Annual Report of Monitoring at Morrill, Kansas, in 2017

Environmental Science Division

United States Department of Agriculture

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

August 2018

United States Department of Agriculture

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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)
IGA	Intergovernmental Agreement
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
MCL	maximum contaminant level
mg/L	milligram(s) per liter
mi	mile(s)
min	minute(s)
mV	millivolt(s)
ORP	oxidation-reduction potential
RBSL	risk-based screening level
RMP	Risk Management Program
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 public 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 public wells was discontinued over time. The water quality problems included high nitrate levels attributed to numerous animal feeding operations in the vicinity and application of fertilizer to surrounding agricultural lands, as well as naturally occurring excessive hardness and elevated iron, sulfate, and total dissolved solids concentrations above acceptable levels for potable water supply. At the recommendation of the Kansas Department of Health and Environment (KDHE 1989), use of local groundwater by the city of Morrill as a municipal water supply was terminated in 1991 because of the high nitrate levels and poor water quality. Public water was then 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. No localized source of nitrate contamination was identified. The identified grain storage facility was operated by the Commodity Credit Corporation of the U.S. Department of Agriculture (CCC/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 until the present time. Prior to 1986, commercial grain fumigants containing carbon tetrachloride were commonly used by the CCC/USDA and by private and commercial grain storage operations to preserve grain.

Because the identified carbon tetrachloride contamination in groundwater could potentially be linked, in part, to historical use of carbon tetrachloride-based fumigants at its former facility, in 2003 the CCC/USDA assumed responsibility for investigation of the carbon tetrachloride contamination. The CCC/USDA involvement began with the 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 (the primary degradation product of carbon tetrachloride) was detected in near-surface soils or in subsurface soils collected to bedrock. Because no identifiable human health risk was associated with either carbon tetrachloride or chloroform in shallow soils, the conclusion was that no further threat of contamination to groundwater was present.

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

Under the KDHE-approved monitoring plan (Argonne 2005b), groundwater was sampled twice yearly for VOCs analyses through 2011. During the initial two years 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) suggested that some degree of reductive dechlorination was occurring.

The maximum carbon tetrachloride concentration reported in groundwater at the site was 390 µg/L, in a sample collected from monitoring well MW3S on the former CCC/USDA property in 1995 (GeoCore 1996). The concentrations have declined significantly during long-term monitoring conducted initially by the KDHE and currently by the CCC/USDA. The present maximum levels of < 50 µg/L in groundwater 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 (RBSL) of 5.0 µg/L are still present in some wells.

The analytical results for groundwater sampling events at Morrill in 2005-2016 were documented previously (Argonne 2006, 2007a,b, 2008a,b, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017). Those results consistently demonstrated the presence of carbon tetrachloride contamination, at concentrations exceeding the RBSL of 5.0 µg/L, 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. Terrapin 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 2007). No trend of increasing carbon tetrachloride concentrations 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 (2007), locations for both surface water and shallow sediment sampling were discussed with the KDHE in January 2007. An addendum to the existing monitoring plan (dated May 2007; in Appendix A, Argonne 2010) and a standard operating procedure (SOP) for sediment sampling (SOP AGEM-15; in Appendix B, Argonne 2010) were submitted to the KDHE on the basis of these discussions and were subsequently approved (KDHE 2008a,b). To supplement the original scope of the monitoring, in 2007-2011 Argonne also sampled natural vegetation at locations in the contaminant plume and along Terrapin Creek for VOCs analyses.

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 KDHE (2012) subsequently approved an annual monitoring schedule and also approved discontinuation of vegetation sampling. Sampling of the Isch and Grimm irrigation (TD12) wells was discontinued in 2016 per KDHE (2015) approval. The KDHE (2016) also approved discontinuation of sampling at monitoring wells MW2S, MW4S and MW10S and a reduction in the frequency of surface water and sediment sampling to every other year. Most recently, the KDHE (2017) approved discontinuation of sample collection at MW1S using the low-

flow method and passive diffusion bag samplers; samples at MW1S will continue to be collected using only the three-well-volume purging method.

The May-June 2017 groundwater and surface water and sediment sampling events reported here were conducted in accord with the monitoring plan (Argonne 2005b) and the addendum to that plan (Appendix A in Argonne 2010). Groundwater sampling occurred in a network of nine monitoring wells and two private wells, at locations approved by the KDHE (2008a, 2015, 2016). The current report presents the data generated in 2017.

FIGURE 1.1 Location of Brown County and Morrill, Kansas.

2 Sample Collection and Analysis Activities

2.1 Measurement of Groundwater Levels

Data recorders have been installed in wells MW1D, MW1S-MW4S, MW6S-MW8S, and MW11S to gather long-term data on the groundwater elevation and gradient at Morrill, in order to evaluate daily to seasonal variations. Recorders were installed in wells MW1D and MW11S in February 2013 to generate additional information on the apparent hydraulic impact of seasonal pumping of the Grimm irrigation well (TD12 location in Figures 3.6 and 4.1). This effect has been noted previously (Argonne 2012, 2013, 2014, 2015, 2016, 2017). To confirm 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 all monitoring wells in conjunction with the data recorder downloads, as well as during each groundwater sampling event, with an accuracy of ± 0.01 ft.

To document the current reporting period, data recorders were downloaded and water levels were measured manually on December 19, 2017. Data recorders were also downloaded and water levels measured manually in conjunction with the sampling event on May 30-June 2, 2017.

The groundwater level data are presented and discussed in Section 3.1.

2.2 Monitoring Well and Private Well Sampling and Analyses

Monitoring wells MW1D, MW1S, MW3S, MW5S-MW9S, and MW11S and the Stone and Rilinger private wells (Figure 2.1) were sampled on May 31-June 2, 2017. Sampling of the Isch and Grimm irrigation (TD12) wells was discontinued in 2016 per KDHE (2015) approval, and sampling of monitoring wells MW2S, MW4S and MW10S was discontinued in 2017 per KDHE (2016) approval.

Low-flow samples were collected from monitoring wells using a 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 Rilinger private well was collected after a 5-min purge with a 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, beginning in 2008 well MW1S was also sampled periodically after purging of three well volumes with a Redi-Flo pump. In addition, in 2013 and 2014 the well was sampled with passive diffusion bag samplers, placed at 2-ft intervals (20-52 ft below ground level [BGL]). The samplers were placed in the well on April 2, 2012, and subsequently retrieved for sampling on an annual basis in 2013, 2014, 2015, and 2016. This comparison sampling was discontinued in 2017 per KDHE (2017) approval, after which MW1S was sampled only after purging of three well volumes with a Redi-Flo pump in 2017.

The sequence of activities during the 2017 sampling event 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 overnight 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 analyses.

The results of the groundwater VOCs analyses are presented and discussed in Section 3.2.

2.3 Surface Water and Sediment Sampling and Analyses

At the direction of the KDHE (2007), surface water samples and corresponding samples of the underlying shallow sediments in the creek bed are collected for VOCs analyses in conjunction with compliance monitoring events at five locations along Terrapin Creek (Figure 2.2), as outlined in the monitoring plan addendum (Appendix A in Argonne 2010). The KDHE (2016) approved a reduction in the frequency of surface water and sediment sampling; beginning in 2017, surface water and sediment sampling will be conducted every other year, rather than in conjunction with every annual monitoring event. The next surface water and sediment sampling event will be conducted in 2018.

The sampling is 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 possible contaminant migration) from the vicinity of the former CCC/USDA facility (see Section 3.1). Sampling locations SM1-SM4 lie downgradient and downstream from the carbon tetrachloride detections identified previously at MW8S and elsewhere in the monitoring well network.

The results of past surface water and sediment VOCs analyses are presented and discussed in Section 3.3.

2.4 Vegetation Sampling and Analyses

In 2007-2011, vegetation samples were collected at locations in the contaminant plume and along Terrapin Creek and its tributaries south and southwest of the former CCC/USDA facility. The locations were selected along the 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 (Argonne 2011, 2012).

Sporadic detections of carbon tetrachloride at trace levels in vegetation samples over time confirmed uptake of carbon tetrachloride in the tree tissues, but declining concentrations in the groundwater precluded identification of a trend in the vegetation results. With the approval of the KDHE (2012), sampling of native vegetation has been terminated as part of the overall monitoring program.

2.5 Evaluation of Private Wells

At the request of the KDHE (2014), Argonne began conducting an evaluation of the use, condition, and ownership of private wells for the 2014 reporting period. Evaluation of the private wells was performed for the 2017 monitoring period on February 27, 2018. This evaluation included the Allen, Edwards (formerly Manning), Rilinger, and Stone private wells. The Argonne representative conducting the evaluations also spoke with the current owner (Gruber) of the former Manning/Cain property on which the home was razed after a fire in 2015 and on which no visible sign of any well is present. Evaluation of the Isch and Grimm irrigation (TD12) wells was discontinued per KDHE (2015) approval.

The results of the private well evaluation are presented and discussed in Section 3.5.

2.6 Handling and Disposal of Investigation-Derived Waste

Purge water generated as potentially contaminated investigation-derived waste during the May-June 2017 annual monitoring was containerized on-site in 55-gal drums. A composite wastewater sample was not collected during the 2017 sampling event; the purge water remains containerized on-site. A composite sample will be collected for laboratory analysis during the next sampling event in 2018, and the analytical results will be submitted to the KDHE in conjunction with a request for approval to dispose of the accumulated wastewater.

2.7 Quality Control for Sample Collection, Handling, and Analysis

The quality control/quality assurance procedures followed during the 2017 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 (one field blank, three equipment rinsates, and two trip blanks) collected to monitor sample collection and handling activities were free of VOC 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 by the purge-and-trap method on a gas chromatograph-mass spectrometer system. Calibration checks analyzed with each sample delivery group were required to be within $\pm 20\%$ 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 were evident in the analysis of one replicate sample and duplicate analysis of one additional sample. The average relative percent difference value was approximately 4% between the initial analysis and the associated quality control analysis for carbon tetrachloride concentrations present above the method detection limit (Appendix B, Table B.2). The quality control range for relative percent difference between dual analyses is $\pm 20\%$. 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 the

2017 monitoring event were submitted to TestAmerica for analysis according to the EPA's Contract Laboratory Program methodology. Complete analytical results for one groundwater sample (from MW5S) and one trip blank collected in May-June 2017 are in sample delivery group 200-38792 in Supplement 1 (on compact disc [CD]). (Note: samples were inadvertently collected and shipped to TestAmerica from two additional wells, MW4S and MW10S, which had previously been eliminated from the monitoring network per the KDHE [2016]. Results for these samples are included in sample delivery group 200-38792 but are not summarized in this report.) The results are listed in Appendix B, Table B.3. Agreement in the results from the two laboratories is good; neither laboratory detected carbon tetrachloride or chloroform in either sample above the respective method detection limits, with the exception of a trace detection of chloroform in the trip blank analyzed at TestAmerica. The concentrations detected in groundwater in analyses at the AGEM Laboratory are supported by the verification analyses at TestAmerica.

FIGURE 2.1 Groundwater monitoring network in 2017.

FIGURE 2.2 Locations of surface water and creek bed sediment sampling along Terrapin Creek in 2016.

3 Results and Discussion

3.1 Groundwater Level Data

Depths to groundwater were measured manually in conjunction with the data recorder downloads on December 19, 2017, and during the annual groundwater sampling event on May 30-June 2, 2017. The manually measured data for 2015-2016 are in Table 3.1. Gaps appear in the automatically recorded water level data for several wells (MW1S, MW4S, and MW6S) because of battery or other electrical failures.

Potentiometric surface maps based on the water levels measured manually in May-June 2017 and December 2017 are in Figures 3.1 and 3.2, respectively. As in previous years, groundwater flow during spring 2017 (Figure 3.1, May 30-June 2, 2017) and winter 2017 (Figure 3.2, December 19, 2017) was predominantly to the south-southeast, from the vicinity of the former CCC/USDA facility toward Terrapin Creek.

Persistently low water levels observed at well MW11S (Argonne 2013, 2014, 2015, 2016, 2017) suggest the presence of a groundwater “sink” southwest of the former CCC/USDA facility, in the vicinity of this location. This observation is a reflection of the greater depth of completion of well MW11S in the aquifer unit and the local three-dimensional groundwater flow system at this location, relative to nearby wells MW3S, MW4S, and MW7S (Figure 3.3; see also Argonne 2014). To eliminate this influence on the interpreted lateral groundwater flow directions, the estimated potentiometric surface maps in Figures 3.1 and 3.2 were generated by excluding the water level measurements at MW11S.

The hydrographs in Figure 3.4 are based on the data generated in 2017. As in previous years, these hydrographs demonstrate that pumping at the Grimm irrigation well has a direct effect on the transient water levels at MW1D, MW06S, and MW11S. The recorder at MW11S was added late in 2013 to help document this effect.

In contrast with data from 2014, water levels showed a transient increase in the spring and early summer in 2017 (Figure 3.4), as in 2015-2016 and the years prior to 2014, which typically has occurred in response to periodic heavy rain events during this season.

3.2 Groundwater Analysis Results

The analytical data for VOCs in the groundwater samples collected in May-June 2017 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 for the groundwater samples are in Table 3.3. The May-June 2017 data for carbon tetrachloride in groundwater are illustrated in Figure 3.5, with the May 2016 data for comparison.

In May-June 2017 (Figure 3.5), carbon tetrachloride was detected at or above the maximum contaminant level (MCL) at three of the 11 locations sampled (MW1S, MW7S, and MW11S). Carbon tetrachloride concentrations in 2017 ranged from a minimum estimated concentration < 1.0 $\mu\text{g/L}$ at the Rilinger private well to a maximum of 25 $\mu\text{g/L}$ at well MW11S. The maximum carbon tetrachloride concentration at the former CCC/USDA facility (MW3S) occurred in 1995 at a level of 390 $\mu\text{g/L}$. The concentration at MW3S remained notably lower in 2017 (2.2 $\mu\text{g/L}$), a decrease first observed in 2016 (2.8 $\mu\text{g/L}$), compared with 2015 (38 $\mu\text{g/L}$). The carbon tetrachloride concentration at MW1S was higher in 2017 (22 $\mu\text{g/L}$) compared with 2016 (9.4 $\mu\text{g/L}$). A low level of chloroform (< 1 $\mu\text{g/L}$) was also detected in MW1S, but was not detected at any of the other 10 locations sampled (Table 3.2).

No quantifiable levels were detected in the wells monitoring drainage to Terrapin Creek (MW8S and MW6S). This has been the case since monitoring at these wells began in 2004 (Table 3.2).

3.3 Surface Water and Sediment Analysis Results

Table 3.4 presents the historical results of VOCs analyses of the surface water and shallow sediment samples collected along Terrapin Creek, which demonstrate that these surface waters remain uncontaminated by carbon tetrachloride. The Terrapin Creek surface waters and shallow sediments were not sampled in 2017, per an approved reduction in the frequency of sampling to every other year (KDHE 2016a). The next surface water and sediment sampling event will occur in 2018.

3.4 Private Well Evaluation Results

Argonne conducted evaluations of the use and condition of the Allen, Manning, Manning/Cain, Rilinger, and Stone private wells on February 3, 2017. The current owners (or an individual familiar with the status of the wells) were contacted by telephone and surveyed regarding the use and condition of the wells. Table 3.5 summarizes the results of the private well evaluation.

TABLE 3.1 Hand-measured groundwater levels in January 2015-December 2017.

Well	Top of Casing Elevation (ft AMSL)	January 14, 2015 ^a		April 29-30 and May 6, 2015		September 21, 2015		February 25, 2016	
		Depth to Water (ft TOC)	Groundwater Elevation (ft AMSL)	Depth to Water (ft TOC)	Groundwater Elevation (ft AMSL)	Depth to Water (ft TOC)	Groundwater Elevation (ft AMSL)	Depth to Water (ft TOC)	Groundwater Elevation (ft AMSL)
MW1S	1124.68	31.41	1093.27	29.60	1095.08	25.05	1099.63	22.35	1102.33
MW1D	1124.63	33.92	1090.71	33.35	1091.28	59.47	1065.16	31.39	1093.24
MW2S	1137.07	42.08	1094.99	38.80	1098.27	31.82	1105.25	31.16	1105.91
MW3S	1135.76	37.78	1097.98	33.95	1101.81	24.37	1111.39	24.51	1111.25
MW4S	1143.61	47.68	1095.93	—	—	34.06	1109.55	33.95	1109.66
MW5S	1122.21	30.43	1091.78	26.50	1095.71	21.09	1101.12	19.72	1102.49
MW6S	1090.97	6.24	1084.73	6.60	1084.37	17.48	1073.49	5.85	1085.12
MW7S	1119.86	25.34	1094.52	23.40	1096.46	14.84	1105.02	14.62	1105.24
MW8S	1098.53	5.78	1092.75	4.70	1093.83	—	—	—	—
MW9S	1118.31	26.23	1092.08	25.70	1092.61	40.91	1077.40	21.60	1096.71
MW10S	1110.78	16.91	1093.87	16.35	1094.43	28.37	1082.41	10.16	1100.62
MW11S	1133.08	42.09	1090.99	40.90	1092.18	43.78	1089.30	34.44	1098.64
<hr/>									
Well	Top of Casing Elevation (ft AMSL)	May 6, 2016		December 15, 2016		May 30-June 2, 2017		December 19, 2017	
		Depth to Water (ft TOC)	Groundwater Elevation (ft AMSL)	Depth to Water (ft TOC)	Groundwater Elevation (ft AMSL)	Depth to Water (ft TOC)	Groundwater Elevation (ft AMSL)	Depth to Water (ft TOC)	Groundwater Elevation (ft AMSL)
MW1S	1124.68	15.16	1109.52	23.56	1101.12	17.99	1106.69	29.82	1094.86
MW1D	1124.63	29.72	1094.91	31.44	1093.19	29.19	1095.44	33.82	1090.81
MW2S	1137.07	18.16	1118.91	32.73	1104.34	24.06	1113.01	40.82	1096.25
MW3S	1135.76	12.60	1123.16	25.32	1110.44	17.79	1117.97	34.48	1101.28
MW4S	1143.61	26.28	1117.33	34.13	1109.48	27.04	1116.57	42.03	1101.58
MW5S	1122.21	8.27	1113.94	21.19	1101.02	12.02	1110.19	28.89	1093.32
MW6S	1090.97	5.36	1085.61	5.76	1085.21	5.93	1085.04	6.02	1084.95
MW7S	1119.86	10.03	1109.83	14.74	1105.12	10.02	1109.84	22.89	1096.97
MW8S	1098.53	0.70	1097.83	2.55	1095.98	0.84	1097.69	5.03	1093.50
MW9S	1118.31	19.00	1099.31	21.91	1096.40	18.65	1099.66	25.19	1093.12
MW10S	1110.78	8.25	1102.53	10.89	1099.89	8.13	1102.65	15.68	1095.10
MW11S	1133.08	29.75	1103.33	34.71	1098.37	30.06	1103.02	42.63	1090.45

^a Measurements planned for December 2014 were delayed until January 2015, because of Argonne commitments at other CCC/USDA sites.

TABLE 3.2 Results of analyses at the AGEM Laboratory for VOCs in groundwater samples collected in 2003-2017.

Location	Screen Interval (ft BGL)	Sample Date	Depth (ft TOC)		Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Concentration (µg/L)			Comment ^a	Sample
			To Water	Well				Carbon Tetrachloride	Chloroform	Methylene Chloride		
MW1S	11-51	10/23/03	30.36	54.04	70	gal	—	33	1.6	ND ^b	TWV	MRMW1S-W-16422
MW1S	11-51	06/02/04	26.97	53.94	53	gal	—	19	0.9	ND	TWV	MRMW1S-W-16461
MW1S	11-51	09/13/05	24.16	53.9	57	gal	—	35	1.7	ND	TWV	MRMW1S-W-19259
MW1S	11-51	03/22/06	29.00	53.95	48	gal	—	40	1.8	ND	TWV	MRMW1S-W-20008
MW1S	11-51	09/20/06	26.82	53.97	55	gal	—	23	0.9 J ^c	ND	TWV	MRMW1S-W-22495
MW1S	11-51	03/21/07	25.80	53.98	55	gal	—	23	1.1	ND	TWV	MRMW1S-W-16488
MW1S	11-51	10/01/07	21.65	53.95	63	gal	—	56	2.7	ND	TWV	MRMW1S-W-16595
MW1S	11-51	04/14/08	16.20	54	5.5	L	—	0.3 J	ND	ND	LF	MRMW1S-W-23230
MW1S	11-51	04/22/08	16.00	54	6.25	L	—	0.2 J	ND	ND	LF	MRMW1S-W-23259
MW1S	11-51	05/01/08	—	—	3.24	L	22	ND	ND	ND	LF-U	MRMW1S-22-W-23275
MW1S	11-51	05/01/08	—	—	3.24	L	27	ND	ND	ND	LF-M	MRMW1S-27-W-23276
MW1S	11-51	05/01/08	—	—	4.25	L	48	0.3 J	ND	ND	LF-D	MRMW1S-48-W-23277
MW1S	11-51	10/20/08	25.80	54	6	L	31	0.7 J	ND	ND	LF	MRMW1S-W-27620
MW1S	11-51	10/21/08	—	—	—	—	—	35	1.8	ND	TWV	MRMW1S-W-27649
MW1S	11-51	04/24/09	24.40	54	5	L	39.2	ND	ND	ND	LF	MRMW1S-W-27652
MW1S	11-51	09/03/09	19.00	54	8	L	35	ND	ND	ND	LF	MRMW1S-W-29942
MW1S	11-51	09/04/09	19.30	51.2	244	L	50	34	1.7	ND	TWV	MRMW1S-W-29971
MW1S	11-51	04/07/10	11.65	51.3	7	L	16.6	ND	ND	ND	LF-U	MRMW1ST-W-29981
MW1S	11-51	04/07/10	11.57	51.31	6	L	31.5	ND	ND	ND	LF-M	MRMW1SM-W-29980
MW1S	11-51	04/07/10	11.65	51.31	6	L	46.3	ND	ND	ND	LF-D	MRMW1SB-W-29979
MW1S	11-51	04/07/10	11.48	51.3	80	gal	49	21	1.2	ND	TWV	MRMW1S3X-W-29982
MW1S	11-51	09/22/10	19.89	54	10	L	31	1.6	ND	ND	LF	MRMW1S-W-30010
MW1S	11-51	04/20/11	23.45	54	6.5	L	37	0.3 J	ND	ND	LF	MRMW1S-W-30038
MW1S	11-51	10/04/11	21.80	54	8	L	34.9	1.7	ND	ND	LF	MRMW1S-W-30067
MW1S	11-51	10/12/11	22.14	54	6	L	36.57	1.5	ND	ND	LF	MRMW1S-W-30091
MW1S	11-51	10/12/11	22.41	54	65	gal	49	23	1.2	ND	TWV	MRMW1S3X-W-30093
MW1S	11-51	03/29/12	20.10	54	8	L	25	ND	ND	ND	LF-U	MRMW1SU-W-30099
MW1S	11-51	03/29/12	20.17	54	8	L	35	0.3 J	ND	ND	LF-M	MRMW1SM-W-30100
MW1S	11-51	03/29/12	20.17	54	5.5	L	46	ND	ND	ND	LF-D	MRMW1SL-W-30101
MW1S	11-51	03/29/12	20.15	54	68	gal	50	22	1.2	ND	TWV	MRMW1S3X-W-30102
MW1S	11-51	05/07/13	20.94	54	6	L	28.46	ND	ND	ND	LF-U	MRMW1SU-W-30136
MW1S	11-51	05/07/13	20.94	54	6	L	35.97	ND	ND	ND	LF-M	MRMW1SM-W-30137
MW1S	11-51	05/07/13	20.94	54	6	L	43.49	ND	ND	ND	LF-D	MRMW1SL-W-30138
MW1S	11-51	05/07/13	20.94	54	65	gal	—	2.7	ND	ND	TWV	MRMW1S3X-W-30139
MW1S	20	05/06/13	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SA-W-30169
MW1S	22	05/06/13	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SB-W-30170
MW1S	24	05/06/13	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SC-W-30171
MW1S	26	05/06/13	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SD-W-30172
MW1S	28	05/06/13	—	—	—	—	—	ND	0.3 J	ND	PDB	MRMW1SE-W-30173
MW1S	30	05/06/13	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SF-W-30174
MW1S	32	05/06/13	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SG-W-30175

TABLE 3.2 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth (ft TOC)		Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Concentration (µg/L)			Comment ^a	Sample
			To Water	Well				Carbon Tetrachloride	Chloroform	Methylene Chloride		
MW1S	34	05/06/13	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SH-W-30176
MW1S	36	05/06/13	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SI-W-30177
MW1S	38	05/06/13	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SJ-W-30178
MW1S	40	05/06/13	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SK-W-30179
MW1S	42	05/06/13	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SL-W-30180
MW1S	44	05/06/13	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SM-W-30181
MW1S	46	05/06/13	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SN-W-30182
MW1S	48	05/06/13	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SO-W-30183
MW1S	50	05/06/13	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SP-W-30184
MW1S	11-51	06/05/14	27.38	54	7	L	30.54	ND	ND	ND	LF-U	MRMW1SU-W-31941
MW1S	11-51	06/05/14	27.38	54	6	L	37.38	ND	ND	ND	LF-M	MRMW1SM-W-31942
MW1S	11-51	06/05/14	27.38	54	6	L	44.18	ND	ND	ND	LF-D	MRMW1SL-W-31943
MW1S	11-51	06/06/14	27.38	54	65	gal	52	3.0	0.2 J	ND	TWV	MRMW1S3X-W-31944
MW1S	20	06/04/14	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SA-W-31925
MW1S	22	06/04/14	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SB-W-31926
MW1S	24	06/04/14	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SC-W-31927
MW1S	26	06/04/14	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SD-W-31928
MW1S	28	06/04/14	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SE-W-31929
MW1S	30	06/04/14	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SF-W-31930
MW1S	32	06/04/14	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SG-W-31931
MW1S	34	06/04/14	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SH-W-31932
MW1S	36	06/04/14	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SI-W-31933
MW1S	38	06/04/14	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SJ-W-31934
MW1S	40	06/04/14	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SK-W-31935
MW1S	42	06/04/14	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SL-W-31936
MW1S	44	06/04/14	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SM-W-31937
MW1S	46	06/04/14	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SN-W-31938
MW1S	48	06/04/14	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SO-W-31939
MW1S	50	06/04/14	—	—	—	—	—	ND	ND	ND	PDB	MRMW1SP-W-31940
MW1S	11-51	04/30/15	29.6	54	6	L	32.96	ND	ND	ND	LF-U	MRMW1SU-W-37545
MW1S	11-51	04/30/15	29.6	54	6	L	38.98	ND	ND	ND	LF-M	MRMW1SM-W-37546
MW1S	11-51	04/30/15	29.6	54	6	L	44.99	ND	ND	ND	LF-D	MRMW1SL-W-37547
MW1S	11-51	04/30/15	29.6	54	60	gal	55	4.6	ND	ND	TWV	MRMW1S3X-W-37548
MW1S	20	04/28/15	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S20-W-37529
MW1S	22	04/28/15	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S22-W-37530
MW1S	24	04/28/15	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S24-W-37531
MW1S	26	04/28/15	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S26-W-37532
MW1S	28	04/28/15	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S28-W-37533
MW1S	30	04/28/15	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S30-W-37534
MW1S	32	04/28/15	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S32-W-37535
MW1S	34	04/28/15	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S34-W-37536

TABLE 3.2 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth (ft TOC)		Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Concentration (µg/L)			Comment ^a	Sample
			To Water	Well				Carbon Tetrachloride	Chloroform	Methylene Chloride		
MW1S	36	04/28/15	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S28-W-37537
MW1S	38	04/28/15	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S30-W-37538
MW1S	40	04/28/15	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S32-W-37539
MW1S	42	04/28/15	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S34-W-37540
MW1S	44	04/28/15	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S28-W-37541
MW1S	46	04/28/15	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S30-W-37542
MW1S	48	04/28/15	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S32-W-37543
MW1S	50	04/28/15	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S34-W-37544
MW1S	11-51	05/08/16	15.50	54	6.5	L	34.11	ND	ND	ND	LF-U	MRMW1SU-W-39163
MW1S	11-51	05/08/16	15.50	54	6.5	L	40.13	ND	ND	ND	LF-M	MRMW1SM-W-39164
MW1S	11-51	05/08/16	15.50	54	6.5	L	46.14	ND	ND	ND	LF-D	MRMW1SL-W-39165
MW1S	11-51	05/08/16	15.50	54	80	gal	52	9.4	0.7 J	ND	TWV	MRMW1S3X-W-39166
MW1S	20	05/08/16	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S20-W-39147
MW1S	22	05/08/16	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S22-W-39148
MW1S	24	05/08/16	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S24-W-39149
MW1S	26	05/08/16	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S26-W-39150
MW1S	28	05/08/16	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S28-W-39151
MW1S	30	05/08/16	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S30-W-39152
MW1S	32	05/08/16	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S32-W-39153
MW1S	34	05/08/16	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S34-W-39154
MW1S	36	05/08/16	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S36-W-39155
MW1S	38	05/08/16	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S38-W-39156
MW1S	40	05/08/16	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S40-W-39157
MW1S	42	05/08/16	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S42-W-39158
MW1S	44	05/08/16	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S44-W-39159
MW1s	46	05/08/16	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S46-W-39160
MW1S	48	05/08/16	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S48-W-39161
MW1S	50	05/08/16	—	—	—	—	—	ND	ND	ND	PDB	MRMW1S50-W-39162
MW1S ^h	11-51	06/01/17	17.55	54	72	gal	52	22	0.7 J	ND	TWV	MRMW1S50-W-39789
MW1D	63-88	10/22/03	28.39	88.5	92	gal	—	ND	ND	ND	TWV	MRMW1D-W-16421
MW1D	63-88	06/02/04	26.82	88.6	140	gal	—	ND	ND	ND	TWV	MRMW1D-W-16458
MW1D	63-88	09/13/05	23.72	88.6	200	gal	—	ND	ND	ND	TWV	MRMW1D-W-16518
MW1D	63-88	03/19/06	26.85	88.6	112	gal	—	ND	ND	0.4 J B ^d	TWV	MRMW1D-W-19986
MW1D	63-88	09/20/06	25.52	88.8	125	gal	—	ND	ND	ND	TWV	MRMW1D-W-16532
MW1D	63-88	03/21/07	25.79	88.8	125	gal	—	ND	ND	ND	TWV	MRMW1D-W-16487
MW1D	63-88	10/01/07	22.75	89.38	130	gal	—	ND	ND	ND	TWV	MRMW1D-W-16596
MW1D	63-88	04/14/08	29.51	89	6	L	—	ND	ND	ND	LF	MRMW1D-W-23231
MW1D	63-88	10/20/08	30.40	89	7	L	75.5	ND	ND	ND	LF	MRMW1D-W-27621
MW1D	63-88	04/24/09	31.00	89	7	L	75.5	ND	ND	ND	LF	MRMW1D-W-27653
MW1D	63-88	09/03/09	27.05	89	6.5	L	75.5	ND	ND	ND	LF	MRMW1D-W-29943

TABLE 3.2 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth (ft TOC)		Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Concentration (µg/L)			Comment ^a	Sample
			To Water	Well				Carbon Tetrachloride	Chloroform	Methylene Chloride		
MW1D	63-88	04/06/10	24.70	89	8.5	L	75.5	ND	ND	ND	LF	MRMW1D-W-29983
MW1D	63-88	09/22/10	27.92	89	9	L	75.5	ND	ND	ND	LF	MRMW1D-W-30011
MW1D	63-88	04/20/11	30.15	89	5.5	L	75.5	ND	ND	ND	LF	MRMW1D-W-30039
MW1D	63-88	10/04/11	29.06	89	6.5	L	75.5	ND	ND	ND	LF	MRMW1D-W-30068
MW1D	63-88	03/28/12	30.50	89	5.8	L	75.5	ND	ND	ND	LF	MRMW1D-W-30103
MW1D	63-88	05/07/13	28.98	89	6	L	75.5	ND	ND	ND	LF	MRMW1D-W-30140
MW1D	63-88	06/06/14	33.23	89	7	L	75.5	ND	ND	ND	LF	MRMW1D-W-31945
MW1D	63-88	05/06/15	33.35	89	6	L	75.5	ND	ND	ND	LF	MRMW1D-W-37549
MW1D	63-88	05/07/16	29.72	89	5.25	L	75.5	ND	ND	ND	LF	MRMW1D-W-39167
MW1D	63-88	06/02/17	29.19	89	6	L	75.5	ND	ND	ND	LF	MRMW1D-W-39790
MW2S	13-53	10/22/03	42.21	53.35				ND	ND	ND	PDS	MRMW02-W-16419
MW2S	13-53	06/02/04	37.44	53.3	31	gal	—	ND	ND	ND	TWV	MRMW2S-W-16459
MW2S	13-53	09/14/05	33.68	53.33	38	gal	—	ND	ND	ND	TWV	MRMW2S-W-19264
MW2S	13-53	03/21/06	40.87	53.32	27	gal	—	ND	ND	ND	TWV	MRMW2S-W-19992
MW2S	13-53	09/18/06	36.53	53.3	28	gal	—	ND	ND	ND	TWV	MRMW2S-W-22488
MW2S	13-53	03/22/07	35.77	53.3	35	gal	—	ND	ND	ND	TWV	MRMW2S-W-16559
MW2S	13-53	10/03/07	31.17	53.4	44	gal	—	ND	ND	ND	TWV	MRMW2S-W-16587
MW2S	13-53	04/15/08	23.55	53.4	2.22	L	—	ND	ND	ND	LF	MRMW2S-W-23232
MW2S	13-53	10/21/08	33.70	53.5	5	L	33	ND	ND	ND	LF	MRMW2S-W-27622
MW2S	13-53	10/21/08	—	—	—	—	—	ND	ND	ND	TWV	MRMW2S-W-27652
MW2S	13-53	04/23/09	33.20	53.5	6.5	L	43.35	ND	0.6 J	ND	LF	MRMW2S-W-27654
MW2S	13-53	09/03/09	29.40	53.5	5.4	L	41.2	ND	ND	ND	LF	MRMW2S-W-29944
MW2S	13-53	04/06/10	18.57	52.42	6.5	L	36	ND	ND	ND	LF	MRMW2S-W-29984
MW2S	13-53	09/22/10	31.25	53	7	L	33	ND	ND	ND	LF	MRMW2S-W-30012
MW2S	13-53	04/20/11	36.00	53.5	8	L	44.5	ND	ND	ND	LF	MRMW2S-W-30040
MW2S	13-53	10/04/11	32.73	53.5	7.5	L	42.6	ND	ND	ND	LF	MRMW2S-W-30069
MW2S	13-53	03/28/12	31.45	53.5	7	L	42.48	ND	ND	ND	LF	MRMW2S-W-30104
MW2S	13-53	05/07/13	32.86	53.5	5	L	42.93	ND	ND	ND	LF	MRMW2S-W-30141
MW2S	13-53	06/06/14	37.03	53.5	8	L	45.42	ND	ND	ND	LF	MRMW2S-W-31946
MW2S	13-53	05/06/15	38.80	53.5	7	L	46.05	ND	ND	ND	LF	MRMW2S-W-31950
MW2S ^j	13-53	05/07/16	18.16	53.5	7	L	46.05	ND	ND	ND	LF	MRMW2S-W-39168
MW3S	18-48	10/23/03	36.47	47.79	73	gal	—	89	2.7	ND	TWV	MRMW03-W-16423
MW3S	18-48	06/02/04	30.67	47.5	34	gal	—	110	3.2	ND	TWV	MRMW3S-W-16462
MW3S	18-48	09/13/05	25.60	47.6	50	gal	—	101	3.2	ND	TWV	MRMW3S-W-19261
MW3S	18-48	03/23/06	35.62	47.74	28	gal	—	91	2.6	ND	TWV	MRMW3S-W-19994
MW3S	18-48	09/20/06	29.44	47.75	22	gal	—	49	1.5	ND	TWV	MRMW3S-W-22496
MW3S	18-48	03/22/07	26.19	47.75	45	gal	—	84	2.3	ND	TWV	MRMW3S-W-16563
MW3S	18-48	10/03/07	22.70	47.9	50	gal	—	61	2.0	ND	TWV	MRMW3S-W-16585
MW3S	18-48	04/14/08	16.95	47.8	3.31	L	—	8.2	0.4 J	ND	LF	MRMW3S-W-23233

TABLE 3.2 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth (ft TOC)		Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Concentration (µg/L)			Comment ^a	Sample
			To Water	Well				Carbon Tetrachloride	Chloroform	Methylene Chloride		
MW3S	18-48	04/22/08	15.80	47.8	6.5	L	–	0.7 J	ND	ND	LF	MRMW3S-W-23260
MW3S	18-48	05/01/08	–	–	2.62	L	26	0.4 J	ND	ND	LF-U	MRMW3S-26-W-23269
MW3S	18-48	05/01/08	–	–	2.75	L	38	0.4 J	ND	ND	LF-M	MRMW3S-38-W-23270
MW3S	18-48	05/01/08	–	–	3.17	L	45	0.5 J	ND	ND	LF-D	MRMW3S-45-W-23271
MW3S	18-48	10/21/08	27.00	47.8	4.2	L	33	55	1.4	ND	LF	MRMW3S-W-27623
MW3S	18-48	10/21/08	–	–	–	–	–	63	1.6	ND	TWV	MRMW3S-W-27650
MW3S	18-48	04/23/09	26.70	47.8	5	L	37.3	29	1.4	ND	LF	MRMW3S-W-27655
MW3S	18-48	09/03/09	22.40	47.8	5.5	L	35.2	30	1.1	ND	LF	MRMW3S-W-29945
MW3S	18-48	09/04/09	22.55	47.8	190	L	46	28	0.9 J	ND	TWV	MRMW3S-W-29972
MW3S	18-48	04/06/10	12.14	47.8	6	L	33	3.5	0.2 J	ND	LF	MRMW3S-W-29985
MW3S	18-48	09/23/10	23.73	47.8	7	L	33	47	1.6	ND	LF	MRMW3S-W-30013
MW3S	18-48	04/20/11	32.06	47.8	6.2	L	40	33	1.2	ND	LF	MRMW3S-W-30041
MW3S	18-48	10/04/11	25.95	47.8	7	L	37	49	1.8	ND	LF	MRMW3S-W-30070
MW3S	18-48	03/28/12	23.95	47.8	6.5	L	35.88	58	2.0	ND	LF	MRMW3S-W-30105
MW3S	18-48	05/07/13	25.65	47.8	7	L	36.83	57	1.9	ND	LF	MRMW3S-W-30142
MW3S	18-48	06/06/14	34.46	47.8	7.25	L	41.39	46	1.5	ND	LF	MRMW3S-W-31947
MW3S	18-48	04/30/15	33.95	47.8	7	L	42.1	38	1.5	ND	LF	MRMW3S-W-37551
MW3S	18-48	05/07/16	12.60	12.60	7	L	42.1	2.8	ND	ND	LF	MRMW3S-W-39169
MW3S	18-48	06/01/17	17.79	47.8	6	L	33.04	2.2	ND	ND	LF	MRMW3S-W-39792
MW4S	17-47	10/21/03	46.40	47.8	–	–	–	ND	ND	ND	PDS	MRMW04-W-16418
MW4S	17-47	06/04/04	43.21	47.8	10	gal	–	ND	ND	ND	TWV	MRMW4S-W-16470
MW4S	17-47	09/14/05	36.21	47.81	8	gal	–	ND	ND	ND	TWV	MRMW4S-W-19262
MW4S	17-47	03/21/06	44.55	47.72	6	gal	–	ND	ND	ND	TWV	MRMW4S-W-19993
MW4S	17-47	09/18/06	41.56	47.75	5.25	gal	–	ND	ND	ND	TWV	MRMW4S-W-22487
MW4S	17-47	03/22/07	38.74	47.75	6	gal	–	ND	ND	ND	TWV	MRMW4S-W-16562
MW4S	17-47	10/03/07	31.11	47.73	30	gal	–	0.5 J R ^e	ND	ND	TWV	MRMW4S-W-16586
MW4S	17-47	01/11/08	–	–	–	–	–	ND	ND	ND	TWV	MOMW4S-W-011108
MW4S	17-47	04/14/08	26.32	47.85	2.48	L	–	ND	ND	ND	LF	MRMW4S-W-23234
MW4S	17-47	10/20/08	36.70	47.8	8	gal	–	ND	ND	ND	TWV	MRMW4S-W-27624
MW4S	17-47	04/23/09	41.50	47.8	5	L	44.65	ND	ND	ND	LF	MRMW4S-W-27656
MW4S	17-47	09/04/09	31.60	47.8	6	L	39.3	ND	ND	ND	LF	MRMW4S-W-29946
MW4S	17-47	04/06/10	21.80	47.85	5.5	L	34.83	ND	ND	ND	LF	MRMW4S-W-29986
MW4S	17-47	09/22/10	33.15	47.8	6	L	32	ND	ND	ND	LF	MRMW4S-W-30014
MW4S	17-47	04/21/11	42.39	47.8	5	L	44.7	ND	ND	ND	LF	MRMW4S-W-30042
MW4S	17-47	10/04/11	35.60	47.8	6	L	40.9	ND	ND	ND	LF	MRMW4S-W-30071
MW4S	17-47	03/28/12	35.10	47.8	7.2	L	41.45	ND	ND	ND	LF	MRMW4S-W-30106
MW4S	17-47	05/07/13	44.2	47.8	9	L	45.6	ND	ND	ND	LF	MRMW4S-W-30143
MW4S	–	–	–	–	–	–	–	–	–	–	NS	–
MW4S	17-47	04/30/15	–	–	–	–	–	–	–	–	NS	–
MW4S ⁱ	17-47	05/08/16	26.28	47.8	–	L	40.88	ND	ND	ND	LF	MRMW4S-W-30170

TABLE 3.2 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth (ft TOC)		Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Concentration (µg/L)			Comment ^a	Sample
			To Water	Well				Carbon Tetrachloride	Chloroform	Methylene Chloride		
MW5S	15-55	10/22/03	31.40	55.72	48	gal	—	5.8	ND	ND	TWV	MRMW05-W-16420
MW5S	15-55	06/02/04	26.33	55.65	>57	gal	—	7.0	ND	ND	TWV	MRMW5S-W-16460
MW5S	15-55	09/13/05	22.66	54.2	75	gal	—	6.3	0.2 J	ND	TWV	MRMW5S-W-19260
MW5S	15-55	03/22/06	28.64	54.51	50	gal	—	7.3	0.2 J	ND	TWV	MRMW5S-W-19996
MW5S	15-55	09/20/06	25.43	54.63	52	gal	—	6.4	0.3 J	ND	TWV	MRMW5S-W-22493
MW5S	15-55	03/22/07	25.14	54.56	58	gal	—	6.5	0.4 J	ND	TWV	MRMW5S-W-16569
MW5S	15-55	10/03/07	19.55	54.65	68	gal	—	4.0	0.3 J	ND	TWV	MRMW5S-W-16588
MW5S	15-55	04/14/08	11.20	54.6	6	L	—	ND	ND	ND	LF	MRMW5S-W-23235
MW5S	15-55	04/23/08	11.30	54.6	6.5	L	—	ND	ND	ND	LF	MRMW5S-W-23266
MW5S	15-55	05/01/08	—	—	3.7	L	20	ND	ND	ND	LF-U	MRMW5S-20-W-23272
MW5S	15-55	05/01/08	—	—	3.4	L	28	ND	ND	ND	LF-M	MRMW5S-28-W-23273
MW5S	15-55	05/01/08	—	—	4	L	52	ND	ND	ND	LF-D	MRMW5S-52-W-23274
MW5S	15-55	10/21/08	22.50	54.6	7	L	35	1.7	ND	ND	LF	MRMW5S-W-27625
MW5S	15-55	04/24/09	22.10	54.6	5.5	L	38.35	ND	ND	ND	LF	MRMW5S-W-27657
MW5S	15-55	09/03/09	17.60	54.6	5.5	L	36.3	ND	ND	ND	LF	MRMW5S-W-29947
MW5S	15-55	04/07/10	8.32	54.5	5.5	L	35	ND	ND	ND	LF	MRMW5S-W-29987
MW5S	15-55	09/22/10	19.25	55	6.5	L	35	ND	9.4	ND	LF	MRMW5S-W-30015
MW5S	15-55	04/20/11	24.43	54.6	7	L	36	1.3	ND	ND	LF	MRMW5S-W-30043
MW5S	15-55	10/04/11	21.10	54.6	6.5	L	38.25	ND	ND	ND	LF	MRMW5S-W-30072
MW5S	15-55	03/28/12	20.60	54.6	7	L	37.6	0.6 J	ND	ND	LF	MRMW5S-W-30107
MW5S	15-55	05/07/13	21.9	54.6	5	L	38.45	ND	ND	ND	LF	MRMW5S-W-30144
MW5S	15-55	06/06/14	25.04	54.6	8	L	40.19	1.2	ND	ND	LF	MRMW5S-W-31949
MW5S	15-55	05/06/15	26.5	54.6	5	L	40.88	ND	ND	ND	LF	MRMW5S-W-37553
MW5S	15-55	05/07/16	8.27	54.6	6	L	35	ND	ND	ND	LF	MRMW5S-W-39171
MW5S	15-55	06/01/17	12.02	54.6	6	L	35	ND	ND	ND	LF	MRMW5S-W-39794
MW6S	10-25	06/03/04	3.34	26.9	45	gal	—	ND	ND	ND	TWV	MRMW6S-W-16465
MW6S	10-25	09/14/05	4.70	26.9	43	gal	—	ND	ND	ND	TWV	MRMW6S-W-19263
MW6S	10-25	03/20/06	5.35	26.91	43	gal	—	ND	ND	ND	TWV	MRMW6S-W-19990
MW6S	10-25	09/18/06	5.48	26.92	27	gal	—	ND	ND	ND	TWV	MRMW6S-W-22486
MW6S	10-25	03/21/07	5.42	26.92	30	gal	—	ND	ND	ND	TWV	MRMW6S-W-16486
MW6S	10-25	10/02/07	5.00	26.9	31	gal	—	ND	ND	ND	TWV	MRMW6S-W-16583
MW6S	10-25	04/15/08	5.15	26.9	2.5	L	—	ND	ND	ND	LF	MRMW6S-W-23236
MW6S	10-25	10/20/08	5.70	26.9	5	L	17.5	ND	ND	ND	LF	MRMW6S-W-27626
MW6S	10-25	04/24/09	6.20	26.9	12	L	17.5	ND	ND	ND	LF	MRMW6S-W-27658
MW6S	10-25	09/04/09	5.85	26.9	5.4	L	17.5	ND	ND	ND	LF	MRMW6S-W-29948
MW6S	10-25	04/06/10	6.15	26.9	8	L	17.5	ND	ND	ND	LF	MRMW6S-W-29988
MW6S	10-25	09/22/10	5.53	26.9	8.75	L	17.5	ND	ND	ND	LF	MRMW6S-W-30016
MW6S	10-25	04/20/11	6.52	24.88	8	L	17.5	ND	ND	ND	LF	MRMW6S-W-30044
MW6S	10-25	10/04/11	6.49	26.9	6	L	17.5	ND	ND	ND	LF	MRMW6S-W-30073

TABLE 3.2 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth (ft TOC)		Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Concentration (µg/L)			Comment ^a	Sample
			To Water	Well				Carbon Tetrachloride	Chloroform	Methylene Chloride		
MW6S	10-25	03/28/12	6.38	26.9	7	L	17.5	ND	ND	ND	LF	MRMW6S-W-30108
MW6S	10-25	05/07/13	6.3	26.9	6.5	L	17.5	ND	ND	ND	LF	MRMW6S-W-30145
MW6S	10-25	06/05/14	6.54	26.9	9.25	L	16.01	ND	ND	ND	LF	MRMW6S-W-31950
MW6S	10-25	04/29/15	6.6	26.9	9	L	17.5	ND	ND	ND	LF	MRMW6S-W-31954
MW6S	10-25	05/07/16	5.36	26.9	7.75	L	17.5	ND	ND	ND	LF	MRMW6S-W-39172
MW6S	10-25	06/02/17	5.93	26.9	6.5	L	17.5	ND	ND	ND	LF	MRMW6S-W-39795
MW7S	20-45	06/03/04	26.68	46.98	40	gal	—	18	ND	ND	TWV	MRMW7S-W-16466
MW7S	20-45	09/12/05	17.57	46.94	55	gal	—	43	1.1	ND	TWV	MRMW7S-W-19258
MW7S	20-45	03/22/06	22.45	46.98	48	gal	—	21	0.4 J	ND	TWV	MRMW7S-W-20000
MW7S	20-45	09/19/06	20.94	47.02	56	gal	—	38	0.7 J	ND	TWV	MRMW7S-W-22490
MW7S	20-45	03/20/07	18.01	47.02	50	gal	—	16	0.4 J	ND	TWV	MRMW7S-W-16481
MW7S	20-45	10/01/07	12.40	47	70	gal	—	8.1	0.2 J	ND	TWV	MRMW7S-W-16581
MW7S	20-45	04/14/08	7.72	47	1.82	L	—	10	0.3 J	ND	LF	MRMW7S-W-23237
MW7S	20-45	04/23/08	7.80	47	11	L	—	8.3	0.2 J	ND	LF	MRMW7S-W-23265
MW7S	20-45	10/20/08	17.20	47	6.3	L	32.5	7.9	ND	ND	LF	MRMW7S-W-27627
MW7S	20-45	04/23/09	16.70	47	7	L	32.5	9.5	ND	ND	LF	MRMW7S-W-27659
MW7S	20-45	09/03/09	13.80	47	9	L	32.5	8.0	ND	ND	LF	MRMW7S-W-29949
MW7S	20-45	04/06/10	6.38	47	5.4	L	32.5	15	0.4 J	ND	LF	MRMW7S-W-29989
MW7S	20-45	09/23/10	14.15	45	6	L	32.5	6.6	ND	ND	LF	MRMW7S-W-30017
MW7S	20-45	04/20/11	19.69	46.69	6	L	32.5	4.4	0.2 J	ND	LF	MRMW7S-W-30045
MW7S	20-45	10/04/11	7.11	47	7	L	32.5	11	0.3 J	ND	LF	MRMW7S-W-30074
MW7S	20-45	03/28/12	15.35	47	8	L	32.5	12	0.3 J	ND	LF	MRMW7S-W-30109
MW7S	20-45	05/07/13	19.4	47	6.25	L	32.5	4.2	0.2 J	ND	LF	MRMW7S-W-30146
MW7S	20-45	06/06/14	21.65	47	7.5	L	33.75	2.3	ND	ND	LF	MRMW7S-W-31951
MW7S	20-45	04/29/15	23.4	47	6	L	34.53	2.3	1.5	ND	LF	MRMW7S-W-37555
MW7S	20-45	05/06/16	10.03	47	7.5	L	32.5	5.9	ND	ND	LF	MRMW7S-W-39173
MW7S	20-45	05/31/17	10.02	47	6	L	32.5	5.0	ND	ND	LF	MRMW7S-W-39796
MW8S	10-25	06/03/04	3.70	26.75	45	gal	—	ND	ND	ND	TWV	MRMW8S-W-16464
MW8S	10-25	09/14/05	4.02	26.82	57	gal	—	0.9 J	ND	ND	TWV	MRMW8S-W-19265
MW8S	10-25	03/20/06	4.57	26.41	43	gal	—	0.6 J	ND	0.4 J B	TWV	MRMW8S-W-19991
MW8S	10-25	09/19/06	4.76	26.83	45	gal	—	1.3	ND	ND	TWV	MRMW8S-W-22492
MW8S	10-25	03/20/07	2.63	26.82	49	gal	—	0.6 J	ND	ND	TWV	MRMW8S-W-16483
MW8S	10-25	10/02/07	2.20	26.8	48	gal	—	0.8 J	ND	ND	TWV	MRMW8S-W-16584
MW8S	10-25	04/15/08	0.70	26.8	5.5	L	—	1.1	ND	ND	LF	MRMW8S-W-23238
MW8S	10-25	10/20/08	3.60	26.8	8	L	17.5	1.3	ND	ND	LF	MRMW8S-W-27628
MW8S	10-25	04/23/09	2.30	26.8	6	L	17.5	ND	ND	ND	LF	MRMW8S-W-27660
MW8S	10-25	09/03/09	2.90	26.8	8.5	L	17.5	1.9	ND	ND	LF	MRMW8S-W-29950
MW8S	10-25	04/06/10	1.10	26.8	8	L	17.5	1.7	ND	ND	LF	MRMW8S-W-29990
MW8S	10-25	09/22/10	2.53	26.8	9	L	17.5	1.6	ND	ND	LF	MRMW8S-W-30018

TABLE 3.2 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth (ft TOC)		Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Concentration (µg/L)			Comment ^a	Sample
			To Water	Well				Carbon Tetrachloride	Chloroform	Methylene Chloride		
MW8S	10-25	04/20/11	2.73	26.8	9	L	17.5	0.2 J	ND	ND	LF	MRMW8S-W-30046
MW8S	10-25	10/04/11	4.91	26.3	9	L	17.5	0.6 J	ND	ND	LF	MRMW8S-W-30075
MW8S	10-25	03/28/12	1.38	26.8	6.25	L	17	0.4 J	ND	ND	LF	MRMW8S-W-30110
MW8S	10-25	05/07/13	1.42	26.8	7	L	17.5	0.9 J	ND	ND	LF	MRMW8S-W-30147
MW8S	10-25	06/05/14	1.89	26.8	11	L	17.5	0.5 J	ND	ND	LF	MRMW8S-W-31952
MW8S	10-25	04/29/15	4.7	26.8	9	L	17.5	0.9 J	ND	ND	LF	MRMW8S-W-37556
MW8S	10-25	05/06/16	26.8	26.8	L	L	17.5	ND	ND	ND	LF	MRMW8S-W-39174
MW8S	10-25	05/31/17	26.8	26.8	L	L	17.5	ND	ND	ND	LF	MRMW8S-W-39797
MW9S	38.83-53.83	03/22/06	20.20	58.62	20	gal	—	ND	ND	ND	TWV	MRMW9S-W-20004
MW9S	38.83-53.83	09/19/06	18.87	59	22	gal	—	ND	ND	ND	TWV	MRMW9S-W-22494
MW9S	38.83-53.83	03/20/07	16.69	59	22	gal	—	ND	ND	ND	TWV	MRMW9S-W-16480
MW9S	38.83-53.83	10/01/07	14.00	58.6	23	gal	—	ND	ND	ND	TWV	MRMW9S-W-16582
MW9S	38.83-53.83	04/14/08	16.58	58.63	2.29	L	—	0.8 J	ND	ND	LF	MRMW9S-W-23239
MW9S	38.83-53.83	10/20/08	21.50	58.5	11	L	46.33	1.1	ND	ND	LF	MRMW9S-W-27629
MW9S	38.83-53.83	04/23/09	21.90	58.5	5.5	L	46.33	1.0	ND	ND	LF	MRMW9S-W-27661
MW9S	38.83-53.83	09/04/09	19.95	58.5	5	L	46.33	1.4	ND	ND	LF	MRMW9S-W-29951
MW9S	38.83-53.83	04/06/10	16.50	58.5	6	L	46.33	1.9	ND	ND	LF	MRMW9S-W-29991
MW9S	38.83-53.83	09/22/10	21.15	58.83	7	L	46.33	1.9	ND	ND	LF	MRMW9S-W-30019
MW9S	38.83-53.83	04/20/11	23.76	58.32	14	L	46.33	0.9 J	ND	ND	LF	MRMW9S-W-30047
MW9S	38.83-53.83	10/04/11	22.35	58.5	8	L	46.33	0.9 J	ND	ND	LF	MRMW9S-W-30076
MW9S	38.83-53.83	03/28/12	23.19	58.5	6.25	L	46.33	1.3	ND	ND	LF	MRMW9S-W-30111
MW9S	38.83-53.83	05/07/13	23.48	58.5	7	L	46.33	1.1	ND	ND	LF	MRMW9S-W-30148
MW9S	38.83-53.83	06/06/14	25.51	58.5	8	L	46.33	1.1	ND	ND	LF	MRMW9S-W-31953
MW9S	38.83-53.83	04/29/15	25.7	58.5	6	L	46.33	1.0	0.5 J	ND	LF	MRMW9S-W-37557
MW9S	38.83-53.83	05/06/16	19.00	58.5	7.25	L	46.33	1.0	ND	ND	LF	MRMW9S-W-39175
MW9S	38.83-53.83	05/31/17	18.65	58.8	5.5	L	46.33	ND	ND	ND	LF	MRMW9S-W-39798
MW10S	30-45	03/21/06	12.30	49.6	19	gal	—	ND	ND	ND	TWV	MRMW10S-W-19999
MW10S	30-45	09/18/06	11.08	49.61	20	gal	—	ND	ND	ND	TWV	MRMW10S-W-22489
MW10S	30-45	03/21/07	10.77	49.61	20	gal	—	ND	ND	ND	TWV	MRMW10S-W-16485
MW10S	30-45	10/01/07	6.95	49.65	20	gal	—	ND	ND	ND	TWV	MRMW10S-W-16593
MW10S	30-45	04/14/08	9.82	49.7	1.9	L	—	ND	ND	ND	LF	MRMW10S-W-23240
MW10S	30-45	10/20/08	13.70	49.7	5.4	L	37.5	ND	ND	ND	LF	MRMW10S-W-27630
MW10S	30-45	04/23/09	13.60	45	7.5	L	37.5	ND	ND	ND	LF	MRMW10S-W-27662
MW10S	30-45	09/03/09	12.00	49.7	7.5	L	37.5	ND	ND	ND	LF	MRMW10S-W-29952
MW10S	30-45	04/06/10	7.50	49.7	9	L	37.5	ND	ND	ND	LF	MRMW10S-W-29992
MW10S	30-45	09/22/10	11.69	49.7	11	L	37.5	ND	0.3 J	ND	LF	MRMW10S-W-30020
MW10S	30-45	04/20/11	13.69	49.3	7.25	L	37.5	ND	0.2 J	ND	LF	MRMW10S-W-30048
MW10S	30-45	10/04/11	12.54	49.7	8	L	37.5	ND	ND	ND	LF	MRMW10S-W-30077
MW10S	30-45	03/28/12	12.76	49.7	8	L	37.5	ND	0.3 J	ND	LF	MRMW10S-W-30112

TABLE 3.2 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth (ft TOC)		Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Concentration (µg/L)			Comment ^a	Sample
			To Water	Well				Carbon Tetrachloride	Chloroform	Methylene Chloride		
MW10S	30-45	05/07/13	13.78	49.7	6	L	37.5	ND	ND	ND	LF	MRMW10S-W-30149
MW10S	30-45	06/05/14	15.89	49.7	7	L	37.5	ND	0.7 J	ND	LF	MRMW10S-W-31954
MW10S	30-45	04/29/15	16.35	49.7	7	L	37.5	ND	1.1	ND	LF	MRMW10S-W-37558
MW10S ⁱ	30-45	05/07/16	8.25	49.7	7.75	L	37.5	ND	2.1	ND	LF	MRMW10S-W-39176
MW11S	53-68	03/22/06	35.20	72.5	20	gal	—	39	0.9 J	ND	TWV	MRMW11S-W-20001
MW11S	53-68	09/19/06	36.00	73.14	20	gal	—	53	1.0	ND	TWV	MRMW11S-W-22491
MW11S	53-68	03/20/07	34.65	73.14	20	gal	—	37	0.8 J	ND	TWV	MRMW11S-W-16479
MW11S	53-68	10/01/07	31.55	73	20	gal	—	54	1.2	ND	TWV	MRMW11S-W-16594
MW11S	53-68	04/15/08	29.90	72.7	5.5	L	—	35	0.8 J	ND	LF	MRMW11S-W-23241
MW11S	53-68	04/22/08	30.20	72.7	7.2	L	—	42	0.9 J	ND	LF	MRMW11S-W-23261
MW11S	53-68	10/20/08	37.10	72.7	9	L	60.5	42	0.9 J	ND	LF	MRMW11S-W-27631
MW11S	53-68	10/21/08	—	—	—	—	—	45	0.9 J	ND	TWV	MRMW11S-W-27651
MW11S	53-68	04/23/09	38.10	72.7	5	L	60.5	46	1.0	ND	LF	MRMW11S-W-27663
MW11S	53-68	09/03/09	34.70	72.7	7.5	L	60.5	39	0.9 J	ND	LF	MRMW11S-W-29953
MW11S	53-68	09/04/09	34.95	72.7	72	L	67	41	0.9 J	ND	TWV	MRMW11S-W-29973
MW11S	53-68	04/06/10	29.45	72.7	6.5	L	60.5	38	1.0	ND	LF	MRMW11S-W-29993
MW11S	53-68	09/23/10	34.75	72.7	7	L	60.5	28	1.0	ND	LF	MRMW11S-W-30021
MW11S	53-68	04/20/11	39.16	72.5	7.5	L	60.5	38	1.1	ND	LF	MRMW11S-W-30049
MW11S	53-68	10/04/11	36.83	72.7	6	L	60.5	33	0.8 J	ND	LF	MRMW11S-W-30078
MW11S	53-68	03/28/12	36.46	72.7	6	L	60.5	39	1.1	ND	LF	MRMW11S-W-30113
MW11S	53-68	05/07/13	38.46	72.7	6	L	60.5	37	ND	ND	LF	MRMW11S-W-30150
MW11S	53-68	06/05/14	41.21	72.7	7	L	60.5	28	0.7 J	ND	LF	MRMW11S-W-31955
MW11S	53-68	05/06/15	40.90	72.7	6	L	60.5	22	0.6 J	ND	LF	MRMW11S-W-37559
MW11S	53-68	05/06/16	29.75	72.7	8	L	60.5	22	0.6 J	ND	LF	MRMW11S-W-39177
MW11S	53-68	06/02/17	30.06	72.7	5.5	L	60.5	25	ND	ND	LF	MRMW11S-W-39800
Isch	—	02/19/04	—	—	—	—	—	ND	ND	ND	PUMP	MRJR-W-16502
Isch	—	09/14/05	—	—	—	—	—	ND	ND	ND	PUMP	MRPRISCH-W-16513
Isch	—	03/23/06	—	—	20	gal	—	ND	ND	ND	PUMP	MRISCH-W-19989
Isch	—	09/19/06	—	—	—	—	—	ND	ND	ND	PUMP	MRISCH-W-16531
Isch	—	03/22/07	—	—	—	—	—	ND	ND	ND	PUMP	MRISCH-W-16564
Isch	—	10/03/07	—	—	—	—	—	ND	ND	ND	PUMP	MRISCH-W-16590
Isch	—	04/15/08	—	—	—	—	—	0.4 J	ND	ND	PUMP	MRISCH-W-23242
Isch	—	04/22/08	—	—	—	—	—	ND	ND	ND	PUMP	MRISCH-W-23262
Isch	—	10/21/08	—	—	—	—	—	ND	ND	ND	PUMP	MRISCH-W-27632
Isch	—	04/22/09	—	—	—	—	—	ND	ND	ND	PUMP	MRISCH-W-27664
Isch	—	09/02/09	—	—	—	—	—	ND	ND	ND	PUMP	MRISCH-W-29954
Isch	—	04/07/10	—	—	—	—	—	ND	ND	ND	PUMP	MRISCH-W-29994
Isch	—	09/22/10	—	—	—	—	—	ND	ND	ND	PUMP	MRISCH-W-30022
Isch	—	04/21/11	—	—	—	—	—	ND	ND	ND	PUMP	MRISCH-W-30050

TABLE 3.2 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth (ft TOC)		Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Concentration (µg/L)			Comment ^a	Sample
			To Water	Well				Carbon Tetrachloride	Chloroform	Methylene Chloride		
Isch	—	10/03/11	—	—	—	—	—	ND	ND	ND	PUMP	MRIsch-W-30079
Isch	—	03/28/12	—	—	—	—	—	ND	ND	ND	PUMP	MRISCH-W-30114
Isch	—	05/07/13	—	—	—	—	—	ND	ND	ND	PUMP	MRISCH-W-30151
Isch	—	06/06/14	—	—	—	—	—	ND	ND	ND	PUMP	MRISCH-W-31956
Isch ⁱ	—	04/30/15	—	—	—	—	—	ND	ND	ND	PUMP	MRISCH-W-31960
Rilinger	—	06/04/04	—	—	—	—	—	ND	ND	ND	PUMP	MRPRIVRIL-W-16471
Rilinger	—	09/14/05	—	—	—	—	—	2.6	0.1 J	ND	PUMP	MRPRILL-W-16512
Rilinger	—	03/19/06	—	—	—	—	—	ND	ND	0.4 J B	PUMP	MRRILINGER-W-19988
Rilinger	—	09/19/06	—	—	—	—	—	ND	ND	ND	PUMP	MRRILI-W-16530
Rilinger	—	03/29/07	—	—	—	—	—	1.3	1.1	ND	PUMP	MRRILINGER-W-16561
Rilinger	—	10/03/07	—	—	—	—	—	13 ^f	0.4 J	ND	PUMP	MRRILINGER-W-16591
Rilinger	—	10/08/07	—	—	—	—	—	0.4 J	ND	ND	PUMP	MRRILINGER-W-16592
Rilinger	—	01/11/08	—	—	—	—	—	6.2	0.5 J	ND	PUMP	MORIL-W-11108
Rilinger	—	04/15/08	—	—	—	—	—	9.9	0.4 J	ND	PUMP	MRRILINGER-W-23243
Rilinger	—	10/21/08	—	—	—	—	—	0.9 J	ND	ND	PUMP	MRRILLINGER-W-27633
Rilinger	—	04/22/09	—	—	—	—	—	1.2	ND	ND	PUMP	MRRILLINGER-W-27665
Rilinger	—	09/02/09	—	—	—	—	—	1.0	ND	ND	PUMP	MRRILLINGER-W-29955
Rilinger	—	04/07/10	—	—	—	—	—	0.8 J	ND	ND	PUMP	MRRILLINGER-W-29995
Rilinger	—	09/22/10	—	—	—	—	—	1.3	ND	ND	PUMP	MRRILLINGER-W-30023
Rilinger	—	04/21/11	—	—	—	—	—	0.7 J	ND	ND	PUMP	MRRILLINGER-W-30051
Rilinger	—	10/03/11	—	—	—	—	—	0.7 J	ND	ND	PUMP	MRRilinger-W-30080
Rilinger	—	03/28/12	—	—	—	—	—	0.7 J	ND	ND	PUMP	MRRILLINGER-W-30115
Rilinger	—	05/07/13	—	—	—	—	—	2.5	ND	ND	PUMP	MRRILLINGER-W-30152
Rilinger	—	06/06/14	—	—	—	—	—	8.0	0.3 J	ND	PUMP	MRRILLINGER-W-31957
Rilinger	—	04/29/15	—	—	—	—	—	1.7	ND	ND	PUMP	MRRILLINGER-W-37561
Rilinger	—	05/08/16	—	—	—	—	—	ND	ND	ND	PUMP	MRRILLINGER-W-39178
Rilinger	—	06/01/17	—	—	—	—	—	0.6 J	ND	ND	PUMP	MRRILLINGER-W-39801
Stone	43 ^g	06/04/04	23.35	—	—	—	—	10	ND	ND	PDS	MRPRIVSTON-W-16475
Stone	43	09/14/05	17.18	40	—	—	—	2.6	0.3 J	ND	TWV	MRPRSTON-W-16511
Stone	43	03/19/06	17.42	40	100	gal	—	14	0.8 J	0.4 J B	TWV	MRSTONE-W-19987
Stone	43	09/19/06	18.55	38.8	41	gal	—	2.1	ND	ND	TWV	MRSTONE-W-16529
Stone	43	03/22/07	20.62	38.8	56	gal	—	5.4	0.3 J	ND	TWV	MRSTONE-W-16560
Stone	43	10/03/07	14.60	38.6	72	gal	—	2.8	ND	ND	TWV	MRSTONE-W-16589
Stone	43	04/15/08	—	38.86	—	—	—	0.9 J	ND	ND	BAIL	MRSTONE-W-23244
Stone	43	10/21/08	—	—	5	gal	—	3.0	ND	ND	BAIL	MRSTONE-W-27634
Stone	43	04/23/09	—	—	5	gal	—	1.1	ND	ND	BAIL	MRSTONE-W-27666
Stone	43	09/02/09	—	—	5	gal	—	0.9 J	ND	ND	BAIL	MRSTONE-W-29956
Stone	43	04/07/10	—	—	5	gal	—	0.5 J	ND	ND	BAIL	MRSTONE-W-29996
Stone	43	09/22/10	—	—	5	gal	—	0.6 J	1.8	ND	BAIL	MRSTONE-W-30024

TABLE 3.2 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth (ft TOC)		Volume Purged	Purge Units	Pump Intake Position (ft BGL)	Concentration (µg/L)			Comment ^a	Sample
			To Water	Well				Carbon Tetrachloride	Chloroform	Methylene Chloride		
Stone	43	04/21/11	—	—	5	gal	—	1.8	0.9 J	ND	BAIL	MRSTONE-W-30052
Stone	43	10/03/11	—	—	5	gal	—	1.5	ND	ND	BAIL	MRStone-W-30081
Stone	43	03/28/12	—	—	5	gal	—	0.5 J	ND	ND	BAIL	MRSTONE-W-30116
Stone	43	05/07/13	—	—	5	gal	—	0.4 J	ND	ND	BAIL	MRSTONE-W-30153
Stone	43	06/06/14	17.65	—	5	gal	—	ND	ND	ND	BAIL	MRSTONE-W-31958
Stone	43	05/06/15	—	—	5	gal	—	0.9 J	ND	ND	BAIL	MRSTONE-W-37562
Stone	43	05/08/16	—	—	5	gal	—	ND	ND	ND	BAIL	MRSTONE-W-39179
Stone	43	06/01/17	—	—	5	gal	—	1.2	ND	ND	BAIL	MRSTONE-W-39802
TD12	27-67	04/22/08	—	—	—	—	—	ND	ND	ND	GRIMM	MRTD12-W-23264
TD12	27-67	10/20/08	—	—	—	—	—	ND	ND	ND	GRIMM	MRTD12-W-27635
TD12	27-67	04/23/09	—	—	—	—	—	ND	ND	ND	TD	MRTD12-W-27667
TD12	27-67	09/03/09	—	—	—	—	—	ND	ND	ND	OVER	MRTD12-W-29957
TD12	27-67	04/06/10	—	—	—	—	—	ND	ND	ND	OVER	MRTD12-W-29997
TD12	27-67	09/22/10	—	—	—	—	—	ND	ND	ND	OVER	MRTD12-W-30025
TD12	27-67	04/20/11	—	—	—	—	—	ND	ND	ND	OVER	MRTD12-W-30053
TD12	27-67	10/03/11	—	—	—	—	—	ND	ND	ND	OVER	MRTD12-W-30082
TD12	27-67	03/28/12	—	—	—	—	—	ND	ND	ND	OVER	MRTD12-W-30117
TD12	27-67	05/07/13	—	—	—	—	—	ND	ND	ND	OVER	MRTD12-W-30154
TD12	27-67	06/06/14	—	—	—	—	—	ND	ND	ND	OVER	MRTD12-W-31959
TD12 ^l	27-67	04/29/15	—	—	—	—	—	ND	ND	ND	OVER	MRTD12-W-37563

Footnotes on following page.

TABLE 3.2 (Cont.)

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- ^a Comments: BAIL; purged with bailer; GRIMM, Grimm irrigation well; LF, low flow (sometimes specified as upper -U, middle -M, or base -B); NS, not sampled (insufficient water); OVER, overflow before catchment; PDB, passive diffusion bag; PDS, purged dry and sampled; PUMP, purged with well's dedicated pump; TD, tile drain; TWV, three-well-volume purge.
 - ^b ND, not detected at instrument detection limit of 0.1 µg/L.
 - ^c J, estimated concentration below the method quantitation limit of 1 µg/L.
 - ^d B, compound present in the associated method blank.
 - ^e R, contaminant present in the associated equipment rinsate. Resampling confirmed that the well was free of contamination.
 - ^f Sample collected after recent reactivation of well. Well resampled on 1/8/07 and 1/11/08.
 - ^g Total depth.
 - ^h Collection of samples using both the low-flow method and passive diffusion bag samplers at MW1S was discontinued in 2017 with KDHE approval (KDHE 2017).
 - ⁱ Sampling at MW2S, MW4S, and MW10S was discontinued in 2017 with KDHE approval (KDHE 2016a).
 - ^j Sampling at Isch and Grimm (TD12) wells was discontinued in 2017 with KDHE approval (KDHE 2015).

TABLE 3.3 Field measurements for groundwater samples collected in 2003-2017.

Location	Screen Interval (ft BGL)	Sample Date	Depth to Water (ft TOC)	Depth of Well (ft TOC)	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	30.36	54.04	70	gal	—	14.6	7.14	933	— ^a	13	—	—	MRMW1S-W-16422
MW1S	11-51	06/02/04	26.97	53.94	53	gal	—	14.4	7.16	970	—	—	—	—	MRMW1S-W-16461
MW1S	11-51	09/13/05	24.16	53.9	57	gal	—	15.3	6.95	1174	7.17	200	0.00	55	MRMW1S-W-19259
MW1S	11-51	03/22/06	29	53.95	48	gal	—	15.5	7.23	927	9.94	220	0.01	40	MRMW1S-W-20008
MW1S	11-51	09/20/06	26.82	53.97	55	gal	—	15.7	7.12	973	7.52	—	0.03	40	MRMW1S-W-22495
MW1S	11-51	03/21/07	25.8	53.98	55	gal	—	16.6	6.48	960	5.45	88	0.00	40	MRMW1S-W-16488
MW1S	11-51	10/01/07	21.65	53.95	63	gal	—	16.0	6.80	886	6.79	128	0.00	30	MRMW1S-W-16595
MW1S	11-51	04/14/08	16.2	54	5.5	L	—	13.9	7.09	1237	6.38	118	0.02	—	MRMW1S-W-23230
MW1S	11-51	04/22/08	16	54	6.25	L	—	15.6	6.96	1230	6.10	133	—	—	MRMW1S-W-23259
MW1S	11-51	05/01/08	—	—	3.24	L	22	17.1	7.11	801	3.34	104	—	—	MRMW1S-22-W-23275
MW1S	11-51	05/01/08	—	—	3.24	L	27	17.0	7.10	820	3.40	102	—	—	MRMW1S-27-W-23276
MW1S	11-51	05/01/08	—	—	4.25	L	48	16.3	7.00	1301	3.03	118	—	—	MRMW1S-48-W-23277
MW1S	11-51	10/20/08	25.8	54	6	L	31	14.0	6.84	1265	5.40	103	0.00	—	MRMW1S-W-27620
MW1S	11-51	10/21/08	—	—	TWV ^b	—	—	14.8	7.02	978	—	—	0.00	—	MRMW1S-W-27649
MW1S	11-51	04/24/09	24.4	54	5	L	39.2	16.2	7.00	986	8.93	75	0.04	—	MRMW1S-W-27652
MW1S	11-51	09/03/09	19	54	8	L	35	16.0	6.94	1334	7.08	28	0.04	—	MRMW1S-W-29942
MW1S	11-51	09/04/09	19.3	51.2	244	L	50	15.0	6.92	950	7.73	61	—	—	MRMW1S-W-29971
MW1S	11-51	04/07/10	11.65	51.3	7	L	16.6	9.6	7.01	695	8.66	233	0.00	—	MRMW1ST-W-29981
MW1S	11-51	04/07/10	11.57	51.31	6	L	31.5	11.9	6.96	918	8.42	246	0.00	—	MRMW1SM-W-29980
MW1S	11-51	04/07/10	11.65	51.31	6	L	46.3	11.7	6.95	965	8.29	251	0.01	—	MRMW1SB-W-29979
MW1S	11-51	04/07/10	11.48	51.3	80	gal	49	14.0	7.18	687	8.86	211	0.03	—	MRMW1S3X-W-29982
MW1S	11-51	09/22/10	19.89	54	10	L	31	17.9	7.01	1337	6.17	134	0.07	—	MRMW1S-W-30010
MW1S	11-51	04/20/11	23.45	54	6.5	L	37	13.8	6.96	866	6.39	55	0.00	—	MRMW1S-W-30038
MW1S	11-51	10/04/11	21.80	54	8	L	34.9	15.4	7.65	1166	5.72	98	0.00	—	MRMW1S-W-30067
MW1S	11-51	10/12/11	22.14	54	6	L	36.57	16.3	7.24	1279	5.76	323	—	—	MRMW1S-W-30091
MW1S	11-51	10/12/11	22.41	54	65	gal	49	16.7	7.36	905	6.18	270	—	—	MRMW1S3X-W-30092
MW1S	11-51	03/29/12	20.10	54	8	L	25	16.0	7.00	862	6.66	-3.2	0.00	—	MRMW1SU-W-30099
MW1S	11-51	03/29/12	20.17	54	8	L	35	15.6	7.00	955	6.55	-5.2	0.03	—	MRMW1SM-W-30100
MW1S	11-51	03/29/12	20.17	54	8	L	46	15.6	7.02	953	6.55	-2.3	0.00	—	MRMW1SL-W-30101
MW1S	11-51	03/29/12	20.18	54	68	gal	50	16.6	7.14	837	6.61	12	0.01	—	MRMW1S3X-W-30102
MW1S	11-51	05/07/13	20.94	54	6	L	28.46	17.2	7.13	738	8.01	38	0.00	—	MRMW1SU-W-30136
MW1S	11-51	05/07/13	20.94	54	6	L	35.97	16.3	7.13	748	7.89	37	0.11	—	MRMW1SM-W-30137
MW1S	11-51	05/07/13	20.94	54	6	L	43.49	14.8	7.12	749	7.83	38	0.12	—	MRMW1SL-W-30138
MW1S	11-51	05/07/13	20.94	54	65	gal	—	14.4	7.10	724	7.31	202	0.01	—	MRMW1S3X-W-30139
MW1S	11-51	06/05/14	27.38	54	7	L	30.54	17.0	7.07	852	7.65	189	0.01	—	MRMW1SU-W-31941
MW1S	11-51	06/05/14	27.38	54	6	L	37.38	15.9	7.07	890	7.52	176	0.04	—	MRMW1SM-W-31942
MW1S	11-51	06/05/14	27.38	54	6	L	44.18	15.0	7.06	895	7.48	171	0.03	—	MRMW1SL-W-31943
MW1S	11-51	06/06/14	27.38	54	65	gal	52	15.5	7.10	913	7.57	120	0.03	—	MRMW1S3X-W-31944
MW1S	11-51	04/30/15	29.6	54	6	L	32.96	17.5	7.10	1009	8.23	184	0.12	—	MRMW1S3X-W-37545
MW1S	11-51	04/30/15	29.6	54	6	L	38.98	17.3	7.12	1048	7.34	179	0.03	—	MRMW1S3X-W-37546
MW1S	11-51	04/30/15	29.6	54	6	L	44.99	16.2	7.12	1048	7.25	181	0.08	—	MRMW1S3X-W-37547
MW1S	11-51	04/30/15	29.6	54	60	gal	52	15.4	7.18	1022	7.60	155	0.07	—	MRMW1S3X-W-37548
MW1S	11-51	05/08/16	15.50	54	6.5	L	34.11	14.8	6.93	999	8.02	137	0.00	—	MRMW1S3X-W-39163

TABLE 3.3 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth to Water (ft TOC)	Depth of Well (ft TOC)	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	05/08/16	15.50	54	6.5	L	40.13	15.2	6.94	1004	7.94	139	0.03	—	MRMW1S3X-W-39164
MW1S	11-51	05/08/16	15.50	54	6.5	L	46.14	14.7	6.93	1006	8.07	142	0.05	—	MRMW1S3X-W-39165
MW1S	11-51	05/08/16	15.50	54	80	gal	52	14.3	7.04	913	7.49	141	0.08	—	MRMW1S3X-W-39166
MW1SU	11-51	06/01/17	17.99	54	6.5	L	24.45	17.7	6.93	1170	6.94	195	0.13	—	MRMW1SU-W-39786
MW1SM	11-51	06/01/17	18.09	54	6	L	33.3	16.4	6.94	1173	6.93	196	0.04	—	MRMW1SM-W-39787
MW1SL	11-51	06/01/17	18.09	54	6	L	42.15	15.3	6.94	1173	7.07	200	0.11	—	MRMW1SL-W-39788
MW1S3	11-51	06/01/17	17.55	54	72	gal	52	14.3	6.98	877	6.08	154	0.06	—	MRMW1S3-W-39789
MW1D	63-88	10/22/03	28.39	88.5	92	gal	—	14.9	6.87	2620	—	25	—	—	MRMW1D-W-16421
MW1D	63-88	06/02/04	26.82	88.6	140	gal	—	13.9	6.87	2460	—	—	—	—	MRMW1D-W-16458
MW1D	63-88	09/13/05	23.72	88.6	200	gal	—	15.5	6.56	2470	—	—	—	—	MRMW1D-W-16518
MW1D	63-88	03/19/06	26.85	88.6	112	gal	—	12.9	6.95	2460	5.11	230	0.00	—	MRMW1D-W-19986
MW1D	63-88	09/20/06	25.52	88.8	125	gal	—	12.5	6.93	2690	—	—	—	—	MRMW1D-W-16532
MW1D	63-88	03/21/07	25.79	88.8	125	gal	—	15.3	6.39	2540	0.08	12	0.39	40	MRMW1D-W-16487
MW1D	63-88	10/01/07	22.75	89.38	130	gal	—	16.3	6.60	2230	6.79	5	0.44	45	MRMW1D-W-16596
MW1D	63-88	04/14/08	29.51	89	6	L	—	14.6	6.99	2637	0.50	32	0.73	—	MRMW1D-W-23231
MW1D	63-88	10/20/08	30.4	89	7	L	75.5	13.4	6.83	2556	0.24	21	0.37	—	MRMW1D-W-27621
MW1D	63-88	04/24/09	31	89	7	L	75.5	16.7	6.92	2419	0.37	22	0.28	—	MRMW1D-W-27653
MW1D	63-88	09/03/09	27.05	89	6.5	L	75.5	16.9	7.00	2200	0.59	16	0.27	—	MRMW1D-W-29943
MW1D	63-88	04/06/10	24.7	89	8.5	L	75.5	17.8	6.39	2274	0.15	33	0.01	—	MRMW1D-W-29983
MW1D	63-88	09/22/10	27.92	89	9	L	75.5	17.6	7.01	2492	0.31	61	0.04	—	MRMW1D-W-30011
MW1D	63-88	04/20/11	30.15	89	5.5	L	75.5	13.5	6.98	1951	0.33	-2	0.20	—	MRMW1D-W-30039
MW1D	63-88	10/04/11	29.06	89	6.5	L	75.5	14.9	7.66	2011	0.17	22	0.09	—	MRMW1D-W-30068
MW1D	63-88	03/28/12	30.50	89	5.8	L	75.5	16.0	7.01	2161	0.30	-155	0.00	—	MRMW1D-W-30103
MW1D	63-88	05/07/13	28.98	89	6	L	75.5	17.6	7.12	2132	0.27	105	0.13	—	MRMW1D-W-30140
MW1D	63-88	06/06/14	33.23	89	7	L	75.5	17.7	6.94	2240	0.23	64	0.10	—	MRMW1D-W-31945
MW1D	63-88	05/06/15	33.35	89	6	L	75.5	17.3	6.88	2458	0.23	101	0.32	—	MRMW1D-W-37549
MW1D	63-88	05/07/16	29.72	89	5.25	L	75.5	14.2	6.88	2670	0.27	60	0.27	—	MRMW1D-W-39167
MW1D	63-88	06/02/17	29.19	89	6	L	75.5	16.2	6.91	2543	0.31	55	0.15	—	MRMW1D-W-39790
MW2S	13-53	10/22/03	42.21	53.35	PDS ^c	—	—	16.2	6.86	875	—	20	—	—	MRMW02-W-16419
MW2S	13-53	06/02/04	37.44	53.3	31	gal	—	16.9	7.07	861	—	—	—	—	MRMW2S-W-16459
MW2S	13-53	09/14/05	33.68	53.33	38	gal	—	15.2	6.94	801	7.85	142	—	65	MRMW2S-W-19264
MW2S	13-53	03/21/06	40.87	53.32	27	gal	—	13.0	7.07	863	9.40	262	0.14	25	MRMW2S-W-19992
MW2S	13-53	09/18/06	36.53	53.3	28	gal	—	13.6	6.99	844	6.81	69	0.00	80	MRMW2S-W-22488
MW2S	13-53	03/22/07	35.77	53.3	35	gal	—	15.2	6.40	790	5.82	69	0.00	30	MRMW2S-W-16559
MW2S	13-53	10/03/07	31.17	53.4	44	gal	—	16.8	6.97	703	6.70	269	0.01	30	MRMW2S-W-16587
MW2S	13-53	04/15/08	23.55	53.4	2.22	L	—	11.7	7.23	742	3.22	75	0.00	—	MRMW2S-W-23232
MW2S	13-53	10/21/08	33.7	53.5	5	L	33	13.4	7.08	745	8.55	104	0.00	—	MRMW2S-W-27622
MW2S	13-53	10/21/08	—	—	TWV	—	—	—	—	—	—	—	—	—	MRMW2S-W-27652
MW2S	13-53	04/23/09	33.2	53.5	6.5	L	43.35	15.2	6.97	755	9.19	26	0.00	—	MRMW2S-W-27654
MW2S	13-53	09/03/09	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	04/06/10	18.57	52.42	6.5	L	36	17.1	6.95	681	6.85	37	0.12	—	MRMW2S-W-29984
MW2S	13-53	09/22/10	31.25	53	7	L	33	16.1	7.03	723	7.16	142	0.00	—	MRMW2S-W-30012
MW2S	13-53	04/20/11	36.00	53.5	8	L	44.5	13.4	6.91	615	7.07	103	0.05	—	MRMW2S-W-30040
MW2S	13-53	10/04/11	32.73	53.5	7.5	L	42.6	15.3	7.71	592	6.89	120	0.01	—	MRMW2S-W-30069
MW2S	13-53	03/28/12	31.45	53.5	7	L	42.48	15.8	7.06	629	7.04	-59	0.00	—	MRMW2S-W-30104
MW2S	13-53	05/07/13	32.86	53.5	5	L	42.93	14.9	7.09	633	7.64	37	0.00	—	MRMW2S-W-30141

TABLE 3.3 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth to Water (ft TOC)	Depth of Well (ft TOC)	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	06/06/14	37.03	53.5	8	L	45.42	15.3	7.06	777	7.55	134	0.00	–	MRMW2S-W-31946
MW2S	13-53	05/06/15	38.80	53.5	7	L	46.05	16.5	7.02	827	6.39	193	0.05	–	MRMW2S-W-37550
MW2S	13-53	05/07/16	18.16	53.5	7	L	46.05	17.1	6.94	756	7.40	161	0.10	–	MRMW2S-W-39168
MW2S	13-53	06/01/17	24.06	53.5	5.5	L	38.77	15.1	7.05	731	7.46	210	0.20	–	MRMW2S-W-39791
MW3S	18-48	10/23/03	36.47	47.79	73	gal	–	16.8	7.23	655	–	6	–	–	MRMW03-W-16423
MW3S	18-48	06/02/04	30.67	47.5	34	gal	–	14.2	7.23	664	–	–	–	–	MRMW3S-W-16462
MW3S	18-48	09/13/05	25.6	47.6	50	gal	–	14.6	7.13	663	8.82	223	0.00	100	MRMW3S-W-19261
MW3S	18-48	03/23/06	35.62	47.74	28	gal	–	8.9	7.16	662	6.74	269	0.08	25	MRMW3S-W-19994
MW3S	18-48	09/20/06	29.44	47.75	22	gal	–	12.9	7.15	669	7.64	105	0.00	–	MRMW3S-W-22496
MW3S	18-48	03/22/07	26.19	47.75	45	gal	–	15.0	6.44	578	5.90	261	0.17	30	MRMW3S-W-16563
MW3S	18-48	10/03/07	22.7	47.9	50	gal	–	15.3	6.97	594	0.38	282	0.00	20	MRMW3S-W-16585
MW3S	18-48	04/14/08	16.95	47.8	3.31	L	–	13.7	7.17	693	3.52	165	0.00	–	MRMW3S-W-23233
MW3S	18-48	04/22/08	15.8	47.8	6.5	L	–	16.0	6.99	685	6.71	155	–	–	MRMW3S-W-23260
MW3S	18-48	05/01/08	–	–	2.62	L	26	13.2	7.17	675	3.83	161	–	–	MRMW3S-26-W-23269
MW3S	18-48	05/01/08	–	–	2.75	L	38	12.7	7.12	671	4.21	193	–	–	MRMW3S-38-W-23270
MW3S	18-48	05/01/08	–	–	3.17	L	45	12.6	7.03	675	4.57	205	–	–	MRMW3S-45-W-23271
MW3S	18-48	10/21/08	27	47.8	4.2	L	33	12.6	7.17	673	6.42	115	0.00	–	MRMW3S-W-27623
MW3S	18-48	10/21/08	–	–	TWV	–	–	14.3	7.11	522	–	–	0.00	–	MRMW3S-W-27650
MW3S	18-48	04/23/09	26.7	47.8	5	L	37.3	17.0	7.06	662	9.40	-63	0.01	–	MRMW3S-W-27655
MW3S	18-48	09/03/09	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	09/04/09	22.55	47.8	190	L	46	14.2	6.57	659	9.09	95	–	–	MRMW3S-W-29972
MW3S	18-48	04/06/10	12.14	47.8	6	L	33	16.0	6.99	611	8.20	8	0.00	–	MRMW3S-W-29985
MW3S	18-48	09/23/10	23.73	47.8	7	L	33	15.8	7.22	674	11.00	150	0.05	–	MRMW3S-W-30013
MW3S	18-48	04/20/11	32.06	47.8	6.2	L	40	13.3	7.11	514	6.64	61	0.02	–	MRMW3S-W-30041
MW3S	18-48	10/04/11	25.95	47.8	7	L	37	15.8	7.78	563	5.99	115	0.00	–	MRMW3S-W-30070
MW3S	18-48	03/28/12	23.95	47.8	6.5	L	35.88	15.2	7.11	592	7.33	-56	0.00	–	MRMW3S-W-30105
MW3S	18-48	05/07/13	25.65	47.8	7	L	36.83	14.8	7.16	547	8.68	38	0.00	–	MRMW3S-W-30142
MW3S	18-48	06/06/14	34.46	47.80	7.25	L	41.39	16.3	7.11	644	8.80	137	0.00	–	MRMW3S-W-31947
MW3S	18-48	04/30/15	33.95	47.80	7	L	42.1	15.3	7.25	709	6.61	194	0.05	–	MRMW3S-W-37551
MW3S	18-48	05/07/16	12.60	47.80	7	L	42.1	18.6	6.99	673	8.61	151	0.00	–	MRMW3S-W-39169
MW3S	18-48	06/01/17	17.79	47.8	6	L	33.04	15.6	7.08	662	7.35	214	0.04	–	MRMW3S-W-39792
MW4S	17-47	10/21/03	46.4	47.8	PDS	–	–	–	7.17	758	–	–	–	–	MRMW04-W-16418
MW4S	17-47	06/04/04	43.21	47.8	10	gal	–	15.4	6.93	769	–	–	–	–	MRMW4S-W-16470
MW4S	17-47	09/14/05	36.21	47.81	8	gal	–	15.4	7.30	751	8.00	174	0.00	50	MRMW4S-W-19262
MW4S	17-47	03/21/06	44.55	47.72	6	gal	–	6.7	7.25	729	10.90	154	0.00	25	MRMW4S-W-19993
MW4S	17-47	09/18/06	41.56	47.75	5.25	gal	–	13.1	7.25	728	8.05	41	0.00	50	MRMW4S-W-22487
MW4S	17-47	03/22/07	38.74	47.75	6	gal	–	14.2	6.53	765	5.91	78	0.10	25	MRMW4S-W-16562
MW4S	17-47	10/03/07	31.11	47.73	30	gal	–	16.4	6.95	715	7.40	281	0.10	30	MRMW4S-W-16586
MW4S	17-47	01/11/08	–	–	–	–	–	11.3	7.56	757	–	–	–	–	MOMW4S-W-011108
MW4S	17-47	04/14/08	26.32	47.85	2.48	L	–	13.1	7.28	783	3.80	213	0.00	–	MRMW4S-W-23234
MW4S	17-47	10/20/08	36.7	47.8	8	gal	–	14.5	7.16	756	8.71	104	0.00	–	MRMW4S-W-27624
MW4S	17-47	04/23/09	41.5	47.8	5	L	44.65	15.8	7.16	717	9.45	22	0.05	–	MRMW4S-W-27656
MW4S	17-47	09/04/09	31.6	47.8	6	L	39.3	15.0	7.13	731	8.23	80	0.04	–	MRMW4S-W-29946
MW4S	17-47	04/06/10	21.8	47.85	5.5	L	34.83	16.5	7.07	629	8.07	-1	0.00	–	MRMW4S-W-29986
MW4S	17-47	09/22/10	33.15	47.8	6	L	32	16.3	7.07	732	7.28	90	0.00	–	MRMW4S-W-30014
MW4S	17-47	04/21/11	42.39	47.8	5	L	44.7	12.6	7.15	595	7.25	138	0.00	–	MRMW4S-W-30042

TABLE 3.3 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth to Water (ft TOC)	Depth of Well (ft TOC)	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	10/04/11	35.6	47.8	6	L	40.9	16.0	7.95	606	7.62	115	0.00	—	MRMW4S-W-30071
MW4S	17-47	03/28/12	35.10	47.8	7.2	L	41.45	14.5	6.97	612	7.78	-37	0.01	—	MRMW4S-W-30106
MW4S	17-47	05/07/13	44.2	47.8	9	L	45.6	15.3	7.46	582	8.45	39	0.03	—	MRMW4S-W-30143
MW4S	17-47	06/06/14	NS ^d	—	—	—	—	—	—	—	—	—	—	—	—
MW4S	17-47	04/30/15	NS ^d	—	—	—	—	—	—	—	—	—	—	—	—
MW4S	17-47	05/08/16	26.28	54.6	NR	L	40.88	14.0	7.10	774	9.11	116	0.00	—	MRMW4S-W-39170
MW4S	17-47	06/02/17	27.04	47.8	6.5	L	37.14	14.8	7.15	742	5.63	160	0.05	—	MRMW4S-W-39793
MW5S	15-55	10/22/03	31.4	55.72	48	gal	—	15.3	7.10	816	—	6	—	—	MRMW05-W-16420
MW5S	15-55	06/02/04	26.33	55.65	>57	gal	—	14.3	7.21	817	—	—	—	—	MRMW5S-W-16460
MW5S	15-55	09/13/05	22.66	54.2	75	gal	—	16.0	7.04	763	13.90	228	0.00	60	MRMW5S-W-19260
MW5S	15-55	03/22/06	28.64	54.51	50	gal	—	13.9	7.25	781	4.52	234	0.06	35	MRMW5S-W-19996
MW5S	15-55	09/20/06	25.43	54.63	52	gal	—	13.9	7.19	787	5.82	73	0.00	35	MRMW5S-W-22493
MW5S	15-55	03/22/07	25.14	54.56	58	gal	—	15.5	6.50	436	3.98	159	0.08	30	MRMW5S-W-16569
MW5S	15-55	10/03/07	19.55	54.65	68	gal	—	16.5	7.18	850	1.87	268	0.04	25	MRMW5S-W-16588
MW5S	15-55	04/14/08	11.2	54.6	6	L	—	14.1	6.90	1008	3.73	143	0.02	—	MRMW5S-W-23235
MW5S	15-55	04/23/08	11.3	54.6	6.5	L	—	14.9	6.88	1009	3.27	184	—	—	MRMW5S-W-23266
MW5S	15-55	05/01/08	—	—	3.7	L	20	15.2	6.92	1014	2.99	126	—	—	MRMW5S-20-W-23272
MW5S	15-55	05/01/08	—	—	3.4	L	28	15.1	6.90	997	2.38	124	—	—	MRMW5S-28-W-23273
MW5S	15-55	05/01/08	—	—	4	L	52	15.1	6.89	989	2.06	128	—	—	MRMW5S-52-W-23274
MW5S	15-55	10/21/08	22.5	54.6	7	L	35	13.2	7.04	818	5.54	180	0.00	—	MRMW5S-W-27625
MW5S	15-55	04/24/09	22.1	54.6	5.5	L	38.35	15.2	6.98	817	6.68	77	0.00	—	MRMW5S-W-27657
MW5S	15-55	09/03/09	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	04/07/10	8.32	54.5	5.5	L	35	12.6	6.76	844	4.46	149	0.00	—	MRMW5S-W-29987
MW5S	15-55	09/22/10	19.25	55	6.5	L	35	16.4	6.81	891	1.69	112	0.00	—	MRMW5S-W-30015
MW5S	15-55	04/20/11	24.43	54.6	7	L	36	14.6	7.17	617	5.34	89.4	0.00	—	MRMW5S-W-30043
MW5S	15-55	10/04/11	21.10	54.6	6.5	L	38.25	16.7	7.72	740	4.37	118.4	0.03	—	MRMW5S-W-30072
MW5S	15-55	03/28/12	20.60	54.6	7	L	37.6	16.9	7.11	724	5.29	-65.8	0.00	—	MRMW5S-W-30107
MW5S	15-55	05/07/13	21.9	54.6	5	L	38.45	14.2	7.27	694	5.24	51	0.05	—	MRMW5S-W-30144
MW5S	15-55	06/06/14	25.04	54.6	8	L	40.19	16.4	7.16	730	6.41	133	0.02	—	MRMW5S-W-31949
MW5S	15-55	05/06/15	26.5	54.6	5	L	40.88	16.3	6.99	860	4.52	207	0.04	—	MRMW5S-W-37553
MW5S	15-55	05/07/16	8.27	54.6	6	L	35	14.7	6.97	881	6.18	75	0.00	—	MRMW5S-W-39171
MW5S	15-55	06/01/17	12.02	54.6	6	L	35	15.9	6.85	900	4.68	210	0.13	—	MRMW5S-W-39794
MW6S	10-25	06/03/04	3.34	26.9	45	gal	—	15.1	6.89	2410	—	—	—	—	MRMW6S-W-16465
MW6S	10-25	09/14/05	4.7	26.9	43	gal	—	14.1	7.06	2350	0.01	54	0.00	60	MRMW6S-W-19263
MW6S	10-25	03/20/06	5.35	26.91	43	gal	—	9.8	6.91	2360	1.37	89	0.38	60	MRMW6S-W-19990
MW6S	10-25	09/18/06	5.48	26.92	27	gal	—	12.5	6.96	2410	0.08	-29	0.35	85	MRMW6S-W-22486
MW6S	10-25	03/21/07	5.42	26.92	30	gal	—	18.0	6.34	2450	0.12	75	0.78	40	MRMW6S-W-16486
MW6S	10-25	10/02/07	5	26.9	31	gal	—	17.1	7.33	2280	0.20	61	0.19	35	MRMW6S-W-16583
MW6S	10-25	04/15/08	5.15	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	L	17.5	14.3	6.84	2380	0.36	18	0.28	—	MRMW6S-W-27626
MW6S	10-25	04/24/09	6.2	26.9	12	L	17.5	15.2	6.93	2270	0.19	-39	0.63	—	MRMW6S-W-27658
MW6S	10-25	09/04/09	5.85	26.9	5.4	L	17.5	13.8	6.88	2302	0.64	79	0.32	—	MRMW6S-W-29948
MW6S	10-25	04/06/10	6.15	26.9	8	L	17.5	15.2	6.87	2141	0.05	-19	0.21	—	MRMW6S-W-29988
MW6S	10-25	09/22/10	5.53	26.9	8.75	L	17.5	15.6	6.92	2354	0.42	47	0.24	—	MRMW6S-W-30016
MW6S	10-25	04/20/11	6.52	24.88	8	L	17.5	13.0	6.73	1867	0.18	28	0.09	—	MRMW6S-W-30044
MW6S	10-25	10/04/11	6.49	26.9	6	L	17.5	16.6	7.11	2020	0.14	14	0.34	—	MRMW6S-W-30073

TABLE 3.3 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth to Water (ft TOC)	Depth of Well (ft TOC)	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
MW6S	10-25	03/28/12	6.38	26.9	7	L	17.5	14.7	6.62	1928	0.20	0	0.00	–	MRMW6S-W-30108
MW6S	10-25	05/07/13	6.3	26.9	6.5	L	17.5	12.7	7.23	1672	0.52	-11	0.63	–	MRMW6S-W-30145
MW6S	10-25	06/05/14	6.54	26.9	9.25	L	16.01	14.4	6.90	2042	0.55	16	0.15	–	MRMW6S-W-31950
MW6S	10-25	04/29/15	6.6	26.9	9	L	17.5	13.6	6.98	2023	0.15	46	0.53	–	MRMW6S-W-37554
MW6S	10-25	05/07/16	5.36	26.9	7.75	L	17.5	14.3	6.90	2170	0.20	-25	0.83	–	MRMW6S-W-39172
MW6S	10-25	06/02/17	5.93	26.9	6.5	L	17.5	14.9	6.97	2017	0.19	5	0.90	–	MRMW6S-W-39795
MW7S	20-45	06/03/04	26.68	46.98	40	gal	–	13.8	7.19	763	–	–	–	–	MRMW7S-W-16466
MW7S	20-45	09/12/05	17.57	46.94	55	gal	–	15.0	7.26	760	8.35	240	0.00	50	MRMW7S-W-19258
MW7S	20-45	03/22/06	22.45	46.98	48	gal	–	15.2	7.32	740	5.52	268	0.03	25	MRMW7S-W-20000
MW7S	20-45	09/19/06	20.94	47.02	56	gal	–	13.2	7.15	764	7.37	114	0.00	25	MRMW7S-W-22490
MW7S	20-45	03/20/07	18.01	47.02	50	gal	–	14.6	6.43	750	5.31	95	0.00	30	MRMW7S-W-16481
MW7S	20-45	10/01/07	12.4	47	70	gal	–	15.6	6.99	725	7.76	269	0.01	35	MRMW7S-W-16581
MW7S	20-45	04/14/08	7.72	47	1.82	L	–	13.4	7.21	811	2.50	276	0.00	–	MRMW7S-W-23237
MW7S	20-45	04/23/08	7.8	47	11	L	–	14.0	7.00	822	7.41	191	–	–	MRMW7S-W-23265
MW7S	20-45	10/20/08	17.2	47	6.3	L	32.5	14.9	7.02	802	6.38	87	0.00	–	MRMW7S-W-27627
MW7S	20-45	04/23/09	16.7	47	7	L	32.5	16.1	7.01	727	9.48	-53	0.01	–	MRMW7S-W-27659
MW7S	20-45	09/03/09	13.8	47	9	L	32.5	17.4	7.58	814	9.86	102	0.02	–	MRMW7S-W-29949
MW7S	20-45	04/06/10	6.38	47	5.4	L	32.5	14.7	7.04	718	7.92	23	0.00	–	MRMW7S-W-29989
MW7S	20-45	09/23/10	14.15	45	6	L	32.5	16.0	6.91	772	8.39	201	0.00	–	MRMW7S-W-30017
MW7S	20-45	04/20/11	19.69	46.69	6	L	32.5	13.0	7.00	598	7.91	128	0.00	–	MRMW7S-W-30045
MW7S	20-45	10/04/11	7.11	47	7	L	32.5	16.2	7.18	674	8.17	205	0.01	–	MRMW7S-W-30074
MW7S	20-45	03/28/12	15.35	47	8	L	32.5	16.7	6.69	686	8.01	165	0.04	–	MRMW7S-W-30109
MW7S	20-45	05/07/13	19.4	47	6.25	L	32.5	13.4	7.30	855	5.98	228	0.02	–	MRMW7S-W-30146
MW7S	20-45	06/06/14	21.65	47	7.5	L	33.75	15.2	7.10	1053	6.91	117	0.02	–	MRMW7S-W-31951
MW7S	20-45	04/29/15	23.4	47	6	L	34.53	16.6	7.22	776	7.40	179	0.07	–	MRMW7S-W-37555
MW7S	20-45	05/06/16	10.03	47	7.5	L	32.5	14.7	7.06	823	8.55	174	0.07	–	MRMW7S-W-39173
MW7S	20-45	05/31/17	10.02	47	6	L	32.5	14.7	7.17	778	7.56	125	0.08	–	MRMW7S-W-39796
MW8S	10-25	06/03/04	3.7	26.75	45	gal	–	12.8	7.12	941	–	–	–	–	MRMW8S-W-16464
MW8S	10-25	09/14/05	4.02	26.82	57	gal	–	14.1	7.30	853	0.02	65	0.00	40	MRMW8S-W-19265
MW8S	10-25	03/20/06	4.57	26.41	43	gal	–	12.5	7.04	954	0.90	153	0.05	30	MRMW8S-W-19991
MW8S	10-25	09/19/06	4.76	26.83	45	gal	–	11.8	7.09	903	0.58	284	0.13	50	MRMW8S-W-22492
MW8S	10-25	03/20/07	2.63	26.82	49	gal	–	11.0	6.52	1026	0.77	76	0.00	30	MRMW8S-W-16483
MW8S	10-25	10/02/07	2.2	26.8	48	gal	–	15.2	6.76	607	2.66	209	0.02	25	MRMW8S-W-16584
MW8S	10-25	04/15/08	0.7	26.8	5.5	L	–	10.2	7.27	1067	1.58	170	0.00	–	MRMW8S-W-23238
MW8S	10-25	10/20/08	3.6	26.8	8	L	17.5	14.0	6.91	1002	0.93	69	0.00	–	MRMW8S-W-27628
MW8S	10-25	04/23/09	2.3	26.8	6	L	17.5	11.4	6.88	825	1.76	-35	0.02	–	MRMW8S-W-27660
MW8S	10-25	09/03/09	2.9	26.8	8.5	L	17.5	14.1	7.52	890	2.09	115	0.00	–	MRMW8S-W-29950
MW8S	10-25	04/06/10	1.1	26.8	8	L	17.5	13.7	7.00	843	2.60	212	0.00	–	MRMW8S-W-29990
MW8S	10-25	09/22/10	2.53	26.8	9	L	17.5	16.2	7.12	865	1.51	100	0.04	–	MRMW8S-W-30018
MW8S	10-25	04/20/11	2.73	26.8	9	L	17.5	10.1	6.88	652	0.30	98	0.00	–	MRMW8S-W-30046
MW8S	10-25	10/04/11	4.91	26.3	9	L	17.5	14.4	7.16	711	1.22	191	0.04	–	MRMW8S-W-30075
MW8S	10-25	03/28/12	1.38	26.8	6.25	L	17	13.6	6.63	708	0.51	111	0.02	–	MRMW8S-W-30110
MW8S	10-25	05/07/13	1.42	26.8	7	L	17.5	11.1	7.30	601	3.47	230	0.00	–	MRMW8S-W-30147
MW8S	10-25	06/05/14	1.89	26.8	11	L	17.5	12.3	7.06	800	1.99	67	0.03	–	MRMW8S-W-31952
MW8S	10-25	04/29/15	4.7	26.8	9	L	17.5	14.5	7.16	862	5.11	152	0.01	–	MRMW8S-W-37556
MW8S	10-25	05/06/16	0.85	26.8	8	L	17.5	13.9	7.01	917	4.05	176	0.05	–	MRMW8S-W-39174

TABLE 3.3 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth to Water (ft TOC)	Depth of Well (ft TOC)	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
MW8S	10-25	05/31/17	0.84	26.8	6	L	17.5	13.9	7.05	881	3.11	113	0.04	–	MRMW8S-W-39797
MW9S	38.83-53.83	03/22/06	20.2	58.62	20	gal	–	14.6	7.17	715	0.41	25	0.00	35	MRMW9S-W-20004
MW9S	38.83-53.83	09/19/06	18.87	59	22	gal	–	13.0	7.08	707	0.10	113	0.00	55	MRMW9S-W-22494
MW9S	38.83-53.83	03/20/07	16.69	59	22	gal	–	14.2	6.39	714	0.21	40	0.00	20	MRMW9S-W-16480
MW9S	38.83-53.83	10/01/07	14	58.6	23	gal	–	15.5	7.05	664	5.50	191	0.00	30	MRMW9S-W-16582
MW9S	38.83-53.83	04/14/08	16.58	58.63	2.29	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	46.33	15.1	7.15	690	6.18	106	0.00	–	MRMW9S-W-27629
MW9S	38.83-53.83	04/23/09	21.9	58.5	5.5	L	46.33	16.0	7.17	669	5.99	-65	0.07	–	MRMW9S-W-27661
MW9S	38.83-53.83	09/04/09	19.95	58.5	5	L	46.33	17.3	7.18	684	5.33	52	0.03	–	MRMW9S-W-29951
MW9S	38.83-53.83	04/06/10	16.5	58.5	6	L	46.33	15.3	7.19	650	5.50	-10	0.02	–	MRMW9S-W-29991
MW9S	38.83-53.83	09/22/10	21.15	53.83	7	L	46.33	17.1	7.12	704	6.07	151	0.00	–	MRMW9S-W-30019
MW9S	38.83-53.83	04/20/11	23.76	58.32	14	L	46.33	13.6	7.07	569	5.42	111	0.00	–	MRMW9S-W-30047
MW9S	38.83-53.83	10/04/11	22.35	58.5	8	L	46.33	16.7	7.14	618	5.90	185	0.05	–	MRMW9S-W-30076
MW9S	38.83-53.83	03/28/12	23.19	58.5	6.25	L	46.33	16.6	6.73	619	5.45	156	–	–	MRMW9S-W-30111
MW9S	38.83-53.83	05/07/13	23.48	58.5	7	L	46.33	13.9	7.42	620	4.62	218	0.04	–	MRMW9S-W-30148
MW9S	38.83-53.83	06/06/14	25.51	58.5	8	L	46.33	16.0	7.17	748	6.01	106	0.03	–	MRMW9S-W-31953
MW9S	38.83-53.83	04/29/15	25.7	58.5	6	L	46.33	16.8	7.28	834	4.38	175	0.07	–	MRMW9S-W-37557
MW9S	38.83-53.83	05/06/16	19.00	58.5	7.25	L	46.33	15.8	7.11	791	6.36	177	0.00	–	MRMW9S-W-39175
MW9S	38.83-53.83	05/31/17	18.65	58.8	5.5	L	46.33	14.0	7.28	729	5.70	131	0.10	–	MRMW9S-W-39798
MW10S	30-45	03/21/06	12.3	49.6	19	gal	–	6.3	7.11	701	2.10	88	0.01	40	MRMW10S-W-19999
MW10S	30-45	09/18/06	11.08	49.61	20	gal	–	14.3	7.17	701	0.04	24	0.08	60	MRMW10S-W-22489
MW10S	30-45	03/21/07	10.77	49.61	20	gal	–	14.5	6.51	720	0.88	11	0.00	30	MRMW10S-W-16485
MW10S	30-45	10/01/07	6.95	49.65	20	gal	–	16.3	6.97	664	0.35	248	0.04	35	MRMW10S-W-16593
MW10S	30-45	04/14/08	9.82	49.7	1.9	L	–	16.0	7.25	723	1.25	181	0.00	–	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	0.00	–	MRMW10S-W-27630
MW10S	30-45	04/23/09	13.6	45	7.5	L	37.5	15.1	7.05	668	1.78	-57	0.07	–	MRMW10S-W-27662
MW10S	30-45	09/03/09	12	49.7	7.5	L	37.5	14.3	7.59	731	2.03	86	0.07	–	MRMW10S-W-29952
MW10S	30-45	04/06/10	7.5	49.7	9	L	37.5	16.1	7.06	649	2.91	221	0.00	–	MRMW10S-W-29992
MW10S	30-45	09/22/10	11.69	49.7	11	L	37.5	16.7	7.29	723	5.05	131	0.00	–	MRMW10S-W-30020
MW10S	30-45	04/20/11	13.69	49.3	7.25	L	37.5	12.8	7.06	573	2.09	98.7	0.10	–	MRMW10S-W-30048
MW10S	30-45	10/04/11	12.54	49.7	8	L	37.5	15.4	7.27	613	2.53	201	0.01	–	MRMW10S-W-30077
MW10S	30-45	03/28/12	12.76	49.7	8	L	37.5	14.7	6.73	606	2.94	139	0.06	–	MRMW10S-W-30112
MW10S	30-45	05/07/13	13.78	49.7	6	L	37.5	16.9	7.33	602	2.24	195	0.00	–	MRMW10S-W-30149
MW10S	30-45	06/05/14	15.89	49.7	7	L	37.5	13.9	7.20	701	2.49	45	0.03	–	MRMW10S-W-31954
MW10S	30-45	04/29/15	16.35	49.7	7	L	37.5	15.5	7.26	749	1.87	162	0.10	–	MRMW10S-W-37558
MW10S	30-45	05/07/16	8.25	49.7	7.75	L	37.5	15.4	7.11	823	2.41	152	0.13	–	MRMW10S-W-39176
MW10S	30-45	06/01/17	8.13	49.7	6	L	37.5	14.4	7.18	778	2.76	210	0.11	–	MRMW10S-W-39799
MW11S	53-68	03/22/06	35.2	72.5	20	gal	–	14.8	7.33	762	9.40	237	0.06	30	MRMW11S-W-20001
MW11S	53-68	09/19/06	36	73.14	20	gal	–	13.0	7.24	764	1.42	158	0.02	30	MRMW11S-W-22491
MW11S	53-68	03/20/07	34.65	73.14	20	gal	–	14.6	6.33	782	3.90	76	0.00	30	MRMW11S-W-16479
MW11S	53-68	10/01/07	31.55	73	20	gal	–	16.4	6.49	624	6.57	241	0.04	35	MRMW11S-W-16594
MW11S	53-68	04/15/08	29.9	72.7	5.5	L	–	13.9	7.30	785	6.14	152	0.00	–	MRMW11S-W-23241
MW11S	53-68	04/22/08	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	L	60.5	14.3	7.16	756	8.95	104	0.00	–	MRMW11S-W-27631
MW11S	53-68	10/21/08	–	–	TWV	–	–	14.8	7.19	766	–	–	0.00	–	MRMW11S-W-27651

TABLE 3.3 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth to Water (ft TOC)	Depth of Well (ft TOC)	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	04/23/09	38.1	72.7	5	L	60.5	16.5	7.19	722	9.03	-62	0.09	—	MRMW11S-W-27663
MW11S	53-68	09/03/09	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	09/04/09	34.95	72.7	72	L	67	16.2	6.69	721	8.78	100	—	—	MRMW11S-W-29973
MW11S	53-68	04/06/10	29.45	72.7	6.5	L	60.5	15.0	7.14	700	7.20	-20	0.00	—	MRMW11S-W-29993
MW11S	53-68	09/23/10	34.75	72.7	7	L	60.5	15.7	7.40	756	12.62	179	0.33	—	MRMW11S-W-30021
MW11S	53-68	04/20/11	39.16	72.5	7.5	L	60.5	13.1	7.03	603	7.20	108	0.00	—	MRMW11S-W-30049
MW11S	53-68	10/04/11	36.83	72.7	6	L	60.5	16.1	7.26	647	7.56	202	0.03	—	MRMW11S-W-30078
MW11S	53-68	03/28/12	36.46	72.7	6	L	60.5	15.6	6.73	641	7.37	158	0.00	—	MRMW11S-W-30113
MW11S	53-68	05/07/13	38.46	72.7	6	L	60.5	14.4	7.37	583	5.94	218	0.00	—	MRMW11S-W-30150
MW11S	53-68	06/05/14	41.21	72.7	7	L	60.5	13.9	7.23	712	8.02	93	0.09	—	MRMW11S-W-31955
MW11S	53-68	05/06/15	40.9	72.7	6	L	60.5	16.7	7.19	751	5.90	219	0.03	—	MRMW11S-W-37559
MW11S	53-68	05/06/16	29.75	72.7	8	L	60.5	15.3	7.08	800	7.69	182	0.02	—	MRMW11S-W-39177
MW11S	53-68	06/02/17	30.06	72.7	5.5	L	60.5	15.2	7.21	757	4.90	171	0.08	—	MRMW11S-W-39800
Isch	—	02/19/04	—	—	Pump ^a	—	—	—	—	—	—	—	—	—	MRJR-W-16502
Isch	—	09/14/05	—	—	Pump	—	—	20.4	6.73	2300	—	—	—	—	MRPRISCH-W-16513
Isch	—	03/23/06	—	—	20	gal	—	13.0	7.23	9400	—	—	—	—	MRISCH-W-19989
Isch	—	09/19/06	—	—	Pump	—	—	—	—	—	—	—	—	—	MRISCH-W-16531
Isch	—	03/22/07	—	—	Pump	—	—	—	—	—	—	—	—	—	MRISCH-W-16564
Isch	—	10/03/07	—	—	Pump	—	—	—	—	—	—	—	—	—	MRISCH-W-16590
Isch	—	04/15/08	—	—	Pump	—	—	12.6	7.33	3160	—	—	0.28	—	MRISCH-W-23242
Isch	—	10/21/08	—	—	Pump	—	—	—	—	—	—	—	—	—	MRISCH-W-27632
Isch	—	04/22/09	—	—	Pump	—	—	15.3	6.70	2389	—	—	0.04	—	MRISCH-W-27664
Isch	—	09/02/09	—	—	Pump	—	—	13.9	7.18	2600	—	—	—	—	MRISCH-W-29954
Isch	—	04/07/10	—	—	Pump	—	—	11.8	6.86	2326	—	—	0.05	—	MRISCH-W-29994
Isch	—	04/21/11	—	—	Pump	—	—	13.3	7.03	1949	—	—	0.35	—	MRISCH-W-30050
Isch	—	10/03/11	—	—	Pump	—	—	14.5	8.10	2011	—	—	1.61	—	MRIsch-W-30079
Isch	—	03/28/12	—	—	Pump	—	—	15.5	7.12	2210	—	—	0.00	—	MRISCH-W-30114
Isch	—	05/07/13	—	—	Pump	—	—	15.2	7.24	2054	5.38	-11	0.26	—	MRISCH-W-30151
Isch	—	06/06/14	—	—	Pump	—	—	15.9	7.10	2293	3.20	38	0.08	—	MRISCH-W-31956
Isch	—	04/30/15	—	—	Pump	—	—	15.8	7.05	2613	4.61	91	0.11	—	MRISCH-W-37560
Rillinger	—	06/04/04	—	—	Pump	—	—	15.9	6.99	2450	—	—	—	—	MRPRIVRIL-W-16471
Rillinger	—	09/14/05	—	—	Pump	—	—	—	—	—	—	—	—	—	MRPRILL-W-16512
Rillinger	—	03/19/06	—	—	Pump	—	—	11.9	7.05	2550	—	—	—	—	MRRILINGER-W-19988
Rillinger	—	09/19/06	—	—	Pump	—	—	—	—	—	—	—	—	—	MRRILI-W-16530
Rillinger	—	03/29/07	—	—	Pump	—	—	—	—	—	—	—	—	—	MRRILINGER-W-16561
Rillinger	—	10/03/07	—	—	Pump	—	—	—	—	—	—	—	—	—	MRRILINGER-W-16591
Rillinger	—	01/11/08	—	—	Pump	—	—	12.2	7.46	884	—	—	—	—	MORIL-W-11108
Rillinger	—	04/15/08	—	—	Pump	—	—	12.0	7.56	868	—	—	0.00	—	MRRILINGER-W-23243
Rillinger	—	10/21/08	—	—	Pump	—	—	—	—	—	—	—	—	—	MRRILLINGER-W-27633
Rillinger	—	04/22/09	—	—	Pump	—	—	14.5	7.14	2279	—	—	0.01	—	MRRILLINGER-W-27665
Rillinger	—	09/02/09	—	—	Pump	—	—	14.8	7.60	809	—	—	—	—	MRRILLINGER-W-29955
Rillinger	—	04/07/10	—	—	Pump	—	—	13.1	7.08	2287	—	—	—	—	MRRILLINGER-W-29995
Rillinger	—	09/22/10	—	—	Pump	—	—	14.9	7.04	2337	—	—	0.07	—	MRRILLINGER-W-30023
Rillinger	—	04/21/11	—	—	Pump	—	—	13.5	7.15	1851	—	—	—	—	MRRILLINGER-W-30051
Rillinger	—	10/03/11	—	—	Pump	—	—	14.4	7.37	1944	—	—	0.00	—	MRRillinger-W-30080
Rillinger	—	03/28/12	—	—	Pump	—	—	14.6	7.10	1950	—	—	0.00	—	MRRILLINGER-W-30115

TABLE 3.3 (Cont.)

Location	Screen Interval (ft BGL)	Sample Date	Depth to Water (ft TOC)	Depth of Well (ft TOC)	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
Rillinger	—	05/07/13	—	—	Pump	—	—	15.2	7.30	1855	1.95	129	0.00	—	MRRILLINGER-W-30152
Rillinger	—	06/06/14	—	—	Pump	—	—	14.7	7.27	816	7.41	81	0.11	—	MRRILLINGER-W-31957
Rillinger	—	04/29/15	—	—	Pump	—	—	14.7	7.03	2539	2.46	165	0.15	—	MRRILLINGER-W-37561
Rillinger	—	05/08/16	—	—	Pump	—	—	14.4	6.90	2587	3.04	123	NR	—	MRRILLINGER-W-39178
Rillinger	—	06/01/17	—	—	Pump	—	—	14.5	6.98	2267	2.77	134	0.15	—	MRRILLINGER-W-39801
Stone	43 ^f	06/04/04	23.35	—	PDS	—	—	17.1	7.35	682	—	—	—	—	MRPRIVSTON-W-16475
Stone	43	09/14/05	17.18	40	—	—	—	17.3	6.81	638	—	—	—	—	MRPRSTON-W-16511
Stone	43	03/19/06	17.42	40	100	gal	—	12.9	6.42	650	—	213	0.00	—	MRSTONE-W-19987
Stone	43	09/19/06	18.55	38.8	41	gal	—	16.7	7.12	639	—	—	—	—	MRSTONE-W-16529
Stone	43	03/22/07	20.62	38.8	56	gal	—	16.7	6.58	679	4.71	19	0.28	35	MRSTONE-W-16560
Stone	43	10/03/07	14.6	38.6	72	gal	—	16.1	6.97	564	7.07	225	0.07	25	MRSTONE-W-16589
Stone	43	04/15/08	—	38.86	—	—	—	11.3	7.45	557	—	—	0.00	—	MRSTONE-W-23244
Stone	43	10/21/08	—	—	5	gal	—	—	—	—	—	—	—	—	MRSTONE-W-27634
Stone	43	04/23/09	—	—	5	gal	—	13.9	7.12	588	—	—	—	—	MRSTONE-W-27666
Stone	43	09/02/09	—	—	5	gal	—	13.8	7.40	623	—	—	—	—	MRSTONE-W-29956
Stone	43	04/07/10	—	—	5	gal	—	10.9	6.83	468	—	—	—	—	MRSTONE-W-29996
Stone	43	09/22/10	—	—	5	gal	—	15.3	7.21	552	—	—	—	—	MRSTONE-W-30024
Stone	43	04/21/11	—	—	5	gal	—	12.5	7.52	455	—	—	—	—	MRSTONE-W-30052
Stone	43	10/03/11	—	—	5	gal	—	14.1	7.38	495	—	—	0.04	—	MRStone-W-30081
Stone	43	03/28/12	—	—	5	gal	—	14.2	7.24	498	—	—	0.00	—	MRSTONE-W-30116
Stone	43	05/07/13	—	—	5	gal	—	13.8	7.35	499	7.60	134	0.00	—	MRSTONE-W-30153
Stone	43	06/06/14	17.65	—	5	gal	—	13.5	7.21	591	8.11	100	0.08	—	MRSTONE-W-31958
Stone	43	05/06/15	—	—	5	gal	—	14.1	7.00	615	5.30	117	0.07	—	MRSTONE-W-37562
Stone	43	05/08/16	—	—	5	gal	—	13.6	6.92	523	6.22	142	NR	—	MRSTONE-W-39179
Stone	43	06/01/17	—	—	5	gal	—	13.6	7.09	633	4.20	174	0.09	—	MRSTONE-W-39802
TD12	27-67	04/20/11	—	—	—	—	—	—	—	—	—	—	—	—	MRTD12-W-30053
TD12	27-67	10/03/11	—	—	—	—	—	14.2	7.46	2083	—	—	—	—	MRTD12-W-30082
TD12	27-67	03/28/12	—	—	—	—	—	13.5	7.16	2006	—	—	0.00	—	MRTD12-W-30117
TD12	27-67	05/07/13	—	—	—	—	—	14.8	7.28	2017	6.64	17	0.00	—	MRTD12-W-30154
TD12	27-67	06/06/14	—	—	—	—	—	14.3	7.28	8	196.30	19	0.03	—	MRTD12-W-31959
TD12	27-67	04/29/15	—	—	—	—	—	14.0	7.40	2532	8.76	141	0.00	—	MRTD12-W-37563

Footnotes on following page.

TABLE 3.3 (Cont.)

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- ^a Not measured.
 - ^b TWV, three well volumes.
 - ^c PDS, purged dry and then sampled.
 - ^d NS, insufficient water to collect a sample.
 - ^e The well's pump was used for sampling. The pump was allowed to run before the sample was collected.
 - ^f Total depth.

TABLE 3.4 Results of analyses at the AGEM Laboratory for VOCs in surface water and sediment samples collected in 2007-2016.^a

Location	Sample	Sample Date	Medium	Concentration (µg/L in water; µg/kg in sediment)		
				Carbon Tetrachloride	Chloroform	Methylene Chloride
SM1	MRS1-W-16572	03/22/07	Water	ND ^b	ND	ND
SM1	MRS1-S-16573	03/22/07	Sediment	ND	ND	ND
SM1	MRS1-W-16583	10/08/07	Water	ND	ND	ND
SM1	MRS1-S-16584	10/08/07	Sediment	ND	ND	ND
SM1	MRS1-W-23254	04/14/08	Water	ND	ND	ND
SM1	MRS1-S-23254	04/14/08	Sediment	ND	ND	ND
SM1	MRS1-W-27644	10/20/08	Water	ND	ND	ND
SM1	MRS1-S-27644	10/20/08	Sediment	ND	ND	ND
SM1	MRS1-W-27676	04/22/09	Water	ND	ND	ND
SM1	MRS1-S-27676	04/22/09	Sediment	ND	ND	ND
SM1	MRS1-W-29966	09/02/09	Water	ND	ND	ND
SM1	MRS1-S-29966	09/02/09	Sediment	ND	ND	ND
SM1	MRS1-W-29974	04/06/10	Water	ND	ND	ND
SM1	MRS1-S-29974	04/06/10	Sediment	ND	ND	ND
SM1	MRS1-W-30005	09/22/10	Water	ND	ND	ND
SM1	MRS1-S-30005	09/22/10	Sediment	ND	ND	ND
SM1	MRS1-W-29974	04/06/10	Water	ND	ND	ND
SM1	MRS1-S-29974	04/06/10	Sediment	ND	ND	ND
SM1	MRS1-W-30062	10/03/11	Water	ND	ND	ND
SM1	MRS1-S-30062	10/03/11	Sediment	ND	ND	ND
SM1	MRS1-W-30094	03/27/12	Water	ND	ND	ND
SM1	MRS1-S-30094	03/27/12	Sediment	ND	ND	ND
SM1	MRS1-W-30131	05/06/13	Water	ND	ND	ND
SM1	MRS1-S-30131	05/06/13	Sediment	ND	ND	ND
SM1	MRS1-W-31920	06/06/14	Water	ND	ND	ND
SM1	MRS1-S-31920	06/06/14	Sediment	ND	ND	ND
SM1	MRS1-W-37524	04/28/15	Water	ND	ND	ND
SM1	MRS1-S-37577	05/05/15	Sediment	ND	ND	ND
SM1	MRS1-W-39141	05/05/16	Water	ND	ND	ND
SM1	MRS1-S-39141	05/05/16	Sediment	ND	ND	ND
SM2	MRS2-W-16574	03/22/07	Water	ND	ND	ND
SM2	MRS2-S-16575	03/22/07	Sediment	ND	ND	ND
SM2	MRS2-W-16585	10/08/07	Water	ND	ND	ND
SM2	MRS2-S-16586	10/08/07	Sediment	ND	ND	ND
SM2	MRS2-W-23255	04/14/08	Water	ND	ND	ND
SM2	MRS2-S-23255	04/14/08	Sediment	ND	ND	ND
SM2	MRS2-W-27645	10/20/08	Water	ND	ND	ND
SM2	MRS2-S-27645	10/20/08	Sediment	ND	ND	ND
SM2	MRS2-W-27677	04/22/09	Water	ND	ND	ND
SM2	MRS2-S-27677	04/22/09	Sediment	ND	ND	ND
SM2	MRS2-W-29967	09/02/09	Water	ND	ND	ND
SM2	MRS2-S-29967	09/02/09	Sediment	ND	ND	ND
SM2	MRS2-W-29975	04/06/10	Water	ND	ND	ND
SM2	MRS2-S-29975	04/06/10	Sediment	ND	ND	ND
SM2	MRS2-W-30006	09/22/10	Water	ND	ND	ND
SM2	MRS2-S-30006	09/22/10	Sediment	ND	ND	ND
SM2	MRS2-W-29975	04/06/10	Water	ND	ND	ND
SM2	MRS2-S-29975	04/06/10	Sediment	ND	ND	ND
SM2	MRS2-W-30063	10/03/11	Water	ND	ND	ND
SM2	MRS2-S-30063	10/03/11	Sediment	ND	ND	ND

TABLE 3.4 (Cont.)

Location	Sample	Sample Date	Medium	Concentration (µg/L in water; µg/kg in sediment)		
				Carbon Tetrachloride	Chloroform	Methylene Chloride
SM2	MRS2M2-W-30095	03/27/12	Water	ND	ND	ND
SM2	MRS2M2-S-30095	03/27/12	Sediment	ND	ND	ND
SM2	MRS2M2-W-30132	05/06/13	Water	ND	ND	ND
SM2	MRS2M2-S-30132	05/06/13	Sediment	ND	ND	ND
SM2	MRS2M2-W-31921	06/06/14	Water	ND	ND	ND
SM2	MRS2M2-S-31921	06/06/14	Sediment	ND	ND	ND
SM2	MRS2M2-W-37525	04/28/15	Water	ND	ND	ND
SM2	MRS2M2-S-37578	05/05/15	Sediment	ND	ND	ND
SM2	MRS2M2-W-39142	05/05/16	Water	ND	ND	ND
SM2	MRS2M2-S-39142	05/05/16	Sediment	ND	ND	ND
SM3	MRS3M3-W-16576	03/22/07	Water	ND	ND	ND
SM3	MRS3M3-S-16577	03/22/07	Sediment	ND	ND	ND
SM3	MRS3M3-W-16587	10/08/07	Water	ND	ND	ND
SM3	MRS3M3-S-16588	10/08/07	Sediment	ND	ND	ND
SM3	MRS3M3-W-23256	04/14/08	Water	ND	ND	ND
SM3	MRS3M3-S-23256	04/14/08	Sediment	ND	ND	ND
SM3	MRS3M3-W-27646	10/20/08	Water	ND	ND	ND
SM3	MRS3M3-S-27646	10/20/08	Sediment	ND	ND	ND
SM3	MRS3M3-W-27678	04/22/09	Water	ND	ND	ND
SM3	MRS3M3-S-27678	04/22/09	Sediment	ND	ND	ND
SM3	MRS3M3-W-29968	09/02/09	Water	ND	ND	ND
SM3	MRS3M3-S-29968	09/02/09	Sediment	ND	ND	ND
SM3	MRS3M3-W-29976	04/06/10	Water	ND	ND	ND
SM3	MRS3M3-S-29976	04/06/10	Sediment	ND	ND	ND
SM3	MRS3M3-W-30007	09/22/10	Water	ND	ND	ND
SM3	MRS3M3-S-30007	09/22/10	Sediment	ND	ND	ND
SM3	MRS3M3-W-29976	04/06/10	Water	ND	ND	ND
SM3	MRS3M3-S-29976	04/06/10	Sediment	ND	ND	ND
SM3	MRS3M3-W-30064	10/03/11	Water	ND	ND	ND
SM3	MRS3M3-S-30064	10/03/11	Sediment	ND	ND	ND
SM3	MRS3M3-W-30096	03/27/12	Water	ND	ND	ND
SM3	MRS3M3-S-30096	03/27/12	Sediment	ND	ND	ND
SM3	MRS3M3-W-30133	05/06/13	Water	ND	ND	ND
SM3	MRS3M3-S-30133	05/06/13	Sediment	ND	ND	ND
SM3	MRS3M3-W-31922	06/06/14	Water	ND	ND	ND
SM3	MRS3M3-S-31922	06/06/14	Sediment	ND	ND	ND
SM3	MRS3M3-W-37526	04/28/15	Water	ND	ND	ND
SM3	MRS3M3-S-37579	05/05/15	Sediment	ND	ND	ND
SM3	MRS3M3-W-39143	05/05/16	Water	ND	ND	ND
SM3	MRS3M3-S-39143	05/05/16	Sediment	ND	ND	ND
SM4	MRS4M4-W-16578	03/22/07	Water	ND	ND	ND
SM4	MRS4M4-S-16579	03/22/07	Sediment	ND	ND	ND
SM4	MRS4M4-W-16589	10/08/07	Water	ND	ND	ND
SM4	MRS4M4-S-16590	10/08/07	Sediment	ND	ND	ND
SM4	MRS4M4-W-23257	04/14/08	Water	ND	ND	ND
SM4	MRS4M4-S-23257	04/14/08	Sediment	ND	ND	ND
SM4	MRS4M4-W-27647	10/20/08	Water	ND	ND	ND
SM4	MRS4M4-S-27647	10/20/08	Sediment	ND	ND	ND
SM4	MRS4M4-W-27679	04/22/09	Water	ND	ND	ND
SM4	MRS4M4-S-27679	04/22/09	Sediment	ND	ND	ND

TABLE 3.4 (Cont.)

Location	Sample	Sample Date	Medium	Concentration (µg/L in water; µg/kg in sediment)		
				Carbon Tetrachloride	Chloroform	Methylene Chloride
SM4	MRSMB-W-29969	09/02/09	Water	ND	ND	ND
SM4	MRSMB-S-29969	09/02/09	Sediment	ND	ND	ND
SM4	MRSMB-W-29977	04/06/10	Water	ND	ND	ND
SM4	MRSMB-S-29977	04/06/10	Sediment	ND	ND	ND
SM4	MRSMB-W-30008	09/22/10	Water	ND	ND	ND
SM4	MRSMB-S-30008	09/22/10	Sediment	ND	ND	ND
SM4	MRSMB-W-29977	04/06/10	Water	ND	ND	ND
SM4	MRSMB-S-29977	04/06/10	Sediment	ND	ND	ND
SM4	MRSMB-W-30065	10/03/11	Water	ND	ND	ND
SM4	MRSMB-S-30065	10/03/11	Sediment	ND	ND	ND
SM4	MRSMB-W-30097	03/27/12	Water	ND	ND	ND
SM4	MRSMB-S-30097	03/27/12	Sediment	ND	ND	ND
SM4	MRSMB-W-30134	05/06/13	Water	ND	ND	ND
SM4	MRSMB-S-30134	05/06/13	Sediment	5.4 J ^c	ND	ND
SM4	MRSMB-W-31923	06/06/14	Water	ND	ND	ND
SM4	MRSMB-S-31923	06/06/14	Sediment	ND	ND	ND
SM4	MRSMB-W-37527	04/28/15	Water	ND	ND	ND
SM4	MRSMB-S-37580	05/05/15	Sediment	ND	ND	ND
SM4	MRSMB-W-37527	04/28/15	Water	ND	ND	ND
SM4	MRSMB-S-37580	05/05/15	Sediment	ND	ND	ND
SM4	MRSMB-W-39144	05/05/16	Water	ND	ND	ND
SM4	MRSMB-S-39144	05/05/16	Sediment	ND	ND	ND
SMB	MRSMB-W-16570	03/22/07	Water	ND	ND	ND
SMB	MRSMB-S-16571	03/22/07	Sediment	ND	ND	ND
SMB	MRSMB-W-16581	10/08/07	Water	ND	ND	ND
SMB	MRSMB-S-16582	10/08/07	Sediment	ND	ND	ND
SMB	MRSMB-W-23258	04/14/08	Water	ND	ND	ND
SMB	MRSMB-S-23258	04/14/08	Sediment	ND	ND	ND
SMB	MRSMB-W-27648	10/20/08	Water	ND	ND	ND
SMB	MRSMB-S-27648	10/20/08	Sediment	ND	ND	ND
SMB	MRSMB-W-27680	04/22/09	Water	ND	ND	ND
SMB	MRSMB-S-27680	04/22/09	Sediment	ND	ND	ND
SMB	MRSMB-W-29970	09/02/09	Water	ND	ND	ND
SMB	MRSMB-S-29970	09/02/09	Sediment	ND	ND	ND
SMB	MRSMB-W-29978	04/06/10	Water	ND	ND	ND
SMB	MRSMB-S-29978	04/06/10	Sediment	ND	ND	ND
SMB	MRSMB-W-30009	09/22/10	Water	ND	ND	ND
SMB	MRSMB-S-30009	09/22/10	Sediment	ND	ND	ND
SMB	MRSMB-W-29978	04/06/10	Water	ND	ND	ND
SMB	MRSMB-S-29978	04/06/10	Sediment	ND	ND	ND
SMB	MRSMB-W-30066	10/03/11	Water	ND	ND	ND
SMB	MRSMB-S-30066	10/03/11	Sediment	ND	ND	ND
SMB	MRSMB-W-30098	03/27/12	Water	ND	ND	ND
SMB	MRSMB-S-30098	03/27/12	Sediment	ND	ND	ND
SMB	MRSMB-W-30135	05/06/13	Water	ND	ND	ND
SMB	MRSMB-S-30135	05/06/13	Sediment	ND	ND	ND
SMB	MRSMB-W-31924	06/06/14	Water	ND	ND	ND
SMB	MRSMB-S-31924	06/06/14	Sediment	ND	ND	ND
SMB	MRSMB-W-37528	04/28/15	Water	ND	ND	ND

TABLE 3.4 (Cont.)

Location	Sample	Sample Date	Medium	Concentration (µg/L in water; µg/kg in sediment)		
				Carbon Tetrachloride	Chloroform	Methylene Chloride
SMB	MRSMB-S-37581	05/05/15	Sediment	ND	ND	ND
SMB	MRSMB-W-39140	05/05/16	Water	ND	ND	ND
SMB	MRSMB-S-39140	05/05/15	Sediment	ND	ND	ND

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

^b ND, compound analyzed for but not detected at a level greater than or equal to the method detection limit (< 1 µg/L for surface water samples; 10 µg/kg for sediment samples).

^c J, compound identified at an estimated concentration between the instrument detection limit and the method detection limit.

TABLE 3.5 Evaluation results for private wells in 2017.

Well	Depth (ft BGL)	Date of Last Sampling	Owner on Date of Last Sampling	Owner during Report Monitoring Period	Owner Address	Use and Condition
Allen	–	08/27/04	C.L. Allen	No change in ownership	90 Roxanna St. Morrill, KS 66515	The hand pump on the hand-dug well has not been functional for several years, and the well has not been used for any purpose for many years. The owner confirmed that he has no plans to use the well again.
Edwards (formerly Manning)	–	Never sampled	D. and R. Manning	A. Edwards	207 Roxanna St. Morrill, KS 66515	The property was purchased by A. Edwards, who now resides in the home. The lawn and garden well is hand-dug and operated by a hand pump. The previous owners used the well for only non-drinking purposes.
Gruber (formerly Manning/Cain)	–	06/04/04	T. Gruber	No change in ownership	202 Roxanna St. Morrill, KS 66515	The home on the property was destroyed in a fire and razed in early 2015. T. Gruber purchased in property in 2015 and removed the fire debris. He stated that he has no plans to build a new home on the property, which remains a grass lot. There is no visible sign of any well on the property.
Rilinger	–	06/01/17	L. Rilinger	No change in ownership	106 Walnut Street, Morrill, KS 66515	Well used by owner for lawn and garden purposes.
Stone	43	06/01/17	J. Stone	No change in ownership	102 Virginia Street, Morrill, KS 66515 ^a	The well has not been used by the owner for several years and lacks a pump.

^a Reported address is the well's location. The owner's mailing address is 406 Walnut Street, Morrill, Kansas 66515.

FIGURE 3.1 Potentiometric surface based on water levels measured manually on May 30-June 2, 2017.

FIGURE 3.2 Potentiometric surface based on water levels measured manually on December 19, 2017.

FIGURE 3.3 Interpretive south-north geologic section illustrating the stratigraphic relationships among screened intervals of wells near Terrapin Creek.

FIGURE 3.4 Hydrographs summarizing results of long-term water level monitoring in 2017.

FIGURE 3.5 Carbon tetrachloride concentrations in groundwater, May 2016 and May-June 2017.

4 Conclusions, Future Activities, and Recommendations

4.1 Conclusions

The findings of the May-June 2017 monitoring event at Morrill support the following conclusions:

- As in prior years, groundwater flow in 2017 was predominantly to the south, from the vicinity of the former CCC/USDA facility toward Terrapin Creek. Automatic water level monitoring data indicate that, historically, spring precipitation and recharge are the dominant factors affecting the local groundwater level patterns during much of the year.
- The hydrographs for MW1D, MW6S, and MW11S continue to show the clear influence of the Grimm irrigation well pumping in the stratigraphically deeper part of the aquifer during the late spring and summer. The water level recorder at MW11S was installed in late 2013 to help document this influence.
- The distribution of carbon tetrachloride in groundwater during the May-June 2017 monitoring event was generally consistent with that seen in the May 2016 monitoring event. In May-June 2017, a maximum carbon tetrachloride concentration of 25 µg/L was identified in groundwater at well MW11S, with concentrations decreasing downgradient toward Terrapin Creek. Chloroform concentrations were also consistent with recent previous values, with a maximum trace concentration of < 1 µg/L at well MW1S.
- The carbon tetrachloride concentration at the former CCC/USDA facility (MW3S, where the maximum level of 390 µg/L occurred in 1995) was notably lower in 2017 (2.2 µg/L) and 2016 (2.8 µg/L), compared with 2015 (38 µg/L). An increase in the carbon tetrachloride concentration observed at MW1S in 2016 (9.4 µg/L) persisted in 2017 (22 µg/L); the value in 2015 was 4.6 µg/L.
- Since 2004, the accumulated results of many sampling events have demonstrated a significant decline in the maximum detected concentration of

carbon tetrachloride in groundwater. In 1995, the maximum occurred at the former CCC/USDA facility (390 µg/L at MW3S), whereas the maximum in 2017 was 25 µg/L (at MW11S). Chloroform concentrations have decreased from 9.6 µg/L in 1995 (at MW3S) to < 1 µg/L (at MW1S) in 2017. These are decreases of 94% for carbon tetrachloride and > 89% for chloroform. The changes in carbon tetrachloride concentrations at wells sampled in 1995-2017 are illustrated in Figure 4.1.

- The residual contaminant plume extending from the former CCC/USDA facility southward toward Terrapin Creek is well-defined and is slowly declining in concentration naturally (Sections 3.2 and 3.3).
- Since 2007, the accumulated results of many 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, aside from a trace detection in 1 of 5 shallow streambed sediment samples collected in 2013. Risk for further degradation of the creek continues to be monitored.
- 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; it does not support the food procurement designated use (KDHE 2010).
- Use of the public water supply wells that had served Morrill in 1922-1991 was terminated because of high nitrate levels and poor water quality. Public water was subsequently obtained from the Sabetha municipal water system.
- The evaluations of private wells indicated the following:
 - T. Gruber continues to own the former Manning/Cain property. The area where the former home burned down is planted with grass. There is no visible sign of any well on the property. This is consistent with the statement

by the previous owners (the Mannings), who maintained that they had no knowledge of the existence, location, or use of a well on this property. The current owner stated that he has no plans for the property other than to mow the grass cover.

- The Allen private well has not been in use for years and is not expected to be used in the future.
- The former Manning property was purchased by A. Edwards, who now resides in the home where the lawn and garden well is located. The well is used only for non-drinking purposes.
- The ownership, use, and condition of the Rilinger and Stone wells remain the same as reported in previous years (Table 3.5).

4.2 Recommendation

Given our current understanding of the size, nature, and behavior of the groundwater carbon tetrachloride plume, the CCC/USDA recommends the Morrill site for entry into KDHE's Risk Management Program (RMP) in accordance with the eligibility criteria in KDHE's *Risk Management Program Guidance, Policy and Scope of Work, #BER-RS-057* (KDHE 2016b). The following paragraphs discuss how the former CCC/USDA facility meets each of the criteria.

- Subject to an agreement or order under the authority of KDHE BER. The site investigation and subsequent KDHE-approved long-term monitoring program have been conducted as part of the Intergovernmental Agreement (IGA) between the KDHE and the CCC/USDA. The original agreement was signed in 1999, and has been renewed every three years since that time. Per the IGA, the KDHE provides technical oversight and review/approval of the investigation activities at former CCC/USDA facilities in Kansas. For the Morrill site, the CCC/USDA assumed responsibility for investigation of the carbon tetrachloride contamination in 2003.

The CCC/USDA involvement began in 2003 with the development and implementation of a work plan for a Phase I site investigation. That investigation and subsequent investigations in 2004 and 2005 were approved by KDHE, per the IGA. The investigations were performed on behalf of the CCC/USDA by Argonne National Laboratory.

The initial (2003) investigation by the CCC/USDA determined that soils at the former facility were not affected by grain fumigation activities. Carbon tetrachloride was not detected in near surface soils or in subsurface soils collected to bedrock. Because no identifiable human health risk was associated with carbon tetrachloride in shallow soils, the conclusion was that no further threat of contamination to groundwater was present.

Per the KDHE, in September 2005, the CCC/USDA initiated periodic sampling of groundwater, in accord with a KDHE-approved groundwater monitoring program, to monitor carbon tetrachloride concentrations in the groundwater. Every year since the outset of the long-term monitoring program, the CCC/USDA has provided the KDHE with an annual groundwater monitoring report with the results of the long-term monitoring program. KDHE has approved all of the monitoring reports per the IGA.

- Poses a low risk to human health and the environment. Historic groundwater and soil characterization sampling of the former grain silo site and groundwater plume beginning in 1989, summarized in Section 1, combined with long-term annual groundwater sampling has established that carbon tetrachloride contamination is confined to a small, well-defined, low-level groundwater plume that poses low risk to human health and the environment. There are no drinking water wells within the plume; all residents of Morrill obtain their drinking water from a municipal water supply. Sampling of indoor air, surface water, and vegetation has established that no other exposure pathways are complete for carbon tetrachloride groundwater contamination.
- The extent of environmental contamination has been clearly defined. Long-term groundwater sampling of a monitoring well network that was designed in consideration of site history, release locations, and local stratigraphy and

hydrology has clearly defined the extent and migration of groundwater contamination.

- Source reduction has been completed, if necessary. The original source of carbon tetrachloride contamination, the grain silos, has long since been removed. Initial investigations by the CCC/USDA of soils underlying and adjacent to the silos were completed in 2003 and found no residual carbon tetrachloride or its breakdown product chloroform in surface soils or subsurface soils from the surface down to bedrock (see Section 1).
- Contaminant concentration trends are not dependent on continued operation and maintenance of active remediation systems. There are no active remediation systems in place for the groundwater plume, nor are any needed to reduce plume levels. Plume concentrations are stable and decreasing overall as the plume migrates downgradient.
- The associated groundwater contaminant plume is stable or shrinking. As observed in long-term monitoring, the groundwater plume is stable and shrinking in a predictable manner.
- Imminent future exposure to contaminated media is not likely. As noted for the second criterion, there are no complete exposure pathways for human exposure to plume contaminants.
- All current complete exposure pathways have been addressed. There are no complete exposure pathways. The plume is not a source of drinking water.

FIGURE 4.1 Historical carbon tetrachloride concentrations in groundwater, 1995-2017.

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Appendix A:

Sampling Activities at Morrill in 2017

TABLE A.1 Sequence of sampling activities at Morrill, Kansas, in 2017.

Sample Date and Time	Location	Sample	Sample Type ^a	Depth (ft BGL)	Sample Matrix ^b	Shipment Date	Sample Description
5/31/17 17:40	MW8S	MRMW8S-W-39797	N	10-25	WG	6/1/2017	Depth to water = 0.84 ft TOC. Depth of 4-in. well = 26.8 ft. Sample collected using low flow bladder pump after purging 6 L. Pump intake positioned at 17.5 ft.
5/31/17 18:35	MW7S	MRMW7S-W-39796	N	20-45	WG	6/1/2017	Depth to water = 10.02 ft TOC. Depth of 4-in. well = 47 ft. Sample collected using low flow bladder pump after purging 6 L. Pump intake positioned at 32.5 ft.
5/31/17 19:10	MW9S	MRMW9S-W-39798	N	38.83-53.83	WG	6/1/2017	Depth to water = 18.65 ft TOC. Depth of 2-in. well = 58.5 ft. Sample collected using low flow bladder pump after purging 5.5 L. Pump intake positioned at 46.33 ft.
6/1/17 10:00	QC	MRQCTB-W-39812	TB	–	WQC	6/1/2017	Trip blank with water samples for VOC analysis shipped to AGEM Laboratory.
6/1/17 15:00	MW5S	MRMW5S-W-39794	N	15-55	WG	6/1/2017	Depth to water = 12.02 ft TOC. Depth of 4-in. well = 54.6 ft. Sample collected using low flow bladder pump after purging 6 L. Pump intake positioned at 35 ft.
6/1/17 15:00	MW5S	MRMW5S-W-39794VER	VER	15-55	WG	6/2/2017	Verification sample sent to Test America, Inc., Burlington, VT.
6/1/17 15:30	QC	MRQCIR-W-39808	RI	–	WQC	6/1/2017	Rinsate of decontaminated sampling line after collection of sample MRMW5S-W-39794.
6/1/17 16:20	MW3S	MRMW3S-W-39792	N	18-48	WG	6/1/2017	Depth to water = 17.79 ft TOC. Depth of 4-in. well = 47.8 ft. Sample collected using low flow bladder pump after purging 6 L. Pump intake positioned at 33.04 ft.
6/1/17 18:18	MW1S	MRMW1S3X-W-39789	N	11-51	WG	6/1/2017	Depth to water = 17.55 ft TOC. Depth of 4-in. well = 54 ft. Sample collected using Redi-Flow pump after purging 72 gal (3 well volume purge). Pump intake positioned at 52 ft.
6/1/17 18:18	MW1S	MRMW1S3X-W-39789DUP	DUP-L	11-51	WG	6/1/2017	Duplicate laboratory analysis.
6/1/17 18:30	QC	MRQCIR-W-39807	RI	–	WQC	6/1/2017	Rinsate of decontaminated sampling line after collection of sample MRMW1S3X-W-39789.
6/1/17 18:30	STONE	MRSTONE-W-39802	N	43	WG	6/1/2017	Stone private well. Bail 5 gal, then collect a sample using the bailer.
6/1/17 18:55	RILLINGER	MRRILLINGER-W-39801	N	–	WG	6/1/2017	Rilinger private well. Let pump run for 5 min, then collect a sample.
6/2/17 10:00	QC	MRDIH2O-W-39810	FB	–	WQC	6/2/2017	Field blank of water used for equipment decontamination.
6/2/17 10:00	QC	MRQCTB-W-39813	TB	–	WQC	6/2/2017	Trip blank with water samples for VOCs analyses shipped to AGEM Laboratory.
6/2/17 10:00	QC	MRQCTB-W-39813VER	VER	–	WQC	6/2/2017	Verification sample sent to Test America, Inc., Burlington, VT.
6/2/17 12:00	MW11S	MRMW11SDUP-W-39804	DUP-F	53-68	WG	6/2/2017	Field replicate.
6/2/17 12:00	MW11S	MRMW11S-W-39800	N	53-68	WG	6/2/2017	Depth to water = 30.06 ft TOC. Depth of 2-in. well = 72.7 ft. Sample collected using low flow bladder pump after purging 5.5 L. Pump intake positioned at 60.5 ft.
6/2/17 12:15	QC	MRQCIR-W-39809	RI	–	WQC	6/2/2017	Rinsate of decontaminated sampling line after collection of sample MRMW11S-W-39800.

TABLE A.1 (Cont.)

Sample		Location	Sample	Sample Type ^a	Depth (ft BGL)	Sample Matrix ^b	Shipment	
Date and Time							Date	Sample Description
6/2/17	13:00	MW6S	MRMW6S-W-39795	N	10-25	WG	6/2/2017	Depth to water = 5.93 ft TOC. Depth of 4-in. well = 26.9 ft. Sample collected using low flow bladder pump after purging 6.5 L. Pump intake positioned at 17.5 ft.
6/2/17	14:00	MW1D	MRMW1D-W-39790	N	63-88	WG	6/2/2017	Depth to water = 29.19 ft TOC. Depth of 4-in. well = 89 ft. Sample collected using low flow bladder pump after purging 6 L. Pump intake positioned at 75.5 ft.

^a Sample types: DUP-F, field replicate; DUP-L, duplicate lab analysis; FB, field blank; N, primary sample; RI, rinsate; TB, trip blank; VER, verification sample; WASTE, investigation-derived waste sample.

^b Matrix codes: SEDIMENT, surface water sediment; WG, groundwater; WQC, QA/QC water sample, e.g., trip blank; WS, surface water.

Appendix B:

Results from the AGEM Laboratory and TestAmerica for Quality Control Samples Analyzed in 2017

TABLE B.1 Analytical results from the AGEM Laboratory for quality control samples collected to monitor sample collection and handling activities in 2017.

Sample Date	Sample	Sample Type ^a	Concentration (µg/L)		
			Carbon Tetrachloride	Chloroform	Methylene Chloride
06/02/17	MRDIH2O-W-39810	FB	ND ^b	ND	ND
06/01/17	MRQCIR-W-39808	RI	ND	ND	ND
06/01/17	MRQCIR-W-39807	RI	ND	ND	ND
06/02/17	MRQCIR-W-39809	RI	ND	ND	ND
06/01/17	MRQCTB-W-39812	TB	ND	ND	ND
06/02/17	MRQCTB-W-39813	TB	ND	ND	ND

^a Sample types: FB, field blank; RI, rinsate; TB, trip blank.

^b ND, compound analyzed for but not detected at a level greater than or equal to the method detection limit (< 1 µg/L).

TABLE B.2 Analytical results from the AGEM Laboratory for dual analyses of samples collected in 2017.

Sample Date	Location	Sample	Sample Type ^a	Depth (ft (BGL))	Sample Matrix ^b	Carbon Tetrachloride	Chloroform	Methylene Chloride	Concentration Units
MW1S	MRMW1S3X-W-39789	6/1/17	N	11-51	WG	22	0.7 J ^c	ND ^d	µg/L
MW1S	MRMW1S3X-W-39789DUP	6/1/17	DUP-L	11-5	WG	22	1.1	ND	µg/L
MW11S	MRMW11S-W-39800	6/2/17	N	53-68	WG	25	ND	ND	µg/L
MW11S	MRMW11SDUP-W-39804	6/2/17	DUP-F	53-68	WG	23	ND	ND	µg/L

^a Sample types: DUP-L, duplicate lab analysis; DUP-F, field replicate; N, primary sample.

^b Matrix codes: WG, groundwater.

^c J, compound identified with an estimated concentration between the instrument detection limit and the method detection limit.

^d ND, compound analyzed for but not detected at a level greater than or equal to the method detection limit (< 1 µg/L for water).

TABLE B.3 Results for groundwater samples collected in 2017 and submitted for verification organic analyses.^a

Location	Sample	Sample Date	Depth (ft BGL)	Analytic Laboratory	Concentration (µg/L)			Method Detection Limit
					Carbon Tetrachloride	Chloroform	Methylene Chloride	
MW5S	MRMW1D-W-39794	6/1/17	15-55	AGEM	ND ^b	ND	ND	1
MW5S	MRMW1D-W-39794VER	6/1/17	15-55	TestAmerica	ND	ND	ND	0.5
QC	MRQCTB-W-39813	6/2/17	-	AGEM	ND	ND	ND	1
QC	MRQCTB-W-39813VER	6/2/17	-	TestAmerica	ND	0.2 J ^c	ND	0.5

^a TestAmerica verification data are in sample delivery group 200-38792 in Supplement 1 (on CD).

^b ND, compound analyzed for but not detected at a level greater than or equal to the indicated method detection limit.

^c J, compound identified with an estimated concentration between the instrument detection limit and the method detection limit.

Supplement 1:

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

ANALYTICAL REPORT

Job Number: 200-38792-1

SDG Number: 200-38792-1

Job Description: Morrill, KS (200-38792)

Contract Number: 6E-30541

For:

Argonne National Laboratory

9700 South Cass Avenue

Building 203

Office B-141

Argonne, IL 60439

Attention: Ms. Esther Bowen

Approved for release.
Kathryn A Kelly
Project Manager I
6/30/2017 9:35 AM

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06/30/2017

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

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Definitions/Glossary

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Analyzed for but not detected.
B	The analyte was found in an associated blank, as well as in the sample.
J	Indicates an estimated value.
*	Surrogate is outside acceptance limits.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	This flag indicates the presumptive evidence of a compound.
B	The analyte was found in an associated blank, as well as in the sample.
X	See case narrative notes for explanation of the 'X' flag

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: Argonne National Laboratory

Project: Morrill, KS (200-38792)

Report Number: 200-38792-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are 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 06/03/2017; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 4.2 C.

VOLATILE ORGANIC COMPOUNDS - TRACE

Samples MRMW5S-W-39794, MRMW10S-W-39799, MRMW4S-W-39793, MRQCTB-W-39813 and VHBLK01 were analyzed for Volatile Organic Compounds - Trace in accordance with SOM02.3_Trace Volatiles. The samples were analyzed on 06/06/2017 and 06/08/2017.

Internal standard (ISTD) response for the following sample was outside of acceptance limits: MRQCTB-W-39813 (200-38792-4). The sample(s) was not re-analyzed due to insufficient volume. The internal standard 1,4-Dichlorobenzene-d4 fails marginally low due to carried over interference on the trap from previous samples. The data is presented as a secondary confirmation of results because the initial analysis contained an excess number of surrogate outages.

1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 2-Butanone, Acetone and Carbon disulfide were detected in method blank MB 200-117296/7 at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Several analytes were detected in method blank MB 200-117409/6 at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

13 surrogates are used for this analysis. The laboratory's SOP allows 3 of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: MRMW5S-W-39794 (200-38792-1), MRMW10S-W-39799 (200-38792-2), MRMW4S-W-39793 (200-38792-3) and VHBLK01 (200-38792-5). These results have been reported and qualified.

The continuing calibration verification (CCV) associated with batch 200-117296 recovered above the upper control limit for Styrene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: MRMW5S-W-39794 (200-38792-1), MRMW10S-W-39799 (200-38792-2), MRMW4S-W-39793 (200-38792-3), VHBLK01 (200-38792-5) and (CCVIS 200-117296/6).

The method allows two analytes and/or deuterated monitoring compounds (DMCs) to be outside of continuing calibration verification (CCV) technical acceptance criteria without performing re-analysis. The following sample is associated with a CCV which contains an allowable number of analytes outside % Difference limits: MRQCTB-W-39813 (200-38792-4). The results have been reported.

A non-target constituent that represents a compound related to the DMC formulation is present in the following samples: MRMW5S-W-39794 (200-38792-1), MRMW10S-W-39799 (200-38792-2), MRMW4S-W-39793 (200-38792-3), MRQCTB-W-39813 (200-38792-4) and VHBLK01 (200-38792-5). The derived results for that compound have been qualified with an "X" qualifier to reflect the source of the contamination.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Client Sample ID: MRMW5S-W-39794

Lab Sample ID: 200-38792-1

Analyte	Result	Qualifier	RL	MDLE	Unit	Dil Fac	D	Method	Prep Type
Carbon disulfide	0.15	J B	0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA
1,2,4-Trichlorobenzene	0.068	J B	0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA
1,2,3-Trichlorobenzene	0.068	J B	0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA

Client Sample ID: MRMW10S-W-39799

Lab Sample ID: 200-38792-2

Analyte	Result	Qualifier	RL	MDLE	Unit	Dil Fac	D	Method	Prep Type
Carbon disulfide	0.11	J B	0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA
Chloroform	2.6		0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA
Carbon tetrachloride	0.31	J	0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA

Client Sample ID: MRMW4S-W-39793

Lab Sample ID: 200-38792-3

Analyte	Result	Qualifier	RL	MDLE	Unit	Dil Fac	D	Method	Prep Type
Carbon disulfide	0.11	J B	0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA
Carbon tetrachloride	0.11	J	0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA

Client Sample ID: MRQCTB-W-39813

Lab Sample ID: 200-38792-4

Analyte	Result	Qualifier	RL	MDLE	Unit	Dil Fac	D	Method	Prep Type
Acetone	5.1	B	5.0		ug/L	1		SOM02.2/VOA_ Tr	Total/NA
Acetone	4.9	J B	5.0		ug/L	1		SOM02.2/VOA_ Tr	Total/NA
Carbon disulfide	0.10	J B	0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA
Carbon disulfide	0.15	J B	0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA
Chloroform	0.21	J	0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA
Benzene	0.23	J	0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA
Benzene	0.23	J	0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA
Toluene	1.2		0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA
Toluene	1.2		0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA
Ethylbenzene	0.079	J	0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA
Ethylbenzene	0.087	J	0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA
o-Xylene	0.12	J	0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA
o-Xylene	0.12	J	0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA
m,p-Xylene	0.31	J	0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Burlington

Detection Summary

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Client Sample ID: MRQCTB-W-39813 (Continued)

Lab Sample ID: 200-38792-4

Analyte	Result	Qualifier	RL	MDLE	Unit	Dil Fac	D	Method	Prep Type
m,p-Xylene	0.35	J	0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA

Client Sample ID: VHBLK01

Lab Sample ID: 200-38792-5

Analyte	Result	Qualifier	RL	MDLE	Unit	Dil Fac	D	Method	Prep Type
Acetone	2.9	J B	5.0		ug/L	1		SOM02.2/VOA_ Tr	Total/NA
Carbon disulfide	0.10	J B	0.50		ug/L	1		SOM02.2/VOA_ Tr	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Burlington

Client Sample Results

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Client Sample ID: MRMW5S-W-39794

Lab Sample ID: 200-38792-1

Date Collected: 06/01/17 15:00

Matrix: Water

Date Received: 06/03/17 09:20

Method: SOM02.2/VOA_Tr - Trace Water

Analyte	Result	Qualifier	RL	MDLE	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	0.50	U	0.50		ug/L			06/06/17 17:59	1
Chloromethane	0.50	U	0.50		ug/L			06/06/17 17:59	1
Vinyl chloride	0.50	U	0.50		ug/L			06/06/17 17:59	1
Bromomethane	0.50	U	0.50		ug/L			06/06/17 17:59	1
Chloroethane	0.50	U	0.50		ug/L			06/06/17 17:59	1
Trichlorofluoromethane	0.50	U	0.50		ug/L			06/06/17 17:59	1
1,1-Dichloroethene	0.50	U	0.50		ug/L			06/06/17 17:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50		ug/L			06/06/17 17:59	1
Acetone	5.0	U	5.0		ug/L			06/06/17 17:59	1
Carbon disulfide	0.15	J B	0.50		ug/L			06/06/17 17:59	1
Methyl acetate	0.50	U	0.50		ug/L			06/06/17 17:59	1
Methylene Chloride	0.50	U	0.50		ug/L			06/06/17 17:59	1
trans-1,2-Dichloroethene	0.50	U	0.50		ug/L			06/06/17 17:59	1
Methyl tert-butyl ether	0.50	U	0.50		ug/L			06/06/17 17:59	1
1,1-Dichloroethane	0.50	U	0.50		ug/L			06/06/17 17:59	1
cis-1,2-Dichloroethene	0.50	U	0.50		ug/L			06/06/17 17:59	1
2-Butanone	5.0	U	5.0		ug/L			06/06/17 17:59	1
Bromochloromethane	0.50	U	0.50		ug/L			06/06/17 17:59	1
Chloroform	0.50	U	0.50		ug/L			06/06/17 17:59	1
1,1,1-Trichloroethane	0.50	U	0.50		ug/L			06/06/17 17:59	1
Cyclohexane	0.50	U	0.50		ug/L			06/06/17 17:59	1
Carbon tetrachloride	0.50	U	0.50		ug/L			06/06/17 17:59	1
Benzene	0.50	U	0.50		ug/L			06/06/17 17:59	1
1,2-Dichloroethane	0.50	U	0.50		ug/L			06/06/17 17:59	1
Trichloroethene	0.50	U	0.50		ug/L			06/06/17 17:59	1
Methylcyclohexane	0.50	U	0.50		ug/L			06/06/17 17:59	1
1,2-Dichloropropane	0.50	U	0.50		ug/L			06/06/17 17:59	1
Bromodichloromethane	0.50	U	0.50		ug/L			06/06/17 17:59	1
cis-1,3-Dichloropropene	0.50	U	0.50		ug/L			06/06/17 17:59	1
4-Methyl-2-pentanone	5.0	U	5.0		ug/L			06/06/17 17:59	1
Toluene	0.50	U	0.50		ug/L			06/06/17 17:59	1
trans-1,3-Dichloropropene	0.50	U	0.50		ug/L			06/06/17 17:59	1
1,1,2-Trichloroethane	0.50	U	0.50		ug/L			06/06/17 17:59	1
Tetrachloroethene	0.50	U	0.50		ug/L			06/06/17 17:59	1
2-Hexanone	5.0	U	5.0		ug/L			06/06/17 17:59	1
Dibromochloromethane	0.50	U	0.50		ug/L			06/06/17 17:59	1
1,2-Dibromoethane	0.50	U	0.50		ug/L			06/06/17 17:59	1
Chlorobenzene	0.50	U	0.50		ug/L			06/06/17 17:59	1
Ethylbenzene	0.50	U	0.50		ug/L			06/06/17 17:59	1
o-Xylene	0.50	U	0.50		ug/L			06/06/17 17:59	1
m,p-Xylene	0.50	U	0.50		ug/L			06/06/17 17:59	1
Styrene	0.50	U	0.50		ug/L			06/06/17 17:59	1
Bromoform	0.50	U	0.50		ug/L			06/06/17 17:59	1
Isopropylbenzene	0.50	U	0.50		ug/L			06/06/17 17:59	1
1,1,2,2-Tetrachloroethane	0.50	U	0.50		ug/L			06/06/17 17:59	1
1,3-Dichlorobenzene	0.50	U	0.50		ug/L			06/06/17 17:59	1
1,4-Dichlorobenzene	0.50	U	0.50		ug/L			06/06/17 17:59	1
1,2-Dichlorobenzene	0.50	U	0.50		ug/L			06/06/17 17:59	1
1,2-Dibromo-3-chloropropane	0.50	U	0.50		ug/L			06/06/17 17:59	1

TestAmerica Burlington

Client Sample Results

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Client Sample ID: MRMW5S-W-39794

Lab Sample ID: 200-38792-1

Date Collected: 06/01/17 15:00

Matrix: Water

Date Received: 06/03/17 09:20

Method: SOM02.2/VOA_Tr - Trace Water (Continued)

Analyte	Result	Qualifier	RL	MDLE	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	0.068	J B	0.50		ug/L			06/06/17 17:59	1
1,2,3-Trichlorobenzene	0.068	J B	0.50		ug/L			06/06/17 17:59	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Isoprene	0.57	J N	ug/L		2.83	78-79-5		06/06/17 17:59	1
Unknown	3.1	J B X	ug/L		7.28			06/06/17 17:59	1
Cyclotrisiloxane, hexamethyl-	0.54	J N	ug/L		8.18	541-05-9		06/06/17 17:59	1
Cyclotetrasiloxane, octamethyl-	1.9	J N	ug/L		11.01	556-67-2		06/06/17 17:59	1
Total Alkanes			ug/L			STL00989		06/06/17 17:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Vinyl chloride-d3	106		40 - 130					06/06/17 17:59	1
Chloroethane-d5	124		65 - 130					06/06/17 17:59	1
1,1-Dichloroethene-d2	100		60 - 125					06/06/17 17:59	1
2-Butanone-d5	150	*	40 - 130					06/06/17 17:59	1
Chloroform-d	121		70 - 125					06/06/17 17:59	1
1,2-Dichloroethane-d4	137	*	70 - 130					06/06/17 17:59	1
Benzene-d6	118		70 - 125					06/06/17 17:59	1
1,2-Dichloropropane-d6	95		60 - 140					06/06/17 17:59	1
Toluene-d8	117		70 - 130					06/06/17 17:59	1
trans-1,3-Dichloropropene-d4	110		55 - 130					06/06/17 17:59	1
2-Hexanone-d5	145	*	45 - 130					06/06/17 17:59	1
1,1,2,2-Tetrachloroethane-d2	110		65 - 120					06/06/17 17:59	1
1,2-Dichlorobenzene-d4	116		80 - 120					06/06/17 17:59	1

Client Sample ID: MRMW10S-W-39799

Lab Sample ID: 200-38792-2

Date Collected: 06/01/17 17:15

Matrix: Water

Date Received: 06/03/17 09:20

Method: SOM02.2/VOA_Tr - Trace Water

Analyte	Result	Qualifier	RL	MDLE	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	0.50	U	0.50		ug/L			06/06/17 18:25	1
Chloromethane	0.50	U	0.50		ug/L			06/06/17 18:25	1
Vinyl chloride	0.50	U	0.50		ug/L			06/06/17 18:25	1
Bromomethane	0.50	U	0.50		ug/L			06/06/17 18:25	1
Chloroethane	0.50	U	0.50		ug/L			06/06/17 18:25	1
Trichlorofluoromethane	0.50	U	0.50		ug/L			06/06/17 18:25	1
1,1-Dichloroethene	0.50	U	0.50		ug/L			06/06/17 18:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50		ug/L			06/06/17 18:25	1
Acetone	5.0	U	5.0		ug/L			06/06/17 18:25	1
Carbon disulfide	0.11	J B	0.50		ug/L			06/06/17 18:25	1
Methyl acetate	0.50	U	0.50		ug/L			06/06/17 18:25	1
Methylene Chloride	0.50	U	0.50		ug/L			06/06/17 18:25	1
trans-1,2-Dichloroethene	0.50	U	0.50		ug/L			06/06/17 18:25	1
Methyl tert-butyl ether	0.50	U	0.50		ug/L			06/06/17 18:25	1
1,1-Dichloroethane	0.50	U	0.50		ug/L			06/06/17 18:25	1
cis-1,2-Dichloroethene	0.50	U	0.50		ug/L			06/06/17 18:25	1
2-Butanone	5.0	U	5.0		ug/L			06/06/17 18:25	1
Bromochloromethane	0.50	U	0.50		ug/L			06/06/17 18:25	1
Chloroform	2.6		0.50		ug/L			06/06/17 18:25	1

TestAmerica Burlington

Client Sample Results

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Client Sample ID: MRMW10S-W-39799

Lab Sample ID: 200-38792-2

Date Collected: 06/01/17 17:15

Matrix: Water

Date Received: 06/03/17 09:20

Method: SOM02.2/VOA_Tr - Trace Water (Continued)

Analyte	Result	Qualifier	RL	MDLE	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.50	U	0.50		ug/L			06/06/17 18:25	1
Cyclohexane	0.50	U	0.50		ug/L			06/06/17 18:25	1
Carbon tetrachloride	0.31	J	0.50		ug/L			06/06/17 18:25	1
Benzene	0.50	U	0.50		ug/L			06/06/17 18:25	1
1,2-Dichloroethane	0.50	U	0.50		ug/L			06/06/17 18:25	1
Trichloroethene	0.50	U	0.50		ug/L			06/06/17 18:25	1
Methylcyclohexane	0.50	U	0.50		ug/L			06/06/17 18:25	1
1,2-Dichloropropane	0.50	U	0.50		ug/L			06/06/17 18:25	1
Bromodichloromethane	0.50	U	0.50		ug/L			06/06/17 18:25	1
cis-1,3-Dichloropropene	0.50	U	0.50		ug/L			06/06/17 18:25	1
4-Methyl-2-pentanone	5.0	U	5.0		ug/L			06/06/17 18:25	1
Toluene	0.50	U	0.50		ug/L			06/06/17 18:25	1
trans-1,3-Dichloropropene	0.50	U	0.50		ug/L			06/06/17 18:25	1
1,1,2-Trichloroethane	0.50	U	0.50		ug/L			06/06/17 18:25	1
Tetrachloroethene	0.50	U	0.50		ug/L			06/06/17 18:25	1
2-Hexanone	5.0	U	5.0		ug/L			06/06/17 18:25	1
Dibromochloromethane	0.50	U	0.50		ug/L			06/06/17 18:25	1
1,2-Dibromoethane	0.50	U	0.50		ug/L			06/06/17 18:25	1
Chlorobenzene	0.50	U	0.50		ug/L			06/06/17 18:25	1
Ethylbenzene	0.50	U	0.50		ug/L			06/06/17 18:25	1
o-Xylene	0.50	U	0.50		ug/L			06/06/17 18:25	1
m,p-Xylene	0.50	U	0.50		ug/L			06/06/17 18:25	1
Styrene	0.50	U	0.50		ug/L			06/06/17 18:25	1
Bromoform	0.50	U	0.50		ug/L			06/06/17 18:25	1
Isopropylbenzene	0.50	U	0.50		ug/L			06/06/17 18:25	1
1,1,1,2-Tetrachloroethane	0.50	U	0.50		ug/L			06/06/17 18:25	1
1,3-Dichlorobenzene	0.50	U	0.50		ug/L			06/06/17 18:25	1
1,4-Dichlorobenzene	0.50	U	0.50		ug/L			06/06/17 18:25	1
1,2-Dichlorobenzene	0.50	U	0.50		ug/L			06/06/17 18:25	1
1,2-Dibromo-3-chloropropane	0.50	U	0.50		ug/L			06/06/17 18:25	1
1,2,4-Trichlorobenzene	0.50	U	0.50		ug/L			06/06/17 18:25	1
1,2,3-Trichlorobenzene	0.50	U	0.50		ug/L			06/06/17 18:25	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	3.0	J B X	ug/L		7.28			06/06/17 18:25	1
Total Alkanes			ug/L			STL00989		06/06/17 18:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Vinyl chloride-d3	103		40 - 130		06/06/17 18:25	1
Chloroethane-d5	122		65 - 130		06/06/17 18:25	1
1,1-Dichloroethene-d2	96		60 - 125		06/06/17 18:25	1
2-Butanone-d5	149	*	40 - 130		06/06/17 18:25	1
Chloroform-d	124		70 - 125		06/06/17 18:25	1
1,2-Dichloroethane-d4	139	*	70 - 130		06/06/17 18:25	1
Benzene-d6	117		70 - 125		06/06/17 18:25	1
1,2-Dichloropropane-d6	96		60 - 140		06/06/17 18:25	1
Toluene-d8	117		70 - 130		06/06/17 18:25	1
trans-1,3-Dichloropropene-d4	112		55 - 130		06/06/17 18:25	1
2-Hexanone-d5	148	*	45 - 130		06/06/17 18:25	1
1,1,1,2-Tetrachloroethane-d2	110		65 - 120		06/06/17 18:25	1

TestAmerica Burlington

Client Sample Results

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Client Sample ID: MRMW10S-W-39799

Date Collected: 06/01/17 17:15

Date Received: 06/03/17 09:20

Lab Sample ID: 200-38792-2

Matrix: Water

Method: SOM02.2/VOA_Tr - Trace Water (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene-d4	119		80 - 120		06/06/17 18:25	1

Client Sample ID: MRMW4S-W-39793

Date Collected: 06/02/17 10:50

Date Received: 06/03/17 09:20

Lab Sample ID: 200-38792-3

Matrix: Water

Method: SOM02.2/VOA_Tr - Trace Water

Analyte	Result	Qualifier	RL	MDLE	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	0.50	U	0.50		ug/L			06/06/17 18:51	1
Chloromethane	0.50	U	0.50		ug/L			06/06/17 18:51	1
Vinyl chloride	0.50	U	0.50		ug/L			06/06/17 18:51	1
Bromomethane	0.50	U	0.50		ug/L			06/06/17 18:51	1
Chloroethane	0.50	U	0.50		ug/L			06/06/17 18:51	1
Trichlorofluoromethane	0.50	U	0.50		ug/L			06/06/17 18:51	1
1,1-Dichloroethene	0.50	U	0.50		ug/L			06/06/17 18:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50		ug/L			06/06/17 18:51	1
Acetone	5.0	U	5.0		ug/L			06/06/17 18:51	1
Carbon disulfide	0.11	J B	0.50		ug/L			06/06/17 18:51	1
Methyl acetate	0.50	U	0.50		ug/L			06/06/17 18:51	1
Methylene Chloride	0.50	U	0.50		ug/L			06/06/17 18:51	1
trans-1,2-Dichloroethene	0.50	U	0.50		ug/L			06/06/17 18:51	1
Methyl tert-butyl ether	0.50	U	0.50		ug/L			06/06/17 18:51	1
1,1-Dichloroethane	0.50	U	0.50		ug/L			06/06/17 18:51	1
cis-1,2-Dichloroethene	0.50	U	0.50		ug/L			06/06/17 18:51	1
2-Butanone	5.0	U	5.0		ug/L			06/06/17 18:51	1
Bromochloromethane	0.50	U	0.50		ug/L			06/06/17 18:51	1
Chloroform	0.50	U	0.50		ug/L			06/06/17 18:51	1
1,1,1-Trichloroethane	0.50	U	0.50		ug/L			06/06/17 18:51	1
Cyclohexane	0.50	U	0.50		ug/L			06/06/17 18:51	1
Carbon tetrachloride	0.11	J	0.50		ug/L			06/06/17 18:51	1
Benzene	0.50	U	0.50		ug/L			06/06/17 18:51	1
1,2-Dichloroethane	0.50	U	0.50		ug/L			06/06/17 18:51	1
Trichloroethene	0.50	U	0.50		ug/L			06/06/17 18:51	1
Methylcyclohexane	0.50	U	0.50		ug/L			06/06/17 18:51	1
1,2-Dichloropropane	0.50	U	0.50		ug/L			06/06/17 18:51	1
Bromodichloromethane	0.50	U	0.50		ug/L			06/06/17 18:51	1
cis-1,3-Dichloropropene	0.50	U	0.50		ug/L			06/06/17 18:51	1
4-Methyl-2-pentanone	5.0	U	5.0		ug/L			06/06/17 18:51	1
Toluene	0.50	U	0.50		ug/L			06/06/17 18:51	1
trans-1,3-Dichloropropene	0.50	U	0.50		ug/L			06/06/17 18:51	1
1,1,2-Trichloroethane	0.50	U	0.50		ug/L			06/06/17 18:51	1
Tetrachloroethene	0.50	U	0.50		ug/L			06/06/17 18:51	1
2-Hexanone	5.0	U	5.0		ug/L			06/06/17 18:51	1
Dibromochloromethane	0.50	U	0.50		ug/L			06/06/17 18:51	1
1,2-Dibromoethane	0.50	U	0.50		ug/L			06/06/17 18:51	1
Chlorobenzene	0.50	U	0.50		ug/L			06/06/17 18:51	1
Ethylbenzene	0.50	U	0.50		ug/L			06/06/17 18:51	1
o-Xylene	0.50	U	0.50		ug/L			06/06/17 18:51	1
m,p-Xylene	0.50	U	0.50		ug/L			06/06/17 18:51	1

TestAmerica Burlington

Client Sample Results

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Client Sample ID: MRMW4S-W-39793

Lab Sample ID: 200-38792-3

Date Collected: 06/02/17 10:50

Matrix: Water

Date Received: 06/03/17 09:20

Method: SOM02.2/VOA_Tr - Trace Water (Continued)

Analyte	Result	Qualifier	RL	MDLE	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.50	U	0.50		ug/L			06/06/17 18:51	1
Bromoform	0.50	U	0.50		ug/L			06/06/17 18:51	1
Isopropylbenzene	0.50	U	0.50		ug/L			06/06/17 18:51	1
1,1,2,2-Tetrachloroethane	0.50	U	0.50		ug/L			06/06/17 18:51	1
1,3-Dichlorobenzene	0.50	U	0.50		ug/L			06/06/17 18:51	1
1,4-Dichlorobenzene	0.50	U	0.50		ug/L			06/06/17 18:51	1
1,2-Dichlorobenzene	0.50	U	0.50		ug/L			06/06/17 18:51	1
1,2-Dibromo-3-chloropropane	0.50	U	0.50		ug/L			06/06/17 18:51	1
1,2,4-Trichlorobenzene	0.50	U	0.50		ug/L			06/06/17 18:51	1
1,2,3-Trichlorobenzene	0.50	U	0.50		ug/L			06/06/17 18:51	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Isoprene	0.51	J N	ug/L		2.83	78-79-5		06/06/17 18:51	1
Unknown	3.0	J B X	ug/L		7.28			06/06/17 18:51	1
Total Alkanes			ug/L			STL00989		06/06/17 18:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Vinyl chloride-d3	103		40 - 130		06/06/17 18:51	1
Chloroethane-d5	121		65 - 130		06/06/17 18:51	1
1,1-Dichloroethene-d2	94		60 - 125		06/06/17 18:51	1
2-Butanone-d5	152	*	40 - 130		06/06/17 18:51	1
Chloroform-d	123		70 - 125		06/06/17 18:51	1
1,2-Dichloroethane-d4	139	*	70 - 130		06/06/17 18:51	1
Benzene-d6	117		70 - 125		06/06/17 18:51	1
1,2-Dichloropropane-d6	95		60 - 140		06/06/17 18:51	1
Toluene-d8	116		70 - 130		06/06/17 18:51	1
trans-1,3-Dichloropropene-d4	111		55 - 130		06/06/17 18:51	1
2-Hexanone-d5	150	*	45 - 130		06/06/17 18:51	1
1,1,2,2-Tetrachloroethane-d2	113		65 - 120		06/06/17 18:51	1
1,2-Dichlorobenzene-d4	120		80 - 120		06/06/17 18:51	1

Client Sample ID: MRQCTB-W-39813

Lab Sample ID: 200-38792-4

Date Collected: 06/02/17 10:00

Matrix: Water

Date Received: 06/03/17 09:20

Method: SOM02.2/VOA_Tr - Trace Water

Analyte	Result	Qualifier	RL	MDLE	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	0.50	U	0.50		ug/L			06/06/17 19:17	1
Dichlorodifluoromethane	0.50	U	0.50		ug/L			06/08/17 22:50	1
Chloromethane	0.50	U	0.50		ug/L			06/06/17 19:17	1
Chloromethane	0.50	U	0.50		ug/L			06/08/17 22:50	1
Vinyl chloride	0.50	U	0.50		ug/L			06/06/17 19:17	1
Vinyl chloride	0.50	U	0.50		ug/L			06/08/17 22:50	1
Bromomethane	0.50	U	0.50		ug/L			06/06/17 19:17	1
Bromomethane	0.50	U	0.50		ug/L			06/08/17 22:50	1
Chloroethane	0.50	U	0.50		ug/L			06/06/17 19:17	1
Chloroethane	0.50	U	0.50		ug/L			06/08/17 22:50	1
Trichlorofluoromethane	0.50	U	0.50		ug/L			06/06/17 19:17	1
Trichlorofluoromethane	0.50	U	0.50		ug/L			06/08/17 22:50	1
1,1-Dichloroethene	0.50	U	0.50		ug/L			06/06/17 19:17	1

TestAmerica Burlington

Client Sample Results

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Client Sample ID: MRQCTB-W-39813

Lab Sample ID: 200-38792-4

Date Collected: 06/02/17 10:00

Matrix: Water

Date Received: 06/03/17 09:20

Method: SOM02.2/VOA_Tr - Trace Water (Continued)

Analyte	Result	Qualifier	RL	MDLE	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.50	U	0.50		ug/L			06/08/17 22:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50		ug/L			06/06/17 19:17	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50		ug/L			06/08/17 22:50	1
Acetone	5.1	B	5.0		ug/L			06/06/17 19:17	1
Acetone	4.9	J B	5.0		ug/L			06/08/17 22:50	1
Carbon disulfide	0.10	J B	0.50		ug/L			06/06/17 19:17	1
Carbon disulfide	0.15	J B	0.50		ug/L			06/08/17 22:50	1
Methyl acetate	0.50	U	0.50		ug/L			06/06/17 19:17	1
Methyl acetate	0.50	U	0.50		ug/L			06/08/17 22:50	1
Methylene Chloride	0.50	U	0.50		ug/L			06/06/17 19:17	1
Methylene Chloride	0.50	U	0.50		ug/L			06/08/17 22:50	1
trans-1,2-Dichloroethene	0.50	U	0.50		ug/L			06/06/17 19:17	1
trans-1,2-Dichloroethene	0.50	U	0.50		ug/L			06/08/17 22:50	1
Methyl tert-butyl ether	0.50	U	0.50		ug/L			06/06/17 19:17	1
Methyl tert-butyl ether	0.50	U	0.50		ug/L			06/08/17 22:50	1
1,1-Dichloroethane	0.50	U	0.50		ug/L			06/06/17 19:17	1
1,1-Dichloroethane	0.50	U	0.50		ug/L			06/08/17 22:50	1
cis-1,2-Dichloroethene	0.50	U	0.50		ug/L			06/06/17 19:17	1
cis-1,2-Dichloroethene	0.50	U	0.50		ug/L			06/08/17 22:50	1
2-Butanone	5.0	U	5.0		ug/L			06/06/17 19:17	1
2-Butanone	5.0	U	5.0		ug/L			06/08/17 22:50	1
Bromochloromethane	0.50	U	0.50		ug/L			06/06/17 19:17	1
Bromochloromethane	0.50	U	0.50		ug/L			06/08/17 22:50	1
Chloroform	0.21	J	0.50		ug/L			06/06/17 19:17	1
Chloroform	0.50	U	0.50		ug/L			06/08/17 22:50	1
1,1,1-Trichloroethane	0.50	U	0.50		ug/L			06/06/17 19:17	1
1,1,1-Trichloroethane	0.50	U	0.50		ug/L			06/08/17 22:50	1
Cyclohexane	0.50	U	0.50		ug/L			06/06/17 19:17	1
Cyclohexane	0.50	U	0.50		ug/L			06/08/17 22:50	1
Carbon tetrachloride	0.50	U	0.50		ug/L			06/06/17 19:17	1
Carbon tetrachloride	0.50	U	0.50		ug/L			06/08/17 22:50	1
Benzene	0.23	J	0.50		ug/L			06/06/17 19:17	1
Benzene	0.23	J	0.50		ug/L			06/08/17 22:50	1
1,2-Dichloroethane	0.50	U	0.50		ug/L			06/06/17 19:17	1
1,2-Dichloroethane	0.50	U	0.50		ug/L			06/08/17 22:50	1
Trichloroethene	0.50	U	0.50		ug/L			06/06/17 19:17	1
Trichloroethene	0.50	U	0.50		ug/L			06/08/17 22:50	1
Methylcyclohexane	0.50	U	0.50		ug/L			06/06/17 19:17	1
Methylcyclohexane	0.50	U	0.50		ug/L			06/08/17 22:50	1
1,2-Dichloropropane	0.50	U	0.50		ug/L			06/06/17 19:17	1
1,2-Dichloropropane	0.50	U	0.50		ug/L			06/08/17 22:50	1
Bromodichloromethane	0.50	U	0.50		ug/L			06/06/17 19:17	1
Bromodichloromethane	0.50	U	0.50		ug/L			06/08/17 22:50	1
cis-1,3-Dichloropropene	0.50	U	0.50		ug/L			06/06/17 19:17	1
cis-1,3-Dichloropropene	0.50	U	0.50		ug/L			06/08/17 22:50	1
4-Methyl-2-pentanone	5.0	U	5.0		ug/L			06/06/17 19:17	1
4-Methyl-2-pentanone	5.0	U	5.0		ug/L			06/08/17 22:50	1
Toluene	1.2		0.50		ug/L			06/06/17 19:17	1
Toluene	1.2		0.50		ug/L			06/08/17 22:50	1

TestAmerica Burlington

Client Sample Results

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Client Sample ID: MRQCTB-W-39813

Lab Sample ID: 200-38792-4

Date Collected: 06/02/17 10:00

Matrix: Water

Date Received: 06/03/17 09:20

Method: SOM02.2/VOA_Tr - Trace Water (Continued)

Analyte	Result	Qualifier	RL	MDLE	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	0.50	U	0.50		ug/L			06/06/17 19:17	1
trans-1,3-Dichloropropene	0.50	U	0.50		ug/L			06/08/17 22:50	1
1,1,2-Trichloroethane	0.50	U	0.50		ug/L			06/06/17 19:17	1
1,1,2-Trichloroethane	0.50	U	0.50		ug/L			06/08/17 22:50	1
Tetrachloroethene	0.50	U	0.50		ug/L			06/06/17 19:17	1
Tetrachloroethene	0.50	U	0.50		ug/L			06/08/17 22:50	1
2-Hexanone	5.0	U	5.0		ug/L			06/06/17 19:17	1
2-Hexanone	5.0	U	5.0		ug/L			06/08/17 22:50	1
Dibromochloromethane	0.50	U	0.50		ug/L			06/06/17 19:17	1
Dibromochloromethane	0.50	U	0.50		ug/L			06/08/17 22:50	1
1,2-Dibromoethane	0.50	U	0.50		ug/L			06/06/17 19:17	1
1,2-Dibromoethane	0.50	U	0.50		ug/L			06/08/17 22:50	1
Chlorobenzene	0.50	U	0.50		ug/L			06/06/17 19:17	1
Chlorobenzene	0.50	U	0.50		ug/L			06/08/17 22:50	1
Ethylbenzene	0.079	J	0.50		ug/L			06/06/17 19:17	1
Ethylbenzene	0.087	J	0.50		ug/L			06/08/17 22:50	1
o-Xylene	0.12	J	0.50		ug/L			06/06/17 19:17	1
o-Xylene	0.12	J	0.50		ug/L			06/08/17 22:50	1
m,p-Xylene	0.31	J	0.50		ug/L			06/06/17 19:17	1
m,p-Xylene	0.35	J	0.50		ug/L			06/08/17 22:50	1
Styrene	0.50	U	0.50		ug/L			06/06/17 19:17	1
Styrene	0.50	U	0.50		ug/L			06/08/17 22:50	1
Bromoform	0.50	U	0.50		ug/L			06/06/17 19:17	1
Bromoform	0.50	U	0.50		ug/L			06/08/17 22:50	1
Isopropylbenzene	0.50	U	0.50		ug/L			06/06/17 19:17	1
Isopropylbenzene	0.50	U	0.50		ug/L			06/08/17 22:50	1
1,1,2,2-Tetrachloroethane	0.50	U	0.50		ug/L			06/06/17 19:17	1
1,1,2,2-Tetrachloroethane	0.50	U	0.50		ug/L			06/08/17 22:50	1
1,3-Dichlorobenzene	0.50	U	0.50		ug/L			06/06/17 19:17	1
1,3-Dichlorobenzene	0.50	U	0.50		ug/L			06/08/17 22:50	1
1,4-Dichlorobenzene	0.50	U	0.50		ug/L			06/06/17 19:17	1
1,4-Dichlorobenzene	0.50	U	0.50		ug/L			06/08/17 22:50	1
1,2-Dichlorobenzene	0.50	U	0.50		ug/L			06/06/17 19:17	1
1,2-Dichlorobenzene	0.50	U	0.50		ug/L			06/08/17 22:50	1
1,2-Dibromo-3-chloropropane	0.50	U	0.50		ug/L			06/06/17 19:17	1
1,2-Dibromo-3-chloropropane	0.50	U	0.50		ug/L			06/08/17 22:50	1
1,2,4-Trichlorobenzene	0.50	U	0.50		ug/L			06/06/17 19:17	1
1,2,4-Trichlorobenzene	0.50	U	0.50		ug/L			06/08/17 22:50	1
1,2,3-Trichlorobenzene	0.50	U	0.50		ug/L			06/06/17 19:17	1
1,2,3-Trichlorobenzene	0.50	U	0.50		ug/L			06/08/17 22:50	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	0.51	J	ug/L		1.64			06/08/17 22:50	1
1-Pentene	2.0	J N	ug/L		3.30	109-67-1		06/06/17 19:17	1
Unknown	3.1	J X	ug/L		7.28			06/06/17 19:17	1
Unknown	2.9	J X	ug/L		7.28			06/08/17 22:50	1
Total Alkanes			ug/L			STL00989		06/06/17 19:17	1
Total Alkanes			ug/L			STL00989		06/08/17 22:50	1

TestAmerica Burlington

Client Sample Results

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Client Sample ID: MRQCTB-W-39813

Date Collected: 06/02/17 10:00

Date Received: 06/03/17 09:20

Lab Sample ID: 200-38792-4

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Vinyl chloride-d3	108		40 - 130		06/06/17 19:17	1
Vinyl chloride-d3	78		40 - 130		06/08/17 22:50	1
Chloroethane-d5	125		65 - 130		06/06/17 19:17	1
Chloroethane-d5	109		65 - 130		06/08/17 22:50	1
1,1-Dichloroethene-d2	96		60 - 125		06/06/17 19:17	1
1,1-Dichloroethene-d2	89		60 - 125		06/08/17 22:50	1
2-Butanone-d5	155	*	40 - 130		06/06/17 19:17	1
2-Butanone-d5	124		40 - 130		06/08/17 22:50	1
Chloroform-d	127	*	70 - 125		06/06/17 19:17	1
Chloroform-d	117		70 - 125		06/08/17 22:50	1
1,2-Dichloroethane-d4	142	*	70 - 130		06/06/17 19:17	1
1,2-Dichloroethane-d4	137	*	70 - 130		06/08/17 22:50	1
Benzene-d6	120		70 - 125		06/06/17 19:17	1
Benzene-d6	112		70 - 125		06/08/17 22:50	1
1,2-Dichloropropane-d6	97		60 - 140		06/06/17 19:17	1
1,2-Dichloropropane-d6	89		60 - 140		06/08/17 22:50	1
Toluene-d8	119		70 - 130		06/06/17 19:17	1
Toluene-d8	112		70 - 130		06/08/17 22:50	1
trans-1,3-Dichloropropene-d4	115		55 - 130		06/06/17 19:17	1
trans-1,3-Dichloropropene-d4	110		55 - 130		06/08/17 22:50	1
2-Hexanone-d5	158	*	45 - 130		06/06/17 19:17	1
2-Hexanone-d5	132	*	45 - 130		06/08/17 22:50	1
1,1,2,2-Tetrachloroethane-d2	115		65 - 120		06/06/17 19:17	1
1,1,2,2-Tetrachloroethane-d2	109		65 - 120		06/08/17 22:50	1
1,2-Dichlorobenzene-d4	119		80 - 120		06/06/17 19:17	1
1,2-Dichlorobenzene-d4	117		80 - 120		06/08/17 22:50	1

Client Sample ID: VHBLK01

Date Collected: 06/03/17 11:08

Date Received: 06/03/17 09:20

Lab Sample ID: 200-38792-5

Matrix: Water

Method: SOM02.2/VOA_Tr - Trace Water

Analyte	Result	Qualifier	RL	MDLE	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	0.50	U	0.50		ug/L			06/06/17 19:43	1
Chloromethane	0.50	U	0.50		ug/L			06/06/17 19:43	1
Vinyl chloride	0.50	U	0.50		ug/L			06/06/17 19:43	1
Bromomethane	0.50	U	0.50		ug/L			06/06/17 19:43	1
Chloroethane	0.50	U	0.50		ug/L			06/06/17 19:43	1
Trichlorofluoromethane	0.50	U	0.50		ug/L			06/06/17 19:43	1
1,1-Dichloroethene	0.50	U	0.50		ug/L			06/06/17 19:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50		ug/L			06/06/17 19:43	1
Acetone	2.9	J B	5.0		ug/L			06/06/17 19:43	1
Carbon disulfide	0.10	J B	0.50		ug/L			06/06/17 19:43	1
Methyl acetate	0.50	U	0.50		ug/L			06/06/17 19:43	1
Methylene Chloride	0.50	U	0.50		ug/L			06/06/17 19:43	1
trans-1,2-Dichloroethene	0.50	U	0.50		ug/L			06/06/17 19:43	1
Methyl tert-butyl ether	0.50	U	0.50		ug/L			06/06/17 19:43	1
1,1-Dichloroethane	0.50	U	0.50		ug/L			06/06/17 19:43	1
cis-1,2-Dichloroethene	0.50	U	0.50		ug/L			06/06/17 19:43	1
2-Butanone	5.0	U	5.0		ug/L			06/06/17 19:43	1

TestAmerica Burlington

Client Sample Results

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Client Sample ID: VHBLK01

Lab Sample ID: 200-38792-5

Date Collected: 06/03/17 11:08

Matrix: Water

Date Received: 06/03/17 09:20

Method: SOM02.2/VOA_Tr - Trace Water (Continued)

Analyte	Result	Qualifier	RL	MDLE	Unit	D	Prepared	Analyzed	Dil Fac
Bromochloromethane	0.50	U	0.50		ug/L			06/06/17 19:43	1
Chloroform	0.50	U	0.50		ug/L			06/06/17 19:43	1
1,1,1-Trichloroethane	0.50	U	0.50		ug/L			06/06/17 19:43	1
Cyclohexane	0.50	U	0.50		ug/L			06/06/17 19:43	1
Carbon tetrachloride	0.50	U	0.50		ug/L			06/06/17 19:43	1
Benzene	0.50	U	0.50		ug/L			06/06/17 19:43	1
1,2-Dichloroethane	0.50	U	0.50		ug/L			06/06/17 19:43	1
Trichloroethene	0.50	U	0.50		ug/L			06/06/17 19:43	1
Methylcyclohexane	0.50	U	0.50		ug/L			06/06/17 19:43	1
1,2-Dichloropropane	0.50	U	0.50		ug/L			06/06/17 19:43	1
Bromodichloromethane	0.50	U	0.50		ug/L			06/06/17 19:43	1
cis-1,3-Dichloropropene	0.50	U	0.50		ug/L			06/06/17 19:43	1
4-Methyl-2-pentanone	5.0	U	5.0		ug/L			06/06/17 19:43	1
Toluene	0.50	U	0.50		ug/L			06/06/17 19:43	1
trans-1,3-Dichloropropene	0.50	U	0.50		ug/L			06/06/17 19:43	1
1,1,2-Trichloroethane	0.50	U	0.50		ug/L			06/06/17 19:43	1
Tetrachloroethene	0.50	U	0.50		ug/L			06/06/17 19:43	1
2-Hexanone	5.0	U	5.0		ug/L			06/06/17 19:43	1
Dibromochloromethane	0.50	U	0.50		ug/L			06/06/17 19:43	1
1,2-Dibromoethane	0.50	U	0.50		ug/L			06/06/17 19:43	1
Chlorobenzene	0.50	U	0.50		ug/L			06/06/17 19:43	1
Ethylbenzene	0.50	U	0.50		ug/L			06/06/17 19:43	1
o-Xylene	0.50	U	0.50		ug/L			06/06/17 19:43	1
m,p-Xylene	0.50	U	0.50		ug/L			06/06/17 19:43	1
Styrene	0.50	U	0.50		ug/L			06/06/17 19:43	1
Bromoform	0.50	U	0.50		ug/L			06/06/17 19:43	1
Isopropylbenzene	0.50	U	0.50		ug/L			06/06/17 19:43	1
1,1,2,2-Tetrachloroethane	0.50	U	0.50		ug/L			06/06/17 19:43	1
1,3-Dichlorobenzene	0.50	U	0.50		ug/L			06/06/17 19:43	1
1,4-Dichlorobenzene	0.50	U	0.50		ug/L			06/06/17 19:43	1
1,2-Dichlorobenzene	0.50	U	0.50		ug/L			06/06/17 19:43	1
1,2-Dibromo-3-chloropropane	0.50	U	0.50		ug/L			06/06/17 19:43	1
1,2,4-Trichlorobenzene	0.50	U	0.50		ug/L			06/06/17 19:43	1
1,2,3-Trichlorobenzene	0.50	U	0.50		ug/L			06/06/17 19:43	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2.9	J B X	ug/L		7.28			06/06/17 19:43	1
Total Alkanes			ug/L			STL00989		06/06/17 19:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Vinyl chloride-d3	102		40 - 130		06/06/17 19:43	1
Chloroethane-d5	118		65 - 130		06/06/17 19:43	1
1,1-Dichloroethene-d2	93		60 - 125		06/06/17 19:43	1
2-Butanone-d5	123		40 - 130		06/06/17 19:43	1
Chloroform-d	122		70 - 125		06/06/17 19:43	1
1,2-Dichloroethane-d4	137	*	70 - 130		06/06/17 19:43	1
Benzene-d6	119		70 - 125		06/06/17 19:43	1
1,2-Dichloropropane-d6	96		60 - 140		06/06/17 19:43	1
Toluene-d8	116		70 - 130		06/06/17 19:43	1
trans-1,3-Dichloropropene-d4	108		55 - 130		06/06/17 19:43	1

TestAmerica Burlington

Client Sample Results

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Client Sample ID: VHBLK01

Date Collected: 06/03/17 11:08

Date Received: 06/03/17 09:20

Lab Sample ID: 200-38792-5

Matrix: Water

Method: SOM02.2/VOA_Tr - Trace Water (Continued)

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
2-Hexanone-d5	125		45 - 130		06/06/17 19:43	1
1,1,2,2-Tetrachloroethane-d2	110		65 - 120		06/06/17 19:43	1
1,2-Dichlorobenzene-d4	121	*	80 - 120		06/06/17 19:43	1

Default Detection Limits

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Method: SOM02.2/VOA_Tr - Trace Water

Analyte	RL	MDLE	Units	Method
1,1,1-Trichloroethane	0.50	0.10	ug/L	SOM02.2/VOA_Tr
1,1,2,2-Tetrachloroethane	0.50	0.079	ug/L	SOM02.2/VOA_Tr
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	0.12	ug/L	SOM02.2/VOA_Tr
1,1,2-Trichloroethane	0.50	0.085	ug/L	SOM02.2/VOA_Tr
1,1-Dichloroethane	0.50	0.10	ug/L	SOM02.2/VOA_Tr
1,1-Dichloroethene	0.50	0.090	ug/L	SOM02.2/VOA_Tr
1,2,3-Trichlorobenzene	0.50	0.059	ug/L	SOM02.2/VOA_Tr
1,2,4-Trichlorobenzene	0.50	0.068	ug/L	SOM02.2/VOA_Tr
1,2-Dibromo-3-chloropropane	0.50	0.13	ug/L	SOM02.2/VOA_Tr
1,2-Dibromoethane	0.50	0.10	ug/L	SOM02.2/VOA_Tr
1,2-Dichlorobenzene	0.50	0.075	ug/L	SOM02.2/VOA_Tr
1,2-Dichloroethane	0.50	0.092	ug/L	SOM02.2/VOA_Tr
1,2-Dichloropropane	0.50	0.19	ug/L	SOM02.2/VOA_Tr
1,3-Dichlorobenzene	0.50	0.069	ug/L	SOM02.2/VOA_Tr
1,4-Dichlorobenzene	0.50	0.078	ug/L	SOM02.2/VOA_Tr
2-Butanone	5.0	1.0	ug/L	SOM02.2/VOA_Tr
2-Hexanone	5.0	0.64	ug/L	SOM02.2/VOA_Tr
4-Methyl-2-pentanone	5.0	0.98	ug/L	SOM02.2/VOA_Tr
Acetone	5.0	1.3	ug/L	SOM02.2/VOA_Tr
Benzene	0.50	0.17	ug/L	SOM02.2/VOA_Tr
Bromochloromethane	0.50	0.10	ug/L	SOM02.2/VOA_Tr
Bromodichloromethane	0.50	0.072	ug/L	SOM02.2/VOA_Tr
Bromoform	0.50	0.091	ug/L	SOM02.2/VOA_Tr
Bromomethane	0.50	0.097	ug/L	SOM02.2/VOA_Tr
Carbon disulfide	0.50	0.091	ug/L	SOM02.2/VOA_Tr
Carbon tetrachloride	0.50	0.088	ug/L	SOM02.2/VOA_Tr
Chlorobenzene	0.50	0.085	ug/L	SOM02.2/VOA_Tr
Chloroethane	0.50	0.17	ug/L	SOM02.2/VOA_Tr
Chloroform	0.50	0.10	ug/L	SOM02.2/VOA_Tr
Chloromethane	0.50	0.10	ug/L	SOM02.2/VOA_Tr
cis-1,2-Dichloroethene	0.50	0.094	ug/L	SOM02.2/VOA_Tr
cis-1,3-Dichloropropene	0.50	0.12	ug/L	SOM02.2/VOA_Tr
Cyclohexane	0.50	0.11	ug/L	SOM02.2/VOA_Tr
Dibromochloromethane	0.50	0.079	ug/L	SOM02.2/VOA_Tr
Dichlorodifluoromethane	0.50	0.096	ug/L	SOM02.2/VOA_Tr
Ethylbenzene	0.50	0.058	ug/L	SOM02.2/VOA_Tr
Isopropylbenzene	0.50	0.040	ug/L	SOM02.2/VOA_Tr
m,p-Xylene	0.50	0.058	ug/L	SOM02.2/VOA_Tr
Methyl acetate	0.50	0.12	ug/L	SOM02.2/VOA_Tr
Methyl tert-butyl ether	0.50	0.080	ug/L	SOM02.2/VOA_Tr
Methylcyclohexane	0.50	0.19	ug/L	SOM02.2/VOA_Tr
Methylene Chloride	0.50	0.098	ug/L	SOM02.2/VOA_Tr
o-Xylene	0.50	0.040	ug/L	SOM02.2/VOA_Tr
Styrene	0.50	0.041	ug/L	SOM02.2/VOA_Tr
Tetrachloroethene	0.50	0.070	ug/L	SOM02.2/VOA_Tr
Toluene	0.50	0.14	ug/L	SOM02.2/VOA_Tr
trans-1,2-Dichloroethene	0.50	0.11	ug/L	SOM02.2/VOA_Tr
trans-1,3-Dichloropropene	0.50	0.034	ug/L	SOM02.2/VOA_Tr
Trichloroethene	0.50	0.18	ug/L	SOM02.2/VOA_Tr
Trichlorofluoromethane	0.50	0.12	ug/L	SOM02.2/VOA_Tr
Vinyl chloride	0.50	0.097	ug/L	SOM02.2/VOA_Tr

TestAmerica Burlington

Surrogate Summary

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Method: SOM02.2/VOA_Tr - Trace Water

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	μ l chloride (40-130)	chloroethane (65-130)	1,1-dichloroethane (60-125)	2-butanone (40-130)	chloroform (70-125)	1,2-DCE (70-130)	benzene-d6 (70-125)	1,1,2,2-tetrachloroethane (60-140)
200-38792-1	MRMW5S-W-39794	106	124	100	150 *	121	137 *	118	95
200-38792-2	MRMW10S-W-39799	103	122	96	149 *	124	139 *	117	96
200-38792-3	MRMW4S-W-39793	103	121	94	152 *	123	139 *	117	95
200-38792-4	MRQCTB-W-39813	108	125	96	155 *	127 *	142 *	120	97
200-38792-4	MRQCTB-W-39813	78	109	89	124	117	137 *	112	89
200-38792-5	VHBLK01	102	118	93	123	122	137 *	119	96
MB 200-117296/7	Method Blank	100	116	93	129	121	136 *	114	93
MB 200-117409/6	Method Blank	95	100	75	113	100	107	107	87

		Percent Surrogate Recovery (Acceptance Limits)				
Lab Sample ID	Client Sample ID	TOL (70-130)	1,1-dichloroethane (55-130)	2-hexanone (45-130)	1,1,2,2-tetrachloroethane (65-120)	1,2-DCB (80-120)
200-38792-1	MRMW5S-W-39794	117	110	145 *	110	116
200-38792-2	MRMW10S-W-39799	117	112	148 *	110	119
200-38792-3	MRMW4S-W-39793	116	111	150 *	113	120
200-38792-4	MRQCTB-W-39813	119	115	158 *	115	119
200-38792-4	MRQCTB-W-39813	112	110	132 *	109	117
200-38792-5	VHBLK01	116	108	125	110	121 *
MB 200-117296/7	Method Blank	113	113	127	109	113
MB 200-117409/6	Method Blank	108	112	136 *	101	108

Surrogate Legend

Vinyl chloride-d3 = Vinyl chloride-d3
Chloroethane-d5 = Chloroethane-d5
1,1-Dichloroethene-d2 = 1,1-Dichloroethene-d2
2-Butanone-d5 = 2-Butanone-d5
Chloroform-d = Chloroform-d
1,2-DCE = 1,2-Dichloroethane-d4
Benzene-d6 = Benzene-d6
1,2-Dichloropropane-d6 = 1,2-Dichloropropane-d6
TOL = Toluene-d8
trans-1,3-Dichloropropene-d4 = trans-1,3-Dichloropropene-d4
2-Hexanone-d5 = 2-Hexanone-d5
1,1,2,2-Tetrachloroethane-d2 = 1,1,2,2-Tetrachloroethane-d2
1,2-DCB = 1,2-Dichlorobenzene-d4

QC Sample Results

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Method: SOM02.2/VOA_Tr - Trace Water

Lab Sample ID: MB 200-117296/7
Matrix: Water
Analysis Batch: 117296

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDLE	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	0.50	U	0.50		ug/L			06/06/17 15:43	1
Chloromethane	0.50	U	0.50		ug/L			06/06/17 15:43	1
Vinyl chloride	0.50	U	0.50		ug/L			06/06/17 15:43	1
Bromomethane	0.50	U	0.50		ug/L			06/06/17 15:43	1
Chloroethane	0.50	U	0.50		ug/L			06/06/17 15:43	1
Trichlorofluoromethane	0.50	U	0.50		ug/L			06/06/17 15:43	1
1,1-Dichloroethene	0.50	U	0.50		ug/L			06/06/17 15:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50		ug/L			06/06/17 15:43	1
Acetone	4.8	J	5.0		ug/L			06/06/17 15:43	1
Carbon disulfide	0.14	J	0.50		ug/L			06/06/17 15:43	1
Methyl acetate	0.50	U	0.50		ug/L			06/06/17 15:43	1
Methylene Chloride	0.50	U	0.50		ug/L			06/06/17 15:43	1
trans-1,2-Dichloroethene	0.50	U	0.50		ug/L			06/06/17 15:43	1
Methyl tert-butyl ether	0.50	U	0.50		ug/L			06/06/17 15:43	1
1,1-Dichloroethane	0.50	U	0.50		ug/L			06/06/17 15:43	1
cis-1,2-Dichloroethene	0.50	U	0.50		ug/L			06/06/17 15:43	1
2-Butanone	1.0	J	5.0		ug/L			06/06/17 15:43	1
Bromochloromethane	0.50	U	0.50		ug/L			06/06/17 15:43	1
Chloroform	0.50	U	0.50		ug/L			06/06/17 15:43	1
1,1,1-Trichloroethane	0.50	U	0.50		ug/L			06/06/17 15:43	1
Cyclohexane	0.50	U	0.50		ug/L			06/06/17 15:43	1
Carbon tetrachloride	0.50	U	0.50		ug/L			06/06/17 15:43	1
Benzene	0.50	U	0.50		ug/L			06/06/17 15:43	1
1,2-Dichloroethane	0.50	U	0.50		ug/L			06/06/17 15:43	1
Trichloroethene	0.50	U	0.50		ug/L			06/06/17 15:43	1
Methylcyclohexane	0.50	U	0.50		ug/L			06/06/17 15:43	1
1,2-Dichloropropane	0.50	U	0.50		ug/L			06/06/17 15:43	1
Bromodichloromethane	0.50	U	0.50		ug/L			06/06/17 15:43	1
cis-1,3-Dichloropropene	0.50	U	0.50		ug/L			06/06/17 15:43	1
4-Methyl-2-pentanone	5.0	U	5.0		ug/L			06/06/17 15:43	1
Toluene	0.50	U	0.50		ug/L			06/06/17 15:43	1
trans-1,3-Dichloropropene	0.50	U	0.50		ug/L			06/06/17 15:43	1
1,1,2-Trichloroethane	0.50	U	0.50		ug/L			06/06/17 15:43	1
Tetrachloroethene	0.50	U	0.50		ug/L			06/06/17 15:43	1
2-Hexanone	5.0	U	5.0		ug/L			06/06/17 15:43	1
Dibromochloromethane	0.50	U	0.50		ug/L			06/06/17 15:43	1
1,2-Dibromoethane	0.50	U	0.50		ug/L			06/06/17 15:43	1
Chlorobenzene	0.50	U	0.50		ug/L			06/06/17 15:43	1
Ethylbenzene	0.50	U	0.50		ug/L			06/06/17 15:43	1
o-Xylene	0.50	U	0.50		ug/L			06/06/17 15:43	1
m,p-Xylene	0.50	U	0.50		ug/L			06/06/17 15:43	1
Styrene	0.50	U	0.50		ug/L			06/06/17 15:43	1
Bromoform	0.50	U	0.50		ug/L			06/06/17 15:43	1
Isopropylbenzene	0.50	U	0.50		ug/L			06/06/17 15:43	1
1,1,2,2-Tetrachloroethane	0.50	U	0.50		ug/L			06/06/17 15:43	1
1,3-Dichlorobenzene	0.50	U	0.50		ug/L			06/06/17 15:43	1
1,4-Dichlorobenzene	0.50	U	0.50		ug/L			06/06/17 15:43	1
1,2-Dichlorobenzene	0.50	U	0.50		ug/L			06/06/17 15:43	1

TestAmerica Burlington

QC Sample Results

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Method: SOM02.2/VOA_Tr - Trace Water (Continued)

Lab Sample ID: MB 200-117296/7

Matrix: Water

Analysis Batch: 117296

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDLE	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-chloropropane	0.50	U	0.50		ug/L			06/06/17 15:43	1
1,2,4-Trichlorobenzene	0.16	J	0.50		ug/L			06/06/17 15:43	1
1,2,3-Trichlorobenzene	0.29	J	0.50		ug/L			06/06/17 15:43	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	3.1	JX	ug/L		7.28			06/06/17 15:43	1
Total Alkanes			ug/L			STL00989		06/06/17 15:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Vinyl chloride-d3	100		40 - 130		06/06/17 15:43	1
Chloroethane-d5	116		65 - 130		06/06/17 15:43	1
1,1-Dichloroethene-d2	93		60 - 125		06/06/17 15:43	1
2-Butanone-d5	129		40 - 130		06/06/17 15:43	1
Chloroform-d	121		70 - 125		06/06/17 15:43	1
1,2-Dichloroethane-d4	136	*	70 - 130		06/06/17 15:43	1
Benzene-d6	114		70 - 125		06/06/17 15:43	1
1,2-Dichloropropane-d6	93		60 - 140		06/06/17 15:43	1
Toluene-d8	113		70 - 130		06/06/17 15:43	1
trans-1,3-Dichloropropene-d4	113		55 - 130		06/06/17 15:43	1
2-Hexanone-d5	127		45 - 130		06/06/17 15:43	1
1,1,2,2-Tetrachloroethane-d2	109		65 - 120		06/06/17 15:43	1
1,2-Dichlorobenzene-d4	113		80 - 120		06/06/17 15:43	1

Lab Sample ID: MB 200-117409/6

Matrix: Water

Analysis Batch: 117409

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDLE	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	0.50	U	0.50		ug/L			06/08/17 16:19	1
Chloromethane	0.50	U	0.50		ug/L			06/08/17 16:19	1
Vinyl chloride	0.50	U	0.50		ug/L			06/08/17 16:19	1
Bromomethane	0.13	J	0.50		ug/L			06/08/17 16:19	1
Chloroethane	0.50	U	0.50		ug/L			06/08/17 16:19	1
Trichlorofluoromethane	0.50	U	0.50		ug/L			06/08/17 16:19	1
1,1-Dichloroethene	0.50	U	0.50		ug/L			06/08/17 16:19	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50		ug/L			06/08/17 16:19	1
Acetone	2.5	J	5.0		ug/L			06/08/17 16:19	1
Carbon disulfide	0.13	J	0.50		ug/L			06/08/17 16:19	1
Methyl acetate	0.50	U	0.50		ug/L			06/08/17 16:19	1
Methylene Chloride	0.50	U	0.50		ug/L			06/08/17 16:19	1
trans-1,2-Dichloroethene	0.50	U	0.50		ug/L			06/08/17 16:19	1
Methyl tert-butyl ether	0.50	U	0.50		ug/L			06/08/17 16:19	1
1,1-Dichloroethane	0.50	U	0.50		ug/L			06/08/17 16:19	1
cis-1,2-Dichloroethene	0.50	U	0.50		ug/L			06/08/17 16:19	1
2-Butanone	5.0	U	5.0		ug/L			06/08/17 16:19	1
Bromochloromethane	0.50	U	0.50		ug/L			06/08/17 16:19	1
Chloroform	0.50	U	0.50		ug/L			06/08/17 16:19	1

TestAmerica Burlington

QC Sample Results

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Method: SOM02.2/VOA_Tr - Trace Water (Continued)

Lab Sample ID: MB 200-117409/6

Matrix: Water

Analysis Batch: 117409

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDLE	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.50	U	0.50		ug/L			06/08/17 16:19	1
Cyclohexane	0.50	U	0.50		ug/L			06/08/17 16:19	1
Carbon tetrachloride	0.50	U	0.50		ug/L			06/08/17 16:19	1
Benzene	0.50	U	0.50		ug/L			06/08/17 16:19	1
1,2-Dichloroethane	0.50	U	0.50		ug/L			06/08/17 16:19	1
Trichloroethene	0.50	U	0.50		ug/L			06/08/17 16:19	1
Methylcyclohexane	0.50	U	0.50		ug/L			06/08/17 16:19	1
1,2-Dichloropropane	0.50	U	0.50		ug/L			06/08/17 16:19	1
Bromodichloromethane	0.50	U	0.50		ug/L			06/08/17 16:19	1
cis-1,3-Dichloropropene	0.50	U	0.50		ug/L			06/08/17 16:19	1
4-Methyl-2-pentanone	5.0	U	5.0		ug/L			06/08/17 16:19	1
Toluene	0.50	U	0.50		ug/L			06/08/17 16:19	1
trans-1,3-Dichloropropene	0.50	U	0.50		ug/L			06/08/17 16:19	1
1,1,2-Trichloroethane	0.50	U	0.50		ug/L			06/08/17 16:19	1
Tetrachloroethene	0.50	U	0.50		ug/L			06/08/17 16:19	1
2-Hexanone	5.0	U	5.0		ug/L			06/08/17 16:19	1
Dibromochloromethane	0.50	U	0.50		ug/L			06/08/17 16:19	1
1,2-Dibromoethane	0.50	U	0.50		ug/L			06/08/17 16:19	1
Chlorobenzene	0.50	U	0.50		ug/L			06/08/17 16:19	1
Ethylbenzene	0.50	U	0.50		ug/L			06/08/17 16:19	1
o-Xylene	0.50	U	0.50		ug/L			06/08/17 16:19	1
m,p-Xylene	0.50	U	0.50		ug/L			06/08/17 16:19	1
Styrene	0.50	U	0.50		ug/L			06/08/17 16:19	1
Bromoform	0.50	U	0.50		ug/L			06/08/17 16:19	1
Isopropylbenzene	0.50	U	0.50		ug/L			06/08/17 16:19	1
1,1,2,2-Tetrachloroethane	0.50	U	0.50		ug/L			06/08/17 16:19	1
1,3-Dichlorobenzene	0.50	U	0.50		ug/L			06/08/17 16:19	1
1,4-Dichlorobenzene	0.078	J	0.50		ug/L			06/08/17 16:19	1
1,2-Dichlorobenzene	0.50	U	0.50		ug/L			06/08/17 16:19	1
1,2-Dibromo-3-chloropropane	0.50	U	0.50		ug/L			06/08/17 16:19	1
1,2,4-Trichlorobenzene	0.30	J	0.50		ug/L			06/08/17 16:19	1
1,2,3-Trichlorobenzene	0.48	J	0.50		ug/L			06/08/17 16:19	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	3.1	J	ug/L		7.28			06/08/17 16:19	1
Total Alkanes			ug/L			STL00989		06/08/17 16:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Vinyl chloride-d3	95		40 - 130		06/08/17 16:19	1
Chloroethane-d5	100		65 - 130		06/08/17 16:19	1
1,1-Dichloroethene-d2	75		60 - 125		06/08/17 16:19	1
2-Butanone-d5	113		40 - 130		06/08/17 16:19	1
Chloroform-d	100		70 - 125		06/08/17 16:19	1
1,2-Dichloroethane-d4	107		70 - 130		06/08/17 16:19	1
Benzene-d6	107		70 - 125		06/08/17 16:19	1
1,2-Dichloropropane-d6	87		60 - 140		06/08/17 16:19	1
Toluene-d8	108		70 - 130		06/08/17 16:19	1

TestAmerica Burlington

QC Sample Results

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Method: SOM02.2/VOA_Tr - Trace Water (Continued)

Lab Sample ID: MB 200-117409/6

Matrix: Water

Analysis Batch: 117409

Client Sample ID: Method Blank

Prep Type: Total/NA

<i>Surrogate</i>	<i>MB</i> <i>%Recovery</i>	<i>MB</i> <i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>trans-1,3-Dichloropropene-d4</i>	112		55 - 130		06/08/17 16:19	1
<i>2-Hexanone-d5</i>	136	*	45 - 130		06/08/17 16:19	1
<i>1,1,2,2-Tetrachloroethane-d2</i>	101		65 - 120		06/08/17 16:19	1
<i>1,2-Dichlorobenzene-d4</i>	108		80 - 120		06/08/17 16:19	1

QC Association Summary

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

GC/MS VOA

Analysis Batch: 117296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-38792-1	MRMW5S-W-39794	Total/NA	Water	SOM02.2/VOA_ Tr	
200-38792-2	MRMW10S-W-39799	Total/NA	Water	SOM02.2/VOA_ Tr	
200-38792-3	MRMW4S-W-39793	Total/NA	Water	SOM02.2/VOA_ Tr	
200-38792-4	MRQCTB-W-39813	Total/NA	Water	SOM02.2/VOA_ Tr	
200-38792-5	VHBLK01	Total/NA	Water	SOM02.2/VOA_ Tr	
MB 200-117296/7	Method Blank	Total/NA	Water	SOM02.2/VOA_ Tr	

Analysis Batch: 117409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-38792-4	MRQCTB-W-39813	Total/NA	Water	SOM02.2/VOA_ Tr	
MB 200-117409/6	Method Blank	Total/NA	Water	SOM02.2/VOA_ Tr	

Lab Chronicle

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Client Sample ID: MRMW5S-W-39794

Date Collected: 06/01/17 15:00

Date Received: 06/03/17 09:20

Lab Sample ID: 200-38792-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SOM02.2/VOA_Tr		1	117296	06/06/17 17:59	K1P	TAL BUR

Client Sample ID: MRMW10S-W-39799

Date Collected: 06/01/17 17:15

Date Received: 06/03/17 09:20

Lab Sample ID: 200-38792-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SOM02.2/VOA_Tr		1	117296	06/06/17 18:25	K1P	TAL BUR

Client Sample ID: MRMW4S-W-39793

Date Collected: 06/02/17 10:50

Date Received: 06/03/17 09:20

Lab Sample ID: 200-38792-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SOM02.2/VOA_Tr		1	117296	06/06/17 18:51	K1P	TAL BUR

Client Sample ID: MRQCTB-W-39813

Date Collected: 06/02/17 10:00

Date Received: 06/03/17 09:20

Lab Sample ID: 200-38792-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SOM02.2/VOA_Tr		1	117296	06/06/17 19:17	K1P	TAL BUR
Total/NA	Analysis	SOM02.2/VOA_Tr		1	117409	06/08/17 22:50	P1M	TAL BUR

Client Sample ID: VHBLK01

Date Collected: 06/03/17 11:08

Date Received: 06/03/17 09:20

Lab Sample ID: 200-38792-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SOM02.2/VOA_Tr		1	117296	06/06/17 19:43	K1P	TAL BUR

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Accreditation/Certification Summary

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Laboratory: TestAmerica Burlington

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Connecticut	State Program	1	PH-0751	09-30-17
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-02-18
Florida	NELAP	4	E87467	06-30-17 *
L-A-B	DoD ELAP		L2336	02-25-20
Maine	State Program	1	VT00008	04-17-19
Minnesota	NELAP	5	050-999-436	12-31-17
New Hampshire	NELAP	1	2006	12-18-17
New Jersey	NELAP	2	VT972	06-30-17 *
New York	NELAP	2	10391	04-01-18
Pennsylvania	NELAP	3	68-00489	04-30-18
Rhode Island	State Program	1	LAO00298	12-30-17
US Fish & Wildlife	Federal		LE-058448-0	10-31-17
USDA	Federal		P330-11-00093	12-05-19
Vermont	State Program	1	VT-4000	12-31-17
Virginia	NELAP	3	460209	12-14-17

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Burlington

Method Summary

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Method	Method Description	Protocol	Laboratory
SOM02.2/VOA_Tr	Trace Water	SOM02.2	TAL BUR

Protocol References:

SOM02.2 = SOM02.2

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: Argonne National Laboratory
Project/Site: Morrill, KS (200-38792)

TestAmerica Job ID: 200-38792-1
SDG: 200-38792-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
200-38792-1	MRMW5S-W-39794	Water	06/01/17 15:00	06/03/17 09:20
200-38792-2	MRMW10S-W-39799	Water	06/01/17 17:15	06/03/17 09:20
200-38792-3	MRMW4S-W-39793	Water	06/02/17 10:50	06/03/17 09:20
200-38792-4	MRQCTB-W-39813	Water	06/02/17 10:00	06/03/17 09:20
200-38792-5	VHBLK01	Water	06/03/17 11:08	06/03/17 09:20

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-38792-1SDG No.: 200-38792-1Instrument ID: CHD.i Analysis Batch Number: 117409Lab Sample ID: CCVC 200-117409/22 Client Sample ID: _____Date Analyzed: 06/08/17 23:16 Lab File ID: 25405_22.D GC Column: DB-624 ID: 0.2 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromomethane	2.03	Incomplete Integration	kirchnerb	06/18/17 19:55

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Burlington

Job No.: 200-38792-1

SDG No.: 200-38792-1

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
VMSOMTRCALw_00125	06/22/17	05/22/17	METHANOL, Lot 157266	2000 uL	VM8260CALbs_00220	21 uL	Bromomethane	21 ug/mL
							Chloroethane	21 ug/mL
							Chloromethane	21 ug/mL
							Dichlorodifluoromethane	21 ug/mL
							Trichlorofluoromethane	21 ug/mL
							Vinyl chloride	21 ug/mL
					VMSOMCALas_00036	21 uL	1,1,1-Trichloroethane	21 ug/mL
							1,1,2,2-Tetrachloroethane	21 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	21 ug/mL
							1,1,2-Trichloroethane	21 ug/mL
							1,1-Dichloroethane	21 ug/mL
							1,1-Dichloroethene	21 ug/mL
							1,2,3-Trichlorobenzene	21 ug/mL
							1,2,4-Trichlorobenzene	21 ug/mL
							1,2-Dibromo-3-chloropropane	21 ug/mL
							1,2-Dibromoethane	21 ug/mL
							1,2-Dichlorobenzene	21 ug/mL
							1,2-Dichloroethane	21 ug/mL
							1,2-Dichloropropane	21 ug/mL
							1,3-Dichlorobenzene	21 ug/mL
							1,4-Dichlorobenzene	21 ug/mL
							Benzene	21 ug/mL
							Bromochloromethane	21 ug/mL
							Bromodichloromethane	21 ug/mL
							Bromoform	21 ug/mL
							Carbon disulfide	21 ug/mL
							Carbon tetrachloride	21 ug/mL
							Chlorobenzene	21 ug/mL
							Chloroform	21 ug/mL
							cis-1,2-Dichloroethene	21 ug/mL
							cis-1,3-Dichloropropene	21 ug/mL
							Cyclohexane	21 ug/mL
							Dibromochloromethane	21 ug/mL
							Ethylbenzene	21 ug/mL
							Isopropylbenzene	21 ug/mL
							m,p-Xylene	21 ug/mL
							Methyl acetate	21 ug/mL
							Methyl tert-butyl ether	21 ug/mL
							Methylcyclohexane	21 ug/mL
							Methylene Chloride	21 ug/mL
							o-Xylene	21 ug/mL
							Styrene	21 ug/mL
							Tetrachloroethene	21 ug/mL
							Toluene	21 ug/mL
							trans-1,2-Dichloroethene	21 ug/mL
							trans-1,3-Dichloropropene	21 ug/mL
							Trichloroethene	21 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Burlington

Job No.: 200-38792-1

SDG No.: 200-38792-1

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					VMSOMCALbs_00042	84 uL	2-Butanone	210 ug/mL
							2-Hexanone	210 ug/mL
							4-Methyl-2-pentanone	210 ug/mL
							Acetone	210 ug/mL
					VMSOMSUs_00104	21 uL	Chloroethane-d5	21 ug/mL
							Vinyl chloride-d3	21 ug/mL
					VMSOMSUs_00187	168 uL	2-Butanone-d5	210 ug/mL
							2-Hexanone-d5	210 ug/mL
					VMSOMSUs_00075	21 uL	1,1,2,2-Tetrachloroethane-d2	21 ug/mL
							1,1-Dichloroethene-d2	21 ug/mL
							1,2-Dichlorobenzene-d4	21 ug/mL
							1,2-Dichloroethane-d4	21 ug/mL
							1,2-Dichloropropane-d6	21 ug/mL
							Benzene-d6	21 ug/mL
							Chloroform-d	21 ug/mL
							Toluene-d8	21 ug/mL
							trans-1,3-Dichloropropene-d4	21 ug/mL
.VM8260CALbs_00220	06/30/23	RESTEK, Lot A0122287		(Purchased Reagent)	Bromomethane	2000 ug/mL		
					Chloroethane	2000 ug/mL		
					Chloromethane	2000 ug/mL		
					Dichlorodifluoromethane	2000 ug/mL		
					Trichlorofluoromethane	2000 ug/mL		
					Vinyl chloride	2000 ug/mL		
.VMSOMCALas_00036	10/18/17	Restek, Lot A0117727		(Purchased Reagent)	1,1,1-Trichloroethane	2000 ug/mL		
					1,1,2,2-Tetrachloroethane	2000 ug/mL		
					1,1,2-Trichloro-1,2,2-trifluor oethane	2000 ug/mL		
					1,1,2-Trichloroethane	2000 ug/mL		
					1,1-Dichloroethane	2000 ug/mL		
					1,1-Dichloroethene	2000 ug/mL		
					1,2,3-Trichlorobenzene	2000 ug/mL		
					1,2,4-Trichlorobenzene	2000 ug/mL		
					1,2-Dibromo-3-chloropropane	2000 ug/mL		
					1,2-Dibromoethane	2000 ug/mL		
					1,2-Dichlorobenzene	2000 ug/mL		
					1,2-Dichloroethane	2000 ug/mL		
					1,2-Dichloropropane	2000 ug/mL		
					1,3-Dichlorobenzene	2000 ug/mL		
					1,4-Dichlorobenzene	2000 ug/mL		
					Benzene	2000 ug/mL		
					Bromochloromethane	2000 ug/mL		
					Bromodichloromethane	2000 ug/mL		
					Bromoform	2000 ug/mL		
					Carbon disulfide	2000 ug/mL		
					Carbon tetrachloride	2000 ug/mL		
					Chlorobenzene	2000 ug/mL		
					Chloroform	2000 ug/mL		
					cis-1,2-Dichloroethene	2000 ug/mL		

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Burlington

Job No.: 200-38792-1

SDG No.: 200-38792-1

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							cis-1,3-Dichloropropene	2000 ug/mL
							Cyclohexane	2000 ug/mL
							Dibromochloromethane	2000 ug/mL
							Ethylbenzene	2000 ug/mL
							Isopropylbenzene	2000 ug/mL
							m,p-Xylene	2000 ug/mL
							Methyl acetate	2000 ug/mL
							Methyl tert-butyl ether	2000 ug/mL
							Methylcyclohexane	2000 ug/mL
							Methylene Chloride	2000 ug/mL
							o-Xylene	2000 ug/mL
							Styrene	2000 ug/mL
							Tetrachloroethene	2000 ug/mL
							Toluene	2000 ug/mL
							trans-1,2-Dichloroethene	2000 ug/mL
							trans-1,3-Dichloropropene	2000 ug/mL
							Trichloroethene	2000 ug/mL
.VMSOMCALbs_00042	10/18/17		Restek, Lot A0110042		(Purchased Reagent)		2-Butanone	5000 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone	5000 ug/mL
							Acetone	5000 ug/mL
.VMSOMSUas_00104	11/02/19		Absolute, Lot 110216		(Purchased Reagent)		Chloroethane-d5	2000 ug/mL
							Vinyl chloride-d3	2000 ug/mL
.VMSOMSUs_00187	11/20/17		Absolute, Lot 101816		(Purchased Reagent)		2-Butanone-d5	2500 ug/mL
							2-Hexanone-d5	2500 ug/mL
.VMSOMSUcs_00075	11/20/17		Absolute, Lot 022017		(Purchased Reagent)		1,1,2,2-Tetrachloroethane-d2	2000 ug/mL
							1,1-Dichloroethene-d2	2000 ug/mL
							1,2-Dichlorobenzene-d4	2000 ug/mL
							1,2-Dichloroethane-d4	2000 ug/mL
							1,2-Dichloropropane-d6	2000 ug/mL
							Benzene-d6	2000 ug/mL
							Chloroform-d	2000 ug/mL
							Toluene-d8	2000 ug/mL
							trans-1,3-Dichloropropene-d4	2000 ug/mL
VMSOMTRICVw_00004	06/22/17	05/23/17	METHANOL, Lot 1035471	2000 uL	VM8260SEC #1s_00014	16.8 uL	1,1,1-Trichloroethane	21 ug/mL
							1,1,2,2-Tetrachloroethane	21 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	21 ug/mL
							1,1,2-Trichloroethane	21 ug/mL
							1,1-Dichloroethane	21 ug/mL
							1,1-Dichloroethene	21 ug/mL
							1,2,3-Trichlorobenzene	21 ug/mL
							1,2,4-Trichlorobenzene	21 ug/mL
							1,2-Dibromo-3-chloropropane	21 ug/mL
							1,2-Dibromoethane	21 ug/mL
							1,2-Dichlorobenzene	21 ug/mL
							1,2-Dichloroethane	21 ug/mL
							1,2-Dichloropropane	21 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Burlington

Job No.: 200-38792-1

SDG No.: 200-38792-1

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3-Dichlorobenzene	21 ug/mL
							1,4-Dichlorobenzene	21 ug/mL
							Benzene	21 ug/mL
							Bromochloromethane	21 ug/mL
							Bromodichloromethane	21 ug/mL
							Bromoform	21 ug/mL
							Carbon disulfide	21 ug/mL
							Carbon tetrachloride	21 ug/mL
							Chlorobenzene	21 ug/mL
							Chloroform	21 ug/mL
							cis-1,2-Dichloroethene	21 ug/mL
							cis-1,3-Dichloropropene	21 ug/mL
							Cyclohexane	21 ug/mL
							Dibromochloromethane	21 ug/mL
							Ethylbenzene	21 ug/mL
							Isopropylbenzene	21 ug/mL
							m,p-Xylene	21 ug/mL
							Methyl acetate	105 ug/mL
							Methyl tert-butyl ether	21 ug/mL
							Methylcyclohexane	21 ug/mL
							Methylene Chloride	21 ug/mL
							o-Xylene	21 ug/mL
							Styrene	21 ug/mL
							Tetrachloroethene	21 ug/mL
							Toluene	21 ug/mL
							trans-1,2-Dichloroethene	21 ug/mL
							trans-1,3-Dichloropropene	21 ug/mL
							Trichloroethene	21 ug/mL
					VMSOMCALbs_00045	84 uL	2-Butanone	210 ug/mL
							2-Hexanone	210 ug/mL
							4-Methyl-2-pentanone	210 ug/mL
							Acetone	210 ug/mL
					VMstd#3SECS_00048	16.8 uL	Bromomethane	21 ug/mL
							Chloroethane	21 ug/mL
							Chloromethane	21 ug/mL
							Dichlorodifluoromethane	21 ug/mL
							Trichlorofluoromethane	21 ug/mL
							Vinyl chloride	21 ug/mL
.VM8260SEC #1s_00014	11/23/17	Restek, Lot A0120604			(Purchased Reagent)		1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluor oethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2-Dibromo-3-chloropropane	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Burlington

Job No.: 200-38792-1

SDG No.: 200-38792-1

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dibromoethane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							Benzene	2500 ug/mL
							Bromochloromethane	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromochloromethane	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m,p-Xylene	2500 ug/mL
							Methyl acetate	12500 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							o-Xylene	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							Trichloroethene	2500 ug/mL
.VMSOMCALbs_00045	10/28/17		Restek, Lot A0122363		(Purchased Reagent)		2-Butanone	5000 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone	5000 ug/mL
							Acetone	5000 ug/mL
.VMstd#3SECS_00048	11/30/18		Restek, Lot A0115484		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
VMSOMTRISw_00132	06/22/17	05/22/17	METHANOL, Lot 157266	4000 uL	VMSOMISS_00036	33.6 uL	1,4-Dichlorobenzene-d4	21 ug/mL
							1,4-Difluorobenzene	21 ug/mL
							Chlorobenzene-d5	21 ug/mL
.VMSOMISS_00036	08/31/20		RESTEK, Lot A0113936		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2500 ug/mL
							1,4-Difluorobenzene	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-38792-1

SDG No.: 200-38792-1

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chlorobenzene-d5	2500 ug/mL
VMSOMTRSUw_00128	06/20/17	05/20/17	METHANOL, Lot 157266	2000 uL	VMSOMSUas_00104	21 uL	Chloroethane-d5	21 ug/mL
					VMSOMSUs_00187	168 uL	Vinyl chloride-d3	21 ug/mL
							2-Butanone-d5	210 ug/mL
					VMSOMSUcs_00075	21 uL	2-Hexanone-d5	210 ug/mL
							1,1,2,2-Tetrachloroethane-d2	21 ug/mL
							1,1-Dichloroethene-d2	21 ug/mL
							1,2-Dichlorobenzene-d4	21 ug/mL
							1,2-Dichloroethane-d4	21 ug/mL
							1,2-Dichloropropane-d6	21 ug/mL
							Benzene-d6	21 ug/mL
Chloroform-d	21 ug/mL							
Toluene-d8	21 ug/mL							
trans-1,3-Dichloropropene-d4	21 ug/mL							
.VMSOMSUas_00104	11/02/19	Absolute, Lot 110216			(Purchased Reagent)		Chloroethane-d5	2000 ug/mL
							Vinyl chloride-d3	2000 ug/mL
.VMSOMSUs_00187	11/20/17	Absolute, Lot 101816			(Purchased Reagent)		2-Butanone-d5	2500 ug/mL
							2-Hexanone-d5	2500 ug/mL
.VMSOMSUcs_00075	11/20/17	Absolute, Lot 022017			(Purchased Reagent)		1,1,2,2-Tetrachloroethane-d2	2000 ug/mL
							1,1-Dichloroethene-d2	2000 ug/mL
							1,2-Dichlorobenzene-d4	2000 ug/mL
							1,2-Dichloroethane-d4	2000 ug/mL
							1,2-Dichloropropane-d6	2000 ug/mL
							Benzene-d6	2000 ug/mL
							Chloroform-d	2000 ug/mL
							Toluene-d8	2000 ug/mL
							trans-1,3-Dichloropropene-d4	2000 ug/mL
VMSOMTRSUw_00129	07/01/17	06/01/17	METHANOL, Lot 157266	2000 uL	VMSOMSUas_00104	21 uL	Chloroethane-d5	21 ug/mL
					VMSOMSUs_00191	168 uL	Vinyl chloride-d3	21 ug/mL
							2-Butanone-d5	210 ug/mL
					VMSOMSUcs_00075	21 uL	2-Hexanone-d5	210 ug/mL
							1,1,2,2-Tetrachloroethane-d2	21 ug/mL
							1,1-Dichloroethene-d2	21 ug/mL
							1,2-Dichlorobenzene-d4	21 ug/mL
							1,2-Dichloroethane-d4	21 ug/mL
							1,2-Dichloropropane-d6	21 ug/mL
							Benzene-d6	21 ug/mL
Chloroform-d	21 ug/mL							
Toluene-d8	21 ug/mL							
trans-1,3-Dichloropropene-d4	21 ug/mL							
.VMSOMSUas_00104	11/02/19	Absolute, Lot 110216			(Purchased Reagent)		Chloroethane-d5	2000 ug/mL
							Vinyl chloride-d3	2000 ug/mL
.VMSOMSUs_00191	12/01/17	Absolute, Lot 101816			(Purchased Reagent)		2-Butanone-d5	2500 ug/mL
							2-Hexanone-d5	2500 ug/mL
.VMSOMSUcs_00075	11/20/17	Absolute, Lot 022017			(Purchased Reagent)		1,1,2,2-Tetrachloroethane-d2	2000 ug/mL
							1,1-Dichloroethene-d2	2000 ug/mL
							1,2-Dichlorobenzene-d4	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-38792-1

SDG No.: 200-38792-1

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dichloroethane-d4	2000 ug/mL
							1,2-Dichloropropane-d6	2000 ug/mL
							Benzene-d6	2000 ug/mL
							Chloroform-d	2000 ug/mL
							Toluene-d8	2000 ug/mL
							trans-1,3-Dichloropropene-d4	2000 ug/mL

Method SOM Vol Tr

Trace Volatile Organic Compounds
(GC/MS) by CLP SOM

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
 SDG No.: 200-38792-1
 Matrix: Water Level: Trace
 GC Column (1): DB-624 ID: 0.2 (mm)

Client Sample ID	Lab Sample ID	VCL #	CLA #	DCE #	BUT #	CLF #	DCA #	BEN #	DPA #
MRMW5S-W-39794	200-38792-1	106	124	100	150 *	121	137 *	118	95
MRMW10S-W-39799	200-38792-2	103	122	96	149 *	124	139 *	117	96
MRMW4S-W-39793	200-38792-3	103	121	94	152 *	123	139 *	117	95
MRQCTB-W-39813	200-38792-4	108	125	96	155 *	127 *	142 *	120	97
MRQCTB-W-39813	200-38792-4	78	109	89	124	117	137 *	112	89
VHBLK01	200-38792-5	102	118	93	123	122	137 *	119	96
	MB 200-117296/7	100	116	93	129	121	136 *	114	93
	MB 200-117409/6	95	100	75	113	100	107	107	87

	<u>QC LIMITS</u>
VCL = Vinyl chloride-d3	40-130
CLA = Chloroethane-d5	65-130
DCE = 1,1-Dichloroethene-d2	60-125
BUT = 2-Butanone-d5	40-130
CLF = Chloroform-d	70-125
DCA = 1,2-Dichloroethane-d4	70-130
BEN = Benzene-d6	70-125
DPA = 1,2-Dichloropropane-d6	60-140

Column to be used to flag recovery values

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
 SDG No.: 200-38792-1
 Matrix: Water Level: Trace
 GC Column (1): DB-624 ID: 0.2 (mm)

Client Sample ID	Lab Sample ID	TOL #	TDP #	HEX #	TCA #	DCZ #
MRMW5S-W-39794	200-38792-1	117	110	145 *	110	116
MRMW10S-W-39799	200-38792-2	117	112	148 *	110	119
MRMW4S-W-39793	200-38792-3	116	111	150 *	113	120
MRQCTB-W-39813	200-38792-4	119	115	158 *	115	119
MRQCTB-W-39813	200-38792-4	112	110	132 *	109	117
VHBLK01	200-38792-5	116	108	125	110	121 *
	MB 200-117296/7	113	113	127	109	113
	MB 200-117409/6	108	112	136 *	101	108

	<u>QC LIMITS</u>
TOL = Toluene-d8	70-130
TDP = trans-1,3-Dichloropropene-d4	55-130
HEX = 2-Hexanone-d5	45-130
TCA = 1,1,2,2-Tetrachloroethane-d2	65-120
DCZ = 1,2-Dichlorobenzene-d4	80-120

Column to be used to flag recovery values

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
SDG No.: 200-38792-1
Lab File ID: 25366_07.D Lab Sample ID: MB 200-117296/7
Matrix: Water Heated Purge: (Y/N) N
Instrument ID: CHD.i Date Analyzed: 06/06/2017 15:43
GC Column: DB-624 ID: 0.2 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
MRMW5S-W-39794	200-38792-1	25366_08.D	06/06/2017 17:59
MRMW10S-W-39799	200-38792-2	25366_09.D	06/06/2017 18:25
MRMW4S-W-39793	200-38792-3	25366_10.D	06/06/2017 18:51
MRQCTB-W-39813	200-38792-4	25366_11.D	06/06/2017 19:17
VHBLK01	200-38792-5	25366_12.D	06/06/2017 19:43

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
SDG No.: 200-38792-1
Lab File ID: 25405_06.D Lab Sample ID: MB 200-117409/6
Matrix: Water Heated Purge: (Y/N) N
Instrument ID: CHD.i Date Analyzed: 06/08/2017 16:19
GC Column: DB-624 ID: 0.2 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
MRQCTB-W-39813	200-38792-4	25405_21.D	06/08/2017 22:50

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
 SDG No.: 200-38792-1
 Lab File ID: 25203_04.D BFB Injection Date: 05/23/2017
 Instrument ID: CHD.i BFB Injection Time: 16:12
 Analysis Batch No.: 116931

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.4
75	30.0 - 80.0% of mass 95	46.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.6 (0.6) 1
174	50.0 - 120% of mass 95	99.7
175	5.0 - 9.0% of mass 174	7.0 (7.0) 1
176	95.0 - 101% of mass 174	96.0 (96.3) 1
177	5.0 - 9.0% of mass 176	6.3 (6.6) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 200-116931/26	25203_07.D	05/23/2017	17:32
	IC 200-116931/27	25203_08.D	05/23/2017	17:58
	ICIS 200-116931/28	25203_09.D	05/23/2017	18:24
	IC 200-116931/29	25203_10.D	05/23/2017	18:50
	IC 200-116931/30	25203_11.D	05/23/2017	19:16
	ICV 200-116931/31	25203_12.D	05/23/2017	19:42

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
SDG No.: 200-38792-1
Lab File ID: 25366_03.D BFB Injection Date: 06/06/2017
Instrument ID: CHD.i BFB Injection Time: 13:46
Analysis Batch No.: 117296

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.8
75	30.0 - 80.0% of mass 95	46.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.6 (0.6) 1
174	50.0 - 120% of mass 95	101.9
175	5.0 - 9.0% of mass 174	7.2 (7.1) 1
176	95.0 - 101% of mass 174	98.0 (96.2) 1
177	5.0 - 9.0% of mass 176	6.3 (6.5) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 200-117296/6	25366_06.D	06/06/2017	15:17
	MB 200-117296/7	25366_07.D	06/06/2017	15:43
MRMW5S-W-39794	200-38792-1	25366_08.D	06/06/2017	17:59
MRMW10S-W-39799	200-38792-2	25366_09.D	06/06/2017	18:25
MRMW4S-W-39793	200-38792-3	25366_10.D	06/06/2017	18:51
MRQCTB-W-39813	200-38792-4	25366_11.D	06/06/2017	19:17
VHBLK01	200-38792-5	25366_12.D	06/06/2017	19:43
	CCVC 200-117296/22	25366_22.D	06/07/2017	00:03
	CCVC 200-117296/23	25366_23.D	06/07/2017	00:28

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
SDG No.: 200-38792-1
Lab File ID: 25405_01.D BFB Injection Date: 06/08/2017
Instrument ID: CHD.i BFB Injection Time: 14:03
Analysis Batch No.: 117409

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.5
75	30.0 - 80.0% of mass 95	43.7
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.5 (0.5) 1
174	50.0 - 120% of mass 95	101.1
175	5.0 - 9.0% of mass 174	7.0 (6.9) 1
176	95.0 - 101% of mass 174	98.7 (97.7) 1
177	5.0 - 9.0% of mass 176	6.2 (6.3) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 200-117409/5	25405_05.D	06/08/2017	15:53
	MB 200-117409/6	25405_06.D	06/08/2017	16:19
MRQCTB-W-39813	200-38792-4	25405_21.D	06/08/2017	22:50
	CCVC 200-117409/22	25405_22.D	06/08/2017	23:16
	CCVC 200-117409/23	25405_23.D	06/08/2017	23:42

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
SDG No.: 200-38792-1
Sample No.: ICIS 200-116931/28 Date Analyzed: 05/23/2017 18:24
Instrument ID: CHD.i GC Column: DB-624 ID: 0.2 (mm)
Lab File ID (Standard): 25203_09.D Heated Purge: (Y/N) N
Calibration ID: 37252

	DFBZ		CBNZd5		DCBd4	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT	2166328	5.95	1703044	9.31	818048	12.12
UPPER LIMIT	4332656	6.12	3406088	9.47	1636096	12.29
LOWER LIMIT	1083164	5.79	851522	9.14	409024	11.96
LAB SAMPLE ID	CLIENT SAMPLE ID					
ICV 200-116931/31		2239915	5.95	1651922	9.31	943101 12.12

DFBZ = 1,4-Difluorobenzene
CBNZd5 = Chlorobenzene-d5
DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.1667 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
SDG No.: 200-38792-1
Sample No.: CCVIS 200-117296/6 Date Analyzed: 06/06/2017 15:17
Instrument ID: CHD.i GC Column: DB-624 ID: 0.2 (mm)
Lab File ID (Standard): 25366_06.D Heated Purge: (Y/N) N
Calibration ID: 37252

	DFBZ		CBNZd5		DCBd4		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
12/24 HOUR STD	1936057	5.95	1619578	9.31	840619	12.12	
UPPER LIMIT	3872114	6.12	3239156	9.47	1681238	12.29	
LOWER LIMIT	968029	5.79	809789	9.14	420310	11.96	
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 200-117296/7		1785741	5.96	1476594	9.31	624284	12.12
200-38792-1	MRMW5S-W-39794	1787678	5.95	1471164	9.31	614145	12.12
200-38792-2	MRMW10S-W-39799	1629831	5.96	1334465	9.31	537294	12.12
200-38792-3	MRMW4S-W-39793	1670635	5.96	1387825	9.31	550914	12.12
200-38792-4	MRQCTB-W-39813	1727657	5.96	1425750	9.31	587485	12.12
200-38792-5	VHBLK01	1704450	5.96	1368607	9.31	528801	12.12
CCVC 200-117296/22		1734172	5.95	1448742	9.31	758483	12.12
CCVC 200-117296/23		1774048	5.95	1479650	9.31	763281	12.12

DFBZ = 1,4-Difluorobenzene
CBNZd5 = Chlorobenzene-d5
DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = $\pm$ 0.1667 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
 SDG No.: 200-38792-1
 Sample No.: CCVIS 200-117409/5 Date Analyzed: 06/08/2017 15:53
 Instrument ID: CHD.i GC Column: DB-624 ID: 0.2 (mm)
 Lab File ID (Standard): 25405_05.D Heated Purge: (Y/N) N
 Calibration ID: 37252

	DFBZ		CBNZd5		DCBd4		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
12/24 HOUR STD	2793808	5.95	2266374	9.31	1105297	12.12	
UPPER LIMIT	5587616	6.12	4532748	9.47	2210594	12.29	
LOWER LIMIT	1396904	5.79	1133187	9.14	552649	11.96	
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 200-117409/6		2574157	5.95	2073043	9.31	959120	12.12
200-38792-4	MRQCTB-W-39813	1414381	5.96	1177552	9.31	517064*	12.12
CCVC 200-117409/22		1389957*	5.95	1201199	9.31	621436	12.12
CCVC 200-117409/23		1470197	5.96	1258206	9.31	632324	12.12

DFBZ = 1,4-Difluorobenzene
 CBNZd5 = Chlorobenzene-d5
 DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
 RT Limit = ± 0.1667 minutes of internal standard RT

Column used to flag values outside QC limits

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>MRMW5S-W-39794</u>	Lab Sample ID: <u>200-38792-1</u>
Matrix: <u>Water</u>	Lab File ID: <u>25366_08.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/01/2017 15:00</u>
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/06/2017 17:59</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117296</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
75-71-8	Dichlorodifluoromethane	0.50	U	0.50	
74-87-3	Chloromethane	0.50	U	0.50	
75-01-4	Vinyl chloride	0.50	U	0.50	
74-83-9	Bromomethane	0.50	U	0.50	
75-00-3	Chloroethane	0.50	U	0.50	
75-69-4	Trichlorofluoromethane	0.50	U	0.50	
75-35-4	1,1-Dichloroethene	0.50	U	0.50	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50	
67-64-1	Acetone	5.0	U	5.0	
75-15-0	Carbon disulfide	0.15	J B	0.50	
79-20-9	Methyl acetate	0.50	U	0.50	
75-09-2	Methylene Chloride	0.50	U	0.50	
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.50	
1634-04-4	Methyl tert-butyl ether	0.50	U	0.50	
75-34-3	1,1-Dichloroethane	0.50	U	0.50	
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.50	
78-93-3	2-Butanone	5.0	U	5.0	
74-97-5	Bromochloromethane	0.50	U	0.50	
67-66-3	Chloroform	0.50	U	0.50	
71-55-6	1,1,1-Trichloroethane	0.50	U	0.50	
110-82-7	Cyclohexane	0.50	U	0.50	
56-23-5	Carbon tetrachloride	0.50	U	0.50	
71-43-2	Benzene	0.50	U	0.50	
107-06-2	1,2-Dichloroethane	0.50	U	0.50	
79-01-6	Trichloroethene	0.50	U	0.50	
108-87-2	Methylcyclohexane	0.50	U	0.50	
78-87-5	1,2-Dichloropropane	0.50	U	0.50	
75-27-4	Bromodichloromethane	0.50	U	0.50	
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.50	
108-10-1	4-Methyl-2-pentanone	5.0	U	5.0	
108-88-3	Toluene	0.50	U	0.50	
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.50	
79-00-5	1,1,2-Trichloroethane	0.50	U	0.50	
127-18-4	Tetrachloroethene	0.50	U	0.50	
591-78-6	2-Hexanone	5.0	U	5.0	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>MRMW5S-W-39794</u>	Lab Sample ID: <u>200-38792-1</u>
Matrix: <u>Water</u>	Lab File ID: <u>25366_08.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/01/2017 15:00</u>
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/06/2017 17:59</u>
Soil Aliquot Vol: <u> </u>	Dilution Factor: <u>1</u>
Soil Extract Vol.: <u> </u>	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: <u> </u>	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117296</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
124-48-1	Dibromochloromethane	0.50	U	0.50	
106-93-4	1,2-Dibromoethane	0.50	U	0.50	
108-90-7	Chlorobenzene	0.50	U	0.50	
100-41-4	Ethylbenzene	0.50	U	0.50	
95-47-6	o-Xylene	0.50	U	0.50	
179601-23-1	m,p-Xylene	0.50	U	0.50	
100-42-5	Styrene	0.50	U	0.50	
75-25-2	Bromoform	0.50	U	0.50	
98-82-8	Isopropylbenzene	0.50	U	0.50	
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.50	
541-73-1	1,3-Dichlorobenzene	0.50	U	0.50	
106-46-7	1,4-Dichlorobenzene	0.50	U	0.50	
95-50-1	1,2-Dichlorobenzene	0.50	U	0.50	
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.50	
120-82-1	1,2,4-Trichlorobenzene	0.068	J B	0.50	
87-61-6	1,2,3-Trichlorobenzene	0.068	J B	0.50	

CAS NO.	SURROGATE	%REC	Q	LIMITS
6745-35-3	Vinyl chloride-d3	106		40-130
19199-91-8	Chloroethane-d5	124		65-130
22280-73-5	1,1-Dichloroethene-d2	100		60-125
24313-50-6	2-Butanone-d5	150	*	40-130
865-49-6	Chloroform-d	121		70-125
17060-07-0	1,2-Dichloroethane-d4	137	*	70-130
1076-43-3	Benzene-d6	118		70-125
93952-08-0	1,2-Dichloropropane-d6	95		60-140
2037-26-5	Toluene-d8	117		70-130
93951-86-1	trans-1,3-Dichloropropene-d4	110		55-130
4840-82-8	2-Hexanone-d5	145	*	45-130
33685-54-0	1,1,2,2-Tetrachloroethane-d2	110		65-120
2199-69-1	1,2-Dichlorobenzene-d4	116		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>MRMW5S-W-39794</u>	Lab Sample ID: <u>200-38792-1</u>
Matrix: <u>Water</u>	Lab File ID: <u>25366_08.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/01/2017 15:00</u>
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/06/2017 17:59</u>
Soil Aliquot Vol: <u> </u>	Dilution Factor: <u>1</u>
Soil Extract Vol.: <u> </u>	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: <u> </u>	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117296</u>	Units: <u>ug/L</u>
Number TICs Found: <u>4</u>	TIC Result Total: <u>6.11</u>

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
78-79-5	Isoprene	2.83	0.57	J N	95%
	Unknown	7.28	3.1	J B X	
541-05-9	Cyclotrisiloxane, hexamethyl-	8.18	0.54	J N	91%
556-67-2	Cyclotetrasiloxane, octamethyl-	11.01	1.9	J N	91%

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>MRMW5S-W-39794</u>	Lab Sample ID: <u>200-38792-1</u>
Matrix: <u>Water</u>	Lab File ID: <u>25366_08.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/01/2017 15:00</u>
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/06/2017 17:59</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117296</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
STL00989	Total Alkanes				

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>MRMW10S-W-39799</u>	Lab Sample ID: <u>200-38792-2</u>
Matrix: <u>Water</u>	Lab File ID: <u>25366_09.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/01/2017 17:15</u>
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/06/2017 18:25</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117296</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
75-71-8	Dichlorodifluoromethane	0.50	U	0.50	
74-87-3	Chloromethane	0.50	U	0.50	
75-01-4	Vinyl chloride	0.50	U	0.50	
74-83-9	Bromomethane	0.50	U	0.50	
75-00-3	Chloroethane	0.50	U	0.50	
75-69-4	Trichlorofluoromethane	0.50	U	0.50	
75-35-4	1,1-Dichloroethene	0.50	U	0.50	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50	
67-64-1	Acetone	5.0	U	5.0	
75-15-0	Carbon disulfide	0.11	J B	0.50	
79-20-9	Methyl acetate	0.50	U	0.50	
75-09-2	Methylene Chloride	0.50	U	0.50	
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.50	
1634-04-4	Methyl tert-butyl ether	0.50	U	0.50	
75-34-3	1,1-Dichloroethane	0.50	U	0.50	
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.50	
78-93-3	2-Butanone	5.0	U	5.0	
74-97-5	Bromochloromethane	0.50	U	0.50	
67-66-3	Chloroform	2.6		0.50	
71-55-6	1,1,1-Trichloroethane	0.50	U	0.50	
110-82-7	Cyclohexane	0.50	U	0.50	
56-23-5	Carbon tetrachloride	0.31	J	0.50	
71-43-2	Benzene	0.50	U	0.50	
107-06-2	1,2-Dichloroethane	0.50	U	0.50	
79-01-6	Trichloroethene	0.50	U	0.50	
108-87-2	Methylcyclohexane	0.50	U	0.50	
78-87-5	1,2-Dichloropropane	0.50	U	0.50	
75-27-4	Bromodichloromethane	0.50	U	0.50	
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.50	
108-10-1	4-Methyl-2-pentanone	5.0	U	5.0	
108-88-3	Toluene	0.50	U	0.50	
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.50	
79-00-5	1,1,2-Trichloroethane	0.50	U	0.50	
127-18-4	Tetrachloroethene	0.50	U	0.50	
591-78-6	2-Hexanone	5.0	U	5.0	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>MRMW10S-W-39799</u>	Lab Sample ID: <u>200-38792-2</u>
Matrix: <u>Water</u>	Lab File ID: <u>25366_09.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/01/2017 17:15</u>
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/06/2017 18:25</u>
Soil Aliquot Vol: <u> </u>	Dilution Factor: <u>1</u>
Soil Extract Vol.: <u> </u>	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: <u> </u>	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117296</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
124-48-1	Dibromochloromethane	0.50	U	0.50	
106-93-4	1,2-Dibromoethane	0.50	U	0.50	
108-90-7	Chlorobenzene	0.50	U	0.50	
100-41-4	Ethylbenzene	0.50	U	0.50	
95-47-6	o-Xylene	0.50	U	0.50	
179601-23-1	m,p-Xylene	0.50	U	0.50	
100-42-5	Styrene	0.50	U	0.50	
75-25-2	Bromoform	0.50	U	0.50	
98-82-8	Isopropylbenzene	0.50	U	0.50	
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.50	
541-73-1	1,3-Dichlorobenzene	0.50	U	0.50	
106-46-7	1,4-Dichlorobenzene	0.50	U	0.50	
95-50-1	1,2-Dichlorobenzene	0.50	U	0.50	
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.50	
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.50	
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.50	

CAS NO.	SURROGATE	%REC	Q	LIMITS
6745-35-3	Vinyl chloride-d3	103		40-130
19199-91-8	Chloroethane-d5	122		65-130
22280-73-5	1,1-Dichloroethene-d2	96		60-125
24313-50-6	2-Butanone-d5	149	*	40-130
865-49-6	Chloroform-d	124		70-125
17060-07-0	1,2-Dichloroethane-d4	139	*	70-130
1076-43-3	Benzene-d6	117		70-125
93952-08-0	1,2-Dichloropropane-d6	96		60-140
2037-26-5	Toluene-d8	117		70-130
93951-86-1	trans-1,3-Dichloropropene-d4	112		55-130
4840-82-8	2-Hexanone-d5	148	*	45-130
33685-54-0	1,1,2,2-Tetrachloroethane-d2	110		65-120
2199-69-1	1,2-Dichlorobenzene-d4	119		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>MRMW10S-W-39799</u>	Lab Sample ID: <u>200-38792-2</u>
Matrix: <u>Water</u>	Lab File ID: <u>25366_09.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/01/2017 17:15</u>
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/06/2017 18:25</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117296</u>	Units: <u>ug/L</u>
Number TICs Found: <u>1</u>	TIC Result Total: <u>3</u>

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Unknown	7.28	3.0	J B X	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
SDG No.: 200-38792-1
Client Sample ID: MRMW10S-W-39799 Lab Sample ID: 200-38792-2
Matrix: Water Lab File ID: 25366_09.D
Analysis Method: SOM02.2/VOA_Tr Date Collected: 06/01/2017 17:15
Sample wt/vol: 25 (mL) Date Analyzed: 06/06/2017 18:25
Soil Aliquot Vol: _____ Dilution Factor: 1
Soil Extract Vol.: _____ GC Column: DB-624 ID: 0.2 (mm)
% Moisture: _____ Level: (low/med) Trace
Analysis Batch No.: 117296 Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
STL00989	Total Alkanes				

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>MRMW4S-W-39793</u>	Lab Sample ID: <u>200-38792-3</u>
Matrix: <u>Water</u>	Lab File ID: <u>25366_10.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/02/2017 10:50</u>
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/06/2017 18:51</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117296</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
75-71-8	Dichlorodifluoromethane	0.50	U	0.50	
74-87-3	Chloromethane	0.50	U	0.50	
75-01-4	Vinyl chloride	0.50	U	0.50	
74-83-9	Bromomethane	0.50	U	0.50	
75-00-3	Chloroethane	0.50	U	0.50	
75-69-4	Trichlorofluoromethane	0.50	U	0.50	
75-35-4	1,1-Dichloroethene	0.50	U	0.50	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50	
67-64-1	Acetone	5.0	U	5.0	
75-15-0	Carbon disulfide	0.11	J B	0.50	
79-20-9	Methyl acetate	0.50	U	0.50	
75-09-2	Methylene Chloride	0.50	U	0.50	
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.50	
1634-04-4	Methyl tert-butyl ether	0.50	U	0.50	
75-34-3	1,1-Dichloroethane	0.50	U	0.50	
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.50	
78-93-3	2-Butanone	5.0	U	5.0	
74-97-5	Bromochloromethane	0.50	U	0.50	
67-66-3	Chloroform	0.50	U	0.50	
71-55-6	1,1,1-Trichloroethane	0.50	U	0.50	
110-82-7	Cyclohexane	0.50	U	0.50	
56-23-5	Carbon tetrachloride	0.11	J	0.50	
71-43-2	Benzene	0.50	U	0.50	
107-06-2	1,2-Dichloroethane	0.50	U	0.50	
79-01-6	Trichloroethene	0.50	U	0.50	
108-87-2	Methylcyclohexane	0.50	U	0.50	
78-87-5	1,2-Dichloropropane	0.50	U	0.50	
75-27-4	Bromodichloromethane	0.50	U	0.50	
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.50	
108-10-1	4-Methyl-2-pentanone	5.0	U	5.0	
108-88-3	Toluene	0.50	U	0.50	
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.50	
79-00-5	1,1,2-Trichloroethane	0.50	U	0.50	
127-18-4	Tetrachloroethene	0.50	U	0.50	
591-78-6	2-Hexanone	5.0	U	5.0	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>MRMW4S-W-39793</u>	Lab Sample ID: <u>200-38792-3</u>
Matrix: <u>Water</u>	Lab File ID: <u>25366_10.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/02/2017 10:50</u>
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/06/2017 18:51</u>
Soil Aliquot Vol: <u></u>	Dilution Factor: <u>1</u>
Soil Extract Vol.: <u></u>	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: <u></u>	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117296</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
124-48-1	Dibromochloromethane	0.50	U	0.50	
106-93-4	1,2-Dibromoethane	0.50	U	0.50	
108-90-7	Chlorobenzene	0.50	U	0.50	
100-41-4	Ethylbenzene	0.50	U	0.50	
95-47-6	o-Xylene	0.50	U	0.50	
179601-23-1	m,p-Xylene	0.50	U	0.50	
100-42-5	Styrene	0.50	U	0.50	
75-25-2	Bromoform	0.50	U	0.50	
98-82-8	Isopropylbenzene	0.50	U	0.50	
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.50	
541-73-1	1,3-Dichlorobenzene	0.50	U	0.50	
106-46-7	1,4-Dichlorobenzene	0.50	U	0.50	
95-50-1	1,2-Dichlorobenzene	0.50	U	0.50	
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.50	
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.50	
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.50	

CAS NO.	SURROGATE	%REC	Q	LIMITS
6745-35-3	Vinyl chloride-d3	103		40-130
19199-91-8	Chloroethane-d5	121		65-130
22280-73-5	1,1-Dichloroethene-d2	94		60-125
24313-50-6	2-Butanone-d5	152	*	40-130
865-49-6	Chloroform-d	123		70-125
17060-07-0	1,2-Dichloroethane-d4	139	*	70-130
1076-43-3	Benzene-d6	117		70-125
93952-08-0	1,2-Dichloropropane-d6	95		60-140
2037-26-5	Toluene-d8	116		70-130
93951-86-1	trans-1,3-Dichloropropene-d4	111		55-130
4840-82-8	2-Hexanone-d5	150	*	45-130
33685-54-0	1,1,2,2-Tetrachloroethane-d2	113		65-120
2199-69-1	1,2-Dichlorobenzene-d4	120		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>MRMW4S-W-39793</u>	Lab Sample ID: <u>200-38792-3</u>
Matrix: <u>Water</u>	Lab File ID: <u>25366_10.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/02/2017 10:50</u>
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/06/2017 18:51</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117296</u>	Units: <u>ug/L</u>
Number TICs Found: <u>2</u>	TIC Result Total: <u>3.51</u>

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
78-79-5	Isoprene	2.83	0.51	J N	92%
	Unknown	7.28	3.0	J B X	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>MRMW4S-W-39793</u>	Lab Sample ID: <u>200-38792-3</u>
Matrix: <u>Water</u>	Lab File ID: <u>25366_10.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/02/2017 10:50</u>
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/06/2017 18:51</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117296</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
STL00989	Total Alkanes				

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>MRQCTB-W-39813</u>	Lab Sample ID: <u>200-38792-4</u>
Matrix: <u>Water</u>	Lab File ID: <u>25366_11.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/02/2017 10:00</u>
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/06/2017 19:17</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117296</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
75-71-8	Dichlorodifluoromethane	0.50	U	0.50	
74-87-3	Chloromethane	0.50	U	0.50	
75-01-4	Vinyl chloride	0.50	U	0.50	
74-83-9	Bromomethane	0.50	U	0.50	
75-00-3	Chloroethane	0.50	U	0.50	
75-69-4	Trichlorofluoromethane	0.50	U	0.50	
75-35-4	1,1-Dichloroethene	0.50	U	0.50	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50	
67-64-1	Acetone	5.1	B	5.0	
75-15-0	Carbon disulfide	0.10	J B	0.50	
79-20-9	Methyl acetate	0.50	U	0.50	
75-09-2	Methylene Chloride	0.50	U	0.50	
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.50	
1634-04-4	Methyl tert-butyl ether	0.50	U	0.50	
75-34-3	1,1-Dichloroethane	0.50	U	0.50	
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.50	
78-93-3	2-Butanone	5.0	U	5.0	
74-97-5	Bromochloromethane	0.50	U	0.50	
67-66-3	Chloroform	0.21	J	0.50	
71-55-6	1,1,1-Trichloroethane	0.50	U	0.50	
110-82-7	Cyclohexane	0.50	U	0.50	
56-23-5	Carbon tetrachloride	0.50	U	0.50	
71-43-2	Benzene	0.23	J	0.50	
107-06-2	1,2-Dichloroethane	0.50	U	0.50	
79-01-6	Trichloroethene	0.50	U	0.50	
108-87-2	Methylcyclohexane	0.50	U	0.50	
78-87-5	1,2-Dichloropropane	0.50	U	0.50	
75-27-4	Bromodichloromethane	0.50	U	0.50	
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.50	
108-10-1	4-Methyl-2-pentanone	5.0	U	5.0	
108-88-3	Toluene	1.2		0.50	
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.50	
79-00-5	1,1,2-Trichloroethane	0.50	U	0.50	
127-18-4	Tetrachloroethene	0.50	U	0.50	
591-78-6	2-Hexanone	5.0	U	5.0	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>MRQCTB-W-39813</u>	Lab Sample ID: <u>200-38792-4</u>
Matrix: <u>Water</u>	Lab File ID: <u>25366_11.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/02/2017 10:00</u>
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/06/2017 19:17</u>
Soil Aliquot Vol: <u> </u>	Dilution Factor: <u>1</u>
Soil Extract Vol.: <u> </u>	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: <u> </u>	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117296</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
124-48-1	Dibromochloromethane	0.50	U	0.50	
106-93-4	1,2-Dibromoethane	0.50	U	0.50	
108-90-7	Chlorobenzene	0.50	U	0.50	
100-41-4	Ethylbenzene	0.079	J	0.50	
95-47-6	o-Xylene	0.12	J	0.50	
179601-23-1	m,p-Xylene	0.31	J	0.50	
100-42-5	Styrene	0.50	U	0.50	
75-25-2	Bromoform	0.50	U	0.50	
98-82-8	Isopropylbenzene	0.50	U	0.50	
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.50	
541-73-1	1,3-Dichlorobenzene	0.50	U	0.50	
106-46-7	1,4-Dichlorobenzene	0.50	U	0.50	
95-50-1	1,2-Dichlorobenzene	0.50	U	0.50	
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.50	
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.50	
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.50	

CAS NO.	SURROGATE	%REC	Q	LIMITS
6745-35-3	Vinyl chloride-d3	108		40-130
19199-91-8	Chloroethane-d5	125		65-130
22280-73-5	1,1-Dichloroethene-d2	96		60-125
24313-50-6	2-Butanone-d5	155	*	40-130
865-49-6	Chloroform-d	127	*	70-125
17060-07-0	1,2-Dichloroethane-d4	142	*	70-130
1076-43-3	Benzene-d6	120		70-125
93952-08-0	1,2-Dichloropropane-d6	97		60-140
2037-26-5	Toluene-d8	119		70-130
93951-86-1	trans-1,3-Dichloropropene-d4	115		55-130
4840-82-8	2-Hexanone-d5	158	*	45-130
33685-54-0	1,1,2,2-Tetrachloroethane-d2	115		65-120
2199-69-1	1,2-Dichlorobenzene-d4	119		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>MRQCTB-W-39813</u>	Lab Sample ID: <u>200-38792-4</u>
Matrix: <u>Water</u>	Lab File ID: <u>25366_11.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/02/2017 10:00</u>
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/06/2017 19:17</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117296</u>	Units: <u>ug/L</u>
Number TICs Found: <u>2</u>	TIC Result Total: <u>5.1</u>

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
109-67-1	1-Pentene	3.30	2.0	J N	74%
	Unknown	7.28	3.1	J X	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>MRQCTB-W-39813</u>	Lab Sample ID: <u>200-38792-4</u>
Matrix: <u>Water</u>	Lab File ID: <u>25366_11.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/02/2017 10:00</u>
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/06/2017 19:17</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117296</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
STL00989	Total Alkanes				

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>MRQCTB-W-39813</u>	Lab Sample ID: <u>200-38792-4</u>
Matrix: <u>Water</u>	Lab File ID: <u>25405_21.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/02/2017 10:00</u>
Sample wt/vol: <u>2(uL)</u>	Date Analyzed: <u>06/08/2017 22:50</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117409</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
75-71-8	Dichlorodifluoromethane	0.50	U	0.50	
74-87-3	Chloromethane	0.50	U	0.50	
75-01-4	Vinyl chloride	0.50	U	0.50	
74-83-9	Bromomethane	0.50	U	0.50	
75-00-3	Chloroethane	0.50	U	0.50	
75-69-4	Trichlorofluoromethane	0.50	U	0.50	
75-35-4	1,1-Dichloroethene	0.50	U	0.50	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50	
67-64-1	Acetone	4.9	J B	5.0	
75-15-0	Carbon disulfide	0.15	J B	0.50	
79-20-9	Methyl acetate	0.50	U	0.50	
75-09-2	Methylene Chloride	0.50	U	0.50	
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.50	
1634-04-4	Methyl tert-butyl ether	0.50	U	0.50	
75-34-3	1,1-Dichloroethane	0.50	U	0.50	
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.50	
78-93-3	2-Butanone	5.0	U	5.0	
74-97-5	Bromochloromethane	0.50	U	0.50	
67-66-3	Chloroform	0.50	U	0.50	
71-55-6	1,1,1-Trichloroethane	0.50	U	0.50	
110-82-7	Cyclohexane	0.50	U	0.50	
56-23-5	Carbon tetrachloride	0.50	U	0.50	
71-43-2	Benzene	0.23	J	0.50	
107-06-2	1,2-Dichloroethane	0.50	U	0.50	
79-01-6	Trichloroethene	0.50	U	0.50	
108-87-2	Methylcyclohexane	0.50	U	0.50	
78-87-5	1,2-Dichloropropane	0.50	U	0.50	
75-27-4	Bromodichloromethane	0.50	U	0.50	
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.50	
108-10-1	4-Methyl-2-pentanone	5.0	U	5.0	
108-88-3	Toluene	1.2		0.50	
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.50	
79-00-5	1,1,2-Trichloroethane	0.50	U	0.50	
127-18-4	Tetrachloroethene	0.50	U	0.50	
591-78-6	2-Hexanone	5.0	U	5.0	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>MRQCTB-W-39813</u>	Lab Sample ID: <u>200-38792-4</u>
Matrix: <u>Water</u>	Lab File ID: <u>25405_21.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/02/2017 10:00</u>
Sample wt/vol: <u>2(uL)</u>	Date Analyzed: <u>06/08/2017 22:50</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117409</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
124-48-1	Dibromochloromethane	0.50	U	0.50	
106-93-4	1,2-Dibromoethane	0.50	U	0.50	
108-90-7	Chlorobenzene	0.50	U	0.50	
100-41-4	Ethylbenzene	0.087	J	0.50	
95-47-6	o-Xylene	0.12	J	0.50	
179601-23-1	m,p-Xylene	0.35	J	0.50	
100-42-5	Styrene	0.50	U	0.50	
75-25-2	Bromoform	0.50	U	0.50	
98-82-8	Isopropylbenzene	0.50	U	0.50	
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.50	
541-73-1	1,3-Dichlorobenzene	0.50	U	0.50	
106-46-7	1,4-Dichlorobenzene	0.50	U	0.50	
95-50-1	1,2-Dichlorobenzene	0.50	U	0.50	
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.50	
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.50	
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.50	

CAS NO.	SURROGATE	%REC	Q	LIMITS
6745-35-3	Vinyl chloride-d3	78		40-130
19199-91-8	Chloroethane-d5	109		65-130
22280-73-5	1,1-Dichloroethene-d2	89		60-125
24313-50-6	2-Butanone-d5	124		40-130
865-49-6	Chloroform-d	117		70-125
17060-07-0	1,2-Dichloroethane-d4	137	*	70-130
1076-43-3	Benzene-d6	112		70-125
93952-08-0	1,2-Dichloropropane-d6	89		60-140
2037-26-5	Toluene-d8	112		70-130
93951-86-1	trans-1,3-Dichloropropene-d4	110		55-130
4840-82-8	2-Hexanone-d5	132	*	45-130
33685-54-0	1,1,2,2-Tetrachloroethane-d2	109		65-120
2199-69-1	1,2-Dichlorobenzene-d4	117		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>MRQCTB-W-39813</u>	Lab Sample ID: <u>200-38792-4</u>
Matrix: <u>Water</u>	Lab File ID: <u>25405_21.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/02/2017 10:00</u>
Sample wt/vol: <u>2(uL)</u>	Date Analyzed: <u>06/08/2017 22:50</u>
Soil Aliquot Vol: <u> </u>	Dilution Factor: <u>1</u>
Soil Extract Vol.: <u> </u>	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: <u> </u>	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117409</u>	Units: <u>ug/L</u>
Number TICs Found: <u>2</u>	TIC Result Total: <u>3.41</u>

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Unknown	1.64	0.51	J	
	Unknown	7.28	2.9	J X	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>MRQCTB-W-39813</u>	Lab Sample ID: <u>200-38792-4</u>
Matrix: <u>Water</u>	Lab File ID: <u>25405_21.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/02/2017 10:00</u>
Sample wt/vol: <u>2(uL)</u>	Date Analyzed: <u>06/08/2017 22:50</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117409</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
<i>STL00989</i>	<i>Total Alkanes</i>				

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>VHBLK01</u>	Lab Sample ID: <u>200-38792-5</u>
Matrix: <u>Water</u>	Lab File ID: <u>25366_12.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/03/2017 11:08</u>
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/06/2017 19:43</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117296</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
75-71-8	Dichlorodifluoromethane	0.50	U	0.50	
74-87-3	Chloromethane	0.50	U	0.50	
75-01-4	Vinyl chloride	0.50	U	0.50	
74-83-9	Bromomethane	0.50	U	0.50	
75-00-3	Chloroethane	0.50	U	0.50	
75-69-4	Trichlorofluoromethane	0.50	U	0.50	
75-35-4	1,1-Dichloroethene	0.50	U	0.50	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50	
67-64-1	Acetone	2.9	J B	5.0	
75-15-0	Carbon disulfide	0.10	J B	0.50	
79-20-9	Methyl acetate	0.50	U	0.50	
75-09-2	Methylene Chloride	0.50	U	0.50	
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.50	
1634-04-4	Methyl tert-butyl ether	0.50	U	0.50	
75-34-3	1,1-Dichloroethane	0.50	U	0.50	
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.50	
78-93-3	2-Butanone	5.0	U	5.0	
74-97-5	Bromochloromethane	0.50	U	0.50	
67-66-3	Chloroform	0.50	U	0.50	
71-55-6	1,1,1-Trichloroethane	0.50	U	0.50	
110-82-7	Cyclohexane	0.50	U	0.50	
56-23-5	Carbon tetrachloride	0.50	U	0.50	
71-43-2	Benzene	0.50	U	0.50	
107-06-2	1,2-Dichloroethane	0.50	U	0.50	
79-01-6	Trichloroethene	0.50	U	0.50	
108-87-2	Methylcyclohexane	0.50	U	0.50	
78-87-5	1,2-Dichloropropane	0.50	U	0.50	
75-27-4	Bromodichloromethane	0.50	U	0.50	
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.50	
108-10-1	4-Methyl-2-pentanone	5.0	U	5.0	
108-88-3	Toluene	0.50	U	0.50	
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.50	
79-00-5	1,1,2-Trichloroethane	0.50	U	0.50	
127-18-4	Tetrachloroethene	0.50	U	0.50	
591-78-6	2-Hexanone	5.0	U	5.0	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>VHBLK01</u>	Lab Sample ID: <u>200-38792-5</u>
Matrix: <u>Water</u>	Lab File ID: <u>25366_12.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/03/2017 11:08</u>
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/06/2017 19:43</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117296</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
124-48-1	Dibromochloromethane	0.50	U	0.50	
106-93-4	1,2-Dibromoethane	0.50	U	0.50	
108-90-7	Chlorobenzene	0.50	U	0.50	
100-41-4	Ethylbenzene	0.50	U	0.50	
95-47-6	o-Xylene	0.50	U	0.50	
179601-23-1	m,p-Xylene	0.50	U	0.50	
100-42-5	Styrene	0.50	U	0.50	
75-25-2	Bromoform	0.50	U	0.50	
98-82-8	Isopropylbenzene	0.50	U	0.50	
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.50	
541-73-1	1,3-Dichlorobenzene	0.50	U	0.50	
106-46-7	1,4-Dichlorobenzene	0.50	U	0.50	
95-50-1	1,2-Dichlorobenzene	0.50	U	0.50	
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.50	
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.50	
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.50	

CAS NO.	SURROGATE	%REC	Q	LIMITS
6745-35-3	Vinyl chloride-d3	102		40-130
19199-91-8	Chloroethane-d5	118		65-130
22280-73-5	1,1-Dichloroethene-d2	93		60-125
24313-50-6	2-Butanone-d5	123		40-130
865-49-6	Chloroform-d	122		70-125
17060-07-0	1,2-Dichloroethane-d4	137	*	70-130
1076-43-3	Benzene-d6	119		70-125
93952-08-0	1,2-Dichloropropane-d6	96		60-140
2037-26-5	Toluene-d8	116		70-130
93951-86-1	trans-1,3-Dichloropropene-d4	108		55-130
4840-82-8	2-Hexanone-d5	125		45-130
33685-54-0	1,1,2,2-Tetrachloroethane-d2	110		65-120
2199-69-1	1,2-Dichlorobenzene-d4	121	*	80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: <u>VHBLK01</u>	Lab Sample ID: <u>200-38792-5</u>
Matrix: <u>Water</u>	Lab File ID: <u>25366_12.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: <u>06/03/2017 11:08</u>
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/06/2017 19:43</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117296</u>	Units: <u>ug/L</u>
Number TICs Found: <u>1</u>	TIC Result Total: <u>2.9</u>

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Unknown	7.28	2.9	J B X	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
SDG No.: 200-38792-1
Client Sample ID: VHBLK01 Lab Sample ID: 200-38792-5
Matrix: Water Lab File ID: 25366_12.D
Analysis Method: SOM02.2/VOA_Tr Date Collected: 06/03/2017 11:08
Sample wt/vol: 25 (mL) Date Analyzed: 06/06/2017 19:43
Soil Aliquot Vol: _____ Dilution Factor: 1
Soil Extract Vol.: _____ GC Column: DB-624 ID: 0.2 (mm)
% Moisture: _____ Level: (low/med) Trace
Analysis Batch No.: 117296 Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
STL00989	Total Alkanes				

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Burlington Job No.: 200-38792-1 Analy Batch No.: 116931

SDG No.: 200-38792-1

Instrument ID: CHD.i GC Column: DB-624 ID: 0.2 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/23/2017 17:32 Calibration End Date: 05/23/2017 19:16 Calibration ID: 37252

Calibration Files:

LEVEL:	LAB SAMPLE ID:	EPA SAMPLE NO:	LAB FILE ID:
Level 1	IC 200-116931/30	VSTD0.5EA	25203_11.D
Level 2	IC 200-116931/29	VSTD001EA	25203_10.D
Level 3	ICIS 200-116931/28	VSTD005EA	25203_09.D
Level 4	IC 200-116931/27	VSTD010EA	25203_08.D
Level 5	IC 200-116931/26	VSTD020EA	25203_07.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.2956	0.3196	0.3169	0.3352	0.3021	Ave		0.3139			0.0100	5.0		30.0			
Chloromethane	0.2639	0.2607	0.2244	0.2431	0.2157	Ave		0.2416			0.0100	8.8		30.0			
Vinyl chloride	0.2201	0.2321	0.2264	0.2450	0.2209	Ave		0.2289			0.0100	4.5		30.0			
Bromomethane	0.1007	0.0968	0.0936	0.1022	0.0892	Ave		0.0965			0.0100	5.5		40.0			
Chloroethane	0.1458	0.1368	0.1305	0.1368	0.1197	Ave		0.1339			0.0100	7.2		30.0			
Trichlorofluoromethane	0.4857	0.5069	0.4886	0.5098	0.4673	Ave		0.4917			0.0100	3.5		30.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.2264	0.2711	0.2519	0.2567	0.2307	Ave		0.2474			0.0100	7.5		30.0			
1,1-Dichloroethene	0.2105	0.2217	0.2092	0.2186	0.1957	Ave		0.2111			0.0200	4.8		30.0			
Acetone	0.0124	0.0124	0.0100	0.0100	0.0092	Ave		0.0108			0.0100	13.8		40.0			
Carbon disulfide	0.7855	0.6594	0.7311	0.5944	0.5415	Ave		0.6624			0.0100	14.9		20.0			
Methyl acetate	0.0410	0.0416	0.0397	0.0386	0.0370	Ave		0.0396			0.0100	4.6		40.0			
Methylene Chloride	0.2254	0.2243	0.2133	0.2165	0.1951	Ave		0.2149			0.0100	5.7		40.0			
Methyl tert-butyl ether	0.2309	0.2517	0.2783	0.2885	0.2700	Ave		0.2639			0.0100	8.7		30.0			
trans-1,2-Dichloroethene	0.3025	0.3169	0.3078	0.3250	0.2984	Ave		0.3101			0.0700	3.5		20.0			
1,1-Dichloroethane	0.5253	0.5151	0.5076	0.5271	0.4979	Ave		0.5146			0.1000	2.4		20.0			
cis-1,2-Dichloroethene	0.2766	0.2808	0.2971	0.3103	0.2970	Ave		0.2924			0.1000	4.7		20.0			
2-Butanone	0.0212	0.0212	0.0234	0.0237	0.0220	Ave		0.0223			0.0100	5.3		40.0			
Bromochloromethane	0.0992	0.0973	0.0980	0.0971	0.0925	Ave		0.0968			0.0200	2.6		20.0			
Chloroform	0.5161	0.5022	0.4901	0.4971	0.4655	Ave		0.4942			0.0400	3.8		20.0			
1,1,1-Trichloroethane	0.7797	0.7611	0.7214	0.7538	0.7312	Ave		0.7494			0.0500	3.1		30.0			
Cyclohexane	0.5772	0.6457	0.7093	0.7385	0.7338	Ave		0.6809			0.1000	10.1		30.0			
Carbon tetrachloride	0.7512	0.7318	0.6965	0.7190	0.7100	Ave		0.7217			0.0200	2.9		20.0			
Benzene	1.4678	1.4492	1.4851	1.5456	1.5004	Ave		1.4896			0.3000	2.5		20.0			
1,2-Dichloroethane	0.2219	0.2062	0.2145	0.2167	0.2006	Ave		0.2120			0.0100	4.0		20.0			
Trichloroethene	0.4165	0.4213	0.4180	0.4319	0.4293	Ave		0.4234			0.1000	1.6		20.0			
Methylcyclohexane	0.4697	0.5672	0.6186	0.6251	0.6088	Ave		0.5779			0.2000	11.2		30.0			
1,2-Dichloropropane	0.2911	0.2762	0.2865	0.2913	0.2903	Ave		0.2871			0.1000	2.2		20.0			
Bromodichloromethane	0.3738	0.3582	0.3531	0.3563	0.3516	Ave		0.3586			0.0900	2.5		20.0			
cis-1,3-Dichloropropene	0.3243	0.3357	0.3898	0.4025	0.4002	Ave		0.3705			0.1000	10.1		20.0			
4-Methyl-2-pentanone	0.0587	0.0601	0.0701	0.0700	0.0670	Ave		0.0652			0.0100	8.4		30.0			
Toluene	1.4137	1.5610	1.7069	1.7879	1.7088	Ave		1.6357			0.4000	9.1		20.0			
trans-1,3-Dichloropropene	0.2311	0.2368	0.2737	0.2898	0.2892	Ave		0.2641			0.0100	10.7		30.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Burlington Job No.: 200-38792-1 Analy Batch No.: 116931

SDG No.: 200-38792-1

Instrument ID: CHD.i GC Column: DB-624 ID: 0.2 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/23/2017 17:32 Calibration End Date: 05/23/2017 19:16 Calibration ID: 37252

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,1,2-Trichloroethane	0.1549	0.1454	0.1452	0.1455	0.1463	Ave		0.1475			0.0400	2.8		20.0			
Tetrachloroethene	0.4049	0.4469	0.4426	0.4660	0.4641	Ave		0.4449			0.1000	5.5		20.0			
2-Hexanone	0.0375	0.0423	0.0478	0.0482	0.0470	Ave		0.0446			0.0100	10.3		40.0			
Dibromochloromethane	0.2073	0.2119	0.2209	0.2243	0.2283	Ave		0.2185			0.0500	4.0		20.0			
1,2-Dibromoethane	0.1227	0.1262	0.1295	0.1327	0.1347	Ave		0.1292			0.0100	3.7		20.0			
Chlorobenzene	1.0578	1.0613	1.0665	1.0980	1.0702	Ave		1.0707			0.4000	1.5		20.0			
Ethylbenzene	1.4947	1.7201	2.0033	2.1407	2.0712	Ave		1.8860			0.5000	14.4		20.0			
m,p-Xylene	0.5785	0.6997	0.8212	0.8795	0.8501	Ave		0.7658			0.2000	16.3		20.0			
o-Xylene	0.4978	0.5944	0.7343	0.7835	0.7566	Ave		0.6733			0.3000	18.2		30.0			
Styrene	0.7553	0.9572	1.1189	1.1399	1.0857	Ave		1.0114			0.2000	15.8		30.0			
Bromoform	0.2357	0.2370	0.2273	0.2321	0.2321	Ave		0.2328			0.0100	1.6		30.0			
Isopropylbenzene	1.4003	1.7588	2.2312	2.4131	2.3137	Ave		2.0234			0.7000	21.2		30.0			
1,1,2,2-Tetrachloroethane	0.1199	0.1243	0.1307	0.1323	0.1335	Ave		0.1281			0.0500	4.5		20.0			
1,3-Dichlorobenzene	1.5037	1.6899	1.7329	1.7806	1.7661	Ave		1.6946			0.5000	6.6		20.0			
1,4-Dichlorobenzene	1.8129	1.8842	1.7650	1.7319	1.6850	Ave		1.7758			0.7000	4.3		20.0			
1,2-Dichlorobenzene	1.2644	1.3583	1.3956	1.3788	1.3207	Ave		1.3436			0.4000	3.9		20.0			
1,2-Dibromo-3-chloropropane	0.0396	0.0380	0.0358	0.0353	0.0349	Ave		0.0367			0.0100	5.4		40.0			
1,2,4-Trichlorobenzene	0.6599	0.8382	0.7886	0.7901	0.7748	Ave		0.7703			0.3000	8.6		30.0			
1,2,3-Trichlorobenzene	0.4739	0.6165	0.5305	0.5208	0.4812	Ave		0.5246			0.2000	10.8		30.0			
Vinyl chloride-d3	0.1812	0.1897	0.1830	0.1994	0.1776	Ave		0.1862			0.0100	4.6		30.0			
Chloroethane-d5	0.1529	0.1477	0.1359	0.1367	0.1196	Ave		0.1386			0.0100	9.3		30.0			
1,1-Dichloroethene-d2	0.4478	0.4855	0.4554	0.4679	0.4227	Ave		0.4559			0.0100	5.1		30.0			
2-Butanone-d5	0.0221	0.0224	0.0236	0.0237	0.0223	Ave		0.0228			0.0100	3.4		40.0			
Chloroform-d	0.5394	0.5317	0.5183	0.5256	0.4917	Ave		0.5213			0.0100	3.5		20.0			
1,2-Dichloroethane-d4	0.1679	0.1638	0.1627	0.1639	0.1530	Ave		0.1622			0.0100	3.4		20.0			
Benzene-d6	1.4046	1.4263	1.4522	1.5093	1.4798	Ave		1.4544			0.0300	2.9		20.0			
1,2-Dichloropropane-d6	0.3835	0.3975	0.3768	0.3660	0.3526	Ave		0.3753			0.1000	4.5		20.0			
Toluene-d8	1.2434	1.3295	1.4628	1.5376	1.4818	Ave		1.4110			0.2000	8.6		20.0			
trans-1,3-Dichloropropene-d4	0.2007	0.2044	0.2290	0.2484	0.2513	Ave		0.2267			0.0100	10.5		30.0			
2-Hexanone-d5	0.0152	0.0173	0.0236	0.0252	0.0257	Ave		0.0214			0.0100	22.6		40.0			
1,1,2,2-Tetrachloroethane-d2	0.1292	0.1254	0.1300	0.1313	0.1315	Ave		0.1295			0.0100	1.9		20.0			
1,2-Dichlorobenzene-d4	0.7910	0.8283	0.8270	0.8281	0.8024	Ave		0.8154			0.0600	2.1		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Burlington Job No.: 200-38792-1 Analy Batch No.: 116931

SDG No.: 200-38792-1

Instrument ID: CHD.i GC Column: DB-624 ID: 0.2 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/23/2017 17:32 Calibration End Date: 05/23/2017 19:16 Calibration ID: 37252

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 200-116931/30	25203_11.D
Level 2	IC 200-116931/29	25203_10.D
Level 3	ICIS 200-116931/28	25203_09.D
Level 4	IC 200-116931/27	25203_08.D
Level 5	IC 200-116931/26	25203_07.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	DFBZ	Ave	57634	124883	686599	1462880	2877321	12.5	25.0	125	250	500
Chloromethane	DFBZ	Ave	51459	101847	486232	1060897	2054625	12.5	25.0	125	250	500
Vinyl chloride	DFBZ	Ave	42926	90686	490522	1068986	2103582	12.5	25.0	125	250	500
Bromomethane	DFBZ	Ave	19639	37820	202841	445933	849320	12.5	25.0	125	250	500
Chloroethane	DFBZ	Ave	28430	53457	282653	597080	1140594	12.5	25.0	125	250	500
Trichlorofluoromethane	DFBZ	Ave	94699	198075	1058461	2224907	4451094	12.5	25.0	125	250	500
1,1,2-Trichloro-1,2,2-trifluoroethane	DFBZ	Ave	44146	105934	545802	1120406	2197483	12.5	25.0	125	250	500
1,1-Dichloroethene	DFBZ	Ave	41042	86623	453129	954141	1863889	12.5	25.0	125	250	500
Acetone	DFBZ	Ave	24094	48644	217369	437414	874615	125	250	1250	2499	4998
Carbon disulfide	DFBZ	Ave	153169	257635	1583858	2593987	5157898	12.5	25.0	125	250	500
Methyl acetate	DFBZ	Ave	7985	16240	86000	168518	352439	12.5	25.0	125	250	500
Methylene Chloride	DFBZ	Ave	43942	87643	462126	944958	1858337	12.5	25.0	125	250	500
Methyl tert-butyl ether	DFBZ	Ave	45018	98337	602822	1258874	2572172	12.5	25.0	125	250	500
trans-1,2-Dichloroethene	DFBZ	Ave	58976	123809	666692	1418479	2842676	12.5	25.0	125	250	500
1,1-Dichloroethane	DFBZ	Ave	102433	201287	1099593	2300411	4742846	12.5	25.0	125	250	500
cis-1,2-Dichloroethene	DFBZ	Ave	53940	109700	643547	1354226	2828871	12.5	25.0	125	250	500
2-Butanone	DFBZ	Ave	41365	82803	507396	1033103	2098434	125	250	1250	2499	4998
Bromochloromethane	DFBZ	Ave	19336	38015	212204	423593	881268	12.5	25.0	125	250	500
Chloroform	DFBZ	Ave	100639	196226	1061678	2169218	4434137	12.5	25.0	125	250	500
1,1,1-Trichloroethane	CBNZd	Ave	112909	229158	1228544	2621521	5418710	12.5	25.0	125	250	500
Cyclohexane	CBNZd	Ave	83575	194413	1208029	2568285	5437754	12.5	25.0	125	250	500
Carbon tetrachloride	CBNZd	Ave	108777	220339	1186237	2500463	5261594	12.5	25.0	125	250	500
Benzene	CBNZd	Ave	212541	436354	2529209	5375362	11118807	12.5	25.0	125	250	500
1,2-Dichloroethane	DFBZ	Ave	43263	80577	464650	945606	1911142	12.5	25.0	125	250	500
Trichloroethene	CBNZd	Ave	60305	126855	711918	1502147	3181258	12.5	25.0	125	250	500
Methylcyclohexane	CBNZd	Ave	68019	170788	1053463	2173991	4511913	12.5	25.0	125	250	500
1,2-Dichloropropane	CBNZd	Ave	42150	83177	487872	1012998	2151195	12.5	25.0	125	250	500
Bromodichloromethane	CBNZd	Ave	54124	107860	601365	1239271	2605524	12.5	25.0	125	250	500
cis-1,3-Dichloropropene	CBNZd	Ave	46954	101090	663862	1399701	2965752	12.5	25.0	125	250	500
4-Methyl-2-pentanone	CBNZd	Ave	84969	180956	1193194	2434244	4968598	125	250	1250	2499	4998
Toluene	CBNZd	Ave	204707	470020	2906868	6217956	12663711	12.5	25.0	125	250	500
trans-1,3-Dichloropropene	CBNZd	Ave	33457	71298	466198	1007971	2142892	12.5	25.0	125	250	500
1,1,2-Trichloroethane	CBNZd	Ave	22425	43781	247232	506027	1084498	12.5	25.0	125	250	500

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Burlington Job No.: 200-38792-1 Analy Batch No.: 116931

SDG No.: 200-38792-1

Instrument ID: CHD.i GC Column: DB-624 ID: 0.2 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/23/2017 17:32 Calibration End Date: 05/23/2017 19:16 Calibration ID: 37252

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Tetrachloroethene	CBNZd	Ave	58633	134557	753708	1620604	3439198	12.5	25.0	125	250	500
2-Hexanone	CBNZd	Ave	54323	127341	813459	1676963	3482711	125	250	1250	2499	4998
Dibromochloromethane	CBNZd	Ave	30014	63799	376181	780061	1692129	12.5	25.0	125	250	500
1,2-Dibromoethane	CBNZd	Ave	17774	37992	220618	461387	997918	12.5	25.0	125	250	500
Chlorobenzene	CBNZd	Ave	153171	319540	1816219	3818780	7930922	12.5	25.0	125	250	500
Ethylbenzene	CBNZd	Ave	216443	517907	3411734	7444910	15349320	12.5	25.0	125	250	500
m,p-Xylene	CBNZd	Ave	83770	210685	1398467	3058666	6299841	12.5	25.0	125	250	500
o-Xylene	CBNZd	Ave	72088	178967	1250568	2724872	5606651	12.5	25.0	125	250	500
Styrene	CBNZd	Ave	109371	288212	1905521	3964400	8046243	12.5	25.0	125	250	500
Bromoform	DCBd4	Ave	14545	31435	185943	407080	875820	12.5	25.0	125	250	500
Isopropylbenzene	CBNZd	Ave	202769	529579	3799890	8392182	17146042	12.5	25.0	125	250	500
1,1,2,2-Tetrachloroethane	CBNZd	Ave	17355	37433	222561	459988	989656	12.5	25.0	125	250	500
1,3-Dichlorobenzene	DCBd4	Ave	92797	224144	1417560	3122441	6663707	12.5	25.0	125	250	500
1,4-Dichlorobenzene	DCBd4	Ave	111879	249908	1443872	3037086	6357557	12.5	25.0	125	250	500
1,2-Dichlorobenzene	DCBd4	Ave	78033	180159	1141663	2417944	4983299	12.5	25.0	125	250	500
1,2-Dibromo-3-chloropropane	DCBd4	Ave	2445	5035	29323	61926	131733	12.5	25.0	125	250	500
1,2,4-Trichlorobenzene	DCBd4	Ave	40727	111170	645152	1385442	2923279	12.5	25.0	125	250	500
1,2,3-Trichlorobenzene	DCBd4	Ave	29244	81772	433951	913282	1815726	12.5	25.0	125	250	500
Vinyl chloride-d3	DFBZ	Ave	35337	74132	396467	870286	1691603	12.5	25.0	125	250	500
Chloroethane-d5	DFBZ	Ave	29812	57724	294382	596534	1138793	12.5	25.0	125	250	500
1,1-Dichloroethene-d2	DFBZ	Ave	87317	189701	986550	2041886	4026296	12.5	25.0	125	250	500
2-Butanone-d5	DFBZ	Ave	43121	87438	510872	1035798	2126763	125	250	1250	2499	4998
Chloroform-d	DFBZ	Ave	105177	207761	1122856	2293637	4683779	12.5	25.0	125	250	500
1,2-Dichloroethane-d4	DFBZ	Ave	32739	64001	352432	715186	1457034	12.5	25.0	125	250	500
Benzene-d6	CBNZd	Ave	203395	429457	2473159	5249113	10966290	12.5	25.0	125	250	500
1,2-Dichloropropane-d6	CBNZd	Ave	55537	119677	641718	1272716	2613161	12.5	25.0	125	250	500
Toluene-d8	CBNZd	Ave	180051	400296	2491150	5347415	10981321	12.5	25.0	125	250	500
trans-1,3-Dichloropropene-d4	CBNZd	Ave	29063	61548	389973	863783	1862005	12.5	25.0	125	250	500
2-Hexanone-d5	CBNZd	Ave	21997	52100	401406	878130	1906833	125	250	1250	2499	4998
1,1,2,2-Tetrachloroethane-d2	CBNZd	Ave	18705	37760	221440	456691	974885	12.5	25.0	125	250	500
1,2-Dichlorobenzene-d4	DCBd4	Ave	48819	109863	676513	1452166	3027550	12.5	25.0	125	250	500

Curve Type Legend:

Ave = Average ISTD

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
 SDG No.: 200-38792-1
 Lab Sample ID: ICV 200-116931/31 Calibration Date: 05/23/2017 19:42
 Instrument ID: CHD.i Calib Start Date: 05/23/2017 17:32
 GC Column: DB-624 ID: 0.20 (mm) Calib End Date: 05/23/2017 19:16
 Lab File ID: 25203_12.D Conc. Units: ug/L Heated Purge: (Y/N) N
 EPA Sample No.: VICVEA

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3139	0.2080	0.0100	3.30	5.00	-33.7	40.0
Chloromethane	Ave	0.2416	0.1762	0.0100	3.60	5.00	-27.1	30.0
Vinyl chloride	Ave	0.2289	0.1880	0.0100	4.10	5.00	-17.9	30.0
Bromomethane	Ave	0.0965	0.1107	0.0100	5.70	5.00	14.7	30.0
Chloroethane	Ave	0.1339	0.1210	0.0100	4.50	5.00	-9.7	30.0
Trichlorofluoromethane	Ave	0.4917	0.4553	0.0100	4.60	5.00	-7.4	30.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2474	0.2481	0.0100	5.00	5.00	0.3	30.0
1,1-Dichloroethene	Ave	0.2111	0.2124	0.0200	5.00	5.00	0.6	20.0
Acetone	Ave	0.0108	0.0097*	0.0100	45.0	50.0	-10.1	40.0
Carbon disulfide	Ave	0.6624	0.6143	0.0100	4.60	5.00	-7.3	25.0
Methyl acetate	Ave	0.0396	0.0389	0.0100	25.0	25.0	-1.7	40.0
Methylene Chloride	Ave	0.2149	0.2049	0.0100	4.80	5.00	-4.6	30.0
Methyl tert-butyl ether	Ave	0.2639	0.2623	0.0100	5.00	5.00	-0.6	30.0
trans-1,2-Dichloroethene	Ave	0.3101	0.3046	0.0700	4.90	5.00	-1.8	20.0
1,1-Dichloroethane	Ave	0.5146	0.4937	0.1000	4.80	5.00	-4.1	20.0
cis-1,2-Dichloroethene	Ave	0.2924	0.2891	0.1000	4.90	5.00	-1.1	20.0
2-Butanone	Ave	0.0223	0.0231	0.0100	52.0	50.0	3.6	40.0
Bromochloromethane	Ave	0.0968	0.0888	0.0200	4.60	5.00	-8.2	20.0
Chloroform	Ave	0.4942	0.4676	0.0400	4.70	5.00	-5.4	20.0
1,1,1-Trichloroethane	Ave	0.7494	0.7567	0.0500	5.00	5.00	1.0	20.0
Cyclohexane	Ave	0.6809	0.7365	0.1000	5.40	5.00	8.2	25.0
Carbon tetrachloride	Ave	0.7217	0.7304	0.0200	5.10	5.00	1.2	25.0
Benzene	Ave	1.490	1.609	0.3000	5.40	5.00	8.0	20.0
1,2-Dichloroethane	Ave	0.2120	0.2009	0.0100	4.70	5.00	-5.2	25.0
Trichloroethene	Ave	0.4234	0.4221	0.1000	5.00	5.00	-0.3	20.0
Methylcyclohexane	Ave	0.5779	0.6086	0.2000	5.30	5.00	5.3	25.0
1,2-Dichloropropane	Ave	0.2871	0.2902	0.1000	5.10	5.00	1.1	20.0
Bromodichloromethane	Ave	0.3586	0.3565	0.0900	5.00	5.00	-0.6	20.0
cis-1,3-Dichloropropene	Ave	0.3705	0.3852	0.1000	5.20	5.00	4.0	20.0
4-Methyl-2-pentanone	Ave	0.0652	0.0726	0.0100	56.0	50.0	11.4	30.0
Toluene	Ave	1.636	1.791	0.4000	5.50	5.00	9.5	20.0
trans-1,3-Dichloropropene	Ave	0.2641	0.2649	0.0100	5.00	5.00	0.3	20.0
1,1,2-Trichloroethane	Ave	0.1475	0.1505	0.0400	5.10	5.00	2.0	20.0
Tetrachloroethene	Ave	0.4449	0.4449	0.1000	5.00	5.00	0.0	20.0
2-Hexanone	Ave	0.0446	0.0498	0.0100	56.0	50.0	11.7	40.0
Dibromochloromethane	Ave	0.2185	0.2183	0.0500	5.00	5.00	-0.1	20.0
1,2-Dibromoethane	Ave	0.1292	0.1293	0.0100	5.00	5.00	0.1	20.0
Chlorobenzene	Ave	1.071	1.072	0.4000	5.00	5.00	0.1	20.0
Ethylbenzene	Ave	1.886	2.060	0.5000	5.50	5.00	9.2	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
 SDG No.: 200-38792-1
 Lab Sample ID: ICV 200-116931/31 Calibration Date: 05/23/2017 19:42
 Instrument ID: CHD.i Calib Start Date: 05/23/2017 17:32
 GC Column: DB-624 ID: 0.20 (mm) Calib End Date: 05/23/2017 19:16
 Lab File ID: 25203_12.D Conc. Units: ug/L Heated Purge: (Y/N) N
 EPA Sample No.: VICVEA

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
m,p-Xylene	Ave	0.7658	0.8445	0.2000	5.50	5.00	10.3	20.0
o-Xylene	Ave	0.6733	0.7558	0.3000	5.60	5.00	12.2	20.0
Styrene	Ave	1.011	1.131	0.2000	5.60	5.00	11.8	20.0
Bromoform	Ave	0.2328	0.1899	0.0100	4.10	5.00	-18.5	30.0
Isopropylbenzene	Ave	2.023	2.287	0.7000	5.60	5.00	13.0	25.0
1,1,2,2-Tetrachloroethane	Ave	0.1281	0.1384	0.0500	5.40	5.00	8.0	25.0
1,3-Dichlorobenzene	Ave	1.695	1.642	0.5000	4.80	5.00	-3.1	20.0
1,4-Dichlorobenzene	Ave	1.776	1.607	0.7000	4.50	5.00	-9.5	20.0
1,2-Dichlorobenzene	Ave	1.344	1.292	0.4000	4.80	5.00	-3.9	20.0
1,2-Dibromo-3-chloropropane	Ave	0.0367	0.0337	0.0100	4.60	5.00	-8.3	40.0
1,2,4-Trichlorobenzene	Ave	0.7703	0.6470	0.3000	4.20	5.00	-16.0	30.0
1,2,3-Trichlorobenzene	Ave	0.5246	0.4285	0.2000	4.10	5.00	-18.3	40.0
Vinyl chloride-d3	Ave	0.1862	0.1772	0.0100	4.80	5.00	-4.8	30.0
Chloroethane-d5	Ave	0.1386	0.1338	0.0100	4.80	5.00	-3.4	30.0
1,1-Dichloroethene-d2	Ave	0.4559	0.4417	0.0100	4.80	5.00	-3.1	25.0
2-Butanone-d5	Ave	0.0228	0.0223	0.0100	49.0	50.0	-2.3	40.0
Chloroform-d	Ave	0.5213	0.5046	0.0100	4.80	5.00	-3.2	20.0
1,2-Dichloroethane-d4	Ave	0.1622	0.1620	0.0100	5.00	5.00	-0.2	25.0
Benzene-d6	Ave	1.454	1.597	0.0300	5.50	5.00	9.8	20.0
1,2-Dichloropropane-d6	Ave	0.3753	0.3879	0.1000	5.20	5.00	3.4	20.0
Toluene-d8	Ave	1.411	1.545	0.2000	5.50	5.00	9.5	20.0
trans-1,3-Dichloropropene-d4	Ave	0.2267	0.2312	0.0100	5.10	5.00	2.0	25.0
2-Hexanone-d5	Ave	0.0214	0.0253	0.0100	59.0	50.0	18.2	40.0
1,1,2,2-Tetrachloroethane-d2	Ave	0.1295	0.1358	0.0100	5.20	5.00	4.9	25.0
1,2-Dichlorobenzene-d4	Ave	0.8154	0.7982	0.0600	4.90	5.00	-2.1	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
 SDG No.: 200-38792-1
 Lab Sample ID: CCVIS 200-117296/6 Calibration Date: 06/06/2017 15:17
 Instrument ID: CHD.i Calib Start Date: 05/23/2017 17:32
 GC Column: DB-624 ID: 0.20 (mm) Calib End Date: 05/23/2017 19:16
 Lab File ID: 25366_06.D Conc. Units: ug/L Heated Purge: (Y/N) N
 EPA Sample No.: VSTD005ET

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3139	0.2658	0.0100	4.20	5.00	-15.3	40.0
Chloromethane	Ave	0.2416	0.2330	0.0100	4.80	5.00	-3.5	30.0
Vinyl chloride	Ave	0.2289	0.2376	0.0100	5.20	5.00	3.8	30.0
Bromomethane	Ave	0.0965	0.0904	0.0100	4.70	5.00	-6.3	30.0
Chloroethane	Ave	0.1339	0.1529	0.0100	5.70	5.00	14.2	30.0
Trichlorofluoromethane	Ave	0.4917	0.5481	0.0100	5.60	5.00	11.5	30.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2474	0.2843	0.0100	5.70	5.00	14.9	30.0
1,1-Dichloroethene	Ave	0.2111	0.2354	0.0200	5.60	5.00	11.5	20.0
Acetone	Ave	0.0108	0.0116	0.0100	53.0	50.0	6.9	40.0
Carbon disulfide	Ave	0.6624	0.5996	0.0100	4.50	5.00	-9.5	25.0
Methyl acetate	Ave	0.0396	0.0368	0.0100	4.60	5.00	-7.1	40.0
Methylene Chloride	Ave	0.2149	0.2385	0.0100	5.50	5.00	11.0	30.0
Methyl tert-butyl ether	Ave	0.2639	0.3005	0.0100	5.70	5.00	13.9	30.0
trans-1,2-Dichloroethene	Ave	0.3101	0.3341	0.0700	5.40	5.00	7.7	20.0
1,1-Dichloroethane	Ave	0.5146	0.5786	0.1000	5.60	5.00	12.4	20.0
cis-1,2-Dichloroethene	Ave	0.2924	0.3286	0.1000	5.60	5.00	12.4	20.0
2-Butanone	Ave	0.0223	0.0252	0.0100	56.0	50.0	13.0	40.0
Bromochloromethane	Ave	0.0968	0.1093	0.0200	5.60	5.00	12.9	20.0
Chloroform	Ave	0.4942	0.5686	0.0400	5.80	5.00	15.1	20.0
1,1,1-Trichloroethane	Ave	0.7494	0.7802	0.0500	5.20	5.00	4.1	20.0
Cyclohexane	Ave	0.6809	0.7062	0.1000	5.20	5.00	3.7	25.0
Carbon tetrachloride	Ave	0.7217	0.7535	0.0200	5.20	5.00	4.4	25.0
Benzene	Ave	1.490	1.603	0.3000	5.40	5.00	7.6	20.0
1,2-Dichloroethane	Ave	0.2120	0.2589	0.0100	6.10	5.00	22.1	25.0
Trichloroethene	Ave	0.4234	0.4266	0.1000	5.00	5.00	0.8	20.0
Methylcyclohexane	Ave	0.5779	0.6335	0.2000	5.50	5.00	9.6	25.0
1,2-Dichloropropane	Ave	0.2871	0.3129	0.1000	5.40	5.00	9.0	20.0
Bromodichloromethane	Ave	0.3586	0.3887	0.0900	5.40	5.00	8.4	20.0
cis-1,3-Dichloropropene	Ave	0.3705	0.4240	0.1000	5.70	5.00	14.4	20.0
4-Methyl-2-pentanone	Ave	0.0652	0.0758	0.0100	58.0	50.0	16.2	30.0
Toluene	Ave	1.636	1.856	0.4000	5.70	5.00	13.4	20.0
trans-1,3-Dichloropropene	Ave	0.2641	0.2998	0.0100	5.70	5.00	13.5	20.0
1,1,2-Trichloroethane	Ave	0.1475	0.1587	0.0400	5.40	5.00	7.6	20.0
Tetrachloroethene	Ave	0.4449	0.4563	0.1000	5.10	5.00	2.6	20.0
2-Hexanone	Ave	0.0446	0.0517	0.0100	58.0	50.0	16.1	40.0
Dibromochloromethane	Ave	0.2185	0.2418	0.0500	5.50	5.00	10.6	20.0
1,2-Dibromoethane	Ave	0.1292	0.1405	0.0100	5.40	5.00	8.8	20.0
Chlorobenzene	Ave	1.071	1.156	0.4000	5.40	5.00	7.9	20.0
Ethylbenzene	Ave	1.886	2.158	0.5000	5.70	5.00	14.4	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
 SDG No.: 200-38792-1
 Lab Sample ID: CCVIS 200-117296/6 Calibration Date: 06/06/2017 15:17
 Instrument ID: CHD.i Calib Start Date: 05/23/2017 17:32
 GC Column: DB-624 ID: 0.20 (mm) Calib End Date: 05/23/2017 19:16
 Lab File ID: 25366_06.D Conc. Units: ug/L Heated Purge: (Y/N) N
 EPA Sample No.: VSTD005ET

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
m,p-Xylene	Ave	0.7658	0.8887	0.2000	5.80	5.00	16.0	20.0
o-Xylene	Ave	0.6733	0.7944	0.3000	5.90	5.00	18.0	20.0
Styrene	Ave	1.011	1.218	0.2000	6.00	5.00	20.4*	20.0
Bromoform	Ave	0.2328	0.2355	0.0100	5.10	5.00	1.1	30.0
Isopropylbenzene	Ave	2.023	2.377	0.7000	5.90	5.00	17.5	25.0
1,1,2,2-Tetrachloroethane	Ave	0.1281	0.1441	0.0500	5.60	5.00	12.4	25.0
1,3-Dichlorobenzene	Ave	1.695	1.641	0.5000	4.80	5.00	-3.1	20.0
1,4-Dichlorobenzene	Ave	1.776	1.722	0.7000	4.80	5.00	-3.0	20.0
1,2-Dichlorobenzene	Ave	1.344	1.359	0.4000	5.10	5.00	1.1	20.0
1,2-Dibromo-3-chloropropane	Ave	0.0367	0.0346	0.0100	4.70	5.00	-5.8	40.0
1,2,4-Trichlorobenzene	Ave	0.7703	0.6182	0.3000	4.00	5.00	-19.7	30.0
1,2,3-Trichlorobenzene	Ave	0.5246	0.3852	0.2000	3.70	5.00	-26.6	40.0
Vinyl chloride-d3	Ave	0.1862	0.1933	0.0100	5.20	5.00	3.8	30.0
Chloroethane-d5	Ave	0.1386	0.1533	0.0100	5.50	5.00	10.7	30.0
1,1-Dichloroethene-d2	Ave	0.4559	0.5189	0.0100	5.70	5.00	13.8	25.0
2-Butanone-d5	Ave	0.0228	0.0260	0.0100	57.0	50.0	13.9	40.0
Chloroform-d	Ave	0.5213	0.6021	0.0100	5.80	5.00	15.5	20.0
1,2-Dichloroethane-d4	Ave	0.1622	0.1959	0.0100	6.00	5.00	20.7	25.0
Benzene-d6	Ave	1.454	1.546	0.0300	5.30	5.00	6.3	20.0
1,2-Dichloropropane-d6	Ave	0.3753	0.3977	0.1000	5.30	5.00	6.0	20.0
Toluene-d8	Ave	1.411	1.571	0.2000	5.60	5.00	11.4	20.0
trans-1,3-Dichloropropene-d4	Ave	0.2267	0.2456	0.0100	5.40	5.00	8.3	25.0
2-Hexanone-d5	Ave	0.0214	0.0248	0.0100	58.0	50.0	15.7	40.0
1,1,2,2-Tetrachloroethane-d2	Ave	0.1295	0.1476	0.0100	5.70	5.00	14.0	25.0
1,2-Dichlorobenzene-d4	Ave	0.8154	0.7984	0.0600	4.90	5.00	-2.1	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
 SDG No.: 200-38792-1
 Lab Sample ID: CCVC 200-117296/22 Calibration Date: 06/07/2017 00:03
 Instrument ID: CHD.i Calib Start Date: 05/23/2017 17:32
 GC Column: DB-624 ID: 0.20 (mm) Calib End Date: 05/23/2017 19:16
 Lab File ID: 25366_22.D Conc. Units: ug/L Heated Purge: (Y/N) N
 EPA Sample No.: VSTD005EU

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3139	0.2703	0.0100	4.30	5.00	-13.9	50.0
Chloromethane	Ave	0.2416	0.2382	0.0100	4.90	5.00	-1.4	50.0
Vinyl chloride	Ave	0.2289	0.2353	0.0100	5.10	5.00	2.8	50.0
Bromomethane	Ave	0.0965	0.0458	0.0100	2.40	5.00	-52.5*	50.0
Chloroethane	Ave	0.1339	0.1603	0.0100	6.00	5.00	19.7	50.0
Trichlorofluoromethane	Ave	0.4917	0.5472	0.0100	5.60	5.00	11.3	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2474	0.2804	0.0100	5.70	5.00	13.3	50.0
1,1-Dichloroethene	Ave	0.2111	0.2399	0.0200	5.70	5.00	13.6	25.0
Acetone	Ave	0.0108	0.0117	0.0100	54.0	50.0	7.9	50.0
Carbon disulfide	Ave	0.6624	0.6297	0.0100	4.80	5.00	-4.9	25.0
Methyl acetate	Ave	0.0396	0.0301	0.0100	3.80	5.00	-23.8	50.0
Methylene Chloride	Ave	0.2149	0.2149	0.0100	5.00	5.00	-0.0	50.0
Methyl tert-butyl ether	Ave	0.2639	0.2892	0.0100	5.50	5.00	9.6	50.0
trans-1,2-Dichloroethene	Ave	0.3101	0.3324	0.0700	5.40	5.00	7.2	25.0
1,1-Dichloroethane	Ave	0.5146	0.5719	0.1000	5.60	5.00	11.1	25.0
cis-1,2-Dichloroethene	Ave	0.2924	0.3255	0.1000	5.60	5.00	11.3	25.0
2-Butanone	Ave	0.0223	0.0269	0.0100	60.0	50.0	20.7	50.0
Bromochloromethane	Ave	0.0968	0.1091	0.0200	5.60	5.00	12.7	25.0
Chloroform	Ave	0.4942	0.5685	0.0400	5.70	5.00	15.0	25.0
1,1,1-Trichloroethane	Ave	0.7494	0.7759	0.0500	5.20	5.00	3.5	25.0
Cyclohexane	Ave	0.6809	0.7171	0.1000	5.30	5.00	5.3	50.0
Carbon tetrachloride	Ave	0.7217	0.7562	0.0200	5.20	5.00	4.8	50.0
Benzene	Ave	1.490	1.618	0.3000	5.40	5.00	8.6	25.0
1,2-Dichloroethane	Ave	0.2120	0.2532	0.0100	6.00	5.00	19.4	50.0
Trichloroethene	Ave	0.4234	0.4250	0.1000	5.00	5.00	0.4	25.0
Methylcyclohexane	Ave	0.5779	0.6451	0.2000	5.60	5.00	11.6	50.0
1,2-Dichloropropane	Ave	0.2871	0.3231	0.1000	5.60	5.00	12.5	25.0
Bromodichloromethane	Ave	0.3586	0.3892	0.0900	5.40	5.00	8.5	25.0
cis-1,3-Dichloropropene	Ave	0.3705	0.4086	0.1000	5.50	5.00	10.3	25.0
4-Methyl-2-pentanone	Ave	0.0652	0.0790	0.0100	61.0	50.0	21.2	50.0
Toluene	Ave	1.636	1.904	0.4000	5.80	5.00	16.4	25.0
trans-1,3-Dichloropropene	Ave	0.2641	0.2837	0.0100	5.40	5.00	7.4	25.0
1,1,2-Trichloroethane	Ave	0.1475	0.1664	0.0400	5.60	5.00	12.8	25.0
Tetrachloroethene	Ave	0.4449	0.4592	0.1000	5.20	5.00	3.2	25.0
2-Hexanone	Ave	0.0446	0.0535	0.0100	60.0	50.0	20.0	50.0
Dibromochloromethane	Ave	0.2185	0.2461	0.0500	5.60	5.00	12.6	25.0
1,2-Dibromoethane	Ave	0.1292	0.1389	0.0100	5.40	5.00	7.5	25.0
Chlorobenzene	Ave	1.071	1.139	0.4000	5.30	5.00	6.4	25.0
Ethylbenzene	Ave	1.886	2.123	0.5000	5.60	5.00	12.6	25.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
 SDG No.: 200-38792-1
 Lab Sample ID: CCVC 200-117296/22 Calibration Date: 06/07/2017 00:03
 Instrument ID: CHD.i Calib Start Date: 05/23/2017 17:32
 GC Column: DB-624 ID: 0.20 (mm) Calib End Date: 05/23/2017 19:16
 Lab File ID: 25366_22.D Conc. Units: ug/L Heated Purge: (Y/N) N
 EPA Sample No.: VSTD005EU

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
m,p-Xylene	Ave	0.7658	0.8694	0.2000	5.70	5.00	13.5	25.0
o-Xylene	Ave	0.6733	0.7808	0.3000	5.80	5.00	16.0	25.0
Styrene	Ave	1.011	1.216	0.2000	6.00	5.00	20.2	25.0
Bromoform	Ave	0.2328	0.2233	0.0100	4.80	5.00	-4.1	50.0
Isopropylbenzene	Ave	2.023	2.326	0.7000	5.70	5.00	14.9	25.0
1,1,2,2-Tetrachloroethane	Ave	0.1281	0.1461	0.0500	5.70	5.00	14.0	25.0
1,3-Dichlorobenzene	Ave	1.695	1.583	0.5000	4.70	5.00	-6.6	25.0
1,4-Dichlorobenzene	Ave	1.776	1.696	0.7000	4.80	5.00	-4.5	25.0
1,2-Dichlorobenzene	Ave	1.344	1.346	0.4000	5.00	5.00	0.1	25.0
1,2-Dibromo-3-chloropropane	Ave	0.0367	0.0354	0.0100	4.80	5.00	-3.5	50.0
1,2,4-Trichlorobenzene	Ave	0.7703	0.6122	0.3000	4.00	5.00	-20.5	50.0
1,2,3-Trichlorobenzene	Ave	0.5246	0.3951	0.2000	3.80	5.00	-24.7	50.0
Vinyl chloride-d3	Ave	0.1862	0.1916	0.0100	5.10	5.00	2.9	50.0
Chloroethane-d5	Ave	0.1386	0.1608	0.0100	5.80	5.00	16.0	50.0
1,1-Dichloroethene-d2	Ave	0.4559	0.5128	0.0100	5.60	5.00	12.5	25.0
2-Butanone-d5	Ave	0.0228	0.0253	0.0100	55.0	50.0	10.7	50.0
Chloroform-d	Ave	0.5213	0.6090	0.0100	5.80	5.00	16.8	25.0
1,2-Dichloroethane-d4	Ave	0.1622	0.1971	0.0100	6.10	5.00	21.5	25.0
Benzene-d6	Ave	1.454	1.559	0.0300	5.40	5.00	7.2	25.0
1,2-Dichloropropane-d6	Ave	0.3753	0.4223	0.1000	5.60	5.00	12.5	25.0
Toluene-d8	Ave	1.411	1.596	0.2000	5.70	5.00	13.1	25.0
trans-1,3-Dichloropropene-d4	Ave	0.2267	0.2324	0.0100	5.10	5.00	2.5	25.0
2-Hexanone-d5	Ave	0.0214	0.0260	0.0100	61.0	50.0	21.5	50.0
1,1,2,2-Tetrachloroethane-d2	Ave	0.1295	0.1480	0.0100	5.70	5.00	14.3	25.0
1,2-Dichlorobenzene-d4	Ave	0.8154	0.7779	0.0600	4.80	5.00	-4.6	25.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
 SDG No.: 200-38792-1
 Lab Sample ID: CCVC 200-117296/23 Calibration Date: 06/07/2017 00:28
 Instrument ID: CHD.i Calib Start Date: 05/23/2017 17:32
 GC Column: DB-624 ID: 0.20 (mm) Calib End Date: 05/23/2017 19:16
 Lab File ID: 25366_23.D Conc. Units: ug/L Heated Purge: (Y/N) N
 EPA Sample No.: VSTD005EV

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3139	0.2697	0.0100	4.30	5.00	-14.1	50.0
Chloromethane	Ave	0.2416	0.2371	0.0100	4.90	5.00	-1.8	50.0
Vinyl chloride	Ave	0.2289	0.2386	0.0100	5.20	5.00	4.2	50.0
Bromomethane	Ave	0.0965	0.0681	0.0100	3.50	5.00	-29.5	50.0
Chloroethane	Ave	0.1339	0.1583	0.0100	5.90	5.00	18.2	50.0
Trichlorofluoromethane	Ave	0.4917	0.5399	0.0100	5.50	5.00	9.8	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2474	0.2768	0.0100	5.60	5.00	11.9	50.0
1,1-Dichloroethene	Ave	0.2111	0.2412	0.0200	5.70	5.00	14.2	25.0
Acetone	Ave	0.0108	0.0120	0.0100	55.0	50.0	10.7	50.0
Carbon disulfide	Ave	0.6624	0.6228	0.0100	4.70	5.00	-6.0	25.0
Methyl acetate	Ave	0.0396	0.0336	0.0100	4.20	5.00	-15.0	50.0
Methylene Chloride	Ave	0.2149	0.2417	0.0100	5.60	5.00	12.5	50.0
Methyl tert-butyl ether	Ave	0.2639	0.2953	0.0100	5.60	5.00	11.9	50.0
trans-1,2-Dichloroethene	Ave	0.3101	0.3363	0.0700	5.40	5.00	8.4	25.0
1,1-Dichloroethane	Ave	0.5146	0.5724	0.1000	5.60	5.00	11.2	25.0
cis-1,2-Dichloroethene	Ave	0.2924	0.3303	0.1000	5.60	5.00	13.0	25.0
2-Butanone	Ave	0.0223	0.0274	0.0100	61.0	50.0	22.8	50.0
Bromochloromethane	Ave	0.0968	0.1100	0.0200	5.70	5.00	13.6	25.0
Chloroform	Ave	0.4942	0.5690	0.0400	5.80	5.00	15.1	25.0
1,1,1-Trichloroethane	Ave	0.7494	0.7766	0.0500	5.20	5.00	3.6	25.0
Cyclohexane	Ave	0.6809	0.7234	0.1000	5.30	5.00	6.2	50.0
Carbon tetrachloride	Ave	0.7217	0.7462	0.0200	5.20	5.00	3.4	50.0
Benzene	Ave	1.490	1.627	0.3000	5.50	5.00	9.2	25.0
1,2-Dichloroethane	Ave	0.2120	0.2537	0.0100	6.00	5.00	19.7	50.0
Trichloroethene	Ave	0.4234	0.4245	0.1000	5.00	5.00	0.2	25.0
Methylcyclohexane	Ave	0.5779	0.6418	0.2000	5.60	5.00	11.1	50.0
1,2-Dichloropropane	Ave	0.2871	0.3187	0.1000	5.50	5.00	11.0	25.0
Bromodichloromethane	Ave	0.3586	0.3955	0.0900	5.50	5.00	10.3	25.0
cis-1,3-Dichloropropene	Ave	0.3705	0.4093	0.1000	5.50	5.00	10.5	25.0
4-Methyl-2-pentanone	Ave	0.0652	0.0782	0.0100	60.0	50.0	19.9	50.0
Toluene	Ave	1.636	1.887	0.4000	5.80	5.00	15.3	25.0
trans-1,3-Dichloropropene	Ave	0.2641	0.2866	0.0100	5.40	5.00	8.5	25.0
1,1,2-Trichloroethane	Ave	0.1475	0.1679	0.0400	5.70	5.00	13.9	25.0
Tetrachloroethene	Ave	0.4449	0.4584	0.1000	5.10	5.00	3.0	25.0
2-Hexanone	Ave	0.0446	0.0545	0.0100	61.0	50.0	22.3	50.0
Dibromochloromethane	Ave	0.2185	0.2449	0.0500	5.60	5.00	12.1	25.0
1,2-Dibromoethane	Ave	0.1292	0.1410	0.0100	5.50	5.00	9.2	25.0
Chlorobenzene	Ave	1.071	1.143	0.4000	5.30	5.00	6.8	25.0
Ethylbenzene	Ave	1.886	2.137	0.5000	5.70	5.00	13.3	25.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
 SDG No.: 200-38792-1
 Lab Sample ID: CCVC 200-117296/23 Calibration Date: 06/07/2017 00:28
 Instrument ID: CHD.i Calib Start Date: 05/23/2017 17:32
 GC Column: DB-624 ID: 0.20 (mm) Calib End Date: 05/23/2017 19:16
 Lab File ID: 25366_23.D Conc. Units: ug/L Heated Purge: (Y/N) N
 EPA Sample No.: VSTD005EV

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
m,p-Xylene	Ave	0.7658	0.8696	0.2000	5.70	5.00	13.6	25.0
o-Xylene	Ave	0.6733	0.7859	0.3000	5.80	5.00	16.7	25.0
Styrene	Ave	1.011	1.225	0.2000	6.10	5.00	21.2	25.0
Bromoform	Ave	0.2328	0.2319	0.0100	5.00	5.00	-0.4	50.0
Isopropylbenzene	Ave	2.023	2.340	0.7000	5.80	5.00	15.6	25.0
1,1,2,2-Tetrachloroethane	Ave	0.1281	0.1489	0.0500	5.80	5.00	16.2	25.0
1,3-Dichlorobenzene	Ave	1.695	1.635	0.5000	4.80	5.00	-3.5	25.0
1,4-Dichlorobenzene	Ave	1.776	1.739	0.7000	4.90	5.00	-2.0	25.0
1,2-Dichlorobenzene	Ave	1.344	1.384	0.4000	5.10	5.00	3.0	25.0
1,2-Dibromo-3-chloropropane	Ave	0.0367	0.0371	0.0100	5.00	5.00	1.0	50.0
1,2,4-Trichlorobenzene	Ave	0.7703	0.6503	0.3000	4.20	5.00	-15.6	50.0
1,2,3-Trichlorobenzene	Ave	0.5246	0.4341	0.2000	4.10	5.00	-17.3	50.0
Vinyl chloride-d3	Ave	0.1862	0.1930	0.0100	5.20	5.00	3.7	50.0
Chloroethane-d5	Ave	0.1386	0.1597	0.0100	5.80	5.00	15.3	50.0
1,1-Dichloroethene-d2	Ave	0.4559	0.5141	0.0100	5.60	5.00	12.8	25.0
2-Butanone-d5	Ave	0.0228	0.0261	0.0100	57.0	50.0	14.4	50.0
Chloroform-d	Ave	0.5213	0.6059	0.0100	5.80	5.00	16.2	25.0
1,2-Dichloroethane-d4	Ave	0.1622	0.1963	0.0100	6.00	5.00	21.0	25.0
Benzene-d6	Ave	1.454	1.549	0.0300	5.30	5.00	6.5	25.0
1,2-Dichloropropane-d6	Ave	0.3753	0.4149	0.1000	5.50	5.00	10.6	25.0
Toluene-d8	Ave	1.411	1.591	0.2000	5.60	5.00	12.7	25.0
trans-1,3-Dichloropropene-d4	Ave	0.2267	0.2343	0.0100	5.20	5.00	3.3	25.0
2-Hexanone-d5	Ave	0.0214	0.0258	0.0100	60.0	50.0	20.6	50.0
1,1,2,2-Tetrachloroethane-d2	Ave	0.1295	0.1468	0.0100	5.70	5.00	13.3	25.0
1,2-Dichlorobenzene-d4	Ave	0.8154	0.7896	0.0600	4.80	5.00	-3.2	25.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
 SDG No.: 200-38792-1
 Lab Sample ID: CCVIS 200-117409/5 Calibration Date: 06/08/2017 15:53
 Instrument ID: CHD.i Calib Start Date: 05/23/2017 17:32
 GC Column: DB-624 ID: 0.20 (mm) Calib End Date: 05/23/2017 19:16
 Lab File ID: 25405_05.D Conc. Units: ug/L Heated Purge: (Y/N) N
 EPA Sample No.: VSTD005EW

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3139	0.2440	0.0100	3.90	5.00	-22.3	40.0
Chloromethane	Ave	0.2416	0.1931	0.0100	4.00	5.00	-20.1	30.0
Vinyl chloride	Ave	0.2289	0.2202	0.0100	4.80	5.00	-3.8	30.0
Bromomethane	Ave	0.0965	0.0732	0.0100	3.80	5.00	-24.2	30.0
Chloroethane	Ave	0.1339	0.1386	0.0100	5.20	5.00	3.5	30.0
Trichlorofluoromethane	Ave	0.4917	0.4082	0.0100	4.10	5.00	-17.0	30.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2474	0.2263	0.0100	4.60	5.00	-8.5	30.0
1,1-Dichloroethene	Ave	0.2111	0.2081	0.0200	4.90	5.00	-1.4	20.0
Acetone	Ave	0.0108	0.0085*	0.0100	39.0	50.0	-21.8	40.0
Carbon disulfide	Ave	0.6624	0.5251	0.0100	4.00	5.00	-20.7	25.0
Methyl acetate	Ave	0.0396	0.0375	0.0100	4.70	5.00	-5.1	40.0
Methylene Chloride	Ave	0.2149	0.2180	0.0100	5.10	5.00	1.4	30.0
Methyl tert-butyl ether	Ave	0.2639	0.3200	0.0100	6.10	5.00	21.3	30.0
trans-1,2-Dichloroethene	Ave	0.3101	0.3146	0.0700	5.10	5.00	1.5	20.0
1,1-Dichloroethane	Ave	0.5146	0.4938	0.1000	4.80	5.00	-4.0	20.0
cis-1,2-Dichloroethene	Ave	0.2924	0.3163	0.1000	5.40	5.00	8.2	20.0
2-Butanone	Ave	0.0223	0.0224	0.0100	50.0	50.0	0.3	40.0
Bromochloromethane	Ave	0.0968	0.1018	0.0200	5.30	5.00	5.2	20.0
Chloroform	Ave	0.4942	0.4698	0.0400	4.80	5.00	-4.9	20.0
1,1,1-Trichloroethane	Ave	0.7494	0.6542	0.0500	4.40	5.00	-12.7	20.0
Cyclohexane	Ave	0.6809	0.6754	0.1000	5.00	5.00	-0.8	25.0
Carbon tetrachloride	Ave	0.7217	0.6029	0.0200	4.20	5.00	-16.5	25.0
Benzene	Ave	1.490	1.450	0.3000	4.90	5.00	-2.7	20.0
1,2-Dichloroethane	Ave	0.2120	0.2001	0.0100	4.70	5.00	-5.6	25.0
Trichloroethene	Ave	0.4234	0.4090	0.1000	4.80	5.00	-3.4	20.0
Methylcyclohexane	Ave	0.5779	0.5395	0.2000	4.70	5.00	-6.7	25.0
1,2-Dichloropropane	Ave	0.2871	0.2820	0.1000	4.90	5.00	-1.8	20.0
Bromodichloromethane	Ave	0.3586	0.3351	0.0900	4.70	5.00	-6.6	20.0
cis-1,3-Dichloropropene	Ave	0.3705	0.3993	0.1000	5.40	5.00	7.8	20.0
4-Methyl-2-pentanone	Ave	0.0652	0.0671	0.0100	51.0	50.0	3.0	30.0
Toluene	Ave	1.636	1.662	0.4000	5.10	5.00	1.6	20.0
trans-1,3-Dichloropropene	Ave	0.2641	0.2760	0.0100	5.20	5.00	4.5	20.0
1,1,2-Trichloroethane	Ave	0.1475	0.1478	0.0400	5.00	5.00	0.2	20.0
Tetrachloroethene	Ave	0.4449	0.4332	0.1000	4.90	5.00	-2.6	20.0
2-Hexanone	Ave	0.0446	0.0449	0.0100	50.0	50.0	0.8	40.0
Dibromochloromethane	Ave	0.2185	0.2133	0.0500	4.90	5.00	-2.4	20.0
1,2-Dibromoethane	Ave	0.1292	0.1385	0.0100	5.40	5.00	7.2	20.0
Chlorobenzene	Ave	1.071	1.048	0.4000	4.90	5.00	-2.1	20.0
Ethylbenzene	Ave	1.886	1.930	0.5000	5.10	5.00	2.4	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
 SDG No.: 200-38792-1
 Lab Sample ID: CCVIS 200-117409/5 Calibration Date: 06/08/2017 15:53
 Instrument ID: CHD.i Calib Start Date: 05/23/2017 17:32
 GC Column: DB-624 ID: 0.20 (mm) Calib End Date: 05/23/2017 19:16
 Lab File ID: 25405_05.D Conc. Units: ug/L Heated Purge: (Y/N) N
 EPA Sample No.: VSTD005EW

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
m,p-Xylene	Ave	0.7658	0.8001	0.2000	5.20	5.00	4.5	20.0
o-Xylene	Ave	0.6733	0.7222	0.3000	5.40	5.00	7.3	20.0
Styrene	Ave	1.011	1.067	0.2000	5.30	5.00	5.5	20.0
Bromoform	Ave	0.2328	0.2179	0.0100	4.70	5.00	-6.4	30.0
Isopropylbenzene	Ave	2.023	2.083	0.7000	5.10	5.00	2.9	25.0
1,1,2,2-Tetrachloroethane	Ave	0.1281	0.1279	0.0500	5.00	5.00	-0.1	25.0
1,3-Dichlorobenzene	Ave	1.695	1.733	0.5000	5.10	5.00	2.2	20.0
1,4-Dichlorobenzene	Ave	1.776	1.649	0.7000	4.60	5.00	-7.1	20.0
1,2-Dichlorobenzene	Ave	1.344	1.345	0.4000	5.00	5.00	0.0	20.0
1,2-Dibromo-3-chloropropane	Ave	0.0367	0.0331	0.0100	4.50	5.00	-10.0	40.0
1,2,4-Trichlorobenzene	Ave	0.7703	0.7895	0.3000	5.10	5.00	2.5	30.0
1,2,3-Trichlorobenzene	Ave	0.5246	0.5420	0.2000	5.20	5.00	3.3	40.0
Vinyl chloride-d3	Ave	0.1862	0.1819	0.0100	4.90	5.00	-2.3	30.0
Chloroethane-d5	Ave	0.1386	0.1335	0.0100	4.80	5.00	-3.7	30.0
1,1-Dichloroethene-d2	Ave	0.4559	0.4147	0.0100	4.50	5.00	-9.0	25.0
2-Butanone-d5	Ave	0.0228	0.0236	0.0100	52.0	50.0	3.4	40.0
Chloroform-d	Ave	0.5213	0.4998	0.0100	4.80	5.00	-4.1	20.0
1,2-Dichloroethane-d4	Ave	0.1622	0.1515	0.0100	4.70	5.00	-6.7	25.0
Benzene-d6	Ave	1.454	1.449	0.0300	5.00	5.00	-0.4	20.0
1,2-Dichloropropane-d6	Ave	0.3753	0.3568	0.1000	4.80	5.00	-4.9	20.0
Toluene-d8	Ave	1.411	1.442	0.2000	5.10	5.00	2.2	20.0
trans-1,3-Dichloropropene-d4	Ave	0.2267	0.2374	0.0100	5.20	5.00	4.7	25.0
2-Hexanone-d5	Ave	0.0214	0.0266	0.0100	62.0	50.0	24.2	40.0
1,1,2,2-Tetrachloroethane-d2	Ave	0.1295	0.1267	0.0100	4.90	5.00	-2.2	25.0
1,2-Dichlorobenzene-d4	Ave	0.8154	0.8206	0.0600	5.00	5.00	0.6	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
 SDG No.: 200-38792-1
 Lab Sample ID: CCVC 200-117409/22 Calibration Date: 06/08/2017 23:16
 Instrument ID: CHD.i Calib Start Date: 05/23/2017 17:32
 GC Column: DB-624 ID: 0.20 (mm) Calib End Date: 05/23/2017 19:16
 Lab File ID: 25405_22.D Conc. Units: ug/L Heated Purge: (Y/N) N
 EPA Sample No.: VSTD005EX

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3139	0.2845	0.0100	4.50	5.00	-9.4	50.0
Chloromethane	Ave	0.2416	0.1570	0.0100	3.20	5.00	-35.0	50.0
Vinyl chloride	Ave	0.2289	0.1787	0.0100	3.90	5.00	-21.9	50.0
Bromomethane	Ave	0.0965	0.0125	0.0100	0.650	5.00	-87.1*	50.0
Chloroethane	Ave	0.1339	0.1422	0.0100	5.30	5.00	6.2	50.0
Trichlorofluoromethane	Ave	0.4917	0.5487	0.0100	5.60	5.00	11.6	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2474	0.2601	0.0100	5.30	5.00	5.1	50.0
1,1-Dichloroethene	Ave	0.2111	0.2234	0.0200	5.30	5.00	5.8	25.0
Acetone	Ave	0.0108	0.0117	0.0100	54.0	50.0	7.8	50.0
Carbon disulfide	Ave	0.6624	0.5752	0.0100	4.30	5.00	-13.2	25.0
Methyl acetate	Ave	0.0396	0.0405	0.0100	5.10	5.00	2.4	50.0
Methylene Chloride	Ave	0.2149	0.2339	0.0100	5.40	5.00	8.8	50.0
Methyl tert-butyl ether	Ave	0.2639	0.3086	0.0100	5.80	5.00	16.9	50.0
trans-1,2-Dichloroethene	Ave	0.3101	0.3209	0.0700	5.20	5.00	3.5	25.0
1,1-Dichloroethane	Ave	0.5146	0.5493	0.1000	5.30	5.00	6.7	25.0
cis-1,2-Dichloroethene	Ave	0.2924	0.3257	0.1000	5.60	5.00	11.4	25.0
2-Butanone	Ave	0.0223	0.0249	0.0100	56.0	50.0	11.5	50.0
Bromochloromethane	Ave	0.0968	0.1098	0.0200	5.70	5.00	13.4	25.0
Chloroform	Ave	0.4942	0.5666	0.0400	5.70	5.00	14.7	25.0
1,1,1-Trichloroethane	Ave	0.7494	0.7639	0.0500	5.10	5.00	1.9	25.0
Cyclohexane	Ave	0.6809	0.6372	0.1000	4.70	5.00	-6.4	50.0
Carbon tetrachloride	Ave	0.7217	0.7224	0.0200	5.00	5.00	0.0	50.0
Benzene	Ave	1.490	1.505	0.3000	5.10	5.00	1.1	25.0
1,2-Dichloroethane	Ave	0.2120	0.2626	0.0100	6.20	5.00	23.9	50.0
Trichloroethene	Ave	0.4234	0.4044	0.1000	4.80	5.00	-4.5	25.0
Methylcyclohexane	Ave	0.5779	0.5565	0.2000	4.80	5.00	-3.7	50.0
1,2-Dichloropropane	Ave	0.2871	0.2939	0.1000	5.10	5.00	2.4	25.0
Bromodichloromethane	Ave	0.3586	0.3857	0.0900	5.40	5.00	7.6	25.0
cis-1,3-Dichloropropene	Ave	0.3705	0.3872	0.1000	5.20	5.00	4.5	25.0
4-Methyl-2-pentanone	Ave	0.0652	0.0747	0.0100	57.0	50.0	14.6	50.0
Toluene	Ave	1.636	1.766	0.4000	5.40	5.00	8.0	25.0
trans-1,3-Dichloropropene	Ave	0.2641	0.2768	0.0100	5.20	5.00	4.8	25.0
1,1,2-Trichloroethane	Ave	0.1475	0.1606	0.0400	5.40	5.00	8.9	25.0
Tetrachloroethene	Ave	0.4449	0.4281	0.1000	4.80	5.00	-3.8	25.0
2-Hexanone	Ave	0.0446	0.0520	0.0100	58.0	50.0	16.7	50.0
Dibromochloromethane	Ave	0.2185	0.2392	0.0500	5.50	5.00	9.4	25.0
1,2-Dibromoethane	Ave	0.1292	0.1380	0.0100	5.30	5.00	6.9	25.0
Chlorobenzene	Ave	1.071	1.108	0.4000	5.20	5.00	3.5	25.0
Ethylbenzene	Ave	1.886	2.014	0.5000	5.30	5.00	6.8	25.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
 SDG No.: 200-38792-1
 Lab Sample ID: CCVC 200-117409/22 Calibration Date: 06/08/2017 23:16
 Instrument ID: CHD.i Calib Start Date: 05/23/2017 17:32
 GC Column: DB-624 ID: 0.20 (mm) Calib End Date: 05/23/2017 19:16
 Lab File ID: 25405_22.D Conc. Units: ug/L Heated Purge: (Y/N) N
 EPA Sample No.: VSTD005EX

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
m,p-Xylene	Ave	0.7658	0.8327	0.2000	5.40	5.00	8.7	25.0
o-Xylene	Ave	0.6733	0.7523	0.3000	5.60	5.00	11.7	25.0
Styrene	Ave	1.011	1.177	0.2000	5.80	5.00	16.4	25.0
Bromoform	Ave	0.2328	0.2288	0.0100	4.90	5.00	-1.7	50.0
Isopropylbenzene	Ave	2.023	2.220	0.7000	5.50	5.00	9.7	25.0
1,1,2,2-Tetrachloroethane	Ave	0.1281	0.1431	0.0500	5.60	5.00	11.7	25.0
1,3-Dichlorobenzene	Ave	1.695	1.560	0.5000	4.60	5.00	-8.0	25.0
1,4-Dichlorobenzene	Ave	1.776	1.663	0.7000	4.70	5.00	-6.4	25.0
1,2-Dichlorobenzene	Ave	1.344	1.348	0.4000	5.00	5.00	0.3	25.0
1,2-Dibromo-3-chloropropane	Ave	0.0367	0.0344	0.0100	4.70	5.00	-6.4	50.0
1,2,4-Trichlorobenzene	Ave	0.7703	0.6477	0.3000	4.20	5.00	-15.9	50.0
1,2,3-Trichlorobenzene	Ave	0.5246	0.4375	0.2000	4.20	5.00	-16.6	50.0
Vinyl chloride-d3	Ave	0.1862	0.1451	0.0100	3.90	5.00	-22.1	50.0
Chloroethane-d5	Ave	0.1386	0.1438	0.0100	5.20	5.00	3.8	50.0
1,1-Dichloroethene-d2	Ave	0.4559	0.4845	0.0100	5.30	5.00	6.3	25.0
2-Butanone-d5	Ave	0.0228	0.0254	0.0100	56.0	50.0	11.1	50.0
Chloroform-d	Ave	0.5213	0.6011	0.0100	5.80	5.00	15.3	25.0
1,2-Dichloroethane-d4	Ave	0.1622	0.2002	0.0100	6.20	5.00	23.4	25.0
Benzene-d6	Ave	1.454	1.472	0.0300	5.10	5.00	1.2	25.0
1,2-Dichloropropane-d6	Ave	0.3753	0.3851	0.1000	5.10	5.00	2.6	25.0
Toluene-d8	Ave	1.411	1.520	0.2000	5.40	5.00	7.7	25.0
trans-1,3-Dichloropropene-d4	Ave	0.2267	0.2316	0.0100	5.10	5.00	2.2	25.0
2-Hexanone-d5	Ave	0.0214	0.0254	0.0100	59.0	50.0	18.4	50.0
1,1,2,2-Tetrachloroethane-d2	Ave	0.1295	0.1434	0.0100	5.50	5.00	10.7	25.0
1,2-Dichlorobenzene-d4	Ave	0.8154	0.7765	0.0600	4.80	5.00	-4.8	25.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
 SDG No.: 200-38792-1
 Lab Sample ID: CCVC 200-117409/23 Calibration Date: 06/08/2017 23:42
 Instrument ID: CHD.i Calib Start Date: 05/23/2017 17:32
 GC Column: DB-624 ID: 0.20 (mm) Calib End Date: 05/23/2017 19:16
 Lab File ID: 25405_23.D Conc. Units: ug/L Heated Purge: (Y/N) N
 EPA Sample No.: VSTD005EY

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3139	0.2700	0.0100	4.30	5.00	-14.0	50.0
Chloromethane	Ave	0.2416	0.1893	0.0100	3.90	5.00	-21.6	50.0
Vinyl chloride	Ave	0.2289	0.2020	0.0100	4.40	5.00	-11.7	50.0
Bromomethane	Ave	0.0965	0.0113	0.0100	0.580	5.00	-88.3*	50.0
Chloroethane	Ave	0.1339	0.1448	0.0100	5.40	5.00	8.1	50.0
Trichlorofluoromethane	Ave	0.4917	0.5248	0.0100	5.30	5.00	6.7	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2474	0.2496	0.0100	5.00	5.00	0.9	50.0
1,1-Dichloroethene	Ave	0.2111	0.2205	0.0200	5.20	5.00	4.5	25.0
Acetone	Ave	0.0108	0.0116	0.0100	53.0	50.0	6.9	50.0
Carbon disulfide	Ave	0.6624	0.5703	0.0100	4.30	5.00	-13.9	25.0
Methyl acetate	Ave	0.0396	0.0399	0.0100	5.00	5.00	0.8	50.0
Methylene Chloride	Ave	0.2149	0.2386	0.0100	5.50	5.00	11.0	50.0
Methyl tert-butyl ether	Ave	0.2639	0.3108	0.0100	5.90	5.00	17.8	50.0
trans-1,2-Dichloroethene	Ave	0.3101	0.3176	0.0700	5.10	5.00	2.4	25.0
1,1-Dichloroethane	Ave	0.5146	0.5395	0.1000	5.20	5.00	4.8	25.0
cis-1,2-Dichloroethene	Ave	0.2924	0.3247	0.1000	5.60	5.00	11.1	25.0
2-Butanone	Ave	0.0223	0.0257	0.0100	58.0	50.0	15.2	50.0
Bromochloromethane	Ave	0.0968	0.1115	0.0200	5.80	5.00	15.1	25.0
Chloroform	Ave	0.4942	0.5570	0.0400	5.60	5.00	12.7	25.0
1,1,1-Trichloroethane	Ave	0.7494	0.7543	0.0500	5.00	5.00	0.6	25.0
Cyclohexane	Ave	0.6809	0.6234	0.1000	4.60	5.00	-8.4	50.0
Carbon tetrachloride	Ave	0.7217	0.7088	0.0200	4.90	5.00	-1.8	50.0
Benzene	Ave	1.490	1.490	0.3000	5.00	5.00	0.0	25.0
1,2-Dichloroethane	Ave	0.2120	0.2568	0.0100	6.10	5.00	21.1	50.0
Trichloroethene	Ave	0.4234	0.3963	0.1000	4.70	5.00	-6.4	25.0
Methylcyclohexane	Ave	0.5779	0.5288	0.2000	4.60	5.00	-8.5	50.0
1,2-Dichloropropane	Ave	0.2871	0.2911	0.1000	5.10	5.00	1.4	25.0
Bromodichloromethane	Ave	0.3586	0.3785	0.0900	5.30	5.00	5.6	25.0
cis-1,3-Dichloropropene	Ave	0.3705	0.3849	0.1000	5.20	5.00	3.9	25.0
4-Methyl-2-pentanone	Ave	0.0652	0.0745	0.0100	57.0	50.0	14.3	50.0
Toluene	Ave	1.636	1.700	0.4000	5.20	5.00	3.9	25.0
trans-1,3-Dichloropropene	Ave	0.2641	0.2754	0.0100	5.20	5.00	4.3	25.0
1,1,2-Trichloroethane	Ave	0.1475	0.1562	0.0400	5.30	5.00	5.9	25.0
Tetrachloroethene	Ave	0.4449	0.4018	0.1000	4.50	5.00	-9.7	25.0
2-Hexanone	Ave	0.0446	0.0514	0.0100	58.0	50.0	15.3	50.0
Dibromochloromethane	Ave	0.2185	0.2334	0.0500	5.30	5.00	6.8	25.0
1,2-Dibromoethane	Ave	0.1292	0.1369	0.0100	5.30	5.00	6.0	25.0
Chlorobenzene	Ave	1.071	1.088	0.4000	5.10	5.00	1.6	25.0
Ethylbenzene	Ave	1.886	1.950	0.5000	5.20	5.00	3.4	25.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
 SDG No.: 200-38792-1
 Lab Sample ID: CCVC 200-117409/23 Calibration Date: 06/08/2017 23:42
 Instrument ID: CHD.i Calib Start Date: 05/23/2017 17:32
 GC Column: DB-624 ID: 0.20 (mm) Calib End Date: 05/23/2017 19:16
 Lab File ID: 25405_23.D Conc. Units: ug/L Heated Purge: (Y/N) N
 EPA Sample No.: VSTD005EY

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
m,p-Xylene	Ave	0.7658	0.7993	0.2000	5.20	5.00	4.4	25.0
o-Xylene	Ave	0.6733	0.7403	0.3000	5.50	5.00	9.9	25.0
Styrene	Ave	1.011	1.151	0.2000	5.70	5.00	13.8	25.0
Bromoform	Ave	0.2328	0.2340	0.0100	5.00	5.00	0.5	50.0
Isopropylbenzene	Ave	2.023	2.161	0.7000	5.30	5.00	6.8	25.0
1,1,2,2-Tetrachloroethane	Ave	0.1281	0.1397	0.0500	5.40	5.00	9.0	25.0
1,3-Dichlorobenzene	Ave	1.695	1.567	0.5000	4.60	5.00	-7.5	25.0
1,4-Dichlorobenzene	Ave	1.776	1.668	0.7000	4.70	5.00	-6.1	25.0
1,2-Dichlorobenzene	Ave	1.344	1.350	0.4000	5.00	5.00	0.5	25.0
1,2-Dibromo-3-chloropropane	Ave	0.0367	0.0368	0.0100	5.00	5.00	0.1	50.0
1,2,4-Trichlorobenzene	Ave	0.7703	0.6483	0.3000	4.20	5.00	-15.8	50.0
1,2,3-Trichlorobenzene	Ave	0.5246	0.4572	0.2000	4.40	5.00	-12.8	50.0
Vinyl chloride-d3	Ave	0.1862	0.1644	0.0100	4.40	5.00	-11.7	50.0
Chloroethane-d5	Ave	0.1386	0.1471	0.0100	5.30	5.00	6.2	50.0
1,1-Dichloroethene-d2	Ave	0.4559	0.4788	0.0100	5.20	5.00	5.0	25.0
2-Butanone-d5	Ave	0.0228	0.0254	0.0100	56.0	50.0	11.2	50.0
Chloroform-d	Ave	0.5213	0.5885	0.0100	5.60	5.00	12.9	25.0
1,2-Dichloroethane-d4	Ave	0.1622	0.1997	0.0100	6.20	5.00	23.1	25.0
Benzene-d6	Ave	1.454	1.465	0.0300	5.00	5.00	0.7	25.0
1,2-Dichloropropane-d6	Ave	0.3753	0.3720	0.1000	5.00	5.00	-0.9	25.0
Toluene-d8	Ave	1.411	1.456	0.2000	5.20	5.00	3.2	25.0
trans-1,3-Dichloropropene-d4	Ave	0.2267	0.2290	0.0100	5.00	5.00	1.0	25.0
2-Hexanone-d5	Ave	0.0214	0.0254	0.0100	59.0	50.0	18.5	50.0
1,1,2,2-Tetrachloroethane-d2	Ave	0.1295	0.1419	0.0100	5.50	5.00	9.6	25.0
1,2-Dichlorobenzene-d4	Ave	0.8154	0.7848	0.0600	4.80	5.00	-3.8	25.0

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: _____	Lab Sample ID: <u>MB 200-117296/7</u>
Matrix: <u>Water</u>	Lab File ID: <u>25366_07.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: _____
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/06/2017 15:43</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117296</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
75-71-8	Dichlorodifluoromethane	0.50	U	0.50	
74-87-3	Chloromethane	0.50	U	0.50	
75-01-4	Vinyl chloride	0.50	U	0.50	
74-83-9	Bromomethane	0.50	U	0.50	
75-00-3	Chloroethane	0.50	U	0.50	
75-69-4	Trichlorofluoromethane	0.50	U	0.50	
75-35-4	1,1-Dichloroethene	0.50	U	0.50	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50	
67-64-1	Acetone	4.8	J	5.0	
75-15-0	Carbon disulfide	0.14	J	0.50	
79-20-9	Methyl acetate	0.50	U	0.50	
75-09-2	Methylene Chloride	0.50	U	0.50	
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.50	
1634-04-4	Methyl tert-butyl ether	0.50	U	0.50	
75-34-3	1,1-Dichloroethane	0.50	U	0.50	
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.50	
78-93-3	2-Butanone	1.0	J	5.0	
74-97-5	Bromochloromethane	0.50	U	0.50	
67-66-3	Chloroform	0.50	U	0.50	
71-55-6	1,1,1-Trichloroethane	0.50	U	0.50	
110-82-7	Cyclohexane	0.50	U	0.50	
56-23-5	Carbon tetrachloride	0.50	U	0.50	
71-43-2	Benzene	0.50	U	0.50	
107-06-2	1,2-Dichloroethane	0.50	U	0.50	
79-01-6	Trichloroethene	0.50	U	0.50	
108-87-2	Methylcyclohexane	0.50	U	0.50	
78-87-5	1,2-Dichloropropane	0.50	U	0.50	
75-27-4	Bromodichloromethane	0.50	U	0.50	
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.50	
108-10-1	4-Methyl-2-pentanone	5.0	U	5.0	
108-88-3	Toluene	0.50	U	0.50	
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.50	
79-00-5	1,1,2-Trichloroethane	0.50	U	0.50	
127-18-4	Tetrachloroethene	0.50	U	0.50	
591-78-6	2-Hexanone	5.0	U	5.0	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: _____	Lab Sample ID: <u>MB 200-117296/7</u>
Matrix: <u>Water</u>	Lab File ID: <u>25366_07.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: _____
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/06/2017 15:43</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117296</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
124-48-1	Dibromochloromethane	0.50	U	0.50	
106-93-4	1,2-Dibromoethane	0.50	U	0.50	
108-90-7	Chlorobenzene	0.50	U	0.50	
100-41-4	Ethylbenzene	0.50	U	0.50	
95-47-6	o-Xylene	0.50	U	0.50	
179601-23-1	m,p-Xylene	0.50	U	0.50	
100-42-5	Styrene	0.50	U	0.50	
75-25-2	Bromoform	0.50	U	0.50	
98-82-8	Isopropylbenzene	0.50	U	0.50	
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.50	
541-73-1	1,3-Dichlorobenzene	0.50	U	0.50	
106-46-7	1,4-Dichlorobenzene	0.50	U	0.50	
95-50-1	1,2-Dichlorobenzene	0.50	U	0.50	
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.50	
120-82-1	1,2,4-Trichlorobenzene	0.16	J	0.50	
87-61-6	1,2,3-Trichlorobenzene	0.29	J	0.50	

CAS NO.	SURROGATE	%REC	Q	LIMITS
6745-35-3	Vinyl chloride-d3	100		40-130
19199-91-8	Chloroethane-d5	116		65-130
22280-73-5	1,1-Dichloroethene-d2	93		60-125
24313-50-6	2-Butanone-d5	129		40-130
865-49-6	Chloroform-d	121		70-125
17060-07-0	1,2-Dichloroethane-d4	136	*	70-130
1076-43-3	Benzene-d6	114		70-125
93952-08-0	1,2-Dichloropropane-d6	93		60-140
2037-26-5	Toluene-d8	113		70-130
93951-86-1	trans-1,3-Dichloropropene-d4	113		55-130
4840-82-8	2-Hexanone-d5	127		45-130
33685-54-0	1,1,2,2-Tetrachloroethane-d2	109		65-120
2199-69-1	1,2-Dichlorobenzene-d4	113		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: _____	Lab Sample ID: <u>MB 200-117296/7</u>
Matrix: <u>Water</u>	Lab File ID: <u>25366_07.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: _____
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/06/2017 15:43</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117296</u>	Units: <u>ug/L</u>
Number TICs Found: <u>1</u>	TIC Result Total: <u>3.1</u>

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Unknown	7.28	3.1	J X	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
SDG No.: 200-38792-1
Client Sample ID: _____ Lab Sample ID: MB 200-117296/7
Matrix: Water Lab File ID: 25366_07.D
Analysis Method: SOM02.2/VOA_Tr Date Collected: _____
Sample wt/vol: 25 (mL) Date Analyzed: 06/06/2017 15:43
Soil Aliquot Vol: _____ Dilution Factor: 1
Soil Extract Vol.: _____ GC Column: DB-624 ID: 0.2 (mm)
% Moisture: _____ Level: (low/med) Trace
Analysis Batch No.: 117296 Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
STL00989	Total Alkanes				

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: _____	Lab Sample ID: <u>MB 200-117409/6</u>
Matrix: <u>Water</u>	Lab File ID: <u>25405_06.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: _____
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/08/2017 16:19</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117409</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
75-71-8	Dichlorodifluoromethane	0.50	U	0.50	
74-87-3	Chloromethane	0.50	U	0.50	
75-01-4	Vinyl chloride	0.50	U	0.50	
74-83-9	Bromomethane	0.13	J	0.50	
75-00-3	Chloroethane	0.50	U	0.50	
75-69-4	Trichlorofluoromethane	0.50	U	0.50	
75-35-4	1,1-Dichloroethene	0.50	U	0.50	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50	
67-64-1	Acetone	2.5	J	5.0	
75-15-0	Carbon disulfide	0.13	J	0.50	
79-20-9	Methyl acetate	0.50	U	0.50	
75-09-2	Methylene Chloride	0.50	U	0.50	
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.50	
1634-04-4	Methyl tert-butyl ether	0.50	U	0.50	
75-34-3	1,1-Dichloroethane	0.50	U	0.50	
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.50	
78-93-3	2-Butanone	5.0	U	5.0	
74-97-5	Bromochloromethane	0.50	U	0.50	
67-66-3	Chloroform	0.50	U	0.50	
71-55-6	1,1,1-Trichloroethane	0.50	U	0.50	
110-82-7	Cyclohexane	0.50	U	0.50	
56-23-5	Carbon tetrachloride	0.50	U	0.50	
71-43-2	Benzene	0.50	U	0.50	
107-06-2	1,2-Dichloroethane	0.50	U	0.50	
79-01-6	Trichloroethene	0.50	U	0.50	
108-87-2	Methylcyclohexane	0.50	U	0.50	
78-87-5	1,2-Dichloropropane	0.50	U	0.50	
75-27-4	Bromodichloromethane	0.50	U	0.50	
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.50	
108-10-1	4-Methyl-2-pentanone	5.0	U	5.0	
108-88-3	Toluene	0.50	U	0.50	
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.50	
79-00-5	1,1,2-Trichloroethane	0.50	U	0.50	
127-18-4	Tetrachloroethene	0.50	U	0.50	
591-78-6	2-Hexanone	5.0	U	5.0	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: _____	Lab Sample ID: <u>MB 200-117409/6</u>
Matrix: <u>Water</u>	Lab File ID: <u>25405_06.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: _____
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/08/2017 16:19</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117409</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
124-48-1	Dibromochloromethane	0.50	U	0.50	
106-93-4	1,2-Dibromoethane	0.50	U	0.50	
108-90-7	Chlorobenzene	0.50	U	0.50	
100-41-4	Ethylbenzene	0.50	U	0.50	
95-47-6	o-Xylene	0.50	U	0.50	
179601-23-1	m,p-Xylene	0.50	U	0.50	
100-42-5	Styrene	0.50	U	0.50	
75-25-2	Bromoform	0.50	U	0.50	
98-82-8	Isopropylbenzene	0.50	U	0.50	
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.50	
541-73-1	1,3-Dichlorobenzene	0.50	U	0.50	
106-46-7	1,4-Dichlorobenzene	0.078	J	0.50	
95-50-1	1,2-Dichlorobenzene	0.50	U	0.50	
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.50	
120-82-1	1,2,4-Trichlorobenzene	0.30	J	0.50	
87-61-6	1,2,3-Trichlorobenzene	0.48	J	0.50	

CAS NO.	SURROGATE	%REC	Q	LIMITS
6745-35-3	Vinyl chloride-d3	95		40-130
19199-91-8	Chloroethane-d5	100		65-130
22280-73-5	1,1-Dichloroethene-d2	75		60-125
24313-50-6	2-Butanone-d5	113		40-130
865-49-6	Chloroform-d	100		70-125
17060-07-0	1,2-Dichloroethane-d4	107		70-130
1076-43-3	Benzene-d6	107		70-125
93952-08-0	1,2-Dichloropropane-d6	87		60-140
2037-26-5	Toluene-d8	108		70-130
93951-86-1	trans-1,3-Dichloropropene-d4	112		55-130
4840-82-8	2-Hexanone-d5	136	*	45-130
33685-54-0	1,1,2,2-Tetrachloroethane-d2	101		65-120
2199-69-1	1,2-Dichlorobenzene-d4	108		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-38792-1</u>
SDG No.: <u>200-38792-1</u>	
Client Sample ID: _____	Lab Sample ID: <u>MB 200-117409/6</u>
Matrix: <u>Water</u>	Lab File ID: <u>25405_06.D</u>
Analysis Method: <u>SOM02.2/VOA_Tr</u>	Date Collected: _____
Sample wt/vol: <u>25 (mL)</u>	Date Analyzed: <u>06/08/2017 16:19</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624</u> ID: <u>0.2 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Trace</u>
Analysis Batch No.: <u>117409</u>	Units: <u>ug/L</u>
Number TICs Found: <u>1</u>	TIC Result Total: <u>3.1</u>

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Unknown	7.28	3.1	J	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TestAmerica Burlington Job No.: 200-38792-1
SDG No.: 200-38792-1
Client Sample ID: _____ Lab Sample ID: MB 200-117409/6
Matrix: Water Lab File ID: 25405_06.D
Analysis Method: SOM02.2/VOA_Tr Date Collected: _____
Sample wt/vol: 25 (mL) Date Analyzed: 06/08/2017 16:19
Soil Aliquot Vol: _____ Dilution Factor: 1
Soil Extract Vol.: _____ GC Column: DB-624 ID: 0.2 (mm)
% Moisture: _____ Level: (low/med) Trace
Analysis Batch No.: 117409 Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
STL00989	Total Alkanes				

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica BurlingtonJob No.: 200-38792-1SDG No.: 200-38792-1Instrument ID: CHD.iStart Date: 05/23/2017 13:58Analysis Batch Number: 116931End Date: 05/23/2017 19:42

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		05/23/2017 13:58	1		DB-624 0.2 (mm)
ZZZZZ		05/23/2017 14:23	1		DB-624 0.2 (mm)
ZZZZZ		05/23/2017 14:49	1		DB-624 0.2 (mm)
BFB 200-116931/4		05/23/2017 16:12	1	25203_04.D	DB-624 0.2 (mm)
ZZZZZ		05/23/2017 16:41	1		DB-624 0.2 (mm)
ZZZZZ		05/23/2017 17:06	1		DB-624 0.2 (mm)
IC 200-116931/26		05/23/2017 17:32	1	25203_07.D	DB-624 0.2 (mm)
IC 200-116931/27		05/23/2017 17:58	1	25203_08.D	DB-624 0.2 (mm)
ICIS 200-116931/28		05/23/2017 18:24	1	25203_09.D	DB-624 0.2 (mm)
IC 200-116931/29		05/23/2017 18:50	1	25203_10.D	DB-624 0.2 (mm)
IC 200-116931/30		05/23/2017 19:16	1	25203_11.D	DB-624 0.2 (mm)
ICV 200-116931/31		05/23/2017 19:42	1	25203_12.D	DB-624 0.2 (mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica BurlingtonJob No.: 200-38792-1SDG No.: 200-38792-1Instrument ID: CHD.iStart Date: 06/06/2017 13:46Analysis Batch Number: 117296End Date: 06/07/2017 00:28

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 200-117296/3		06/06/2017 13:46	1	25366_03.D	DB-624 0.2 (mm)
ZZZZZ		06/06/2017 14:21	1		DB-624 0.2 (mm)
ZZZZZ		06/06/2017 14:47	1		DB-624 0.2 (mm)
CCVIS 200-117296/6		06/06/2017 15:17	1	25366_06.D	DB-624 0.2 (mm)
MB 200-117296/7		06/06/2017 15:43	1	25366_07.D	DB-624 0.2 (mm)
200-38792-1		06/06/2017 17:59	1	25366_08.D	DB-624 0.2 (mm)
200-38792-2		06/06/2017 18:25	1	25366_09.D	DB-624 0.2 (mm)
200-38792-3		06/06/2017 18:51	1	25366_10.D	DB-624 0.2 (mm)
200-38792-4		06/06/2017 19:17	1	25366_11.D	DB-624 0.2 (mm)
200-38792-5		06/06/2017 19:43	1	25366_12.D	DB-624 0.2 (mm)
ZZZZZ		06/06/2017 20:09	1		DB-624 0.2 (mm)
ZZZZZ		06/06/2017 20:35	1		DB-624 0.2 (mm)
ZZZZZ		06/06/2017 21:01	1		DB-624 0.2 (mm)
ZZZZZ		06/06/2017 21:27	1		DB-624 0.2 (mm)
ZZZZZ		06/06/2017 21:52	1		DB-624 0.2 (mm)
ZZZZZ		06/06/2017 22:18	1		DB-624 0.2 (mm)
ZZZZZ		06/06/2017 22:45	1		DB-624 0.2 (mm)
ZZZZZ		06/06/2017 23:11	1		DB-624 0.2 (mm)
ZZZZZ		06/06/2017 23:37	1		DB-624 0.2 (mm)
CCVC 200-117296/22		06/07/2017 00:03	1	25366_22.D	DB-624 0.2 (mm)
CCVC 200-117296/23		06/07/2017 00:28	1	25366_23.D	DB-624 0.2 (mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica BurlingtonJob No.: 200-38792-1SDG No.: 200-38792-1Instrument ID: CHD.iStart Date: 06/08/2017 14:03Analysis Batch Number: 117409End Date: 06/08/2017 23:42

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 200-117409/1		06/08/2017 14:03	1	25405_01.D	DB-624 0.2 (mm)
ZZZZZ		06/08/2017 14:36	1		DB-624 0.2 (mm)
ZZZZZ		06/08/2017 15:01	1		DB-624 0.2 (mm)
ZZZZZ		06/08/2017 15:28	1		DB-624 0.2 (mm)
CCVIS 200-117409/5		06/08/2017 15:53	1	25405_05.D	DB-624 0.2 (mm)
MB 200-117409/6		06/08/2017 16:19	1	25405_06.D	DB-624 0.2 (mm)
ZZZZZ		06/08/2017 16:45	1		DB-624 0.2 (mm)
ZZZZZ		06/08/2017 17:12	1		DB-624 0.2 (mm)
ZZZZZ		06/08/2017 17:38	1		DB-624 0.2 (mm)
ZZZZZ		06/08/2017 18:04	1		DB-624 0.2 (mm)
ZZZZZ		06/08/2017 18:30	1		DB-624 0.2 (mm)
VIBLK 200-117409/12		06/08/2017 18:56	1		DB-624 0.2 (mm)
ZZZZZ		06/08/2017 19:22	1		DB-624 0.2 (mm)
ZZZZZ		06/08/2017 19:48	1		DB-624 0.2 (mm)
ZZZZZ		06/08/2017 20:14	25		DB-624 0.2 (mm)
ZZZZZ		06/08/2017 20:40	125		DB-624 0.2 (mm)
ZZZZZ		06/08/2017 21:06	1		DB-624 0.2 (mm)
ZZZZZ		06/08/2017 21:32	1		DB-624 0.2 (mm)
ZZZZZ		06/08/2017 21:58	1		DB-624 0.2 (mm)
ZZZZZ		06/08/2017 22:24	1		DB-624 0.2 (mm)
200-38792-4		06/08/2017 22:50	1	25405_21.D	DB-624 0.2 (mm)
CCVC 200-117409/22		06/08/2017 23:16	1	25405_22.D	DB-624 0.2 (mm)
CCVC 200-117409/23		06/08/2017 23:42	1	25405_23.D	DB-624 0.2 (mm)

Shipping and Receiving Documents

Chain of Custody Record

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact Argonne National Lab 9700 S Cass Ave Lemont/IL 60439 (630) 252-7969 Phone (630) 252-5747 FAX Project Name: Spring Sampling Site: Morrill, KS P O # : 8A727-D3-167		Project Manager: Lorraine LaFreniere Tel/Fax: (630) 252-7969 Analysis Turnaround Time ☐ CALENDAR DAYS ☐ WORKING DAYS TAT if different from Below _____ ☒ 2 weeks ☒ 1 week ☐ 2 days ☐ 1 day		Site Contact: Travis Kamler Lab Contact: Kathryn Kelly	Date: June 2, 2017 Carrier: FedEx# 779283637020 COC No: 1 of 1 COCs MR62171710
Sample Identification		Sample Date Time Type (C-Comp, G-Grab) Matrix # of Cont.	Filtered Sample (Y/N) Perform MS/MSD (Y/N) Volatile Organic Compounds		
1	MRMW5S-W-39794	06/01/17 15:00 LF W 2			2 X 40mL for VOC
2	MRMW10S-W-39799	06/01/17 17:15 LF W 2			2 X 40mL for VOC
3	MRMW4S-W-39793	06/02/17 10:50 LF W 2			2 X 40mL for VOC
4	MRQCTB-W-39813	06/02/17 10:00 G W 2			2 X 40mL for VOC
5					
6					
7					
8					
9					
10					
11					
12					

Sample Specific Notes:
 200-38792 Chain of Custody

Preservation Used: JE 100, 2% HCl, 3% H2SO4, 4% HNO3, 5% NaOH, 6% Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Special Instructions/QC Requirements & Comments:

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Custody Seals Intact: ☒ Yes ☐ No	Custody Seal No.: WD H5	Cooler Temp. (°C): Obs'd: 4.2	Therm ID No.: 268
Relinquished by: Travis Kamler	Company: TCW	Received by:	Date/Time: 6/2/17 17:10
Relinquished by:	Company:	Received by:	Date/Time:
Relinquished by:	Company:	Received in Laboratory by: <i>TRAD</i>	Date/Time: 6/3/17 6:20

ORIGIN ID:ENLA (402) 416-7255
TRAVIS KAMLER
ARGONNE NATIONAL LAB
9700 S CASS AVE
LEMONT, IL 60439
UNITED STATES US

SHIP DATE: 02JUN17
ACTWGT: 15.00 LB
CAD: 104734835/NET3850
DIMS: 13x9x10 IN
BILL SENDER

TO **KATHRYN KELLY**
TEST AMERICA
30 COMMUNITY DR
STE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990 REF: 8A727-03-167
INV: PO: MORRILL WATERS DEPT:

546J1873483CJ

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 7792 8363 7020
0201

X0 BTVA

05403
VT-US BTV

Login Sample Receipt Checklist

Client: Argonne National Laboratory

Job Number: 200-38792-1

SDG Number: 200-38792-1

Login Number: 38792

List Source: TestAmerica Burlington

List Number: 1

Creator: Johnson, Eleanor E

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	Seal present with no number.
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.2°C
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?	False	Refer to Job Narrative for details.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

AGEM Team at Argonne

AGEM Staff Member	AGEM Role
Lorraine M. LaFreniere, Ph.D. Principal Geological Engineer	Program Manager
Jorge S. Alvarado, Ph.D. Chemist	Laboratory Manager and Analyst
Esther E. Bowen, M.S. Data Management Specialist	Quality Assurance/Quality Control and Records Manager
Laurel A. Culbert, B.A. Graphic Artist/Designer	Report Graphics and Maps (including GIS)
James Hansen, B.A. Program Coordinator/Manager	Site Reconnaissance and Community Relations
Louis E. Martino, M.S. Environmental Systems Engineer/Program Manager	Technical Lead/Remediation Specialist (Cost Engineering)
Terri Patton, M.S. Principal Geologist	Technical Editor
Candace M. Rose, B.S. Scientific Associate Senior	Laboratory Analyst
Robert A. Sedivy, M.S. Hydrogeologist	Technical Lead/Hydrogeologist
Eugene Y. Yan, Ph.D. Earth Scientist	Technical Lead/Hydrogeologist

Environmental Science Division

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U.S. DEPARTMENT OF
ENERGY

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