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Argonne NATIONAL LABORATORY

Annual Report of Monitoring at Morrill, 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
CCC	Commodity Credit Corporation
CD	compact disc
DO	dissolved oxygen
EPA	U.S. Environmental Protection Agency
ft	foot (feet)
gal	gallon(s)
hr	hour(s)
in.	inch(es)
KDHE	Kansas Department of Health and Environment
L	liter(s)
µg/kg	microgram(s) per kilogram
µg/L	microgram(s) per liter
µS/cm	microsiemen(s) per centimeter
mg/L	milligram(s) per liter
mi	mile(s)
min	minute(s)
mV	millivolt(s)
ORP	oxidation-reduction potential
SOP	standard operating procedure
TOC	top of casing
USDA	U.S. Department of Agriculture
VOC	volatile organic compound

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1 Introduction and Background

Carbon tetrachloride contamination in groundwater at Morrill, Kansas, was initially identified in 1985 during statewide testing of public water supply wells for volatile organic compounds (VOCs). High levels of nitrate were also present in the wells. The city of Morrill is located in Brown County in the northeastern corner of the state, about 7 mi east of Sabetha (Figure 1.1). The population of Morrill as of the 2010 Census was approximately 230 (down from 277 in 2000). All residents of Morrill now obtain their drinking water from the Sabetha municipal water system via a pipeline constructed in 1991.

From 1922 to 1991, eight different public water supply wells served the Morrill municipal system. Because of poor water quality, use of the various public wells was discontinued over time. The water quality problems included high nitrate levels attributed to numerous animal feeding operations in the vicinity; application of fertilizer to agricultural lands; excessive hardness; and elevated iron, sulfate, and total dissolved solids concentrations (above acceptable levels). The use of the local groundwater from any public well for municipal supply purposes was terminated in 1991 at the direction of the Kansas Department of Health and Environment (KDHE), and water was obtained from the Sabetha municipal water system.

Investigations of the carbon tetrachloride and nitrate contamination by the KDHE in 1989, 1994, and 1996 (KDHE 1989; GeoCore 1994a-d, 1996) identified a localized plume of carbon tetrachloride in groundwater extending downgradient from a grain storage facility in the northwestern section of Morrill. The facility was formerly operated by the Commodity Credit Corporation (CCC), an agency of the U.S. Department of Agriculture (USDA), from 1950 to 1971. After termination of the CCC/USDA grain storage operations in 1971, the property and existing grain bins continued to be used for private grain storage, up to the present time. Prior to 1986, commercial grain fumigants were commonly used by the CCC/USDA, as well as private and commercial grain storage operations, to preserve grain.

Because the identified carbon tetrachloride contamination could, in part, be potentially linked to historical use of carbon tetrachloride-based fumigants at its former facility, in 2003 the CCC/USDA assumed responsibility for the site investigation of the carbon tetrachloride contamination. The CCC/USDA involvement began with development and implementation of a

work plan for a Phase I expedited site characterization (Argonne 2003). That investigation and subsequent investigations (Argonne 2004, 2005a) were performed by the Environmental Science Division of Argonne National Laboratory.

The initial investigation by the CCC/USDA in 2003 determined that soils at the former facility were not impacted by grain fumigation activities. Neither carbon tetrachloride nor chloroform was detected in near-surface soils or in subsurface soils collected to bedrock. Therefore, no identifiable human health risk is associated with either carbon tetrachloride or chloroform in shallow soils, which additionally pose no further threat of contamination to groundwater.

High carbon tetrachloride concentrations in groundwater (maximum 390 µg/L in a sample collected from monitoring well MW3S — located on the former CCC/USDA property — in 1995) have declined significantly during long-term monitoring conducted earlier by the KDHE and currently by the CCC/USDA. The present maximum levels of < 50 µg/L confirm that no continuing soil source remains at the former CCC/USDA facility. Nevertheless, carbon tetrachloride concentrations exceeding the KDHE Tier 2 risk-based screening level of 5.0 µg/L remain.

In September 2005, the CCC/USDA initiated periodic sampling of groundwater, in accord with a program approved by the KDHE (2005), to monitor carbon tetrachloride concentrations in the groundwater.

Under the KDHE-approved monitoring plan (Argonne 2005b), groundwater is sampled twice yearly and analyzed for VOCs. During the initial 2 yr of monitoring, analysis for selected geochemical parameters was also conducted to aid in the evaluation of possible natural contaminant degradation (reductive dechlorination) processes in the subsurface environment. Consistently low levels of dissolved oxygen (DO) and oxidation-reduction potential (ORP) at monitoring well MW1D (in the deepest portion of the contaminated aquifer) and the presence of chloroform (the primary degradation product of carbon tetrachloride) suggest that some degree of reductive dechlorination is occurring.

The analytical results for groundwater sampling events at Morrill from September 2005 to September 2010 were documented previously (Argonne 2006, 2007a,b, 2008a,b, 2009, 2010, 2011). Those results consistently demonstrated the presence of carbon tetrachloride

contamination, at concentrations exceeding the KDHE Tier 2 risk-based screening level of 5.0 μg/L for this compound, in a groundwater plume extending southward from the former CCC/USDA facility, toward Terrapin Creek at the southern edge of the town.

Terrapin Creek is identified by the KDHE (2001) as tributary segment 308 to Walnut Creek, which in turn is located in the Big Nemaha Subbasin of the Missouri Basin. Walnut Creek is classified by the KDHE (2001) as impaired because of high levels of fecal coliform bacteria. Prevention of further degradation of Terrapin Creek by carbon tetrachloride is the regulatory driver for ongoing monitoring of the carbon tetrachloride plume (KDHE 2007a). No trend of increasing carbon tetrachloride levels near the creek has been indicated.

In 2006, the CCC/USDA recommended expansion of the approved monitoring program to include the collection and analysis of surface water samples along Terrapin Creek (Argonne 2007a). At the request of the KDHE (2007a), locations for both surface water and shallow sediment sampling were discussed with the KDHE in January 2007. An addendum to the existing monitoring plan (Appendix A in the report of 2009 monitoring [Argonne 2010]) and a standard operating procedure for sediment sampling (SOP AGEM-15; Appendix B in Argonne 2010) were submitted to the KDHE on the basis of these discussions and were subsequently approved (KDHE 2008b). To supplement the original scope of the monitoring, Argonne has also sampled natural vegetation at locations in the contaminant plume and along Terrapin Creek for analyses for VOCs.

In August 2010, indoor air sampling was conducted at seven residences, one church, and one business overlying the contaminant plume to evaluate the potential for vapor intrusion. Carbon tetrachloride contamination was not detected.

The April and October 2011 groundwater sampling events reported here represent a continuation of the approved monitoring program, as requested by the KDHE (2007b). The groundwater sampling is presently conducted, in accord with the monitoring plan (Argonne 2005b) and the addendum to that plan (Appendix A in Argonne 2010), in a network of 12 monitoring wells and 3 private wells at locations approved by the KDHE (2008b). In addition, since 2008, overflow from the Grimm irrigation well (installed in 2008 just south of Terrapin Creek) has also been sampled.

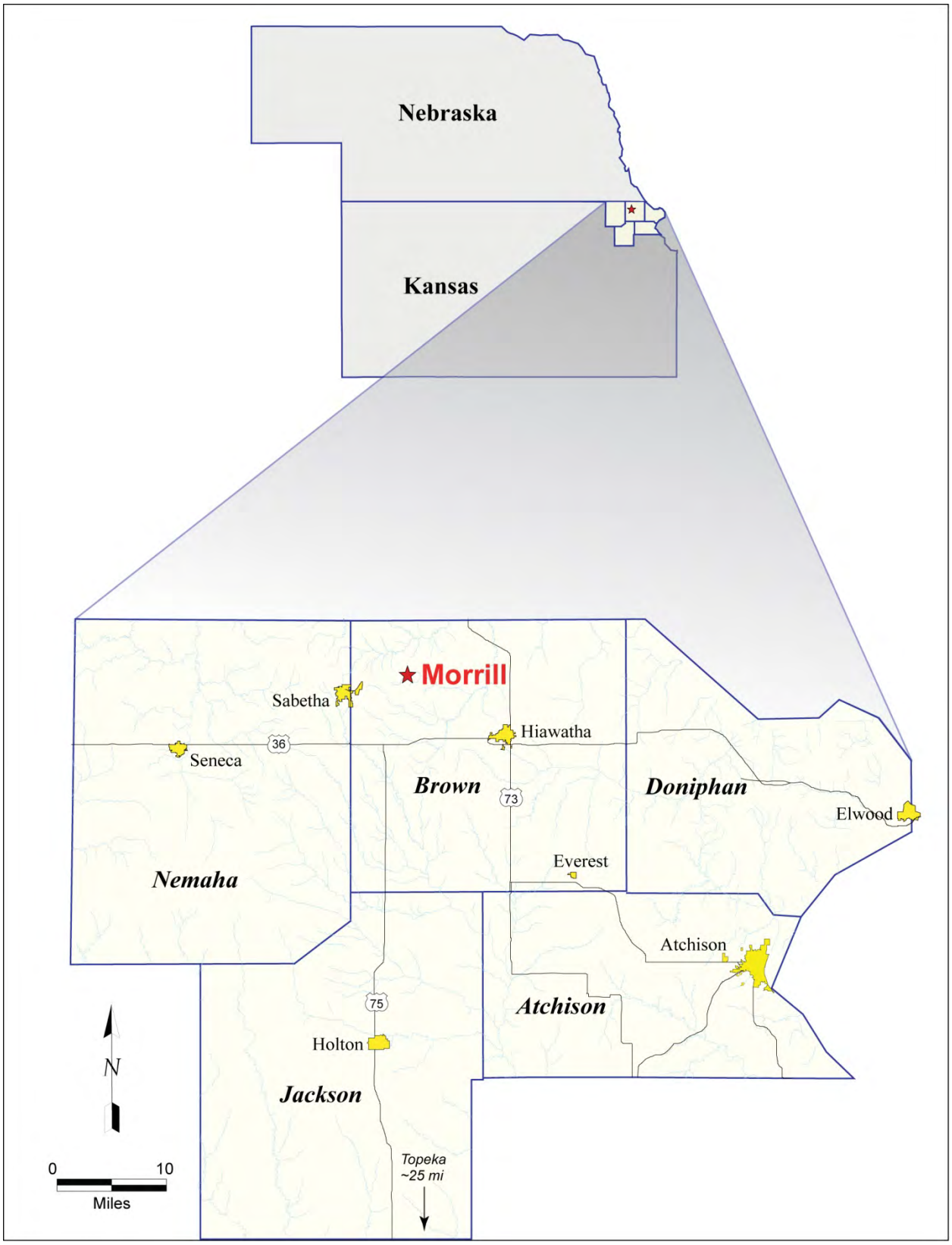

FIGURE 1.1 Location of Brown County and Morrill, Kansas.

2 Sample Collection and Analysis Activities

2.1 Measurement of Groundwater Levels

Data recorders currently installed in wells MW1S-MW4S and MW6S-MW8S are gathering long-term data on the groundwater elevation and gradient at Morrill in order to evaluate daily to seasonal variation. In addition, to calibrate the long-term data and to define the potentiometric surface, depths to groundwater and total well depths from the tops of the well casings are measured periodically in conjunction with the data recorder downloads, as well as during each groundwater sampling event, with an accuracy of ± 0.01 ft.

During the current reporting period, the data recorders were downloaded on April 13, 2011, and January 5, 2012. Water levels were measured manually in all monitoring wells on these dates, as well as during the sampling events on April 20-21, 2011, and October 3-4, 2011.

The groundwater level data are discussed in Section 3.1.

2.2 Monitoring Well and Private Well Sampling and Analyses

Monitoring wells MW1D and MW1S-MW11S and the Stone, Isch, and Rilinger private wells (Figure 2.1) were sampled on April 20-21, 2011, and October 3-4, 2011.

Samples were collected from monitoring wells by using a low-flow bladder pump. After measurement of water levels, each monitoring point was purged of a small volume, in accord with U.S. Environmental Protection Agency (EPA) procedure EPA/540/S-95/504 (Puls and Barcelona 1996; Yeskis and Zavala 2002) and the equipment manufacturers' instructions. Field measurements of temperature, pH, conductivity, DO, and ORP were taken during purging until the measurements stabilized. Field measurements of iron(II) were made as outlined in the monitoring plan (Argonne 2005b), in accord with procedures in the *Master Work Plan* (Argonne 2002). Samples from the Isch and Rilinger private wells were collected after a 5-min purge with the dedicated pump. The sample from the Stone private well was collected after purging of the well by bailing.

Prior sampling at well MW1S, which is located near the center of the contaminant plume and is screened over a 40-ft interval, has indicated that a representative sample is not collected by the low-flow sampling procedure. Therefore, since 2008 the well has also been sampled periodically after purging of three well volumes. This comparison sampling is discussed further in Section 3.5.

The sequence of activities during the 2011 sampling events is summarized in Appendix A, Table A.1.

Groundwater samples 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 with EPA Method 524.2 (EPA 1995). Separate aliquots of selected samples (chosen in the field) were shipped to TestAmerica Laboratories, Inc., South Burlington, Vermont, for verification VOCs analysis.

The groundwater analysis results are presented and discussed in Section 3.2.

2.3 Surface Water and Sediment Sampling and Analyses

At the request of the KDHE (2007a), surface water samples and corresponding samples of the underlying shallow sediments in the creek bed are routinely collected for VOCs analyses at five locations along Terrapin Creek (Figure 2.2), as outlined in the monitoring plan addendum (Appendix A in Argonne 2010). The sampling was conducted in accord with procedures in the *Master Work Plan* (Argonne 2002) and SOP AGEM-15 (Appendix B in Argonne 2010). Surface water flow in Terrapin Creek south of Morrill originates at the outfall from an earthen dam and retention pond approximately 1,900 ft southwest of the former CCC/USDA facility (Figure 2.2). Surface water and sediment sampling location SMB, which is directly downstream from this outfall, is believed to lie upgradient, or cross-gradient, to groundwater flow (and hence possible contaminant migration) from the vicinity of the former CCC/USDA facility. (See Section 3.1.) Sampling locations SM1-SM4 were selected to lie downgradient and downstream from the carbon tetrachloride detections previously identified at MW8S and elsewhere in the monitoring well network.

Samples of surface water were collected in appropriate containers, labeled, preserved at 4°C, and shipped by an overnight delivery service to the AGEM Laboratory for VOCs analyses with EPA Method 524.2 (EPA 1995). Samples of the shallow creek bed sediments were collected by scooping the materials directly into appropriate laboratory containers. The samples were labeled, preserved on dry ice, and shipped to the AGEM Laboratory for sample preparation and VOCs analyses with modified EPA Methods 5030B and 8260B.

The surface water and sediment analysis results are presented and discussed in Section 3.3.

2.4 Vegetation Sampling and Analyses

Vegetation samples have been collected at locations within the contaminant plume and along Terrapin Creek and its tributaries south and southwest of the former CCC/USDA facility. Vegetation sampling locations, which have expanded over time, were selected along the apparent direction of groundwater flow from the former facility. Vegetation samples were collected at 18 locations in July 2007 (Argonne 2008a), at 25 locations in July 2008 (Argonne 2009), and at 22 locations in August 2009 (Argonne 2010). In July 2010 and July 2011, branch tissue samples were collected at 42 locations from mature ash, cottonwood, elm, hackberry, juniper, maple, mulberry, oak, Osage orange, pear, pine, walnut, and willow trees.

Figure 2.3 illustrates the locations of the vegetation sampling conducted on July 28, 2011. The sequence of sampling activities, including descriptions of sample locations and identifications of the trees sampled, is summarized in Table A.1, Appendix A. Analytical results are presented and discussed in Section 3.4.

The tree tissue samples were collected in appropriate laboratory containers, labeled, preserved on dry ice, and shipped to the AGEM Laboratory for carbon tetrachloride and chloroform analyses by a headspace technique based on a modification of EPA Method 5021 (http://www.epa.gov/epahome/index/; Alvarado and Rose 2004).

2.5 Handling and Disposal of Investigation-Derived Waste

The water generated as potentially contaminated investigation-derived waste was containerized on-site. The accumulated purge water was sampled on October 31, 2011 (along with wastewaters from several other CCC/USDA sites in Kansas), and analyzed by Pace Analytical Services, Inc., Lenexa, Kansas, for VOCs on November 4 with EPA Method 5030/8260, for ethylene dibromide on November 8 with EPA Method 504.1, and for nitrate/nitrite nitrogen on November 2 with EPA Method 353.2. Carbon tetrachloride was detected at 3.4 µg/L. Nitrate/nitrite nitrogen was present at 13.8 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.

2.6 Quality Control for Sample Collection, Handling, and Analysis

The quality control/quality assurance procedures followed during the 2011 monitoring events are described in detail in the *Master Work Plan* (Argonne 2002) and SOP AGEM-15 (Appendix B in Argonne 2010). These procedures 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 (field blanks, equipment rinsates, and trip blanks) collected to monitor sample collection and handling activities were free of carbon tetrachloride contamination. Method blanks used to monitor analytical methodologies were free of carbon tetrachloride and chloroform contamination. Analytical results for quality control samples collected to monitor sample-handling activities are in Appendix B, Table B.1.

- 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). 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 four replicate samples and duplicate analysis of eight additional samples, with an average relative percent difference values of approximately < 5% between the initial analysis and the associated quality control analysis for both carbon tetrachloride and chloroform (Appendix B, Table B.2). The groundwater analytical data from the AGEM Laboratory are acceptable for quantitative determination of contaminant distribution.

- In accordance with the procedures defined in the *Master Work Plan* (Argonne 2002), the analyses of water samples at the AGEM Laboratory were verified by a second laboratory. Accordingly, groundwater samples collected during each of the 2011 monitoring events were submitted to TestAmerica for analysis according to the EPA's Contract Laboratory Program methodology. Complete analytical results for three groundwater samples and one trip blank collected in April 2011 are in sample delivery group 200-4827 in Supplement 2 (on CD). Complete analytical results for three groundwater samples, one surface water sample, and one trip blank collected in October 2011 are in sample delivery group 200-7357 in Supplement 2 (on CD). The results are summarized in Appendix B, Table B.3. Although the results from TestAmerica support the results from the AGEM Laboratory, the results for some samples are not comparable. Samples from MW11S with quantitative levels of carbon tetrachloride and from the Rilinger private well with near-quantitative levels compare well between the two laboratories, with relative percent difference values of < 10%. Other samples are not directly comparable between the two laboratories, because trace levels of carbon tetrachloride were detected in blanks associated with the analyses at TestAmerica, including the two trip blanks.

- Vegetation samples were analyzed for carbon tetrachloride and chloroform at the AGEM Laboratory by using a gas chromatograph with electron capture detection to achieve the low detection limits required. An 11-point calibration of the gas chromatograph system was established on the basis of the mass of known quantities of carbon tetrachloride and chloroform.

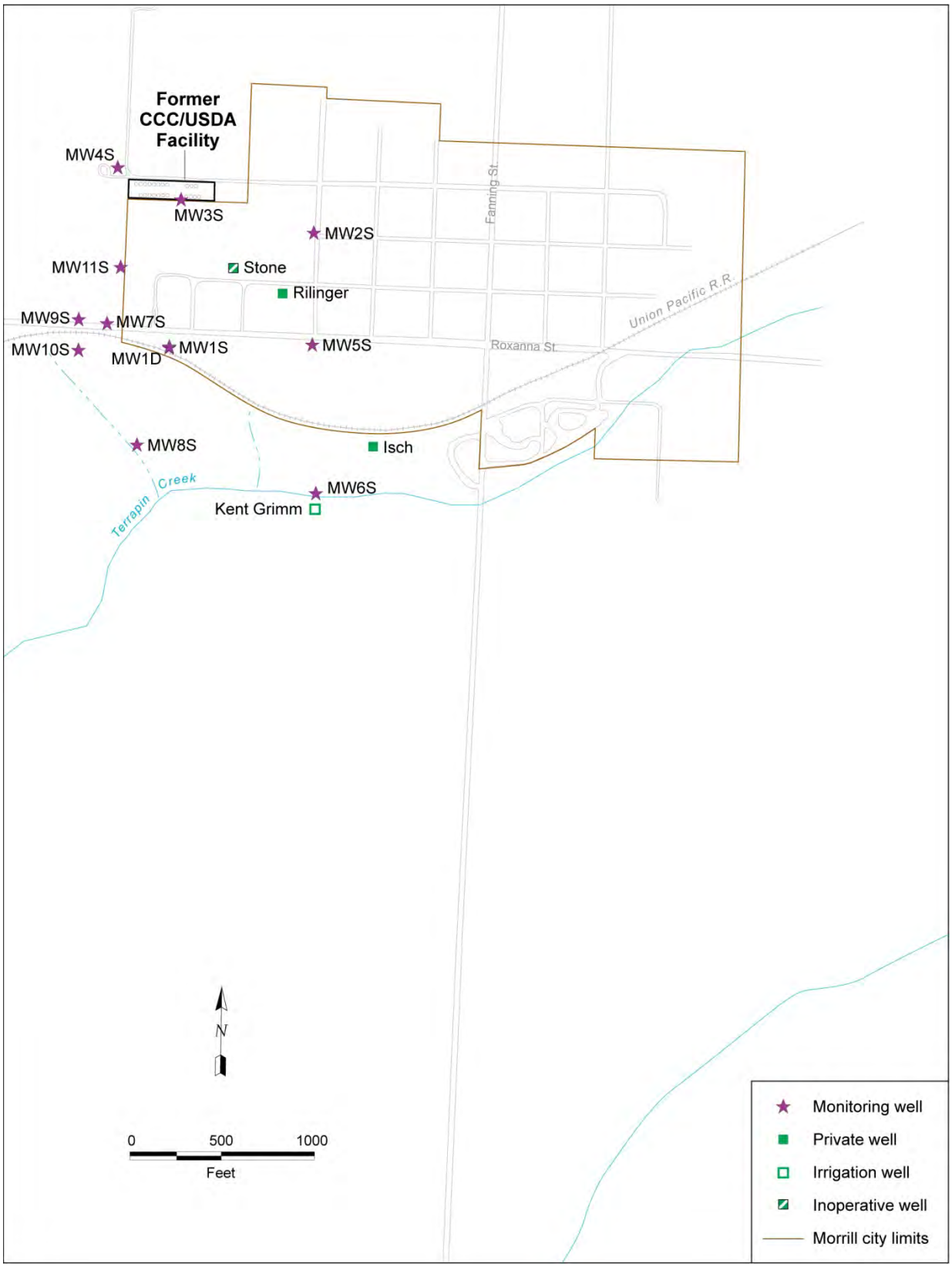

FIGURE 2.1 Groundwater monitoring network as of October 2011.

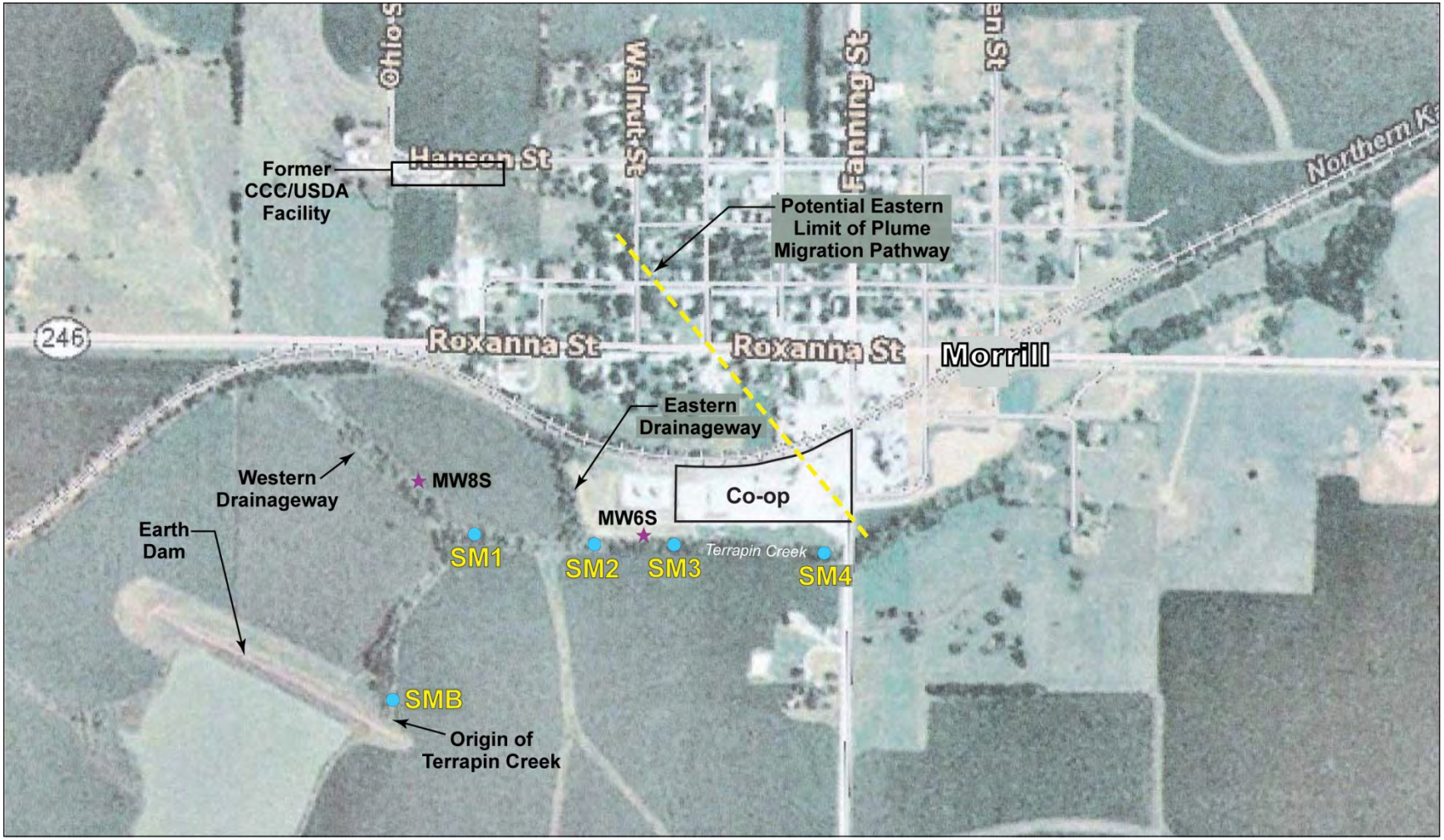

FIGURE 2.2 Locations of surface water and creek bed sediment sampling along Terrapin Creek in October 2011.

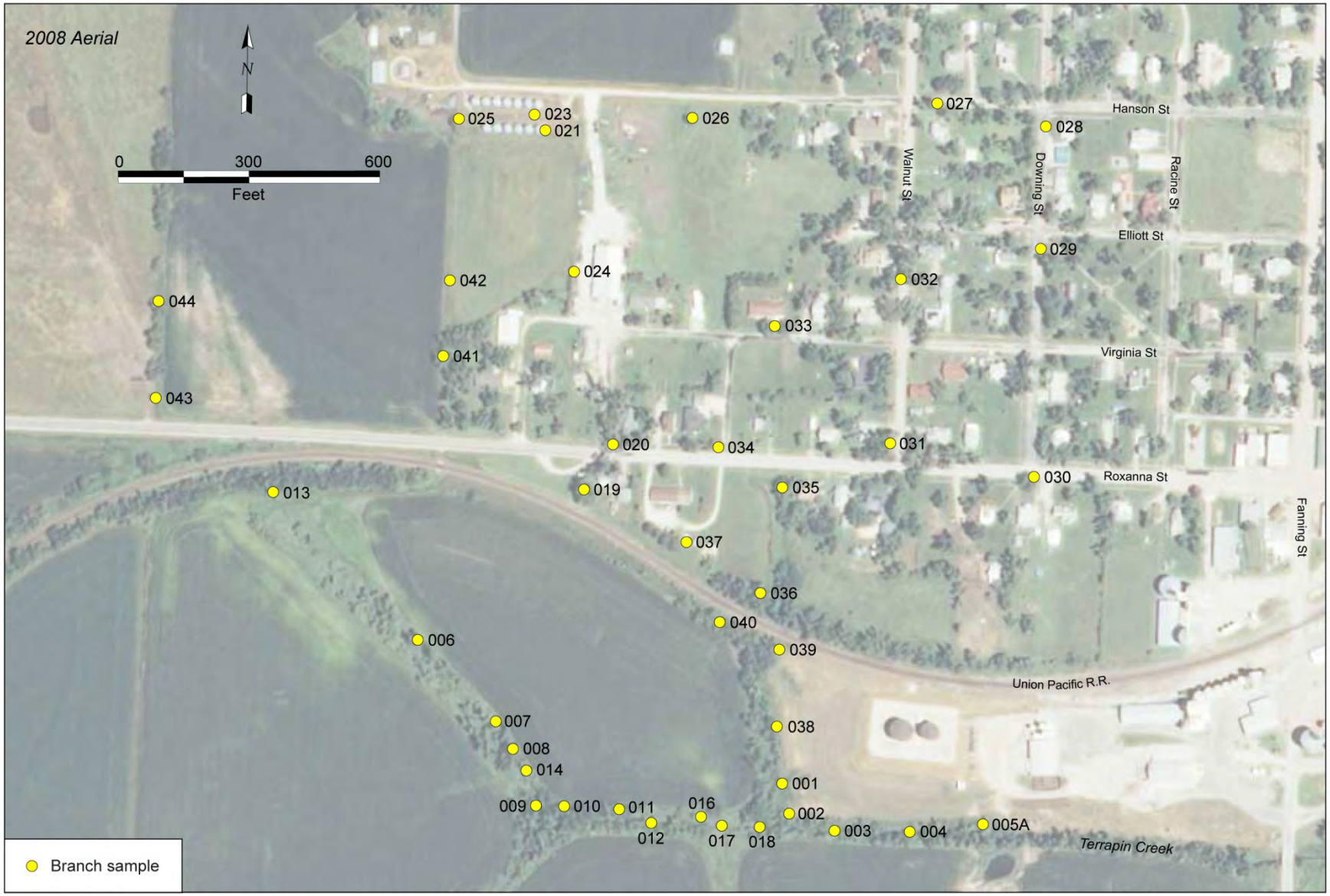

FIGURE 2.3 Locations of native vegetation sampling downgradient of the former CCC/USDA facility and along Terrapin Creek in July 2011.

3 Results and Discussion

3.1 Groundwater Level Data

Depths to groundwater were measured manually in all available monitoring wells on April 13, 2011, and January 5, 2012, in conjunction with data recorder downloads. These hand-measured water level data, along with hand-measured levels from the April 20-21, 2011, and October 3-4, 2011, sampling events, are in Table 3.1.

As in previous years, groundwater flow during 2011 (Figure 3.1) was predominantly to the south, from the vicinity of the former CCC/USDA facility toward Terrapin Creek.

Hydrographs recorded in 2011 for the Morrill monitoring wells (Figure 3.2) illustrate rises in water levels reflecting seasonal responses to spring precipitation and recharge, followed by generally declining groundwater levels during the remainder of the year. Similar seasonal responses have been observed annually (to varying extents) throughout Argonne's investigations at Morrill.

The hydrograph in Figure 3.2 for monitoring well MW6S is marked by a series of sharp downward "spikes" in the water level at this location during May and July-August, 2011. The observed events reflect transient drawdown in response to pumping of the Grimm irrigation well (location TD12), which was installed just south of the MW6S location in March 2008 (Argonne 2008b). Little or no distinct response to the pumping of the Grimm irrigation well is apparent at the other monitoring well locations; however, the operation of the Grimm well empirically coincides with the decline in water levels observed at all locations in the summer and fall of 2009-2010. A similar seasonal decline in water levels also observed in summer and fall 2007, in the absence of the Grimm well pumping, suggests that spring precipitation and recharge represent the predominant factors affecting the local groundwater level patterns.

3.2 Groundwater Analysis Results

The analytical data for VOCs in the groundwater samples collected in April and October 2011 are in Table 3.2, together with data for the previous sampling events conducted under the KDHE-approved monitoring plan (Argonne 2005b). The results of field measurements on the

groundwater samples are in Table 3.3. The April and October 2011 data for carbon tetrachloride in groundwater are illustrated in Figures 3.3a and 3.3b, respectively. For comparison, the results of the groundwater sampling in April and September 2010 are in Figures 3.4a and 3.4b, respectively.

In April 2011 (Figure 3.3a), carbon tetrachloride was detected at 9 of the 15 monitoring locations, at concentrations ranging from < 1 μg/L (at the Rilinger private well and 3 monitoring wells) to a maximum of 38 μg/L (at well MW11S). Low levels of chloroform (< 1-1.2 μg/L) were detected in 5 wells (Table 3.2).

In October 2011 (Figure 3.3b), carbon tetrachloride was detected at 8 of the 15 monitoring locations, at concentrations ranging from < 1 μg/L (at the Rilinger private well and 2 monitoring wells) to a maximum of 49 μg/L (at well MW3S). Low levels of chloroform (< 1-1.8 μg/L) were detected in 4 wells (Table 3.2).

The results in Table 3.2, Figures 3.3a,b, and Figures 3.4a,b indicate no significant changes in the concentrations or distribution of carbon tetrachloride in the groundwater during the 2011 review period or in comparison to the results of the spring and fall 2010 monitoring.

3.3 Surface Water and Sediment Analysis Results

Table 3.4 presents the results of VOCs analyses of the surface water and shallow sediment samples collected (at the request of the KDHE [2007a]) along Terrapin Creek. No carbon tetrachloride was detected in the surface water samples collected at locations shown in Figure 2.2, at an analytical method detection limit of 0.1 μg/L. Similarly, no carbon tetrachloride was identified in the associated sediment samples at an analytical method detection limit of 1.0 μg/kg. The 2011 results therefore indicate that the surface waters and underlying sediments of Terrapin Creek remain uncontaminated by carbon tetrachloride.

3.4 Vegetation Analysis Results and Observations

The July 2008 vegetation sampling event involved expansion to include locations at and directly downgradient from the former CCC/USDA facility (locations MR019 to MR024; Figure 2.3). The sampling area was expanded further in July 2010 by adding locations MR025-

MR044 (Figure 2.3) along the pathway from the former facility and toward Terrapin Creek. Essentially the same locations were sampled in July 2011.

Analytical data for carbon tetrachloride and chloroform in tree branch samples collected in July 2011 (and in previous years) are shown in Table 3.5. In the July 2011 sampling, trace concentrations of carbon tetrachloride were identified at 2 of 42 locations sampled (MR037 and MR043; Figure 3.5). The analytical method detection limit was 0.1 µg/kg.

3.5 Comparison of Analytical Results for Samples Collected after Low-Flow Purging and after Purging of Three Well Volumes

Of particular concern at Morrill has been the applicability of the low-flow sampling method for the wells installed by the KDHE in 1995 with screen intervals of 30-40 ft. At the request of the KDHE (2008a), selected wells were sampled in October 2008 by using both the low-flow purging technique and the three-well-volume purging technique to confirm the suitability of the low-flow method for groundwater sampling at Morrill. As reported previously (Argonne 2009), samples were collected by both methods in October 2008 from wells MW1S, MW2S, and MW3S (installed by the KDHE in 1995 with 30- to 40-ft screens), as well as from well MW11S (installed by Argonne in 2004 with a 15-ft screen). Results for all pairs except the MW1S samples compared favorably; the low-flow results for well MW1S (centrally located in the plume) were dramatically lower than the three-volume-purge results. Low-flow results for MW1S in October 2008 were therefore considered non-representative, and the value for the sample obtained after purging of three well volumes was honored instead (Argonne 2009). Sampling conducted in later years has continued this evaluation of the suitability of the low-flow sampling method.

In October 2011, sampling of well MW1S with the low-flow procedure resulted in a carbon tetrachloride detection at 1.7 µg/L. Subsequent sampling with the three-volume-purge method resulted in a carbon tetrachloride detection of 23 µg/L. This higher concentration is considered representative of the contaminant level at this location. This was the fourth sampling event (October 2008, September 2009, April 2010, and October 2011) in which a similar pattern was observed for well MW1S.

TABLE 3.1 Hand-measured groundwater levels in 2011.

		April 13, 2011		April 20-21, 2011		October 3-4, 2011		January 5, 2012	
Well	Top of Casing Elevation (ft AMSL)	Depth to Water (ft BGL)	Groundwater Elevation (ft AMSL)	Depth to Water (ft BGL)	Groundwater Elevation (ft AMSL)	Depth to Water (ft BGL)	Groundwater Elevation (ft AMSL)	Depth to Water (ft BGL)	Groundwater Elevation (ft AMSL)
MW1S	1124.68	27.40	1097.28	23.45	1101.23	21.80	1102.88	24.61	1100.07
MW1D	1124.63	32.51	1092.12	30.15	1094.48	29.06	1095.57	31.90	1092.73
MW2S	1137.07	37.39	1099.68	36.00	1101.07	32.73	1104.34	33.25	1103.82
MW3S	1135.76	32.76	1103.00	32.06	1103.70	25.95	1109.81	25.95	1109.81
MW4S	1143.61	42.18	1101.43	42.39	1101.22	35.60	1108.01	36.48	1107.13
MW5S	1122.21	26.19	1096.02	24.43	1097.78	21.10	1101.11	22.38	1099.83
MW6S	1090.97	6.16	1084.81	6.52	1084.45	6.49	1084.48	6.03	1084.94
MW7S	1119.86	20.64	1099.22	19.69	1100.17	7.11	1112.75	16.86	1103.00
MW8S	1098.53	3.84	1094.69	2.73	1095.80	4.91	1093.62	2.57	1095.96
MW9S	1118.31	23.96	1094.35	23.76	1094.55	22.35	1095.96	22.76	1095.55
MW10S	1110.78	14.17	1096.61	13.69	1097.09	12.54	1098.24	12.48	1098.30
MW11S	1133.08	39.59	1093.49	39.16	1093.92	36.83	1096.25	36.88	1096.20

TABLE 3.2 Results of analyses at the AGEM Laboratory for volatile organic compounds in groundwater samples collected in 2003-2011. Shading indicates sample collection with the low-flow procedure.

Location	Screen Interval (ft BGL)	Sample Date	Depth to Water (ft BOTC)	Depth of well (ft BTOC)	Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Concentration (µg/L)			Comment	Sample
								Carbon Tetrachloride	Chloroform	Methylene Chloride		
MW1S	11-51	10/23/03	30.4	54.0	70	gal	–	33	1.6	ND[a]		MRMW1S-W-16422
MW1S	11-51	6/2/04	27.0	53.9	53	gal	–	19	0.9	ND		MRMW1S-W-16461
MW1S	11-51	9/13/05	24.2	53.9	57	gal	–	35	1.7	ND		MRMW1S-W-19259
MW1S	11-51	3/22/06	29.0	54.0	48	gal	–	40	1.8	ND		MRMW1S-W-20008
MW1S	11-51	9/20/06	26.8	54.0	55	gal	–	23	0.9 J[b]	ND		MRMW1S-W-22495
MW1S	11-51	3/21/07	25.8	54.0	55	gal	–	23	1.1	ND		MRMW1S-W-16488
MW1S	11-51	10/1/07	21.7	54.0	63	gal	–	56	2.7	ND		MRMW1S-W-16595
MW1S	11-51	4/14/08	16.2	54.0	5.5	L	–	0.3 J	ND	ND	April monitoring.	MRMW1S-W-23230
MW1S	11-51	4/22/08	16.0	54.0	6.3	L	–	0.2 J	ND	ND	Confirm low carbon tetrachloride.	MRMW1S-W-23259
MW1S	11-51	5/1/08	–	–	3.2	L	22.0	ND	ND	ND	Top of screen.	MRMW1S-22-W-23275
MW1S	11-51	5/1/08	–	–	3.2	L	27.0	ND	ND	ND	Middle of screen.	MRMW1S-27-W-23276
MW1S	11-51	5/1/08	–	–	4.3	L	48.0	0.3 J	ND	ND	Bottom of screen.	MRMW1S-48-W-23277
MW1S	11-51	10/20/08	25.8	54.0	6.0	L	31.0	0.7 J	ND	ND	Low flow.	MRMW1S-W-27620
MW1S	11-51	10/21/08	–	–	–	–	–	35	1.8	ND	Full purge.	MRMW1S-W-27649
MW1S	11-51	4/24/09	24.4	54.0	5.0	L	39.2	ND	ND	ND		MRMW1S-W-27652
MW1S	11-51	9/3/09	19.0	54.0	8.0	L	35.0	ND	ND	ND	Low flow.	MRMW1S-W-29942
MW1S	11-51	9/4/09	19.3	51.2	244	L	50.0	34	1.7	ND	Three well volumes.	MRMW1S-W-29971
MW1S	11-51	4/7/10	11.7	51.3	7.0	L	16.6	ND	ND	ND	Top of screen.	MRMW1ST-W-29981
MW1S	11-51	4/7/10	11.6	51.3	6.0	L	31.5	ND	ND	ND	Middle of screen.	MRMW1SM-W-29980
MW1S	11-51	4/7/10	11.7	51.3	6.0	L	46.3	ND	ND	ND	Bottom of screen.	MRMW1SB-W-29979
MW1S	11-51	4/7/10	11.5	51.3	80	gal	49.0	21	1.2	ND	Three well volumes.	MRMW1S3X-W-29982
MW1S	11-51	9/22/10	19.9	54.0	10	L	31.0	1.6	ND	ND	Low flow.	MRMW1S-W-30010
MW1S	11-51	4/20/11	23.5	54.0	6.5	L	37.0	0.3 J	ND	ND	Low flow.	MRMW1S-W-30038
MW1S	11-51	10/4/11	21.8	54.0	8.0	L	34.9	1.7	ND	ND	Low flow.	MRMW1S-W-30067
MW1S	11-51	10/12/11	22.1	54.0	6.0	L	36.6	1.5	ND	ND	Low flow.	MRMW1S-W-30091
MW1S	11-51	10/12/11	22.4	54.0	65	gal	49.0	23	1.2	ND	Three well volumes.	MRMW1S3X-W-30093
MW1D	63-88	10/22/03	28.4	88.5	92	gal	–	ND	ND	ND		MRMW1D-W-16421
MW1D	63-88	6/2/04	26.8	88.6	140	gal	–	ND	ND	ND		MRMW1D-W-16458
MW1D	63-88	9/13/05	23.7	88.6	200	gal	–	ND	ND	ND		MRMW1D-W-16518
MW1D	63-88	3/19/06	26.9	88.6	112	gal	–	ND	ND	0.4 J B[c]		MRMW1D-W-19986
MW1D	63-88	9/20/06	25.5	88.8	125	gal	–	ND	ND	ND		MRMW1D-W-16532
MW1D	63-88	3/21/07	25.8	88.8	125	gal	–	ND	ND	ND		MRMW1D-W-16487
MW1D	63-88	10/1/07	22.8	89.4	130	gal	–	ND	ND	ND		MRMW1D-W-16596
MW1D	63-88	4/14/08	29.5	89.0	6.0	L	–	ND	ND	ND		MRMW1D-W-23231
MW1D	63-88	10/20/08	30.4	89.0	7.0	L	75.5	ND	ND	ND		MRMW1D-W-27621
MW1D	63-88	4/24/09	31.0	89.0	7.0	L	75.5	ND	ND	ND		MRMW1D-W-27653
MW1D	63-88	9/3/09	27.1	89.0	6.5	L	75.5	ND	ND	ND		MRMW1D-W-29943
MW1D	63-88	4/6/10	24.7	89.0	8.5	L	75.5	ND	ND	ND		MRMW1D-W-29983
MW1D	63-88	9/22/10	27.9	89.0	9.0	L	75.5	ND	ND	ND		MRMW1D-W-30011
MW1D	63-88	4/20/11	30.2	89.0	5.5	L	75.5	ND	ND	ND		MRMW1D-W-30039
MW1D	63-88	10/4/11	29.1	89.0	6.5	L	75.5	ND	ND	ND		MRMW1D-W-30068
MW1D	63-88	10/4/11	29.1	89.0	6.5	L	75.5	ND	ND	ND	Replicate.	MRMW1DDUP-W-30084

TABLE 3.2 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth to Water (ft BOTC)	Depth of well (ft BTOC)	Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Concentration (µg/L) Carbon Tetrachloride	Chloroform	Methylene Chloride	Comment	Sample
MW2S	13-53	10/22/03	42.2	53.4	Purged dry, sampled.			ND	ND	ND		MRMW02-W-16419
MW2S	13-53	6/2/04	37.4	53.3	31	gal	–	ND	ND	ND		MRMW2S-W-16459
MW2S	13-53	9/14/05	33.7	53.3	38	gal	–	ND	ND	ND		MRMW2S-W-19264
MW2S	13-53	3/21/06	40.9	53.3	27	gal	–	ND	ND	ND		MRMW2S-W-19992
MW2S	13-53	9/18/06	36.5	53.3	28	gal	–	ND	ND	ND		MRMW2S-W-22488
MW2S	13-53	3/22/07	35.8	53.3	35	gal	–	ND	ND	ND		MRMW2S-W-16559
MW2S	13-53	10/3/07	31.2	53.4	44	gal	–	ND	ND	ND		MRMW2S-W-16587
MW2S	13-53	4/15/08	23.6	53.4	2.2	L	–	ND	ND	ND		MRMW2S-W-23232
MW2S	13-53	10/21/08	33.7	53.5	5.0	L	33.0	ND	ND	ND	Low flow.	MRMW2S-W-27622
MW2S	13-53	10/21/08	–	–	–	–	–	ND	ND	ND	Full purge.	MRMW2S-W-27652
MW2S	13-53	4/23/09	33.2	53.5	6.5	L	43.4	ND	0.6 J	ND		MRMW2S-W-27654
MW2S	13-53	9/3/09	29.4	53.5	5.4	L	41.2	ND	ND	ND		MRMW2S-W-29944
MW2S	13-53	4/6/10	18.6	52.4	6.5	L	36.0	ND	ND	ND		MRMW2S-W-29984
MW2S	13-53	9/22/10	31.3	53.0	7.0	L	33.0	ND	ND	ND		MRMW2S-W-30012
MW2S	13-53	4/20/11	36.0	53.5	8.0	L	44.5	ND	ND	ND		MRMW2S-W-30040
MW2S	13-53	4/20/11	36.0	53.5	8.0	L	44.5	ND	ND	ND	Replicate.	MRMW2SDUP-W-30055
MW2S	13-53	10/4/11	32.7	53.5	7.5	L	42.6	ND	ND	ND		MRMW2S-W-30069
MW3S	18-48	10/23/03	36.5	47.8	73	gal	–	89	2.7	ND		MRMW03-W-16423
MW3S	18-48	6/2/04	30.7	47.5	34	gal	–	110	3.2	ND		MRMW3S-W-16462
MW3S	18-48	9/13/05	25.6	47.6	50	gal	–	101	3.2	ND		MRMW3S-W-19261
MW3S	18-48	3/23/06	35.6	47.7	28	gal	–	91	2.6	ND		MRMW3S-W-19994
MW3S	18-48	9/20/06	29.4	47.8	22	gal	–	49	1.5	ND		MRMW3S-W-22496
MW3S	18-48	3/22/07	26.2	47.8	45	gal	–	84	2.3	ND		MRMW3S-W-16563
MW3S	18-48	10/3/07	22.7	47.9	50	gal	–	61	2.0	ND		MRMW3S-W-16585
MW3S	18-48	4/14/08	17.0	47.8	3.3	L	–	8.2	0.4 J	ND	April monitoring.	MRMW3S-W-23233
MW3S	18-48	4/22/08	15.8	47.8	6.5	L	–	0.7 J	ND	ND	Confirm low carbon tetrachloride.	MRMW3S-W-23260
MW3S	18-48	5/1/08	–	–	2.6	L	26.0	0.4 J	ND	ND	Top of screen.	MRMW3S-26-W-23269
MW3S	18-48	5/1/08	–	–	2.8	L	38.0	0.4 J	ND	ND	Middle of screen.	MRMW3S-38-W-23270
MW3S	18-48	5/1/08	–	–	3.2	L	45.0	0.5 J	ND	ND	Bottom of screen.	MRMW3S-45-W-23271
MW3S	18-48	10/21/08	27.0	47.8	4.2	L	33.0	55	1.4	ND	Low flow.	MRMW3S-W-27623
MW3S	18-48	10/21/08	–	–	–	–	–	63	1.6	ND	Full purge.	MRMW3S-W-27650
MW3S	18-48	4/23/09	26.7	47.8	5.0	L	37.3	29	1.4	ND		MRMW3S-W-27655
MW3S	18-48	9/3/09	22.4	47.8	5.5	L	35.2	30	1.1	ND	Low flow.	MRMW3S-W-29945
MW3S	18-48	9/4/09	22.6	47.8	190	L	46.0	28	0.9 J	ND	Three well volumes.	MRMW3S-W-29972
MW3S	18-48	4/6/10	12.1	47.8	6.0	L	33.0	3.5	0.2 J	ND		MRMW3S-W-29985
MW3S	18-48	9/23/10	23.7	47.8	7.0	L	33.0	47	1.6	ND		MRMW3S-W-30013
MW3S	18-48	4/20/11	32.1	47.8	6.2	L	40.0	33	1.2	ND		MRMW3S-W-30041
MW3S	18-48	10/4/11	26.0	47.8	7.0	L	37.0	49	1.8	ND		MRMW3S-W-30070
MW4S	17-47	10/21/03	46.4	47.8	Purged dry, sampled.			ND	ND	ND		MRMW04-W-16418
MW4S	17-47	6/4/04	43.2	47.8	10	gal	–	ND	ND	ND		MRMW4S-W-16470
MW4S	17-47	9/14/05	36.2	47.8	8.0	gal	–	ND	ND	ND		MRMW4S-W-19262
MW4S	17-47	3/21/06	44.6	47.7	6.0	gal	–	ND	ND	ND		MRMW4S-W-19993
MW4S	17-47	9/18/06	41.6	47.8	5.3	gal	–	ND	ND	ND		MRMW4S-W-22487
MW4S	17-47	3/22/07	38.7	47.8	6.0	gal	–	ND	ND	ND		MRMW4S-W-16562
MW4S	17-47	10/3/07	31.1	47.7	30	gal	–	0.5 J R[d]	ND	ND		MRMW4S-W-16586

TABLE 3.2 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth to Water (ft BOTC)	Depth of well (ft BTOC)	Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Concentration (µg/L)			Comment	Sample
								Carbon Tetrachloride	Chloroform	Methylene Chloride		
MW4S	17-47	1/11/08	–	–	–	–	–	ND	ND	ND		MOMW4S-W-011108
MW4S	17-47	4/14/08	26.3	47.9	2.5	L	–	ND	ND	ND		MRMW4S-W-23234
MW4S	17-47	10/20/08	36.7	47.8	8.0	gal	–	ND	ND	ND		MRMW4S-W-27624
MW4S	17-47	4/23/09	41.5	47.8	5.0	L	44.7	ND	ND	ND		MRMW4S-W-27656
MW4S	17-47	9/4/09	31.6	47.8	6.0	L	39.3	ND	ND	ND		MRMW4S-W-29946
MW4S	17-47	4/6/10	21.8	47.9	5.5	L	34.8	ND	ND	ND		MRMW4S-W-29986
MW4S	17-47	9/22/10	33.2	47.8	6.0	L	32.0	ND	ND	ND		MRMW4S-W-30014
MW4S	17-47	4/21/11	42.4	47.8	5.0	L	44.7	ND	ND	ND		MRMW4S-W-30042
MW4S	17-47	10/4/11	35.6	47.8	6.0	L	40.9	ND	ND	ND		MRMW4S-W-30071
MW5S	15-55	10/22/03	31.4	55.7	48	gal	–	5.8	ND	ND		MRMW05-W-16420
MW5S	15-55	6/2/04	26.3	55.7	> 57	gal	–	7.0	ND	ND		MRMW5S-W-16460
MW5S	15-55	9/13/05	22.7	54.2	75	gal	–	6.3	0.2 J	ND		MRMW5S-W-19260
MW5S	15-55	3/22/06	28.6	54.5	50	gal	–	7.3	0.2 J	ND		MRMW5S-W-19996
MW5S	15-55	9/20/06	25.4	54.6	52	gal	–	6.4	0.3 J	ND		MRMW5S-W-22493
MW5S	15-55	3/22/07	25.1	54.6	58	gal	–	6.5	0.4 J	ND		MRMW5S-W-16569
MW5S	15-55	10/3/07	19.6	54.7	68	gal	–	4.0	0.3 J	ND		MRMW5S-W-16588
MW5S	15-55	4/14/08	11.2	54.6	6.0	L	–	ND	ND	ND	April monitoring.	MRMW5S-W-23235
MW5S	15-55	4/23/08	11.3	54.6	6.5	L	–	ND	ND	ND	Confirm low carbon tetrachloride.	MRMW5S-W-23266
MW5S	15-55	5/1/08	–	–	3.7	L	20.0	ND	ND	ND	Top of screen.	MRMW5S-20-W-23272
MW5S	15-55	5/1/08	–	–	3.4	L	28.0	ND	ND	ND	Middle of screen.	MRMW5S-28-W-23273
MW5S	15-55	5/1/08	–	–	4.0	L	52.0	ND	ND	ND	Bottom of screen.	MRMW5S-52-W-23274
MW5S	15-55	10/21/08	22.5	54.6	7.0	L	35.0	1.7	ND	ND		MRMW5S-W-27625
MW5S	15-55	4/24/09	22.1	54.6	5.5	L	38.4	ND	ND	ND		MRMW5S-W-27657
MW5S	15-55	9/3/09	17.6	54.6	5.5	L	36.3	ND	ND	ND		MRMW5S-W-29947
MW5S	15-55	4/7/10	8.3	54.5	5.5	L	35.0	ND	ND	ND		MRMW5S-W-29987
MW5S	15-55	9/22/10	19.3	55.0	6.5	L	35.0	ND	9.4	ND		MRMW5S-W-30015
MW5S	15-55	4/20/11	24.4	54.6	7.0	L	36.0	1.3	ND	ND		MRMW5S-W-30043
MW5S	15-55	10/4/11	21.1	54.6	6.5	L	38.3	ND	ND	ND		MRMW5S-W-30072
MW6S	10-25	6/3/04	3.3	26.9	45	gal	–	ND	ND	ND		MRMW6S-W-16465
MW6S	10-25	9/14/05	4.7	26.9	43	gal	–	ND	ND	ND		MRMW6S-W-19263
MW6S	10-25	3/20/06	5.4	26.9	43	gal	–	ND	ND	ND		MRMW6S-W-19990
MW6S	10-25	9/18/06	5.5	26.9	27	gal	–	ND	ND	ND		MRMW6S-W-22486
MW6S	10-25	3/21/07	5.4	26.9	30	gal	–	ND	ND	ND		MRMW6S-W-16486
MW6S	10-25	10/2/07	5.0	26.9	31	gal	–	ND	ND	ND		MRMW6S-W-16583
MW6S	10-25	4/15/08	5.2	26.9	2.5	L	–	ND	ND	ND		MRMW6S-W-23236
MW6S	10-25	10/20/08	5.7	26.9	5.0	L	17.5	ND	ND	ND		MRMW6S-W-27626
MW6S	10-25	4/24/09	6.2	26.9	12	L	17.5	ND	ND	ND		MRMW6S-W-27658
MW6S	10-25	9/4/09	5.9	26.9	5.4	L	17.5	ND	ND	ND		MRMW6S-W-29948
MW6S	10-25	4/6/10	6.2	26.9	8.0	L	17.5	ND	ND	ND		MRMW6S-W-29988
MW6S	10-25	9/22/10	5.5	26.9	8.8	L	17.5	ND	ND	ND		MRMW6S-W-30016
MW6S	10-25	4/20/11	6.5	24.9	8.0	L	17.5	ND	ND	ND		MRMW6S-W-30044
MW6S	10-25	10/4/11	6.5	26.9	6.0	L	17.5	ND	ND	ND		MRMW6S-W-30073
MW7S	20-45	6/3/04	26.7	47.0	40	gal	–	18	ND	ND		MRMW7S-W-16466
MW7S	20-45	9/12/05	17.6	46.9	55	gal	–	43	1.1	ND		MRMW7S-W-19258

TABLE 3.2 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth to Water (ft BOTC)	Depth of well (ft BTOC)	Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Concentration (µg/L)			Comment	Sample
								Carbon Tetrachloride	Chloroform	Methylene Chloride		
MW7S	20-45	3/22/06	22.5	47.0	48	gal	–	21	0.4 J	ND		MRMW7S-W-20000
MW7S	20-45	9/19/06	20.9	47.0	56	gal	–	38	0.7 J	ND		MRMW7S-W-22490
MW7S	20-45	3/20/07	18.0	47.0	50	gal	–	16	0.4 J	ND		MRMW7S-W-16481
MW7S	20-45	10/1/07	12.4	47.0	70	gal	–	8.1	0.2 J	ND		MRMW7S-W-16581
MW7S	20-45	4/14/08	7.7	47.0	1.8	L	–	10	0.3 J	ND		MRMW7S-W-23237
MW7S	20-45	4/23/08	7.8	47.0	11	L	–	8.3	0.2 J	ND		MRMW7S-W-23265
MW7S	20-45	10/20/08	17.2	47.0	6.3	L	32.5	7.9	ND	ND		MRMW7S-W-27627
MW7S	20-45	4/23/09	16.7	47.0	7.0	L	32.5	9.5	ND	ND		MRMW7S-W-27659
MW7S	20-45	9/3/09	13.8	47.0	9.0	L	32.5	8.0	ND	ND		MRMW7S-W-29949
MW7S	20-45	4/6/10	6.4	47.0	5.4	L	32.5	15	0.4 J	ND		MRMW7S-W-29989
MW7S	20-45	9/23/10	14.2	45.0	6.0	L	32.5	6.6	ND	ND		MRMW7S-W-30017
MW7S	20-45	4/20/11	19.7	46.7	6.0	L	32.5	4.4	0.2 J	ND		MRMW7S-W-30045
MW7S	20-45	10/4/11	7.1	47.0	7.0	L	32.5	11	0.3 J	ND		MRMW7S-W-30074
MW7S	20-45	10/4/11	7.1	47.0	7.0	L	32.5	12	0.3 J	ND	Replicate.	MRMW7SDUP-W-30083
MW8S	10-25	6/3/04	3.7	26.8	45	gal	–	ND	ND	ND		MRMW8S-W-16464
MW8S	10-25	9/14/05	4.0	26.8	57	gal	–	0.9 J	ND	ND		MRMW8S-W-19265
MW8S	10-25	3/20/06	4.6	26.4	43	gal	–	0.6 J	ND	0.4 J B		MRMW8S-W-19991
MW8S	10-25	9/19/06	4.8	26.8	45	gal	–	1.3	ND	ND		MRMW8S-W-22492
MW8S	10-25	3/20/07	2.6	26.8	49	gal	–	0.6 J	ND	ND		MRMW8S-W-16483
MW8S	10-25	10/2/07	2.2	26.8	48	gal	–	0.8 J	ND	ND		MRMW8S-W-16584
MW8S	10-25	4/15/08	0.7	26.8	5.5	L	–	1.1	ND	ND		MRMW8S-W-23238
MW8S	10-25	10/20/08	3.6	26.8	8.0	L	17.5	1.3	ND	ND		MRMW8S-W-27628
MW8S	10-25	4/23/09	2.3	26.8	6.0	L	17.5	ND	ND	ND		MRMW8S-W-27660
MW8S	10-25	9/3/09	2.9	26.8	8.5	L	17.5	1.9	ND	ND		MRMW8S-W-29950
MW8S	10-25	4/6/10	1.1	26.8	8.0	L	17.5	1.7	ND	ND		MRMW8S-W-29990
MW8S	10-25	9/22/10	2.5	26.8	9.0	L	17.5	1.6	ND	ND		MRMW8S-W-30018
MW8S	10-25	4/20/11	2.7	26.8	9.0	L	17.5	0.2 J	ND	ND		MRMW8S-W-30046
MW8S	10-25	10/4/11	4.9	26.3	9.0	L	17.5	0.6 J	ND	ND		MRMW8S-W-30075
MW9S	38.83-53.83	3/22/06	20.2	58.6	20	gal	–	ND	ND	ND		MRMW9S-W-20004
MW9S	38.83-53.83	9/19/06	18.9	59.0	22	gal	–	ND	ND	ND		MRMW9S-W-22494
MW9S	38.83-53.83	3/20/07	16.7	59.0	22	gal	–	ND	ND	ND		MRMW9S-W-16480
MW9S	38.83-53.83	10/1/07	14.0	58.6	23	gal	–	ND	ND	ND		MRMW9S-W-16582
MW9S	38.83-53.83	4/14/08	16.6	58.6	2.3	L	–	0.8 J	ND	ND		MRMW9S-W-23239
MW9S	38.83-53.83	10/20/08	21.5	58.5	11	L	46.3	1.1	ND	ND		MRMW9S-W-27629
MW9S	38.83-53.83	4/23/09	21.9	58.5	5.5	L	46.3	1.0	ND	ND		MRMW9S-W-27661
MW9S	38.83-53.83	9/4/09	20.0	58.5	5.0	L	46.3	1.4	ND	ND		MRMW9S-W-29951
MW9S	38.83-53.83	4/6/10	16.5	58.5	6.0	L	46.3	1.9	ND	ND		MRMW9S-W-29991
MW9S	38.83-53.83	9/22/10	21.2	58.8	7.0	L	46.3	1.9	ND	ND		MRMW9S-W-30019
MW9S	38.83-53.83	4/20/11	23.8	58.3	14	L	46.3	0.9 J	ND	ND		MRMW9S-W-30047
MW9S	38.83-53.83	4/20/11	23.8	58.3	14	L	46.3	1.1	ND	ND	Replicate.	MRMW9SDUP-W-30054
MW9S	38.83-53.83	10/4/11	22.4	58.5	8.0	L	46.3	0.9 J	ND	ND		MRMW9S-W-30076
MW10S	30-45	3/21/06	12.3	49.6	19	gal	–	ND	ND	ND		MRMW10S-W-19999
MW10S	30-45	9/18/06	11.1	49.6	20	gal	–	ND	ND	ND		MRMW10S-W-22489
MW10S	30-45	3/21/07	10.8	49.6	20	gal	–	ND	ND	ND		MRMW10S-W-16485
MW10S	30-45	10/1/07	7.0	49.7	20	gal	–	ND	ND	ND		MRMW10S-W-16593

TABLE 3.2 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth to Water (ft BOTC)	Depth of well (ft BTOC)	Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Concentration (µg/L)			Comment	Sample
								Carbon Tetrachloride	Chloroform	Methylene Chloride		
MW10S	30-45	4/14/08	9.8	49.7	1.9	L	–	ND	ND	ND		MRMW10S-W-23240
MW10S	30-45	10/20/08	13.7	49.7	5.4	L	37.5	ND	ND	ND		MRMW10S-W-27630
MW10S	30-45	4/23/09	13.6	45.0	7.5	L	37.5	ND	ND	ND		MRMW10S-W-27662
MW10S	30-45	9/3/09	12.0	49.7	7.5	L	37.5	ND	ND	ND		MRMW10S-W-29952
MW10S	30-45	4/6/10	7.5	49.7	9.0	L	37.5	ND	ND	ND		MRMW10S-W-29992
MW10S	30-45	9/22/10	11.7	49.7	11	L	37.5	ND	0.3 J	ND		MRMW10S-W-30020
MW10S	30-45	4/20/11	13.7	49.3	7.3	L	37.5	ND	0.2 J	ND		MRMW10S-W-30048
MW10S	30-45	10/4/11	12.5	49.7	8.0	L	37.5	ND	ND	ND		MRMW10S-W-30077
MW11S	53-68	3/22/06	35.2	72.5	20	gal	–	39	0.9 J	ND		MRMW11S-W-20001
MW11S	53-68	9/19/06	36.0	73.1	20	gal	–	53	1.0	ND		MRMW11S-W-22491
MW11S	53-68	3/20/07	34.7	73.1	20	gal	–	37	0.8 J	ND		MRMW11S-W-16479
MW11S	53-68	10/1/07	31.6	73.0	20	gal	–	54	1.2	ND		MRMW11S-W-16594
MW11S	53-68	4/15/08	29.9	72.7	5.5	L	–	35	0.8 J	ND	April monitoring.	MRMW11S-W-23241
MW11S	53-68	4/22/08	30.2	72.7	7.2	L	–	42	0.9 J	ND	Confirm low carbon tetrachloride.	MRMW11S-W-23261
MW11S	53-68	10/20/08	37.1	72.7	9.0	L	60.5	42	0.9 J	ND	Low flow.	MRMW11S-W-27631
MW11S	53-68	10/21/08	–	–	–	–	–	45	0.9 J	ND	Full purge.	MRMW11S-W-27651
MW11S	53-68	4/23/09	38.1	72.7	5.0	L	60.5	46	1.0	ND		MRMW11S-W-27663
MW11S	53-68	9/3/09	34.7	72.7	7.5	L	60.5	39	0.9 J	ND	Low flow.	MRMW11S-W-29953
MW11S	53-68	9/4/09	35.0	72.7	72	L	67.0	41	0.9 J	ND	Three well volumes.	MRMW11S-W-29973
MW11S	53-68	4/6/10	29.5	72.7	6.5	L	60.5	38	1.0	ND		MRMW11S-W-29993
MW11S	53-68	9/23/10	34.8	72.7	7.0	L	60.5	28	1.0	ND		MRMW11S-W-30021
MW11S	53-68	4/20/11	39.2	72.5	7.5	L	60.5	38	1.1	ND		MRMW11S-W-30049
MW11S	53-68	10/4/11	36.8	72.7	6.0	L	60.5	33	0.8 J	ND		MRMW11S-W-30078
Isch	–	2/19/04	–	–	Pump[e]	–	–	ND	ND	ND		MRJR-W-16502
Isch	–	9/14/05	–	–	Pump	–	–	ND	ND	ND		MRPRISCH-W-16513
Isch	–	3/23/06	–	–	20	gal	–	ND	ND	ND		MRISCH-W-19989
Isch	–	9/19/06	–	–	Pump	–	–	ND	ND	ND		MRISCH-W-16531
Isch	–	3/22/07	–	–	Pump	–	–	ND	ND	ND		MRISCH-W-16564
Isch	–	10/3/07	–	–	Pump	–	–	ND	ND	ND		MRISCH-W-16590
Isch	–	4/15/08	–	–	Pump	–	–	0.4 J	ND	ND		MRISCH-W-23242
Isch	–	4/22/08	–	–	Pump	–	–	ND	ND	ND		MRISCH-W-23262
Isch	–	10/21/08	–	–	Pump	–	–	ND	ND	ND		MRISCH-W-27632
Isch	–	4/22/09	–	–	Pump	–	–	ND	ND	ND		MRISCH-W-27664
Isch	–	9/2/09	–	–	Pump	–	–	ND	ND	ND		MRISCH-W-29954
Isch	–	4/7/10	–	–	Pump	–	–	ND	ND	ND		MRISCH-W-29994
Isch	–	9/22/10	–	–	Pump	–	–	ND	ND	ND		MRISCH-W-30022
Isch	–	4/21/11	–	–	Pump	–	–	ND	ND	ND		MRISCH-W-30050
Isch	–	10/3/11	–	–	Pump	–	–	ND	ND	ND		MRIsch-W-30079
Rillinger	–	6/4/04	–	–	Pump	–	–	ND	ND	ND		MRPRIVRIL-W-16471
Rillinger	–	9/14/05	–	–	Pump	–	–	2.6	0.1 J	ND		MRPRILL-W-16512
Rillinger	–	3/19/06	–	–	Pump	–	–	ND	ND	0.4 J B		MRRILINGER-W-19988
Rillinger	–	9/19/06	–	–	Pump	–	–	ND	ND	ND		MRRILI-W-16530
Rillinger	–	3/29/07	–	–	Pump	–	–	1.3	1.1	ND		MRRILINGER-W-16561
Rillinger	–	10/3/07	–	–	Pump	–	–	13[f]	0.4 J	ND		MRRILINGER-W-16591

TABLE 3.2 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth to Water (ft BOTC)	Depth of well (ft BTOC)	Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Concentration (µg/L)			Comment	Sample
								Carbon Tetrachloride	Chloroform	Methylene Chloride		
Rillinger	–	10/8/07	–	–	Pump	–	–	0.4 J	ND	ND		MRRILINGER-W-16592
Rillinger	–	1/11/08	–	–	Pump	–	–	6.2	0.5 J	ND		MORIL-W-11108
Rillinger	–	4/15/08	–	–	Pump	–	–	9.9	0.4 J	ND		MRRILINGER-W-23243
Rillinger	–	10/21/08	–	–	Pump	–	–	0.9 J	ND	ND		MRRILLINGER-W-27633
Rillinger	–	4/22/09	–	–	Pump	–	–	1.2	ND	ND		MRRILLINGER-W-27665
Rillinger	–	9/2/09	–	–	Pump	–	–	1.0	ND	ND		MRRILLINGER-W-29955
Rillinger	–	4/7/10	–	–	Pump	–	–	0.8 J	ND	ND		MRRILLINGER-W-29995
Rillinger	–	9/22/10	–	–	Pump	–	–	1.3	ND	ND		MRRILLINGER-W-30023
Rillinger	–	4/21/11	–	–	Pump	–	–	0.7 J	ND	ND		MRRILLINGER-W-30051
Rillinger	–	10/3/11	–	–	Pump	–	–	0.7 J	ND	ND		MRRillinger-W-30080
Stone	43[g]	6/4/04	23.4	–	Purged dry.		–	10	ND	ND		MRPRIVSTON-W-16475
Stone	43	9/14/05	17.2	40.0	–	–	–	2.6	0.3 J	ND		MRPRSTON-W-16511
Stone	43	3/19/06	17.4	40.0	100	gal	–	14	0.8 J	0.4 J B		MRSTONE-W-19987
Stone	43	9/19/06	18.6	38.8	41	gal	–	2.1	ND	ND		MRSTONE-W-16529
Stone	43	3/22/07	20.6	38.8	56	gal	–	5.4	0.3 J	ND		MRSTONE-W-16560
Stone	43	10/3/07	14.6	38.6	72	gal	–	2.8	ND	ND		MRSTONE-W-16589
Stone	43	4/15/08	–	38.9	–	–	–	0.9 J	ND	ND		MRSTONE-W-23244
Stone	43	10/21/08	–	–	5.0	gal	–	3.0	ND	ND		MRSTONE-W-27634
Stone	43	4/23/09	–	–	5.0	gal	–	1.1	ND	ND		MRSTONE-W-27666
Stone	43	9/2/09	–	–	5.0	gal	–	0.9 J	ND	ND		MRSTONE-W-29956
Stone	43	4/7/10	–	–	5.0	gal	–	0.5 J	ND	ND		MRSTONE-W-29996
Stone	43	9/22/10	–	–	5.0	gal	–	0.6 J	1.8	ND		MRSTONE-W-30024
Stone	43	4/21/11	–	–	5.0	gal	–	1.8	0.9 J	ND		MRSTONE-W-30052
Stone	43	10/3/11	–	–	5.0	gal	–	1.5	ND	ND		MRStone-W-30081
TD12	27-67	4/22/08	–	–	–	–	–	ND	ND	ND	Grimm irrigation well.	MRTD12-W-23264
TD12	27-67	10/20/08	–	–	–	–	–	ND	ND	ND	Grimm irrigation well.	MRTD12-W-27635
TD12	27-67	4/23/09	–	–	–	–	–	ND	ND	ND	Tile drain into creek.	MRTD12-W-27667
TD12	27-67	9/3/09	–	–	–	–	–	ND	ND	ND	Overflow before catchment.	MRTD12-W-29957
TD12	27-67	4/6/10	–	–	–	–	–	ND	ND	ND		MRTD12-W-29997
TD12	27-67	9/22/10	–	–	–	–	–	ND	ND	ND		MRTD12-W-30025
TD12	27-67	4/20/11	–	–	–	–	–	ND	ND	ND		MRTD12-W-30053
TD12	27-67	10/3/11	–	–	–	–	–	ND	ND	ND		MRTD12-W-30082

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

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

[c] Qualifier B indicates that the compound was present in the associated method blank.

[d] Qualifier R indicates that the contaminant was present in the associated equipment rinsate. Resampling confirmed that the well was free of contamination.

[e] The well's dedicated pump was used for sampling. The pump was allowed to run before the sample was collected.

[f] Sample collected after recent reactivation of well. Well resampled on 10/8/07 and 1/11/08.

[g] Total depth

TABLE 3.3 Field measurements for groundwater samples collected in 2003-2011. Shading indicates sample collection with the low-flow procedure.

Location	Screen Interval (ft BGL)	Sample Date	Depth (ft BTOC) Water	Depth (ft BTOC) Well	Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Temperature (°C)	pH	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Iron II (mg/L)	Carbon Dioxide (mg/L)	Sample
MW1S	11-51	10/23/03	30.4	54.0	70	gal	–	14.6	7.14	933	–[a]	13	–	–	MRMW1S-W-16422
MW1S	11-51	6/2/04	27.0	53.9	53	gal	–	14.4	7.16	970	–	–	–	–	MRMW1S-W-16461
MW1S	11-51	9/13/05	24.2	53.9	57	gal	–	15.3	6.95	1174	7.17	200	0	55	MRMW1S-W-19259
MW1S	11-51	3/22/06	29.0	54.0	48	gal	–	15.5	7.23	927	9.94	220	0.01	40	MRMW1S-W-20008
MW1S	11-51	9/20/06	26.8	54.0	55	gal	–	15.7	7.12	973	7.52	–	0.03	40	MRMW1S-W-22495
MW1S	11-51	3/21/07	25.8	54.0	55	gal	–	16.6	6.48	960	5.45	88	0	40	MRMW1S-W-16488
MW1S	11-51	10/1/07	21.7	54.0	63	gal	–	16.0	6.80	886	6.79	128	0	30	MRMW1S-W-16595
MW1S	11-51	4/14/08	16.2	54.0	5.5	L	–	13.9	7.09	1237	6.38	118	0.02	–	MRMW1S-W-23230
MW1S	11-51	4/22/08	16.0	54.0	6.3	L	–	15.6	6.96	1230	6.10	133	–	–	MRMW1S-W-23259
MW1S	11-51	5/1/08	–	–	3.2	L	22.0	17.1	7.11	801	3.34	104	–	–	MRMW1S-22-W-23275
MW1S	11-51	5/1/08	–	–	3.2	L	27.0	17.0	7.10	820	3.40	102	–	–	MRMW1S-27-W-23276
MW1S	11-51	5/1/08	–	–	4.3	L	48.0	16.3	7.00	1301	3.03	118	–	–	MRMW1S-48-W-23277
MW1S	11-51	10/20/08	25.8	54.0	6.0	L	31.0	14.0	6.84	1265	5.40	103	0	–	MRMW1S-W-27620
MW1S	11-51	10/21/08	–	–	TWV[b]	–	–	14.8	7.02	978	–	–	0	–	MRMW1S-W-27649
MW1S	11-51	4/24/09	24.4	54.0	5.0	L	39.2	16.2	7.00	986	8.93	75	0.04	–	MRMW1S-W-27652
MW1S	11-51	9/3/09	19.0	54.0	8.0	L	35.0	16.0	6.94	1334	7.08	28	0.04	–	MRMW1S-W-29942
MW1S	11-51	9/4/09	19.3	51.2	244	L	50.0	15.0	6.92	950	7.73	61	–	–	MRMW1S-W-29971
MW1S	11-51	4/7/10	11.7	51.3	7.0	L	16.6	9.6	7.01	695	8.66	233	0	–	MRMW1ST-W-29981
MW1S	11-51	4/7/10	11.6	51.3	6.0	L	31.5	11.9	6.96	918	8.42	246	0	–	MRMW1SM-W-29980
MW1S	11-51	4/7/10	11.7	51.3	6.0	L	46.3	11.7	6.95	965	8.29	251	0.01	–	MRMW1SB-W-29979
MW1S	11-51	4/7/10	11.5	51.3	80	gal	49.0	14.0	7.18	687	8.86	211	0.03	–	MRMW1S3X-W-29982
MW1S	11-51	9/22/10	19.9	54.0	10	L	31.0	17.9	7.01	1337	6.17	134	0.07	–	MRMW1S-W-30010
MW1S	11-51	4/20/11	23.5	54.0	6.5	L	37.0	13.8	6.96	866	6.39	55	0	–	MRMW1S-W-30038
MW1S	11-51	10/4/11	21.8	54.0	8.0	L	34.9	15.4	7.65	1166	5.72	98	0	–	MRMW1S-W-30067
MW1S	11-51	10/12/11	22.1	54.0	6.0	L	36.6	16.3	7.24	1279	5.76	323	–	–	MRMW1S-W-30091
MW1S	11-51	10/12/11	22.4	54.0	65	gal	49.0	16.7	7.36	905	6.18	270	–	–	MRMW1S3X-W-30092
MW1D	63-88	10/22/03	28.4	88.5	92	gal	–	14.9	6.87	2620	–	25	–	–	MRMW1D-W-16421
MW1D	63-88	6/2/04	26.8	88.6	140	gal	–	13.9	6.87	2460	–	–	–	–	MRMW1D-W-16458
MW1D	63-88	9/13/05	23.7	88.6	200	gal	–	15.5	6.56	2470	–	–	–	–	MRMW1D-W-16518
MW1D	63-88	3/19/06	26.9	88.6	112	gal	–	12.9	6.95	2460	5.11	230	0	–	MRMW1D-W-19986
MW1D	63-88	9/20/06	25.5	88.8	125	gal	–	12.5	6.93	2690	–	–	–	–	MRMW1D-W-16532
MW1D	63-88	3/21/07	25.8	88.8	125	gal	–	15.3	6.39	2540	0.08	12	0.39	40	MRMW1D-W-16487
MW1D	63-88	10/1/07	22.8	89.4	130	gal	–	16.3	6.60	2230	6.79	5	0.44	45	MRMW1D-W-16596
MW1D	63-88	4/14/08	29.5	89.0	6.0	L	–	14.6	6.99	2637	0.50	32	0.73	–	MRMW1D-W-23231
MW1D	63-88	10/20/08	30.4	89.0	7.0	L	75.5	13.4	6.83	2556	0.24	21	0.37	–	MRMW1D-W-27621
MW1D	63-88	4/24/09	31.0	89.0	7.0	L	75.5	16.7	6.92	2419	0.37	22	0.28	–	MRMW1D-W-27653
MW1D	63-88	9/3/09	27.1	89.0	6.5	L	75.5	16.9	7.00	2200	0.59	16	0.27	–	MRMW1D-W-29943
MW1D	63-88	4/6/10	24.7	89.0	8.5	L	75.5	17.8	6.39	2274	0.15	33	0.01	–	MRMW1D-W-29983
MW1D	63-88	9/22/10	27.9	89.0	9.0	L	75.5	17.6	7.01	2492	0.31	61	0.04	–	MRMW1D-W-30011
MW1D	63-88	4/20/11	30.2	89.0	5.5	L	75.5	13.5	6.98	1951	0.33	-2	0.20	–	MRMW1D-W-30039
MW1D	63-88	10/4/11	29.1	89.0	6.5	L	75.5	14.9	7.66	2011	0.17	22	0.09	–	MRMW1D-W-30068
MW2S	13-53	10/22/03	42.2	53.4	PDS[c]	–	–	16.2	6.86	875	–	20	–	–	MRMW02-W-16419
MW2S	13-53	6/2/04	37.4	53.3	31	gal	–	16.9	7.07	861	–	–	–	–	MRMW2S-W-16459
MW2S	13-53	9/14/05	33.7	53.3	38	gal	–	15.2	6.94	801	7.85	142	–	65	MRMW2S-W-19264
MW2S	13-53	3/21/06	40.9	53.3	27	gal	–	13.0	7.07	863	9.40	262	0.14	25	MRMW2S-W-19992

TABLE 3.3 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth (ft BTOC) Water	Depth (ft BTOC) Well	Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Temperature (°C)	pH	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Iron II (mg/L)	Carbon Dioxide (mg/L)	Sample
MW2S	13-53	9/18/06	36.5	53.3	28	gal	–	13.6	6.99	844	6.81	69	0	80	MRMW2S-W-22488
MW2S	13-53	3/22/07	35.8	53.3	35	gal	–	15.2	6.40	790	5.82	69	0	30	MRMW2S-W-16559
MW2S	13-53	10/3/07	31.2	53.4	44	gal	–	16.8	6.97	703	6.70	269	0.01	30	MRMW2S-W-16587
MW2S	13-53	4/15/08	23.6	53.4	2.2	L	–	11.7	7.23	742	3.22	75	0	–	MRMW2S-W-23232
MW2S	13-53	10/21/08	33.7	53.5	5.0	L	33.0	13.4	7.08	745	8.55	104	0	–	MRMW2S-W-27622
MW2S	13-53	10/21/08	–	–	TWV	–	–	–	–	–	–	–	–	–	MRMW2S-W-27652
MW2S	13-53	4/23/09	33.2	53.5	6.5	L	43.4	15.2	6.97	755	9.19	26	0	–	MRMW2S-W-27654
MW2S	13-53	9/3/09	29.4	53.5	5.4	L	41.2	15.1	7.15	690	8.80	32	0.01	–	MRMW2S-W-29944
MW2S	13-53	4/6/10	18.6	52.4	6.5	L	36.0	17.1	6.95	681	6.85	37	0.12	–	MRMW2S-W-29984
MW2S	13-53	9/22/10	31.3	53.0	7.0	L	33.0	16.1	7.03	723	7.16	142	0	–	MRMW2S-W-30012
MW2S	13-53	4/20/11	36.0	53.5	8.0	L	44.5	13.4	6.91	615	7.07	103	0.05	–	MRMW2S-W-30040
MW2S	13-53	10/4/11	32.7	53.5	7.5	L	42.6	15.3	7.71	592	6.89	120	0.01	–	MRMW2S-W-30069
MW3S	18-48	10/23/03	36.5	47.8	73	gal	–	16.8	7.23	655	–	6	–	–	MRMW03-W-16423
MW3S	18-48	6/2/04	30.7	47.5	34	gal	–	14.2	7.23	664	–	–	–	–	MRMW3S-W-16462
MW3S	18-48	9/13/05	25.6	47.6	50	gal	–	14.6	7.13	663	8.82	223	0	100	MRMW3S-W-19261
MW3S	18-48	3/23/06	35.6	47.7	28	gal	–	8.9	7.16	662	6.74	269	0.08	25	MRMW3S-W-19994
MW3S	18-48	9/20/06	29.4	47.8	22	gal	–	12.9	7.15	669	7.64	105	0	–	MRMW3S-W-22496
MW3S	18-48	3/22/07	26.2	47.8	45	gal	–	15.0	6.44	578	5.90	261	0.17	30	MRMW3S-W-16563
MW3S	18-48	10/3/07	22.7	47.9	50	gal	–	15.3	6.97	594	0.38	282	0	20	MRMW3S-W-16585
MW3S	18-48	4/14/08	17.0	47.8	3.3	L	–	13.7	7.17	693	3.52	165	0	–	MRMW3S-W-23233
MW3S	18-48	4/22/08	15.8	47.8	6.5	L	–	16.0	6.99	685	6.71	155	–	–	MRMW3S-W-23260
MW3S	18-48	5/1/08	–	–	2.6	L	26.0	13.2	7.17	675	3.83	161	–	–	MRMW3S-26-W-23269
MW3S	18-48	5/1/08	–	–	2.8	L	38.0	12.7	7.12	671	4.21	193	–	–	MRMW3S-38-W-23270
MW3S	18-48	5/1/08	–	–	3.2	L	45.0	12.6	7.03	675	4.57	205	–	–	MRMW3S-45-W-23271
MW3S	18-48	10/21/08	27.0	47.8	4.2	L	33.0	12.6	7.17	673	6.42	115	0	–	MRMW3S-W-27623
MW3S	18-48	10/21/08	–	–	TWV	–	–	14.3	7.11	522	–	–	0	–	MRMW3S-W-27650
MW3S	18-48	4/23/09	26.7	47.8	5.0	L	37.3	17.0	7.06	662	9.40	-63	0.01	–	MRMW3S-W-27655
MW3S	18-48	9/3/09	22.4	47.8	5.5	L	35.2	16.3	7.28	640	7.69	12	0.01	–	MRMW3S-W-29945
MW3S	18-48	9/4/09	22.6	47.8	190	L	46.0	14.2	6.57	659	9.09	95	–	–	MRMW3S-W-29972
MW3S	18-48	4/6/10	12.1	47.8	6.0	L	33.0	16.0	6.99	611	8.20	8	0	–	MRMW3S-W-29985
MW3S	18-48	9/23/10	23.7	47.8	7.0	L	33.0	15.8	7.22	674	11.00	150	0.05	–	MRMW3S-W-30013
MW3S	18-48	4/20/11	32.1	47.8	6.2	L	40.0	13.3	7.11	514	6.64	61	0.02	–	MRMW3S-W-30041
MW3S	18-48	10/4/11	26.0	47.8	7.0	L	37.0	15.8	7.78	563	5.99	115	0	–	MRMW3S-W-30070
MW4S	17-47	10/21/03	46.4	47.8	PDS	–	–	–	7.17	758	–	–	–	–	MRMW04-W-16418
MW4S	17-47	6/4/04	43.2	47.8	10	gal	–	15.4	6.93	769	–	–	–	–	MRMW4S-W-16470
MW4S	17-47	9/14/05	36.2	47.8	8.0	gal	–	15.4	7.30	751	8.00	174	0	50	MRMW4S-W-19262
MW4S	17-47	3/21/06	44.6	47.7	6.0	gal	–	6.7	7.25	729	10.90	154	0	25	MRMW4S-W-19993
MW4S	17-47	9/18/06	41.6	47.8	5.3	gal	–	13.1	7.25	728	8.05	41	0	50	MRMW4S-W-22487
MW4S	17-47	3/22/07	38.7	47.8	6.0	gal	–	14.2	6.53	765	5.91	78	0.1	25	MRMW4S-W-16562
MW4S	17-47	10/3/07	31.1	47.7	30	gal	–	16.4	6.95	715	7.40	281	0.1	30	MRMW4S-W-16586
MW4S	17-47	1/11/08	–	–	–	–	–	11.3	7.56	757	–	–	–	–	MOMW4S-W-011108
MW4S	17-47	4/14/08	26.3	47.9	2.5	L	–	13.1	7.28	783	3.80	213	0	–	MRMW4S-W-23234
MW4S	17-47	10/20/08	36.7	47.8	8.0	gal	–	14.5	7.16	756	8.71	104	0	–	MRMW4S-W-27624
MW4S	17-47	4/23/09	41.5	47.8	5.0	L	44.7	15.8	7.16	717	9.45	22	0.05	–	MRMW4S-W-27656
MW4S	17-47	9/4/09	31.6	47.8	6.0	L	39.3	15.0	7.13	731	8.23	80	0.04	–	MRMW4S-W-29946
MW4S	17-47	4/6/10	21.8	47.9	5.5	L	34.8	16.5	7.07	629	8.07	-1	0	–	MRMW4S-W-29986

TABLE 3.3 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth (ft BTOC) Water	Depth (ft BTOC) Well	Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Temperature (°C)	pH	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Iron II (mg/L)	Carbon Dioxide (mg/L)	Sample
MW4S	17-47	9/22/10	33.2	47.8	6.0	L	32.0	16.3	7.07	732	7.28	90	0	–	MRMW4S-W-30014
MW4S	17-47	4/21/11	42.4	47.8	5.0	L	44.7	12.6	7.15	595	7.25	138	0	–	MRMW4S-W-30042
MW4S	17-47	10/4/11	35.6	47.8	6.0	L	40.9	16.0	7.95	606	7.62	115	0	–	MRMW4S-W-30071
MW5S	15-55	10/22/03	31.4	55.7	48	gal	–	15.3	7.10	816	–	6	–	–	MRMW05-W-16420
MW5S	15-55	6/2/04	26.3	55.7	> 57	gal	–	14.3	7.21	817	–	–	–	–	MRMW5S-W-16460
MW5S	15-55	9/13/05	22.7	54.2	75	gal	–	16.0	7.04	763	13.90	228	0	60	MRMW5S-W-19260
MW5S	15-55	3/22/06	28.6	54.5	50	gal	–	13.9	7.25	781	4.52	234	0.06	35	MRMW5S-W-19996
MW5S	15-55	9/20/06	25.4	54.6	52	gal	–	13.9	7.19	787	5.82	73	0	35	MRMW5S-W-22493
MW5S	15-55	3/22/07	25.1	54.6	58	gal	–	15.5	6.50	436	3.98	159	0.08	30	MRMW5S-W-16569
MW5S	15-55	10/3/07	19.6	54.7	68	gal	–	16.5	7.18	850	1.87	268	0.04	25	MRMW5S-W-16588
MW5S	15-55	4/14/08	11.2	54.6	6.0	L	–	14.1	6.90	1008	3.73	143	0.02	–	MRMW5S-W-23235
MW5S	15-55	4/23/08	11.3	54.6	6.5	L	–	14.9	6.88	1009	3.27	184	–	–	MRMW5S-W-23266
MW5S	15-55	5/1/08	–	–	3.7	L	20.0	15.2	6.92	1014	2.99	126	–	–	MRMW5S-20-W-23272
MW5S	15-55	5/1/08	–	–	3.4	L	28.0	15.1	6.90	997	2.38	124	–	–	MRMW5S-28-W-23273
MW5S	15-55	5/1/08	–	–	4.0	L	52.0	15.1	6.89	989	2.06	128	–	–	MRMW5S-52-W-23274
MW5S	15-55	10/21/08	22.5	54.6	7.0	L	35.0	13.2	7.04	818	5.54	180	0	–	MRMW5S-W-27625
MW5S	15-55	4/24/09	22.1	54.6	5.5	L	38.4	15.2	6.98	817	6.68	77	0	–	MRMW5S-W-27657
MW5S	15-55	9/3/09	17.6	54.6	5.5	L	36.3	16.5	7.10	873	3.07	23	0.02	–	MRMW5S-W-29947
MW5S	15-55	4/7/10	8.3	54.5	5.5	L	35.0	12.6	6.76	844	4.46	149	0	–	MRMW5S-W-29987
MW5S	15-55	9/22/10	19.3	55.0	6.5	L	35.0	16.4	6.81	891	1.69	112	0	–	MRMW5S-W-30015
MW5S	15-55	4/20/11	24.4	54.6	7.0	L	36.0	14.6	7.17	617	5.34	89	0	–	MRMW5S-W-30043
MW5S	15-55	10/4/11	21.1	54.6	6.5	L	38.3	16.7	7.72	740	4.37	118	0.03	–	MRMW5S-W-30072
MW6S	10-25	6/3/04	3.3	26.9	45	gal	–	15.1	6.89	2410	–	–	–	–	MRMW6S-W-16465
MW6S	10-25	9/14/05	4.7	26.9	43	gal	–	14.1	7.06	2350	0.01	54	0	60	MRMW6S-W-19263
MW6S	10-25	3/20/06	5.4	26.9	43	gal	–	9.8	6.91	2360	1.37	89	0.38	60	MRMW6S-W-19990
MW6S	10-25	9/18/06	5.5	26.9	27	gal	–	12.5	6.96	2410	0.08	-29	0.35	85	MRMW6S-W-22486
MW6S	10-25	3/21/07	5.4	26.9	30	gal	–	18.0	6.34	2450	0.12	75	0.78	40	MRMW6S-W-16486
MW6S	10-25	10/2/07	5.0	26.9	31	gal	–	17.1	7.33	2280	0.20	61	0.19	35	MRMW6S-W-16583
MW6S	10-25	4/15/08	5.2	26.9	2.5	L	–	8.7	6.99	2485	0.31	-76	0.41	–	MRMW6S-W-23236
MW6S	10-25	10/20/08	5.7	26.9	5.0	L	17.5	14.3	6.84	2380	0.36	18	0.28	–	MRMW6S-W-27626
MW6S	10-25	4/24/09	6.2	26.9	12	L	17.5	15.2	6.93	2270	0.19	-39	0.63	–	MRMW6S-W-27658
MW6S	10-25	9/4/09	5.9	26.9	5.4	L	17.5	13.8	6.88	2302	0.64	79	0.32	–	MRMW6S-W-29948
MW6S	10-25	4/6/10	6.2	26.9	8.0	L	17.5	15.2	6.87	2141	0.05	-19	0.21	–	MRMW6S-W-29988
MW6S	10-25	9/22/10	5.5	26.9	8.8	L	17.5	15.6	6.92	2354	0.42	47	0.24	–	MRMW6S-W-30016
MW6S	10-25	4/20/11	6.5	24.9	8.0	L	17.5	13.0	6.73	1867	0.18	28	0.09	–	MRMW6S-W-30044
MW6S	10-25	10/4/11	6.5	26.9	6.0	L	17.5	16.6	7.11	2020	0.14	14	0.34	–	MRMW6S-W-30073
MW7S	20-45	6/3/04	26.7	47.0	40	gal	–	13.8	7.19	763	–	–	–	–	MRMW7S-W-16466
MW7S	20-45	9/12/05	17.6	46.9	55	gal	–	15.0	7.26	760	8.35	240	0	50	MRMW7S-W-19258
MW7S	20-45	3/22/06	22.5	47.0	48	gal	–	15.2	7.32	740	5.52	268	0.03	25	MRMW7S-W-20000
MW7S	20-45	9/19/06	20.9	47.0	56	gal	–	13.2	7.15	764	7.37	114	0	25	MRMW7S-W-22490
MW7S	20-45	3/20/07	18.0	47.0	50	gal	–	14.6	6.43	750	5.31	95	0	30	MRMW7S-W-16481
MW7S	20-45	10/1/07	12.4	47.0	70	gal	–	15.6	6.99	725	7.76	269	0.01	35	MRMW7S-W-16581
MW7S	20-45	4/14/08	7.7	47.0	1.8	L	–	13.4	7.21	811	2.50	276	0	–	MRMW7S-W-23237
MW7S	20-45	4/23/08	7.8	47.0	11	L	–	14.0	7.00	822	7.41	191	–	–	MRMW7S-W-23265
MW7S	20-45	10/20/08	17.2	47.0	6.3	L	32.5	14.9	7.02	802	6.38	87	0	–	MRMW7S-W-27627

TABLE 3.3 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth (ft BTOC) Water	Depth (ft BTOC) Well	Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Temperature (°C)	pH	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Iron II (mg/L)	Carbon Dioxide (mg/L)	Sample
MW7S	20-45	4/23/09	16.7	47.0	7.0	L	32.5	16.1	7.01	727	9.48	-53	0.01	–	MRMW7S-W-27659
MW7S	20-45	9/3/09	13.8	47.0	9.0	L	32.5	17.4	7.58	814	9.86	102	0.02	–	MRMW7S-W-29949
MW7S	20-45	4/6/10	6.4	47.0	5.4	L	32.5	14.7	7.04	718	7.92	23	0	–	MRMW7S-W-29989
MW7S	20-45	9/23/10	14.2	45.0	6.0	L	32.5	16.0	6.91	772	8.39	201	0	–	MRMW7S-W-30017
MW7S	20-45	4/20/11	19.7	46.7	6.0	L	32.5	13.0	7.00	598	7.91	128	0	–	MRMW7S-W-30045
MW7S	20-45	10/4/11	7.1	47.0	7.0	L	32.5	16.2	7.18	674	8.17	205	0.01	–	MRMW7S-W-30074
MW8S	10-25	6/3/04	3.7	26.8	45	gal	–	12.8	7.12	941	–	–	–	–	MRMW8S-W-16464
MW8S	10-25	9/14/05	4.0	26.8	57	gal	–	14.1	7.30	853	0.02	65	0	40	MRMW8S-W-19265
MW8S	10-25	3/20/06	4.6	26.4	43	gal	–	12.5	7.04	954	0.90	153	0.05	30	MRMW8S-W-19991
MW8S	10-25	9/19/06	4.8	26.8	45	gal	–	11.8	7.09	903	0.58	284	0.13	50	MRMW8S-W-22492
MW8S	10-25	3/20/07	2.6	26.8	49	gal	–	11.0	6.52	1026	0.77	76	0	30	MRMW8S-W-16483
MW8S	10-25	10/2/07	2.2	26.8	48	gal	–	15.2	6.76	607	2.66	209	0.02	25	MRMW8S-W-16584
MW8S	10-25	4/15/08	0.7	26.8	5.5	L	–	10.2	7.27	1067	1.58	170	0	–	MRMW8S-W-23238
MW8S	10-25	10/20/08	3.6	26.8	8.0	L	17.5	14.0	6.91	1002	0.93	69	0	–	MRMW8S-W-27628
MW8S	10-25	4/23/09	2.3	26.8	6.0	L	17.5	11.4	6.88	825	1.76	-35	0.02	–	MRMW8S-W-27660
MW8S	10-25	9/3/09	2.9	26.8	8.5	L	17.5	14.1	7.52	890	2.09	115	0	–	MRMW8S-W-29950
MW8S	10-25	4/6/10	1.1	26.8	8.0	L	17.5	13.7	7.00	843	2.60	212	0	–	MRMW8S-W-29990
MW8S	10-25	9/22/10	2.5	26.8	9.0	L	17.5	16.2	7.12	865	1.51	100	0.04	–	MRMW8S-W-30018
MW8S	10-25	4/20/11	2.7	26.8	9.0	L	17.5	10.1	6.88	652	0.3	98	0	–	MRMW8S-W-30046
MW8S	10-25	10/4/11	4.9	26.3	9.0	L	17.5	14.4	7.16	711	1.22	191	0.04	–	MRMW8S-W-30075
MW9S	38.83-53.83	3/22/06	20.2	58.6	20	gal	–	14.6	7.17	715	0.41	25	0	35	MRMW9S-W-20004
MW9S	38.83-53.83	9/19/06	18.9	59.0	22	gal	–	13.0	7.08	707	0.10	113	0	55	MRMW9S-W-22494
MW9S	38.83-53.83	3/20/07	16.7	59.0	22	gal	–	14.2	6.39	714	0.21	40	0	20	MRMW9S-W-16480
MW9S	38.83-53.83	10/1/07	14.0	58.6	23	gal	–	15.5	7.05	664	5.50	191	0	30	MRMW9S-W-16582
MW9S	38.83-53.83	4/14/08	16.6	58.6	2.3	L	–	12.6	7.33	709	1.93	266	0.07	–	MRMW9S-W-23239
MW9S	38.83-53.83	10/20/08	21.5	58.5	11	L	46.3	15.1	7.15	690	6.18	106	0	–	MRMW9S-W-27629
MW9S	38.83-53.83	4/23/09	21.9	58.5	5.5	L	46.3	16.0	7.17	669	5.99	-65	0.07	–	MRMW9S-W-27661
MW9S	38.83-53.83	9/4/09	20.0	58.5	5.0	L	46.3	17.3	7.18	684	5.33	52	0.03	–	MRMW9S-W-29951
MW9S	38.83-53.83	4/6/10	16.5	58.5	6.0	L	46.3	15.3	7.19	650	5.50	-10	0.02	–	MRMW9S-W-29991
MW9S	38.83-53.83	9/22/10	21.2	53.8	7.0	L	46.3	17.1	7.12	704	6.07	151	0	–	MRMW9S-W-30019
MW9S	38.83-53.83	4/20/11	23.8	58.3	14	L	46.3	13.6	7.07	569	5.42	111	0	–	MRMW9S-W-30047
MW9S	38.83-53.83	10/4/11	22.4	58.5	8.0	L	46.3	16.7	7.14	618	5.9	185	0.05	–	MRMW9S-W-30076
MW10S	30-45	3/21/06	12.3	49.6	19	gal	–	6.3	7.11	701	2.10	88	0.01	40	MRMW10S-W-19999
MW10S	30-45	9/18/06	11.1	49.6	20	gal	–	14.3	7.17	701	0.04	24	0.08	60	MRMW10S-W-22489
MW10S	30-45	3/21/07	10.8	49.6	20	gal	–	14.5	6.51	720	0.88	11	0	30	MRMW10S-W-16485
MW10S	30-45	10/1/07	7.0	49.7	20	gal	–	16.3	6.97	664	0.35	248	0.04	35	MRMW10S-W-16593
MW10S	30-45	4/14/08	9.8	49.7	1.9	L	–	16.0	7.25	723	1.25	181	0	–	MRMW10S-W-23240
MW10S	30-45	10/20/08	13.7	49.7	5.4	L	37.5	14.3	7.03	710	1.02	56	0	–	MRMW10S-W-27630
MW10S	30-45	4/23/09	13.6	45.0	7.5	L	37.5	15.1	7.05	668	1.78	-57	0.07	–	MRMW10S-W-27662
MW10S	30-45	9/3/09	12.0	49.7	7.5	L	37.5	14.3	7.59	731	2.03	86	0.07	–	MRMW10S-W-29952
MW10S	30-45	4/6/10	7.5	49.7	9.0	L	37.5	16.1	7.06	649	2.91	221	0	–	MRMW10S-W-29992
MW10S	30-45	9/22/10	11.7	49.7	11	L	37.5	16.7	7.29	723	5.05	131	0	–	MRMW10S-W-30020
MW10S	30-45	4/20/11	13.7	49.3	7.3	L	37.5	12.8	7.06	573	2.09	99	0.1	–	MRMW10S-W-30048
MW10S	30-45	10/4/11	12.5	49.7	8.0	L	37.5	15.4	7.27	613	2.53	201	0.01	–	MRMW10S-W-30077

TABLE 3.3 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth (ft BTOC) Water	Depth (ft BTOC) Well	Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Temperature (°C)	pH	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Iron II (mg/L)	Carbon Dioxide (mg/L)	Sample
MW11S	53-68	3/22/06	35.2	72.5	20	gal	–	14.8	7.33	762	9.40	237	0.06	30	MRMW11S-W-20001
MW11S	53-68	9/19/06	36.0	73.1	20	gal	–	13.0	7.24	764	1.42	158	0.02	30	MRMW11S-W-22491
MW11S	53-68	3/20/07	34.7	73.1	20	gal	–	14.6	6.33	782	3.90	76	0	30	MRMW11S-W-16479
MW11S	53-68	10/1/07	31.6	73.0	20	gal	–	16.4	6.49	624	6.57	241	0.04	35	MRMW11S-W-16594
MW11S	53-68	4/15/08	29.9	72.7	5.5	L	–	13.9	7.30	785	6.14	152	0	–	MRMW11S-W-23241
MW11S	53-68	4/22/08	30.2	72.7	7.2	L	–	15.1	7.25	790	6.22	163	–	–	MRMW11S-W-23261
MW11S	53-68	10/20/08	37.1	72.7	9.0	L	60.5	14.3	7.16	756	8.95	104	0	–	MRMW11S-W-27631
MW11S	53-68	10/21/08	–	–	TWV	–	–	14.8	7.19	766	–	–	0	–	MRMW11S-W-27651
MW11S	53-68	4/23/09	38.1	72.7	5.0	L	60.5	16.5	7.19	722	9.03	-62	0.09	–	MRMW11S-W-27663
MW11S	53-68	9/3/09	34.7	72.7	7.5	L	60.5	13.9	7.63	777	9.35	102	0.05	–	MRMW11S-W-29953
MW11S	53-68	9/4/09	35.0	72.7	72	L	67.0	16.2	6.69	721	8.78	100	–	–	MRMW11S-W-29973
MW11S	53-68	4/6/10	29.5	72.7	6.5	L	60.5	15.0	7.14	700	7.20	-20	0	–	MRMW11S-W-29993
MW11S	53-68	9/23/10	34.8	72.7	7.0	L	60.5	15.7	7.40	756	12.62	179	0.33	–	MRMW11S-W-30021
MW11S	53-68	4/20/11	39.2	72.5	7.5	L	60.5	13.1	7.03	603	7.20	108	0	–	MRMW11S-W-30049
MW11S	53-68	10/4/11	36.8	72.7	6.0	L	60.5	16.1	7.26	647	7.56	202	0.03	–	MRMW11S-W-30078
Isch	–	2/19/04	–	–	Pump[d]	–	–	–	–	–	–	–	–	–	MRJR-W-16502
Isch	–	9/14/05	–	–	Pump	–	–	20.4	6.73	2300	–	–	–	–	MRPRISCH-W-16513
Isch	–	3/23/06	–	–	20	gal	–	13.0	7.23	9400	–	–	–	–	MRISCH-W-19989
Isch	–	9/19/06	–	–	Pump	–	–	–	–	–	–	–	–	–	MRISCH-W-16531
Isch	–	3/22/07	–	–	Pump	–	–	–	–	–	–	–	–	–	MRISCH-W-16564
Isch	–	10/3/07	–	–	Pump	–	–	–	–	–	–	–	–	–	MRISCH-W-16590
Isch	–	4/15/08	–	–	Pump	–	–	12.6	7.33	3160	–	–	0.28	–	MRISCH-W-23242
Isch	–	10/21/08	–	–	Pump	–	–	–	–	–	–	–	–	–	MRISCH-W-27632
Isch	–	4/22/09	–	–	Pump	–	–	15.3	6.70	2389	–	–	0.04	–	MRISCH-W-27664
Isch	–	9/2/09	–	–	Pump	–	–	13.9	7.18	2600	–	–	–	–	MRISCH-W-29954
Isch	–	4/7/10	–	–	Pump	–	–	11.8	6.86	2326	–	–	0.05	–	MRISCH-W-29994
Isch	–	4/21/11	–	–	Pump	–	–	13.3	7.03	1949	–	–	0.35	–	MRISCH-W-30050
Isch	–	10/3/11	–	–	Pump	–	–	14.5	8.10	2011	–	–	1.61	–	MRIsch-W-30079
Rillinger	–	6/4/04	–	–	Pump	–	–	15.9	6.99	2450	–	–	–	–	MRPRIVRIL-W-16471
Rillinger	–	9/14/05	–	–	Pump	–	–	–	–	–	–	–	–	–	MRPRILL-W-16512
Rillinger	–	3/19/06	–	–	Pump	–	–	11.9	7.05	2550	–	–	–	–	MRRILINGER-W-19988
Rillinger	–	9/19/06	–	–	Pump	–	–	–	–	–	–	–	–	–	MRRILI-W-16530
Rillinger	–	3/29/07	–	–	Pump	–	–	–	–	–	–	–	–	–	MRRILINGER-W-16561
Rillinger	–	10/3/07	–	–	Pump	–	–	–	–	–	–	–	–	–	MRRILINGER-W-16591
Rillinger	–	1/11/08	–	–	Pump	–	–	12.2	7.46	884	–	–	–	–	MORIL-W-11108
Rillinger	–	4/15/08	–	–	Pump	–	–	12.0	7.56	868	–	–	0	–	MRRILINGER-W-23243
Rillinger	–	10/21/08	–	–	Pump	–	–	–	–	–	–	–	–	–	MRRILLINGER-W-27633
Rillinger	–	4/22/09	–	–	Pump	–	–	14.5	7.14	2279	–	–	0.01	–	MRRILLINGER-W-27665
Rillinger	–	9/2/09	–	–	Pump	–	–	14.8	7.60	809	–	–	–	–	MRRILLINGER-W-29955
Rillinger	–	4/7/10	–	–	Pump	–	–	13.1	7.08	2287	–	–	–	–	MRRILLINGER-W-29995
Rillinger	–	9/22/10	–	–	Pump	–	–	14.9	7.04	2337	–	–	0.07	–	MRRILLINGER-W-30023
Rillinger	–	4/21/11	–	–	Pump	–	–	13.5	7.15	1851	–	–	–	–	MRRILLINGER-W-30051
Rillinger	–	10/3/11	–	–	Pump	–	–	14.4	7.37	1944	–	–	0	–	MRRillinger-W-30080
Stone	43[e]	6/4/04	23.4	–	PDS	–	–	17.1	7.35	682	–	–	–	–	MRPRIVSTON-W-16475
Stone	43	9/14/05	17.2	40.0	–	–	–	17.3	6.81	638	–	–	–	–	MRPRSTON-W-16511

TABLE 3.3 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth (ft BTOC) Water	Depth (ft BTOC) Well	Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Temperature (°C)	pH	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Iron II (mg/L)	Carbon Dioxide (mg/L)	Sample
Stone	43	3/19/06	17.4	40.0	100	gal	–	12.9	6.42	650	–	213	0	–	MRSTONE-W-19987
Stone	43	9/19/06	18.6	38.8	41	gal	–	16.7	7.12	639	–	–	–	–	MRSTONE-W-16529
Stone	43	3/22/07	20.6	38.8	56	gal	–	16.7	6.58	679	4.71	19	0.28	35	MRSTONE-W-16560
Stone	43	10/3/07	14.6	38.6	72	gal	–	16.1	6.97	564	7.07	225	0.07	25	MRSTONE-W-16589
Stone	43	4/15/08	–	38.9	–	–	–	11.3	7.45	557	–	–	0	–	MRSTONE-W-23244
Stone	43	10/21/08	–		5.0	gal	–	–	–	–	–	–	–	–	MRSTONE-W-27634
Stone	43	4/23/09	–	–	5.0	gal	–	13.9	7.12	588	–	–	–	–	MRSTONE-W-27666
Stone	43	9/2/09	–	–	5.0	gal	–	13.8	7.40	623	–	–	–	–	MRSTONE-W-29956
Stone	43	4/7/10	–	–	5.0	gal	–	10.9	6.83	468	–	–	–	–	MRSTONE-W-29996
Stone	43	9/22/10	–	–	5.0	gal	–	15.3	7.21	552	–	–	–	–	MRSTONE-W-30024
Stone	43	4/21/11	–	–	5.0	gal	–	12.5	7.52	455	–	–	–	–	MRSTONE-W-30052
Stone	43	10/3/11	–	–	5.0	gal	–	14.1	7.38	495	–	–	0.04	–	MRStone-W-30081
TD12	27-67	4/20/11	–	–	–	–	–	–	–	–	–	–	–	–	MRTD12-W-30053
TD12	27-67	10/3/11	–	–	–	–	–	14.2	7.46	2083	–	–	–	–	MRTD12-W-30082

[a] Not measured.

[b] TWV, three well volumes.

[c] PDS, purged dry and then sampled.

[d] The well's dedicated pump was used for sampling. The pump was allowed to run before the sample was collected.

[e] Total depth.

TABLE 3.4 Results of analyses at the AGEM Laboratory for volatile organic compounds in surface water and sediment samples collected in 2007-2011.[a]

				Concentration (µg/L in water; µg/kg in sediment)			
Location	Sample	Sample Date	Medium	Carbon Tetrachloride	Chloroform	Methylene Chloride	Quantitation Limit
SM1	MRSM1-W-16572	3/22/07	Water	ND[b]	ND	ND	1
SM1	MRSM1-S-16573	3/22/07	Sediment	ND	ND	ND	10
SM1	MRSM1-W-16583	10/8/07	Water	ND	ND	ND	1
SM1	MRSM1-S-16584	10/8/07	Sediment	ND	ND	ND	10
SM1	MRSM1-W-23254	4/14/08	Water	ND	ND	ND	1
SM1	MRSM1-S-23254	4/14/08	Sediment	ND	ND	ND	10
SM1	MRSM1-W-27644	10/20/08	Water	ND	ND	ND	1
SM1	MRSM1-S-27644	10/20/08	Sediment	ND	ND	ND	10
SM1	MRSM1-W-27676	4/22/09	Water	ND	ND	ND	1
SM1	MRSM1-S-27676	4/22/09	Sediment	ND	ND	ND	10
SM1	MRSM1-W-29966	9/2/09	Water	ND	ND	ND	1
SM1	MRSM1-S-29966	9/2/09	Sediment	ND	ND	ND	10
SM1	MRSM1-W-29974	4/6/10	Water	ND	ND	ND	1
SM1	MRSM1-S-29974	4/6/10	Sediment	ND	ND	ND	10
SM1	MRSM1-W-30005	9/22/10	Water	ND	ND	ND	1
SM1	MRSM1-S-30005	9/22/10	Sediment	ND	ND	ND	10
SM1	MRSM1-W-29974	4/6/10	Water	ND	ND	ND	1
SM1	MRSM1-S-29974	4/6/10	Sediment	ND	ND	ND	10
SM1	MRSM1-W-30062	10/3/11	Water	ND	ND	ND	1
SM1	MRSM1-S-30062	10/3/11	Sediment	ND	ND	ND	10
SM2	MRSM2-W-16574	3/22/07	Water	ND	ND	ND	1
SM2	MRSM2-S-16575	3/22/07	Sediment	ND	ND	ND	10
SM2	MRSM2-W-16585	10/8/07	Water	ND	ND	ND	1
SM2	MRSM2-S-16586	10/8/07	Sediment	ND	ND	ND	10
SM2	MRSM2-W-23255	4/14/08	Water	ND	ND	ND	1
SM2	MRSM2-S-23255	4/14/08	Sediment	ND	ND	ND	10
SM2	MRSM2-W-27645	10/20/08	Water	ND	ND	ND	1
SM2	MRSM2-S-27645	10/20/08	Sediment	ND	ND	ND	10
SM2	MRSM2-W-27677	4/22/09	Water	ND	ND	ND	1
SM2	MRSM2-S-27677	4/22/09	Sediment	ND	ND	ND	10
SM2	MRSM2-W-29967	9/2/09	Water	ND	ND	ND	1
SM2	MRSM2-S-29967	9/2/09	Sediment	ND	ND	ND	10
SM2	MRSM2-W-29975	4/6/10	Water	ND	ND	ND	1
SM2	MRSM2-S-29975	4/6/10	Sediment	ND	ND	ND	10
SM2	MRSM2-W-30006	9/22/10	Water	ND	ND	ND	1
SM2	MRSM2-S-30006	9/22/10	Sediment	ND	ND	ND	10
SM2	MRSM2-W-29975	4/6/10	Water	ND	ND	ND	1
SM2	MRSM2-S-29975	4/6/10	Sediment	ND	ND	ND	10
SM2	MRSM2-W-30063	10/3/11	Water	ND	ND	ND	1
SM2	MRSM2-S-30063	10/3/11	Sediment	ND	ND	ND	10
SM3	MRSM3-W-16576	3/22/07	Water	ND	ND	ND	1
SM3	MRSM3-S-16577	3/22/07	Sediment	ND	ND	ND	10
SM3	MRSM3-W-16587	10/8/07	Water	ND	ND	ND	1
SM3	MRSM3-S-16588	10/8/07	Sediment	ND	ND	ND	10
SM3	MRSM3-W-23256	4/14/08	Water	ND	ND	ND	1
SM3	MRSM3-S-23256	4/14/08	Sediment	ND	ND	ND	10
SM3	MRSM3-W-27646	10/20/08	Water	ND	ND	ND	1
SM3	MRSM3-S-27646	10/20/08	Sediment	ND	ND	ND	10
SM3	MRSM3-W-27678	4/22/09	Water	ND	ND	ND	1
SM3	MRSM3-S-27678	4/22/09	Sediment	ND	ND	ND	10

TABLE 3.4 (Cont.)

Location	Sample	Sample Date	Medium	Concentration (µg/L in water; µg/kg in sediment) Carbon Tetrachloride	Chloroform	Methylene Chloride	Quantitation Limit
SM3	MRSM3-W-29968	9/2/09	Water	ND	ND	ND	1
SM3	MRSM3-S-29968	9/2/09	Sediment	ND	ND	ND	10
SM3	MRSM3-W-29976	4/6/10	Water	ND	ND	ND	1
SM3	MRSM3-S-29976	4/6/10	Sediment	ND	ND	ND	10
SM3	MRSM3-W-30007	9/22/10	Water	ND	ND	ND	1
SM3	MRSM3-S-30007	9/22/10	Sediment	ND	ND	ND	10
SM3	MRSM3-W-29976	4/6/10	Water	ND	ND	ND	1
SM3	MRSM3-S-29976	4/6/10	Sediment	ND	ND	ND	10
SM3	MRSM3-W-30064	10/3/11	Water	ND	ND	ND	1
SM3	MRSM3-S-30064	10/3/11	Sediment	ND	ND	ND	10
SM4	MRSM4-W-16578	3/22/07	Water	ND	ND	ND	1
SM4	MRSM4-S-16579	3/22/07	Sediment	ND	ND	ND	10
SM4	MRSM4-W-16589	10/8/07	Water	ND	ND	ND	1
SM4	MRSM4-S-16590	10/8/07	Sediment	ND	ND	ND	10
SM4	MRSM4-W-23257	4/14/08	Water	ND	ND	ND	1
SM4	MRSM4-S-23257	4/14/08	Sediment	ND	ND	ND	10
SM4	MRSM4-W-27647	10/20/08	Water	ND	ND	ND	1
SM4	MRSM4-S-27647	10/20/08	Sediment	ND	ND	ND	10
SM4	MRSM4-W-27679	4/22/09	Water	ND	ND	ND	1
SM4	MRSM4-S-27679	4/22/09	Sediment	ND	ND	ND	10
SM4	MRSM4-W-29969	9/2/09	Water	ND	ND	ND	1
SM4	MRSM4-S-29969	9/2/09	Sediment	ND	ND	ND	10
SM4	MRSM4-W-29977	4/6/10	Water	ND	ND	ND	1
SM4	MRSM4-S-29977	4/6/10	Sediment	ND	ND	ND	10
SM4	MRSM4-W-30008	9/22/10	Water	ND	ND	ND	1
SM4	MRSM4-S-30008	9/22/10	Sediment	ND	ND	ND	10
SM4	MRSM4-W-29977	4/6/10	Water	ND	ND	ND	1
SM4	MRSM4-S-29977	4/6/10	Sediment	ND	ND	ND	10
SM4	MRSM4-W-30065	10/3/11	Water	ND	ND	ND	1
SM4	MRSM4-S-30065	10/3/11	Sediment	ND	ND	ND	10
SMB	MRSMB-W-16570	3/22/07	Water	ND	ND	ND	1
SMB	MRSMB-S-16571	3/22/07	Sediment	ND	ND	ND	10
SMB	MRSMB-W-16581	10/8/07	Water	ND	ND	ND	1
SMB	MRSMB-S-16582	10/8/07	Sediment	ND	ND	ND	10
SMB	MRSMB-W-23258	4/14/08	Water	ND	ND	ND	1
SMB	MRSMB-S-23258	4/14/08	Sediment	ND	ND	ND	10
SMB	MRSMB-W-27648	10/20/08	Water	ND	ND	ND	1
SMB	MRSMB-S-27648	10/20/08	Sediment	ND	ND	ND	10
SMB	MRSMB-W-27680	4/22/09	Water	ND	ND	ND	1
SMB	MRSMB-S-27680	4/22/09	Sediment	ND	ND	ND	10
SMB	MRSMB-W-29970	9/2/09	Water	ND	ND	ND	1
SMB	MRSMB-S-29970	9/2/09	Sediment	ND	ND	ND	10
SMB	MRSMB-W-29978	4/6/10	Water	ND	ND	ND	1
SMB	MRSMB-S-29978	4/6/10	Sediment	ND	ND	ND	10
SMB	MRSMB-W-30009	9/22/10	Water	ND	ND	ND	1
SMB	MRSMB-S-30009	9/22/10	Sediment	ND	ND	ND	10
SMB	MRSMB-W-29978	4/6/10	Water	ND	ND	ND	1
SMB	MRSMB-S-29978	4/6/10	Sediment	ND	ND	ND	10
SMB	MRSMB-W-30066	10/3/11	Water	ND	ND	ND	1
SMB	MRSMB-S-30066	10/3/11	Sediment	ND	ND	ND	10

TABLE 3.4 (Cont.)

Location	Sample	Sample Date	Medium	Concentration (µg/L in water; µg/kg in sediment) Carbon Tetrachloride	Chloroform	Methylene Chloride	Quantitation Limit

[a] Analyses conducted at the AGEM Laboratory by EPA Method 524.2 for surface water samples or by modified EPA Method 5030B/8260B for sediment samples.

[b] ND, not detected at the instrument detection limit of 0.1 µg/L for surface water samples or 1.0 µg/kg for sediment samples.

TABLE 3.5 Results of analyses at the AGEM Laboratory for carbon tetrachloride and chloroform in vegetation samples collected in 2006-2011.[a]

Location	Sample	Sample Date	Type	Concentration (µg/kg) Carbon Tetrachloride	Chloroform
MR001	MR001-B-18959	10/14/06	Branch	ND[b]	1.6
MR001	MR001-L-18958	10/14/06	Leaf	ND	3.3
MR001	MR001-B-23173	4/2/07	Branch	ND	ND
MR001	MR001-B-23213	7/26/07	Branch	ND	ND
MR001	MR001-L-23212	7/26/07	Leaf	ND	ND
MR001A	MR001A-B-16622	7/24/08	Branch	ND	ND
MR001	MR001-B-16623	7/24/08	Branch	ND	ND
MR001	MR001-B-29924	8/27/09	Branch	ND	ND
MR001	MR001-B-31929	7/27/10	Branch	ND	ND
MR001	MR001-B-29963	7/28/11	Branch	ND	ND
MR002	MR002-B-18961	10/14/06	Branch	ND	ND
MR002	MR002-L-18960	10/14/06	Leaf	ND	ND
MR002	MR002-B-23174	4/2/07	Branch	ND	1.5
MR002	MR002-B-23211	7/26/07	Branch	ND	ND
MR002	MR002-L-23210	7/26/07	Leaf	ND	1.3
MR002	MR002-B-16621	7/24/08	Branch	ND	ND
MR002	MR002-B-29923	8/27/09	Branch	ND	ND
MR002	MR002-B-31928	7/27/10	Branch	ND	ND
MR002	MR002-B-29962	7/28/11	Branch	ND	1.9
MR003	MR003-B-18963	10/14/06	Branch	ND	1.5
MR003	MR003-L-18962	10/14/06	Leaf	ND	1.8
MR003	MR003-B-23175	4/2/07	Branch	ND	ND
MR003	MR003-B-23209	7/26/07	Branch	ND	ND
MR003	MR003-L-23208	7/26/07	Leaf	ND	0.8
MR003	MR003-B-16620	7/24/08	Branch	ND	ND
MR003	MR003-B-29922	8/27/09	Branch	ND	ND
MR003	MR003-B-31927	7/27/10	Branch	ND	ND
MR003	MR003-B-29961	7/28/11	Branch	ND	ND
MR004	MR004-B-18965	10/14/06	Branch	ND	2.1
MR004	MR004-L-18964	10/14/06	Leaf	ND	ND
MR004	MR004-B-23176	4/2/07	Branch	ND	ND
MR004	MR004-B-23205	7/26/07	Branch	ND	ND
MR004	MR004-L-23204	7/26/07	Leaf	ND	ND
MR004	MR004-B-16619	7/24/08	Branch	ND	ND
MR004	MR004-B-29921	8/27/09	Branch	ND	ND
MR004	MR004-B-31926	7/27/10	Branch	ND	ND
MR004	MR004-B-29960	7/28/11	Branch	ND	ND
MR005	MR005-B-18967	10/14/06	Branch	ND	ND
MR005	MR005-L-18966	10/14/06	Leaf	ND	1.2
MR005	MR005-B-23177	4/2/07	Branch	ND	ND
MR005	MR005-B-23207	7/26/07	Branch	ND	ND
MR005	MR005-L-23206	7/26/07	Leaf	ND	1.4
MR005A	MR005-B-16618	7/24/08	Branch	ND	ND
MR005A	MR005A-B-29920	8/27/09	Branch	ND	ND
MR005A	MR005A-B-31925	7/27/10	Branch	ND	ND
MR005A	MR005A-B-29959	7/28/11	Branch	ND	ND

TABLE 3.5 (Cont.)

Location	Sample	Sample Date	Type	Concentration (µg/kg) Carbon Tetrachloride	Chloroform
MR006	MR006-B-18969	10/14/06	Branch	ND	3.8
MR006	MR006-L-18968	10/14/06	Leaf	ND	ND
MR006	MR006-B-23161	4/2/07	Branch	ND	ND
MR006	MR006-B-23181	7/26/07	Branch	ND	ND
MR006	MR006-L-23180	7/26/07	Leaf	ND	1.3
MR006	MR006-B-16625	7/24/08	Branch	ND	ND
MR006	MR006-B-29930	8/27/09	Branch	ND	ND
MR006	MR006-B-31931	7/27/10	Branch	ND	ND
MR006	MR006-B-29947	7/28/11	Branch	ND	ND
MR007	MR007-B-18971	10/14/06	Branch	ND	1.6
MR007	MR007-L-18970	10/14/06	Leaf	ND	2.0
MR007	MR007-B-23162	4/2/07	Branch	ND	ND
MR007	MR007-B-23183	7/26/07	Branch	0.1	ND
MR007	MR007-L-23182	7/26/07	Leaf	ND	1.3
MR007	MR007-B-16626	7/24/08	Branch	ND	ND
MR007	MR007-B-29932	8/27/09	Branch	0.7	0.8
MR007	MR007-B-31932	7/27/10	Branch	ND	ND
MR007	MR007-B-29948	7/28/11	Branch	ND	ND
MR008	MR008-B-18973	10/14/06	Branch	ND	1.3
MR008	MR008-L-18972	10/14/06	Leaf	ND	2.5
MR008	MR008-B-23163	4/2/07	Branch	ND	0.8
MR008	MR008-B-23185	7/26/07	Branch	ND	ND
MR008	MR008-L-23184	7/26/07	Leaf	ND	ND
MR008	MR008-B-16627	7/24/08	Branch	ND	ND
MR008	MR008-B-29933	8/27/09	Branch	ND	ND
MR008	MR008-B-31933	7/27/10	Branch	ND	ND
MR008	MR008-B-29950	7/28/11	Branch	ND	ND
MR009	MR009-B-18975	10/14/06	Branch	ND	0.9
MR009	MR009-L-18974	10/14/06	Leaf	ND	2.5
MR009	MR009-B-23165	4/2/07	Branch	ND	ND
MR009	MR009-B-23189	7/26/07	Branch	ND	ND
MR009	MR009-L-23188	7/26/07	Leaf	ND	1.5
MR009	MR009-B-16629	7/24/08	Branch	ND	ND
MR009	MR009-B-29935	8/27/09	Branch	ND	ND
MR009	MR009-B-31935	7/27/10	Branch	ND	ND
MR009	MR009-B-29952	7/28/11	Branch	ND	ND
MR010	MR010-B-18977	10/14/06	Branch	ND	3.4
MR010	MR010-L-18976	10/14/06	Leaf	ND	ND
MR010	MR010-B-23167	4/2/07	Branch	ND	ND
MR010	MR010-B-23193	7/26/07	Branch	ND	0.8
MR010	MR010-L-23192	7/26/07	Leaf	ND	1.4
MR010	MR010-B-16631	7/24/08	Branch	0.14	1.4
MR010	MR010-B-29936	8/27/09	Branch	ND	ND
MR010	MR010-B-31936	7/27/10	Branch	ND	ND
MR010	MR010-B-29953	7/28/11	Branch	ND	ND
MR011	MR011-B-18979	10/14/06	Branch	ND	2.2
MR011	MR011-L-18978	10/14/06	Leaf	ND	2.6
MR011	MR011-B-23168	4/2/07	Branch	ND	ND

TABLE 3.5 (Cont.)

Location	Sample	Sample Date	Type	Concentration (µg/kg) Carbon Tetrachloride	Chloroform
MR011	MR011-B-23195	7/26/07	Branch	ND	ND
MR011	MR011-L-23194	7/26/07	Leaf	ND	1.7
MR011	MR011-B-16632	7/24/08	Branch	ND	ND
MR011	MR011-B-29937	8/27/09	Branch	ND	ND
MR011	MR011-B-31937	7/27/10	Branch	ND	ND
MR011	MR011-B-29954	7/28/11	Branch	ND	ND
MR012	MR012-B-18981	10/14/06	Branch	ND	2.1
MR012	MR012-L-18980	10/14/06	Leaf	ND	2.9
MR012	MR012-B-23169	4/2/07	Branch	ND	ND
MR012	MR012-B-23197	7/26/07	Branch	ND	ND
MR012	MR012-L-23196	7/26/07	Leaf	ND	1.4
MR012	MR012-B-16633	7/24/08	Branch	ND	ND
MR012	MR012-B-29938	8/27/09	Branch	ND	ND
MR012	MR012-B-31938	7/27/10	Branch	ND	ND
MR012	MR012-B-29955	7/28/11	Branch	ND	ND
MR013	MR013-B-18983	10/14/06	Branch	ND	ND
MR013	MR013-L-18982	10/14/06	Leaf	ND	2.2
MR013	MR013-B-23160	4/2/07	Branch	ND	ND
MR013	MR013-B-23179	7/26/07	Branch	ND	ND
MR013	MR013-L-23178	7/26/07	Leaf	ND	ND
MR013	MR013-B-16624	7/24/08	Branch	ND	ND
MR013	MR013-B-29931	8/27/09	Branch	ND	ND
MR013	MR013-B-31930	7/27/10	Branch	ND	ND
MR013	MR013-B-29946	7/28/11	Branch	ND	ND
MR014	MR014-B-23164	4/2/07	Branch	ND	ND
MR014	MR014-B-23187	7/26/07	Branch	0.3	ND
MR014	MR014-L-23186	7/26/07	Leaf	ND	ND
MR014	MR014-B-16628	7/24/08	Branch	ND	ND
MR014	MR014-B-29934	8/27/09	Branch	ND	ND
MR014	MR014-B-31934	7/27/10	Branch	ND	ND
MR014	MR014-B-29951	7/28/11	Branch	ND	ND
MR015	MR015-B-23166	4/2/07	Branch	ND	0.8
MR015	MR015-B-23191	7/26/07	Branch	ND	ND
MR015	MR015-L-23190	7/26/07	Leaf	ND	ND
MR015	MR015-B-16630	7/24/08	Branch	ND	ND
MR016	MR016-B-23170	4/2/07	Branch	ND	1.1
MR016	MR016-B-23199	7/26/07	Branch	ND	ND
MR016	MR016-L-23198	7/26/07	Leaf	ND	ND
MR016	MR016-B-16634	7/24/08	Branch	ND	ND
MR016	MR016-B-29939	8/27/09	Branch	ND	ND
MR016	MR016-B-31939	7/27/10	Branch	ND	ND
MR016	MR016-B-29956	7/28/11	Branch	ND	ND
MR017	MR017-B-23171	4/2/07	Branch	ND	ND
MR017	MR017-B-23203	7/26/07	Branch	ND	ND
MR017	MR017-L-23202	7/26/07	Leaf	ND	ND
MR017	MR017-B-16635	7/24/08	Branch	ND	ND
MR017	MR017-B-29940	8/27/09	Branch	0.1	ND

TABLE 3.5 (Cont.)

Location	Sample	Sample Date	Type	Concentration (µg/kg) Carbon Tetrachloride	Chloroform
MR017	MR017-B-31940	7/27/10	Branch	ND	ND
MR017	MR017-B-29957	7/28/11	Branch	ND	ND
MR018	MR018-B-23172	4/2/07	Branch	ND	ND
MR018	MR018-B-23201	7/26/07	Branch	ND	ND
MR018	MR018-L-23200	7/26/07	Leaf	ND	3.2
MR018	MR018-B-16636	7/24/08	Branch	ND	ND
MR018	MR018-B-29941	8/27/09	Branch	0.2	ND
MR018	MR018-B-31941	7/27/10	Branch	ND	ND
MR018	MR018-B-29958	7/28/11	Branch	ND	0.8
MR019	MR019-B-16637	7/24/08	Branch	0.1	ND
MR019	MR019-B-29929	8/27/09	Branch	ND	ND
MR019	MR019-B-31924	7/27/10	Branch	ND	ND
MR019	MR019-B-29945	7/28/11	Branch	ND	ND
MR020	MR020-B-20021	7/24/08	Branch	ND	ND
MR020	MR020-B-29928	8/27/09	Branch	ND	ND
MR020	MR020-B-31923	7/27/10	Branch	ND	ND
MR020	MR020-B-29982	7/28/11	Branch	ND	ND
MR021	MR021-B-20022	7/24/08	Branch	ND	ND
MR021	MR021-B-29926	8/27/09	Branch	ND	ND
MR021	MR021-B-31920	7/27/10	Branch	ND	ND
MR021	MR021-B-29967	7/28/11	Branch	ND	ND
MR022	MR022-B-20023	7/24/08	Branch	ND	ND
MR023	MR023-B-20024	7/24/08	Branch	ND	ND
MR023	MR023-B-29925	8/27/09	Branch	0.2	ND
MR023	MR023-B-31921	7/27/10	Branch	ND	ND
MR024	MR024-B-20025	7/24/08	Branch	ND	ND
MR024	MR024-B-29927	8/27/09	Branch	ND	ND
MR024	MR024-B-31922	7/27/10	Branch	ND	ND
MR024	MR024-B-29981	7/28/11	Branch	ND	ND
MR025	MR025-B-31942	7/28/10	Branch	ND	ND
MR025	MR025-B-29968	7/28/11	Branch	ND	ND
MR026	MR026-B-31943	7/28/10	Branch	ND	ND
MR026	MR026-B-29969	7/28/11	Branch	ND	ND
MR027	MR027-B-31944	7/28/10	Branch	ND	ND
MR027	MR027-B-29970	7/28/11	Branch	ND	ND
MR028	MR028-B-31945	7/28/10	Branch	ND	ND
MR028	MR028-B-29971	7/28/11	Branch	ND	ND
MR029	MR029-B-31946	7/28/10	Branch	ND	ND
MR029	MR029-B-29972	7/28/11	Branch	ND	ND

TABLE 3.5 (Cont.)

Location	Sample	Sample Date	Type	Concentration (µg/kg) Carbon Tetrachloride	Chloroform
MR030	MR030-B-31947	7/28/10	Branch	ND	ND
MR030	MR030-B-29973	7/28/11	Branch	ND	ND
MR031	MR031-B-31948	7/28/10	Branch	0.7	ND
MR031	MR031-B-29974	7/28/11	Branch	ND	ND
MR032	MR032-B-31949	7/28/10	Branch	ND	ND
MR032	MR032-B-29975	7/28/11	Branch	ND	ND
MR033	MR033-B-31950	7/28/10	Branch	ND	ND
MR033	MR033-B-29976	7/28/11	Branch	ND	ND
MR034	MR034-B-31951	7/28/10	Branch	ND	ND
MR034	MR034-B-29977	7/28/11	Branch	ND	ND
MR035	MR035-B-31952	7/28/10	Branch	ND	ND
MR035	MR035-B-29979	7/28/11	Branch	ND	ND
MR036	MR036-B-31953	7/28/10	Branch	ND	ND
MR036	MR036-B-29980	7/28/11	Branch	ND	ND
MR037	MR037-B-31954	7/28/10	Branch	ND	ND
MR037	MR037-B-29978	7/28/11	Branch	0.2	ND
MR038	MR038-B-31955	7/28/10	Branch	ND	ND
MR038	MR038-B-29964	7/28/11	Branch	ND	ND
MR039	MR039-B-31956	7/28/10	Branch	ND	ND
MR039	MR039-B-29965	7/28/11	Branch	ND	ND
MR040	MR040-B-31957	7/28/10	Branch	ND	ND
MR040	MR040-B-29966	7/28/11	Branch	ND	ND
MR041	MR041-B-31958	7/28/10	Branch	2.2	ND
MR041	MR041-B-29985	7/28/11	Branch	ND	ND
MR042	MR042-B-31959	7/28/10	Branch	ND	ND
MR042	MR042-B-29986	7/28/11	Branch	ND	ND
MR043	MR043-B-31960	7/28/10	Branch	ND	ND
MR043	MR043-B-29983	7/28/11	Branch	0.2	1.0
MR044	MR044-B-31961	7/28/10	Branch	0.5	ND
MR044	MR044-B-29984	7/28/11	Branch	ND	ND

[a] Analyses conducted at the AGEM Laboratory by modified EPA Method 5021 (headspace analysis on a gas chromatograph with electron capture detection).

[b] ND, not detected at the method reporting limit of 0.1 µg/kg for carbon tetrachloride or 0.75 µg/kg for chloroform.

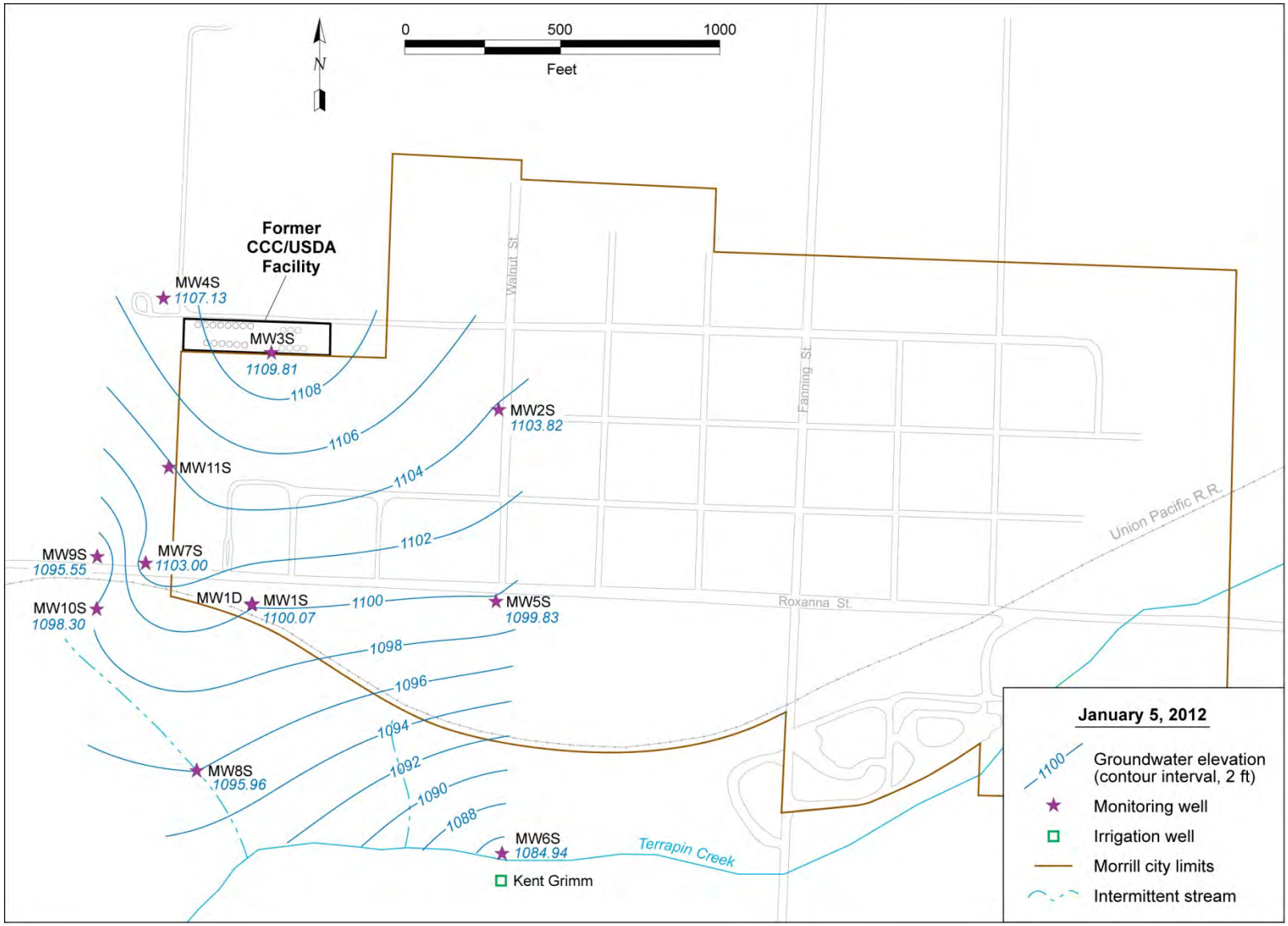

FIGURE 3.1 Potentiometric surface based on water levels measured manually on January 5, 2012.

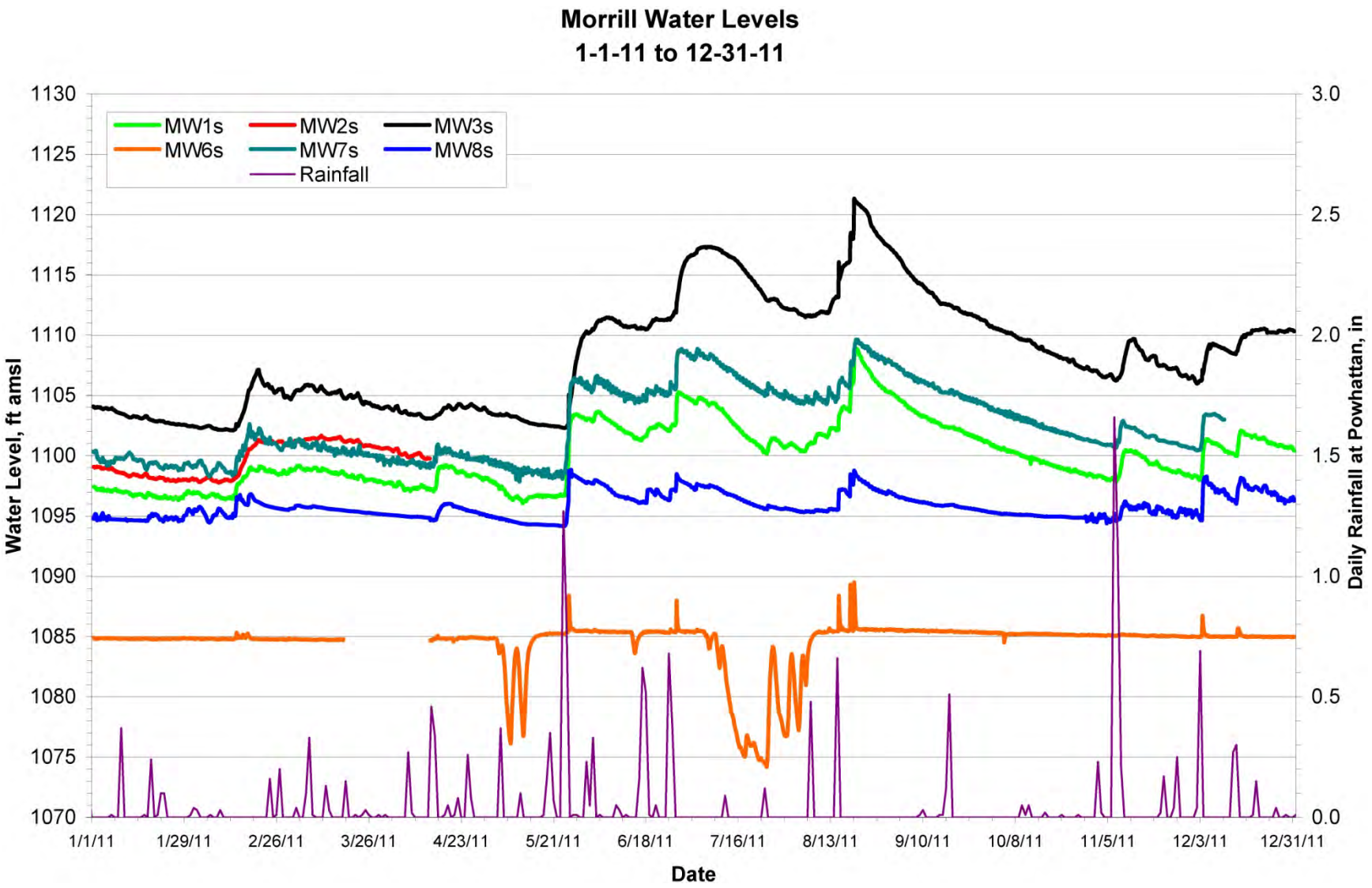

FIGURE 3.2 Hydrographs summarizing results of long-term water level monitoring from January 1, 2011, to December 31, 2011.

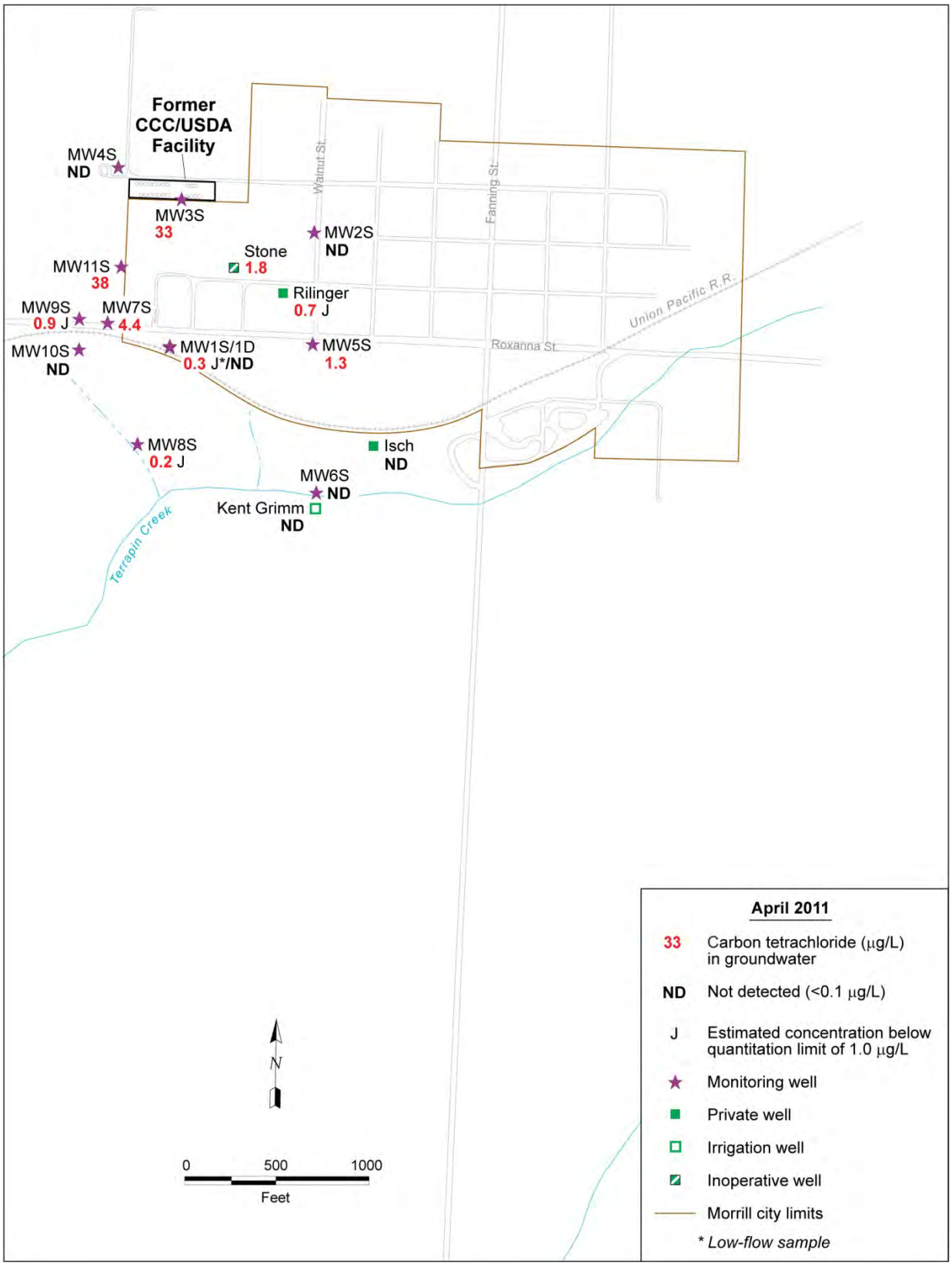

FIGURE 3.3a Carbon tetrachloride concentrations in groundwater, April 2011.

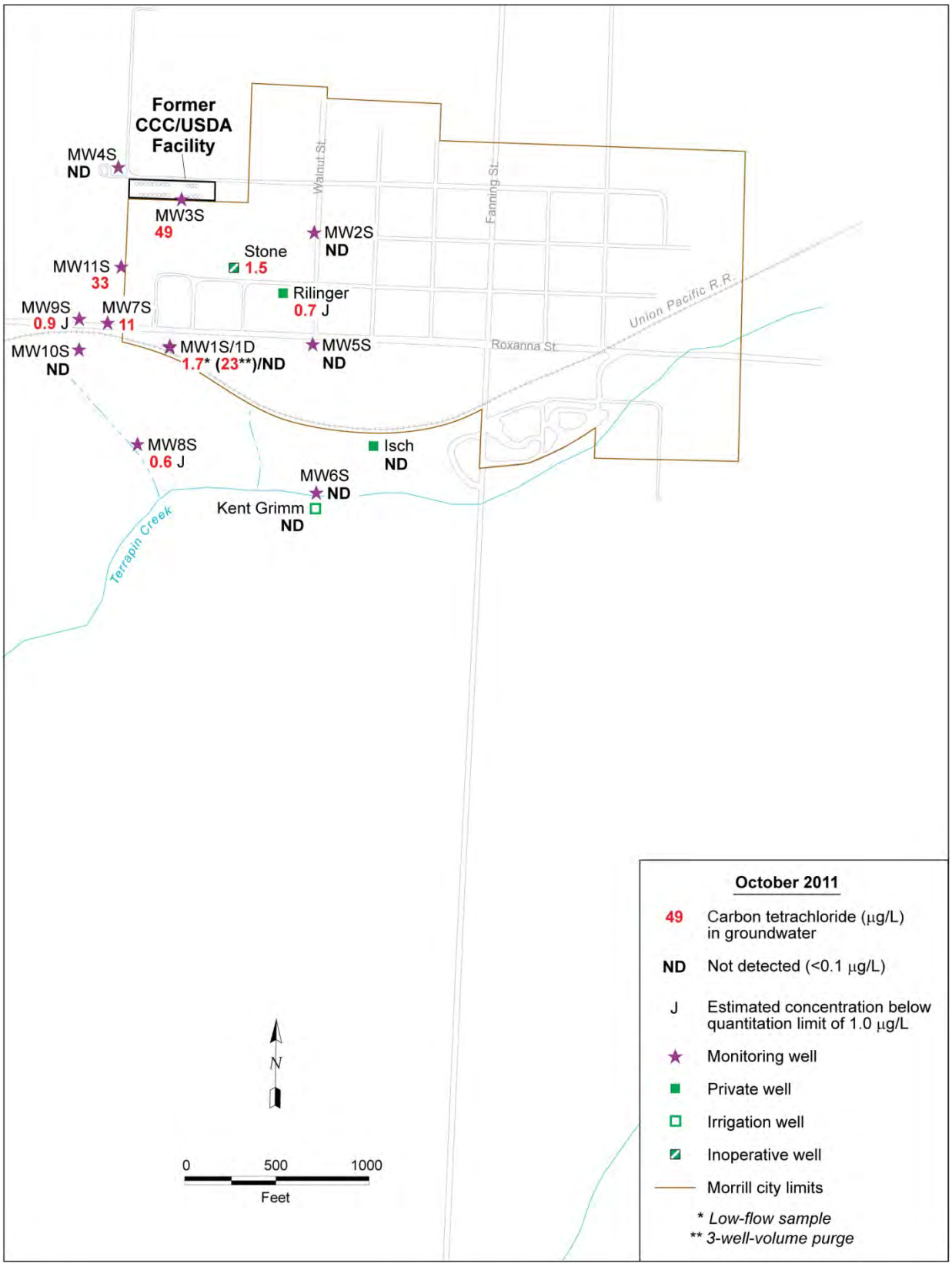

FIGURE 3.3b Carbon tetrachloride concentrations in groundwater, October 2011.

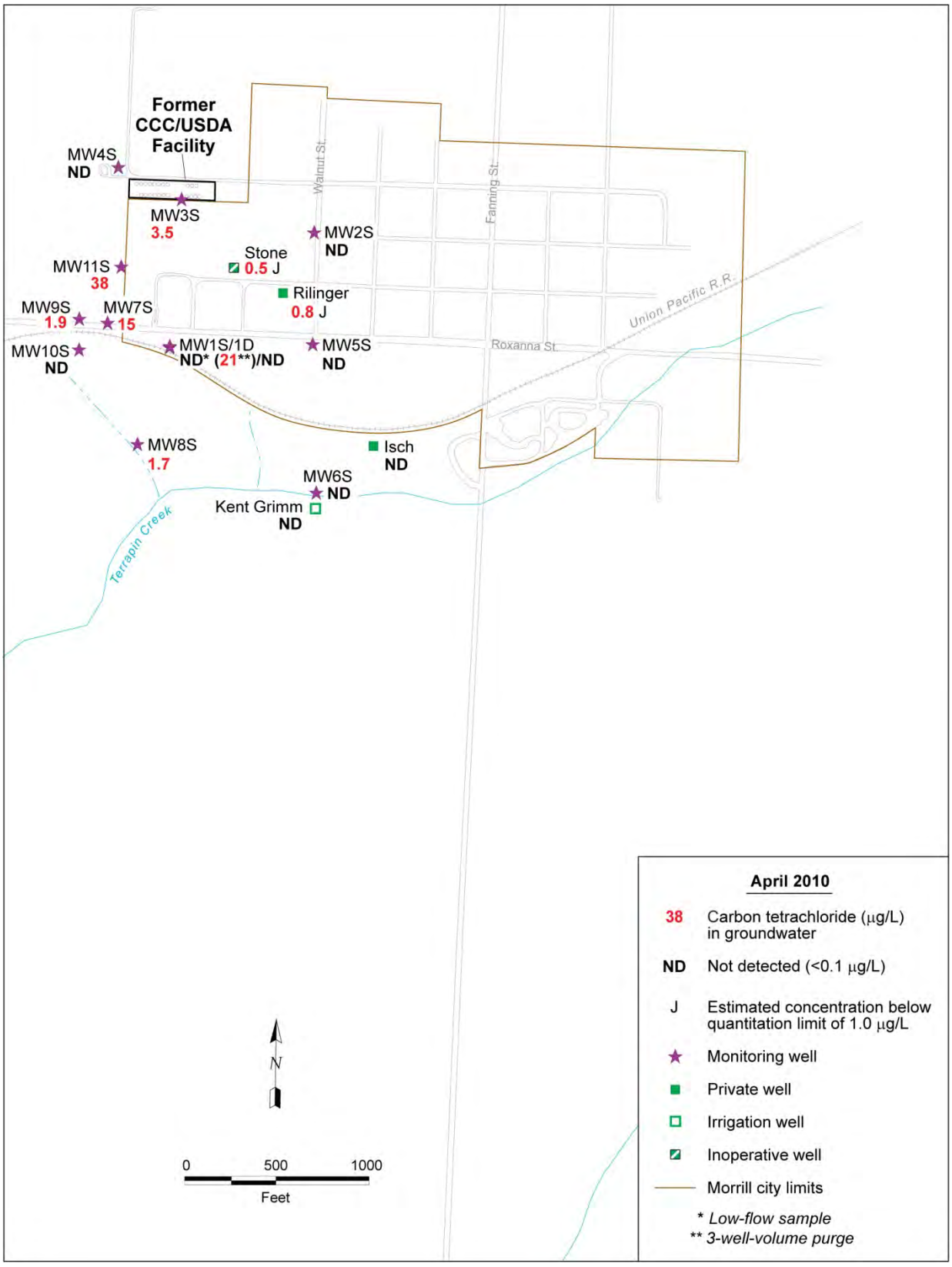

FIGURE 3.4a Carbon tetrachloride concentrations in groundwater, April 2010.

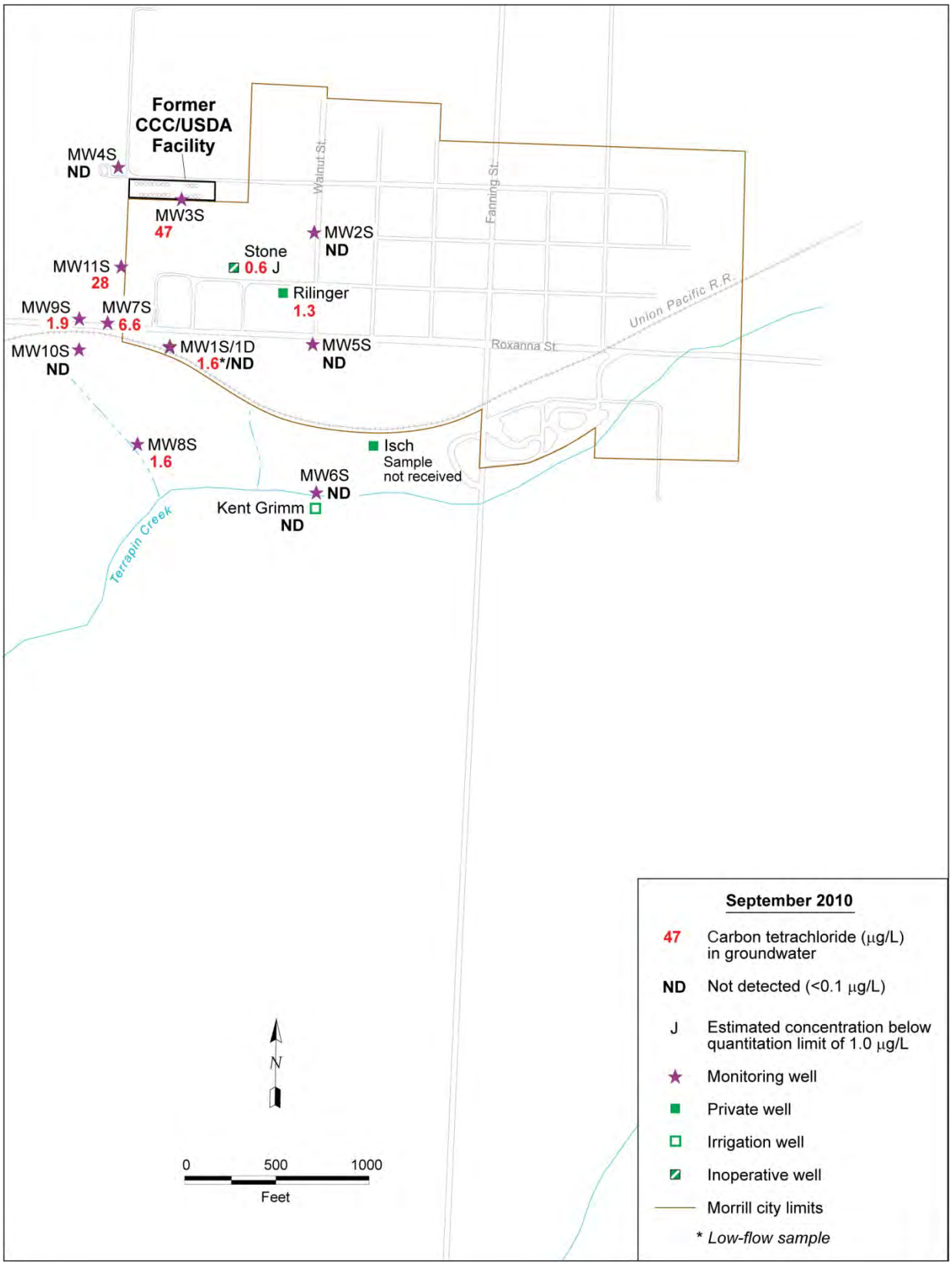

FIGURE 3.4b Carbon tetrachloride concentrations in groundwater, September 2010.

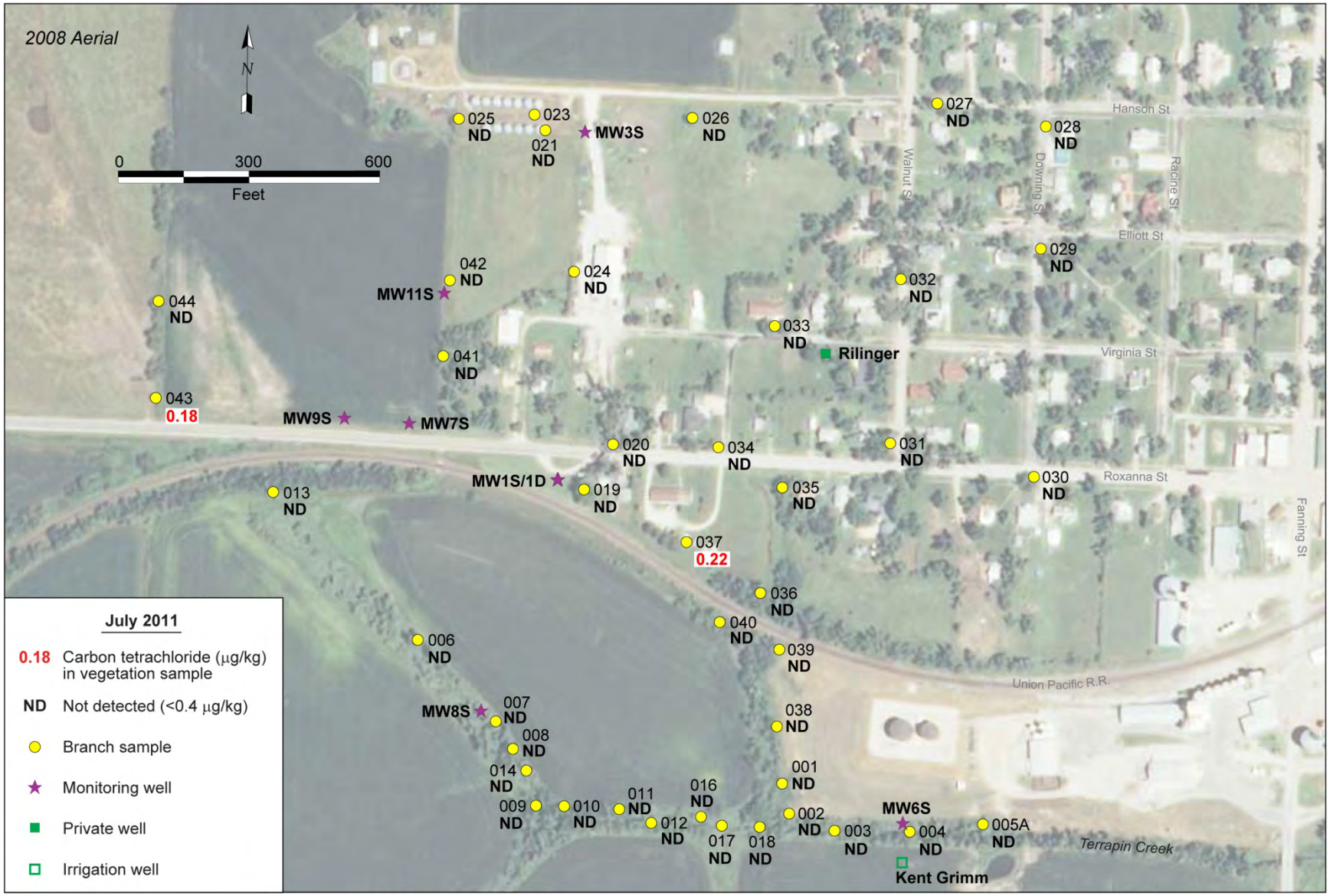

FIGURE 3.5 Carbon tetrachloride concentrations in vegetation, July 2011.

4 Conclusions and Recommendations

4.1 Conclusions

The findings of the April 2011 and October 2011 monitoring events at Morrill support the following conclusions:

- Groundwater flow during the 2011 review period (as in prior years) was predominantly to the south, from the vicinity of the former CCC/USDA facility toward Terrapin Creek. Automatic water level monitoring data suggest that spring precipitation and recharge represent the predominant factors affecting the local groundwater level patterns.

- No significant changes were observed in the concentration or distribution of carbon tetrachloride in groundwater during the spring and fall 2011 monitoring events versus the spring and fall 2010 monitoring events. In October 2011, a maximum carbon tetrachloride concentration of 49 µg/L was identified in groundwater at well MW3S on the former CCC/USDA facility, with concentrations decreasing downgradient toward Terrapin Creek.

- Since 2004, the accumulated results of 15 sampling events have demonstrated a significant decline in the maximum detected concentration of carbon tetrachloride in groundwater. In 1995, the contaminant was detected at the former CCC/USDA facility at 390 µg/L, while the current maximum levels are < 50 µg/L. The residual contaminant plume extending from the former CCC/USDA facility southward toward Terrapin Creek is well-defined and slowly declining in concentration naturally.

- No carbon tetrachloride contamination was detected in 2011 in surface waters or shallow streambed sediments sampled at five locations along Terrapin Creek, downgradient from the former CCC/USDA facility. These results indicate that Terrapin Creek remains unaffected by the carbon tetrachloride plume.

- Since 2007, the accumulated results of 10 monitoring events for surface water and sediment in Terrapin Creek have demonstrated no impact to the sediment and surface waters of the creek by carbon tetrachloride and no imminent risk for further degradation of the creek.

- Terrapin Creek (tributary segment 308 to Walnut Creek) receives discharge from the Morrill wastewater treatment plant and several confined animal feeding operations regulated by the KDHE. The Walnut Creek watershed is designated by the KDHE as impaired by fecal coliform bacteria. Terrapin Creek is classified by the KDHE as not open to or accessible by the public for contact recreation and does not support the food procurement designated use (KDHE 2010b).

- In July 2011, trace concentrations of carbon tetrachloride were detected in vegetation samples collected from trees at 2 of the 42 sampled locations south (downgradient) of the former CCC/USDA facility.

- Sampling of indoor air in August 2010 to evaluate the potential for vapor intrusion into homes overlying and within 100 ft laterally of the identified carbon tetrachloride plume resulted in no detections of carbon tetrachloride. Low concentrations of chloroform, indicative of indoor air sources, were detected. Low radon levels were also detected. The results indicate no evidence of upward migration of vapors from the low-level carbon tetrachloride contamination in groundwater to indoor air.

4.2 Recommendations

4.2.1 Groundwater Monitoring Frequency

Figure 4.1 compares the carbon tetrachloride concentrations in groundwater samples collected in the monitoring network in October of 2003, 2007, and 2011. The results for these samples collected at 4-yr intervals demonstrate a stable areal distribution of carbon tetrachloride in groundwater and declining concentrations. Table 4.1 summarizes carbon tetrachloride concentrations in wells MW7S, MW8S, MW9S, and MW11S in fall sampling events in 2005-

2011. Concentrations in these wells were cited by the KDHE (2010a) as a concern supporting the KDHE's request for continued twice yearly monitoring. The annual results in the table indicate decreasing concentration trends at these wells.

On the basis of this analysis, the CCC/USDA recommends a change in groundwater monitoring frequency from twice yearly to once yearly, at the locations established under the approved monitoring plan (Argonne 2005b). Annual monitoring of the carbon tetrachloride plume will be adequate to track future changes and will be protective. The annual events will involve sampling of groundwater from the existing network of 12 monitoring wells and 3 private wells, as well as sampling of surface waters and streambed sediments at the 5 established locations along Terrapin Creek.

4.2.2 Vegetation Sampling Frequency

Vegetation sampling was originally initiated to track plume migration. Other ongoing monitoring efforts are currently fulfilling that function, and after five years of sampling there appears to be no threat to surface water. The groundwater flow direction has been well established. Additionally, there are monitoring wells adjacent to and upgradient of surface water to track any change in contaminant concentrations, and the sampling of surface water and sediment has demonstrated the absence of carbon tetrachloride contamination in surface water. Therefore, the CCC/USDA recommends the elimination of vegetation sampling.

4.2.3 Sampling Methods

Comparisons of the low-flow and three-well-volume purging methods indicate that low-flow sampling provides representative results at the Morrill monitoring wells except for MW1S, which is located in the heart of the plume and is screened over a 40-ft interval. Investigation of modified or alternative sampling methods will continue, so that representative samples for analysis can be reliably obtained from this well.

For the present, the CCC/USDA recommends continued sampling of well MW1S by the three-well-volume purging method and elimination of low-flow sampling for this one well. In addition, the CCC/USDA recommends deployment of passive diffusion bag sampler(s) in well

MW1S during the spring 2012 sampling event for comparison with the three-well-volume purging method.

TABLE 4.1 Analytical results for carbon tetrachloride in groundwater samples collected at wells MW7S, MW8S, MW9S, and MW11S in September or October of years 2005-2011.

	Carbon Tetrachloride (µg/L) at Indicated Well			
Fall of Year	MW7S	MW8S	MW9S	MW11S
2005	1.1	0.9 J[a]	–	–
2006	38	1.3	ND[b]	53
2007	8.1	0.8 J	ND	54
2008	7.9	1.3	1.1	42
2009	8.0	1.9	1.4	39
2010	6.6	1.6	1.9	28
2011	11	0.6 J	1.1	33

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

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

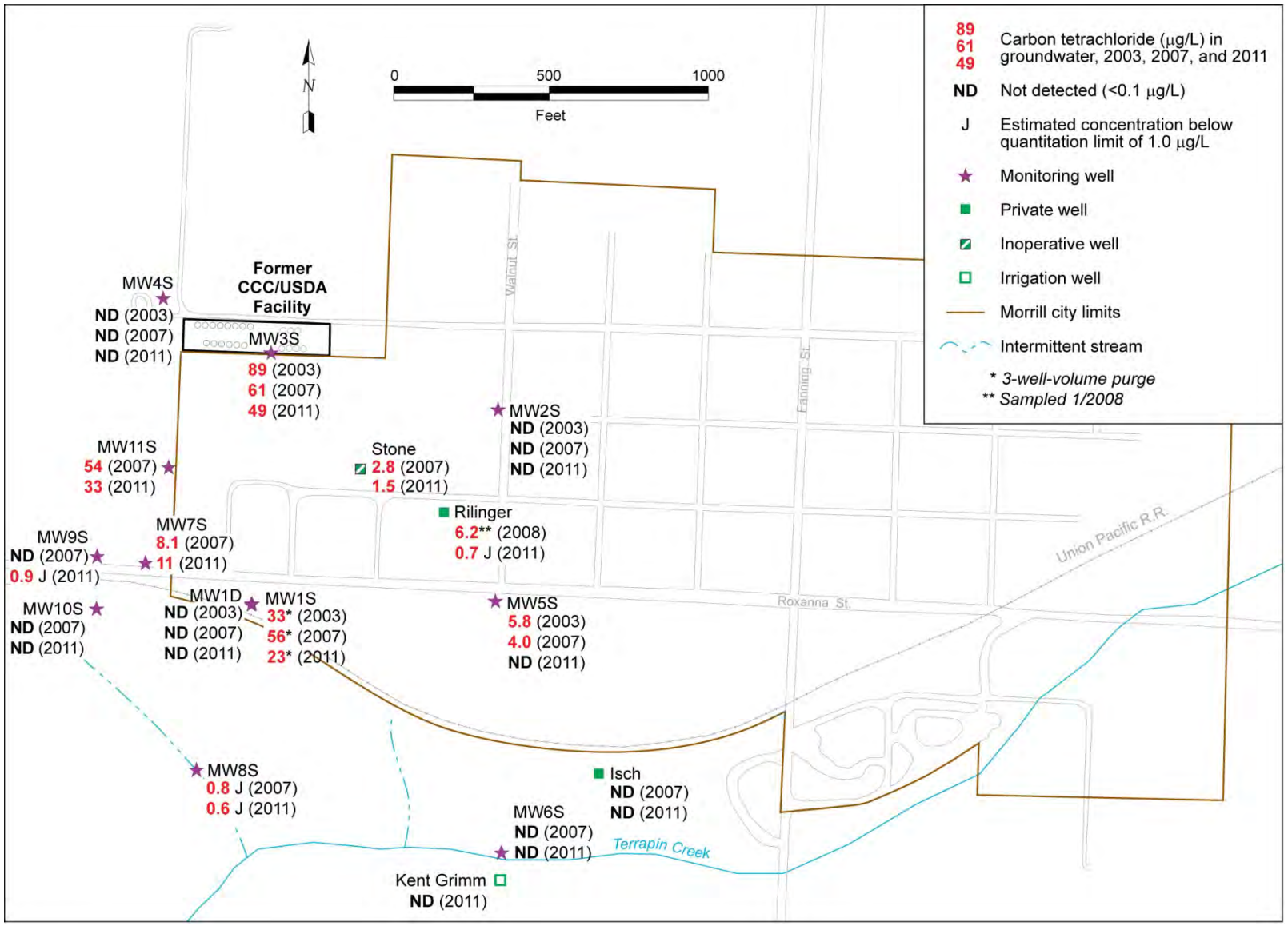

FIGURE 4.1 Carbon tetrachloride concentrations in groundwater in October of 2003, 2007, and 2011.

5 References

Alvarado, J.S., and C. Rose, 2004, "Static Headspace Analysis of Volatile Organic Compounds in Soil and Vegetation Samples for Site Characterization," *Talanta* 62:17-23.

Argonne, 2002, *Final Master Work Plan: Environmental Investigations at Former CCC/USDA Facilities in Kansas, 2002 Revision*, ANL/ER/TR-02/004, prepared for the Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C., by Argonne National Laboratory, Argonne, Illinois, December.

Argonne, 2003, *Final Work Plan: Phase I Expedited Site Characterization, Morrill, Kansas*, ANL/ER/TR-03/001, prepared for the Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C., by Argonne National Laboratory, Argonne, Illinois, September.

Argonne, 2004, *Final Phase I-Phase II Interim Report: Expedited Site Characterization, Morrill, Kansas*, ANL/ER/TR-04/001, prepared for the Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C., by Argonne National Laboratory, Argonne, Illinois, December.

Argonne, 2005a, *Final Report, Monitoring Well Installation and Sampling, 2004, at Morrill, Kansas*, ANL/ER/TR-04/010, prepared for the Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C., by Argonne National Laboratory, Argonne, Illinois, November.

Argonne, 2005b, *Final Work Plan: Groundwater Monitoring at Morrill, Kansas*, ANL/ER/TR-05/003, prepared for the Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C., by Argonne National Laboratory, Argonne, Illinois, August.

Argonne, 2006, *September 2006 Monitoring Results for Morrill, Kansas*, ANL/EVS/AGEM/CHRON-1016, prepared for the Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C., by Argonne National Laboratory, Argonne, Illinois, December.

Argonne, 2007a, *Final Report: Groundwater Monitoring at Morrill, Kansas, in September 2005 and March 2006, with Expansion of the Monitoring Network in January 2006,*

ANL/EVS/AGEM/TR-06-09, prepared for the Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C., by Argonne National Laboratory, Argonne, Illinois, June.

Argonne, 2007b, *March-April 2007 Monitoring Results for Morrill, Kansas*, ANL/EVS/AGEM/TR-07-06, prepared for the Commodity Credit Corporation, U.S. Department of Agriculture, by Argonne National Laboratory, Argonne, Illinois, May.

Argonne, 2008a, *October 2007 Monitoring Results for Morrill, Kansas*, ANL/EVS/AGEM/TR-08-02, prepared for the Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C., by Argonne National Laboratory, Argonne, Illinois, March.

Argonne, 2008b, *April 2008 Monitoring Results for Morrill, Kansas*, ANL/EVS/AGEM/TR-08-15, prepared for the Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C., by Argonne National Laboratory, Argonne, Illinois, July.

Argonne, 2009, *October 2008 Monitoring Results for Morrill, Kansas*, ANL/EVS/AGEM/TR-09-03, prepared for the Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C., by Argonne National Laboratory, Argonne, Illinois, March.

Argonne, 2010, *Annual Report of Monitoring at Morrill, Kansas*, ANL/EVS/AGEM/TR-10-04, prepared for the Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C., by Argonne National Laboratory, Argonne, Illinois, August.

Argonne, 2011, *Annual Report of Monitoring at Morrill, Kansas, in 2010*, ANL/EVS/AGEM/TR-11-06, prepared for the Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C., by Argonne National Laboratory, Argonne, Illinois, June.

EPA, 1995, *Method 524.2: Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry, Revision 4.1*, edited by J.W. Munch, National Exposure Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Cincinnati, Ohio.

GeoCore, 1994a, *Work Plan: Phase I Sampling and Site Visit: Brown County Groundwater Investigation*, prepared for the Kansas Department of Health and Environment, Bureau of

Environmental Remediation, Topeka, Kansas, by GeoCore Services, Inc., Salina, Kansas, April 12.

GeoCore, 1994b, *Well Survey Material: Brown County Groundwater Investigation: Morrill PWS Well #5 Site*, field notes made by GeoCore Services, Inc., Salina, Kansas, during Phase I sampling of private wells, May 19.

GeoCore, 1994c, *Work Plan: Phase II Drilling and Sampling: Brown County Groundwater Investigation*, prepared for the Kansas Department of Health and Environment, Bureau of Environmental Remediation, Topeka, Kansas, by GeoCore Services, Inc., Salina, Kansas, July 14.

GeoCore, 1994d, *Preliminary Report: Phase I Sampling: Brown County Groundwater Investigation*, prepared for the Kansas Department of Health and Environment, Bureau of Environmental Remediation, Topeka, Kansas, by GeoCore Services, Inc., Salina, Kansas, July 19.

GeoCore, 1996, *Environmental Site Investigation Report: Phase II Drilling and Sampling: Morrill Public Water Supply Well #5, Morrill, Kansas*, prepared for the Kansas Department of Health and Environment, Bureau of Environmental Remediation, Topeka, Kansas, by GeoCore Services, Inc., Salina, Kansas, February 29.

KDHE, 1989, *Preliminary Assessment of the Morrill Public Water Supply Well #5, Morrill, Kansas (Site Identification Number: KS D981710288)*, Kansas Department of Health and Environment, Bureau of Environmental Remediation, Topeka, Kansas, June 6.

KDHE 2001, *Missouri Basin Total Maximum Daily Load: Waterbody: Walnut Creek: Water Quality Impairment: Fecal Coliform Bacteria*, Bureau of Water, Kansas Department of Health and Environment, Topeka, Kansas, August 28 (http://www.kdheks.gov/tmdl/mo/WalnutCrFCB.pdf).

KDHE, 2005, letter from C. Carey (Bureau of Environmental Remediation, Kansas Department of Health and Environment, Topeka, Kansas) to C. Roe (Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C.) regarding *Final Work Plan: Groundwater Monitoring at Morrill, Kansas*, October 31.

KDHE, 2007a, letter from C. Carey (Bureau of Environmental Remediation, Kansas Department of Health and Environment, Topeka, Kansas) to C. Roe (Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C.) regarding draft Morrill sampling report, January 5.

KDHE, 2007b, letter from C. Carey (Bureau of Environmental Remediation, Kansas Department of Health and Environment, Topeka, Kansas) to C. Roe (Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C.) regarding *March-April 2007 Monitoring Results for Morrill, Kansas*, August 1.

KDHE, 2008a, letter from E. McWilliams (Bureau of Environmental Remediation, Kansas Department of Health and Environment, Topeka, Kansas) to C. Roe (Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C.) regarding *April 2008 Monitoring Report for Morrill, Kansas*, August 6.

KDHE, 2008b, letter from C. Carey (Bureau of Environmental Remediation, Kansas Department of Health and Environment, Topeka, Kansas) to C. Roe (Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C.) regarding revisions to the Morrill sampling report for September 2005 and March 2006, February 6.

KDHE, 2010a, letter from M. Townsend (Bureau of Environmental Remediation, Kansas Department of Health and Environment, Topeka, Kansas) to C. Roe (Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C.) regarding *Annual Report of Monitoring at Morrill, Kansas, in 2009*, September 28.

KDHE, 2010b, *Kansas Surface Water Register*, Bureau of Environmental Field Services, Kansas Department of Health and Environment, Topeka, Kansas, December 15 (http://www.kdheks.gov/befs/download/Current_Kansas_Surface_Register.pdf).

KDHE, 2011, letter from M. Townsend (Bureau of Environmental Remediation, Kansas Department of Health and Environment, Topeka, Kansas) to C. Roe (Commodity Credit Corporation, U.S. Department of Agriculture, Washington, D.C.) regarding *Annual Report of Monitoring at Morrill, Kansas, in 2010*, July 28.

Puls, R.W., and Barcelona, M.J., 1996, "Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures," EPA/540/S-95/504, in *Ground Water Issue*, Superfund Technology Support Center for Ground Water, National Risk Management Research Laboratory, Ada, Oklahoma, April (www.epa.gov/tio/tsp/download/lwflw2a.pdf).

Yeskis, D., and B. Zavala, 2002, *Ground-Water Sampling Guidelines for Superfund and RCRA Project Managers: Ground Water Forum Issue Paper*, EPA 542-S-02-001, Technology Innovative Office, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, Washington, D.C., May (http://www.epa.gov/tio/tsp/download/gw_sampling_guide.pdf).

Appendix A:

Sampling Activities at Morrill in 2011

TABLE A.1 Sequence of sampling activities in 2011.

Sample Date and Time		Sample	Medium[a]	Type[a]	Location	Depth (ft BGL)	Chain of Custody	Shipping Date	Sample Description
4/20/11	9:00	MRSM4-W-30036	Water	SW	SM4	–	4824	4/20/11	Water sample from Terrapin Creek.
4/20/11	9:01	MRSM4-S-30036	Sediment	Sed	SM4	–	4823	4/20/11	Sediment sample from Terrapin Creek.
4/20/11	9:08	MRSM3-W-30035	Water	SW	SM3	–	4824	4/20/11	Water sample from Terrapin Creek.
4/20/11	9:09	MRSM3-S-30035	Sediment	Sed	SM3	–	4823	4/20/11	Sediment sample from Terrapin Creek.
4/20/11	9:15	MRSM2-W-30034	Water	SW	SM2	–	4824	4/20/11	Water sample from Terrapin Creek.
4/20/11	9:16	MRSM2-S-30034	Sediment	Sed	SM2	–	4823	4/20/11	Sediment sample from Terrapin Creek.
4/20/11	9:28	MRSM1-W-30033	Water	SW	SM1	–	4824	4/20/11	Water sample from Terrapin Creek.
4/20/11	9:29	MRSM1-S-30033	Sediment	Sed	SM1	–	4823	4/20/11	Sediment sample from Terrapin Creek.
4/20/11	9:36	MRSMB-W-30037	Water	SW	SMB	–	4824	4/20/11	Water sample from Terrapin Creek.
4/20/11	9:37	MRSMB-S-30037	Sediment	Sed	SMB	–	4823	4/20/11	Sediment sample from Terrapin Creek.
4/20/11	11:27	MRMW8S-W-30046	Water	MW	MW8S	10-25	4825	4/21/11	Depth to water = 2.73 ft. Depth of 4-in. well = 26.82 ft. Sample collected by using low-flow bladder pump after purging of 9 L. Pump intake positioned at 17.5 ft.
4/20/11	11:38	MRMW1D-W-30039	Water	MW	MW1D	63-88	4824	4/20/11	Depth to water = 30.15 ft. Depth of 4-in. well = 89 ft. Sample collected by using low-flow bladder pump after purging of 5.5 L. Pump intake positioned at 75.5 ft.
4/20/11	12:34	MRMW10S-W-30048	Water	MW	MW10S	30-45	4825	4/21/11	Depth to water = 13.69 ft. Depth of 2-in. well = 49.32 ft. Sample collected by using low-flow bladder pump after purging of 7.25 L. Pump intake positioned at 37.5 ft.
4/20/11	12:36	MRMW1S-W-30038	Water	MW	MW1S	11-51	4824	4/20/11	Depth to water = 23.45 ft. Depth of 4-in. well = 54 ft. Sample collected by using low-flow bladder pump after purging of 6.5 L. Pump intake positioned at 37 ft.
4/20/11	13:22	MRQCTB-W-30060[b]	Water	TB	QC	–	4824	4/20/11	Trip blank sent to the AGEM Laboratory for organic analysis with water samples listed on chain-of-custody form (COC) 4324.
4/20/11	13:39	MRMW6S-W-30044	Water	MW	MW6S	10-25	4825	4/21/11	Depth to water = 6.52 ft. Depth of 4-in. well = 24.88 ft. Sample collected by using low-flow bladder pump after purging of 8 L. Pump intake positioned at 17.5 ft.
4/20/11	14:32	MRMW3S-W-30041	Water	MW	MW3S	18-48	4825	4/21/11	Depth to water = 32.06 ft. Depth of 4-in. well = 47.8 ft. Sample collected by using low-flow bladder pump after purging of 6.2 L. Pump intake positioned at 40 ft.

TABLE A.1 (Cont.)

Sample Date and Time		Sample	Medium[a]	Type[a]	Location	Depth (ft BGL)	Chain of Custody	Shipping Date	Sample Description
4/20/11	15:06	MRMW11S-W-30049	Water	MW	MW11S	53-68	4825	4/21/11	Depth to water = 39.16 ft. Depth of 2-in. well = 72.54 ft. Sample collected by using low-flow bladder pump after purging of 7.5 L. Pump intake positioned at 60.5 ft.
4/20/11	15:45	MRQCIR-W-30056[b]	Water	RI	QC	–	4825	4/21/11	Rinsate of decontaminated sampling line after collection of sample MRMW11S-W-30049.
4/20/11	16:34	MRMW5S-W-30043	Water	MW	MW5S	15-55	4825	4/21/11	Depth to water = 24.43 ft. Depth of 4-in. well = 54.6 ft. Sample collected by using low-flow bladder pump after purging of 7 L. Pump intake positioned at 36 ft.
4/20/11	16:42	MRQCIR-W-30058[b]	Water	RI	QC	–	4825	4/21/11	Rinsate of decontaminated sampling line after collection of sample MRMW5S-W-30043.
4/20/11	17:25	MRMW9S-W-30047	Water	MW	MW9S	38.83-53.83	4825	4/21/11	Depth to water = 23.76 ft. Depth of 2-in. well = 58.32 ft. Sample collected by using low-flow bladder pump after purging of 14 L. Pump intake positioned at 46.33 ft.
4/20/11	17:26	MRMW9SDUP-W-30054[b]	Water	MW	MW9S	38.83-53.83	4825	4/21/11	Replicate of sample MRMW9S-W-30047.
4/20/11	17:36	MRMW2S-W-30040	Water	MW	MW2S	13-53	4825	4/21/11	Depth to water = 36.00 ft. Depth of 4-in. well = 53.5 ft. Sample collected by using low-flow bladder pump after purging of 8 L. Pump intake positioned at 44.5 ft.
4/20/11	17:37	MRMW2SDUP-W-30055[b]	Water	MW	MW2S	13-53	4825	4/21/11	Replicate of sample MRMW2S-W-30040.
4/20/11	18:42	MRMW7S-W-30045	Water	MW	MW7S	20-45	4825	4/21/11	Depth to water = 19.69 ft. Depth of 4-in. well = 46.69 ft. Sample collected by using low-flow bladder pump after purging of 6 L. Pump intake positioned at 32.5 ft.
4/20/11	19:15	MRTD12-W-30053	Water	DW	TD12	27-67	4825	4/21/11	Water collected from Grimm well overflow before the catch pond.
4/21/11	9:40	MRSTONE-W-30052	Water	DW	Stone	43	4826	4/21/11	Purged 5 gal with bailer and then sampled.
4/21/11	9:56	MRRILLINGER-W-30051	Water	DW	Rillinger	–	4826	4/21/11	Allowed pump to run for 5 min and then collected a grab sample.
4/21/11	10:32	MRISCH-W-30050	Water	DW	Isch	–	4826	4/21/11	Allowed pump to run for 5 min. Co-op has been using well for last several days.
4/21/11	10:42	MRMW4S-W-30042	Water	MW	MW4S	17-47	4826	4/21/11	Depth to water = 42.39 ft. Depth of 4-in. well = 47.8 ft. Sample collected by using low-flow bladder pump after purging of 5 L. Pump intake positioned at 44.72 ft.

TABLE A.1 (Cont.)

Sample Date and Time		Sample	Medium[a]	Type[a]	Location	Depth (ft BGL)	Chain of Custody	Shipping Date	Sample Description
4/21/11	11:02	MRDIH2O-W-30059[b]	Water	FB	QC	–	4826	4/21/11	Blank of water used for equipment decontamination during April 2011 sampling.
4/21/11	11:05	MRQCTB-W-30061[b]	Water	TB	QC	–	4826	4/21/11	Trip blank sent to the AGEM Laboratory for organic analysis with water samples listed on COCs 4825 and 4826.
4/21/11	11:15	MRQCIR-W-30057[b]	Water	RI	QC	–	4826	4/21/11	Rinsate of decontaminated sampling line after collection of sample MRMW4S-W-30042.
7/28/11	10:20	MR019-B-29945	Veg	Branch	MR019	–	6616	8/1/11	Silver maple, up 8 ft, 16 ft out.
7/28/11	10:25	MR013-B-29946	Veg	Branch	MR013	–	6616	8/1/11	Willow, 3 ft up, out 12 in. Heavy weeds. Soy on both sides of creek.
7/28/11	10:30	MR006-B-29947	Veg	Branch	MR006	–	6616	8/1/11	Up 6 ft, out 2 ft.
7/28/11	10:34	MR007-B-29948	Veg	Branch	MR007	–	6616	8/1/11	Up 4 ft.
7/28/11	10:36	MR008-B-29950	Veg	Branch	MR008	–	6616	8/1/11	Up 5 ft, sucker.
7/28/11	10:39	MR014-B-29951	Veg	Branch	MR014	–	6616	8/1/11	Up 4 ft, sucker.
7/28/11	10:42	MR009-B-29952	Veg	Branch	MR009	–	6616	8/1/11	Up 4 ft, sucker.
7/28/11	10:44	MR010-B-29953	Veg	Branch	MR010	–	6616	8/1/11	Up 6 ft, sucker.
7/28/11	10:46	MR011-B-29954	Veg	Branch	MR011	–	6616	8/1/11	Up 4 ft, sucker.
7/28/11	10:49	MR012-B-29955	Veg	Branch	MR012	–	6616	8/1/11	Over 16 ft up, hard to tell.
7/28/11	10:51	MR016-B-29956	Veg	Branch	MR016	–	6616	8/1/11	Up 4 ft, sucker.
7/28/11	10:53	MR017-B-29957	Veg	Branch	MR017	–	6616	8/1/11	Up 3 ft, sucker.
7/28/11	10:55	MR018-B-29958	Veg	Branch	MR018	–	6616	8/1/11	Up 6 ft, over 16 ft out.
7/28/11	11:10	MR005A-B-29959	Veg	Branch	MR005A	–	6616	8/1/11	Up 5 ft, sucker. Storm damage, broken tops. Near existing trash fire.
7/28/11	11:11	MR004-B-29960	Veg	Branch	MR004	–	6616	8/1/11	Willow, 5 ft up, sucker. Tree has bent/cracked top, down to ground.
7/28/11	11:12	MR003-B-29961	Veg	Branch	MR003	–	6620	8/1/11	Up 5 ft, sucker.
7/28/11	11:14	MR002-B-29962	Veg	Branch	MR002	–	6620	8/1/11	Up 5 ft, sucker.
7/28/11	11:17	MR001-B-29963	Veg	Branch	MR001	–	6620	8/1/11	Up 5 ft, sucker. Behind new large stockpile of trash to burn (wood shingles, tires, rotten grain, misc. building materials).
7/28/11	11:20	MR038-B-29964	Veg	Branch	MR038	–	6620	8/1/11	Up 4 ft, sucker.
7/28/11	11:22	MR039-B-29965	Veg	Branch	MR039	–	6620	8/1/11	Up 4 ft, sucker.
7/28/11	11:24	MR040-B-29966	Veg	Branch	MR040	–	6620	8/1/11	Up 5 ft, 5 ft out.
7/28/11	12:26	MR021-B-29967	Veg	Branch	MR021	–	6620	8/1/11	Up 4 ft, 4 ft out.
7/28/11	12:30	MR025-B-29968	Veg	Branch	MR025	–	6620	8/1/11	Up 4 ft, 6 ft out.
7/28/11	12:32	MR026-B-29969	Veg	Branch	MR026	–	6620	8/1/11	Up 5 ft, sucker.
7/28/11	12:34	MR027-B-29970	Veg	Branch	MR027	–	6620	8/1/11	Up 6 ft, sucker.
7/28/11	12:37	MR028-B-29971	Veg	Branch	MR028	–	6620	8/1/11	Up 6 ft, sucker.

TABLE A.1 (Cont.)

Sample Date and Time		Sample	Medium[a]	Type[a]	Location	Depth (ft BGL)	Chain of Custody	Shipping Date	Sample Description
7/28/11	12:39	MR029-B-29972	Veg	Branch	MR029	–	6620	8/1/11	Up 7 ft, sucker.
7/28/11	12:41	MR030-B-29973	Veg	Branch	MR030	–	6620	8/1/11	Up 6 ft, sucker.
7/28/11	12:44	MR031-B-29974	Veg	Branch	MR031	–	6620	8/1/11	Up 7 ft, 3 ft out.
7/28/11	12:47	MR032-B-29975	Veg	Branch	MR032	–	6620	8/1/11	Up 7 ft, sucker.
7/28/11	12:49	MR033-B-29976	Veg	Branch	MR033	–	6621	8/1/11	Up 7 ft, 2 ft out.
7/28/11	12:51	MR034-B-29977	Veg	Branch	MR034	–	6621	8/1/11	Up 6 ft, sucker.
7/28/11	12:56	MR037-B-29978	Veg	Branch	MR037	–	6621	8/1/11	Up 4 ft, 3 ft out.
7/28/11	12:58	MR035-B-29979	Veg	Branch	MR035	–	6621	8/1/11	Up 6 ft, sucker.
7/28/11	13:02	MR036-B-29980	Veg	Branch	MR036	–	6621	8/1/11	Up 8 ft, 4 ft out.
7/28/11	13:03	MR024-B-29981	Veg	Branch	MR024	–	6621	8/1/11	Up 4 ft, 2 ft out.
7/28/11	13:07	MR020-B-29982	Veg	Branch	MR020	–	6621	8/1/11	Up 7 ft, 2 ft out.
7/28/11	13:10	MR043-B-29983	Veg	Branch	MR043	–	6621	8/1/11	Up 3 ft, 2 ft out.
7/28/11	13:12	MR044-B-29984	Veg	Branch	MR044	–	6621	8/1/11	Up 6 ft, 3 ft out.
7/28/11	13:15	MR041-B-29985	Veg	Branch	MR041	–	6621	8/1/11	Up 4 ft, sucker.
7/28/11	13:17	MR042-B-29986	Veg	Branch	MR042	–	6621	8/1/11	Up 3 ft.
10/3/11	14:08	MRSM4-W-30065	Water	N	SM4	–	3188	10/4/11	Water sample from Terrapin Creek.
10/3/11	14:09	MRSM4-S-30065	Sediment	N	SM4	–	3187	10/4/11	Sediment sample from Terrapin Creek.
10/3/11	14:20	MRSM3-W-30064	Water	N	SM3	–	3188	10/4/11	Water sample from Terrapin Creek.
10/3/11	14:21	MRSM3-S-30064	Sediment	N	SM3	–	3187	10/4/11	Sediment sample from Terrapin Creek.
10/3/11	14:30	MRSM2-W-30063	Water	N	SM2	–	3188	10/4/11	Water sample from Terrapin Creek.
10/3/11	14:31	MRSM2-S-30063	Sediment	N	SM2	–	3187	10/4/11	Sediment sample from Terrapin Creek.
10/3/11	14:40	MRSM1-W-30062	Water	N	SM1	–	3188	10/4/11	Water sample from Terrapin Creek.
10/3/11	14:41	MRSM1-S-30062	Sediment	N	SM1	–	3187	10/4/11	Sediment sample from Terrapin Creek.
10/3/11	14:50	MRSMB-W-30066	Water	N	SMB	–	3188	10/4/11	Water sample from Terrapin Creek.
10/3/11	14:51	MRSMB-S-30066	Sediment	N	SMB	–	3187	10/4/11	Sediment sample from Terrapin Creek.
10/3/11	14:58	MRTD12-W-30082	Water	DW	TD12	27-67	3188	10/4/11	Collected from Grimm well overflow before the catch pond.
10/3/11	15:14	MRStone-W-30081	Water	DW	Stone	–	3188	10/4/11	Bailed 5 gal before sampling.
10/3/11	15:24	MRRillinger-W-30080	Water	DW	Rillinger	–	3188	10/4/11	Allowed pump to run for 5 min before collecting a grab sample.
10/3/11	16:14	MRIsch-W-30079	Water	DW	Isch	–	3188	10/4/11	Allowed pump to run for 5 min before collecting a grab sample. Co-op has not used well in a few weeks.
10/4/11	9:16	MRMW1D-W-30068	Water	MW	MW1D	63-88	3190	10/4/11	Depth to water = 29.06 ft. Depth of 4-in. well = 89 ft. Sample collected by using low-flow bladder pump after purging of 6.5 L. Pump intake positioned at 75.5 ft.
10/4/11	9:17	MRMW1DDUP-W-30084[b]	Water	MW	MW1D	63-88	3190	10/4/11	Replicate of sample MRMW1D-W-30068.

TABLE A.1 (Cont.)

Sample Date and Time	Sample	Medium[a]	Type[a]	Location	Depth (ft BGL)	Chain of Custody	Shipping Date	Sample Description
10/4/11 9:17	MRMW8S-W-30075	Water	MW	MW8S	10-25	3188	10/4/11	Depth to water = 4.91 ft. Depth of 4-in. well = 26.8 ft. Sample collected by using low-flow bladder pump after purging of 9 L. Pump intake positioned at 17.5 ft.
10/4/11 10:20	MRMW10S-W-30077	Water	MW	MW10S	30-45	3188	10/4/11	Depth to water = 12.54 ft. Depth of 2-in. well = 49.32 ft. Sample collected by using low-flow bladder pump after purging of 8 L. Pump intake positioned at 37.5 ft.
10/4/11 10:24	MRMW1S-W-30067	Water	MW	MW1S	11-51	3190	10/4/11	Depth to water = 21.80 ft. Depth of 4-in. well = 54 ft. Sample collected by using low-flow bladder pump after purging of 8 L. Pump intake positioned at 34.90 ft.
10/4/11 10:35	MRQCIR-W-30086[b]	Water	RI	QC	–	3190	10/4/11	Rinsate of decontaminated sampling line after collection of sample MRMW1S-W-30067.
10/4/11 11:21	MRMW11S-W-30078	Water	MW	MW11S	53-68	3188	10/4/11	Depth to water = 36.83 ft. Depth of 2-in. well = 72.7 ft. Sample collected by using low-flow bladder pump after purging of 6 L. Pump intake positioned at 60.5 ft.
10/4/11 11:28	MRMW2S-W-30069	Water	MW	MW2S	13-53	3190	10/4/11	Depth to water = 32.73 ft. Depth of 4-in. well = 53.5 ft. Sample collected by using low-flow bladder pump after purging of 7.5 L. Pump intake positioned at 42.6 ft.
10/4/11 12:22	MRMW3S-W-30070	Water	MW	MW3S	18-48	3190	10/4/11	Depth to water = 25.95 ft. Depth of 4-in. well = 47.8 ft. Sample collected by using low-flow bladder pump after purging of 7 L. Pump intake positioned at 37 ft.
10/4/11 12:32	MRMW7S-W-30074	Water	MW	MW7S	20-45	3188	10/4/11	Depth to water = 7.11 ft. Depth of 4-in. well = 47 ft. Sample collected by using low-flow bladder pump after purging of 6 L. Pump intake positioned at 32.5 ft.
10/4/11 12:33	MRMW7SDUP-W-30083[b]	Water	MW	MW7S	20-45	3190	10/4/11	Replicate of sample MRMW7S-W-30074.
10/4/11 12:55	MRQCIR-W-30085[b]	Water	RI	QC	–	3188	10/4/11	Rinsate of decontaminated sampling line after collection of sample MRMW7S-W-30074 and replicate MRMW7SDUP-W-30083.
10/4/11 13:00	MRQCTB-W-30089[b]	Water	TB	QC	–	3188	10/4/11	Trip blank sent to the AGEM Laboratory for VOCs analysis with water samples listed on COC 3188.

TABLE A.1 (Cont.)

Sample Date and Time	Sample	Medium[a]	Type[a]	Location	Depth (ft BGL)	Chain of Custody	Shipping Date	Sample Description
10/4/11 13:26	MRMW4S-W-30071	Water	MW	MW4S	17-47	3190	10/4/11	Depth to water = 35.60 ft. Depth of 4-in. well = 47.8 ft. Sample collected by using low-flow bladder pump after purging of 5 L. Pump intake positioned at 40.9 ft.
10/4/11 14:22	MRMW9S-W-30076	Water	MW	MW9S	38.83-53.83	3190	10/4/11	Depth to water = 22.35 ft. Depth of 2-in. well = 58.5 ft. Sample collected by using low-flow bladder pump after purging of 8 L. Pump intake positioned at 46.33 ft.
10/4/11 14:50	MRQCIR-W-30087[b]	Water	RI	QC	–	3190	10/4/11	Rinsate of decontaminated sampling line after collection of sample MRMW9S-W-30076.
10/4/11 15:30	MRDIH2O-W-30088[b]	Water	FB	QC	–	3190	10/4/11	Field blank of water used for equipment decontamination during September 2011 monitoring.
10/4/11 15:30	MRQCTB-W-30090[b]	Water	TB	QC	–	3190	10/4/11	Trip blank sent to the AGEM Laboratory for VOCs analysis with water samples listed on COC 3190.
10/4/11 15:31	MRMW6S-W-30073	Water	MW	MW6S	10-25	3190	10/4/11	Depth to water = 6.49 ft. Depth of 4-in. well = 26.9 ft. Sample collected by using low-flow bladder pump after purging of 6 L. Pump intake positioned at 17.5 ft.
10/4/11 17:18	MRMW5S-W-30072	Water	MW	MW5S	15-55	3190	10/4/11	Depth to water = 21.10 ft. Depth of 4-in. well = 54.6 ft. Sample collected by using low-flow bladder pump after purging of 6.5 L. Pump intake positioned at 38.25 ft.
10/12/11 14:34	MRMW1S-W-30091	Water	MW	MW1S	11-51	2772	10/12/11	Grab sample for sampling method comparison. Depth to water = 22.14 ft. Depth of 4-in. well = 54 ft. Sample collected by using low-flow bladder pump after purging of 6 L. Pump intake positioned at 36.5 ft.
10/12/11 15:23	MRMW1S3X-W-30092	Water	MW	MW1S	11-51	2772	10/12/11	Sample collected after purging of three well volumes. Pump intake at 49 ft.
10/12/11 17:50	MRQCTB-W-30093[b]	Water	TB	QC	–	2772	10/12/11	Trip blank sent to the AGEM Laboratory for VOCs analysis with water samples listed on COC 2772.

TABLE A.1 (Cont.)

Sample Date and Time	Sample	Medium[a]	Type[a]	Location	Depth (ft BGL)	Chain of Custody	Shipping Date	Sample Description

[a] Medium and sample type abbreviations: DW, domestic well; MW, monitoring well; RI, equipment rinsate; sed, sediment; SW, surface water; TB, trip blank; veg, vegetation.

[b] Quality control sample.

Appendix B:

Results from the AGEM Laboratory for Dual Analyses of Samples Collected at Morrill in 2011 and for Quality Control Samples

TABLE B.1 Analytical results from the AGEM Laboratory for quality control samples collected to monitor sample collection and handling activities in 2011.

Sample Date	Sample	Type	Concentration (μg/L)		
			Carbon Tetrachloride	Chloroform	Methylene Chloride
4/20/2011	MRQCTB-W-30060	Trip blank	ND[a]	ND	ND
4/20/2011	MRQCIR-W-30056	Equipment rinsate	ND	ND	ND
4/20/2011	MRQCIR-W-30058	Equipment rinsate	ND	ND	ND
4/21/2011	MRDIH2O-W-30059	Field blank	ND	ND	ND
4/21/2011	MRQCTB-W-30061	Trip blank	ND	ND	ND
4/21/2011	MRQCIR-W-30057	Equipment rinsate	ND	ND	ND
10/4/2011	MRQCIR-W-30086	Equipment rinsate	ND	ND	ND
10/4/2011	MRQCIR-W-30085	Equipment rinsate	ND	ND	ND
10/4/2011	MRQCTB-W-30089	Trip blank	ND	ND	ND
10/4/2011	MRQCIR-W-30087	Equipment rinsate	ND	ND	ND
10/4/2011	MRDIH2O-W-30088	Field blank	ND	ND	ND
10/4/2011	MRQCTB-W-30090	Trip blank	ND	ND	ND
10/12/2011	MRQCTB-W-30093	Trip blank	ND	ND	ND

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

TABLE B.2 Analytical results from the AGEM Laboratory for dual analyses of samples collected in 2011.

Sample Date	Location	Sample	Analysis Type	Depth (ft BGL)	Sample Medium	Concentration (µg/kg in soil; µg/L in water)		
						Carbon Tetrachloride	Chloroform	Methylene Chloride
4/20/2011	SM3	MRSM3-S-30035	Primary sample	–	Sediment	ND[a]	ND	ND
4/20/2011	SM3	MRSM3-S-30035DUP	Duplicate analysis	–	Sediment	ND	ND	ND
4/20/2011	MW1S	MRMW1S-W-30038	Primary sample	11-51	Water	0.3 J[b]	ND	ND
4/20/2011	MW1S	MRMW1S-W-30038DUP	Duplicate analysis	11-51	Water	0.3 J	ND	ND
4/20/2011	MW3S	MRMW3S-W-30041	Primary sample	18-48	Water	33	1.2	ND
4/20/2011	MW3S	MRMW3S-W-30041DUP	Duplicate analysis	18-48	Water	29	1.1	ND
4/20/2011	MW9S	MRMW9S-W-30047	Primary sample	38.83-53.83	Water	0.9 J	ND	ND
4/20/2011	MW9S	MRMW9SDUP-W-30054	Replicate sample	38.83-53.83	Water	1.1	ND	ND
4/20/2011	MW2S	MRMW2S-W-30040	Primary sample	13-53	Water	ND	ND	ND
4/20/2011	MW2S	MRMW2SDUP-W-30055	Replicate sample	13-53	Water	ND	ND	ND
10/3/2011	SM4	MRSM4-S-30065	Primary sample	–	Sediment	ND	ND	ND
10/3/2011	SM4	MRSM4-S-30065DUP	Duplicate analysis	–	Sediment	ND	ND	ND
10/4/2011	MW1D	MRMW1D-W-30068	Primary sample	63-88	Water	ND	ND	ND
10/4/2011	MW1D	MRMW1DDUP-W-30084	Replicate sample	63-88	Water	ND	ND	ND
10/4/2011	MW3S	MRMW3S-W-30070	Primary sample	18-48	Water	49	1.8	ND
10/4/2011	MW3S	MRMW3S-W-30070DUP	Duplicate analysis	18-48	Water	48	1.8	ND
10/4/2011	MW7S	MRMW7S-W-30074	Primary sample	20-45	Water	11	0.3	ND
10/4/2011	MW7S	MRMW7S-W-30074DUP	Duplicate analysis	20-45	Water	11	0.3	ND
10/4/2011	MW7S	MRMW7SDUP-W-30083	Replicate sample	20-45	Water	12	0.3	ND
10/4/2011	MW9S	MRMW9S-W-30076	Primary sample	38.83-53.83	Water	0.9 J	ND	ND
10/4/2011	MW9S	MRMW9S-W-30076DUP	Duplicate analysis	38.83-53.83	Water	0.8 J	ND	ND
10/12/2011	MW1S	MRMW1S3X-W-30092	Primary sample	11-51	Water	23	1.2	ND
10/12/2011	MW1S	MRMW1S3X-W-30092DUP	Duplicate analysis	11-51	Water	25	1.4	ND

[a] ND, contaminant not detected at an instrument detection limit of 0.1 µg/L for water analyses or 1.0 µg/kg for soil analyses.

[b] Qualifier J indicates an estimated concentration below the purge-and-trap method quantitation limit of 1.0 µg/L.

TABLE B.3 Analytical results from the AGEM Laboratory and TestAmerica for samples collected in 2011 and submitted for verification analysis.

				Concentration (µg/L)					
				AGEM Laboratory			TestAmerica		
Location	Sample	Screen Interval (ft BGL)	Sample Date	Carbon Tetrachloride	Chloroform	Methylene Chloride	Carbon Tetrachloride	Chloroform	Methylene Chloride
April 2011 sampling event									
MW1D	MRMW1D-W-30039	63-88	4/20/11	ND[a]	ND	ND	0.022 J[b] B[c]	ND	ND
MW6S	MRMW6S-W-30044	10-25	4/20/11	ND	ND	ND	0.035 J B	ND	ND
MW4S	MRMW4S-W-30042	17-47	4/21/11	ND	ND	ND	0.15 J B	ND	ND
Rillinger	MRRILLINGER-W-30051	–	4/21/11	0.7 J	ND	ND	0.39 J B	ND	ND
QC	MRQCTB-W-30061	–	4/21/11	ND	ND	ND	0.023 J B	ND	ND
October 2011 sampling event									
SM2	MRSW2-W-30063	–	10/3/11	ND	ND	ND	0.045 J B	ND	ND
MW2S	MRMW2S-W-30069	13-53	10/4/11	ND	ND	ND	0.043 J B	ND	ND
MW4S	MRMW4S-W-30071	17-47	10/4/11	ND	ND	ND	0.11 J B	ND	ND
MW11S	MRMW11S-W-30078	53-68	10/4/11	33	0.8 J	ND	35	0.85	ND
QC	MRQCTB-W-30090	–	10/4/11	ND	ND	ND	0.016 J B	ND	ND

[a] ND, not detected at 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 method quantitation limit of 1.0 µg/L for analyses by the AGEM Laboratatory or 0.5 µg/L for analyses by TestAmerica.

[c] Qualifier B indicates the presence of the contaminant in associated laboratory method blanks and/or trip blanks.

Supplement 1:

Waste Characterization Data

Pace Analytical Services, Inc.
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November 11, 2011

Mr. Travis Kamler
TCW Construction Inc
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.
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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

Pace Analytical Services, Inc.
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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

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

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

Pace Analytical Services, Inc.
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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

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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
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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(913)599-5665

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	

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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	

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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	

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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	

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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	

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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
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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:

Sample Documentation from TestAmerica Laboratories, Inc., for Groundwater Verification Samples

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 200-4827-1

SDG Number: 200-4827

Job Description: Morrill (200-4827)

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 5:33 PM

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

Table of Contents

Table of Contents

CASE NARRATIVE

Client: Argonne National Laboratory

Project: Morrill (200-4827)

Report Number: 200-4827-1

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 and carbon disulfide 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: 200-4827-1
Sdg Number: 200-4827

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.

4827

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

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
April 20, 2011	MRMW1D-W-30039	2	2	2 x 40mL for VOC
April 20, 2011	MRMW65-W-30044	2	2	
April 21, 2011	MRMW45-W-30042	2	2	
April 21, 2011	MRRillinger-W-30051	2	2	
April 21, 2011	MRQCTB-W-30061	2	2	2 x 40 mL for VOC

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
	4-21-11	11:45	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

ER-160 (4-01)

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04/27/2011

Burlington Facility

Internal Chain of Custody Log (ICOC)

#6

Project Information:	
Log-in: 200-4827	Method: SOM01.2 - Vol TO
Client: Argonne National Labs	LAB IDs: 200-4827-1 to 200-4827-5

Samples associated with this Log-in were placed into storage on 4/22/11 (Date) 1303 (Time[2]) by: _____ *Sample Custodian Signature*

Storage Location: Vantage shelf 4 *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]
✓		4827-1-5	4/25/11	0930	✓			JH	JH	Screen
✓		"	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:	
Log-in: 200-4827	Method: SOM01.2 - Vol TO
Client: Argonne National Labs	LAB IDs: 200-4827-6

Samples associated with this Log-in were placed into storage on 4/22/11 (Date) 1303 (Time[2]) by: _____ *Sample Custodian Signature*

Storage Location: Voatside shelf 4 *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]
✓		4827-6	4/25/11	0830	✓			JH	JH	Screen
✓		"	4/26/11	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

Shipping and Receiving Documents

FedEx. US Airbill
Express

FedEx Tracking Number 8735 9648 1723

0200 Form ID No.

FedEx Retrieval Copy

1 From
Date 11-11 Sender's FedEx Account Number 1352 0
Sender's Name [illegible] Phone 412 [illegible]
Company [illegible]
Address [illegible] Dept./Floor/Suite/Room
City [illegible] State AE ZIP

2 Your Internal Billing Reference [illegible]

3 To
Recipient's Name [illegible] Phone
Company [illegible]
Address [illegible] Dept./Floor/Suite/Room
Address [illegible]
City [illegible] State ZIP

HOLD Weekday — FedEx location address REQUIRED. NOT available for FedEx First Overnight. 01 ☐
HOLD Saturday — FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations. 31 ☐

8735 9648 1723

4a Express Package Service * To most locations — *Packages up to 150 lbs.*

01 ☑ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
05 ☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
06 ☐ FedEx First Overnight — Earliest next business morning delivery to select locations.*
03 ☐ FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
20 ☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

4b Express Freight Service ** To most locations — *Packages over 150 lbs.*

70 ☐ FedEx 1Day Freight — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected. FedEx 1Day Freight Booking No.
80 ☐ FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
83 ☐ FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

06 ☐ FedEx Envelope* 02 ☐ FedEx Pak* — Includes FedEx Small Pak and FedEx Large Pak 03 ☐ FedEx Box 04 ☐ FedEx Tube 01 ☑ Other

6 Special Handling and Delivery Signature Options

03 ☐ **SATURDAY DELIVERY**

☐ No Signature Required — Package may be left without obtaining a signature for delivery.
10 ☐ Direct Signature — Someone at recipient's address may sign for delivery. Fee applies.
34 ☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Fee applies.

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

☑ No 04 ☐ Yes — As per attached Shipper's Declaration ☐ Yes — Shipper's Declaration not required. 06 ☐ Dry Ice — Dry Ice, 9, UN 1845 [illegible]

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box. ☐ Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below. Obtain recip Acct. No ☐

1 ☑ Sender Acct. No. in Section 1 will be billed. 2 ☐ Recipient 3 ☐ Third Party 4 ☐ Credit Card 5 ☐ Cash/Check

Total Packages 1 Total Weight 13 Credit Card Auth

† Our liability is limited to $100 unless you declare a higher value. See the current FedEx Service Guide for details.

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fedex.com 1.800.GoFedEx 1.800.463.3339

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04/27/2011

Login Sample Receipt Checklist

Client: Argonne National Laboratory

Job Number: 200-4827-1
SDG Number: 200-4827

Login Number: 4827
List Number: 1
Creator: Marion, 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	2.9 °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.	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.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	Check done at department level as required.

Sample Login Acknowledgement

Job 200-4827-1

Client Job Description:	Morrill (200-4827)	**Report To:**	Argonne National Laboratory Jorge Alvarado 9700 South Cass Avenue Building 203 Office B-149 Argonne, IL 60439
Purchase Order #:	8E-00302		
Work Order #:	8E-00302		
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 Chief Financial Offices 9700 S. Cass Ave. Building 201 Argonne, IL 60439
Earliest Deliverable Due:	5/6/2011		

Login 200-4827

Sample Receipt:	4/22/2011 10:30:00 AM	**Number of Coolers:**	1
Method of Delivery:	FedEx Priority Overnight	**Cooler Temperature(s) (C°):**	2.9;

Lab Sample # / Method	Client Sample ID / Method Description / Work Location	Date Sampled	Matrix	Rpt Basis	Dry / Wet **
200-4827-1	**MRMW1D-W-30039**	**4/20/2011 12:00:00 AM**	**Water**		
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab			Total	Wet
200-4827-2	**MRMW6S-W-30044**	**4/20/2011 12:00:00 AM**	**Water**		
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab			Total	Wet
200-4827-3	**MRMW4S-W-30042**	**4/21/2011 12:00:00 AM**	**Water**		
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab			Total	Wet
200-4827-4	**MRRILLINGER-W-30051**	**4/21/2011 12:00:00 AM**	**Water**		
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab			Total	Wet
200-4827-5	**MRQCTB-W-30061**	**4/21/2011 12:00:00 AM**	**Water**		
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab			Total	Wet
200-4827-6	**VHBLK01**	**4/22/2011 12:45:00 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: 200-4827

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.: MORRIL Mod. Ref No.: _____ SDG No.: 200-4827

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	MRMW1D-W-30039	85	84	69	153	99	109	97
03	MRMW6S-W-30044	79	81	66	153	92	107	91
04	MRMW4S-W-30042	79	82	69	150	96	107	93
05	MRRILLINGER-W--30051	81	82	67	166 *	95	109	93
06	MRQCTB-W-30061	80	79	68	156 *	91	103	91
07	VHBLK01	76	79	66	85	90	100	91

			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.: MORRIL Mod. Ref No.: _____ SDG No.: 200-4827

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	MRMW1D-W-30039	87	101	109	182 *	104	108		1
03	MRMW6S-W-30044	85	95	103	173 *	100	100		1
04	MRMW4S-W-30042	84	96	103	171 *	98	106		1
05	MRRILLINGER-W-30051	85	96	107	184 *	99	105		2
06	MRQCTB-W-30061	82	95	99	178 *	93	101		2
07	VHBLK01	81	96	100	98	91	100		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.: MORRIL Mod. Ref No.: SDG No.: 200-4827

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	MRMW1D-W-30039	200-4827-1	JCUH04.D	1052
02	MRMW6S-W-30044	200-4827-2	JCUH05.D	1117
03	MRMW4S-W-30042	200-4827-3	JCUH06.D	1142
04	MRRILLINGER-W-30051	200-4827-4	JCUH07.D	1207
05	MRQCTB-W-30061	200-4827-5	JCUH08.D	1233
06	VHBLK01	200-4827-6	JCUH09.D	1258

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.: MORRIL Mod. Ref No.: SDG No.: 200-4827

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.: MORRIL Mod. Ref No.: SDG No.: 200-4827

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	MRMW1D-W-30039	200-4827-1	JCUH04.D	04/25/2011	1052
04	MRMW6S-W-30044	200-4827-2	JCUH05.D	04/25/2011	1117
05	MRMW4S-W-30042	200-4827-3	JCUH06.D	04/25/2011	1142
06	MRRILLINGER-W-30051	200-4827-4	JCUH07.D	04/25/2011	1207
07	MRQCTB-W-30061	200-4827-5	JCUH08.D	04/25/2011	1233
08	VHBLK01	200-4827-6	JCUH09.D	04/25/2011	1258
09	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.: MORRIL Mod. Ref No.: SDG No.: 200-4827

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	MRMW1D-W-30039	726089		8.93		909273		5.57		334524		11.76	
03	MRMW6S-W-30044	737867		8.93		901714		5.58		345727		11.76	
04	MRMW4S-W-30042	742937		8.93		921794		5.58		336699		11.76	
05	MRRILLINGER-W-30051	682204		8.93		849803		5.58		315755		11.76	
06	MRQCTB-W-30061	728788		8.93		895799		5.58		338760		11.76	
07	VHBLK01	713914		8.93		909313		5.58		334563		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.
MRMW1D-W-30039

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-4827

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4827-1

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH04.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	0.60	J B
75-15-0	Carbon disulfide	0.16	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	0.039	J
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.
MRMW1D-W-30039

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-4827

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4827-1

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH04.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	0.021	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	0.013	J
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.052	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.
MRMW1D-W-30039

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-4827

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4827-1

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH04.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	3.3	B X J
02	541-05-9	Cyclotrisiloxane, hexamethyl-	7.85	1.4	B J N
03		Unknown siloxane derivative	10.69	1.6	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.
MRMW4S-W-30042

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-4827

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4827-3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH06.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	1.1	J B
75-15-0	Carbon disulfide	0.083	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	0.15	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.
MRMW4S-W-30042

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-4827

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4827-3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH06.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	0.029	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	0.0081	J
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.033	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.
MRMW4S-W-30042

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-4827

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4827-3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH06.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	3.3	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.
MRMW6S-W-30044

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302
Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-4827
Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4827-2
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH05.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	1.1	J B
75-15-0	Carbon disulfide	0.098	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	0.035	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.
MRMW6S-W-30044

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-4827

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4827-2

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH05.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	0.019	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	0.022	J
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.064	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.
MRMW6S-W-30044

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-4827

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4827-2

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH05.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	3.3	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.
MRQCTB-W-30061

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-4827

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4827-5

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH08.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	4.0	J B
75-15-0	Carbon disulfide	0.083	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	0.023	J
71-43-2	Benzene	0.025	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.
MRQCTB-W-30061

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-4827

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4827-5

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH08.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	0.51	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	0.11	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.
MRQCTB-W-30061

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-4827

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4827-5

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH08.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	3.0	B X J
02	E966796[1]	Total Alkanes	N/A	40	J

[1] EPA-designated Registry Number.

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

EPA SAMPLE NO.
MRRILLINGER-W-300

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-4827

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4827-4

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH07.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	1.2	J B
75-15-0	Carbon disulfide	0.078	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	0.39	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.
MRRILLINGER-W-300

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-4827

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4827-4

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH07.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	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.036	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.
MRRILLINGER-W-300

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-4827

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4827-4

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH07.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	E9667961	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.: MORRIL Mod. Ref No.: SDG No.: 200-4827

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
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.: MORRIL Mod. Ref No.: SDG No.: 200-4827

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.: MORRIL Mod. Ref No.: SDG No.: 200-4827

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.: MORRIL Mod. Ref No.: SDG No.: 200-4827

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.: MORRIL Mod. Ref No.: SDG No.: 200-4827

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
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.: MORRIL Mod. Ref No.: SDG No.: 200-4827

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
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.: MORRIL Mod. Ref No.: SDG No.: 200-4827

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
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.: MORRIL Mod. Ref No.: SDG No.: 200-4827

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.: MORRIL Mod. Ref No.: SDG No.: 200-4827

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

Lab File Id: JC0H14.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
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.: MORRIL Mod. Ref No.: SDG No.: 200-4827

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.: MORRIL Mod. Ref No.: SDG No.: 200-4827

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.: MORRIL Mod. Ref No.: SDG No.: 200-4827

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.: MORRIL Mod. Ref No.: SDG No.: 200-4827

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4827-6

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH09.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	0.66	J B
75-15-0	Carbon disulfide	0.075	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	0.50	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.: MORRIL Mod. Ref No.: SDG No.: 200-4827

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4827-6

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH09.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.: MORRIL Mod. Ref No.: SDG No.: 200-4827

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-4827-6

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: JCUH09.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	3.0	B X J
02	E966796 [1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 200-7357-1

SDG Number: 200-7357

Job Description: Morrill (200-7357)

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 11:10 AM

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

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CASE NARRATIVE

Client: Argonne National Laboratory

Project: Morrill (200-7357)

Report Number: 200-7357-1

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 10/05/2011. 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 sample MRMW11S-W-3007 in order to provide quantification within the range of calibrated instrument response. Both sets of results for the analysis of sample MRMW11S-W-3007 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 bromomethane, acetone, carbon disulfide, methylene chloride, carbon tetrachloride, toluene, m,p-xylene, 1,3-dichlorobenzene, 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 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. Trace concentrations of carbon disulfide and carbon tetrachloride were identified in the analysis of the storage blank associated with the sample set. 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 storage blank analysis. Trace concentrations of carbon disulfide, carbon tetrachloride, and toluene were identified in the analysis of the instrument 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 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: 200-7357-1
Sdg Number: 200-7357

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: Morrill, KS
SAMPLER(S) (Signature): Travis Kemler / Matt

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
Oct 3, 2011	MRSH2-W-30063	2	2	2 x 40 mL for VOC
Oct 4, 2011	MRMW2S-W-30069	2	2	/
/ /	MRMW4S-W-30071	2	2	/
	MRMW11S-W-30078	2	2	/
Oct 4 2011	MRQCTB-W-30090	2	2	2x40mL for VOC

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
	10-4-11	17:00					

Relinquished by (Signature)	Date	Time	Received for Laboratory by	Date	Time	Remarks
				10/5/11	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-150 (12-94)

TestAmerica Burlington

INTERNAL CHAIN OF CUSTODY LOG (ICOC)

Project Information:	
Log In #: 200-7357	Method: SOM01.2_Vol_Tr
Client: ARGLAB	LAB IDs: 200-7357-1 THRU 5

Samples associated with this log-in were placed into storage on 10/5/2011 (Date) 1536 (Time[2]) by: *Sample Custodian Signature*

Storage Location: VOA FRIDGE A, SHELF 6 *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]
✓		7357 1-5	10/6/11	0630	✓			JH	JH	Screen
✓		"	10/7/11	0640			✓	JH	JH	Storage
✓		"	10/7/11	0800		✓		JH	JH	Analysis
✓		"	10/7/11	0810			✓	JH	JH	Storage

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

[2] Military Time

TestAmerica Burlington

INTERNAL CHAIN OF CUSTODY LOG (ICOC)

Project Information:	
Log In #: 200-7357	Method: SOM01.2_Vol_Tr
Client: ARGLAB	LAB IDs: 200-7357-6

Samples associated with this log-In were placed into storage on 10/5/2011 (Date) 1536 (Time[2]) by: *Sample Custodian Signature*

Storage Location: VOA FRIDGE A, SHELF 6 *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]
✓		7357-6	10/7/11	0800		✓		JA	JA	Analysis
✓		"	10/7/11	0810			✓	JA	JA	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 9218 1280

Form ID No. 0200

FedEx Retrieval Co

1 From

Date

Sender's FedEx Account Number

Sender's Name

Phone

Company

Address

Dept./Floor/Suite/Room

City

State

ZIP

2 Your Internal Billing Reference

3 To

Recipient's Name

Phone

Company

Address

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City

State

ZIP

01 ☐ HOLD Weekday
FedEx location address REQUIRED. NOT available for FedEx First Overnight.

31 ☐ HOLD Saturday
FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

8757 9218 1280

4 Express Package Service * To most locations.

NOTE: Service order has changed. Please select carefully.

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

Next Business Day ***

06 ☐ FedEx First Overnight
Earliest next business morning delivery to select locations. Priority shipments will be delivered on Monday unless SATURDAY Delivery is selected.

01 ☒ FedEx Priority Overnight
Next business morning.* Priority shipments will be delivered on Monday unless SATURDAY Delivery is selected.

05 ☐ FedEx Standard Overnight
Next business afternoon.* Saturday Delivery NOT available.

2nd or 3rd Business Day ***

49 ☐ NEW FedEx 2Day A.M.
Second business morning.* Saturday Delivery NOT available.

03 ☐ FedEx 2Day
Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

20 ☐ FedEx Express Saver
Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

06 ☐ FedEx Envelope* 02 ☐ FedEx Pak* 03 ☐ FedEx Box 04 ☐ FedEx Tube 01 ☒ Ot

6 Special Handling and Delivery Signature Options

03 ☐ **SATURDAY DELIVERY**

☐ No Signature Required
Package may be left without obtaining a signature for delivery.

10 ☐ Direct Signature
Someone at recipient's address may sign for delivery. Fee applies.

34 ☐ Indirect Signature
If no one is available at recipient's address, someone at a neighboring address may sign for delivery. Fee applies. Not available for residential deliveries only. Fee ap

Does this shipment contain dangerous goods?

One box must be checked.

☒ No 04 ☐ Yes
As per attached Shipper's Declaration

☐ Yes
Shipper's Declaration not required.

06 ☐ Dry Ice
Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

☐ Cargo Aircraft Only

7 Payment *Bill to:*

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

Obtain recip. Acct. No.

1 ☒ Sender Acct. No. in Section 1 will be billed

2 ☐ Recipient 3 ☐ Third Party 4 ☐ Credit Card 5 ☐ Cash/C

Total Packages

Total Weight

lbs.

Credit Card Auth.

†Our liability is limited to $100 unless you declare a higher value. See the current FedEx Service Guide for details.

612

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Login Sample Receipt Checklist

Client: Argonne National Laboratory

Job Number: 200-7357-1
SDG Number: 200-7357

Login Number: 7357
List Number: 1
Creator: Holt, 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	NO CUSTODY 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	2.6°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.	False	Both vials for one sample not labled. Sample ID assigned by elimination process.
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 were 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	

Sample Login Acknowledgement

Job 200-7357-1

Client Job Description:	Morrill (200-7357)	**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:	10/19/2011		
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:	10/19/2011		

Login 200-7357

Sample Receipt:	10/5/2011 10:20:00 AM	**Number of Coolers:**	1
Method of Delivery:	FedEx Priority Overnight	**Cooler Temperature(s) (C°):**	2.6;

Lab Sample # / Method	Client Sample ID / Method Description / Work Location	Date Sampled	Matrix	Rpt Basis	Dry / Wet **
200-7357-1	**MRSM2-W-30063**	**10/3/2011 12:00:00 AM**	**Water**		
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab			Total	Wet
200-7357-2	**MRMW2S-W-30069**	**10/4/2011 12:00:00 AM**	**Water**		
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab			Total	Wet
200-7357-3	**MRMW4S-W-30071**	**10/4/2011 12:00:00 AM**	**Water**		
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab			Total	Wet
200-7357-4	**MRMW11S-W-30078**	**10/4/2011 12:00:00 AM**	**Water**		
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab			Total	Wet
200-7357-5	**MRQCTB-W-30090**	**10/4/2011 12:00:00 AM**	**Water**		
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab			Total	Wet
200-7357-6	**VHBLK01**	**10/5/2011 3:30:00 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:	200-7357

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.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Level: (TRACE or LOW) TRACE

	EPA SAMPLE NO.	VDMC1 (VCL) #	VDMC2 (CLA) #	VDMC3 (DCE) #	VDMC4 (BUT) #	VDMC5 (CLF) #	VDMC6 (DCA) #	VDMC7 (BEN) #
01	VBLKDJ	100	99	74	94	95	96	104
02	MRQCTB-W-30090	89	88	69	74	85	86	96
03	MRSM2-W-30063	88	90	70	157 *	87	88	96
04	MRMW2S-W-30069	85	87	68	157 *	85	86	93
05	MRMW4S-W-30071	94	96	76	190 *	94	94	103
06	MRMW11S-W-30078	92	94	73	185 *	92	92	101
07	MRMW11S-W-30078DL	90	91	71	150	87	86	97
08	VHBLK01	92	94	73	90	91	94	98

			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.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Level: (TRACE or LOW) TRACE

	EPA SAMPLE NO.	VDMC8 (DPA) #	VDMC9 (TOL) #	VDMC10 (TDP) #	VDMC11 (HEX) #	VDMC12 (TCA) #	VDMC13 (DCZ) #	OTHER	TOT OUT
01	VBLKDJ	105	102	99	99	89	111		0
02	MRQCTB-W-30090	93	92	87	80	77	94		0
03	MRSM2-W-30063	92	94	88	187 *	77	98		2
04	MRMW2S-W-30069	91	91	85	178 *	77	98		2
05	MRMW4S-W-30071	100	100	96	227 *	85	107		2
06	MRMW11S-W-30078	96	97	95	217 *	83	106		2
07	MRMW11S-W-30078DL	93	95	87	179 *	75	99		1
08	VHBLK01	96	97	93	92	84	103		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.
VBLKDJ

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Lab File ID: DHTA03.D Lab Sample ID: MB 200-26380/3

Instrument ID: D.i

Matrix: (SOIL/SED/WATER) Water Date Analyzed: 10/07/2011

Level: (TRACE or LOW/MED) TRACE Time Analyzed: 0754

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	MRQCTB-W-30090	200-7357-5	DHTA04.D	0835
02	MRSM2-W-30063	200-7357-1	DHTA05.D	0859
03	MRMW2S-W-30069	200-7357-2	DHTA06.D	0924
04	MRMW4S-W-30071	200-7357-3	DHTA07.D	0949
05	MRMW11S-W-30078	200-7357-4	DHTA08.D	1014
06	VIBLKDM	VIBLK 200-26380/9	DHTA09.D	1038
07	MRMW11S-W-30078DL	200-7357-4	DHTA10.D	1115
08	VHBLK01	200-7357-6	DHTA11.D	1140

COMMENTS:

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

EPA SAMPLE NO.
BFBDI

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Lab File Id: DHT01.D BFB Injection Date: 10/06/2011

Instrument Id: D.i BFB Injection Time: 1158

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.3
75	30.0 - 80.0% of mass 95	50.7
95	Base peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.9 (1.0)1
174	50.0 - 120% of mass 95	86.5
175	5.0 - 9.0% of mass 174	6.1 (7.1)1
176	95.0 - 101% of mass 174	84.1 (97.2)1
177	5.0 - 9.0% of mass 176	5.8 (6.9)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	VSTD0.5DI	IC 200-26335/5	DHT05.D	10/06/2011	1331
02	VSTD001DI	IC 200-26335/6	DHT06.D	10/06/2011	1356
03	VSTD005DI	ICIS 200-26335/7	DHT07.D	10/06/2011	1421
04	VSTD010DI	IC 200-26335/8	DHT08.D	10/06/2011	1446
05	VSTD020DI	IC 200-26335/9	DHT09.D	10/06/2011	1511

5A - FORM V VOA

VOLATILE ORGANICS INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFBDJ

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Lab File Id: DHTA01.D BFB Injection Date: 10/07/2011

Instrument Id: D.i BFB Injection Time: 0715

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.0
75	30.0 - 80.0% of mass 95	52.1
95	Base peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.8 (1.0)1
174	50.0 - 120% of mass 95	87.0
175	5.0 - 9.0% of mass 174	6.2 (7.1)1
176	95.0 - 101% of mass 174	84.0 (96.6)1
177	5.0 - 9.0% of mass 176	5.6 (6.7)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	VSTD005DJ	CCVIS 200-26380/2	DHTA02.D	10/07/2011	0730
02	VBLKDJ	MB 200-26380/3	DHTA03.D	10/07/2011	0754
03	MRQCTB-W-30090	200-7357-5	DHTA04.D	10/07/2011	0835
04	MRSM2-W-30063	200-7357-1	DHTA05.D	10/07/2011	0859
05	MRMW2S-W-30069	200-7357-2	DHTA06.D	10/07/2011	0924
06	MRMW4S-W-30071	200-7357-3	DHTA07.D	10/07/2011	0949
07	MRMW11S-W-30078	200-7357-4	DHTA08.D	10/07/2011	1014
08	VIBLKDM	VIBLK 200-26380/9	DHTA09.D	10/07/2011	1038
09	MRMW11S-W-30078DL	200-7357-4	DHTA10.D	10/07/2011	1115
10	VHBLK01	200-7357-6	DHTA11.D	10/07/2011	1140
11	VSTD005JD	CCVC 200-26380/25	DHTA25.D	10/07/2011	1844

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

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

GC Column: DB-624 ID: 0.20 (mm) Init. Calib. Date(s): 10/06/2011 10/06/2011

EPA Sample No.(VSTD#####): VSTD005DJ Date Analyzed: 10/07/2011

Lab File ID (Standard): DHTA02.D Time Analyzed: 0730

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

		IS1 (CBZ) AREA	#	RT	#	IS2 (DFB) AREA	#	RT	#	IS3 (DCB) AREA	#	RT	#
	12 HOUR STD	223812		8.70		248339		5.34		122650		11.53	
	UPPER LIMIT	313337		9.03		347675		5.67		171710		11.86	
	LOWER LIMIT	134287		8.37		149003		5.01		73590		11.20	
	EPA SAMPLE NO.												
01	VBLKDJ	209353		8.70		239111		5.34		93064		11.53	
02	MRQCTB-W-30090	216231		8.70		250061		5.34		97684		11.53	
03	MRSM2-W-30063	225673		8.70		254856		5.34		97077		11.53	
04	MRMW2S-W-30069	229479		8.70		258445		5.34		100373		11.53	
05	MRMW4S-W-30071	216416		8.70		244940		5.34		94014		11.53	
06	MRMW11S-W-30078	224553		8.70		253967		5.34		96206		11.53	
07	VIBLKDM	230899		8.70		260154		5.34		99477		11.53	
08	MRMW11S-W-30078DL	216655		8.70		248053		5.34		91727		11.53	
09	VHBLK01	211281		8.70		235530		5.34		93390		11.53	

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.
MRMW11S-W-30078

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7357-4

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA08.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/05/2011

% Moisture: not dec. Date Analyzed: 10/07/2011

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	1.1	J B
75-15-0	Carbon disulfide	0.038	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	0.85	
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	38	E B
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.
MRMW11S-W-30078

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7357-4

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA08.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/05/2011

% Moisture: not dec. Date Analyzed: 10/07/2011

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	0.024	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	0.0082	J B
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.
MRMW11S-W-30078

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7357-4

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA08.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/05/2011

% Moisture: not dec. Date Analyzed: 10/07/2011

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	6.67	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.
MRMW11S-W-30078DL

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7357-4

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA10.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/05/2011

% Moisture: not dec. Date Analyzed: 10/07/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 2.2

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	1.1	U
74-87-3	Chloromethane	1.1	U
75-01-4	Vinyl chloride	1.1	U
74-83-9	Bromomethane	1.1	U
75-00-3	Chloroethane	1.1	U
75-69-4	Trichlorofluoromethane	1.1	U
75-35-4	1,1-Dichloroethene	1.1	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.1	U
67-64-1	Acetone	11	U
75-15-0	Carbon disulfide	0.078	J D B
79-20-9	Methyl acetate	1.1	U
75-09-2	Methylene Chloride	1.1	U
156-60-5	trans-1,2-Dichloroethene	1.1	U
1634-04-4	Methyl tert-butyl ether	1.1	U
75-34-3	1,1-Dichloroethane	1.1	U
156-59-2	cis-1,2-Dichloroethene	1.1	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	1.1	U
67-66-3	Chloroform	0.84	J D
71-55-6	1,1,1-Trichloroethane	1.1	U
110-82-7	Cyclohexane	1.1	U
56-23-5	Carbon tetrachloride	35	D B
71-43-2	Benzene	1.1	U
107-06-2	1,2-Dichloroethane	1.1	U

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

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

EPA SAMPLE NO.
MRMW11S-W-30078DL

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7357-4

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA10.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/05/2011

% Moisture: not dec. Date Analyzed: 10/07/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 2.2

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	1.1	U
108-87-2	Methylcyclohexane	1.1	U
78-87-5	1,2-Dichloropropane	1.1	U
75-27-4	Bromodichloromethane	1.1	U
10061-01-5	cis-1,3-Dichloropropene	1.1	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	0.033	J D B
10061-02-6	trans-1,3-Dichloropropene	1.1	U
79-00-5	1,1,2-Trichloroethane	1.1	U
127-18-4	Tetrachloroethene	1.1	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	1.1	U
106-93-4	1,2-Dibromoethane	1.1	U
108-90-7	Chlorobenzene	1.1	U
100-41-4	Ethylbenzene	1.1	U
95-47-6	o-Xylene	1.1	U
179601-23-1	m,p-Xylene	0.020	J D B
100-42-5	Styrene	1.1	U
75-25-2	Bromoform	1.1	U
98-82-8	Isopropylbenzene	1.1	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U
541-73-1	1,3-Dichlorobenzene	1.1	U
106-46-7	1,4-Dichlorobenzene	1.1	U
95-50-1	1,2-Dichlorobenzene	1.1	U
96-12-8	1,2-Dibromo-3-Chloropropane	1.1	U
120-82-1	1,2,4-Trichlorobenzene	1.1	U
87-61-6	1,2,3-Trichlorobenzene	1.1	U

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

EPA SAMPLE NO.
MRMW11S-W-30078DL

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7357-4

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA10.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/05/2011

% Moisture: not dec. Date Analyzed: 10/07/2011

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 2.2

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	6.67	6.4	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.
MRMW2S-W-30069

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7357-2

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA06.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/05/2011

% Moisture: not dec. Date Analyzed: 10/07/2011

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	0.036	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	0.043	J B
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.
MRMW2S-W-30069

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7357-2

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA06.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/05/2011

% Moisture: not dec. Date Analyzed: 10/07/2011

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	0.025	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	0.021	J B
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.
MRMW2S-W-30069

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7357-2

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA06.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/05/2011

% Moisture: not dec. Date Analyzed: 10/07/2011

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	6.67	3.0	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.
MRMW4S-W-30071

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7357-3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA07.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/05/2011

% Moisture: not dec. Date Analyzed: 10/07/2011

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	0.98	J B
75-15-0	Carbon disulfide	0.037	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	0.11	J B
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.
MRMW4S-W-30071

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7357-3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA07.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/05/2011

% Moisture: not dec. Date Analyzed: 10/07/2011

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	0.013	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	0.0052	J B
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.
MRMW4S-W-30071

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7357-3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA07.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/05/2011

% Moisture: not dec. Date Analyzed: 10/07/2011

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	6.67	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.
MRQCTB-W-30090

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7357-5

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA04.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/05/2011

% Moisture: not dec. Date Analyzed: 10/07/2011

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	2.5	J B
75-15-0	Carbon disulfide	0.065	J B
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.017	J B
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	0.045	J
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.016	J B
71-43-2	Benzene	0.050	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.
MRQCTB-W-30090

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7357-5

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA04.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/05/2011

% Moisture: not dec. Date Analyzed: 10/07/2011

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	0.15	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	0.016	J
95-47-6	o-Xylene	0.032	J
179601-23-1	m,p-Xylene	0.042	J B
100-42-5	Styrene	0.030	J
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	0.024	J B
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.
MRQCTB-W-30090

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7357-5

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA04.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/05/2011

% Moisture: not dec. Date Analyzed: 10/07/2011

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	6.67	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.
MRSM2-W-30063

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7357-1

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA05.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/05/2011

% Moisture: not dec. Date Analyzed: 10/07/2011

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	1.4	J B
75-15-0	Carbon disulfide	0.042	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	0.045	J B
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.
MRSM2-W-30063

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7357-1

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA05.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/05/2011

% Moisture: not dec. Date Analyzed: 10/07/2011

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	0.24	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	0.0032	J B
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.
MRSM2-W-30063

Lab Name: TESTAMERICA BURLINGTON | Contract: 8E-00302

Lab Code: STLV | Case No.: MORRIL | Mod. Ref No.: | SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water | Lab Sample ID: 200-7357-1

Sample wt/vol: 25.0 (g/mL) mL | Lab File ID: DHTA05.D

Level: (TRACE or LOW/MED) TRACE | Date Received: 10/05/2011

% Moisture: not dec. | Date Analyzed: 10/07/2011

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	6.67	3.0	B X J
02	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: 6E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Instrument ID: D.i Calibration Date(s): 10/06/2011 10/06/2011

Heated Purge: (Y/N) N Calibration Time(s): 1331 1511

Purge Volume: 25.0 (mL)

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

LAB FILE ID: RRF0.5 = DHT05.D RRF1.0 = DHT06.D

RRF5.0 = DHT07.D RRF10 = DHT08.D RRF20 = DHT09.D

COMPOUND	RRF0.5	RRF1.0	RRF5.0	RRF10	RRF20	RRF	%RSD
Dichlorodifluoromethane	0.673	0.704	0.619	0.638	0.662	0.659	5.0
Chloromethane	0.743	0.778	0.669	0.691	0.703	0.717	6.0
Vinyl chloride	0.622	0.669	0.607	0.634	0.663	0.639	4.2
Bromomethane	0.278	0.306	0.285	0.318	0.341	0.306	8.4
Chloroethane	0.359	0.386	0.332	0.347	0.366	0.358	5.6
Trichlorofluoromethane	0.796	0.854	0.750	0.779	0.806	0.797	4.8
1,1-Dichloroethene	0.370	0.427	0.383	0.409	0.433	0.404	6.7
1,1,2-Trichloro-1,2,2-trifluoroethane	0.456	0.492	0.450	0.466	0.489	0.471	4.0
Acetone	0.037	0.033	0.026	0.025	0.026	0.029	18.1
Carbon disulfide	1.092	1.169	1.060	1.106	1.141	1.114	3.8
Methyl acetate	0.106	0.099	0.072	0.070	0.071	0.084	20.5
Methylene Chloride	0.336	0.368	0.325	0.333	0.337	0.340	4.8
trans-1,2-Dichloroethene	0.431	0.447	0.387	0.402	0.412	0.416	5.7
Methyl tert-butyl ether	0.476	0.540	0.482	0.497	0.518	0.503	5.3
1,1-Dichloroethane	0.700	0.746	0.663	0.682	0.696	0.697	4.4
cis-1,2-Dichloroethene	0.310	0.345	0.342	0.354	0.368	0.344	6.3
2-Butanone	0.038	0.045	0.042	0.043	0.044	0.042	5.8
Bromochloromethane	0.103	0.116	0.104	0.108	0.112	0.109	5.0
Chloroform	0.623	0.687	0.620	0.635	0.649	0.643	4.2
1,1,1-Trichloroethane	0.630	0.699	0.612	0.622	0.607	0.634	5.9
Cyclohexane	0.625	0.790	0.784	0.814	0.796	0.762	10.1
Carbon tetrachloride	0.565	0.632	0.566	0.575	0.570	0.582	4.8
Benzene	1.719	1.938	1.691	1.695	1.677	1.744	6.3
1,2-Dichloroethane	0.297	0.346	0.310	0.306	0.325	0.317	6.0
Trichloroethene	0.403	0.435	0.390	0.405	0.404	0.407	4.0
Methylcyclohexane	0.590	0.687	0.666	0.682	0.668	0.659	5.9

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.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Instrument ID: D.i Calibration Date(s): 10/06/2011 10/06/2011

Heated Purge: (Y/N) N Calibration Time(s): 1331 1511

Purge Volume: 25.0 (mL)

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

LAB FILE ID: RRF0.5 = DHT05.D RRF1.0 = DHT06.D

RRF5.0 = DHT07.D RRF10 = DHT08.D RRF20 = DHT09.D

COMPOUND	RRF0.5	RRF1.0	RRF5.0	RRF10	RRF20	RRF	%RSD
1,2-Dichloropropane	0.388	0.432	0.380	0.378	0.380	0.392	5.8
Bromodichloromethane	0.374	0.426	0.379	0.387	0.385	0.390	5.3
cis-1,3-Dichloropropene	0.366	0.459	0.488	0.497	0.502	0.462	12.2
4-Methyl-2-pentanone	0.086	0.107	0.112	0.114	0.114	0.107	11.2
Toluene	1.599	1.942	1.813	1.851	1.860	1.813	7.1
trans-1,3-Dichloropropene	0.268	0.343	0.352	0.372	0.382	0.343	13.1
1,1,2-Trichloroethane	0.174	0.197	0.167	0.172	0.174	0.177	6.6
Tetrachloroethene	0.350	0.395	0.352	0.366	0.375	0.368	5.0
2-Hexanone	0.059	0.079	0.078	0.078	0.080	0.075	12.0
Dibromochloromethane	0.183	0.215	0.202	0.212	0.220	0.206	7.0
1,2-Dibromoethane	0.138	0.165	0.149	0.153	0.161	0.153	6.9
Chlorobenzene	1.069	1.210	1.073	1.105	1.138	1.119	5.2
Ethylbenzene	1.663	2.054	2.103	2.220	2.276	2.063	11.7
o-Xylene	0.519	0.677	0.747	0.811	0.859	0.723	18.4
m,p-Xylene	0.599	0.744	0.798	0.845	0.877	0.772	14.1
Styrene	0.771	1.076	1.153	1.259	1.342	1.120	19.6
Bromoform	0.159	0.179	0.164	0.176	0.188	0.173	6.6
Isopropylbenzene	1.396	1.920	2.125	2.302	2.415	2.031	19.8
1,1,2,2-Tetrachloroethane	0.179	0.200	0.185	0.186	0.194	0.189	4.3
1,3-Dichlorobenzene	1.373	1.526	1.507	1.613	1.729	1.550	8.5
1,4-Dichlorobenzene	1.771	1.822	1.585	1.632	1.712	1.704	5.7
1,2-Dichlorobenzene	1.360	1.428	1.352	1.391	1.459	1.398	3.3
1,2-Dibromo-3-Chloropropane	0.031	0.044	0.040	0.043	0.044	0.041	13.0
1,2,4-Trichlorobenzene	0.694	0.719	0.774	0.895	1.001	0.817	15.8
1,2,3-Trichlorobenzene	0.543	0.603	0.599	0.669	0.737	0.630	11.8

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

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Instrument ID: D.i Calibration Date(s): 10/06/2011 10/06/2011

Heated Purge: (Y/N) N Calibration Time(s): 1331 1511

Purge Volume: 25.0 (mL)

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

LAB FILE ID: RRF0.5 = DHT05.D RRF1.0 = DHT06.D

RRF5.0 = DHT07.D RRF10 = DHT08.D RRF20 = DHT09.D

COMPOUND	RRF0.5	RRF1.0	RRF5.0	RRF10	RRF20	RRF	%RSD
Vinyl Chloride-d3	0.582	0.631	0.561	0.582	0.611	0.593	4.7
Chloroethane-d5	0.449	0.483	0.413	0.434	0.454	0.446	5.8
1,1-Dichloroethene-d2	0.844	0.919	0.823	0.850	0.874	0.862	4.2
2-Butanone-d5	0.039	0.039	0.037	0.037	0.040	0.039	2.8
Chloroform-d	0.674	0.702	0.633	0.651	0.664	0.665	3.9
1,2-Dichloroethane-d4	0.260	0.279	0.238	0.244	0.247	0.253	6.5
Benzene-d6	1.531	1.718	1.533	1.528	1.514	1.565	5.5
1,2-Dichloropropane-d6	0.407	0.469	0.408	0.404	0.405	0.418	6.7
Toluene-d8	1.320	1.582	1.473	1.512	1.526	1.483	6.7
trans-1,3-Dichloropropene-d4	0.254	0.284	0.290	0.313	0.325	0.293	9.3
2-Hexanone-d5	0.021	0.030	0.036	0.038	0.040	0.033	23.4
1,1,2,2-Tetrachloroethane-d2	0.184	0.205	0.182	0.188	0.194	0.190	4.9
1,2-Dichlorobenzene-d4	0.796	0.868	0.793	0.831	0.883	0.834	4.9

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.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Instrument ID: D.i Calibration Date: 10/07/2011 Time: 0730

Lab File Id: DHTA02.D Init. Calib. Date(s): 10/06/2011 10/06/2011

EPA Sample No.(VSTD####): VSTD005DJ Init. Calib. Time(s): 1331 1511

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	0.659	0.648	0.010	-1.7	40.0
Chloromethane	0.717	0.705	0.010	-1.7	40.0
Vinyl chloride	0.639	0.626	0.010	-2.0	30.0
Bromomethane	0.306	0.308	0.010	0.7	30.0
Chloroethane	0.358	0.347	0.010	-3.2	40.0
Trichlorofluoromethane	0.797	0.781	0.010	-2.0	40.0
1,1-Dichloroethene	0.404	0.397	0.010	-1.8	30.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.471	0.470	0.010	-0.2	40.0
Acetone	0.029	0.022	0.010	-23.7	40.0
Carbon disulfide	1.114	1.127	0.010	1.2	40.0
Methyl acetate	0.084	0.067	0.010	-19.5	40.0
Methylene Chloride	0.340	0.335	0.010	-1.4	40.0
trans-1,2-Dichloroethene	0.416	0.365	0.010	-12.3	40.0
Methyl tert-butyl ether	0.503	0.396	0.010	-21.3	40.0
1,1-Dichloroethane	0.697	0.671	0.010	-3.8	30.0
cis-1,2-Dichloroethene	0.344	0.338	0.010	-1.7	40.0
2-Butanone	0.042	0.035	0.010	-16.5	40.0
Bromochloromethane	0.109	0.103	0.010	-4.8	30.0
Chloroform	0.643	0.617	0.010	-4.1	30.0
1,1,1-Trichloroethane	0.634	0.636	0.010	0.3	30.0
Cyclohexane	0.762	0.817	0.010	7.2	40.0
Carbon tetrachloride	0.582	0.596	0.010	2.4	30.0
Benzene	1.744	1.765	0.010	1.2	30.0
1,2-Dichloroethane	0.317	0.294	0.010	-7.3	30.0
Trichloroethene	0.407	0.406	0.010	-0.3	30.0
Methylcyclohexane	0.659	0.699	0.010	6.2	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.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Instrument ID: D.i Calibration Date: 10/07/2011 Time: 0730

Lab File Id: DHTA02.D Init. Calib. Date(s): 10/06/2011 10/06/2011

EPA Sample No.(VSTD####): VSTD005DJ Init. Calib. Time(s): 1331 1511

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	0.392	0.383	0.010	-2.2	40.0
Bromodichloromethane	0.390	0.375	0.010	-4.0	30.0
cis-1,3-Dichloropropene	0.462	0.479	0.010	3.7	30.0
4-Methyl-2-pentanone	0.107	0.099	0.010	-7.2	40.0
Toluene	1.813	1.875	0.010	3.4	30.0
trans-1,3-Dichloropropene	0.343	0.340	0.010	-0.9	30.0
1,1,2-Trichloroethane	0.177	0.161	0.010	-9.0	30.0
Tetrachloroethene	0.368	0.367	0.010	-0.3	30.0
2-Hexanone	0.075	0.069	0.010	-8.5	40.0
Dibromochloromethane	0.206	0.190	0.010	-8.1	30.0
1,2-Dibromoethane	0.153	0.140	0.010	-8.3	40.0
Chlorobenzene	1.119	1.089	0.010	-2.7	30.0
Ethylbenzene	2.063	2.175	0.010	5.4	30.0
o-Xylene	0.723	0.763	0.010	5.6	30.0
m,p-Xylene	0.772	0.820	0.010	6.1	30.0
Styrene	1.120	1.169	0.010	4.4	30.0
Bromoform	0.173	0.159	0.010	-8.1	30.0
Isopropylbenzene	2.031	2.208	0.010	8.7	40.0
1,1,2,2-Tetrachloroethane	0.189	0.169	0.010	-10.6	30.0
1,3-Dichlorobenzene	1.550	1.501	0.010	-3.1	30.0
1,4-Dichlorobenzene	1.704	1.603	0.010	-5.9	30.0
1,2-Dichlorobenzene	1.398	1.330	0.010	-4.9	30.0
1,2-Dibromo-3-Chloropropane	0.041	0.035	0.010	-13.1	40.0
1,2,4-Trichlorobenzene	0.817	0.732	0.010	-10.3	30.0
1,2,3-Trichlorobenzene	0.630	0.566	0.010	-10.2	30.0

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

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Instrument ID: D.i Calibration Date: 10/07/2011 Time: 0730

Lab File Id: DHTA02.D Init. Calib. Date(s): 10/06/2011 10/06/2011

EPA Sample No.(VSTD####): VSTD005DJ Init. Calib. Time(s): 1331 1511

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	0.593	0.578	0.010	-2.6	30.0
Chloroethane-d5	0.446	0.429	0.010	-3.8	40.0
1,1-Dichloroethene-d2	0.862	0.854	0.010	-0.9	30.0
2-Butanone-d5	0.039	0.031	0.010	-19.0	40.0
Chloroform-d	0.665	0.642	0.010	-3.5	30.0
1,2-Dichloroethane-d4	0.253	0.229	0.010	-9.6	30.0
Benzene-d6	1.565	1.575	0.010	0.6	30.0
1,2-Dichloropropane-d6	0.418	0.406	0.010	-3.0	40.0
Toluene-d8	1.483	1.536	0.010	3.6	30.0
trans-1,3-Dichloropropene-d4	0.293	0.277	0.010	-5.5	30.0
2-Hexanone-d5	0.033	0.031	0.010	-7.3	40.0
1,1,2,2-Tetrachloroethane-d2	0.190	0.168	0.010	-12.0	30.0
1,2-Dichlorobenzene-d4	0.834	0.774	0.010	-7.2	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.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Instrument ID: D.i Calibration Date: 10/07/2011 Time: 1844

Lab File Id: DHTA25.D Init. Calib. Date(s): 10/06/2011 10/06/2011

EPA Sample No.(VSTD####): VSTD005JD Init. Calib. Time(s): 1331 1511

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	0.659	0.602	0.010	-8.7	50.0
Chloromethane	0.717	0.660	0.010	-8.0	50.0
Vinyl chloride	0.639	0.584	0.100	-8.6	50.0
Bromomethane	0.306	0.286	0.100	-6.5	50.0
Chloroethane	0.358	0.324	0.010	-9.6	50.0
Trichlorofluoromethane	0.797	0.728	0.010	-8.6	50.0
1,1-Dichloroethene	0.404	0.376	0.100	-7.0	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.471	0.447	0.010	-5.0	50.0
Acetone	0.029	0.021	0.010	-30.1	50.0
Carbon disulfide	1.114	1.068	0.010	-4.1	50.0
Methyl acetate	0.084	0.063	0.010	-24.9	50.0
Methylene Chloride	0.340	0.301	0.010	-11.4	50.0
trans-1,2-Dichloroethene	0.416	0.329	0.010	-20.9	50.0
Methyl tert-butyl ether	0.503	0.337	0.010	-32.9	50.0
1,1-Dichloroethane	0.697	0.623	0.200	-10.7	50.0
cis-1,2-Dichloroethene	0.344	0.309	0.010	-10.0	50.0
2-Butanone	0.042	0.030	0.010	-28.3	50.0
Bromochloromethane	0.109	0.090	0.050	-17.1	50.0
Chloroform	0.643	0.568	0.200	-11.7	50.0
1,1,1-Trichloroethane	0.634	0.580	0.100	-8.5	50.0
Cyclohexane	0.762	0.749	0.010	-1.7	50.0
Carbon tetrachloride	0.582	0.555	0.100	-4.6	50.0
Benzene	1.744	1.602	0.400	-8.1	50.0
1,2-Dichloroethane	0.317	0.267	0.100	-15.7	50.0
Trichloroethene	0.407	0.373	0.300	-8.5	50.0
Methylcyclohexane	0.659	0.643	0.010	-2.3	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.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Instrument ID: D.i Calibration Date: 10/07/2011 Time: 1844

Lab File Id: DHTA25.D Init. Calib. Date(s): 10/06/2011 10/06/2011

EPA Sample No.(VSTD####): VSTD005JD Init. Calib. Time(s): 1331 1511

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	0.392	0.339	0.010	-13.4	50.0
Bromodichloromethane	0.390	0.332	0.200	-15.0	50.0
cis-1,3-Dichloropropene	0.462	0.424	0.200	-8.4	50.0
4-Methyl-2-pentanone	0.107	0.083	0.010	-22.4	50.0
Toluene	1.813	1.719	0.400	-5.2	50.0
trans-1,3-Dichloropropene	0.343	0.295	0.100	-14.2	50.0
1,1,2-Trichloroethane	0.177	0.144	0.100	-18.5	50.0
Tetrachloroethene	0.368	0.332	0.100	-9.7	50.0
2-Hexanone	0.075	0.056	0.010	-24.9	50.0
Dibromochloromethane	0.206	0.170	0.100	-17.8	50.0
1,2-Dibromoethane	0.153	0.121	0.010	-20.7	50.0
Chlorobenzene	1.119	0.978	0.500	-12.6	50.0
Ethylbenzene	2.063	1.994	0.100	-3.3	50.0
o-Xylene	0.723	0.687	0.300	-5.0	50.0
m,p-Xylene	0.772	0.745	0.300	-3.5	50.0
Styrene	1.120	1.058	0.300	-5.6	50.0
Bromoform	0.173	0.133	0.050	-23.0	50.0
Isopropylbenzene	2.031	2.010	0.010	-1.1	50.0
1,1,2,2-Tetrachloroethane	0.189	0.146	0.100	-22.7	50.0
1,3-Dichlorobenzene	1.550	1.343	0.400	-13.3	50.0
1,4-Dichlorobenzene	1.704	1.471	0.400	-13.7	50.0
1,2-Dichlorobenzene	1.398	1.175	0.400	-15.9	50.0
1,2-Dibromo-3-Chloropropane	0.041	0.030	0.010	-25.3	50.0
1,2,4-Trichlorobenzene	0.817	0.635	0.200	-22.3	50.0
1,2,3-Trichlorobenzene	0.630	0.487	0.200	-22.6	50.0

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

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Instrument ID: D.i Calibration Date: 10/07/2011 Time: 1844

Lab File Id: DHTA25.D Init. Calib. Date(s): 10/06/2011 10/06/2011

EPA Sample No.(VSTD####): VSTD005JD Init. Calib. Time(s): 1331 1511

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	0.593	0.535	0.010	-9.8	50.0
Chloroethane-d5	0.446	0.406	0.010	-9.0	50.0
1,1-Dichloroethene-d2	0.862	0.793	0.010	-8.0	50.0
2-Butanone-d5	0.039	0.026	0.010	-33.4	50.0
Chloroform-d	0.665	0.585	0.010	-12.0	50.0
1,2-Dichloroethane-d4	0.253	0.205	0.010	-19.2	50.0
Benzene-d6	1.565	1.442	0.010	-7.8	50.0
1,2-Dichloropropane-d6	0.418	0.364	0.010	-13.0	50.0
Toluene-d8	1.483	1.399	0.010	-5.7	50.0
trans-1,3-Dichloropropene-d4	0.293	0.243	0.010	-17.0	50.0
2-Hexanone-d5	0.033	0.024	0.010	-26.4	50.0
1,1,2,2-Tetrachloroethane-d2	0.190	0.149	0.010	-21.6	50.0
1,2-Dichlorobenzene-d4	0.834	0.690	0.010	-17.3	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.
VBLKDJ

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: MB 200-26380/3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA03.D

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

% Moisture: not dec. Date Analyzed: 10/07/2011

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	0.033	J
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	1.1	J
75-15-0	Carbon disulfide	0.086	J
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.039	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	0.018	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.
VBLKDJ

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: MB 200-26380/3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA03.D

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

% Moisture: not dec. Date Analyzed: 10/07/2011

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	0.011	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	0.0038	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	0.040	J
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	0.074	J
87-61-6	1,2,3-Trichlorobenzene	0.079	J

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

EPA SAMPLE NO.
VBLKDJ

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: MB 200-26380/3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA03.D

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

% Moisture: not dec. Date Analyzed: 10/07/2011

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	6.67	3.4	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.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7357-6

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA11.D

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

% Moisture: not dec. Date Analyzed: 10/07/2011

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	0.029	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	0.017	J B
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.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7357-6

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA11.D

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

% Moisture: not dec. Date Analyzed: 10/07/2011

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.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-7357-6

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA11.D

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

% Moisture: not dec. Date Analyzed: 10/07/2011

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	6.67	3.2	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.
VIBLKDM

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: VIBLK 200-26380/9

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA09.D

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

% Moisture: not dec. Date Analyzed: 10/07/2011

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	0.027	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 B
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.
VIBLKDM

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: VIBLK 200-26380/9

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA09.D

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

% Moisture: not dec. Date Analyzed: 10/07/2011

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	0.0043	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.

VIBLKDM

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: MORRIL Mod. Ref No.: SDG No.: 200-7357

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: VIBLK 200-26380/9

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DHTA09.D

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

% Moisture: not dec. Date Analyzed: 10/07/2011

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	6.67	3.0	B X J
02	E966796 [1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

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