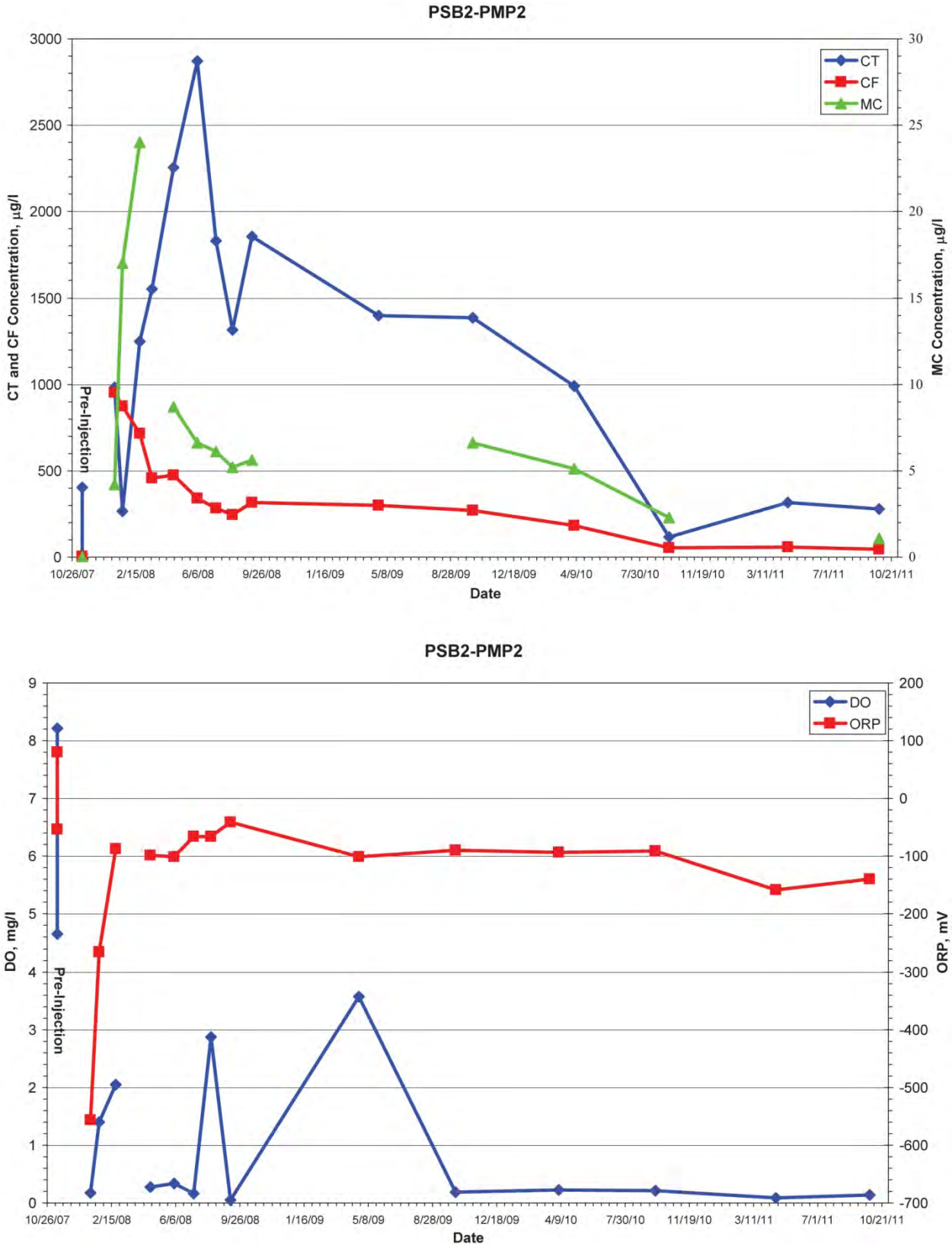


FIGURE C.3 Analytical results for VOCs, DO, and ORP in groundwater samples collected at locations PSB2 and PMP2, November 2007 to October 2011.

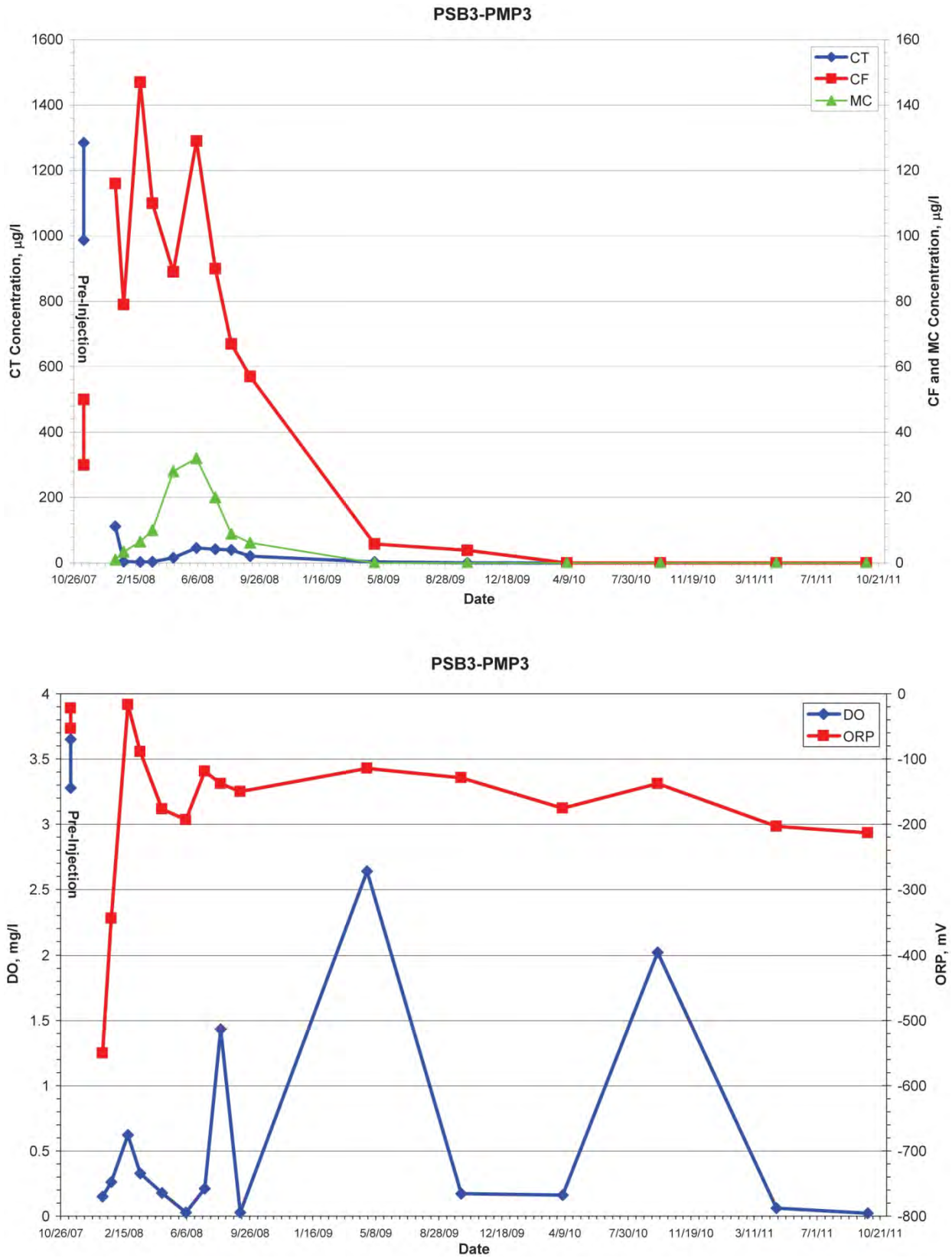


FIGURE C.4 Analytical results for VOCs, DO, and ORP in groundwater samples collected at locations PSB3 and PMP3, November 2007 to October 2011.

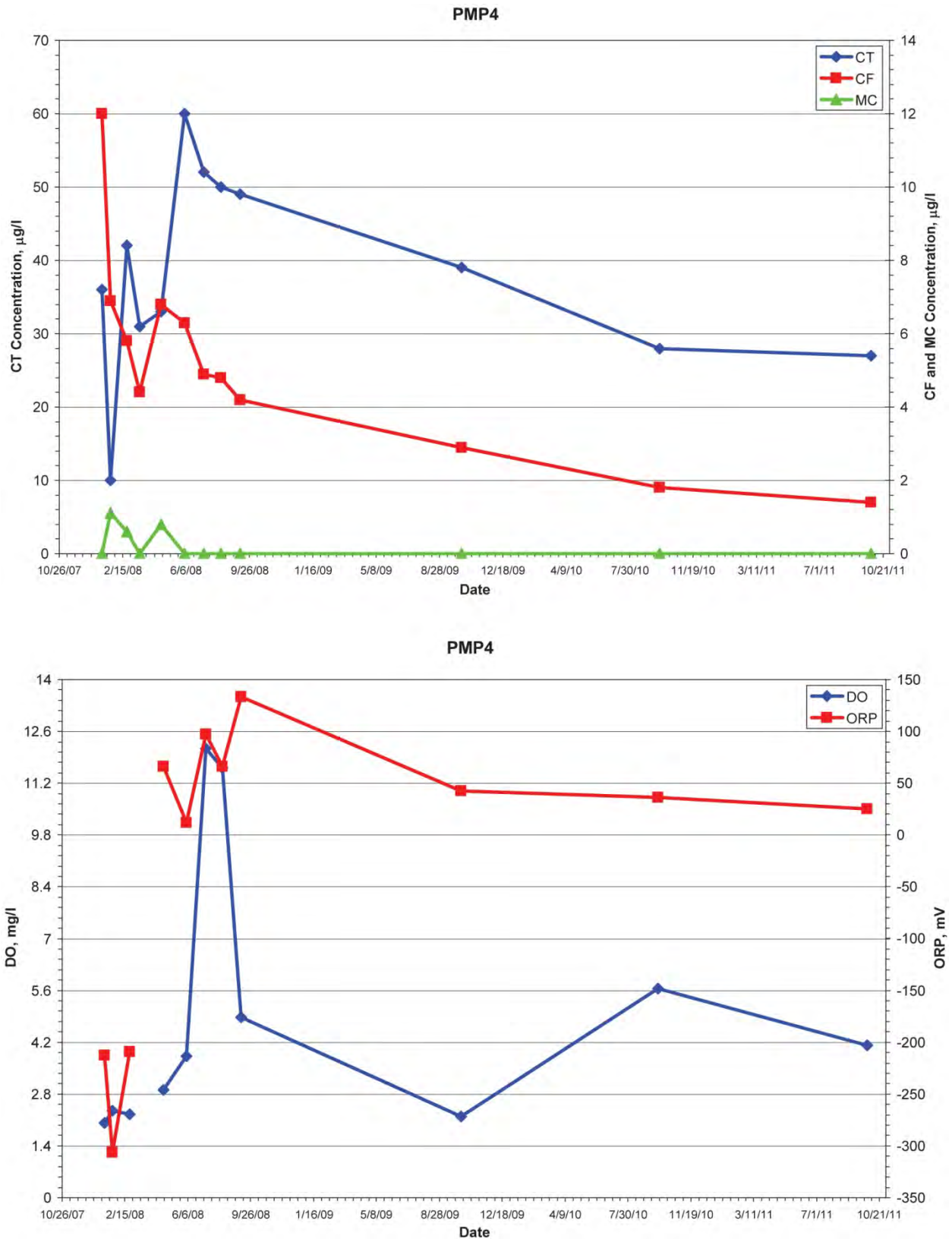
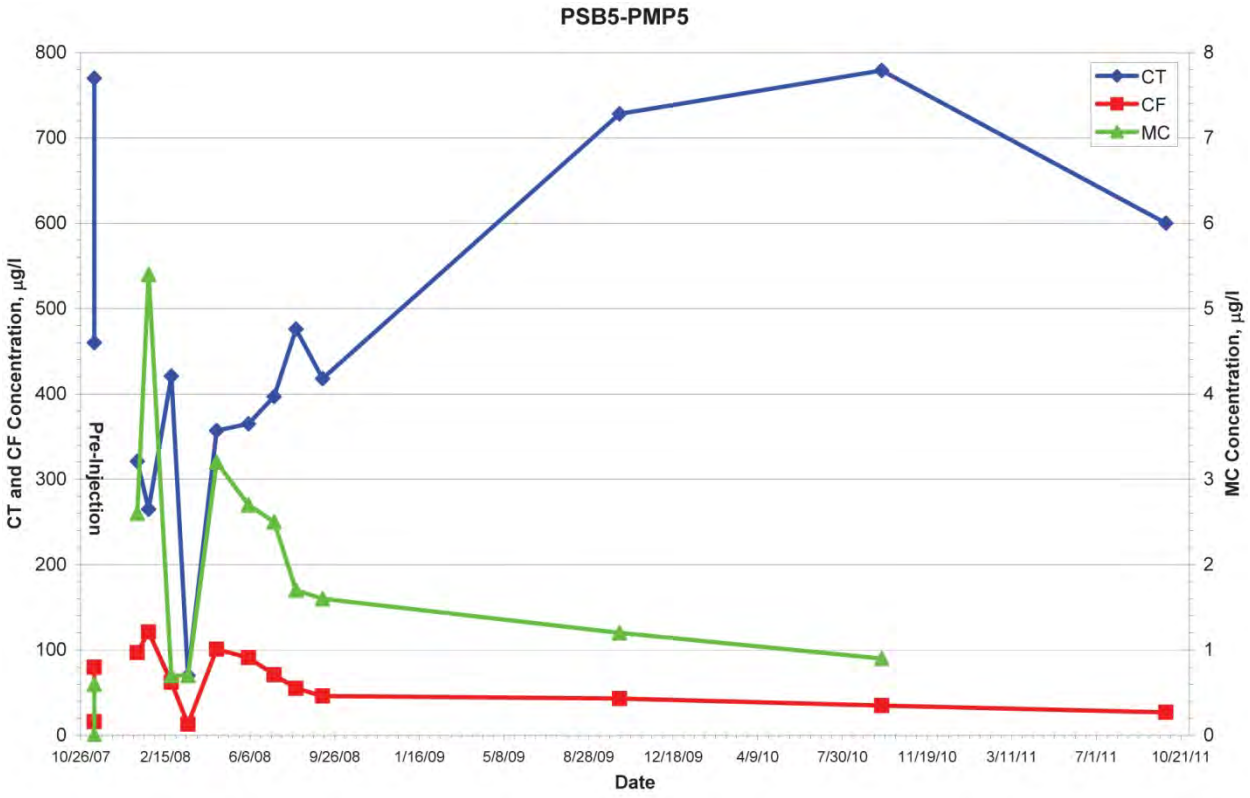


FIGURE C.5 Analytical results for VOCs, DO, and ORP in groundwater samples collected at location PMP4, January 2008 to October 2011.



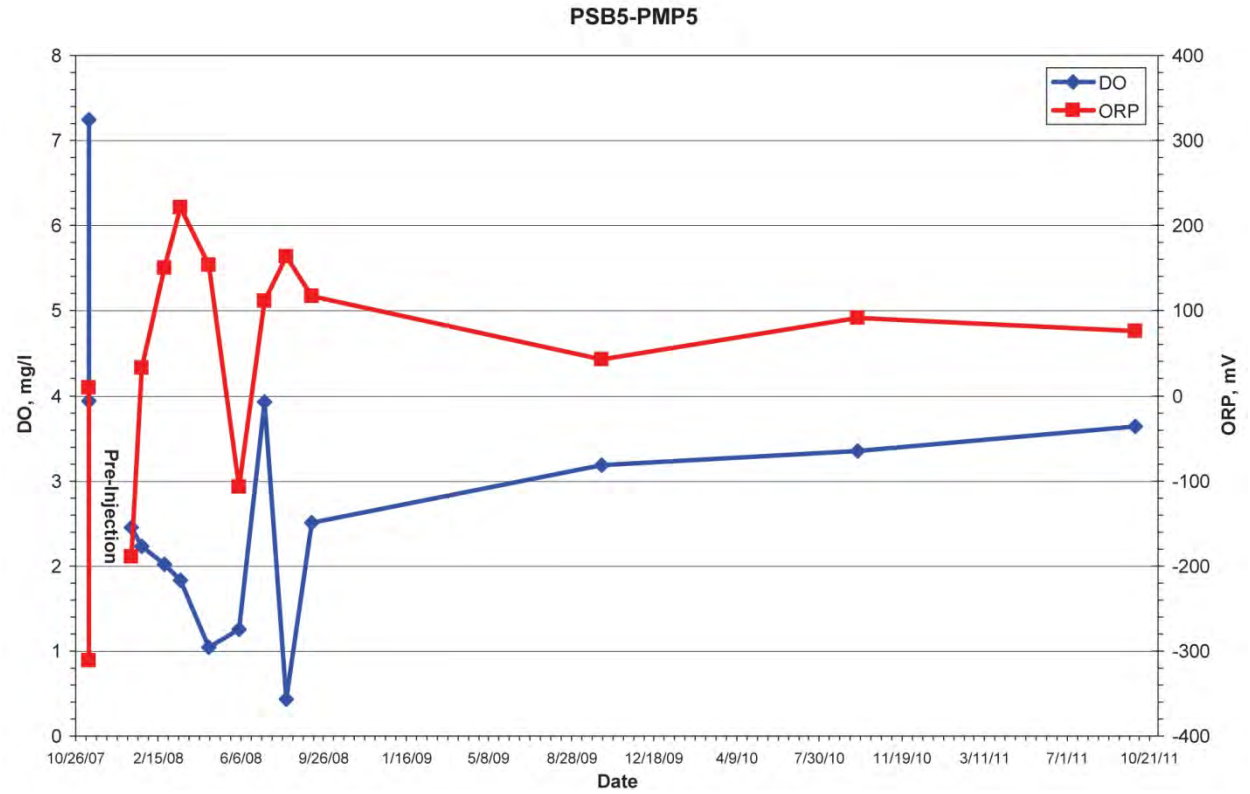


FIGURE C.6 Analytical results for VOCs, DO, and ORP in groundwater samples collected at locations PSB5 and PMP5, November 2007 to October 2011.

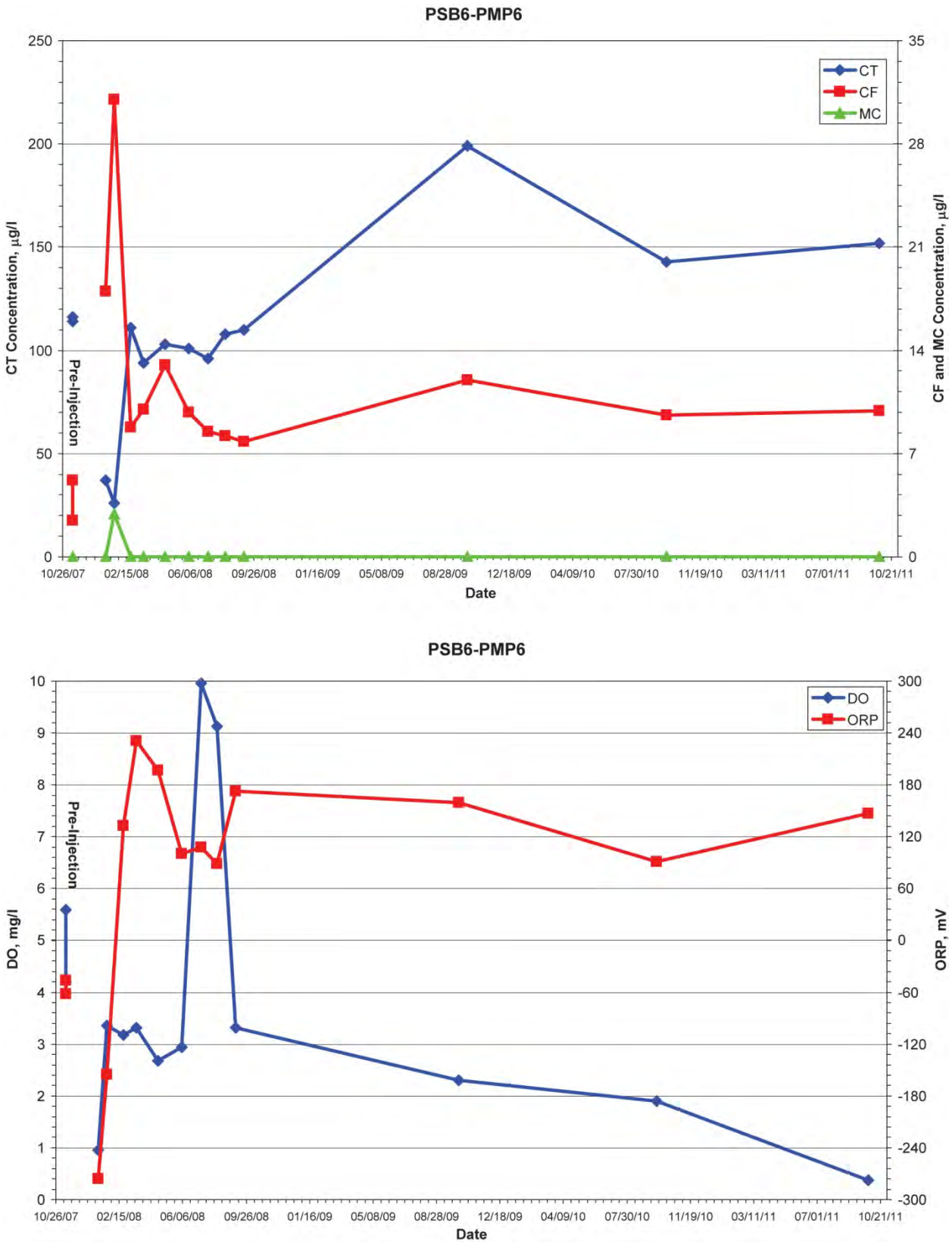
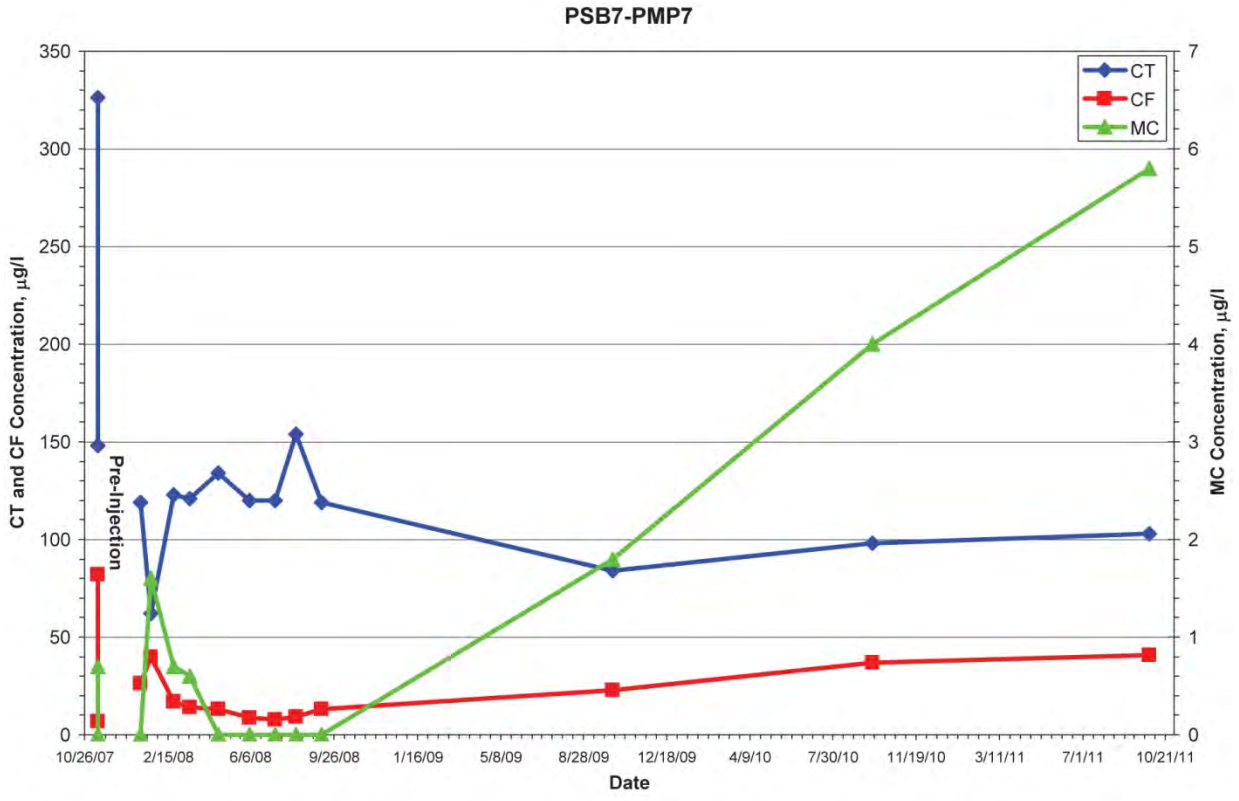


FIGURE C.7 Analytical results for VOCs, DO, and ORP in groundwater samples collected at locations PSB6 and PMP6, November 2007 to October 2011.



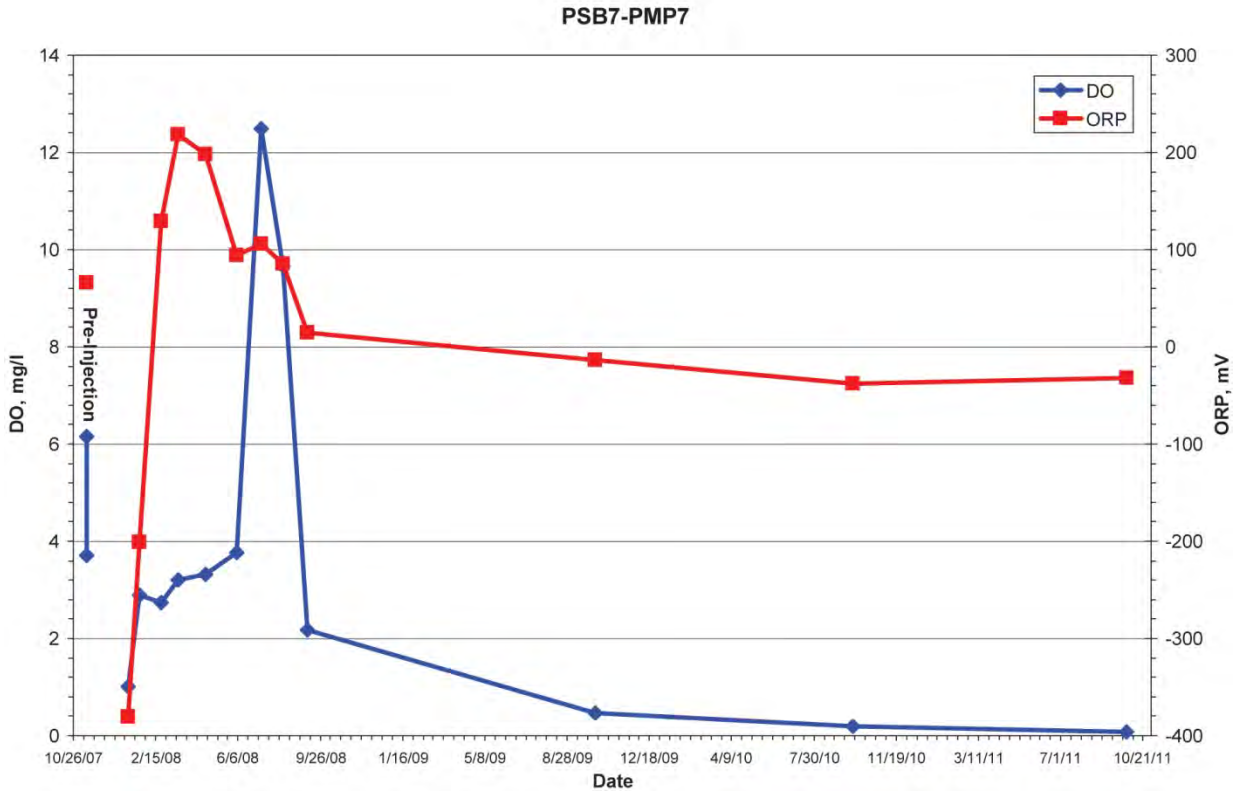


FIGURE C.8 Analytical results for VOCs, DO, and ORP in groundwater samples collected at locations PSB7 and PMP7, November 2007 to October 2011.

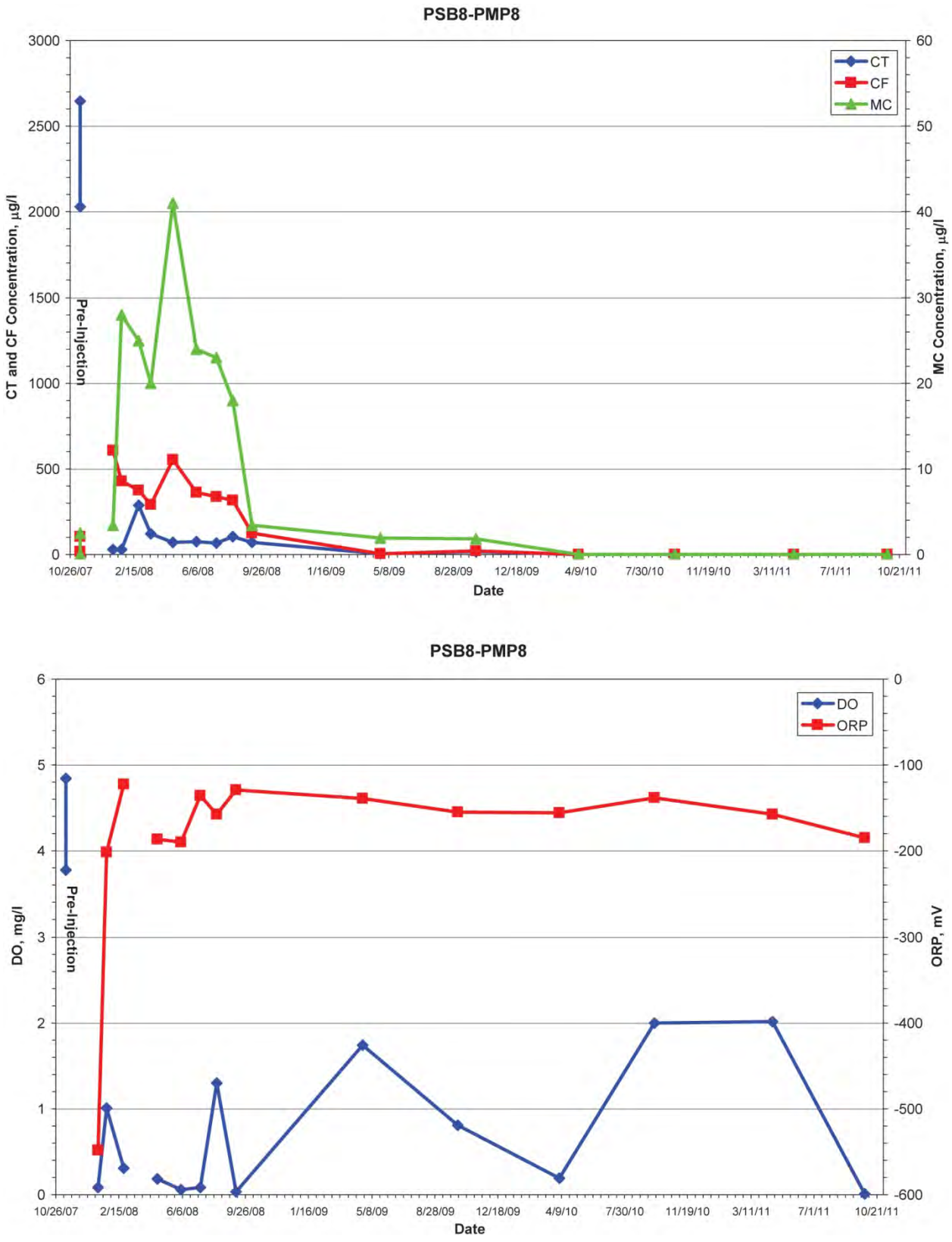


FIGURE C.9 Analytical results for VOCs, DO, and ORP in groundwater samples collected at locations PSB8 and PMP8, November 2007 to October 2011.

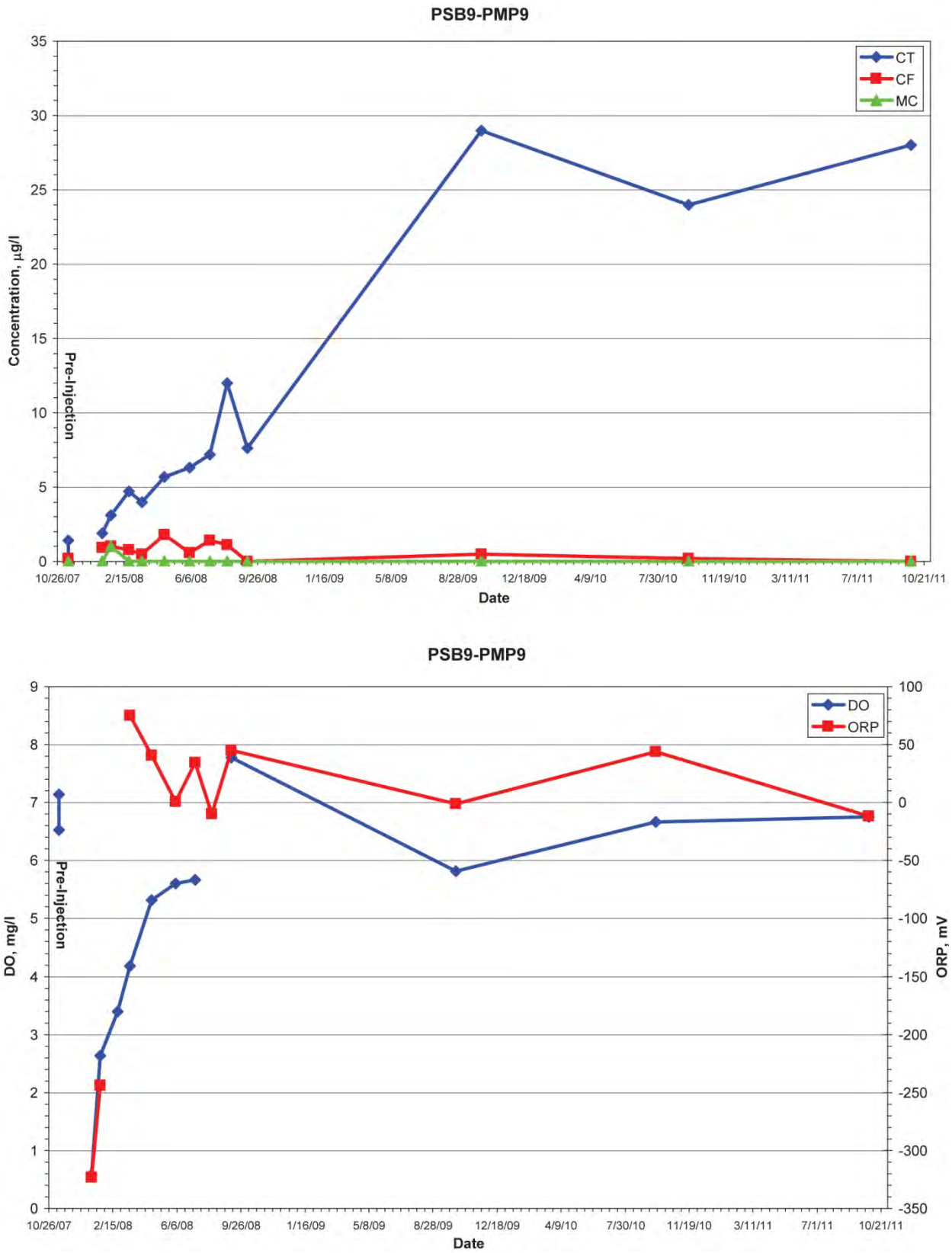


FIGURE C.10 Analytical results for VOCs, DO, and ORP in groundwater samples collected at locations PSB9 and PMP9, November 2007 to October 2011.

Supplement 1:

Waste Characterization and Disposal Documentation

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141 M Street
Lincoln, NE 68508

RE: Project: KS/MO Waste Water
Pace Project No.: 60109211

Dear Mr. Kamler:
Enclosed are the analytical results for sample(s) received by the laboratory on November 01, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Trudy Gipson

Trudy Gipson

trudy.gipson@pacelabs.com
Project Manager

Enclosures

cc: Mr. David Surgnier

Pace Analytical Services, Inc.
9608 Loiret Blvd.
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CERTIFICATIONS

Project: KS/MO Waste Water
Pace Project No.: 60109211

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: KS/MO Waste Water
Pace Project No.: 60109211

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60109211001	AGPURGE-W-10111	Water	10/31/11 09:00	11/01/11 09:20
60109211002	BAPURGE-W-10112	Water	10/31/11 12:55	11/01/11 09:20
60109211003	CNPURGE-W-10113	Water	10/31/11 14:02	11/01/11 09:20
60109211004	EUPURGE-W-10114	Water	10/31/11 15:52	11/01/11 09:20
60109211005	HAPURGE-W-10115	Water	10/31/11 12:27	11/01/11 09:20
60109211006	MRPURGE-W-10116	Water	10/31/11 14:42	11/01/11 09:20
60109211007	SVPURGE-W-10117	Water	10/31/11 18:30	11/01/11 09:20

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SAMPLE ANALYTE COUNT

Project: KS/MO Waste Water
Pace Project No.: 60109211

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60109211001	AGPURGE-W-10111	EPA 504.1	NAW	1
		EPA 5030B/8260	HMW	70
		EPA 353.2	AJM	1
60109211002	BAPURGE-W-10112	EPA 504.1	NAW	1
		EPA 5030B/8260	HMW	70
		EPA 353.2	AJM	1
60109211003	CNPURGE-W-10113	EPA 504.1	NAW	1
		EPA 5030B/8260	HMW	70
		EPA 353.2	AJM	1
60109211004	EUPURGE-W-10114	EPA 504.1	NAW	1
		EPA 5030B/8260	HMW	70
		EPA 353.2	AJM	1
60109211005	HAPURGE-W-10115	EPA 504.1	NAW	1
		EPA 5030B/8260	HMW	70
		EPA 353.2	AJM	1
60109211006	MRPURGE-W-10116	EPA 504.1	NAW	1
		EPA 5030B/8260	HMW	70
		EPA 353.2	AJM	1
60109211007	SVPURGE-W-10117	EPA 504.1	NAW	1
		EPA 5030B/8260	HMW	70
		EPA 353.2	AJM	1

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ANALYTICAL RESULTS

Project: KS/MO Waste Water
Pace Project No.: 60109211

Sample: AGPURGE-W-10111 **Lab ID: 60109211001** Collected: 10/31/11 09:00 Received: 11/01/11 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
504 GCS EDB and DBCP	Analytical Method: EPA 504.1 Preparation Method: EPA 504.1							
1,2-Dibromoethane (EDB)	ND	ug/L	0.028	1	11/07/11 00:00	11/08/11 00:52	106-93-4	
8260 MSV	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	10.0	1		11/04/11 20:18	67-64-1	
Benzene	ND	ug/L	1.0	1		11/04/11 20:18	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/04/11 20:18	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/04/11 20:18	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/04/11 20:18	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/04/11 20:18	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/04/11 20:18	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		11/04/11 20:18	78-93-3	
n-Butylbenzene	ND	ug/L	1.0	1		11/04/11 20:18	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	1		11/04/11 20:18	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	1		11/04/11 20:18	98-06-6	
Carbon disulfide	ND	ug/L	5.0	1		11/04/11 20:18	75-15-0	
Carbon tetrachloride	**21.8**	ug/L	1.0	1		11/04/11 20:18	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/04/11 20:18	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/04/11 20:18	75-00-3	
Chloroform	**1.6**	ug/L	1.0	1		11/04/11 20:18	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/04/11 20:18	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/04/11 20:18	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/04/11 20:18	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.5	1		11/04/11 20:18	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/04/11 20:18	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/04/11 20:18	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/04/11 20:18	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 20:18	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 20:18	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 20:18	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/04/11 20:18	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/04/11 20:18	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/04/11 20:18	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/L	1.0	1		11/04/11 20:18	540-59-0	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/04/11 20:18	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/04/11 20:18	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/04/11 20:18	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/04/11 20:18	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/04/11 20:18	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/04/11 20:18	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/04/11 20:18	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/04/11 20:18	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/04/11 20:18	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/04/11 20:18	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/04/11 20:18	87-68-3	
2-Hexanone	ND	ug/L	10.0	1		11/04/11 20:18	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/04/11 20:18	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/04/11 20:18	99-87-6	

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ANALYTICAL RESULTS

Project: KS/MO Waste Water
Pace Project No.: 60109211

Sample: AGPURGE-W-10111 **Lab ID: 60109211001** Collected: 10/31/11 09:00 Received: 11/01/11 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Methylene chloride	ND	ug/L	1.0	1		11/04/11 20:18	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/04/11 20:18	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/04/11 20:18	1634-04-4	
Naphthalene	ND	ug/L	10.0	1		11/04/11 20:18	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	1		11/04/11 20:18	103-65-1	
Styrene	ND	ug/L	1.0	1		11/04/11 20:18	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/04/11 20:18	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/04/11 20:18	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/04/11 20:18	127-18-4	
Toluene	ND	ug/L	1.0	1		11/04/11 20:18	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/04/11 20:18	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/04/11 20:18	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/04/11 20:18	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/04/11 20:18	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/04/11 20:18	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/04/11 20:18	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	2.5	1		11/04/11 20:18	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1		11/04/11 20:18	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1		11/04/11 20:18	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		11/04/11 20:18	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		11/04/11 20:18	1330-20-7	
4-Bromofluorobenzene (S)	104	%	87-113	1		11/04/11 20:18	460-00-4	
Dibromofluoromethane (S)	103	%	86-112	1		11/04/11 20:18	1868-53-7	
1,2-Dichloroethane-d4 (S)	109	%	82-119	1		11/04/11 20:18	17060-07-0	
Toluene-d8 (S)	103	%	90-110	1		11/04/11 20:18	2037-26-5	
Preservation pH	**7.0**		0.10	1		11/04/11 20:18		
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	**14.6**	mg/L	0.50	1		11/02/11 08:48		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: KS/MO Waste Water
Pace Project No.: 60109211

Sample: BAPURGE-W-10112 **Lab ID: 60109211002** Collected: 10/31/11 12:55 Received: 11/01/11 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
504 GCS EDB and DBCP	Analytical Method: EPA 504.1 Preparation Method: EPA 504.1							
1,2-Dibromoethane (EDB)	ND	ug/L	0.029	1	11/07/11 00:00	11/08/11 01:04	106-93-4	
8260 MSV	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	10.0	1		11/04/11 20:35	67-64-1	
Benzene	ND	ug/L	1.0	1		11/04/11 20:35	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/04/11 20:35	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/04/11 20:35	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/04/11 20:35	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/04/11 20:35	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/04/11 20:35	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		11/04/11 20:35	78-93-3	
n-Butylbenzene	ND	ug/L	1.0	1		11/04/11 20:35	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	1		11/04/11 20:35	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	1		11/04/11 20:35	98-06-6	
Carbon disulfide	ND	ug/L	5.0	1		11/04/11 20:35	75-15-0	
Carbon tetrachloride	**1.1**	ug/L	1.0	1		11/04/11 20:35	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/04/11 20:35	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/04/11 20:35	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/04/11 20:35	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/04/11 20:35	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/04/11 20:35	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/04/11 20:35	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.5	1		11/04/11 20:35	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/04/11 20:35	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/04/11 20:35	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/04/11 20:35	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 20:35	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 20:35	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 20:35	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/04/11 20:35	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/04/11 20:35	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/04/11 20:35	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/L	1.0	1		11/04/11 20:35	540-59-0	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/04/11 20:35	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/04/11 20:35	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/04/11 20:35	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/04/11 20:35	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/04/11 20:35	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/04/11 20:35	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/04/11 20:35	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/04/11 20:35	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/04/11 20:35	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/04/11 20:35	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/04/11 20:35	87-68-3	
2-Hexanone	ND	ug/L	10.0	1		11/04/11 20:35	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/04/11 20:35	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/04/11 20:35	99-87-6	

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ANALYTICAL RESULTS

Project: KS/MO Waste Water
Pace Project No.: 60109211

Sample: BAPURGE-W-10112 **Lab ID: 60109211002** Collected: 10/31/11 12:55 Received: 11/01/11 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Methylene chloride	ND	ug/L	1.0	1		11/04/11 20:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/04/11 20:35	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/04/11 20:35	1634-04-4	
Naphthalene	ND	ug/L	10.0	1		11/04/11 20:35	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	1		11/04/11 20:35	103-65-1	
Styrene	ND	ug/L	1.0	1		11/04/11 20:35	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/04/11 20:35	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/04/11 20:35	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/04/11 20:35	127-18-4	
Toluene	ND	ug/L	1.0	1		11/04/11 20:35	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/04/11 20:35	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/04/11 20:35	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/04/11 20:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/04/11 20:35	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/04/11 20:35	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/04/11 20:35	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	2.5	1		11/04/11 20:35	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1		11/04/11 20:35	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1		11/04/11 20:35	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		11/04/11 20:35	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		11/04/11 20:35	1330-20-7	
4-Bromofluorobenzene (S)	102	%	87-113	1		11/04/11 20:35	460-00-4	
Dibromofluoromethane (S)	98	%	86-112	1		11/04/11 20:35	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	82-119	1		11/04/11 20:35	17060-07-0	
Toluene-d8 (S)	95	%	90-110	1		11/04/11 20:35	2037-26-5	
Preservation pH	**7.0**		0.10	1		11/04/11 20:35		
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	**6.1**	mg/L	0.20	1		11/02/11 09:17		

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ANALYTICAL RESULTS

Project: KS/MO Waste Water
Pace Project No.: 60109211

Sample: CNPURGE-W-10113 Lab ID: 60109211003 Collected: 10/31/11 14:02 Received: 11/01/11 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
504 GCS EDB and DBCP	Analytical Method: EPA 504.1 Preparation Method: EPA 504.1							
1,2-Dibromoethane (EDB)	ND	ug/L	0.028	1	11/07/11 00:00	11/08/11 01:17	106-93-4	
8260 MSV	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	10.0	1		11/04/11 20:51	67-64-1	
Benzene	ND	ug/L	1.0	1		11/04/11 20:51	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/04/11 20:51	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/04/11 20:51	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/04/11 20:51	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/04/11 20:51	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/04/11 20:51	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		11/04/11 20:51	78-93-3	
n-Butylbenzene	ND	ug/L	1.0	1		11/04/11 20:51	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	1		11/04/11 20:51	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	1		11/04/11 20:51	98-06-6	
Carbon disulfide	ND	ug/L	5.0	1		11/04/11 20:51	75-15-0	
Carbon tetrachloride	1.3	ug/L	1.0	1		11/04/11 20:51	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/04/11 20:51	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/04/11 20:51	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/04/11 20:51	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/04/11 20:51	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/04/11 20:51	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/04/11 20:51	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.5	1		11/04/11 20:51	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/04/11 20:51	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/04/11 20:51	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/04/11 20:51	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 20:51	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 20:51	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 20:51	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/04/11 20:51	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/04/11 20:51	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/04/11 20:51	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/L	1.0	1		11/04/11 20:51	540-59-0	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/04/11 20:51	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/04/11 20:51	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/04/11 20:51	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/04/11 20:51	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/04/11 20:51	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/04/11 20:51	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/04/11 20:51	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/04/11 20:51	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/04/11 20:51	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/04/11 20:51	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/04/11 20:51	87-68-3	
2-Hexanone	ND	ug/L	10.0	1		11/04/11 20:51	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/04/11 20:51	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/04/11 20:51	99-87-6	

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ANALYTICAL RESULTS

Project: KS/MO Waste Water
Pace Project No.: 60109211

Sample: CNPURGE-W-10113 **Lab ID: 60109211003** Collected: 10/31/11 14:02 Received: 11/01/11 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Methylene chloride	ND	ug/L	1.0	1		11/04/11 20:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/04/11 20:51	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/04/11 20:51	1634-04-4	
Naphthalene	ND	ug/L	10.0	1		11/04/11 20:51	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	1		11/04/11 20:51	103-65-1	
Styrene	ND	ug/L	1.0	1		11/04/11 20:51	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/04/11 20:51	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/04/11 20:51	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/04/11 20:51	127-18-4	
Toluene	ND	ug/L	1.0	1		11/04/11 20:51	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/04/11 20:51	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/04/11 20:51	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/04/11 20:51	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/04/11 20:51	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/04/11 20:51	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/04/11 20:51	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	2.5	1		11/04/11 20:51	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1		11/04/11 20:51	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1		11/04/11 20:51	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		11/04/11 20:51	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		11/04/11 20:51	1330-20-7	
4-Bromofluorobenzene (S)	107	%	87-113	1		11/04/11 20:51	460-00-4	
Dibromofluoromethane (S)	110	%	86-112	1		11/04/11 20:51	1868-53-7	
1,2-Dichloroethane-d4 (S)	114	%	82-119	1		11/04/11 20:51	17060-07-0	
Toluene-d8 (S)	108	%	90-110	1		11/04/11 20:51	2037-26-5	
Preservation pH	**7.0**		0.10	1		11/04/11 20:51		
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	**4.4**	mg/L	0.10	1		11/02/11 09:06		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: KS/MO Waste Water
Pace Project No.: 60109211

Sample: EUPURGE-W-10114 Lab ID: 60109211004 Collected: 10/31/11 15:52 Received: 11/01/11 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
504 GCS EDB and DBCP	Analytical Method: EPA 504.1 Preparation Method: EPA 504.1							
1,2-Dibromoethane (EDB)	ND	ug/L	0.029	1	11/07/11 00:00	11/08/11 01:30	106-93-4	
8260 MSV	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	10.0	1		11/04/11 21:07	67-64-1	
Benzene	ND	ug/L	1.0	1		11/04/11 21:07	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/04/11 21:07	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/04/11 21:07	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/04/11 21:07	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/04/11 21:07	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/04/11 21:07	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		11/04/11 21:07	78-93-3	
n-Butylbenzene	ND	ug/L	1.0	1		11/04/11 21:07	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	1		11/04/11 21:07	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	1		11/04/11 21:07	98-06-6	
Carbon disulfide	ND	ug/L	5.0	1		11/04/11 21:07	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/04/11 21:07	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/04/11 21:07	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/04/11 21:07	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/04/11 21:07	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/04/11 21:07	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/04/11 21:07	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/04/11 21:07	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.5	1		11/04/11 21:07	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/04/11 21:07	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/04/11 21:07	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/04/11 21:07	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 21:07	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 21:07	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 21:07	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/04/11 21:07	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/04/11 21:07	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/04/11 21:07	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/L	1.0	1		11/04/11 21:07	540-59-0	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/04/11 21:07	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/04/11 21:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/04/11 21:07	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/04/11 21:07	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/04/11 21:07	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/04/11 21:07	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/04/11 21:07	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/04/11 21:07	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/04/11 21:07	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/04/11 21:07	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/04/11 21:07	87-68-3	
2-Hexanone	ND	ug/L	10.0	1		11/04/11 21:07	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/04/11 21:07	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/04/11 21:07	99-87-6	

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ANALYTICAL RESULTS

Project: KS/MO Waste Water
Pace Project No.: 60109211

Sample: EUPURGE-W-10114 **Lab ID: 60109211004** Collected: 10/31/11 15:52 Received: 11/01/11 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Methylene chloride	ND	ug/L	1.0	1		11/04/11 21:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/04/11 21:07	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/04/11 21:07	1634-04-4	
Naphthalene	ND	ug/L	10.0	1		11/04/11 21:07	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	1		11/04/11 21:07	103-65-1	
Styrene	ND	ug/L	1.0	1		11/04/11 21:07	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/04/11 21:07	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/04/11 21:07	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/04/11 21:07	127-18-4	
Toluene	ND	ug/L	1.0	1		11/04/11 21:07	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/04/11 21:07	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/04/11 21:07	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/04/11 21:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/04/11 21:07	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/04/11 21:07	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/04/11 21:07	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	2.5	1		11/04/11 21:07	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1		11/04/11 21:07	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1		11/04/11 21:07	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		11/04/11 21:07	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		11/04/11 21:07	1330-20-7	
4-Bromofluorobenzene (S)	106	%	87-113	1		11/04/11 21:07	460-00-4	
Dibromofluoromethane (S)	108	%	86-112	1		11/04/11 21:07	1868-53-7	
1,2-Dichloroethane-d4 (S)	113	%	82-119	1		11/04/11 21:07	17060-07-0	
Toluene-d8 (S)	105	%	90-110	1		11/04/11 21:07	2037-26-5	
Preservation pH	**7.0**		0.10	1		11/04/11 21:07		
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	**10.6**	mg/L	0.50	1		11/02/11 09:21		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: KS/MO Waste Water
Pace Project No.: 60109211

Sample: HAPURGE-W-10115 **Lab ID: 60109211005** Collected: 10/31/11 12:27 Received: 11/01/11 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
504 GCS EDB and DBCP	Analytical Method: EPA 504.1 Preparation Method: EPA 504.1							
1,2-Dibromoethane (EDB)	ND	ug/L	0.028	1	11/07/11 00:00	11/08/11 01:43	106-93-4	
8260 MSV	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	10.0	1		11/04/11 21:24	67-64-1	
Benzene	ND	ug/L	1.0	1		11/04/11 21:24	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/04/11 21:24	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/04/11 21:24	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/04/11 21:24	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/04/11 21:24	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/04/11 21:24	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		11/04/11 21:24	78-93-3	
n-Butylbenzene	ND	ug/L	1.0	1		11/04/11 21:24	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	1		11/04/11 21:24	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	1		11/04/11 21:24	98-06-6	
Carbon disulfide	ND	ug/L	5.0	1		11/04/11 21:24	75-15-0	
Carbon tetrachloride	**6.1**	ug/L	1.0	1		11/04/11 21:24	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/04/11 21:24	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/04/11 21:24	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/04/11 21:24	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/04/11 21:24	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/04/11 21:24	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/04/11 21:24	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.5	1		11/04/11 21:24	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/04/11 21:24	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/04/11 21:24	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/04/11 21:24	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 21:24	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 21:24	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 21:24	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/04/11 21:24	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/04/11 21:24	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/04/11 21:24	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/L	1.0	1		11/04/11 21:24	540-59-0	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/04/11 21:24	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/04/11 21:24	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/04/11 21:24	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/04/11 21:24	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/04/11 21:24	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/04/11 21:24	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/04/11 21:24	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/04/11 21:24	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/04/11 21:24	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/04/11 21:24	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/04/11 21:24	87-68-3	
2-Hexanone	ND	ug/L	10.0	1		11/04/11 21:24	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/04/11 21:24	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/04/11 21:24	99-87-6	

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ANALYTICAL RESULTS

Project: KS/MO Waste Water
Pace Project No.: 60109211

Sample: HAPURGE-W-10115 **Lab ID: 60109211005** Collected: 10/31/11 12:27 Received: 11/01/11 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Methylene chloride	ND	ug/L	1.0	1		11/04/11 21:24	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/04/11 21:24	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/04/11 21:24	1634-04-4	
Naphthalene	ND	ug/L	10.0	1		11/04/11 21:24	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	1		11/04/11 21:24	103-65-1	
Styrene	ND	ug/L	1.0	1		11/04/11 21:24	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/04/11 21:24	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/04/11 21:24	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/04/11 21:24	127-18-4	
Toluene	ND	ug/L	1.0	1		11/04/11 21:24	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/04/11 21:24	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/04/11 21:24	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/04/11 21:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/04/11 21:24	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/04/11 21:24	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/04/11 21:24	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	2.5	1		11/04/11 21:24	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1		11/04/11 21:24	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1		11/04/11 21:24	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		11/04/11 21:24	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		11/04/11 21:24	1330-20-7	
4-Bromofluorobenzene (S)	106	%	87-113	1		11/04/11 21:24	460-00-4	
Dibromofluoromethane (S)	103	%	86-112	1		11/04/11 21:24	1868-53-7	
1,2-Dichloroethane-d4 (S)	106	%	82-119	1		11/04/11 21:24	17060-07-0	
Toluene-d8 (S)	100	%	90-110	1		11/04/11 21:24	2037-26-5	
Preservation pH	**7.0**		0.10	1		11/04/11 21:24		
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	**5.7**	mg/L	0.20	1		11/02/11 09:16		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: KS/MO Waste Water
Pace Project No.: 60109211

Sample: MRPURGE-W-10116 **Lab ID: 60109211006** Collected: 10/31/11 14:42 Received: 11/01/11 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
504 GCS EDB and DBCP	Analytical Method: EPA 504.1 Preparation Method: EPA 504.1							
1,2-Dibromoethane (EDB)	ND	ug/L	0.029	1	11/07/11 00:00	11/08/11 01:55	106-93-4	
8260 MSV	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	10.0	1		11/04/11 21:40	67-64-1	
Benzene	ND	ug/L	1.0	1		11/04/11 21:40	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/04/11 21:40	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/04/11 21:40	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/04/11 21:40	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/04/11 21:40	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/04/11 21:40	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		11/04/11 21:40	78-93-3	
n-Butylbenzene	ND	ug/L	1.0	1		11/04/11 21:40	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	1		11/04/11 21:40	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	1		11/04/11 21:40	98-06-6	
Carbon disulfide	ND	ug/L	5.0	1		11/04/11 21:40	75-15-0	
Carbon tetrachloride	**3.4**	ug/L	1.0	1		11/04/11 21:40	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/04/11 21:40	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/04/11 21:40	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/04/11 21:40	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/04/11 21:40	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/04/11 21:40	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/04/11 21:40	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.5	1		11/04/11 21:40	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/04/11 21:40	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/04/11 21:40	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/04/11 21:40	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 21:40	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 21:40	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 21:40	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/04/11 21:40	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/04/11 21:40	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/04/11 21:40	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/L	1.0	1		11/04/11 21:40	540-59-0	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/04/11 21:40	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/04/11 21:40	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/04/11 21:40	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/04/11 21:40	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/04/11 21:40	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/04/11 21:40	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/04/11 21:40	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/04/11 21:40	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/04/11 21:40	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/04/11 21:40	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/04/11 21:40	87-68-3	
2-Hexanone	ND	ug/L	10.0	1		11/04/11 21:40	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/04/11 21:40	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/04/11 21:40	99-87-6	

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ANALYTICAL RESULTS

Project: KS/MO Waste Water
Pace Project No.: 60109211

Sample: MRPURGE-W-10116 **Lab ID: 60109211006** Collected: 10/31/11 14:42 Received: 11/01/11 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Methylene chloride	ND	ug/L	1.0	1		11/04/11 21:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/04/11 21:40	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/04/11 21:40	1634-04-4	
Naphthalene	ND	ug/L	10.0	1		11/04/11 21:40	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	1		11/04/11 21:40	103-65-1	
Styrene	ND	ug/L	1.0	1		11/04/11 21:40	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/04/11 21:40	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/04/11 21:40	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/04/11 21:40	127-18-4	
Toluene	ND	ug/L	1.0	1		11/04/11 21:40	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/04/11 21:40	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/04/11 21:40	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/04/11 21:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/04/11 21:40	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/04/11 21:40	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/04/11 21:40	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	2.5	1		11/04/11 21:40	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1		11/04/11 21:40	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1		11/04/11 21:40	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		11/04/11 21:40	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		11/04/11 21:40	1330-20-7	
4-Bromofluorobenzene (S)	105	%	87-113	1		11/04/11 21:40	460-00-4	
Dibromofluoromethane (S)	108	%	86-112	1		11/04/11 21:40	1868-53-7	
1,2-Dichloroethane-d4 (S)	114	%	82-119	1		11/04/11 21:40	17060-07-0	
Toluene-d8 (S)	109	%	90-110	1		11/04/11 21:40	2037-26-5	
Preservation pH	**7.0**		0.10	1		11/04/11 21:40		
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	**13.8**	mg/L	0.50	1		11/02/11 09:20		

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ANALYTICAL RESULTS

Project: KS/MO Waste Water
Pace Project No.: 60109211

Sample: SVPURGE-W-10117 **Lab ID: 60109211007** Collected: 10/31/11 18:30 Received: 11/01/11 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
504 GCS EDB and DBCP	Analytical Method: EPA 504.1 Preparation Method: EPA 504.1							
1,2-Dibromoethane (EDB)	ND	ug/L	0.029	1	11/07/11 00:00	11/08/11 02:09	106-93-4	
8260 MSV	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	10.0	1		11/04/11 21:56	67-64-1	
Benzene	ND	ug/L	1.0	1		11/04/11 21:56	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/04/11 21:56	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/04/11 21:56	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/04/11 21:56	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/04/11 21:56	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/04/11 21:56	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		11/04/11 21:56	78-93-3	
n-Butylbenzene	ND	ug/L	1.0	1		11/04/11 21:56	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	1		11/04/11 21:56	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	1		11/04/11 21:56	98-06-6	
Carbon disulfide	ND	ug/L	5.0	1		11/04/11 21:56	75-15-0	
Carbon tetrachloride	**6.9**	ug/L	1.0	1		11/04/11 21:56	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/04/11 21:56	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/04/11 21:56	75-00-3	
Chloroform	**3.3**	ug/L	1.0	1		11/04/11 21:56	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/04/11 21:56	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/04/11 21:56	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/04/11 21:56	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.5	1		11/04/11 21:56	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/04/11 21:56	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/04/11 21:56	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/04/11 21:56	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 21:56	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 21:56	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 21:56	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/04/11 21:56	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/04/11 21:56	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/04/11 21:56	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/L	1.0	1		11/04/11 21:56	540-59-0	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/04/11 21:56	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/04/11 21:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/04/11 21:56	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/04/11 21:56	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/04/11 21:56	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/04/11 21:56	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/04/11 21:56	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/04/11 21:56	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/04/11 21:56	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/04/11 21:56	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/04/11 21:56	87-68-3	
2-Hexanone	ND	ug/L	10.0	1		11/04/11 21:56	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/04/11 21:56	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/04/11 21:56	99-87-6	

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ANALYTICAL RESULTS

Project: KS/MO Waste Water
Pace Project No.: 60109211

Sample: SVPURGE-W-10117 **Lab ID: 60109211007** Collected: 10/31/11 18:30 Received: 11/01/11 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Methylene chloride	ND	ug/L	1.0	1		11/04/11 21:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/04/11 21:56	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/04/11 21:56	1634-04-4	
Naphthalene	ND	ug/L	10.0	1		11/04/11 21:56	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	1		11/04/11 21:56	103-65-1	
Styrene	ND	ug/L	1.0	1		11/04/11 21:56	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/04/11 21:56	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/04/11 21:56	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/04/11 21:56	127-18-4	
Toluene	ND	ug/L	1.0	1		11/04/11 21:56	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/04/11 21:56	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/04/11 21:56	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/04/11 21:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/04/11 21:56	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/04/11 21:56	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/04/11 21:56	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	2.5	1		11/04/11 21:56	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1		11/04/11 21:56	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1		11/04/11 21:56	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		11/04/11 21:56	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		11/04/11 21:56	1330-20-7	
4-Bromofluorobenzene (S)	90	%	87-113	1		11/04/11 21:56	460-00-4	
Dibromofluoromethane (S)	106	%	86-112	1		11/04/11 21:56	1868-53-7	
1,2-Dichloroethane-d4 (S)	111	%	82-119	1		11/04/11 21:56	17060-07-0	
Toluene-d8 (S)	110	%	90-110	1		11/04/11 21:56	2037-26-5	
Preservation pH	7.0		0.10	1		11/04/11 21:56		
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	0.41	mg/L	0.10	1		11/02/11 09:11		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: KS/MO Waste Water
Pace Project No.: 60109211

QC Batch: OEXT/31027 Analysis Method: EPA 504.1
QC Batch Method: EPA 504.1 Analysis Description: GCS 504 EDB DBCP
Associated Lab Samples: 60109211001, 60109211002, 60109211003, 60109211004, 60109211005, 60109211006, 60109211007

METHOD BLANK: 906554 Matrix: Water
Associated Lab Samples: 60109211001, 60109211002, 60109211003, 60109211004, 60109211005, 60109211006, 60109211007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.030	11/07/11 20:35	

LABORATORY CONTROL SAMPLE & LCSD: 906555 906556

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.25	0.23	0.21	94	85	70-130	10	20	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: KS/MO Waste Water
Pace Project No.: 60109211

QC Batch: MSV/41422 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 7 day
Associated Lab Samples: 60109211001, 60109211002, 60109211003, 60109211004, 60109211005, 60109211006, 60109211007

METHOD BLANK: 905182 Matrix: Water
Associated Lab Samples: 60109211001, 60109211002, 60109211003, 60109211004, 60109211005, 60109211006, 60109211007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/04/11 17:52	
1,1,1-Trichloroethane	ug/L	ND	1.0	11/04/11 17:52	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/04/11 17:52	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/04/11 17:52	
1,1-Dichloroethane	ug/L	ND	1.0	11/04/11 17:52	
1,1-Dichloroethene	ug/L	ND	1.0	11/04/11 17:52	
1,1-Dichloropropene	ug/L	ND	1.0	11/04/11 17:52	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	11/04/11 17:52	
1,2,3-Trichloropropane	ug/L	ND	2.5	11/04/11 17:52	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	11/04/11 17:52	
1,2,4-Trimethylbenzene	ug/L	ND	1.0	11/04/11 17:52	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.5	11/04/11 17:52	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/04/11 17:52	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/04/11 17:52	
1,2-Dichloroethane	ug/L	ND	1.0	11/04/11 17:52	
1,2-Dichloroethene (Total)	ug/L	ND	1.0	11/04/11 17:52	
1,2-Dichloropropane	ug/L	ND	1.0	11/04/11 17:52	
1,3,5-Trimethylbenzene	ug/L	ND	1.0	11/04/11 17:52	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/04/11 17:52	
1,3-Dichloropropane	ug/L	ND	1.0	11/04/11 17:52	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/04/11 17:52	
2,2-Dichloropropane	ug/L	ND	1.0	11/04/11 17:52	
2-Butanone (MEK)	ug/L	ND	10.0	11/04/11 17:52	
2-Chlorotoluene	ug/L	ND	1.0	11/04/11 17:52	
2-Hexanone	ug/L	ND	10.0	11/04/11 17:52	
4-Chlorotoluene	ug/L	ND	1.0	11/04/11 17:52	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	11/04/11 17:52	
Acetone	ug/L	ND	10.0	11/04/11 17:52	
Benzene	ug/L	ND	1.0	11/04/11 17:52	
Bromobenzene	ug/L	ND	1.0	11/04/11 17:52	
Bromochloromethane	ug/L	ND	1.0	11/04/11 17:52	
Bromodichloromethane	ug/L	ND	1.0	11/04/11 17:52	
Bromoform	ug/L	ND	1.0	11/04/11 17:52	
Bromomethane	ug/L	ND	1.0	11/04/11 17:52	
Carbon disulfide	ug/L	ND	5.0	11/04/11 17:52	
Carbon tetrachloride	ug/L	ND	1.0	11/04/11 17:52	
Chlorobenzene	ug/L	ND	1.0	11/04/11 17:52	
Chloroethane	ug/L	ND	1.0	11/04/11 17:52	
Chloroform	ug/L	ND	1.0	11/04/11 17:52	
Chloromethane	ug/L	ND	1.0	11/04/11 17:52	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/04/11 17:52	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/04/11 17:52	
Dibromochloromethane	ug/L	ND	1.0	11/04/11 17:52	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: KS/MO Waste Water
Pace Project No.: 60109211

METHOD BLANK: 905182 Matrix: Water

Associated Lab Samples: 60109211001, 60109211002, 60109211003, 60109211004, 60109211005, 60109211006, 60109211007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromomethane	ug/L	ND	1.0	11/04/11 17:52	
Dichlorodifluoromethane	ug/L	ND	1.0	11/04/11 17:52	
Ethylbenzene	ug/L	ND	1.0	11/04/11 17:52	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	11/04/11 17:52	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	11/04/11 17:52	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/04/11 17:52	
Methylene chloride	ug/L	ND	1.0	11/04/11 17:52	
n-Butylbenzene	ug/L	ND	1.0	11/04/11 17:52	
n-Propylbenzene	ug/L	ND	1.0	11/04/11 17:52	
Naphthalene	ug/L	ND	10.0	11/04/11 17:52	
p-Isopropyltoluene	ug/L	ND	1.0	11/04/11 17:52	
sec-Butylbenzene	ug/L	ND	1.0	11/04/11 17:52	
Styrene	ug/L	ND	1.0	11/04/11 17:52	
tert-Butylbenzene	ug/L	ND	1.0	11/04/11 17:52	
Tetrachloroethene	ug/L	ND	1.0	11/04/11 17:52	
Toluene	ug/L	ND	1.0	11/04/11 17:52	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/04/11 17:52	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/04/11 17:52	
Trichloroethene	ug/L	ND	1.0	11/04/11 17:52	
Trichlorofluoromethane	ug/L	ND	1.0	11/04/11 17:52	
Vinyl chloride	ug/L	ND	1.0	11/04/11 17:52	
Xylene (Total)	ug/L	ND	3.0	11/04/11 17:52	
1,2-Dichloroethane-d4 (S)	%	107	82-119	11/04/11 17:52	
4-Bromofluorobenzene (S)	%	97	87-113	11/04/11 17:52	
Dibromofluoromethane (S)	%	105	86-112	11/04/11 17:52	
Toluene-d8 (S)	%	103	90-110	11/04/11 17:52	

LABORATORY CONTROL SAMPLE: 905183

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	17.3	86	81-121	
1,1,1-Trichloroethane	ug/L	20	17.6	88	82-119	
1,1,2,2-Tetrachloroethane	ug/L	20	18.1	91	78-124	
1,1,2-Trichloroethane	ug/L	20	20.3	102	79-121	
1,1-Dichloroethane	ug/L	20	18.3	91	73-119	
1,1-Dichloroethene	ug/L	20	17.7	89	75-120	
1,1-Dichloropropene	ug/L	20	18.5	93	79-123	
1,2,3-Trichlorobenzene	ug/L	20	17.8	89	73-122	
1,2,3-Trichloropropane	ug/L	20	18.1	91	77-124	
1,2,4-Trichlorobenzene	ug/L	20	17.4	87	75-120	
1,2,4-Trimethylbenzene	ug/L	20	18.7	94	77-120	
1,2-Dibromo-3-chloropropane	ug/L	20	16.7	84	69-125	
1,2-Dibromoethane (EDB)	ug/L	20	18.8	94	85-121	
1,2-Dichlorobenzene	ug/L	20	19.2	96	82-115	
1,2-Dichloroethane	ug/L	20	19.3	96	77-125	

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: KS/MO Waste Water
Pace Project No.: 60109211

LABORATORY CONTROL SAMPLE: 905183

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethene (Total)	ug/L	40	40.0	100	79-120	
1,2-Dichloropropane	ug/L	20	18.8	94	83-119	
1,3,5-Trimethylbenzene	ug/L	20	18.1	91	79-121	
1,3-Dichlorobenzene	ug/L	20	17.7	88	79-117	
1,3-Dichloropropane	ug/L	20	19.2	96	78-116	
1,4-Dichlorobenzene	ug/L	20	18.7	94	83-115	
2,2-Dichloropropane	ug/L	20	16.3	82	66-123	
2-Butanone (MEK)	ug/L	100	101	101	43-165	
2-Chlorotoluene	ug/L	20	18.6	93	81-117	
2-Hexanone	ug/L	100	98.3	98	47-159	
4-Chlorotoluene	ug/L	20	18.8	94	84-116	
4-Methyl-2-pentanone (MIBK)	ug/L	100	90.7	91	71-129	
Acetone	ug/L	100	111	111	18-192	
Benzene	ug/L	20	19.5	97	82-117	
Bromobenzene	ug/L	20	18.5	92	83-116	
Bromochloromethane	ug/L	20	18.9	94	79-121	
Bromodichloromethane	ug/L	20	18.5	92	79-114	
Bromoform	ug/L	20	17.8	89	78-121	
Bromomethane	ug/L	20	20.6	103	36-146	
Carbon disulfide	ug/L	20	20.6	103	75-138	
Carbon tetrachloride	ug/L	20	19.3	96	80-123	
Chlorobenzene	ug/L	20	18.2	91	83-121	
Chloroethane	ug/L	20	19.6	98	42-166	
Chloroform	ug/L	20	20.1	100	82-116	
Chloromethane	ug/L	20	17.7	88	32-127	
cis-1,2-Dichloroethene	ug/L	20	18.2	91	80-119	
cis-1,3-Dichloropropene	ug/L	20	17.0	85	76-119	
Dibromochloromethane	ug/L	20	17.9	89	81-123	
Dibromomethane	ug/L	20	19.2	96	79-123	
Dichlorodifluoromethane	ug/L	20	15.2	76	10-163	
Ethylbenzene	ug/L	20	17.7	88	79-121	
Hexachloro-1,3-butadiene	ug/L	20	18.5	92	78-125	
Isopropylbenzene (Cumene)	ug/L	20	18.7	93	80-120	
Methyl-tert-butyl ether	ug/L	20	18.1	91	78-119	
Methylene chloride	ug/L	20	19.6	98	75-118	
n-Butylbenzene	ug/L	20	18.2	91	80-126	
n-Propylbenzene	ug/L	20	18.3	91	83-116	
Naphthalene	ug/L	20	16.8	84	66-133	
p-Isopropyltoluene	ug/L	20	17.9	89	77-120	
sec-Butylbenzene	ug/L	20	17.8	89	81-120	
Styrene	ug/L	20	18.8	94	84-115	
tert-Butylbenzene	ug/L	20	18.0	90	80-117	
Tetrachloroethene	ug/L	20	19.8	99	80-124	
Toluene	ug/L	20	19.1	95	80-120	
trans-1,2-Dichloroethene	ug/L	20	21.8	109	79-120	
trans-1,3-Dichloropropene	ug/L	20	18.5	92	76-118	
Trichloroethene	ug/L	20	17.5	88	76-122	
Trichlorofluoromethane	ug/L	20	19.0	95	72-120	

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: KS/MO Waste Water
Pace Project No.: 60109211

LABORATORY CONTROL SAMPLE: 905183

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vinyl chloride	ug/L	20	17.5	88	57-163	
Xylene (Total)	ug/L	60	53.9	90	75-120	
1,2-Dichloroethane-d4 (S)	%			103	82-119	
4-Bromofluorobenzene (S)	%			104	87-113	
Dibromofluoromethane (S)	%			101	86-112	
Toluene-d8 (S)	%			99	90-110	

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: KS/MO Waste Water
Pace Project No.: 60109211

QC Batch: WETA/18128
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Associated Lab Samples: 60109211001

METHOD BLANK: 903260 Matrix: Water
Associated Lab Samples: 60109211001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	11/02/11 08:39	

LABORATORY CONTROL SAMPLE: 903261

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.6	97	90-110	

MATRIX SPIKE SAMPLE: 903262

Parameter	Units	60109214001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1.6	1.5	93	90-110	

MATRIX SPIKE SAMPLE: 903263

Parameter	Units	60109214002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1.6	1.6	102	90-110	

SAMPLE DUPLICATE: 903264

Parameter	Units	60109214008 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		15	

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: KS/MO Waste Water
Pace Project No.: 60109211

QC Batch: WETA/18129 Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Associated Lab Samples: 60109211002, 60109211003, 60109211004, 60109211005, 60109211006, 60109211007

METHOD BLANK: 903266 Matrix: Water
Associated Lab Samples: 60109211002, 60109211003, 60109211004, 60109211005, 60109211006, 60109211007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	11/02/11 09:03	

LABORATORY CONTROL SAMPLE: 903267

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.6	98	90-110	

MATRIX SPIKE SAMPLE: 903268

Parameter	Units	60109211007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	0.41	1.6	1.9	95	90-110	

SAMPLE DUPLICATE: 903269

Parameter	Units	60109238001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	6.8	6.8	0	15	

Pace Analytical Services, Inc.
9608 Loirel Blvd.
Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: KS/MO Waste Water
Pace Project No.: 60109211

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: MSV/41422

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1334694

Section A Required Client Information:

Company: TCW Construction
Address: 141 M Street
Lincoln NE 68508
Email To: tkamler@tcwconstruction.com
Phone: 402 416 7255 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: tkamler@tcwconstruction.com
Copy To: surgnier@prodigy.net
Purchase Order No.:
Project Name: KS/MO Waste Water
Project Number:

Section C Invoice Information:

Attention: Travis Kamler
Company Name: TCW Construction
Address:
Pace Quote Reference:
Pace Project Manager: Trudy Gipson
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: KS/MO

Requested Analysis Filtered (Y/N)

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: 504 VOC	504 EDB	300 NITRATES	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	AGPURGE-W-10111	WW	C	9-18		10-30	9:00	60	5	3					2			2	2	1		6010 9211 (1BP3N) 2(NaOH) 2(DI BOTT) 001
2	BAPURGE-W-10112	WW	C	9-28		10-31	12:55	60	5	3					2			2	2	1		002
3	CNPURGE-W-10113	WW	C	4-19		10-31	14:02	60	5	3					2			2	2	1		003
4	EVPURGE-W-10114	WW	C	4-27		10-31	15:52	60	5	3					2			2	2	1		004
5	HAPURGE-W-10115	WW	C	6-13		10-31	12:27	60	5	3					2			2	2	1		005
6	MRPURGE-W-10116	WW	C	4-20		10-31	14:42	60	5	3					2			2	2	1		006
7	SVPURGE-W-10117	WW	C	8-9		10-31	18:30	60	5	3					2			2	2	1		007
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
All samples collected from drums holding purge water at sites sampled during the 2011 Year	Travis Kamler/TCW	10-31-11	18:45		10/31/11	9200	4.2	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Travis Kamler
SIGNATURE of SAMPLER:
DATE Signed (MM/DD/YY): 10-31-2011

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Sample Condition Upon Receipt

Pace Analytical www.pacelabs.com

Client Name: TCW Const. Project # 60169211

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other _____

Tracking #: 8758 2746 3563 Pace Shipping Label Used? ☐ Yes ☒ No

Optional
Proj. Due Date: 11/4
Proj. Name:

Custody Seal on Cooler/Box Present: ☒ Yes ☐ No Seals intact: ☒ Yes ☐ No

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other _____

Thermometer Used: ~~T-197~~ / T-194 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 4.2
Temperature should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: JND 11/4/11 1025

Chain of Custody present:	☒Yes ☐No ☐N/A	1.	
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.	
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.	
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.	
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.	
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6.	NO3
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.	
Sufficient volume:	☒Yes ☐No ☐N/A	8.	
Correct containers used:	☒Yes ☐No ☐N/A	9.	
-Pace containers used:	☒Yes ☐No ☐N/A		
Containers intact:	☒Yes ☐No ☐N/A	10.	
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.	
Filtered volume received for dissolved tests	☐Yes ☐No ☒N/A	12.	
Sample labels match COC:	☒Yes ☐No ☐N/A	13.	
-Includes date/time/ID/analyses Matrix: water			
All containers needing preservation have been checked.	☐Yes ☐No ☒N/A	14.	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☒N/A		
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed: N/A	Lot # of added preservative:
Trip Blank present:	☐Yes ☒No ☐N/A	15.	
Pace Trip Blank lot # (if purchased): N/A			
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.	
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State:	

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [signature] Date: 11-1-11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

12/19/2011 11:37AM

AGEM 01 L

CITY OF SABETHA Cash - Travis
805 MAIN
PO BOX 187
SABETHA KS 66534 785-284-2158

Receipt No: 2.015320 Dec 19, 2011

TCW Const.

WASTEWATER FUND-MISC	
Purged Water	50.00
502-00.000-4632	
MISCELLANEOUS INCOME	
Total:	50.00
Cash	50.00
Total Applied:	50.00
Change Tendered:	.00

Supplement 2:

Data Summaries for Verification VOCs Analyses by TestAmerica Laboratories, Inc.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 200-4829-1

SDG Number: (200-4829)

Job Description: Centralia (200-4829)

Contract Number: EP-W-09-044

For:
Argonne National Laboratory
9700 South Cass Avenue
Building 203
Office B-149
Argonne, IL 60439

Attention: Mr. Clyde Dennis

Approved for release.
Kirk F Young
Project Manager I
4/27/2011 5:48 PM

Kirk F Young
Project Manager I
kirk.young@testamericainc.com
04/27/2011

The test results in this report relate only to sample(s) as received by the laboratory. These test results were derived under a quality system that adheres to the requirements of NELAC. Pursuant to NELAC, this report may not be produced in full without written approval from the laboratory

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CASE NARRATIVE

Client: Argonne National Laboratory

Project: Centralia (200-4829)

Report Number: 200-4829-1

Enclosed is the data set for the referenced project work. With the exceptions noted as flags or footnotes, standard analytical protocols were followed in performing the analytical work and the applied control limits were met.

Calculations were performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

Receipt

The samples were received on 04/22/2011. Documentation of the condition of the samples at the time of their receipt and any exception to the laboratory's Sample Acceptance Policy is documented in the Sample Handling section of this submittal. The samples, as received, were not acid preserved. On that basis, the laboratory did provide for the analytical work to be performed within seven days of sample collection.

SOM01.2 Volatile Organics (Trace Level Water)

A storage blank was prepared for volatile organics analysis, and stored in association with the storage of the samples. That storage blank, identified as VHBLK01, was carried through the holding period with the samples, and analyzed.

Each sample was analyzed without a dilution. Each of the analyses associated with the sample set exhibited an acceptable internal standard performance. There was an acceptable recovery of each deuterated monitoring compound (DMC) in the analysis of the method blank associated with the analytical work, and in the analysis of the storage blank associated with the sample set. The analysis of the samples in this sample set did meet the technical acceptance criteria specific to DMC recoveries, although not all DMC recoveries were within the control range in each analysis. The technical acceptance criteria does provide for the recovery of up to three DMCs to fall outside of the control range in the analysis of field samples. Matrix spike and matrix spike duplicate analyses were not performed on samples in this sample set. Trace concentrations of chloromethane, acetone, carbon disulfide, methylene chloride, trichloroethene, toluene, 1,2,4-trichlorobenzene, and 1,2,3-trichlorobenzene were identified in the analysis of the method blank associated with the analytical work. The concentration of each compound in that analysis was below the established reporting limit, and the analysis did meet the technical acceptance criteria for a compliant method blank analysis. Trace concentrations of acetone, carbon disulfide, and carbon tetrachloride were identified in the analysis of the storage blank associated with the sample set. The concentration of each compound in that analysis was below the established reporting limit, and the analysis did meet the technical acceptance criteria for a compliant storage blank analysis. Present in the method blank and storage blank analyses was a non-target constituent that represents a compound that is related to the DMC formulation. The fact that the presence of this compound is not within the laboratory's control is at issue. The derived results

for that compound have been qualified with an "X" qualifier to reflect the source of the contamination.

The responses for each of the target analytes met the relative standard deviation criterion in the initial calibration. The response for each target analyte met the percent difference criterion in the opening/continuing calibration check acquisition. The response for each target analyte met the 50.0 percent difference criterion in the closing calibration check acquisition.

The primary quantitation mass for methylcyclohexane that is specified in the Statement of Work is mass 83. The laboratory did identify a contribution to mass 83 from 1,2-dichloropropane-d_6, one of the deuterated monitoring compounds (DMCs). The laboratory did change the primary quantitation mass assignment to mass 55 for the quantification of methylcyclohexane.

Manual integration was employed in deriving certain of the analytical results. The values that have been derived from manual integration are qualified on the quantitation reports. Extracted ion current profiles for each manual integration are included in the data package, and further documented at the end of this submittal.

DATA REPORTING QUALIFIERS

Client: Argonne National Laboratory

Job Number: 200-4829-1
Sdg Number: (200-4829)

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Analyzed for but not detected.
	J	Indicates an Estimated Value for TICs
	J	Indicates an estimated value.
	X	See case narrative notes for explanation of the 'X' flag
	*	Surrogate exceeds the control limit
	B	The analyte was found in an associated blank, as well as in the sample.
	N	This flag indicates the presumptive evidence of a compound.

MATRIX: Water
RECEIVING LAB: Test America
PROJECT/SITE: Centralia KS
SAMPLER(S) (Signature)

ARGONNE NATIONAL LABORATORY
CHAIN OF CUSTODY RECORD*

Shipping Container No.
Shipping Info:
ANL Field Contact (Name & Temporary Phone): Dave Sargnier 630 408 7114

DATE OF COLLECTION	SAMPLE ID NUMBER(S)	Number of containers	ANALYSIS: VOC	REMARKS
April 19, 2011	CNMW02-W-27218	2	2	2 x 40 mL for VOC
April 19, 2011	CNPMP3-W-27221	1	1	1 x 40mL for VOC - 1 broke in Packing
April 19, 2011	CNQCTB-W-27225	2	2	2 x 40mL for VOC
				1 of the CNPMP3-W-27221 sample vials broke while packing

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
	4/20/11	12:47	4/22/11 1030				

Relinquished by (Signature)	Date	Time	Received for Laboratory by	Date	Time	Remarks

Y	N	FOR LAB USE ONLY
✓		Custody seal was intact when shipment received.
		Sample containers were intact when received.
✓		Shipment was at required temperature when received.
		Sample labels, Tags and COC agree.

*A sample is under custody if:
1. It is in your possession; or,
2. It is in your view, after having been in your possession; or,
3. It was in your possession and you locked it up; or,
4. It is in a designated secure area.

Argonne National Laboratory, Applied Geosciences & Environmental Mgt. Group, Environmental Research Division, 9700 S. Cass Avenue, Argonne, IL 60439

EM-160 (4-01)

Burlington Facility
Internal Chain of Custody Log (ICOC)

Project Information:	
Login # 200-4829	Method: SOM01.2_VOA:ANW TR
Client: ARGLAB	LAB IDs: 200-4829-1 thru 4829-3

Samples associated with this login were placed into storage on 4/22/2011 (Date) 1350 (Time[2]) by: _____ *Sample Custodian Signature*

Storage Location: VOA A, Shelf 6 *Specify storage location (refrigerator, freezer ID or lab location) for original sample containers*

Storage Condition: X Refrigeration __ Frozen __ Ambient

Internal Transfer Information

Sample Type		Lab ID(s)	Transfer	Transfer	Purpose of Transfer			Relinquished	Received	Storage Location
Original	Prepared[1]		Date	Time[2]	Prep	Analysis	Storage	By:	By:	Prepared Sample[1]
✓		4829-1-3	4/25/11	0830	✓			JH	JH	Aroclor Screen for 4/26/11
✓		"	4/25/11	0900			✓	JH	JH	Storage
✓		"	4/25/11	1040		✓		JH	JH	Analysis
✓		"	4/25/11	1050			✓	JH	JH	Storage

[1] Extract, digestate, or any other prepared sample that is no longer in original sample container

[2] Military Time

Burlington Facility
Internal Chain of Custody Log (ICOC)

Project Information:	
Login # 200-4829	Method: SOM01.2_VOA:ANW
Client: ARGLAB	LAB IDs: 200-4829-4

Samples associated with this login were placed into storage on 4/22/2011 (Date) 1350 (Time[2]) by: _____ Sample Custodian Signature

Storage Location: VOA A, Shelf 6 *Specify storage location (refrigerator, freezer ID or lab location) for original sample containers*

Storage Condition: X Refrigeration __ Frozen __ Ambient

Internal Transfer Information

Sample Type		Lab ID(s)	Transfer	Transfer	Purpose of Transfer			Relinquished	Received	Storage Location
Original	Prepared[1]		Date	Time[2]	Prep	Analysis	Storage	By:	By:	Prepared Sample[1]
✓		4829-4	4/25/11	0830	✓			JH	JH	Sample
✓		"	4/25/11	0900			✓	JH	JH	Storage
✓		"	4/25/11	1040		✓		JH	JH	Analysis
✓		"	4/25/11	1050			✓	SH	JH	Storage

[1] Extract, digestate, or any other prepared sample that is no longer in original sample container

[2] Military Time

Shipping and Receiving Documents

FedEx US Airbill

8717 3523 1702

0200

FedEx Retrieval Copy

fedex.com 1.800.GoFedEx 1.800.463.3339

8717 3523 1702

04/27/2011

Login Sample Receipt Checklist

Client: Argonne National Laboratory

Job Number: 200-4829-1
SDG Number: (200-4829)

Login Number: 4829
List Number: 2
Creator: Keeton, Jamie

List Source: TestAmerica Burlington

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.8 °C, IR gun ID 96, CF= 0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	False	Minor Discrepancies
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	Sample volumes received unpreserved.
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

Sample Login Acknowledgement

Job 200-4829-1

Client Job Description:	Centralia (200-4829)	**Report To:**	Argonne National Laboratory
Purchase Order #:	8E-00302		Jorge Alvarado
Work Order #:	8E-00302		9700 South Cass Avenue Building 203 Office B-149 Argonne, IL 60439
Project Manager:	Kirk F Young		
Job Due Date:	5/6/2011		
Job TAT:	14 Days		
Max Deliverable Level:	IV	**Bill To:**	Argonne National Laboratory Accounts Payable
Earliest Deliverable Due:	5/6/2011		Chief Financial Offices 9700 S. Cass Ave. Building 201 Argonne, IL 60439

Login 200-4829

Sample Receipt:	4/22/2011 10:30:00 AM	**Number of Coolers:**	1
Method of Delivery:	FedEx Priority Overnight	**Cooler Temperature(s) (C°):**	1.8;

Lab Sample # / Method	Client Sample ID / Method Description / Work Location	Date Sampled	Matrix	Rpt Basis	Dry / Wet **
200-4829-1	**CNMW02-W-27218**	**4/19/2011 12:00:00 AM**	**Water**		
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab			Total	Wet
200-4829-2	**CNPMP3-W-27221**	**4/19/2011 12:00:00 AM**	**Water**		
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab			Total	Wet
200-4829-3	**CNQCTB-W-27225**	**4/19/2011 12:00:00 AM**	**Water**		
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab			Total	Wet
200-4829-4	**VHBLK01**	**4/22/2011 1:40:00 PM**	**Water**		
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab			Total	Wet

* Method on-hold

** Wet/Dry indicates whether the reported results will be corrected for moisture content, and based on sample Wet weight or Dry

METHODOLOGY SUMMARY

Laboratory: TestAmerica Laboratories

Project No:

Location: South Burlington, Vermont

SDG No: (200-4829)

VOA

Volatile Organics Trace - USEPA CLP SOM01.2

2A - FORM II VOA-1
WATER VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: _____ SDG No.: (200-4829)

Level: (TRACE or LOW) TRACE

	EPA SAMPLE NO.	VDMC1 (VCL) #	VDMC2 (CLA) #	VDMC3 (DCE) #	VDMC4 (BUT) #	VDMC5 (CLF) #	VDMC6 (DCA) #	VDMC7 (BEN) #
01	VBLKJZ	90	90	75	105	102	114	102
02	CNMW02-W-27218	79	77	68	144	91	103	90
03	CNPMP3-W-27221	76	75	67	141	88	98	87
04	CNQCTB-W-27225	82	85	69	153	94	107	95
05	VHBLK01	81	81	69	86	92	107	92

			QC LIMITS
VDMC1	(VCL)	= Vinyl Chloride-d3	(65-131)
VDMC2	(CLA)	= Chloroethane-d5	(71-131)
VDMC3	(DCE)	= 1,1-Dichloroethene-d2	(55-104)
VDMC4	(BUT)	= 2-Butanone-d5	(49-155)
VDMC5	(CLF)	= Chloroform-d	(78-121)
VDMC6	(DCA)	= 1,2-Dichloroethane-d4	(78-129)
VDMC7	(BEN)	= Benzene-d6	(77-124)

Column to be used to flag recovery values
* Values outside of contract required QC limits

2B - FORM II VOA-2
WATER VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: _____ SDG No.: (200-4829)

Level: (TRACE or LOW) TRACE

	EPA SAMPLE NO.	VDMC8 (DPA) #	VDMC9 (TOL) #	VDMC10 (TDP) #	VDMC11 (HEX) #	VDMC12 (TCA) #	VDMC13 (DCZ) #	OTHER	TOT OUT
01	VBLKJZ	92	106	110	111	104	114		0
02	CNMW02-W-27218	81	91	98	168 *	96	97		1
03	CNPMP3-W-27221	78 *	90	95	159 *	96	95		2
04	CNQCTB-W-27225	85	100	105	174 *	98	105		1
05	VHBLK01	82	97	100	96	91	106		0

		QC LIMITS
VDMC8	(DPA) = 1,2-Dichloropropane-d6	(79-124)
VDMC9	(TOL) = Toluene-d8	(77-121)
VDMC10	(TDP) = trans-1,3-Dichloropropene-d4	(73-121)
VDMC11	(HEX) = 2-Hexanone-d5	(28-135)
VDMC12	(TCA) = 1,1,2,2-Tetrachloroethane-d2	(73-125)
VDMC13	(DCZ) = 1,2-Dichlorobenzene-d4	(80-131)

Column to be used to flag recovery values
* Values outside of contract required QC limits

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
VBLKJZ

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)

Lab File ID: JCUH03.D Lab Sample ID: MB 200-16989/3

Instrument ID: J.i

Matrix: (SOIL/SED/WATER) Water Date Analyzed: 04/25/2011

Level: (TRACE or LOW/MED) TRACE Time Analyzed: 1013

GC Column: DB-624 ID: 0.20 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	CNMW02-W-27218	200-4829-1	JCUH10.D	1323
02	CNPMP3-W-27221	200-4829-2	JCUH11.D	1349
03	CNQCTB-W-27225	200-4829-3	JCUH12.D	1414
04	VHBLK01	200-4829-4	JCUH13.D	1439

COMMENTS:

5A - FORM V VOA
VOLATILE ORGANICS INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.
BFBJR

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)

Lab File Id: JCU01.D BFB Injection Date: 03/24/2011

Instrument Id: J.i BFB Injection Time: 1324

GC Column: DB-624 ID: 0.20 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.7
75	30.0 - 80.0% of mass 95	52.9
95	Base peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	7.3
173	Less than 2.0% of mass 174	0.4 (0.5)1
174	50.0 - 120% of mass 95	81.4
175	5.0 - 9.0% of mass 174	7.0 (8.6)1
176	95.0 - 101% of mass 174	81.7 (100)1
177	5.0 - 9.0% of mass 176	4.6 (5.7)2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0.5JR	IC 200-15618/3	JCU03.D	03/24/2011	1408
02	VSTD001JR	IC 200-15618/4	JCU04.D	03/24/2011	1433
03	VSTD005JR	ICIS 200-15618/5	JCU05.D	03/24/2011	1459
04	VSTD010JR	IC 200-15618/6	JCU06.D	03/24/2011	1524
05	VSTD020JR	IC 200-15618/7	JCU07.D	03/24/2011	1549

5A - FORM V VOA
VOLATILE ORGANICS INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.
BFBJZ

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)

Lab File Id: JCUH01.D BFB Injection Date: 04/25/2011

Instrument Id: J.i BFB Injection Time: 0928

GC Column: DB-624 ID: 0.20 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.6
75	30.0 - 80.0% of mass 95	44.6
95	Base peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.3 (0.4)1
174	50.0 - 120% of mass 95	92.3
175	5.0 - 9.0% of mass 174	7.5 (8.1)1
176	95.0 - 101% of mass 174	89.1 (96.6)1
177	5.0 - 9.0% of mass 176	6.4 (7.1)2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD005JZ	CCVIS 200-16989/2	JCUH02.D	04/25/2011	0948
02	VBLKJZ	MB 200-16989/3	JCUH03.D	04/25/2011	1013
03	CNMW02-W-2 7218	200-4829-1	JCUH10.D	04/25/2011	1323
04	CNPMP3-W-2 7221	200-4829-2	JCUH11.D	04/25/2011	1349
05	CNQCTB-W-2 7225	200-4829-3	JCUH12.D	04/25/2011	1414
06	VHBLK01	200-4829-4	JCUH13.D	04/25/2011	1439
07	VSTD005ZJ	CCVC 200-16989/14	JCUH14.D	04/25/2011	1507

8A - FORM VIII VOA
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)

GC Column: DB-624 ID: 0.20 (mm) Init. Calib. Date(s): 03/24/2011 03/24/2011

EPA Sample No.(VSTD#####): VSTD005JZ Date Analyzed: 04/25/2011

Lab File ID (Standard): JCUH02.D Time Analyzed: 0948

Instrument ID: J.i Heated Purge: (Y/N) N

		IS1 (CBZ) AREA	#	RT	#	IS2 (DFB) AREA	#	RT	#	IS3 (DCB) AREA	#	RT	#
	12 HOUR STD	866768		8.93		1088686		5.58		411838		11.76	
	UPPER LIMIT	1213475		9.26		1524160		5.91		576573		12.09	
	LOWER LIMIT	520061		8.60		653212		5.25		247103		11.43	
	EPA SAMPLE NO.												
01	VBLKJZ	739387		8.93		913933		5.58		343521		11.76	
02	CNMW02-W-27218	729224		8.93		905748		5.58		359727		11.76	
03	CNPMP3-W-27221	728728		8.93		907113		5.58		352439		11.76	
04	CNQCTB-W-27225	699424		8.93		871886		5.58		330429		11.76	
05	VHBLK01	753039		8.93		934560		5.58		337497		11.76	

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = + 0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = - 0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside contract required QC limits with an asterisk.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
CNMW02-W-27218

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4829-1

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH10.D

Level: (TRACE/LOW/MED) TRACE Date Received: 04/22/2011

% Moisture: not dec. Date Analyzed: 04/25/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	1.9	J B
75-15-0	Carbon disulfide	0.074	J B
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.025	J
71-43-2	Benzene	0.11	J
107-06-2	1,2-Dichloroethane	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
CNMW02-W-27218

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4829-1

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH10.D

Level: (TRACE/LOW/MED) TRACE Date Received: 04/22/2011

% Moisture: not dec. Date Analyzed: 04/25/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	12	
95-47-6	o-Xylene	0.13	J
179601-23-1	m,p-Xylene	0.094	J
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
CNMW02-W-27218

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4829-1

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH10.D

Level: (TRACE or LOW/MED) TRACE Date Received: 04/22/2011

% Moisture: not dec. Date Analyzed: 04/25/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	6.90	3.1	B X J
02	541-05-9	Cyclotrisiloxane, hexamethyl-	7.85	1.5	B J N
03		Unknown siloxane derivative	10.69	1.3	B J
04	E966796 [1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
CNPMP3-W-27221

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: _____ SDG No.: (200-4829)

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4829-2

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH11.D

Level: (TRACE/LOW/MED) TRACE Date Received: 04/22/2011

% Moisture: not dec. _____ Date Analyzed: 04/25/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.1

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.55	U
74-87-3	Chloromethane	0.55	U
75-01-4	Vinyl chloride	0.55	U
74-83-9	Bromomethane	0.55	U
75-00-3	Chloroethane	0.55	U
75-69-4	Trichlorofluoromethane	0.55	U
75-35-4	1,1-Dichloroethene	0.55	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.55	U
67-64-1	Acetone	1.9	J B
75-15-0	Carbon disulfide	0.16	J B
79-20-9	Methyl acetate	0.55	U
75-09-2	Methylene Chloride	0.55	U
156-60-5	trans-1,2-Dichloroethene	0.55	U
1634-04-4	Methyl tert-butyl ether	0.55	U
75-34-3	1,1-Dichloroethane	0.55	U
156-59-2	cis-1,2-Dichloroethene	0.55	U
78-93-3	2-Butanone	5.5	U
74-97-5	Bromochloromethane	0.55	U
67-66-3	Chloroform	0.17	J
71-55-6	1,1,1-Trichloroethane	0.55	U
110-82-7	Cyclohexane	0.55	U
56-23-5	Carbon tetrachloride	0.14	J
71-43-2	Benzene	0.051	J
107-06-2	1,2-Dichloroethane	0.55	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
CNPMP3-W-27221

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302
Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)
Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4829-2
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH11.D
Level: (TRACE/LOW/MED) TRACE Date Received: 04/22/2011
% Moisture: not dec. Date Analyzed: 04/25/2011
GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.1
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.55	U
108-87-2	Methylcyclohexane	0.55	U
78-87-5	1,2-Dichloropropane	0.55	U
75-27-4	Bromodichloromethane	0.55	U
10061-01-5	cis-1,3-Dichloropropene	0.55	U
108-10-1	4-Methyl-2-pentanone	5.5	U
108-88-3	Toluene	0.17	J B
10061-02-6	trans-1,3-Dichloropropene	0.55	U
79-00-5	1,1,2-Trichloroethane	0.55	U
127-18-4	Tetrachloroethene	0.55	U
591-78-6	2-Hexanone	5.5	U
124-48-1	Dibromochloromethane	0.55	U
106-93-4	1,2-Dibromoethane	0.55	U
108-90-7	Chlorobenzene	0.55	U
100-41-4	Ethylbenzene	0.15	J
95-47-6	o-Xylene	0.078	J
179601-23-1	m,p-Xylene	0.27	J
100-42-5	Styrene	0.55	U
75-25-2	Bromoform	0.55	U
98-82-8	Isopropylbenzene	0.55	U
79-34-5	1,1,2,2-Tetrachloroethane	0.55	U
541-73-1	1,3-Dichlorobenzene	0.55	U
106-46-7	1,4-Dichlorobenzene	0.55	U
95-50-1	1,2-Dichlorobenzene	0.55	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.55	U
120-82-1	1,2,4-Trichlorobenzene	0.55	U
87-61-6	1,2,3-Trichlorobenzene	0.55	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
CNPMP3-W-27221

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4829-2

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH11.D

Level: (TRACE or LOW/MED) TRACE Date Received: 04/22/2011

% Moisture: not dec. Date Analyzed: 04/25/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.1

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	6.90	3.3	B X J
02	E966796 [1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
CNQCTB-W-27225

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4829-3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH12.D

Level: (TRACE/LOW/MED) TRACE Date Received: 04/22/2011

% Moisture: not dec. Date Analyzed: 04/25/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	3.9	J B
75-15-0	Carbon disulfide	0.070	J B
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.022	J
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
CNQCTB-W-27225

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4829-3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH12.D

Level: (TRACE/LOW/MED) TRACE Date Received: 04/22/2011

% Moisture: not dec. Date Analyzed: 04/25/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.53	B
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.055	J
95-47-6	o-Xylene	0.13	J
179601-23-1	m,p-Xylene	0.22	J
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
CNQCTB-W-27225

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4829-3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH12.D

Level: (TRACE or LOW/MED) TRACE Date Received: 04/22/2011

% Moisture: not dec. Date Analyzed: 04/25/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	6.90	3.2	B X J
02	E966796 [1]	Total Alkanes	N/A	39	J

[1] EPA-designated Registry Number.

6A - FORM VI VOA-1
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)

Instrument ID: J.i Calibration Date(s): 03/24/2011 03/24/2011

Heated Purge: (Y/N) N Calibration Time(s): 1408 1549

Purge Volume: 25.0 (mL)

GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

LAB FILE ID: RRF0.5 = JCU03.D RRF1.0 = JCU04.D

RRF5.0 = JCU05.D RRF10 = JCU06.D RRF20 = JCU07.D

COMPOUND	RRF0.5	RRF1.0	RRF5.0	RRF10	RRF20	RRF	%RSD
Dichlorodifluoromethane	0.544	0.601	0.553	0.532	0.488	0.544	7.4
Chloromethane	0.438	0.442	0.422	0.410	0.366	0.416	7.4
Vinyl chloride	0.429	0.440	0.423	0.405	0.362	0.412	7.5
Bromomethane	0.233	0.236	0.233	0.204	0.180	0.217	11.2
Chloroethane	0.222	0.244	0.222	0.213	0.190	0.218	8.9
Trichlorofluoromethane	0.644	0.635	0.621	0.602	0.549	0.610	6.2
1,1-Dichloroethene	0.286	0.304	0.308	0.289	0.255	0.288	7.3
1,1,2-Trichloro-1,2,2-trifluoroethane	0.345	0.374	0.349	0.334	0.301	0.341	7.8
Acetone	0.018	0.015	0.015	0.016	0.014	0.016	10.8
Carbon disulfide	0.991	0.897	0.906	0.850	0.813	0.891	7.5
Methyl acetate	0.041	0.052	0.045	0.046	0.044	0.046	9.0
Methylene Chloride	0.277	0.265	0.272	0.261	0.246	0.264	4.5
trans-1,2-Dichloroethene	0.336	0.336	0.349	0.338	0.315	0.335	3.7
Methyl tert-butyl ether	0.361	0.385	0.390	0.394	0.382	0.382	3.3
1,1-Dichloroethane	0.577	0.568	0.566	0.558	0.520	0.558	3.9
cis-1,2-Dichloroethene	0.306	0.331	0.326	0.325	0.307	0.319	3.6
2-Butanone	0.020	0.025	0.026	0.026	0.026	0.024	11.2
Bromochloromethane	0.107	0.109	0.108	0.104	0.101	0.106	2.8
Chloroform	0.528	0.560	0.559	0.537	0.510	0.539	4.0
1,1,1-Trichloroethane	0.679	0.694	0.719	0.682	0.674	0.689	2.6
Cyclohexane	0.603	0.630	0.720	0.698	0.699	0.670	7.5
Carbon tetrachloride	0.610	0.622	0.658	0.634	0.630	0.631	2.8
Benzene	1.466	1.610	1.649	1.624	1.611	1.592	4.5
1,2-Dichloroethane	0.210	0.221	0.217	0.226	0.208	0.216	3.7
Trichloroethene	0.384	0.414	0.421	0.408	0.410	0.407	3.4
Methylcyclohexane	0.464	0.484	0.516	0.519	0.515	0.500	4.9

Report 1,4-Dioxane for Low-Medium VOA analysis only

6B - FORM VI VOA-2
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)

Instrument ID: J.i Calibration Date(s): 03/24/2011 03/24/2011

Heated Purge: (Y/N) N Calibration Time(s): 1408 1549

Purge Volume: 25.0 (mL)

GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

LAB FILE ID: RRF0.5 = JCU03.D RRF1.0 = JCU04.D

RRF5.0 = JCU05.D RRF10 = JCU06.D RRF20 = JCU07.D

COMPOUND	RRF0.5	RRF1.0	RRF5.0	RRF10	RRF20	$\overline{RRF}$	%RSD
1,2-Dichloropropane	0.311	0.297	0.328	0.313	0.308	0.311	3.5
Bromodichloromethane	0.380	0.377	0.389	0.382	0.376	0.381	1.3
cis-1,3-Dichloropropene	0.396	0.377	0.465	0.457	0.460	0.431	9.6
4-Methyl-2-pentanone	0.060	0.070	0.079	0.079	0.079	0.073	11.4
Toluene	1.553	1.602	1.797	1.747	1.684	1.677	6.0
trans-1,3-Dichloropropene	0.271	0.277	0.331	0.328	0.324	0.306	9.6
1,1,2-Trichloroethane	0.138	0.168	0.170	0.159	0.157	0.158	8.0
Tetrachloroethene	0.348	0.346	0.376	0.362	0.352	0.357	3.5
2-Hexanone	0.034	0.041	0.054	0.053	0.054	0.047	19.1
Dibromochloromethane	0.203	0.209	0.221	0.223	0.222	0.216	4.2
1,2-Dibromoethane	0.122	0.143	0.143	0.147	0.143	0.140	7.3
Chlorobenzene	0.996	1.039	1.018	1.004	0.985	1.008	2.1
Ethylbenzene	1.586	1.771	1.977	1.974	1.971	1.856	9.4
o-Xylene	0.596	0.606	0.702	0.705	0.706	0.663	8.5
m,p-Xylene	0.579	0.651	0.782	0.774	0.777	0.713	13.0
Styrene	0.706	0.892	1.074	1.093	1.078	0.969	17.4
Bromoform	0.232	0.195	0.213	0.201	0.214	0.211	6.7
Isopropylbenzene	1.462	1.631	2.003	2.029	2.015	1.828	14.4
1,1,2,2-Tetrachloroethane	0.131	0.153	0.146	0.144	0.143	0.144	5.4
1,3-Dichlorobenzene	1.461	1.504	1.618	1.535	1.520	1.528	3.8
1,4-Dichlorobenzene	1.511	1.553	1.598	1.527	1.521	1.542	2.3
1,2-Dichlorobenzene	1.169	1.252	1.285	1.245	1.246	1.240	3.5
1,2-Dibromo-3-Chloropropane	0.044	0.042	0.037	0.043	0.044	0.042	6.2
1,2,4-Trichlorobenzene	0.604	0.690	0.758	0.740	0.769	0.712	9.5
1,2,3-Trichlorobenzene	0.457	0.508	0.543	0.537	0.545	0.518	7.2

6C - FORM VI VOA-3
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)

Instrument ID: J.i Calibration Date(s): 03/24/2011 03/24/2011

Heated Purge: (Y/N) N Calibration Time(s): 1408 1549

Purge Volume: 25.0 (mL)

GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

LAB FILE ID: RRF0.5 = JCU03.D RRF1.0 = JCU04.D

RRF5.0 = JCU05.D RRF10 = JCU06.D RRF20 = JCU07.D

COMPOUND	RRF0.5	RRF1.0	RRF5.0	RRF10	RRF20	$\overline{RRF}$	%RSD
Vinyl Chloride-d3	0.390	0.401	0.373	0.356	0.320	0.368	8.7
Chloroethane-d5	0.310	0.310	0.285	0.263	0.228	0.279	12.5
1,1-Dichloroethene-d2	0.600	0.671	0.636	0.611	0.555	0.615	7.0
2-Butanone-d5	0.025	0.025	0.026	0.027	0.026	0.026	4.1
Chloroform-d	0.587	0.591	0.583	0.565	0.535	0.572	4.0
1,2-Dichloroethane-d4	0.183	0.182	0.183	0.182	0.172	0.180	2.7
Benzene-d6	1.411	1.574	1.642	1.613	1.586	1.565	5.8
1,2-Dichloropropane-d6	0.419	0.358	0.427	0.419	0.359	0.396	8.8
Toluene-d8	1.263	1.374	1.546	1.505	1.445	1.427	7.8
trans-1,3-Dichloropropene-d4	0.238	0.255	0.297	0.300	0.296	0.277	10.3
2-Hexanone-d5	0.018	0.023	0.029	0.030	0.030	0.026	20.3
1,1,2,2-Tetrachloroethane-d2	0.140	0.151	0.154	0.151	0.147	0.149	3.7
1,2-Dichlorobenzene-d4	0.772	0.792	0.822	0.775	0.779	0.788	2.6

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)

Instrument ID: J.i Calibration Date: 04/25/2011 Time: 0948

Lab File Id: JCUH02.D Init. Calib. Date(s): 03/24/2011 03/24/2011

EPA Sample No.(VSTD####): VSTD005JZ Init. Calib. Time(s): 1408 1549

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.544	0.479	0.010	-12.0	40.0
Chloromethane	0.416	0.327	0.010	-21.4	40.0
Vinyl chloride	0.412	0.349	0.010	-15.3	30.0
Bromomethane	0.217	0.192	0.100	-11.8	30.0
Chloroethane	0.218	0.192	0.010	-12.0	40.0
Trichlorofluoromethane	0.610	0.598	0.010	-2.0	40.0
1,1-Dichloroethene	0.288	0.291	0.100	1.2	30.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.341	0.340	0.010	-0.2	40.0
Acetone	0.016	0.016	0.010	0.1	40.0
Carbon disulfide	0.891	0.913	0.010	2.5	40.0
Methyl acetate	0.046	0.046	0.010	0.7	40.0
Methylene Chloride	0.264	0.274	0.010	3.6	40.0
trans-1,2-Dichloroethene	0.335	0.361	0.010	7.7	40.0
Methyl tert-butyl ether	0.382	0.411	0.010	7.6	40.0
1,1-Dichloroethane	0.558	0.556	0.200	-0.4	30.0
cis-1,2-Dichloroethene	0.319	0.347	0.010	8.9	40.0
2-Butanone	0.024	0.025	0.010	4.2	40.0
Bromochloromethane	0.106	0.121	0.050	14.8	30.0
Chloroform	0.539	0.567	0.200	5.2	30.0
1,1,1-Trichloroethane	0.689	0.753	0.100	9.2	30.0
Cyclohexane	0.670	0.702	0.010	4.8	40.0
Carbon tetrachloride	0.631	0.724	0.100	14.8	30.0
Benzene	1.592	1.677	0.400	5.3	30.0
1,2-Dichloroethane	0.216	0.237	0.100	9.3	30.0
Trichloroethene	0.407	0.455	0.300	11.6	30.0
Methylcyclohexane	0.500	0.526	0.010	5.4	40.0

Report 1,4-Dioxane for Low/Medium VOA analysis only

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: _____ SDG No.: (200-4829)

Instrument ID: J.i Calibration Date: 04/25/2011 Time: 0948

Lab File Id: JCUH02.D Init. Calib. Date(s): 03/24/2011 03/24/2011

EPA Sample No.(VSTD####): VSTD005JZ Init. Calib. Time(s): 1408 1549

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

Purge Volume: 25.0 (mL)

COMPOUND	$\overline{RRF}$	RRF5.0	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.311	0.325	0.010	4.3	40.0
Bromodichloromethane	0.381	0.420	0.200	10.4	30.0
cis-1,3-Dichloropropene	0.431	0.496	0.200	15.1	30.0
4-Methyl-2-pentanone	0.073	0.077	0.010	5.5	40.0
Toluene	1.677	1.885	0.400	12.4	30.0
trans-1,3-Dichloropropene	0.306	0.349	0.100	14.1	30.0
1,1,2-Trichloroethane	0.158	0.178	0.100	12.8	30.0
Tetrachloroethene	0.357	0.418	0.100	17.1	30.0
2-Hexanone	0.047	0.051	0.010	8.7	40.0
Dibromochloromethane	0.216	0.250	0.100	16.0	30.0
1,2-Dibromoethane	0.140	0.164	0.010	17.6	40.0
Chlorobenzene	1.008	1.119	0.500	10.9	30.0
Ethylbenzene	1.856	2.076	0.100	11.9	30.0
o-Xylene	0.663	0.763	0.300	15.1	30.0
m,p-Xylene	0.713	0.826	0.300	15.9	30.0
Styrene	0.969	1.156	0.300	19.4	30.0
Bromoform	0.211	0.246	0.050	16.6	30.0
Isopropylbenzene	1.828	2.153	0.010	17.8	40.0
1,1,2,2-Tetrachloroethane	0.144	0.156	0.100	8.6	30.0
1,3-Dichlorobenzene	1.528	1.791	0.400	17.2	30.0
1,4-Dichlorobenzene	1.542	1.747	0.400	13.3	30.0
1,2-Dichlorobenzene	1.240	1.405	0.400	13.4	30.0
1,2-Dibromo-3-Chloropropane	0.042	0.044	0.010	5.8	40.0
1,2,4-Trichlorobenzene	0.712	0.830	0.200	16.5	30.0
1,2,3-Trichlorobenzene	0.518	0.560	0.200	8.1	30.0

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)

Instrument ID: J.i Calibration Date: 04/25/2011 Time: 0948

Lab File Id: JCUH02.D Init. Calib. Date(s): 03/24/2011 03/24/2011

EPA Sample No.(VSTD####): VSTD005JZ Init. Calib. Time(s): 1408 1549

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
Vinyl Chloride-d3	0.368	0.301	0.010	-18.3	30.0
Chloroethane-d5	0.279	0.236	0.010	-15.4	40.0
1,1-Dichloroethene-d2	0.615	0.577	0.010	-6.1	30.0
2-Butanone-d5	0.026	0.025	0.010	-2.0	40.0
Chloroform-d	0.572	0.590	0.010	3.1	30.0
1,2-Dichloroethane-d4	0.180	0.195	0.010	8.3	30.0
Benzene-d6	1.565	1.602	0.010	2.4	30.0
1,2-Dichloropropane-d6	0.396	0.412	0.010	3.9	40.0
Toluene-d8	1.427	1.546	0.010	8.4	30.0
trans-1,3-Dichloropropene-d4	0.277	0.313	0.010	13.0	30.0
2-Hexanone-d5	0.026	0.028	0.010	9.0	40.0
1,1,2,2-Tetrachloroethane-d2	0.149	0.154	0.010	3.5	30.0
1,2-Dichlorobenzene-d4	0.788	0.840	0.010	6.5	30.0

Report 1,4-Dioxane-d8 for Low/Medium VOA analysis only

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: _____ SDG No.: (200-4829)

Instrument ID: J.i Calibration Date: 04/25/2011 Time: 1507

Lab File Id: JCUH14.D Init. Calib. Date(s): 03/24/2011 03/24/2011

EPA Sample No.(VSTD####): VSTD005ZJ Init. Calib. Time(s): 1408 1549

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

Purge Volume: 25.0 (mL)

COMPOUND	$\overline{RRF}$	RRF5.0	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.544	0.489	0.010	-10.0	50.0
Chloromethane	0.416	0.315	0.010	-24.2	50.0
Vinyl chloride	0.412	0.347	0.010	-15.7	50.0
Bromomethane	0.217	0.189	0.010	-13.1	50.0
Chloroethane	0.218	0.191	0.010	-12.6	50.0
Trichlorofluoromethane	0.610	0.639	0.010	4.6	50.0
1,1-Dichloroethene	0.288	0.297	0.010	3.0	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.341	0.352	0.010	3.4	50.0
Acetone	0.016	0.016	0.010	1.5	50.0
Carbon disulfide	0.891	0.882	0.010	-1.1	50.0
Methyl acetate	0.046	0.046	0.010	0.6	50.0
Methylene Chloride	0.264	0.283	0.010	7.1	50.0
trans-1,2-Dichloroethene	0.335	0.364	0.010	8.6	50.0
Methyl tert-butyl ether	0.382	0.433	0.010	13.4	50.0
1,1-Dichloroethane	0.558	0.552	0.010	-1.0	50.0
cis-1,2-Dichloroethene	0.319	0.353	0.010	10.7	50.0
2-Butanone	0.024	0.026	0.010	6.7	50.0
Bromochloromethane	0.106	0.123	0.010	16.6	50.0
Chloroform	0.539	0.597	0.010	10.7	50.0
1,1,1-Trichloroethane	0.689	0.767	0.010	11.2	50.0
Cyclohexane	0.670	0.670	0.010	0.0	50.0
Carbon tetrachloride	0.631	0.731	0.010	15.8	50.0
Benzene	1.592	1.671	0.010	4.9	50.0
1,2-Dichloroethane	0.216	0.249	0.010	14.9	50.0
Trichloroethene	0.407	0.456	0.010	12.1	50.0
Methylcyclohexane	0.500	0.512	0.010	2.5	50.0

Report 1,4-Dioxane for Low/Medium VOA analysis only

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)

Instrument ID: J.i Calibration Date: 04/25/2011 Time: 1507

Lab File Id: JCUH14.D Init. Calib. Date(s): 03/24/2011 03/24/2011

EPA Sample No.(VSTD####): VSTD005ZJ Init. Calib. Time(s): 1408 1549

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.311	0.309	0.010	-0.9	50.0
Bromodichloromethane	0.381	0.432	0.010	13.4	50.0
cis-1,3-Dichloropropene	0.431	0.493	0.010	14.4	50.0
4-Methyl-2-pentanone	0.073	0.080	0.010	9.7	50.0
Toluene	1.677	1.863	0.010	11.1	50.0
trans-1,3-Dichloropropene	0.306	0.371	0.010	21.2	50.0
1,1,2-Trichloroethane	0.158	0.185	0.010	16.7	50.0
Tetrachloroethene	0.357	0.404	0.010	13.1	50.0
2-Hexanone	0.047	0.053	0.010	12.1	50.0
Dibromochloromethane	0.216	0.273	0.010	26.5	50.0
1,2-Dibromoethane	0.140	0.167	0.010	19.7	50.0
Chlorobenzene	1.008	1.139	0.010	13.0	50.0
Ethylbenzene	1.856	2.074	0.010	11.8	50.0
o-Xylene	0.663	0.775	0.010	16.9	50.0
m,p-Xylene	0.713	0.830	0.010	16.4	50.0
Styrene	0.969	1.187	0.010	22.5	50.0
Bromoform	0.211	0.261	0.010	23.4	50.0
Isopropylbenzene	1.828	2.117	0.010	15.8	50.0
1,1,2,2-Tetrachloroethane	0.144	0.160	0.010	11.8	50.0
1,3-Dichlorobenzene	1.528	1.755	0.010	14.9	50.0
1,4-Dichlorobenzene	1.542	1.764	0.010	14.4	50.0
1,2-Dichlorobenzene	1.240	1.455	0.010	17.4	50.0
1,2-Dibromo-3-Chloropropane	0.042	0.053	0.010	26.3	50.0
1,2,4-Trichlorobenzene	0.712	0.869	0.010	22.0	50.0
1,2,3-Trichlorobenzene	0.518	0.620	0.010	19.7	50.0

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)

Instrument ID: J.i Calibration Date: 04/25/2011 Time: 1507

Lab File Id: JCUH14.D Init. Calib. Date(s): 03/24/2011 03/24/2011

EPA Sample No.(VSTD####): VSTD005ZJ Init. Calib. Time(s): 1408 1549

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

Purge Volume: 25.0 (mL)

COMPOUND	$\overline{RRF}$	RRF5.0	MIN RRF	%D	MAX %D
Vinyl Chloride-d3	0.368	0.302	0.010	-18.0	50.0
Chloroethane-d5	0.279	0.233	0.010	-16.4	50.0
1,1-Dichloroethene-d2	0.615	0.586	0.010	-4.7	50.0
2-Butanone-d5	0.026	0.025	0.010	-3.0	50.0
Chloroform-d	0.572	0.609	0.010	6.4	50.0
1,2-Dichloroethane-d4	0.180	0.203	0.010	12.5	50.0
Benzene-d6	1.565	1.588	0.010	1.5	50.0
1,2-Dichloropropane-d6	0.396	0.418	0.010	5.4	50.0
Toluene-d8	1.427	1.570	0.010	10.1	50.0
trans-1,3-Dichloropropene-d4	0.277	0.315	0.010	13.6	50.0
2-Hexanone-d5	0.026	0.030	0.010	16.2	50.0
1,1,2,2-Tetrachloroethane-d2	0.149	0.162	0.010	9.1	50.0
1,2-Dichlorobenzene-d4	0.788	0.881	0.010	11.8	50.0

Report 1,4-Dioxane-d8 for Low/Medium VOA analysis only

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKJZ

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: MB 200-16989/3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH03.D

Level: (TRACE/LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 04/25/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.047	J
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	1.6	J
75-15-0	Carbon disulfide	0.20	J
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.047	J
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKJZ

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302
Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)
Matrix: (SOIL/SED/WATER) Water Lab Sample ID: MB 200-16989/3
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH03.D
Level: (TRACE/LOW/MED) TRACE Date Received:
% Moisture: not dec. Date Analyzed: 04/25/2011
GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0
Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.049	J
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.013	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.083	J
87-61-6	1,2,3-Trichlorobenzene	0.15	J

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VBLKJZ

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: _____ SDG No.: (200-4829)

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: MB 200-16989/3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH03.D

Level: (TRACE or LOW/MED) TRACE Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 04/25/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	4.13	2.8	J
02		Unknown	6.90	3.5	X J
03	541-05-9	Cyclotrisiloxane, hexamethyl-	7.85	1.8	J N
04		Unknown siloxane derivative	10.69	1.9	J
05		Unknown	12.88	0.50	J
06	E966796 [1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VHBLK01

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: _____ SDG No.: (200-4829)

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4829-4

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH13.D

Level: (TRACE/LOW/MED) TRACE Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 04/25/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	0.65	J B
75-15-0	Carbon disulfide	0.070	J B
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.020	J
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VHBLK01

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4829-4

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH13.D

Level: (TRACE/LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 04/25/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VHBLK01

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: (200-4829)

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4829-4

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH13.D

Level: (TRACE or LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 04/25/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	6.90	3.1	B X J
02	E9667961	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 200-7267-1

SDG Number: 200-7267

Job Description: Centralia (200-7267)

Contract Number: 1E-30401

For:
Argonne National Laboratory
9700 South Cass Avenue
Building 203
Office B-149
Argonne, IL 60439

Attention: Mr. Clyde Dennis

Approved for release.
Kirk F Young
Project Manager I
10/12/2011 10:48 AM

Kirk F Young
Project Manager I
kirk.young@testamericainc.com
10/12/2011

The test results in this report relate only to sample(s) as received by the laboratory. These test results were derived under a quality system that adheres to the requirements of NELAC. Pursuant to NELAC, this report may not be produced in full without written approval from the laboratory

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Raw Qc Data - SOM01.2 Volatiles-Trace 47

Raw Qc Data - SOM01.2 Volatiles-Trace 47

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CASE NARRATIVE

Client: Argonne National Laboratory

Project: Centralia (200-7267)

Report Number: 200-7267-1

Enclosed is the data set for the referenced project work. With the exceptions noted as flags or footnotes, standard analytical protocols were followed in performing the analytical work and the applied control limits were met.

Calculations were performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

Receipt

The samples were received on 09/30/2011. Documentation of the condition of the samples at the time of their receipt and any exception to the laboratory's Sample Acceptance Policy is documented in the Shipping and Receiving section of this submittal. The samples, as received, were not acid preserved. On that basis, the laboratory did provide for the analytical work to be performed within seven days of sample collection.

SOM01.2 Volatile Organics (Trace Level Water)

A storage blank was prepared for volatile organics analysis, and stored in association with the storage of the samples. That storage blank, identified as VHBLK01, was carried through the holding period with the samples, and analyzed.

Each sample in the sample set was analyzed without a dilution. An additional, dilution analysis was performed on samples CNPMP6-W-27247 and CNPMP9-W-27250 in order to provide quantification within the range of calibrated instrument response. Both sets of results for the analysis of samples CNPMP6-W-27247 and CNPMP9-W-27250 are included in this submittal.

Each of the analyses associated with the sample set exhibited an acceptable internal standard performance. There was an acceptable recovery of each deuterated monitoring compound (DMC) in the analysis of the method blank associated with the analytical work, and in the analysis of the storage blank associated with the sample set. The analysis of the samples in this sample set did meet the technical acceptance criteria specific to DMC recoveries, although not all DMC recoveries were within the control range in each analysis. The technical acceptance criteria does provide for the recovery of up to three DMCs to fall outside of the control range in the analysis of field samples. Matrix spike and matrix spike duplicate analyses were not performed on samples in this sample set. Trace concentrations of chloromethane, acetone, carbon disulfide, benzene, toluene, and 1,2,4-trichlorobenzene were identified in the analysis of the method blank associated with the analytical work. The concentration of each analyte in that analysis was below the established reporting limit, and the analysis did meet the technical acceptance criteria for a compliant method blank analysis. A trace concentration of acetone was identified in the analysis of the storage blank associated with the sample set. The concentration of acetone in that analysis was below the established reporting limit, and the analysis did meet the technical acceptance criteria for a compliant storage blank analysis. A trace concentration of carbon

tetrachloride was identified in the analysis of one of the instrument blanks associated with the analytical work, and a trace concentration of acetone was identified in the analysis of the second instrument blank. The concentration of each analyte in each analysis was below the established reporting limit, and each analysis did meet the technical acceptance criteria for a compliant instrument blank analysis. Present in the method blank, instrument blank, and storage blank analyses was a non-target constituent that represents a compound that is related to the DMC formulation. The fact that the presence of this compound is not within the laboratory's control is at issue. The derived results for that compound have been qualified with an "X" qualifier to reflect the source of the contamination.

The responses for each of the target analytes met the relative standard deviation criterion in the initial calibration. The response for each target analyte met the percent difference criterion in the opening/continuing calibration check acquisition. The response for each target analyte met the 50.0 percent difference criterion in the closing calibration check acquisition.

The primary quantitation mass for methylcyclohexane that is specified in the Statement of Work is mass 83. The laboratory did identify a contribution to mass 83 from 1,2-dichloropropane-d_6, one of the deuterated monitoring compounds (DMCs). The laboratory did change the primary quantitation mass assignment to mass 55 for the quantification of methylcyclohexane.

Manual integration was employed in deriving certain of the analytical results. The values that have been derived from manual integration are qualified on the quantitation reports. Extracted ion current profiles for each manual integration are included in the data package, and further documented at the end of this submittal.

DATA REPORTING QUALIFIERS

Client: Argonne National Laboratory

Job Number: 200-7267-1
Sdg Number: 200-7267

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Analyzed for but not detected.
	E	Compound concentration exceeds the upper level of the calibration range of the instrument for that specific analysis.
	J	Indicates an Estimated Value for TICs
	J	Indicates an estimated value.
	D	Sample was analyzed at a higher dilution factor.
	X	See case narrative notes for explanation of the 'X' flag
	*	Surrogate exceeds the control limit
	B	The analyte was found in an associated blank, as well as in the sample.

MATRIX: Water

RECEIVING LAB: Test America

PROJECT/SITE: Centralia KS

SAMPLER(S) (Signature) Travis Kemler

ARGONNE NATIONAL LABORATORY
CHAIN OF CUSTODY RECORD*

Shipping Container No.

Shipping Info:

ANL Field Contact (Name & Temporary Phone): Dave Surgnier 630 408 7114

DATE OF COLLECTION	SAMPLE ID NUMBER(S)	Number of containers	ANALYSIS: VOC	REMARKS
Sept 29, 2011	CNPMP6-W-27247	2	2	2 x 40 mL for VOC
" " "	CNPMP9-W-27250	2	2	" " "
" " "	CNMW04-W-27229	2	2	" " "
Sept 29, 2011	CNQCTB-W-27256	2	2	2 x 40 mL for VOC

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
	9/29/11	18:45					

Relinquished by (Signature)	Date	Time	Received for Laboratory by	Date	Time	Remarks
				9/30/11	1020	

Y	N	FOR LAB USE ONLY
		Custody seal was intact when shipment received.
		Sample containers were intact when received.
		Shipment was at required temperature when received.
		Sample labels, Tags and COC agree.

*A sample is under custody if:
1. It is in your possession; or,
2. It is in your view, after having been in your possession; or,
3. It was in your possession and you locked it up; or,
4. It is in a designated secure area.

Argonne National Laboratory, Applied Geosciences & Environmental Mgt. Group, Environmental Research Division, 9700 S. Cass Avenue, Argonne, IL 60439

ER-TR (12-84)

10/12/2011

TestAmerica Burlington

INTERNAL CHAIN OF CUSTODY LOG (ICOC)

Project Information:	
Log In #: 200-7267	Method: SOM01.2_Vol
Client: ARCADIS	LAB IDs: 200-7267-1 to 200-7267-4 GrS 10/3/11

Samples associated with this log-in were placed into storage on 9/30/11 (Date) 1405 (Time[2]) by: *Sample Custodian Signature*

Storage Location: VOA fridge B shelf 9 *Specify storage location (refrigerator, freezer ID or lab location) for original sample containers*

Storage Condition: ☒ Refrigeration ☐ Frozen ☐ Ambient

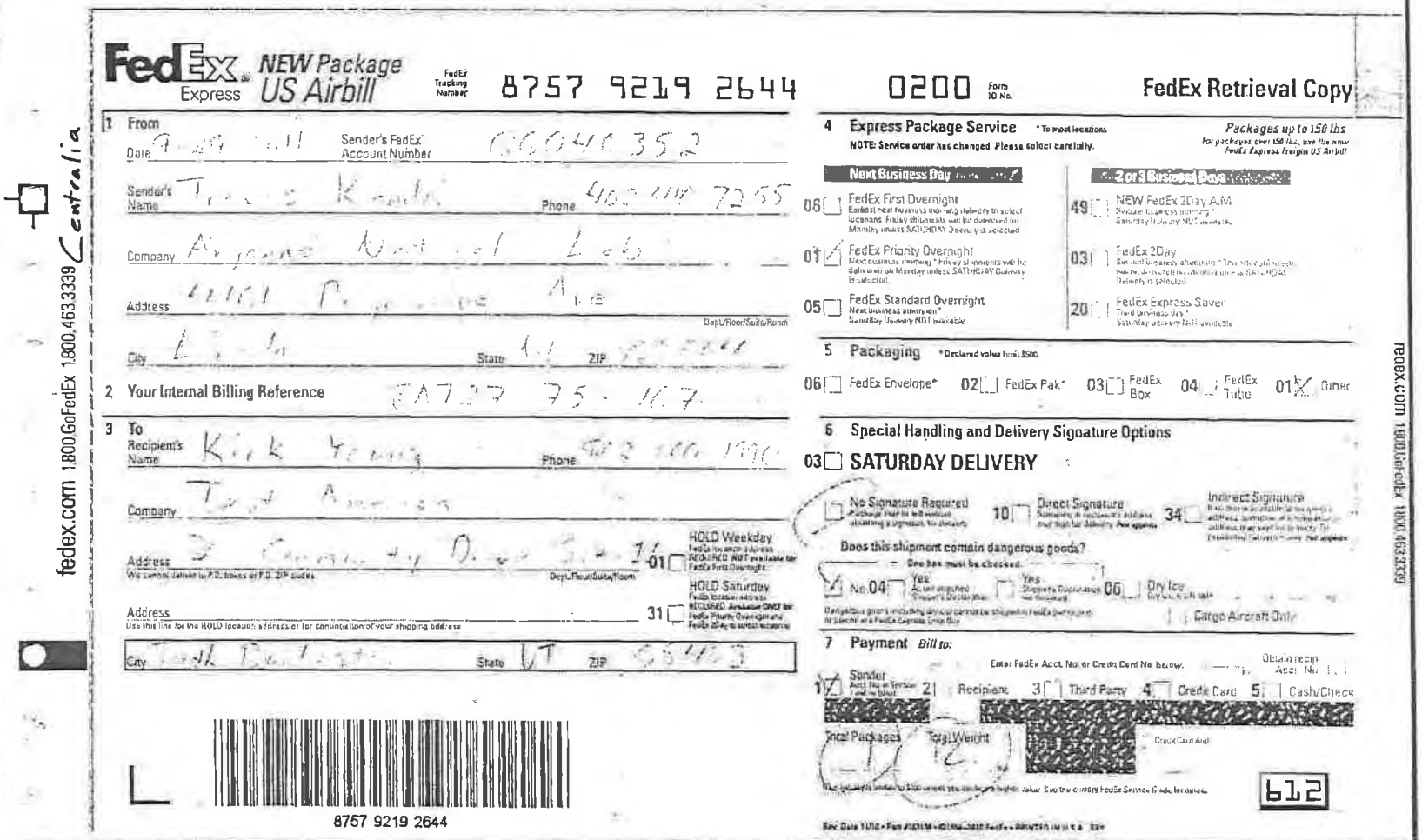
Internal Transfer Information

Sample Type		Lab ID(s)	Transfer	Transfer	Purpose of Transfer			Relinquished	Received	Storage Location
Original	Prepared[1]		Date	Time[2]	Prep	Analysis	Storage	By:	By:	Prepared Sample[1]
✓		7267 1-4	10/4/11	0635	✓			JH	JH	Screen
✓		"	10/4/11	0645			✓	JH	JH	Storage
✓		"	10/4/11	0740		✓		JH	JH	Analysis
✓		"	10/4/11	0745			✓	JH	JH	Storage

[1] Extract, digestate, or any other prepared sample that is no longer in original sample container

[2] Military Time

Shipping and Receiving Documents



FedEx Express NEW Package US Airbill

FedEx Tracking Number 8757 9219 2644

0200 Form ID No.

FedEx Retrieval Copy

1 From

Date 7 [illegible] Sender's FedEx Account Number 0604[illegible]352

Sender's Name T[illegible] K[illegible] Phone 40[illegible]7255

Company A[illegible] [illegible] L[illegible]

Address [illegible] P[illegible] A[illegible]

Dept/Floor/Suite/Room

City [illegible] State [illegible] ZIP [illegible]

2 Your Internal Billing Reference [illegible]

3 To

Recipient's Name Kirk Young Phone [illegible]

Company [illegible]

Address [illegible] Dept/Floor/Suite/Room

HOLD Weekday 01

Address HOLD Saturday 31

City [illegible] State VT ZIP [illegible]

4 Express Package Service * To most locations

NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs. For packages over 150 lbs., use the new FedEx Express Freight US Airbill.

Next Business Day

06 FedEx First Overnight

01 FedEx Priority Overnight

05 FedEx Standard Overnight

2 or 3 Business Days

49 NEW FedEx 2Day A.M.

03 FedEx 2Day

20 FedEx Express Saver

5 Packaging * Declared value limit $500

06 FedEx Envelope* 02 FedEx Pak* 03 FedEx Box 04 FedEx Tube 01 Other

6 Special Handling and Delivery Signature Options

03 SATURDAY DELIVERY

No Signature Required 10 Direct Signature 34 Indirect Signature

Does this shipment contain dangerous goods? One box must be checked.

No 04 Yes Yes 06 Dry Ice

Cargo Aircraft Only

7 Payment Bill to:

Enter FedEx Acct. No. or Credit Card No. below. Obtain recip. Acct. No.

1 Sender 2 Recipient 3 Third Party 4 Credit Card 5 Cash/Check

Total Packages Total Weight Credit Card Auth

612

8757 9219 2644

fedex.com 1.800.GoFedEx 1.800.463.3339

Centralia

fedex.com 1.800.GoFedEx 1.800.463.3339

Login Sample Receipt Checklist

Client: Argonne National Laboratory

Job Number: 200-7267-1
SDG Number: 200-7267

Login Number: 7267
List Number: 1
Creator: Marlon, Greg T

List Source: TestAmerica Burlington

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	NO SEAL NUMBERS
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.5 °C, IR GUN ID 96/CF=0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Sample CNMW04-W-27229 - One of two vials broken in transit.
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	Sample volumes received unpreserved.
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Sample Login Acknowledgement

Job 200-7267-1

Client Job Description:	Centralia (200-7267)	**Report To:**	Argonne National Laboratory Jorge Alvarado 9700 South Cass Avenue Building 203 Office B-149 Argonne, IL 60439
Purchase Order #:	1E-30401		
Work Order #:	1E-30401		
Project Manager:	Kirk F Young		
Job Due Date:	10/14/2011		
Job TAT:	14 Days		
Max Deliverable Level:	IV	**Bill To:**	Argonne National Laboratory Accounts Payable Chief Financial Offices 9700 S. Cass Ave. Building 201 Argonne, IL 60439
Earliest Deliverable Due:	10/14/2011		

Login 200-7267

Sample Receipt:	9/30/2011 10:20:00 AM	**Number of Coolers:**	1
Method of Delivery:	FedEx Priority Overnight	**Cooler Temperature(s) (C°):**	4.5;

Lab Sample # / Method	Client Sample ID / Method Description / Work Location	Date Sampled	Matrix	Rpt Basis	Dry / Wet **
200-7267-1	**CNPMP6-W-27247**	**9/29/2011 12:00:00 AM**	**Water**		
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab			Total	Wet
200-7267-2	**CNPMP9-W-27250**	**9/29/2011 12:00:00 AM**	**Water**		
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab			Total	Wet
200-7267-3	**CNMW04-W-27229**	**9/29/2011 12:00:00 AM**	**Water**		
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab			Total	Wet
200-7267-4	**CNQCTB-W-27256**	**9/29/2011 12:00:00 AM**	**Water**		
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab			Total	Wet
200-7267-5	**VHBLK01**	**9/30/2011 2:05:00 PM**	**Water**		
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab			Total	Wet

* Method on-hold

** Wet/Dry indicates whether the reported results will be corrected for moisture content, and based on sample Wet weight or Dry

METHODOLOGY SUMMARY

Laboratory: TestAmerica Laboratories

Project No:

Location: South Burlington, Vermont

SDG No: 200-7267

VOA

Volatile Organics Trace - USEPA CLP SOM01.2

2A - FORM II VOA-1

WATER VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Level: (TRACE or LOW) TRACE

	EPA SAMPLE NO.	VDMC1 (VCL) #	VDMC2 (CLA) #	VDMC3 (DCE) #	VDMC4 (BUT) #	VDMC5 (CLF) #	VDMC6 (DCA) #	VDMC7 (BEN) #
01	VBLKDH	107	116	84	105	88	96	90
02	CNMW04-W-27229	111	122	90	199 *	94	101	95
03	CNQCTB-W-27256	102	112	82	173 *	86	90	84
04	CNPMP6-W-27247	104	117	85	168 *	92	88	89
05	CNPMP9-W-27250	101	114	83	176 *	88	90	88
06	CNPMP6-W-27247 DL	105	112	84	137	86	87	85
07	CNPMP9-W-27250 DL	105	115	83	193 *	88	97	86
08	VHBLK01	103	117	86	103	91	96	87

			QC LIMITS
VDMC1	(VCL)	= Vinyl Chloride-d3	(65-131)
VDMC2	(CLA)	= Chloroethane-d5	(71-131)
VDMC3	(DCE)	= 1,1-Dichloroethene-d2	(55-104)
VDMC4	(BUT)	= 2-Butanone-d5	(49-155)
VDMC5	(CLF)	= Chloroform-d	(78-121)
VDMC6	(DCA)	= 1,2-Dichloroethane-d4	(78-129)
VDMC7	(BEN)	= Benzene-d6	(77-124)

\# Column to be used to flag recovery values

* Values outside of contract required QC limits

2B - FORM II VOA-2
WATER VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: _____ SDG No.: 200-7267

Level: (TRACE or LOW) TRACE

	EPA SAMPLE NO.	VDMC8 (DPA) #	VDMC9 (TOL) #	VDMC10 (TDP) #	VDMC11 (HEX) #	VDMC12 (TCA) #	VDMC13 (DCZ) #	OTHER	TOT OUT
01	VBLKDH	94	87	82	90	91	99		0
02	CNMW04-W-27229	99	90	84	177 *	94	98		2
03	CNQCTB-W-27256	88	83	76	154 *	88	88		2
04	CNPMP6-W-27247	90	86	77	161 *	83	82		2
05	CNPMP9-W-27250	90	84	77	157 *	85	84		2
06	CNPMP6-W-27247 DL	86	82	70 *	121	77	86		1
07	CNPMP9-W-27250 DL	89	83	80	173 *	89	87		2
08	VHBLK01	93	85	80	88	93	96		0

		QC LIMITS
VDMC8	(DPA) = 1,2-Dichloropropane-d6	(79-124)
VDMC9	(TOL) = Toluene-d8	(77-121)
VDMC10	(TDP) = trans-1,3-Dichloropropene-d4	(73-121)
VDMC11	(HEX) = 2-Hexanone-d5	(28-135)
VDMC12	(TCA) = 1,1,2,2-Tetrachloroethane-d2	(73-125)
VDMC13	(DCZ) = 1,2-Dichlorobenzene-d4	(80-131)

Column to be used to flag recovery values
* Values outside of contract required QC limits

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
VBLKDH

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Lab File ID: DHSE03.D Lab Sample ID: MB 200-26173/3

Instrument ID: D.i

Matrix: (SOIL/SED/WATER) Water Date Analyzed: 10/04/2011

Level: (TRACE or LOW/MED) TRACE Time Analyzed: 0703

GC Column: DB-624 ID: 0.20 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	CNMW04-W-27229	200-7267-3	DHSE05.D	0756
02	CNQCTB-W-27256	200-7267-4	DHSE06.D	0820
03	CNPMP6-W-27247	200-7267-1	DHSE07.D	0855
04	VIBLKDJ	VIBLK 200-26173/8	DHSE08.D	0920
05	CNPMP9-W-27250	200-7267-2	DHSE09.D	0944
06	VIBLKDK	VIBLK 200-26173/10	DHSE10.D	1009
07	CNPMP6-W-27247DL	200-7267-1	DHSE11.D	1120
08	CNPMP9-W-27250DL	200-7267-2	DHSE12.D	1144
09	VHBLK01	200-7267-5	DHSE14.D	1234

COMMENTS:

5A - FORM V VOA
VOLATILE ORGANICS INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.
BFBDB

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Lab File Id: DHS02.D BFB Injection Date: 09/22/2011

Instrument Id: D.i BFB Injection Time: 0751

GC Column: DB-624 ID: 0.20 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.6
75	30.0 - 80.0% of mass 95	43.2
95	Base peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	7.1
173	Less than 2.0% of mass 174	0.4 (0.6)1
174	50.0 - 120% of mass 95	71.4
175	5.0 - 9.0% of mass 174	5.1 (7.1)1
176	95.0 - 101% of mass 174	69.8 (97.7)1
177	5.0 - 9.0% of mass 176	4.5 (6.4)2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0.5DB	IC 200-25802/5	DHS05.D	09/22/2011	0848
02	VSTD001DB	IC 200-25802/6	DHS06.D	09/22/2011	0913
03	VSTD005DB	ICIS 200-25802/7	DHS07.D	09/22/2011	0938
04	VSTD010DB	IC 200-25802/8	DHS08.D	09/22/2011	1002
05	VSTD020DB	IC 200-25802/9	DHS09.D	09/22/2011	1038

5A - FORM V VOA
VOLATILE ORGANICS INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.
BFBDH

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Lab File Id: DHSE01.D BFB Injection Date: 10/04/2011

Instrument Id: D.i BFB Injection Time: 0625

GC Column: DB-624 ID: 0.20 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	29.0
75	30.0 - 80.0% of mass 95	46.8
95	Base peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0 (0)1
174	50.0 - 120% of mass 95	78.9
175	5.0 - 9.0% of mass 174	6.5 (8.3)1
176	95.0 - 101% of mass 174	79.3 (101)1
177	5.0 - 9.0% of mass 176	5.7 (7.2)2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD005DH	CCVIS 200-26173/2	DHSE02.D	10/04/2011	0639
02	VBLKDH	MB 200-26173/3	DHSE03.D	10/04/2011	0703
03	CNMW04-W-2 7229	200-7267-3	DHSE05.D	10/04/2011	0756
04	CNQCTB-W-2 7256	200-7267-4	DHSE06.D	10/04/2011	0820
05	CNPMP6-W-2 7247	200-7267-1	DHSE07.D	10/04/2011	0855
06	VIBLKDJ	VIBLK 200-26173/8	DHSE08.D	10/04/2011	0920
07	CNPMP9-W-2 7250	200-7267-2	DHSE09.D	10/04/2011	0944
08	VIBLKDK	VIBLK 200-26173/10	DHSE10.D	10/04/2011	1009
09	CNPMP6-W-2 7247DL	200-7267-1	DHSE11.D	10/04/2011	1120
10	CNPMP9-W-2 7250DL	200-7267-2	DHSE12.D	10/04/2011	1144
11	VHBLK01	200-7267-5	DHSE14.D	10/04/2011	1234
12	VSTD005HD	CCVC 200-26173/15	DHSE15.D	10/04/2011	1259

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

GC Column: DB-624 ID: 0.20 (mm) Init. Calib. Date(s): 09/22/2011 09/22/2011

EPA Sample No.(VSTD#####): VSTD005DH Date Analyzed: 10/04/2011

Lab File ID (Standard): DHSE02.D Time Analyzed: 0639

Instrument ID: D.i Heated Purge: (Y/N) N

		IS1 (CBZ) AREA	#	RT	#	IS2 (DFB) AREA	#	RT	#	IS3 (DCB) AREA	#	RT	#
	12 HOUR STD	177557		8.73		199443		5.37		85835		11.56	
	UPPER LIMIT	248580		9.06		279220		5.70		120169		11.89	
	LOWER LIMIT	106534		8.40		119666		5.04		51501		11.23	
	EPA SAMPLE NO.												
01	VBLKDH	157535		8.73		183026		5.37		65493		11.56	
02	CNMW04-W-27229	138813		8.73		160097		5.37		55394		11.56	
03	CNQCTB-W-27256	158432		8.73		180222		5.37		65696		11.56	
04	CNPMP6-W-27247	166531		8.73		197139		5.37		75254		11.56	
05	VIBLKDJ	149005		8.73		173126		5.37		61284		11.56	
06	CNPMP9-W-27250	152932		8.73		176264		5.37		68257		11.56	
07	VIBLKDK	148650		8.73		167702		5.37		58785		11.56	
08	CNPMP6-W-27247 DL	160508		8.73		186565		5.37		65213		11.56	
09	CNPMP9-W-27250 DL	148930		8.73		168095		5.37		63714		11.56	
10	VHBLK01	142029		8.73		161617		5.37		57953		11.56	

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = + 0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = - 0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside contract required QC limits with an asterisk.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
CNMW04-W-27229

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7267-3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE05.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/30/2011

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.050	J B
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.19	J
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	2.6	
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
CNMW04-W-27229

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7267-3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE05.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/30/2011

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.014	J B
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CNMW04-W-27229

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7267-3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE05.D

Level: (TRACE or LOW/MED) TRACE Date Received: 09/30/2011

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	6.69	3.1	B X J
02	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
CNPMP6-W-27247

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7267-1

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE07.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/30/2011

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.049	J B
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.13	J
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	7.3	
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	130	E
71-43-2	Benzene	0.0097	J B
107-06-2	1,2-Dichloroethane	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CNPMP6-W-27247

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7267-1

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE07.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/30/2011

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.017	J B
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.0070	J
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
CNPMP6-W-27247

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7267-1

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE07.D

Level: (TRACE or LOW/MED) TRACE Date Received: 09/30/2011

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	6.69	2.8	B X J
02		Unknown	11.40	0.68	J
03	E966796 [1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CNPMP6-W-27247DL

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7267-1

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE11.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/30/2011

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 9.7

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	4.9	U
74-87-3	Chloromethane	4.9	U
75-01-4	Vinyl chloride	4.9	U
74-83-9	Bromomethane	4.9	U
75-00-3	Chloroethane	4.9	U
75-69-4	Trichlorofluoromethane	4.9	U
75-35-4	1,1-Dichloroethene	4.9	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	4.9	U
67-64-1	Acetone	49	U
75-15-0	Carbon disulfide	4.9	U
79-20-9	Methyl acetate	4.9	U
75-09-2	Methylene Chloride	1.0	J D
156-60-5	trans-1,2-Dichloroethene	4.9	U
1634-04-4	Methyl tert-butyl ether	4.9	U
75-34-3	1,1-Dichloroethane	4.9	U
156-59-2	cis-1,2-Dichloroethene	4.9	U
78-93-3	2-Butanone	49	U
74-97-5	Bromochloromethane	4.9	U
67-66-3	Chloroform	7.5	D
71-55-6	1,1,1-Trichloroethane	4.9	U
110-82-7	Cyclohexane	4.9	U
56-23-5	Carbon tetrachloride	120	D
71-43-2	Benzene	0.048	J B D
107-06-2	1,2-Dichloroethane	4.9	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
CNPMP6-W-27247DL

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7267-1

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE11.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/30/2011

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 9.7

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	4.9	U
108-87-2	Methylcyclohexane	4.9	U
78-87-5	1,2-Dichloropropane	4.9	U
75-27-4	Bromodichloromethane	4.9	U
10061-01-5	cis-1,3-Dichloropropene	4.9	U
108-10-1	4-Methyl-2-pentanone	49	U
108-88-3	Toluene	4.9	U
10061-02-6	trans-1,3-Dichloropropene	4.9	U
79-00-5	1,1,2-Trichloroethane	4.9	U
127-18-4	Tetrachloroethene	4.9	U
591-78-6	2-Hexanone	49	U
124-48-1	Dibromochloromethane	4.9	U
106-93-4	1,2-Dibromoethane	4.9	U
108-90-7	Chlorobenzene	4.9	U
100-41-4	Ethylbenzene	4.9	U
95-47-6	o-Xylene	4.9	U
179601-23-1	m,p-Xylene	4.9	U
100-42-5	Styrene	4.9	U
75-25-2	Bromoform	4.9	U
98-82-8	Isopropylbenzene	4.9	U
79-34-5	1,1,2,2-Tetrachloroethane	4.9	U
541-73-1	1,3-Dichlorobenzene	4.9	U
106-46-7	1,4-Dichlorobenzene	4.9	U
95-50-1	1,2-Dichlorobenzene	0.23	J D
96-12-8	1,2-Dibromo-3-Chloropropane	4.9	U
120-82-1	1,2,4-Trichlorobenzene	4.9	U
87-61-6	1,2,3-Trichlorobenzene	4.9	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CNPMP6-W-27247DL

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7267-1

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE11.D

Level: (TRACE or LOW/MED) TRACE Date Received: 09/30/2011

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 9.7

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	6.69	25	B X D J
02	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
CNPMP9-W-27250

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7267-2

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE09.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/30/2011

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.24	J
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	24	E
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
CNPMP9-W-27250

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7267-2

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE09.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/30/2011

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.026	J B
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.014	J
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
CNPMP9-W-27250

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7267-2

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE09.D

Level: (TRACE or LOW/MED) TRACE Date Received: 09/30/2011

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	6.69	2.8	B X J
02	E966796 [1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
CNPMP9-W-27250DL

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7267-2

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE12.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/30/2011

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.8

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.90	U
74-87-3	Chloromethane	0.90	U
75-01-4	Vinyl chloride	0.90	U
74-83-9	Bromomethane	0.90	U
75-00-3	Chloroethane	0.90	U
75-69-4	Trichlorofluoromethane	0.90	U
75-35-4	1,1-Dichloroethene	0.90	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.90	U
67-64-1	Acetone	9.0	U
75-15-0	Carbon disulfide	0.90	U
79-20-9	Methyl acetate	0.90	U
75-09-2	Methylene Chloride	0.90	U
156-60-5	trans-1,2-Dichloroethene	0.90	U
1634-04-4	Methyl tert-butyl ether	0.90	U
75-34-3	1,1-Dichloroethane	0.90	U
156-59-2	cis-1,2-Dichloroethene	0.90	U
78-93-3	2-Butanone	9.0	U
74-97-5	Bromochloromethane	0.90	U
67-66-3	Chloroform	0.25	J D
71-55-6	1,1,1-Trichloroethane	0.90	U
110-82-7	Cyclohexane	0.90	U
56-23-5	Carbon tetrachloride	22	D
71-43-2	Benzene	0.90	U
107-06-2	1,2-Dichloroethane	0.90	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
CNPMP9-W-27250DL

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7267-2

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DRSE12.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/30/2011

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.8

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.90	U
108-87-2	Methylcyclohexane	0.90	U
78-87-5	1,2-Dichloropropane	0.90	U
75-27-4	Bromodichloromethane	0.90	U
10061-01-5	cis-1,3-Dichloropropene	0.90	U
108-10-1	4-Methyl-2-pentanone	9.0	U
108-88-3	Toluene	0.027	J D B
10061-02-6	trans-1,3-Dichloropropene	0.90	U
79-00-5	1,1,2-Trichloroethane	0.90	U
127-18-4	Tetrachloroethene	0.90	U
591-78-6	2-Hexanone	9.0	U
124-48-1	Dibromochloromethane	0.90	U
106-93-4	1,2-Dibromoethane	0.90	U
108-90-7	Chlorobenzene	0.90	U
100-41-4	Ethylbenzene	0.90	U
95-47-6	o-Xylene	0.90	U
179601-23-1	m,p-Xylene	0.0099	J D
100-42-5	Styrene	0.90	U
75-25-2	Bromoform	0.90	U
98-82-8	Isopropylbenzene	0.90	U
79-34-5	1,1,2,2-Tetrachloroethane	0.90	U
541-73-1	1,3-Dichlorobenzene	0.90	U
106-46-7	1,4-Dichlorobenzene	0.90	U
95-50-1	1,2-Dichlorobenzene	0.90	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.90	U
120-82-1	1,2,4-Trichlorobenzene	0.90	U
87-61-6	1,2,3-Trichlorobenzene	0.90	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
CNPMP9-W-27250DL

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7267-2

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE12.D

Level: (TRACE or LOW/MED) TRACE Date Received: 09/30/2011

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.8

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	6.69	5.2	B X D J
02	E966796 [1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
CNQCTB-W-27256

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7267-4

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE06.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/30/2011

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	4.3	J B
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CNQCTB-W-27256

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7267-4

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE06.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/30/2011

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.075	J B
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.045	J
179601-23-1	m,p-Xylene	0.044	J
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
CNQCTB-W-27256

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7267-4

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE06.D

Level: (TRACE or LOW/MED) TRACE Date Received: 09/30/2011

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	6.69	2.8	B X J
02		Unknown	8.02	0.52	J
03	E966796 [1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

6A - FORM VI VOA-1
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Instrument ID: D.i Calibration Date(s): 09/22/2011 09/22/2011

Heated Purge: (Y/N) N Calibration Time(s): 0848 1038

Purge Volume: 25.0 (mL)

GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

LAB FILE ID: RRF0.5 = DHS05.D RRF1.0 = DHS06.D

RRF5.0 = DHS07.D RRF10 = DHS08.D RRF20 = DHS09.D

COMPOUND	RRF0.5	RRF1.0	RRF5.0	RRF10	RRF20	$\overline{RRF}$	%RSD
Dichlorodifluoromethane	0.507	0.475	0.480	0.489	0.487	0.488	2.5
Chloromethane	0.801	0.648	0.594	0.593	0.584	0.644	14.2
Vinyl chloride	0.452	0.427	0.424	0.442	0.437	0.436	2.6
Bromomethane	0.206	0.200	0.187	0.193	0.193	0.196	3.7
Chloroethane	0.267	0.214	0.205	0.221	0.215	0.224	11.0
Trichlorofluoromethane	0.542	0.522	0.528	0.542	0.542	0.535	1.7
1,1-Dichloroethene	0.257	0.254	0.260	0.261	0.253	0.257	1.3
1,1,2-Trichloro-1,2,2-trifluoroethane	0.304	0.307	0.305	0.308	0.299	0.305	1.2
Acetone	0.029	0.026	0.022	0.023	0.021	0.024	13.5
Carbon disulfide	0.758	0.658	0.663	0.696	0.711	0.697	5.8
Methyl acetate	0.066	0.060	0.057	0.062	0.058	0.060	5.5
Methylene Chloride	0.226	0.213	0.209	0.221	0.209	0.216	3.5
trans-1,2-Dichloroethene	0.305	0.308	0.304	0.321	0.315	0.311	2.3
Methyl tert-butyl ether	0.373	0.361	0.364	0.385	0.354	0.367	3.3
1,1-Dichloroethane	0.600	0.585	0.592	0.617	0.608	0.600	2.1
cis-1,2-Dichloroethene	0.330	0.299	0.305	0.317	0.312	0.313	3.7
2-Butanone	0.040	0.040	0.039	0.042	0.039	0.040	3.7
Bromochloromethane	0.113	0.103	0.103	0.107	0.102	0.106	4.1
Chloroform	0.500	0.463	0.480	0.502	0.488	0.487	3.3
1,1,1-Trichloroethane	0.547	0.528	0.530	0.567	0.578	0.550	4.0
Cyclohexane	0.846	0.839	0.869	0.918	0.917	0.878	4.3
Carbon tetrachloride	0.509	0.475	0.509	0.535	0.547	0.515	5.4
Benzene	1.568	1.515	1.482	1.544	1.514	1.525	2.2
1,2-Dichloroethane	0.272	0.252	0.271	0.279	0.268	0.268	3.7
Trichloroethene	0.394	0.385	0.377	0.396	0.397	0.390	2.2
Methylcyclohexane	0.721	0.692	0.715	0.753	0.755	0.727	3.7

Report 1,4-Dioxane for Low-Medium VOA analysis only

6B - FORM VI VOA-2
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Instrument ID: D.i Calibration Date(s): 09/22/2011 09/22/2011

Heated Purge: (Y/N) N Calibration Time(s): 0848 1038

Purge Volume: 25.0 (mL)

GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

LAB FILE ID: RRF0.5 = DHS05.D RRF1.0 = DHS06.D

RRF5.0 = DHS07.D RRF10 = DHS08.D RRF20 = DHS09.D

COMPOUND	RRF0.5	RRF1.0	RRF5.0	RRF10	RRF20	RRF	%RSD
1,2-Dichloropropane	0.366	0.346	0.353	0.373	0.363	0.360	3.0
Bromodichloromethane	0.299	0.296	0.319	0.345	0.342	0.320	7.2
cis-1,3-Dichloropropene	0.383	0.394	0.423	0.461	0.445	0.421	7.8
4-Methyl-2-pentanone	0.104	0.106	0.116	0.125	0.116	0.113	7.8
Toluene	1.677	1.641	1.626	1.715	1.684	1.669	2.1
trans-1,3-Dichloropropene	0.266	0.275	0.304	0.330	0.317	0.298	9.1
1,1,2-Trichloroethane	0.169	0.158	0.162	0.169	0.158	0.163	3.2
Tetrachloroethene	0.322	0.307	0.308	0.321	0.319	0.315	2.3
2-Hexanone	0.072	0.074	0.081	0.086	0.078	0.078	6.9
Dibromochloromethane	0.170	0.166	0.183	0.206	0.203	0.186	10.0
1,2-Dibromoethane	0.146	0.143	0.146	0.157	0.149	0.148	3.4
Chlorobenzene	1.087	1.060	1.019	1.063	1.036	1.053	2.5
Ethylbenzene	1.819	1.784	1.862	1.965	1.939	1.874	4.1
o-Xylene	0.675	0.660	0.704	0.746	0.721	0.701	4.9
m,p-Xylene	0.741	0.722	0.754	0.796	0.782	0.759	3.9
Styrene	0.934	0.954	1.052	1.115	1.078	1.027	7.7
Bromoform	0.105	0.123	0.136	0.150	0.153	0.133	14.9
Isopropylbenzene	1.782	1.820	1.941	2.045	2.033	1.924	6.3
1,1,2,2-Tetrachloroethane	0.150	0.146	0.151	0.164	0.149	0.152	4.5
1,3-Dichlorobenzene	1.703	1.573	1.651	1.731	1.687	1.669	3.6
1,4-Dichlorobenzene	1.858	1.629	1.627	1.691	1.626	1.686	5.9
1,2-Dichlorobenzene	1.450	1.331	1.370	1.417	1.352	1.384	3.5
1,2-Dibromo-3-Chloropropane	0.043	0.036	0.038	0.043	0.042	0.040	8.2
1,2,4-Trichlorobenzene	0.793	0.688	0.756	0.806	0.785	0.766	6.1
1,2,3-Trichlorobenzene	0.568	0.536	0.576	0.603	0.584	0.573	4.3

6C - FORM VI VOA-3
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Instrument ID: D.i Calibration Date(s): 09/22/2011 09/22/2011

Heated Purge: (Y/N) N Calibration Time(s): 0848 1038

Purge Volume: 25.0 (mL)

GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

LAB FILE ID: RRF0.5 = DHS05.D RRF1.0 = DHS06.D

RRF5.0 = DHS07.D RRF10 = DHS08.D RRF20 = DHS09.D

COMPOUND	RRF0.5	RRF1.0	RRF5.0	RRF10	RRF20	RRF	%RSD
Vinyl Chloride-d3	0.431	0.382	0.368	0.377	0.370	0.385	6.8
Chloroethane-d5	0.247	0.237	0.229	0.231	0.225	0.234	3.6
1,1-Dichloroethene-d2	0.649	0.614	0.609	0.633	0.620	0.625	2.6
2-Butanone-d5	0.040	0.037	0.039	0.041	0.036	0.039	5.0
Chloroform-d	0.505	0.487	0.489	0.507	0.495	0.497	1.8
1,2-Dichloroethane-d4	0.210	0.195	0.193	0.197	0.188	0.196	4.1
Benzene-d6	1.524	1.480	1.440	1.494	1.481	1.484	2.0
1,2-Dichloropropane-d6	0.379	0.352	0.354	0.379	0.368	0.366	3.6
Toluene-d8	1.466	1.376	1.393	1.459	1.434	1.426	2.8
trans-1,3-Dichloropropene-d4	0.266	0.247	0.262	0.287	0.281	0.269	5.9
2-Hexanone-d5	0.031	0.034	0.038	0.042	0.038	0.037	11.1
1,1,2,2-Tetrachloroethane-d2	0.156	0.149	0.151	0.161	0.149	0.153	3.6
1,2-Dichlorobenzene-d4	0.910	0.811	0.804	0.833	0.798	0.831	5.5

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Instrument ID: D.i Calibration Date: 10/04/2011 Time: 0639

Lab File Id: DHSE02.D Init. Calib. Date(s): 09/22/2011 09/22/2011

EPA Sample No.(VSTD####): VSTD005DH Init. Calib. Time(s): 0848 1038

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.488	0.456	0.010	-6.5	40.0
Chloromethane	0.644	0.697	0.010	8.2	40.0
Vinyl chloride	0.436	0.512	0.010	17.2	30.0
Bromomethane	0.196	0.201	0.010	2.6	30.0
Chloroethane	0.224	0.251	0.010	11.7	40.0
Trichlorofluoromethane	0.535	0.551	0.010	2.9	40.0
1,1-Dichloroethene	0.257	0.282	0.010	9.6	30.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.305	0.331	0.010	8.7	40.0
Acetone	0.024	0.025	0.010	3.1	40.0
Carbon disulfide	0.697	0.766	0.010	9.9	40.0
Methyl acetate	0.060	0.066	0.010	9.6	40.0
Methylene Chloride	0.216	0.220	0.010	2.3	40.0
trans-1,2-Dichloroethene	0.311	0.288	0.010	-7.2	40.0
Methyl tert-butyl ether	0.367	0.280	0.010	-23.9	40.0
1,1-Dichloroethane	0.600	0.575	0.010	-4.3	30.0
cis-1,2-Dichloroethene	0.313	0.276	0.010	-11.7	40.0
2-Butanone	0.040	0.038	0.010	-5.9	40.0
Bromochloromethane	0.106	0.092	0.010	-13.0	30.0
Chloroform	0.487	0.436	0.010	-10.4	30.0
1,1,1-Trichloroethane	0.550	0.456	0.010	-17.1	30.0
Cyclohexane	0.878	0.825	0.010	-6.0	40.0
Carbon tetrachloride	0.515	0.427	0.010	-17.1	30.0
Benzene	1.525	1.334	0.010	-12.5	30.0
1,2-Dichloroethane	0.268	0.242	0.010	-9.6	30.0
Trichloroethene	0.390	0.312	0.010	-20.1	30.0
Methylcyclohexane	0.727	0.673	0.010	-7.4	40.0

Report 1,4-Dioxane for Low/Medium VOA analysis only

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Instrument ID: D.i Calibration Date: 10/04/2011 Time: 0639

Lab File Id: DHSE02.D Init. Calib. Date(s): 09/22/2011 09/22/2011

EPA Sample No.(VSTD####): VSTD005DH Init. Calib. Time(s): 0848 1038

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.360	0.337	0.010	-6.5	40.0
Bromodichloromethane	0.320	0.264	0.010	-17.7	30.0
cis-1,3-Dichloropropene	0.421	0.348	0.010	-17.4	30.0
4-Methyl-2-pentanone	0.113	0.103	0.010	-8.7	40.0
Toluene	1.669	1.483	0.010	-11.1	30.0
trans-1,3-Dichloropropene	0.298	0.247	0.010	-17.3	30.0
1,1,2-Trichloroethane	0.163	0.136	0.010	-16.7	30.0
Tetrachloroethene	0.315	0.271	0.010	-14.0	30.0
2-Hexanone	0.078	0.071	0.010	-9.6	40.0
Dibromochloromethane	0.186	0.158	0.010	-14.9	30.0
1,2-Dibromoethane	0.148	0.114	0.010	-22.7	40.0
Chlorobenzene	1.053	0.928	0.010	-11.9	30.0
Ethylbenzene	1.874	1.668	0.010	-11.0	30.0
o-Xylene	0.701	0.647	0.010	-7.8	30.0
m,p-Xylene	0.759	0.693	0.010	-8.7	30.0
Styrene	1.027	0.925	0.010	-9.9	30.0
Bromoform	0.133	0.111	0.010	-16.5	30.0
Isopropylbenzene	1.924	1.784	0.010	-7.3	40.0
1,1,2,2-Tetrachloroethane	0.152	0.132	0.010	-13.2	30.0
1,3-Dichlorobenzene	1.669	1.369	0.010	-18.0	30.0
1,4-Dichlorobenzene	1.686	1.431	0.010	-15.1	30.0
1,2-Dichlorobenzene	1.384	1.168	0.010	-15.6	30.0
1,2-Dibromo-3-Chloropropane	0.040	0.028	0.010	-29.3	40.0
1,2,4-Trichlorobenzene	0.766	0.563	0.010	-26.4	30.0
1,2,3-Trichlorobenzene	0.573	0.426	0.010	-25.7	30.0

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Instrument ID: D.i Calibration Date: 10/04/2011 Time: 0639

Lab File Id: DHSE02.D Init. Calib. Date(s): 09/22/2011 09/22/2011

EPA Sample No.(VSTD####): VSTD005DH Init. Calib. Time(s): 0848 1038

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

Purge Volume: 25.0 (mL)

COMPOUND	$\overline{RRF}$	RRF5.0	MIN RRF	%D	MAX %D
Vinyl Chloride-d3	0.385	0.423	0.010	9.7	30.0
Chloroethane-d5	0.234	0.270	0.010	15.6	40.0
1,1-Dichloroethene-d2	0.625	0.681	0.010	8.9	30.0
2-Butanone-d5	0.039	0.034	0.010	-10.7	40.0
Chloroform-d	0.497	0.438	0.010	-11.9	30.0
1,2-Dichloroethane-d4	0.196	0.174	0.010	-11.6	30.0
Benzene-d6	1.484	1.270	0.010	-14.4	30.0
1,2-Dichloropropane-d6	0.366	0.315	0.010	-14.0	40.0
Toluene-d8	1.426	1.238	0.010	-13.2	30.0
trans-1,3-Dichloropropene-d4	0.269	0.203	0.010	-24.5	30.0
2-Hexanone-d5	0.037	0.028	0.010	-22.4	40.0
1,1,2,2-Tetrachloroethane-d2	0.153	0.134	0.010	-12.5	30.0
1,2-Dichlorobenzene-d4	0.831	0.671	0.010	-19.3	30.0

Report 1,4-Dioxane-d8 for Low/Medium VOA analysis only

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Instrument ID: D.i Calibration Date: 10/04/2011 Time: 1259

Lab File Id: DHSE15.D Init. Calib. Date(s): 09/22/2011 09/22/2011

EPA Sample No.(VSTD####): VSTD005HD Init. Calib. Time(s): 0848 1038

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

Purge Volume: 25.0 (mL)

COMPOUND	$\overline{RRF}$	RRF5.0	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.488	0.489	0.010	0.3	50.0
Chloromethane	0.644	0.742	0.010	15.2	50.0
Vinyl chloride	0.436	0.527	0.100	20.8	50.0
Bromomethane	0.196	0.211	0.100	7.7	50.0
Chloroethane	0.224	0.261	0.010	16.5	50.0
Trichlorofluoromethane	0.535	0.626	0.010	16.9	50.0
1,1-Dichloroethene	0.257	0.306	0.100	19.1	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.305	0.364	0.010	19.4	50.0
Acetone	0.024	0.034	0.010	42.5	50.0
Carbon disulfide	0.697	0.803	0.010	15.2	50.0
Methyl acetate	0.060	0.089	0.010	46.4	50.0
Methylene Chloride	0.216	0.258	0.010	19.6	50.0
trans-1,2-Dichloroethene	0.311	0.309	0.010	-0.5	50.0
Methyl tert-butyl ether	0.367	0.365	0.010	-0.5	50.0
1,1-Dichloroethane	0.600	0.634	0.200	5.6	50.0
cis-1,2-Dichloroethene	0.313	0.297	0.010	-4.9	50.0
2-Butanone	0.040	0.054	0.010	35.4	50.0
Bromochloromethane	0.106	0.102	0.050	-3.9	50.0
Chloroform	0.487	0.512	0.200	5.2	50.0
1,1,1-Trichloroethane	0.550	0.574	0.100	4.3	50.0
Cyclohexane	0.878	0.848	0.010	-3.4	50.0
Carbon tetrachloride	0.515	0.526	0.100	2.3	50.0
Benzene	1.525	1.442	0.400	-5.4	50.0
1,2-Dichloroethane	0.268	0.324	0.100	20.7	50.0
Trichloroethene	0.390	0.350	0.300	-10.2	50.0
Methylcyclohexane	0.727	0.727	0.010	0.0	50.0

Report 1,4-Dioxane for Low/Medium VOA analysis only

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: _____ SDG No.: 200-7267

Instrument ID: D.i Calibration Date: 10/04/2011 Time: 1259

Lab File Id: DHSE15.D Init. Calib. Date(s): 09/22/2011 09/22/2011

EPA Sample No.(VSTD####): VSTD005HD Init. Calib. Time(s): 0848 1038

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.360	0.347	0.010	-3.8	50.0
Bromodichloromethane	0.320	0.326	0.200	1.8	50.0
cis-1,3-Dichloropropene	0.421	0.391	0.200	-7.1	50.0
4-Methyl-2-pentanone	0.113	0.142	0.010	25.2	50.0
Toluene	1.669	1.522	0.400	-8.8	50.0
trans-1,3-Dichloropropene	0.298	0.279	0.100	-6.3	50.0
1,1,2-Trichloroethane	0.163	0.149	0.100	-8.5	50.0
Tetrachloroethene	0.315	0.272	0.100	-13.8	50.0
2-Hexanone	0.078	0.093	0.010	18.9	50.0
Dibromochloromethane	0.186	0.173	0.100	-6.7	50.0
1,2-Dibromoethane	0.148	0.133	0.010	-10.1	50.0
Chlorobenzene	1.053	0.944	0.500	-10.3	50.0
Ethylbenzene	1.874	1.687	0.100	-10.0	50.0
o-Xylene	0.701	0.671	0.300	-4.3	50.0
m,p-Xylene	0.759	0.695	0.300	-8.4	50.0
Styrene	1.027	1.043	0.300	1.6	50.0
Bromoform	0.133	0.152	0.050	13.9	50.0
Isopropylbenzene	1.924	1.754	0.010	-8.9	50.0
1,1,2,2-Tetrachloroethane	0.152	0.152	0.100	-0.2	50.0
1,3-Dichlorobenzene	1.669	1.530	0.400	-8.3	50.0
1,4-Dichlorobenzene	1.686	1.571	0.400	-6.9	50.0
1,2-Dichlorobenzene	1.384	1.303	0.400	-5.9	50.0
1,2-Dibromo-3-Chloropropane	0.040	0.038	0.010	-5.2	50.0
1,2,4-Trichlorobenzene	0.766	0.598	0.200	-21.9	50.0
1,2,3-Trichlorobenzene	0.573	0.442	0.200	-22.9	50.0

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Instrument ID: D.i Calibration Date: 10/04/2011 Time: 1259

Lab File Id: DHSE15.D Init. Calib. Date(s): 09/22/2011 09/22/2011

EPA Sample No.(VSTD####): VSTD005HD Init. Calib. Time(s): 0848 1038

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
Vinyl Chloride-d3	0.385	0.441	0.010	14.5	50.0
Chloroethane-d5	0.234	0.281	0.010	20.3	50.0
1,1-Dichloroethene-d2	0.625	0.747	0.010	19.4	50.0
2-Butanone-d5	0.039	0.053	0.010	37.7	50.0
Chloroform-d	0.497	0.527	0.010	6.1	50.0
1,2-Dichloroethane-d4	0.196	0.227	0.010	15.7	50.0
Benzene-d6	1.484	1.382	0.010	-6.9	50.0
1,2-Dichloropropane-d6	0.366	0.345	0.010	-5.7	50.0
Toluene-d8	1.426	1.277	0.010	-10.4	50.0
trans-1,3-Dichloropropene-d4	0.269	0.249	0.010	-7.4	50.0
2-Hexanone-d5	0.037	0.036	0.010	-2.1	50.0
1,1,2,2-Tetrachloroethane-d2	0.153	0.154	0.010	0.4	50.0
1,2-Dichlorobenzene-d4	0.831	0.731	0.010	-12.1	50.0

Report 1,4-Dioxane-d8 for Low/Medium VOA analysis only

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKDH

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: MB 200-26173/3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE03.D

Level: (TRACE/LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.045	J
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	2.3	J
75-15-0	Carbon disulfide	0.097	J
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.0040	J
107-06-2	1,2-Dichloroethane	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VBLKDH

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: MB 200-26173/3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE03.D

Level: (TRACE/LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.010	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.062	J
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VBLKDH

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: MB 200-26173/3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE03.D

Level: (TRACE or LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	6.69	3.0	X J
02	E966796 [1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VHBLK01

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7267-5

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE14.D

Level: (TRACE/LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	1.9	J B
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VHBLK01

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7267-5

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE14.D

Level: (TRACE/LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VHBLK01

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7267-5

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE14.D

Level: (TRACE or LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	6.69	2.9	B X J
02	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VIBLKDJ

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: VIBLK 200-26173/8

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE08.D

Level: (TRACE/LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.034	J
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VIBLKDJ

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: VIBLK 200-26173/8

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE08.D

Level: (TRACE/LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VIBLKDJ

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: VIBLK 200-26173/8

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE08.D

Level: (TRACE or LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	6.69	3.0	B X J
02	E9667961	Total Alkanes	N/A		

1 EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VIBLKDK

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: VIBLK 200-26173/10

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE10.D

Level: (TRACE/LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	1.7	J B
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VIBLKDK

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: VIBLK 200-26173/10

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE10.D

Level: (TRACE/LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VIBLKDK

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRA Mod. Ref No.: SDG No.: 200-7267

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: VIBLK 200-26173/10

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHSE10.D

Level: (TRACE or LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 10/04/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	6.69	2.9	B X J
02	E966796 [1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.