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April 7, 2017

**VIA PRIVATE CARRIER**

Mr. James R. Carroll  
Program Administrator  
Land Restoration Program  
Land Management Administration  
Maryland Department of the Environment  
1800 Washington Boulevard, Suite 625  
Baltimore, Maryland 21230

Subject: Transmittal of the 2016 Surface Water Sampling Report  
Lockheed Martin Corporation; Middle River Complex  
2323 Eastern Boulevard, Middle River, Baltimore County, Maryland

Dear Mr. Carroll:

For your review please find enclosed two hard copies with a CD of the above-referenced document. This document presents the analytical results for surface water samples collected in June, September, and December 2016 for water bodies adjacent to the Middle River Complex in Middle River, Maryland. If possible, we respectfully request to receive MDE's comments by June 2, 2017.

Please let me know if you have any questions. My office phone is (301) 548-2227.

Sincerely,

A handwritten signature in cursive script that reads "Lynnette Drake".

Lynnette Drake  
Remediation Analyst, Environmental Remediation

cc: (via email without enclosure)

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# 2016 Surface Water Sampling Report Middle River Complex 2323 Eastern Boulevard Middle River, Maryland

Prepared for:

Lockheed Martin Corporation

Prepared by:

Tetra Tech, Inc.

April 2017



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Michael Martin, P.G.  
Regional Manager



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Anthony Apanavage, P.G.  
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# ACRONYMS

AWQC	ambient water quality criteria
BTAG	Biological Technical Advisory Group
<i>cis</i> -1,2-DCE	<i>cis</i> -1,2-dichloroethene
COC	chain of custody
COMAR	<i>Code of Maryland Regulations</i>
DO	dissolved oxygen
ESA	environmental site assessment
GIS	geographic information system
GLM	Glenn L. Martin Company
GPS	global positioning system
Lockheed Martin	Lockheed Martin Corporation
MDE	Maryland Department of the Environment
µg/L	microgram(s) per liter
MRC	Middle River Complex
NRWQC	national recommended water quality criteria
ORP	oxidation-reduction potential
PCB	polychlorinated biphenyl
PDF	portable document format
pH	a measure of hydrogen-ion content indicating relative acidity or alkalinity
PM	project manager
REC	recognized environmental condition
SVOC	semivolatile organic compound
SW	surface water
TCE	trichloroethene
Tetra Tech	Tetra Tech, Inc.
USEPA	United States Environmental Protection Agency
UST	underground storage tank
VC	vinyl chloride
VCP	Voluntary Cleanup Program
VOC	volatile organic compound

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# Section 1

## Introduction

On behalf of Lockheed Martin Corporation (Lockheed Martin), Tetra Tech, Inc. (Tetra Tech) has prepared this report presenting the analytical results for surface water samples collected in June, September, and December 2016 for water bodies adjacent to the Middle River Complex (MRC) in Middle River, Maryland (see Figure 1-1). Volatile organic compounds (VOCs) in groundwater at two areas of the Middle River Complex appear to have migrated to adjacent surface water bodies. These two areas include the southeastern trichloroethene (TCE) area adjacent to Dark Head Cove, and the southwestern trichloroethene area adjacent to Cow Pen Creek. 1,4-Dioxane, a semivolatile organic compound (SVOC) associated with solvents, is co-located with volatile organic compounds in the southwestern trichloroethene area. 1,4-Dioxane has not yet been sampled for in Dark Head Cove. These constituents may be introduced to Dark Head Cove and Cow Pen Creek surface water from volatile-organic-compound groundwater plumes via direct groundwater seepage at the creek bed or by storm drains intercepting groundwater containing volatile organic compounds and discharging that groundwater at outfall locations to the cove and creek.

This investigation sought to determine the impacts of volatile organic compounds in Middle River Complex groundwater to the adjacent surface waters of Dark Head Cove and Cow Pen Creek. Additional project objectives include assessing 1,4-dioxane concentrations in Cow Pen Creek surface water near the southwestern trichloroethene area, and determining whether polychlorinated biphenyls (PCBs) are in surface water subsequent to a sediment removal action completed in Dark Head Cove by Lockheed Martin Corporation in early 2015. To address these objectives, surface water samples were collected in June and September along five transects in Dark Head Cove (at Outfalls 005, 006, 007, 008, and 009) and at two locations in Cow Pen Creek.

The December 2016 sampling objective differed from that of the June and September surface water sampling. The June and September events focused on sampling near several Dark Head Cove outfalls and in Cow Pen Creek. The December surface water sampling focused on determining concentrations of volatile organic compounds in Dark Head Cove near the recently investigated

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landward edge of the southeastern trichloroethene area. In October 2016, groundwater samples were collected in Tax Blocks E and F to delineate the forward edge of the southeastern trichloroethene area at locations hydraulically downgradient of underground storage tank (UST) 2 from the area of Chesapeake Park Plaza south to Dark Head Cove and west of Outfalls 006 and 008 (Figure 1-2). UST 2 was discovered adjacent to the foundation of former Building D in 2013 during construction of the Block E groundwater remedy. UST 2 contained trichloroethene, and is considered the primary source of elevated concentrations of volatile organic compounds in groundwater in the southeastern trichloroethene area. Probe groundwater-sampling using direct-push technology in October 2016 indicated field-analyzed trichloroethene concentrations of more than 60,000 micrograms per liter ( $\mu\text{g/L}$ ) in groundwater south of Chesapeake Park Plaza. Therefore, surface water samples were collected in Dark Head Cove at six locations adjacent to the newly delineated landward edge of the southeastern trichloroethene area in December 2016 to assess possible elevated volatile organic compound concentrations in surface water in this cove area.

Future sampling of Dark Head Cove and Cow Pen Creek is scheduled for April 2017, June 2017 and September 2017. The current swimming criteria used to screen trichloroethene, *cis*-1,2-dichloroethene (*cis*-1,2-DCE), and vinyl chloride (VC) in the 2016 Middle River Complex surface water data were developed by Lockheed Martin Corporation for Frog Mortar Creek adjacent to Martin State Airport. In 2017, Lockheed Martin Corporation will propose risk-based swimming criteria specifically developed for Dark Head Cove and Cow Pen Creek for Maryland Department of the Environment (MDE) approval, as the contaminants of concern in these two water bodies differ from the contaminants of concern in Frog Mortar Creek. To date, vinyl chloride, the primary risk driver in Frog Mortar Creek, has not been detected in either Dark Head Cove or Cow Pen Creek. Swimming criteria will be developed for 1,4-dioxane and total polychlorinated biphenyls, chemicals that have been found in Dark Head Cove and Cow Pen Creek, but are not contaminants of concern in Frog Mortar Creek.

This technical memorandum is organized as follows:

Section 2—Site Background: Briefly describes the site, and describes where detailed background information and reports of previous investigations can be found.

Section 3—Investigation Approach and Methodology: Presents the technical approach to surface water sampling, and describes the field methodology employed.

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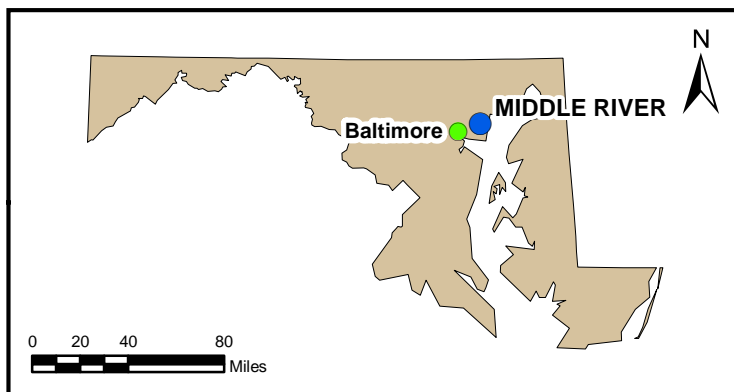
Section 4—Results: Presents the field program’s investigation results.

Section 5—Summary: Summarizes the investigation approach and findings.

Section 6—References: Cites references used to compile this report.



Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2013 ESRI and its data suppliers).



**FIGURE 1-1**

**MIDDLE RIVER COMPLEX  
LOCATION MAP**

*Lockheed Martin Middle River Complex  
Middle River, Maryland*

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CREATED BY: JEE







**FIGURE 1-2**  
**DECEMBER 2016 SURFACE WATER SAMPLING LOCATIONS, SOUTHEASTERN TCE AREA, FORMER UST 2, AND OCTOBER 2016 PROBE GROUNDWATER SAMPLING AREA**

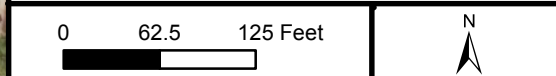
**LEGEND**

- SURFACE WATER SAMPLE LOCATION
- ▨ AREA OF PROBE GROUNDWATER SAMPLING, OCTOBER 2016
- STORMWATER OUTFALL LOCATION (UPDATED APRIL 2015)
- EXTENT OF TCE IN GROUNDWATER GREATER THAN 5 UG/L (DASHED WHERE INFERRED)

TCE = TRICHLOROETHENE.  
 UST = UNDERGROUND STORAGE TANK.

TCE CONTOURS FROM TETRA TECH (2016) AND OCTOBER 2016 PROBE GROUNDWATER SAMPLING. 2014 AERIAL PHOTOGRAPH PROVIDED BY U.S. GEOLOGICAL SURVEY.

**Lockheed Martin Middle River Complex  
 Middle River, Maryland**



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## Section 2

# Site Background

The Middle River Complex (MRC) at 2323 Eastern Boulevard in Middle River, Maryland is part of the Chesapeake Industrial Park, approximately 11.5 miles northeast of Baltimore, Maryland. The MRC comprises approximately 161 acres and includes 12 main buildings, an active industrial area and yard, perimeter parking lots, an athletic field, a vacant concrete lot, trailer storage areas, and numerous grassy spaces along its perimeter. The MRC is bounded by Eastern Boulevard (Route 150) to the north, Martin State Airport to the east, Dark Head Cove to the south, and Cow Pen Creek to the west. Figure 2-1 shows the MRC layout.

LMC Properties, Inc. (the current MRC property owner) is responsible for facility and building management and maintenance. The main site tenant, MRA Systems, Inc. (a subsidiary of General Electric Company), designs, manufactures, fabricates, tests, overhauls, repairs, and maintains aeronautical structures, parts, and components for military and commercial applications. Lockheed Martin Rotary and Mission Systems (formerly Mission Systems & Training) (a Lockheed Martin Corporation [Lockheed Martin] business segment) engineers, fabricates, assembles, tests, and otherwise supports vertical-launch systems. A Lockheed Martin subsidiary, Applied NanoStructured Solutions, LLC, also occupies a portion of MRC, where it researches and designs nanotechnology applications.

In 1929, the Glenn L. Martin Company (GLM) (a predecessor entity of Lockheed Martin) acquired large parcels of undeveloped land in Middle River, Maryland on which to manufacture aircraft for United States government and commercial clients. In the early 1960s, GLM merged with American-Marietta Company to form Martin Marietta Corporation. Around 1975, the adjacent airport to the east (currently Martin State Airport, comprising approximately 750 acres) was transferred to the State of Maryland. In 1995, Martin Marietta Corporation merged with Lockheed Corporation to form Lockheed Martin Corporation. Shortly after the merger, General Electric Company acquired most of Lockheed Martin's aeronautical business in Middle River and a General Electric subsidiary, MRA Systems, Inc., began operations at MRC.

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Numerous environmental investigations have been conducted at the Lockheed Martin MRC. These include underground storage-tank closures and abandonments, soil excavations, Phase I environmental site assessments (ESAs), and Phase II ESAs. A 2003 facility-wide Phase I ESA at the Lockheed Martin MRC identified 13 recognized environmental conditions (RECs) at the facility, associated primarily with then-current site conditions (Earth Tech, 2003). Subsequent review of historical site activities identified another 18 RECs at the facility (Tetra Tech, 2004). Many RECs are in the southern portion of the facility along the waterfront.

Soil and groundwater sampling have identified contamination in the environmental media underlying the facility. Studies of soil and groundwater are ongoing (Tetra Tech, 2012). The MRC was previously entered into the Maryland Department of the Environment (MDE) Voluntary Cleanup Program (VCP). Withdrawal from the VCP began in September 2013. Remediation of the MRC is now conducted pursuant to an Administrative Consent Order signed in December 2015, whereby work is performed under the MDE Controlled Hazardous Substances framework, allowing both on- and off-site issues to be addressed under the same regulatory program.

Surface water and sediment adjacent to the MRC's southern and western property boundaries were first sampled in March 2005. Subsequent samples were collected in 2005, and each year from 2010–2015, to characterize surface water and sediment, support the design development of the sediment remedy, and support the groundwater remedy and storm-drain investigations. Trichloroethene (TCE), one of the primary volatile organic compounds (VOCs) in groundwater at the MRC, has been detected at concentrations well below ecologic and human-health screening criteria in Dark Head Cove and Cow Pen Creek surface water samples. 1,4-Dioxane has been detected in Cow Pen Creek surface water samples, also at concentrations below its ecological and human-health screening criteria. Samples have not yet been collected for 1,4-dioxane analysis in Dark Head Cove. Polychlorinated biphenyls (PCBs) have also been detected sporadically in Dark Head Cove samples; however, a risk assessment indicated that swimming exposures were not associated with significant cancer or noncancer risks.

The current annual sampling program seeks to determine the extent to which constituents in groundwater and surface soil at the MRC have been transported to surface water. Studies at Dark Head Cove and Cow Pen Creek from 1997–2015, and details of the area's physical setting, land use, physiography, and surface/subsurface conditions (i.e., soils, hydrology, and geology), are

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summarized in the *2015 Surface Water Sampling Report* (Tetra Tech, 2015a), and therefore are not repeated herein.

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Figure 2-1



# Investigation Approach and Methodology

## 3.1 SURFACE WATER SAMPLING

Previous surface-water sampling data for Dark Head Cove and Cow Pen Creek supported the need for additional investigations to assess the extent to which contaminants detected in Middle River Complex (MRC) groundwater plumes are affecting adjacent surface water bodies. The volatile organic compound (VOC) trichloroethene (TCE) and other VOCs have previously been detected in surface water samples collected from the cove and creek. 1,4-Dioxane has been detected in the creek and polychlorinated biphenyls (PCBs) have been detected in the cove. These analytes have also been detected in groundwater and soil at the MRC. Although VOC and 1,4-dioxane concentrations in previously collected surface water samples have been below ecological and human health screening criteria expressed in guidance issued by governmental authorities, PCBs have been detected in Dark Head Cove surface water samples at concentrations exceeding such criteria. Note, however, that a site-specific risk assessment conducted in accordance with guidance published by governmental authorities determined that these PCB concentrations were not associated with unacceptable risks to swimmers and recreational users of the cove.

The June and September 2016 surface water sampling sought to provide additional and updated surface-water-quality data for Dark Head Cove and Cow Pen Creek. Specifically, the goals of these two sampling events were to determine whether:

- VOCs detected in groundwater and site soil are reaching Dark Head Cove and Cow Pen Creek via groundwater infiltration or transport through storm drains.
- 1,4-Dioxane detected in MRC groundwater and soil is reaching Cow Pen Creek via groundwater infiltration or transport through storm drains. Sampling for 1,4-dioxane in Dark Head Cove is planned in 2017.



- 
- Polychlorinated biphenyls (PCBs) detected in Block E soil may be reaching Dark Head Cove through the storm-drain system. They also are in surface water, perhaps due to sediment contamination.

The December 2016 surface water sampling sought to provide surface-water-quality data to determine whether:

- VOCs in the recently investigated landward edge of the southeastern TCE area in Tax Blocks E and F are reaching Dark Head Cove via groundwater seepage through cove-bed sediments.
- VOC concentrations in Dark Head Cove from the recently investigated landward edge of the southeastern TCE area in Tax Blocks E and F vary at near-surface water depth and groundwater seepage locations above the cove sediment.

Concentrations of VOCs, 1,4-dioxane, and PCB homologs in surface water were detected through laboratory analyses of the environmental samples. Chemical concentrations detected in surface water samples collected in 2016 were compared to United States Environmental Protection Agency (USEPA) national recommended water quality criteria (NRWQC), Maryland ambient water quality criteria (AWQC), USEPA Biological Technical Advisory Group (BTAG) surface water screening-benchmarks, and site-specific screening levels for swimming developed by Lockheed Martin Corporation (Lockheed Martin) for nearby Frog Mortar Creek adjacent to Martin State Airport. A Massachusetts drinking water guideline was used to screen 1,4-dioxane results, because Maryland does not currently have a screening level for 1,4-dioxane.

Future sampling of Dark Head Cove and Cow Pen Creek is scheduled for April, June, and September 2017. Also in 2017, Lockheed Martin will propose risk-based swimming criteria specifically developed for Dark Head Cove and Cow Pen Creek for Maryland Department of the Environment (MDE) approval, as some of the contaminants of concern in these two water bodies differ from the contaminants of concern in Frog Mortar Creek (i.e., the study area where the current swimming criteria used in this report were developed). To date, vinyl chloride, the primary risk driver in Frog Mortar Creek, has not been detected in either Dark Head Cove or Cow Pen Creek. Additional swimming criteria will be developed for 1,4-dioxane and total PCBs, chemicals that have been found in Dark Head Cove and Cow Pen Creek, but which are not contaminants of concern in Frog Mortar Creek.

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### 3.1.1 Surface Water Sampling and Analyses

Sampling was conducted according to the *2016–2017 Groundwater and Surface Water Monitoring Work Plan* (Tetra Tech, Inc. [Tetra Tech], 2015b) and work plan addenda (Tetra Tech, 2016a, b). On June 13 and September 27, 2016, surface water samples were collected along transects originating at Outfalls 005 through 009 in Dark Head Cove (locations MRC-SW5A through MRC-SW9B on Figure 3-1), and at two locations in Cow Pen Creek (MRC-SW1A and MRC-SW2A on Figure 3-1). On December 13, 2016, 12 samples (two each at MRC-SW10A through MRC-SW12B on Figure 3-1) were collected in Dark Head Cove south of Chesapeake Park Plaza and west of Outfall 008. The December sampling was to characterize the areal and vertical distributions of VOCs in Dark Head Cove in an area adjacent to and hydraulically downgradient of the recently investigated landward extent of the southeastern TCE area in Tax Blocks E and F (Figure 3-1). In October 2016, elevated concentrations of TCE in groundwater (more than 60,000 micrograms per liter [ $\mu\text{g/L}$ ]) were found in Tax Block F near Dark Head Cove (see Section 1). Therefore, these samples were collected to determine the extent to which VOCs were emanating from groundwater to Dark Head Cove.

All samples were analyzed for VOCs (the primary contaminants of concern in MRC groundwater). Samples collected in June were also analyzed for PCB homologs (same locations as TCE samples in Dark Head Cove) and 1,4-dioxane (both locations in Cow Pen Creek). Table 3-1 summarizes (by surface-water sampling location) the chemical analyses conducted for the 2016 monitoring program.

In June and September 2016, two samples were collected along each transect near Outfalls 006 through 009 in Dark Head Cove: one sample per transect was collected 10-feet from shore (“A” sample), and a second was collected 50-feet from shore (“B” sample). At Outfall 005, (which has two outlets), one sample was collected at each outlet 10-feet from shore (“A1” and “A2” samples), and a single sample was collected 50-feet from shore, approximately midway between the two outlets (“B” sample). All June and September 2016 samples in Dark Head Cove were collected one foot below the surface. Cow Pen Creek surface water samples were also collected in June and September 2016 adjacent to the southwestern TCE area. These samples were collected along the approximate centerline of the creek, one foot below the water surface upstream and downstream of the estimated boundaries of the southwestern TCE area.

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December samples were collected from two depths at six locations in Dark Head Cove along three transects. Along each transect, samples were collected 10-feet from shore (“A” sample) and 50-feet from shore (“B” sample). At each location, a shallow (“S”) depth sample was collected one foot below the water surface, and a deep (“D”) sample was collected one foot above the cove bed. The shallow and deep samples are an initial characterization of VOC distributions in the Dark Head Cove water column near the landward edge of the southeastern TCE area.

The deep “D”-sample results provide VOC concentrations in the water column near the groundwater seepage interface with the cove, and can be used (with further sampling or pore-water sampling) to delineate the full extent of the groundwater seepage zone. The deep-sample results represent concentrations of VOCs emanating from groundwater to Dark Head Cove with minimal dilution. The shallow “S” samples provide insight into dilution and volatilization that occurs between the deep and shallow sampling zones. Results for both samples are used to assess risk to possible human recreational users of the cove and ecological receptors.

All surface water samples were collected as grab samples using a stainless-steel discrete-interval sampler and direct-fill sampling techniques. The sampler was lowered below the water surface to the sampling depth, and the check valve was disengaged until the sampler was full; the sampler was then brought to the surface and the water was removed through the valve to fill laboratory-supplied containers. Laboratory-cleaned, hydrochloric-acid-preserved, 40-milliliter (mL) sample vials were used for the VOC samples; separate containers were used to collect samples for the 1,4-dioxane and PCB analyses. All equipment, including the discrete-interval sampler, was cleaned by rinsing with distilled water after each sample had been collected.

Samples were analyzed for VOCs at a fixed-base laboratory (TestAmerica, North Canton, Ohio) via USEPA Method 8260C, for 1,4-dioxane via Method 522, and for PCBs via Method 680. One duplicate sample was collected for each analyte group (i.e., VOCs, 1,4-dioxane, and PCB homologs) in June and September; duplicates were not collected in December. Trip blanks were placed in each cooler containing VOC samples to ensure quality assurance/quality control. Water-quality parameters, including temperature, pH (a measure of hydrogen-ion content indicating relative acidity or alkalinity), specific conductance, hardness, salinity, turbidity, dissolved oxygen, color, and oxidation-reduction potential, were measured at all surface water sampling locations at the time of sampling. The water depth at each sampling location was also recorded. Sample

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information and water depths were documented on surface water sample forms (Appendix A) and in the master site logbook.

Surface-water sampling locations (horizontal coordinates) were surveyed using a handheld global positioning system (GPS) receiver and recorded in the field logbook. Sampling latitude and longitude coordinates were recorded in degrees, minutes, and have an accuracy of approximately 15 feet. Coordinates were converted to the Maryland State Plane North American Datum 1983 (feet) for use in the MRC geographical information system (GIS).

### **3.1.2 Documentation**

A logbook was maintained as an overall record of field activities. Sampling documentation includes completing chain of custody (COC) forms and matrix-specific sampling log sheets. A COC form is a standardized form that summarizes and documents pertinent sampling information, such as identification, matrix, and type, date and time of collection, sample preservation, requested analyses, and the times and dates of custody transfers. Sample custody procedures document sample acquisition and integrity. COC forms and data-validation reports for samples collected during this investigation are in Appendix B.

### **3.1.3 Sample Nomenclature and Handling**

Surface water samples were identified with a unique sample-identification tag that includes an “SW” prefix followed by the sample number, followed by an “A” (designating a sample collected 10 feet from the shoreline) or a “B” (designating a sample collected 50 feet from the shoreline), followed by a six-digit sampling date. For example, a surface water sample collected on June 13, 2016 from transect MRC-SW6 at the 10-foot (“A”) location is labeled MRC-SW6A-061316. December sample identifications also include an “S” (shallow sample) or a “D” (deep sample) between the sampling location and the sample date (e.g., MRC-SW10A-S-121316) denoting the sampling depth. Trip blanks were labeled with a “TB” prefix followed by the blank’s six-digit submittal date (e.g., TB-061316).

Sample handling includes field-related considerations concerning the selection of sample containers, preservatives, allowable holding times, and analyses requested. Proper custody procedures were followed throughout all phases of sample collection and handling. COC protocols

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used throughout sample handling ensure the evidentiary integrity of sample containers and contents.

Sample containers were released under signature from the laboratory and accepted under signature by the sampler(s) or individual responsible for maintaining custody until the sample containers were transferred to the sampler(s). Transport containers returned to the laboratory were sealed with strapping tape and a tamper-proof custody seal. The custody seal includes the signature of the individual initially releasing the transport container, along with the date and time.

### **3.1.4 Equipment Decontamination**

To minimize decontamination, disposable equipment was used for surface water sampling where appropriate (e.g., gloves, rope). The stainless-steel discrete-interval sampler (i.e., a “bacon bomb” sampler) was rinsed with distilled water before the first sample was collected and after each use.

### **3.1.5 Waste Management**

Disposable waste (i.e., gloves, rope, etc.) was placed in plastic bags and disposed of in the proper waste disposal containers at the facility. Rinse water (i.e., distilled water) from cleaning the discrete-interval sampler was allowed to drain to the water body being sampled.

## **3.2 DATA MANAGEMENT**

Laboratory data-handling procedures met the requirements of the laboratory subcontract. All analytical and field data are maintained in project files. These files include copies of the COC forms, sampling log forms, sampling location maps, and documentation of laboratory quality assurance.

### **3.2.1 Data Tracking and Control**

A sample-tracking system was used from the beginning to the end of each sampling event. This system allows for early detection of errors made in the field so adjustments can be made while the field team is still mobilized. Before field mobilization, the field operations leader coordinated and initiated sample tracking. Sample jar labels were handwritten in the field and reviewed to ensure that they were accurate and adhered to work plan requirements.

The project manager (PM) coordinated with the analytical laboratory to ensure that they were aware of the number and types of samples and analyses being submitted. On the day that samples

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were collected in the field, the field operations leader forwarded the COC form(s) to the PM (or designee) and the laboratory. The PM or designee confirmed that the COC forms provided the information required by the work plan. After all requested analyses had been completed, the laboratory submitted an electronic deliverable for every sample delivery group. When all electronic deliverables had been received from the laboratory, the PM or designee ensured that the laboratory had performed all requested analyses.

### **3.2.2 Sample Information**

Data from field measurements were recorded using appropriate log sheets and summarized in tabular form. Raw instrument-data from the laboratory were also tabulated. The field operations leader verified field data daily; laboratory data were verified by the group supervisor and then by the laboratory's quality control/documentation department.

### **3.2.3 Project Data Compilation**

The analytical laboratory generated a portable document format (PDF) file of the analytical data packages, as well as electronic database deliverables. The electronic data were checked against the PDF file from the laboratory, and updated as required by applying data-qualifier flags during data validation. All data, such as units of measure and chemical nomenclature, are consistent with the project database.

### **3.2.4 Geographical Information System**

Data management systems consist of a relational database and GIS used to manage environmental information pertaining to the MRC. The relational database stores chemical, geological, hydrogeological, and other environmental data collected during environmental investigations; the GIS is created from the relational database and contains subsets of the larger data pool. The GIS allows posting of environmental data onto base maps to represent the information graphically. Compiled sampling, chemical, and positional data were incorporated into the GIS.

## **3.3 DATA REVIEW**

Data from the laboratory were entered into a sample database and evaluated against various screening criteria. Data validation (consisting of data completeness, holding time, calibrations, lab check standards, laboratory contamination, detection limits, surrogate recovery, and method blanks) was completed concurrent with the data evaluation. The review was based on USEPA

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Region 3's *Modifications to the National Functional Guidelines for Data Review* (USEPA, 1993 and 1994) and the specifics of the analytical method used.

Data from the sampling consist of chemical results from surface water samples. Data-validation reports and chain of custody forms are in Appendix B as PDF files (on compact disc). Appendix C contains tables of all 2016 MRC surface-water-sample analytical data, and includes validation qualifiers, non-detects, and analytical detection limits.

Validation of the MRC data concluded that they are acceptable for their intended uses (i.e., risk screening and risk assessment). Data qualifiers (i.e., flags) applied to the chemical results during data validation are listed below:

- J* The analyte is considered present in the sample, but the value is estimated and may not meet highest accuracy or precision standards. In this program, samples were qualified with “*J*” because quantitation was above the method detection limit but below the laboratory reporting limit.
- U* Not detected; the analyte was not detected at the reported value.
- UJ* The analyte was not detected, but the quantitation or detection limit may be inaccurate or imprecise.
- UR* The nondetect result is considered qualitatively or quantitatively unreliable.

Several of the data qualifiers above appear in the chemical-results tables and figures in Section 4; all data qualifiers appear in Appendices B and C.

**Table 3-1**  
**Chemical Analyses of Surface Water Samples, 2016**  
**Cow Pen Creek and Dark Head Cove**  
**Lockheed Martin Middle River Complex, Middle River, Maryland**

Sampling location	Sample number	Distance from shore (feet)	Analytical parameters
<b>June and September 2016—Dark Head Cove</b>			
Outfall 005	SW5A1 SW5A2 SW5B	10 10 50	<b>June</b> Volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), field parameters <b>September</b> VOCs, field parameters
Outfall 006 and near the southeastern trichloroethene (TCE) area	SW6A SW6B	10 50	<b>June</b> VOCs, PCBs, field parameters <b>September</b> VOCs, field parameters
Outfall 007	SW7A SW7B	10 50	<b>June</b> VOCs, PCBs, field parameters <b>September</b> VOCs, field parameters
Outfall 008 and near the southeastern TCE area	SW8A SW8B	10 50	<b>June</b> VOCs, PCBs, field parameters <b>September</b> VOCs, field parameters
Outfall 009	SW9A SW9B	10 50	<b>June</b> VOCs, PCBs, field parameters <b>September</b> VOCs, field parameters
<b>June and September 2016—Cow Pen Creek</b>			
Cow Pen Creek near the southwestern TCE area	SW1A—Upstream SW2A—Downstream	Center of channel	<b>June</b> VOCs, 1,4-dioxane, field parameters <b>September</b> VOCs, field parameters
<b>December 2016—Dark Head Cove</b>			
Near elevated VOCs in southeastern TCE area south of Chesapeake Park Plaza and west of Outfall 008	SW10A–S SW11A–S SW10A–D SW11A–D SW10B–S SW12A–S SW10B–D SW12A–D SW11B–S SW12B–S SW11B–D SW12B–D	A = 10 B = 50	<b>December</b> VOCs, field parameters “S” = shallow sample one foot below water surface “D” = deep sample one foot above creek bottom



Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2013 ESRI and its data suppliers).

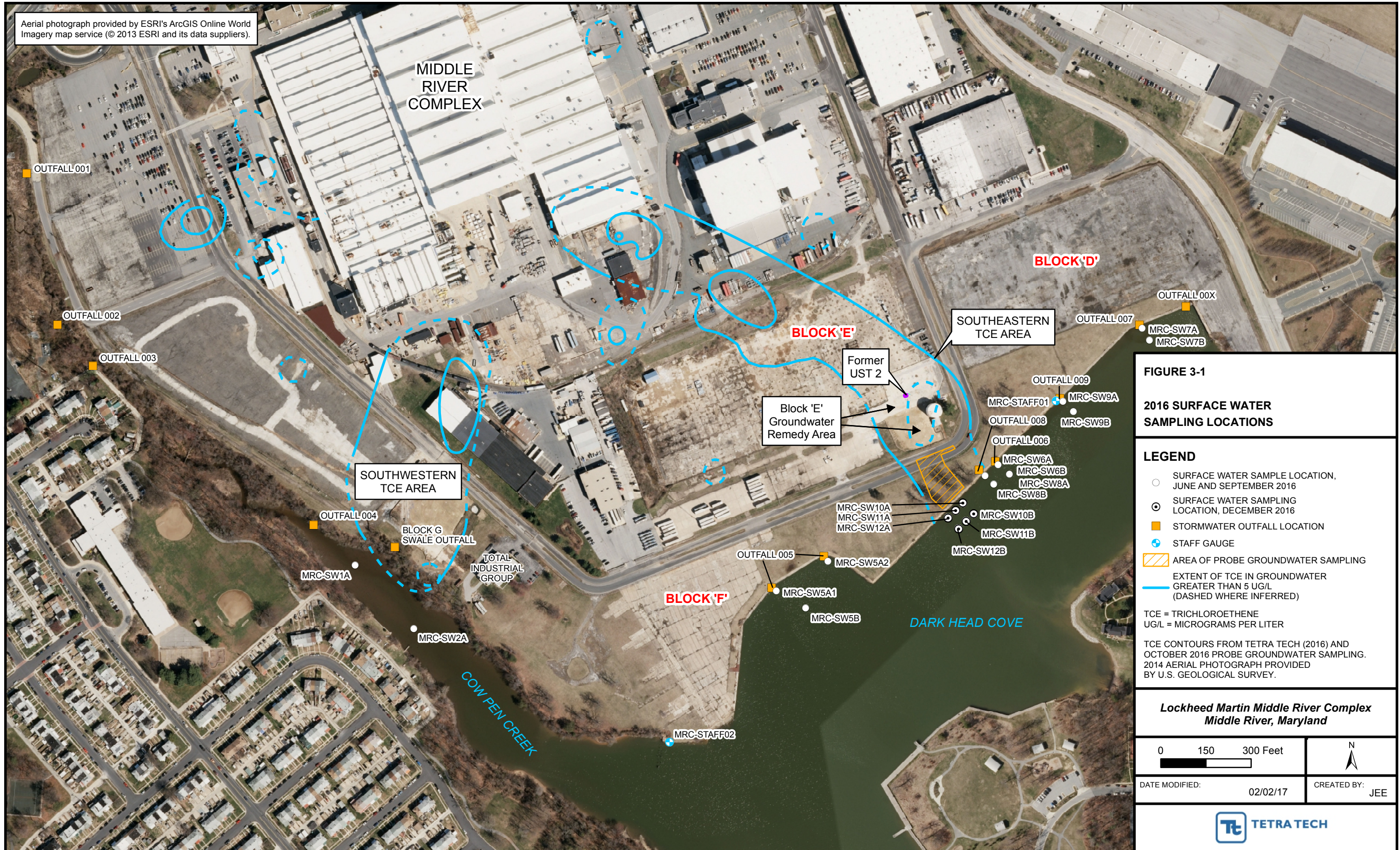


FIGURE 3-1

**2016 SURFACE WATER SAMPLING LOCATIONS**

**LEGEND**

- SURFACE WATER SAMPLE LOCATION, JUNE AND SEPTEMBER 2016
  - ⊙ SURFACE WATER SAMPLING LOCATION, DECEMBER 2016
  - STORMWATER OUTFALL LOCATION
  - STAFF GAUGE
  - ▨ AREA OF PROBE GROUNDWATER SAMPLING
  - EXTENT OF TCE IN GROUNDWATER GREATER THAN 5 UG/L (DASHED WHERE INFERRED)
- TCE = TRICHLOROETHENE  
 UG/L = MICROGRAMS PER LITER

TCE CONTOURS FROM TETRA TECH (2016) AND OCTOBER 2016 PROBE GROUNDWATER SAMPLING. 2014 AERIAL PHOTOGRAPH PROVIDED BY U.S. GEOLOGICAL SURVEY.

**Lockheed Martin Middle River Complex  
 Middle River, Maryland**

0 150 300 Feet



DATE MODIFIED: 02/02/17

CREATED BY: JEE





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## Section 4

# Results

Validated data for chemical analytes detected in the 2016 surface-water samples were used to generate a statistical summary table (Table 4-1) and tables (Tables 4-2 through 4-4) listing positive detections (only) for June, September, and December. These tables are based on the full data listings in Appendix C. Tables 4-2 through 4-4 compare surface-water sampling results to several applicable screening criteria, including:

- United States Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG) freshwater screening-benchmarks (USEPA, 2006)
- USEPA Region 5 ecological screening level for 1,4-dioxane in water (USEPA, 2003)
- USEPA national recommended water quality criteria (NRWQC) for acute and chronic aquatic-organism exposures and NRWQC for human health aquatic-organism consumption (USEPA, 2009)
- State of Maryland ambient water quality criteria (AWQC) for acute and chronic aquatic-organism-exposures, and AWQC for human health aquatic-organism-consumption (*Code of Maryland Regulations*, 2016)
- Massachusetts drinking water guideline for 1,4-dioxane (USEPA, 2014)
- Site-specific screening levels for swimming, developed by Lockheed Martin Corporation (Lockheed Martin) to assess primary volatile organic compounds (VOCs) at Frog Mortar Creek near Martin State Airport (Tetra Tech, Inc., [Tetra Tech], 2013a)

As noted above, results for the primary VOCs trichloroethene (TCE), *cis*-1,2-dichloroethene (*cis*-1,2-DCE), and vinyl chloride (VC) are compared to site-specific screening levels developed by Lockheed Martin. These values were developed at the request of the Maryland Department of the Environment (MDE) and are used to assess risks posed to recreational users of Dark Head Cove and Cow Pen Creek. These screening levels were developed to protect the health of swimmers and other recreational users of the cove and creek, assuming that they have long-term exposure to surface water (i.e., assumed swimming of four hours per day, 70 days per year, for

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30 years). These screening levels are used because they are the most conservative (i.e., most protective) for assessing human health from exposures to surface water constituents.

USEPA and several states have established various health advisories, guidelines, notification levels, and cleanup standards for 1,4-dioxane. At present, Maryland does not have a guideline or standard for 1,4-dioxane. Although Dark Head Cove and Cow Pen Creek are not used for drinking water, recreational users might incidentally ingest surface water while swimming. Therefore, the Massachusetts drinking water guideline, a conservative (i.e., protective of human health and the environment) concentration of 0.3 micrograms per liter ( $\mu\text{g/L}$ ) is used to screen 1,4-dioxane concentrations detected during the June 2016 sampling.

Appendix C contains tables summarizing analytical data, including nondetect results and detection limits. Since the data discussed herein share the “MRC” prefix, this prefix is dropped when referring to transects or samples (e.g., “SW12” refers to transect MRC-SW12), to improve readability. In addition, many of the lower VOC detections were estimated (i.e., *J*-qualified); these qualifiers (flags) are also dropped in the following discussion to improve readability. See Tables 4-2 through 4-4 for complete detected results, with qualifiers and comparison to screening criteria.

## **4.1 VOLATILE ORGANIC COMPOUNDS**

TCE, *cis*-1,2-DCE, and VC are the three primary VOCs found in Middle Rive Complex (MRC) groundwater, and are therefore of the most concern in groundwater and surface water adjacent to the MRC. TCE has been commonly used as an industrial degreaser, and is the parent or “primary” compound in the subject groundwater. TCE released into the environment will weather or breakdown (i.e., “degrade”) into “daughter” products with lower chlorine-containing compounds (i.e., dichloroethenes, VC, ethene, and ethane) if favorable conditions exist. TCE has degraded in MRC groundwater and has produced *cis*-1,2-DCE and VC concentrations above MDE standards in groundwater. These daughter products have further degraded to produce less toxic VOCs, such as ethene and ethane, in groundwater. All of these constituents are dissolved in groundwater at the MRC, and can be introduced to surface water by groundwater seepage through creek or cove sediments, or by groundwater infiltration into drains and outfalls that discharge to surface water. Therefore, Dark Head Cove and Cow Pen Creek were sampled to assess groundwater contaminant concentrations in adjacent receiving surface water bodies.

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The June and September 2016 sampling results are shown in Figure 4-1, and the concentrations of TCE, *cis*-1,2-DCE and VC are compared to the site-specific swimming levels on Figures 4-2 and 4-3, respectively. The December 2016 sampling results are shown on Figure 4-4, and the concentrations of TCE, *cis*-1,2-DCE, and VC are compared to the site-specific screening levels on Figure 4-5. These swimming levels are the lowest comparison concentrations for these chemicals, and are therefore the most protective of human health and the environment. Note that surface water sampling results are dynamic in nature, and the distribution of the contaminants in Dark Head Cove and Cow Pen Creek can be affected by tidal fluxes and seasonal effects. Therefore concentrations are expected to vary among sampling events.

#### **4.1.1 June and September Results**

Figures 4-1 and 4-2 show that TCE was detected at low concentrations in June at four Dark Head Cove sampling locations near Outfalls 006 and 008 (i.e., inner green circles in Figure 4-2 at SW6A, SW6B, SW8A, and SW8B). TCE was not detected in Cow Pen Creek samples collected in June. In contrast, TCE was detected at a low concentration in one Cow Pen Creek location (SW1A), and at low concentrations in all but two Dark Head Cove locations in September 2016 (see Figures 4-1 and 4-3). Table 4-1 shows a similar range of TCE concentrations detected in June and September (0.25–0.49 micrograms per liter [ $\mu\text{g/L}$ ] and 0.165–0.62  $\mu\text{g/L}$ , respectively).

The maximum TCE concentrations detected in June and September 2016 (0.49  $\mu\text{g/L}$  and 0.62  $\mu\text{g/L}$ , respectively) are more than 30 times below its lowest (i.e., most conservative) screening level (21  $\mu\text{g/L}$ ), and more than 15 times below its site-specific screening-criterion (10  $\mu\text{g/L}$ ) for evaluating exposure risks to swimmers (see Tables 4-2 and 4-3, and Figures 4-1 through 4-3). Concentrations of all other VOCs detected in June and September (acetone, chloromethane, 2-butanone, and 2-hexanone) are below their respective ecological and human health screening levels (Tables 4-2 and 4-3). Figure 4-1 shows that the highest TCE concentrations detected in June and September were typically near Outfalls 006 and 008 (samples SW6A, SW6B, SW8A, and SW8B), and that September TCE concentrations at Outfall 009 (SW9A, SW9B) and Outfall 007 (SW7A, SW7B) were similar to, but slightly lower than, the maximum TCE concentrations near Outfalls 006 and 008. *cis*-1,2-DCE and VC were not detected in surface water samples collected in June and September 2016.

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The maximum TCE concentrations collected in June and September 2016 (0.49 µg/L and 0.62 µg/L, respectively) are similar to the maximum detected TCE concentrations for 2015 (0.42 µg/L) and 2014 (0.54 µg/L at Outfall 008) (see Table C-1 in Appendix C). These maxima are approximately one-quarter to one-third that of the maximum TCE concentration detected in 2013 (1.9 µg/L at Outfall 005). TCE has not been detected in samples collected at Outfalls 005E (location SW5A2) since the Outfall 005 storm drain was plugged with concrete beneath Chesapeake Park Plaza in August 2015 (TCE at SW5A1 [Outfall 005W] was last detected in 2013).

#### 4.1.2 December Results

TCE was detected in both the shallow “S” samples (1.2–4.4 µg/L), and the deeper “D” samples (0.44–7.8 µg/L) collected above the cove bed (Figures 4-3 and 4-4; Table 4-4). *cis*-1,2-DCE, a degradation product of TCE, was not detected in the shallow “S” samples, but was detected in the four deeper samples collected from the center and western transects (0.45–5.5 µg/L at SW11A–B and SW12A–B). Other VOCs found in MRC groundwater, such as toluene, total xylenes, and 1,2,4-trimethylbenzene, were also detected in the December samples. However, December 2016 TCE and *cis*-1,2-DCE concentration are below their swimming levels (10 µg/L and 300 µg/L, respectively), and all other VOCs detected (acetone, toluene, total xylenes, and 1,2,4-trimethylbenzene) are likewise below their respective ecological and human health screening levels (Table 4-4 and Figures 4-4 and 4-5). VC was not detected in the December samples.

TCE concentrations in the shallower (“S”) cove samples (4.1–4.4 µg/L) were consistently higher than the deeper (“D”) samples (0.7–2.7 µg/L) at all near-shoreline (“A”) locations (Figure 4-4). TCE concentrations at SW11B and SW12B (collected farther from the shoreline) were higher in the deeper (“D”) samples than the shallow (“S”) samples, indicating dilution or volatilization of TCE in the upper portion of the water column after groundwater seepage from the southeastern TCE plume in the Block F area. The exception was at eastern transect location SW10B, where the shallow sample TCE concentration (1.2 µg/L) was higher than the deeper sample concentration (0.44 µg/L).

TCE and *cis*-1,2-DCE results for samples collected farther from the shoreline show increasing concentrations from east to west (i.e., from SW10B to SW12B) (Figures 4-4 and 4-5). A slight, increasing, east-west concentration trend for TCE, *cis*-1,2-DCE, 1,2,4-trimethylbenzene, toluene,

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and xylenes is noted for shallower samples collected farther from the shoreline (SW10B to SW12B), and for TCE and *cis*-1,2-DCE collected in deep samples near the shoreline (SW10A to SW12A). These trends indicate that transect SW12 may be nearer to the maximum VOC groundwater seepage area than are transects SW10 and SW11. These results also indicate that VOCs in Dark Head Cove from the southeastern TCE area groundwater seepage have not been fully delineated, and that additional surface water sampling is required to delineate the extent of TCE in Dark Head Cove west of Outfalls 006 and 008.

TCE was detected more frequently and at higher concentrations in December than it was in June and September. The December VOC concentrations for Dark Head Cove samples are expected to be higher because those samples were collected near the landward edge of the southeastern TCE area in Block F where elevated concentrations of TCE were found in groundwater, and not near MRC outfalls, as were the June and September samples. The higher VOC concentrations may also be due, in part, to sampling in cold weather months, a phenomenon found at other creek sampling sites that likely results from lower volatilization rates during cooler weather. Furthermore, the lower concentrations of TCE previously detected at areas east and west of the December 2016 sampling locations (e.g., Outfalls 005, 009, and 007) may be due, in part, to tidal mixing and transport of higher TCE concentrations from this groundwater seepage zone to these areas, and not to direct discharges of TCE from these outfalls.

## **4.2 1,4-DIOXANE**

As shown in Figure 4-1, 1,4-dioxane was detected in the samples collected from SW1A (0.13 µg/L) and SW2A (0.16 µg/L). These concentrations are approximately one-half of the lowest 1,4-dioxane screening level (0.3 µg/L), and more than five orders of magnitude (nearly 100,000 times) lower than the USEPA ecological screening level (22,000 µg/L).

## **4.3 POLYCHLORINATED BIPHENYLS**

Pentachlorobiphenyl was the only polychlorinated biphenyl (PCB) homolog detected in June 2016 Dark Head Cove surface water samples (Figure 4-1), and was detected in only one sample: SW6B, at 0.036 µg/L. This sample was collected 50 feet from Outfall 006, and exceeds three PCB screening levels: the chronic NRWQC (0.014 µg/L), the BTAG concentration (0.000074 µg/L), and the human health consumption-of-aquatic-organism criterion (0.00064 µg/L). It is likely from PCBs in cove sediment or from sediment transported from Block E via storm drains.

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The NRWQC and BTAG comparison concentrations are screening levels, and the reported concentrations below these levels indicate that no ecological impacts are expected. However, PCB concentrations exceeding these screening levels are not necessarily associated with detrimental human health or ecological risks. For example, the NRWQC human health consumption-of-aquatic-organism (0.00064 µg/L) level was developed to protect receptors exposed to surface water via two exposure pathways: through surface water used as a drinking water source and via consumption of fish caught in surface water. Thus, the NRWQC value is particularly low to protect humans using surface water as a drinking water source. Since Dark Head Cove is not used as a source of drinking water, the NRWQC value is overly protective (low) when used as a screening value in this instance. Multiple sources contribute PCBs to the upper Chesapeake Bay, so fish consumption advisories (due to PCB bioaccumulation) have been in effect for the entire MRC region. A human health risk assessment completed in 2014 to assess exposure to people swimming in Dark Head Cove adjacent to MRC (a more appropriate and applicable exposure scenario) indicated that PCB concentrations similar to those detected in June 2016 surface water samples would not result in cancer and noncancer risks above MDE risk benchmarks (Appendix D).

Similarly, the BTAG screening level is low to protect aquatic organisms, because PCBs bioaccumulate in the ecological food web. The sediment remediation in Dark Head Cove in 2016–2017 is intended to reduce sediment and surface water contaminant concentrations of PCBs. Note that after completing the sediment removal action near Outfall 005, PCBs were not detected in Dark Head Cove surface water samples collected in 2015. Surface water and sediment sampling for PCBs will follow the current and upcoming sediment removal actions to characterize any residual concentrations.

Table 4-1

**Statistical Summary of Surface Water Sampling Results-June, September, and December 2016**  
**Cow Pen Creek and Dark Head Cove**  
**Lockheed Martin Middle River Complex, Middle River, Maryland**  
**Page 1 of 2**

Chemical	Frequency of Detection		Minimum Non-Detect Concentration	Maximum Non-detect Concentration	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detected Sample	Mean of All Samples	Mean of Positive Detects	Standard Deviation
	Number	Percent								
<b>June 13, 2016</b>										
<b>Volatile organic compounds (µg/L)</b>										
Trichloroethene	4/13	31	0.22 U	0.22 U	0.25 J	0.49 J	MRC-SW6B	0.203	0.41	0.155
Acetone	1/13	8	0.94 U	0.94 U	2.2 J	2.2 J	MRC-SW7B	0.603	2.2	0.480
Chloromethane	1/13	8	0.44 UJ	0.44 UJ	1.1	1.1	MRC-SW7B	0.288	1.1	0.244
<b>Semivolatile organic compounds (µg/L)</b>										
1,4-Dioxane	2/2	100	--	--	0.12 J	0.16 J	MRC-SW2A	0.135	0.135	0.007
<b>Polychlorinated biphenyls (ug/L)</b>										
Pentachlorobiphenyls	1/11	9	0.013 U	0.014 U	0.036 J	0.036 J	MRC-SW6B	0.009	0.036	0.009
<b>September 27, 2016</b>										
<b>Volatile organic compounds (µg/L)</b>										
Trichloroethene	10/13	77	0.22 U	0.22 U	0.165	0.62 J	MRC-SW6,8,9B	0.422	0.52	0.227
2-Butanone	2/13	15	0.53 U	0.53 U	0.92 J	5.1 J	MRC-SW1A	0.687	3.01	1.3
2-Hexanone	1/13	8	0.48 U	0.48 U	0.55 J	0.55 J	MRC-SW1A	0.264	0.55	0.086
Acetone	1/13	8	0.94 U	0.94 U	7.7 J	7.7 J	MRC-SW1A	1.026	7.70	2.0
<b>December 13, 2016</b>										
<b>Volatile organic compounds (µg/L)</b>										
Trichloroethene	12/12	100	--	--	0.44 J	7.8	MRC-SW12B-D	2.85	2.85	2.11
Acetone	6/12	50	1.8 U	1.8 U	2.0 J	2.9 J	MRC-SW10A-S	1.63	2.37	0.799
Toluene	6/12	50	0.23 U	0.23 U	0.29 J	0.79 J	MRC-SW12B-S	0.303	0.49	0.236
Xylenes, Total	6/12	50	0.24 U	0.24 U	0.28 J	0.90 J	MRC-SW12B-S	0.29	0.46	0.236
cis-1,2-Dichloroethene	4/12	33	0.3 U	0.3 U	0.45 J	5.5	MRC-SW12B-D	0.870	2.31	1.640
1,2,4-Trimethylbenzene	1/12	8	0.24 U	0.24 U	0.24 J	0.24 J	MRC-SW12B-S	0.130	0.24	0.035



**Table 4-1**

**Statistical Summary of Surface Water Sampling Results-June, September, and December 2016  
Cow Pen Creek and Dark Head Cove  
Lockheed Martin Middle River Complex, Middle River, Maryland  
Page 2 of 2**

For non-detects, 1/2 sample quantitation limit was used as a proxy concentration to calculate statistics.

µg/L - micrograms per liter

MRC - Middle River Complex

SW - surface water

U - not detected

UJ - nondetect result is estimated

-- Value is not available because analyte is detected in all samples.

**Associated Samples:**

MRC-SW1A-061316	MRC-SW5B-061316	MRC-SW7B-061316
MRC-SW2A-061316	MRC-SW6A-061316	MRC-SW8A-061316
MRC-SW2A-061316-D	MRC-SW6A-061316-D	MRC-SW8B-061316
MRC-SW5A1-061316	MRC-SW6B-061316	MRC-SW9A-061316
MRC-SW5A2-061316	MRC-SW7A-061316	MRC-SW9B-061316
MRC-SW2A-092716	MRC-SW6A-092716	MRC-SW8B-092716
MRC-SW5A1-092716	MRC-SW6B-092716	MRC-SW9A-092716
MRC-SW5A2-092716	MRC-SW7A-092716	MRC-SW9B-092716
MRC-SW5B-092716	MRC-SW7B-092716	
MRC-SW5B-092716-D	MRC-SW8A-092716	
MRC-SW10A-S-121316	MRC-SW11A-S-121316	MRC-SW12A-S-121316
MRC-SW10A-D-121316	MRC-SW11A-D-121316	MRC-SW12A-D-121316
MRC-SW10B-S-121316	MRC-SW11B-S-121316	MRC-SW12B-S-121316
MRC-SW10B-D-121316	MRC-SW11B-D-121316	MRC-SW12B-D-121316

Table 4-2

**Detected Analytes and Screening Level Exceedance in Surface Water Samples-June 2016  
Cow Pen Creek and Dark Head Cove  
Lockheed Martin Middle River Complex, Middle River, Maryland  
Page 1 of 9**

Location ID	National Recommended Water Quality Criteria <sup>(1)</sup>		Ecological Surface Water Screening Level <sup>(2)</sup>	Human Health Consumption of Organism Only <sup>(1)(3)</sup>	Swimming Screening Levels <sup>(4)</sup>	Massachusetts Drinking Water Guideline	MRC-SW1A MRC-SW1A-061316 20160613	MRC-SW2A MRC-SW2A-061316 20160613
	Freshwater							
Sample ID	Acute	Chronic						
Sample Date								
<b>Volatile organic compounds (µg/L)</b>								
ACETONE	NA	NA	1500	NA	NA	NA	--	--
CHLOROMETHANE	NA	NA	NA	NA	NA	NA	--	--
TRICHLOROETHENE	NA	NA	21	300 <sup>(3)</sup>	10	NA	--	--
<b>Semivolatile organic compounds (µg/L)</b>								
1,4-DIOXANE	NA	NA	22000	NA	NA	0.3	0.13 J	0.16 J
<b>Polychlorinated biphenyls (µg/L)</b>								
PENTACHLOROBIPHENYLS	NA	0.014	0.000074 <sup>(5)</sup>	0.00064 <sup>(3)</sup>	NA	NA	NA	NA

1 National Recommended Water Quality Criteria, <http://water.epa.gov/scitech/swguidance/standards/current/index.cfm>; and Maryland Numerical Criteria for Toxic Substances in Surface Waters, Code of Maryland Regulations (COMAR) 26.08.02.03, <http://www.dsd.state.md.us/comar/comarhtml/26/26.08.02.03-2.htm>

2 United State Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG) Freshwater Screening Benchmarks. Value for 1,4-dioxane is the USEPA Region 5 ecological screening value (USEPA, 2003). Value for 1,4-dioxane is USEPA Region 5 screening value (USEPA, 2003)

3 For carcinogens, criterion is for incremental cancer risk of 1x10<sup>5</sup>

4 Site-specific swimming screening levels were developed for trichloroethene, cis-1,2-dichloroethene, and vinyl chloride for Frog Mortar Creek, Martin State Airport. Lockheed Martin is developing site-specific criteria for Middle River Complex surface water contaminants of concern for Maryland Department of the Environment approval because the contaminants of concern are different than those for Frog Mortar Creek. Samples will be collected in April, June, and September 2017. The 2017 results will be screened against the newly-developed Middle River Complex criteria.

5 Value is for total polychlorinated biphenyls.

Gray shading indicates a result that exceeds a screening criterion.

-- not detected

J - estimated result

µg/L - micrograms per liter

MRC - Middle River Complex

NA - not analyzed or not available

SW - surface water

Table 4-2

**Detected Analytes and Screening Level Exceedance in Surface Water Samples-June 2016  
Cow Pen Creek and Dark Head Cove  
Lockheed Martin Middle River Complex, Middle River, Maryland  
Page 2 of 9**

Location ID Sample ID Sample Date	National Recommended Water Quality Criteria <sup>(1)</sup>		Ecological Surface Water Screening Level <sup>(2)</sup>	Human Health Consumption of Organism Only <sup>(1)(3)</sup>	Swimming Screening Levels <sup>(4)</sup>	Massachusetts Drinking Water Guideline	MRC-SW2A	
	Freshwater						MRC-SW2A-061316-AVG 20160613	MRC-SW2A-061316-D 20160613
	Acute	Chronic						
<b>Volatile organic compounds (µg/L)</b>								
ACETONE	NA	NA	1500	NA	NA	NA	--	NA
CHLOROMETHANE	NA	NA	NA	NA	NA	NA	--	NA
TRICHLOROETHENE	NA	NA	21	300 <sup>(3)</sup>	10	NA	--	NA
<b>Semivolatile organic compounds (µg/L)</b>								
1,4-DIOXANE	NA	NA	22000	NA	NA	0.3	0.14	0.12 J
<b>Polychlorinated biphenyls (µg/L)</b>								
PENTACHLOROBIPHENYLS	NA	0.014	0.000074 <sup>(5)</sup>	0.00064 <sup>(3)</sup>	NA	NA	NA	NA

1 National Recommended Water Quality Criteria, <http://water.epa.gov/scitech/swguidance/standards/current/index.cfm>; and Maryland Numerical Criteria for Toxic Substances in Surface Waters, Code of Maryland Regulations (COMAR) 26.08.02.03, <http://www.dsd.state.md.us/comar/comarhtml/26/26.08.02.03-2.htm>

2 United State Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG) Freshwater Screening Benchmarks. Value for 1,4-dioxane is the USEPA Region 5 ecological screening value (USEPA, 2003). Value for 1,4-dioxane is USEPA Region 5 screening value (USEPA, 2003)

3 For carcinogens, criterion is for incremental cancer risk of 1x10<sup>5</sup>

4 Site-specific swimming screening levels were developed for trichloroethene, cis-1,2-dichloroethene, and vinyl chloride for Frog Mortar Creek, Martin State Airport. Lockheed Martin is developing site-specific criteria for Middle River Complex surface water contaminants of concern for Maryland Department of the Environment approval because the contaminants of concern are different than those for Frog Mortar Creek. Samples will be collected in April, June, and September 2017. The 2017 results will be screened against the newly-developed Middle River Complex criteria.

5 Value is for total polychlorinated biphenyls.

Gray shading indicates a result that exceeds a screening criterion.

-- not detected

J - estimated result

µg/L - micrograms per liter

MRC - Middle River Complex

NA - not analyzed or not available

SW - surface water

Table 4-2

**Detected Analytes and Screening Level Exceedance in Surface Water Samples-June 2016  
Cow Pen Creek and Dark Head Cove  
Lockheed Martin Middle River Complex, Middle River, Maryland  
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Location ID Sample ID Sample Date	National Recommended Water Quality Criteria <sup>(1)</sup>		Ecological Surface Water Screening Level <sup>(2)</sup>	Human Health Consumption of Organism Only <sup>(1)(3)</sup>	Swimming Screening Levels <sup>(4)</sup>	Massachusetts Drinking Water Guideline	MRC-SW5A1 MRC-SW5A1-061316 20160613	MRC-SW5A2 MRC-SW5A2-061316 20160613
	Freshwater Acute	Chronic						
<b>Volatile organic compounds (µg/L)</b>								
ACETONE	NA	NA	1500	NA	NA	NA	--	--
CHLOROMETHANE	NA	NA	NA	NA	NA	NA	--	--
TRICHLOROETHENE	NA	NA	21	300 <sup>(3)</sup>	10	NA	--	--
<b>Semivolatile organic compounds (µg/L)</b>								
1,4-DIOXANE	NA	NA	22000	NA	NA	0.3	NA	NA
<b>Polychlorinated biphenyls (µg/L)</b>								
PENTACHLOROBIPHENYLS	NA	0.014	0.000074 <sup>(5)</sup>	0.00064 <sup>(3)</sup>	NA	NA	--	--

1 National Recommended Water Quality Criteria, <http://water.epa.gov/scitech/swguidance/standards/current/index.cfm>; and Maryland Numerical Criteria for Toxic Substances in Surface Waters, Code of Maryland Regulations (COMAR) 26.08.02.03, <http://www.dsd.state.md.us/comar/comarhtml/26/26.08.02.03-2.htm>

2 United State Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG) Freshwater Screening Benchmarks. Value for 1,4-dioxane is the USEPA Region 5 ecological screening value (USEPA, 2003). Value for 1,4-dioxane is USEPA Region 5 screening value (USEPA, 2003)

3 For carcinogens, criterion is for incremental cancer risk of  $1 \times 10^{-5}$

4 Site-specific swimming screening levels were developed for trichloroethene, *cis*-1,2-dichloroethene, and vinyl chloride for Frog Mortar Creek, Martin State Airport. Lockheed Martin is developing site-specific criteria for Middle River Complex surface water contaminants of concern for Maryland Department of the Environment approval because the contaminants of concern are different than those for Frog Mortar Creek. Samples will be collected in April, June, and September 2017. The 2017 results will be screened against the newly-developed Middle River Complex criteria.

5 Value is for total polychlorinated biphenyls.

Gray shading indicates a result that exceeds a screening criterion.

-- not detected

J - estimated result

µg/L - micrograms per liter

MRC - Middle River Complex

NA - not analyzed or not available

SW - surface water

Table 4-2

**Detected Analytes and Screening Level Exceedance in Surface Water Samples-June 2016  
Cow Pen Creek and Dark Head Cove  
Lockheed Martin Middle River Complex, Middle River, Maryland  
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Location ID Sample ID Sample Date	National Recommended Water Quality Criteria <sup>(1)</sup>		Ecological Surface Water Screening Level <sup>(2)</sup>	Human Health Consumption of Organism Only <sup>(1)(3)</sup>	Swimming Screening Levels <sup>(4)</sup>	Massachusetts Drinking Water Guideline	MRC-SW5B MRC-SW5B-061316 20160613	MRC-SW6A MRC-SW6A-061316 20160613
	Freshwater	Acute						
<b>Volatile organic compounds (µg/L)</b>								
ACETONE	NA	NA	1500	NA	NA	NA	--	--
CHLOROMETHANE	NA	NA	NA	NA	NA	NA	--	--
TRICHLOROETHENE	NA	NA	21	300 <sup>(3)</sup>	10	NA	--	0.26 J
<b>Semivolatile organic compounds (µg/L)</b>								
1,4-DIOXANE	NA	NA	22000	NA	NA	0.3	NA	NA
<b>Polychlorinated biphenyls (µg/L)</b>								
PENTACHLOROBIPHENYLS	NA	0.014	0.000074 <sup>(5)</sup>	0.00064 <sup>(3)</sup>	NA	NA	--	--

1 National Recommended Water Quality Criteria, <http://water.epa.gov/scitech/swguidance/standards/current/index.cfm>; and Maryland Numerical Criteria for Toxic Substances in Surface Waters, Code of Maryland Regulations (COMAR) 26.08.02.03, <http://www.dsd.state.md.us/comar/comarhtml/26/26.08.02.03-2.htm>

2 United State Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG) Freshwater Screening Benchmarks. Value for 1,4-dioxane is the USEPA Region 5 ecological screening value (USEPA, 2003). Value for 1,4-dioxane is USEPA Region 5 screening value (USEPA, 2003)

3 For carcinogens, criterion is for incremental cancer risk of 1x10<sup>5</sup>

4 Site-specific swimming screening levels were developed for trichloroethene, *cis*-1,2-dichloroethene, and vinyl chloride for Frog Mortar Creek, Martin State Airport. Lockheed Martin is developing site-specific criteria for Middle River Complex surface water contaminants of concern for Maryland Department of the Environment approval because the contaminants of concern are different than those for Frog Mortar Creek. Samples will be collected in April, June, and September 2017. The 2017 results will be screened against the newly-developed Middle River Complex criteria.

5 Value is for total polychlorinated biphenyls.

Gray shading indicates a result that exceeds a screening criterion.

-- not detected

J - estimated result

µg/L - micrograms per liter

MRC - Middle River Complex

NA - not analyzed or not available

SW - surface water

Table 4-2

**Detected Analytes and Screening Level Exceedance in Surface Water Samples-June 2016  
Cow Pen Creek and Dark Head Cove  
Lockheed Martin Middle River Complex, Middle River, Maryland  
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Location ID Sample ID Sample Date	National Recommended Water Quality Criteria <sup>(1)</sup>		Ecological Surface Water Screening Level <sup>(2)</sup>	Human Health Consumption of Organism Only <sup>(1)(3)</sup>	Swimming Screening Levels <sup>(4)</sup>	Massachusetts Drinking Water Guideline	MRC-SW6A	
	Freshwater						MRC-SW6A-061316-AVG 20160613	MRC-SW6A-061316-D 20160613
	Acute	Chronic						
<b>Volatile organic compounds (µg/L)</b>								
ACETONE	NA	NA	1500	NA	NA	NA	--	--
CHLOROMETHANE	NA	NA	NA	NA	NA	NA	--	--
TRICHLOROETHENE	NA	NA	21	300 <sup>(3)</sup>	10	NA	0.255	0.25 J
<b>Semivolatile organic compounds (µg/L)</b>								
1,4-DIOXANE	NA	NA	22000	NA	NA	0.3	NA	NA
<b>Polychlorinated biphenyls (µg/L)</b>								
PENTACHLOROBIPHENYLS	NA	0.014	0.000074 <sup>(5)</sup>	0.00064 <sup>(3)</sup>	NA	NA	--	--

1 National Recommended Water Quality Criteria, <http://water.epa.gov/scitech/swguidance/standards/current/index.cfm>; and Maryland Numerical Criteria for Toxic Substances in Surface Waters, Code of Maryland Regulations (COMAR) 26.08.02.03, <http://www.dsd.state.md.us/comar/comarhtml/26/26.08.02.03-2.htm>

2 United State Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG) Freshwater Screening Benchmarks. Value for 1,4-dioxane is the USEPA Region 5 ecological screening value (USEPA, 2003). Value for 1,4-dioxane is USEPA Region 5 screening value (USEPA, 2003)

3 For carcinogens, criterion is for incremental cancer risk of 1x10<sup>5</sup>

4 Site-specific swimming screening levels were developed for trichloroethene, cis-1,2-dichloroethene, and vinyl chloride for Frog Mortar Creek, Martin State Airport. Lockheed Martin is developing site-specific criteria for Middle River Complex surface water contaminants of concern for Maryland Department of the Environment approval because the contaminants of concern are different than those for Frog Mortar Creek. Samples will be collected in April, June, and September 2017. The 2017 results will be screened against the newly-developed Middle River Complex criteria.

5 Value is for total polychlorinated biphenyls.

Gray shading indicates a result that exceeds a screening criterion.

-- not detected

J - estimated result

µg/L - micrograms per liter

MRC - Middle River Complex

NA - not analyzed or not available

SW - surface water

Table 4-2

**Detected Analytes and Screening Level Exceedance in Surface Water Samples-June 2016  
Cow Pen Creek and Dark Head Cove  
Lockheed Martin Middle River Complex, Middle River, Maryland  
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Location ID Sample ID Sample Date	National Recommended Water Quality Criteria <sup>(1)</sup>		Ecological Surface Water Screening Level <sup>(2)</sup>	Human Health Consumption of Organism Only <sup>(1)(3)</sup>	Swimming Screening Levels <sup>(4)</sup>	Massachusetts Drinking Water Guideline	MRC-SW6B MRC-SW6B-061316 20160613	MRC-SW7A MRC-SW7A-061316 20160613
	Freshwater	Acute						
<b>Volatile organic compounds (µg/L)</b>								
ACETONE	NA	NA	1500	NA	NA	NA	--	--
CHLOROMETHANE	NA	NA	NA	NA	NA	NA	--	--
TRICHLOROETHENE	NA	NA	21	300 <sup>(3)</sup>	10	NA	0.49 J	--
<b>Semivolatile organic compounds (µg/L)</b>								
1,4-DIOXANE	NA	NA	22000	NA	NA	0.3	NA	NA
<b>Polychlorinated biphenyls (µg/L)</b>								
PENTACHLOROBIPHENYLS	NA	0.014	0.000074 <sup>(5)</sup>	0.00064 <sup>(3)</sup>	NA	NA	0.036 J	--

1 National Recommended Water Quality Criteria, <http://water.epa.gov/scitech/swguidance/standards/current/index.cfm>; and Maryland Numerical Criteria for Toxic Substances in Surface Waters, Code of Maryland Regulations (COMAR) 26.08.02.03, <http://www.dsd.state.md.us/comar/comarhtml/26/26.08.02.03-2.htm>

2 United State Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG) Freshwater Screening Benchmarks. Value for 1,4-dioxane is the USEPA Region 5 ecological screening value (USEPA, 2003). Value for 1,4-dioxane is USEPA Region 5 screening value (USEPA, 2003)

3 For carcinogens, criterion is for incremental cancer risk of  $1 \times 10^{-5}$

4 Site-specific swimming screening levels were developed for trichloroethene, cis-1,2-dichloroethene, and vinyl chloride for Frog Mortar Creek, Martin State Airport. Lockheed Martin is developing site-specific criteria for Middle River Complex surface water contaminants of concern for Maryland Department of the Environment approval because the contaminants of concern are different than those for Frog Mortar Creek. Samples will be collected in April, June, and September 2017. The 2017 results will be screened against the newly-developed Middle River Complex criteria.

5 Value is for total polychlorinated biphenyls.

Gray shading indicates a result that exceeds a screening criterion.

-- not detected

J - estimated result

µg/L - micrograms per liter

MRC - Middle River Complex

NA - not analyzed or not available

SW - surface water

Table 4-2

**Detected Analytes and Screening Level Exceedance in Surface Water Samples-June 2016  
Cow Pen Creek and Dark Head Cove  
Lockheed Martin Middle River Complex, Middle River, Maryland  
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Location ID Sample ID Sample Date	National Recommended Water Quality Criteria <sup>(1)</sup>		Ecological Surface Water Screening Level <sup>(2)</sup>	Human Health Consumption of Organism Only <sup>(1)(3)</sup>	Swimming Screening Levels <sup>(4)</sup>	Massachusetts Drinking Water Guideline	MRC-SW7B MRC-SW7B-061316 20160613	MRC-SW8A MRC-SW8A-061316 20160613
	Freshwater	Acute						
<b>Volatile organic compounds (µg/L)</b>								
ACETONE	NA	NA	1500	NA	NA	NA	2.2 J	--
CHLOROMETHANE	NA	NA	NA	NA	NA	NA	1.1	--
TRICHLOROETHENE	NA	NA	21	300 <sup>(3)</sup>	10	NA	--	0.48 J
<b>Semivolatile organic compounds (µg/L)</b>								
1,4-DIOXANE	NA	NA	22000	NA	NA	0.3	NA	NA
<b>Polychlorinated biphenyls (µg/L)</b>								
PENTACHLOROBIPHENYLS	NA	0.014	0.000074 <sup>(5)</sup>	0.00064 <sup>(3)</sup>	NA	NA	--	--

1 National Recommended Water Quality Criteria, <http://water.epa.gov/scitech/swguidance/standards/current/index.cfm>; and Maryland Numerical Criteria for Toxic Substances in Surface Waters, Code of Maryland Regulations (COMAR) 26.08.02.03, <http://www.dsd.state.md.us/comar/comarhtml/26/26.08.02.03-2.htm>

2 United State Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG) Freshwater Screening Benchmarks. Value for 1,4-dioxane is the USEPA Region 5 ecological screening value (USEPA, 2003). Value for 1,4-dioxane is USEPA Region 5 screening value (USEPA, 2003)

3 For carcinogens, criterion is for incremental cancer risk of  $1 \times 10^{-5}$

4 Site-specific swimming screening levels were developed for trichloroethene, *cis*-1,2-dichloroethene, and vinyl chloride for Frog Mortar Creek, Martin State Airport. Lockheed Martin is developing site-specific criteria for Middle River Complex surface water contaminants of concern for Maryland Department of the Environment approval because the contaminants of concern are different than those for Frog Mortar Creek. Samples will be collected in April, June, and September 2017. The 2017 results will be screened against the newly-developed Middle River Complex criteria.

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Gray shading indicates a result that exceeds a screening criterion.

-- not detected

J - estimated result

µg/L - micrograms per liter

MRC - Middle River Complex

NA - not analyzed or not available

SW - surface water



Table 4-2

**Detected Analytes and Screening Level Exceedance in Surface Water Samples-June 2016  
Cow Pen Creek and Dark Head Cove  
Lockheed Martin Middle River Complex, Middle River, Maryland  
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Location ID Sample ID Sample Date	National Recommended Water Quality Criteria <sup>(1)</sup>		Ecological Surface Water Screening Level <sup>(2)</sup>	Human Health Consumption of Organism Only <sup>(1)(3)</sup>	Swimming Screening Levels <sup>(4)</sup>	Massachusetts Drinking Water Guideline	MRC-SW8B MRC-SW8B-061316 20160613	MRC-SW9A MRC-SW9A-061316 20160613
	Freshwater	Acute						
<b>Volatile organic compounds (µg/L)</b>								
ACETONE	NA	NA	1500	NA	NA	NA	--	--
CHLOROMETHANE	NA	NA	NA	NA	NA	NA	--	--
TRICHLOROETHENE	NA	NA	21	300 <sup>(3)</sup>	10	NA	0.42 J	--
<b>Semivolatile organic compounds (µg/L)</b>								
1,4-DIOXANE	NA	NA	22000	NA	NA	0.3	NA	NA
<b>Polychlorinated biphenyls (µg/L)</b>								
PENTACHLOROBIPHENYLS	NA	0.014	0.000074 <sup>(5)</sup>	0.00064 <sup>(3)</sup>	NA	NA	--	--

1 National Recommended Water Quality Criteria, <http://water.epa.gov/scitech/swguidance/standards/current/index.cfm>; and Maryland Numerical Criteria for Toxic Substances in Surface Waters, Code of Maryland Regulations (COMAR) 26.08.02.03, <http://www.dsd.state.md.us/comar/comarhtml/26/26.08.02.03-2.htm>

2 United State Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG) Freshwater Screening Benchmarks. Value for 1,4-dioxane is the USEPA Region 5 ecological screening value (USEPA, 2003). Value for 1,4-dioxane is USEPA Region 5 screening value (USEPA, 2003)

3 For carcinogens, criterion is for incremental cancer risk of  $1 \times 10^{-5}$

4 Site-specific swimming screening levels were developed for trichloroethene, *cis*-1,2-dichloroethene, and vinyl chloride for Frog Mortar Creek, Martin State Airport. Lockheed Martin is developing site-specific criteria for Middle River Complex surface water contaminants of concern for Maryland Department of the Environment approval because the contaminants of concern are different than those for Frog Mortar Creek. Samples will be collected in April, June, and September 2017. The 2017 results will be screened against the newly-developed Middle River Complex criteria.

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Gray shading indicates a result that exceeds a screening criterion.

-- not detected

J - estimated result

µg/L - micrograms per liter

MRC - Middle River Complex

NA - not analyzed or not available

SW - surface water

Table 4-2

**Detected Analytes and Screening Level Exceedance in Surface Water Samples-June 2016  
Cow Pen Creek and Dark Head Cove  
Lockheed Martin Middle River Complex, Middle River, Maryland  
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Location ID Sample ID Sample Date	National Recommended Water Quality Criteria <sup>(1)</sup>		Ecological Surface Water Screening Level <sup>(2)</sup>	Human Health Consumption of Organism Only <sup>(1)(3)</sup>	Swimming Screening Levels <sup>(4)</sup>	Massachusetts Drinking Water Guideline	MRC-SW9B MRC-SW9B-061316 20160613
	Freshwater						
	Acute	Chronic					
<b>Volatile organic compounds (µg/L)</b>							
ACETONE	NA	NA	1500	NA	NA	NA	--
CHLOROMETHANE	NA	NA	NA	NA	NA	NA	--
TRICHLOROETHENE	NA	NA	21	300 <sup>(3)</sup>	10	NA	--
<b>Semivolatile organic compounds (µg/L)</b>							
1,4-DIOXANE	NA	NA	22000	NA	NA	0.3	NA
<b>Polychlorinated biphenyls (µg/L)</b>							
PENTACHLOROBIPHENYLS	NA	0.014	0.000074 <sup>(5)</sup>	0.00064 <sup>(3)</sup>	NA	NA	--

1 National Recommended Water Quality Criteria, <http://water.epa.gov/scitech/swguidance/standards/current/index.cfm>; and Maryland Numerical Criteria for Toxic Substances in Surface Waters, Code of Maryland Regulations (COMAR) 26.08.02.03, <http://www.dsd.state.md.us/comar/comarhtml/26/26.08.02.03-2.htm>

2 United State Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG) Freshwater Screening Benchmarks. Value for 1,4-dioxane is the USEPA Region 5 ecological screening value (USEPA, 2003). Value for 1,4-dioxane is USEPA Region 5 screening value (USEPA, 2003)

3 For carcinogens, criterion is for incremental cancer risk of  $1 \times 10^{-5}$

4 Site-specific swimming screening levels were developed for trichloroethene, *cis*-1,2-dichloroethene, and vinyl chloride for Frog Mortar Creek, Martin State Airport. Lockheed Martin is developing site-specific criteria for Middle River Complex surface water contaminants of concern for Maryland Department of the Environment approval because the contaminants of concern are different than those for Frog Mortar Creek. Samples will be collected in April, June, and September 2017. The 2017 results will be screened against the newly-developed Middle River Complex criteria.

5 Value is for total polychlorinated biphenyls.

Gray shading indicates a result that exceeds a screening criterion.

-- not detected

J - estimated result

µg/L - micrograms per liter

MRC - Middle River Complex

NA - not analyzed or not available

SW - surface water

Table 4-3

**Detected Analytes and Screening Levels for Surface Water Samples-September 2016  
Cow Pen Creek and Dark Head Cove  
Lockheed Martin Middle River Complex, Middle River, Maryland  
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Location ID Sample ID Sample Date	National Recommended Water Quality Criteria <sup>(1)</sup>		Ecological Surface Water Screening Level <sup>(2)</sup>	Human Health Consumption of Organism Only <sup>(1)(3)</sup>	Swimming Screening Levels <sup>(4)</sup>	MRC-SW1A	MRC-SW2A	MRC-SW5A1	MRC-SW5A2
	Freshwater					MRC-SW1A-092716	MRC-SW2A-092716	MRC-SW5A1-092716	MRC-SW5A2-092716
	Acute	Chronic				20160927	20160927	20160927	20160927
Volatile organic compounds (µg/L)									
2-BUTANONE	NA	NA	NA	NA	NA	5.1 J	0.92 J	--	--
2-HEXANONE	NA	NA	NA	NA	NA	0.55 J	--	--	--
ACETONE	NA	NA	1500	NA	NA	7.7 J	--	--	--
TRICHLOROETHENE	NA	NA	21	300 <sup>(3)</sup>	10	0.27 J	--	--	--

Table 4-3

**Detected Analytes and Screening Levels for Surface Water Samples-September 2016  
Cow Pen Creek and Dark Head Cove  
Lockheed Martin Middle River Complex, Middle River, Maryland  
Page 2 of 4**

Location ID Sample ID Sample Date	National Recommended Water Quality Criteria <sup>(1)</sup>		Ecological Surface Water Screening Level <sup>(2)</sup>	Human Health Consumption of Organism Only <sup>(1)(3)</sup>	Swimming Screening Levels <sup>(4)</sup>	MRC-SW5B			MRC-SW6A
	Freshwater					MRC-SW5B-092716	MRC-SW5B-092716-AVG	MRC-SW5B-092716-D	MRC-SW6A-092716
	Acute	Chronic				20160927	20160927	20160927	20160927
<b>Volatile organic compounds (µg/L)</b>									
2-BUTANONE	NA	NA	NA	NA	NA	--	--	--	--
2-HEXANONE	NA	NA	NA	NA	NA	--	--	--	--
ACETONE	NA	NA	1500	NA	NA	--	--	--	--
TRICHLOROETHENE	NA	NA	21	300 <sup>(3)</sup>	10	0.22 J	0.165	--	0.59 J

Table 4-3

**Detected Analytes and Screening Levels for Surface Water Samples-September 2016  
Cow Pen Creek and Dark Head Cove  
Lockheed Martin Middle River Complex, Middle River, Maryland  
Page 3 of 4**

Location ID Sample ID Sample Date	National Recommended Water Quality Criteria <sup>(1)</sup>		Ecological Surface Water Screening Level <sup>(2)</sup>	Human Health Consumption of Organism Only <sup>(1)(3)</sup>	Swimming Screening Levels <sup>(4)</sup>	MRC-SW6B	MRC-SW7A	MRC-SW7B
	Freshwater					MRC-SW6B-092716	MRC-SW7A-092716	MRC-SW7B-092716
	Acute	Chronic				20160927	20160927	20160927
Volatile organic compounds (µg/L)								
2-BUTANONE	NA	NA	NA	NA	NA	--	--	--
2-HEXANONE	NA	NA	NA	NA	NA	--	--	--
ACETONE	NA	NA	1500	NA	NA	--	--	--
TRICHLOROETHENE	NA	NA	21	300 <sup>(3)</sup>	10	0.62 J	0.56 J	0.58 J

Table 4-3

**Detected Analytes and Screening Levels for Surface Water Samples-September 2016  
Cow Pen Creek and Dark Head Cove  
Lockheed Martin Middle River Complex, Middle River, Maryland  
Page 4 of 4**

Location ID Sample ID Sample Date	National Recommended Water Quality Criteria <sup>(1)</sup>		Ecological Surface Water Screening Level <sup>(2)</sup>	Human Health Consumption of Organism Only <sup>(1)(3)</sup>	Swimming Screening Levels <sup>(4)</sup>	MRC-SW8A	MRC-SW8B	MRC-SW9A	MRC-SW9B
	Freshwater					MRC-SW8A-092716	MRC-SW8B-092716	MRC-SW9A-092716	MRC-SW9B-092716
	Acute	Chronic				20160927	20160927	20160927	20160927
Volatile organic compounds (µg/L)									
2-BUTANONE	NA	NA	NA	NA	NA	--	--	--	--
2-HEXANONE	NA	NA	NA	NA	NA	--	--	--	--
ACETONE	NA	NA	1500	NA	NA	--	--	--	--
TRICHLOROETHENE	NA	NA	21	300 <sup>(5)</sup>	10	0.61 J	0.62 J	0.52 J	0.62 J

- 1 National Recommended Water Quality Criteria, <http://water.epa.gov/scitech/swguidance/standards/current/index.cfm>; and Maryland Numerical Criteria for Toxic Substances in Surface Waters, Code of Maryland Regulations (COMAR) 26.08.02.03, <http://www.dsd.state.md.us/comar/comarhtml/26/26.08.02.03-2.htm>
  - 2 United State Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG) Freshwater Screening Benchmarks. Value for 1,4-dioxane is the USEPA Region 5 ecological screening value (USEPA, 2003). Value for 1,4-dioxane is USEPA Region 5 screening value (USEPA, 2003)
  - 3 For carcinogens, criterion is for incremental cancer risk of 1x10<sup>-6</sup>
  - 4 Site-specific swimming screening levels were developed for trichloroethene/s-1,2-dichloroethene, and vinyl chloride for Frog Mortar Creek, Martin State Airport. Lockheed Martin is developing site-specific criteria for Middle River Complex surface water contaminants of concern for Maryland Department of the Environment approval because the contaminants of concern are different than those for Frog Mortar Creek. Samples will be collected in April, June, and September 2017. The 2017 results will be screened against the newly-developed Middle River Complex criteria.
  - 5 Value is for total polychlorinated biphenyls.
- Gray shading indicates a result that exceeds a screening criterion.
- not detected  
 J - estimated result  
 µg/L - micrograms per liter  
 MRC - Middle River Complex  
 NA - not analyzed or not available  
 SW - surface water

Table 4-4

**Detected Analytes and Screening Levels for Surface Water Samples-December 2016  
Dark Head Cove  
Lockheed Martin Middle River Complex, Middle River, Maryland  
Page 1 of 3**

Location ID Sample ID Sample Date	National Recommended Water Quality Criteria <sup>(1)</sup>		Ecological Surface Water Screening Level <sup>(2)</sup>	Human Health Consumption of Organism Only <sup>(1)(3)</sup>	Swimming Screening Levels <sup>(4)</sup>	SW-10A		SW-10B	
	Freshwater					MRC-SW10A-D-121316	MRC-SW10A-S-121316	MRC-SW10B-D-121316	MRC-SW10B-S-121316
	Acute	Chronic				20161213	20161213	20161213	20161213
Volatile organic compounds (µg/L)									
1,2,4-TRIMETHYLBENZENE	NA	NA	33	NA	NA	--	--	--	--
ACETONE	NA	NA	1500	NA	NA	2.6 J	2.9 J	2.4 J	--
CIS-1,2-DICHLOROETHENE	NA	NA	NA	NA	300	--	--	--	--
TOLUENE	NA	NA	2	15000	NA	--	0.41 J	--	0.34 J
TOTAL XYLENES	NA	NA	13	NA	NA	--	0.35 J	--	0.33 J
TRICHLOROETHENE	NA	NA	21	300 <sup>(3)</sup>	10	0.7 J	4.4 J	0.44 J	1.2 J

Table 4-4

**Detected Analytes and Screening Levels for Surface Water Samples-December 2016  
Dark Head Cove  
Lockheed Martin Middle River Complex, Middle River, Maryland  
Page 2 of 3**

Location ID Sample ID Sample Date	National Recommended Water Quality Criteria <sup>(1)</sup>		Ecological Surface Water Screening Level <sup>(2)</sup>	Human Health Consumption of Organism Only <sup>(1)(3)</sup>	Swimming Screening Levels <sup>(4)</sup>	SW-11A		SW-11B	
	Freshwater					MRC-SW11A-D-121316	MRC-SW11A-S-121316	MRC-SW11B-D-121316	MRC-SW11B-S-121316
	Acute	Chronic				20161213	20161213	20161213	20161213
Volatile organic compounds (µg/L)									
1,2,4-TRIMETHYLBENZENE	NA	NA	33	NA	NA	--	--	--	--
ACETONE	NA	NA	1500	NA	NA	2 J	2.1 J	--	--
CIS-1,2-DICHLOROETHENE	NA	NA	NA	NA	300	0.49 J	--	2.8	--
TOLUENE	NA	NA	2	15000	NA	--	0.66 J	--	0.45 J
TOTAL XYLENES	NA	NA	13	NA	NA	--	0.53 J	--	0.37 J
TRICHLOROETHENE	NA	NA	21	300 <sup>(3)</sup>	10	2.7 J	4.1 J	3.7 J	1.2 J



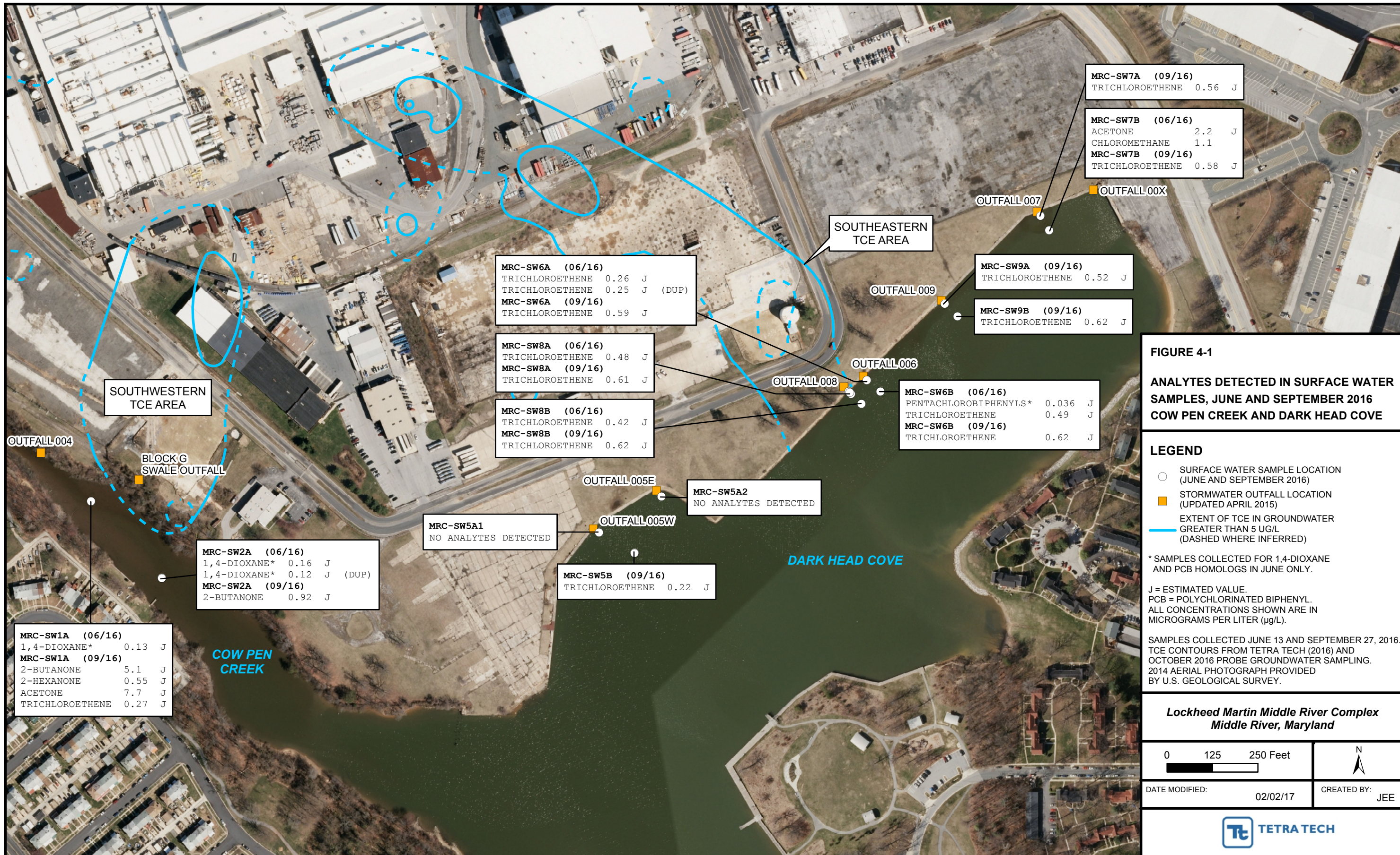
Table 4-4

**Detected Analytes and Screening Levels for Surface Water Samples-December 2016  
Dark Head Cove  
Lockheed Martin Middle River Complex, Middle River, Maryland  
Page 3 of 3**

Location ID Sample ID Sample Date	National Recommended Water Quality Criteria <sup>(1)</sup>		Ecological Surface Water Screening Level <sup>(2)</sup>	Human Health Consumption of Organism Only <sup>(1)(3)</sup>	Swimming Screening Levels <sup>(4)</sup>	SW-12A		SW-12B	
	Freshwater					MRC-SW12A-D-121316	MRC-SW12A-S-121316	MRC-SW12B-D-121316	MRC-SW12B-S-121316
	Acute	Chronic				20161213	20161213	20161213	20161213
Volatile organic compounds (µg/L)									
1,2,4-TRIMETHYLBENZENE	NA	NA	33	NA	NA	--	--	--	0.24 J
ACETONE	NA	NA	1500	NA	NA	--	2.2 J	--	--
CIS-1,2-DICHLOROETHENE	NA	NA	NA	NA	300	0.45 J	--	5.5	--
TOLUENE	NA	NA	2	15000	NA	--	0.29 J	--	0.79 J
TOTAL XYLENES	NA	NA	13	NA	NA	--	0.28 J	--	0.9 J
TRICHLOROETHENE	NA	NA	21	300 <sup>(5)</sup>	10	2.4 J	4.1 J	7.8 J	1.4 J

- 1 National Recommended Water Quality Criteria, <http://water.epa.gov/scitech/swguidance/standards/current/index.cfm>; and Maryland Numerical Criteria for Toxic Substances in Surface Waters, Code of Maryland Regulations (COMAR) 26.08.02.03, <http://www.dsd.state.md.us/comar/comarhtml/26/26.08.02.03-2.htm>
  - 2 United State Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG) Freshwater Screening Benchmarks. Value for 1,4-dioxane is the USEPA Region 5 ecological screening value (USEPA, 2003). Value for 1,4-dioxane is USEPA Region 5 screening value (USEPA, 2003)
  - 3 For carcinogens, criterion is for incremental cancer risk of 1x10<sup>-5</sup>
  - 4 Site-specific swimming screening levels were developed for trichloroethene, *cis*-1,2-dichloroethene, and vinyl chloride for Frog Mortar Creek, Martin State Airport. Lockheed Martin is developing site-specific criteria for Middle River Complex surface water contaminants of concern for Maryland Department of the Environment approval because the contaminants of concern are different than those for Frog Mortar Creek. Samples will be collected in April, June, and September 2017. The 2017 results will be screened against the newly-developed Middle River Complex criteria.
  - 5 Value is for total polychlorinated biphenyls.
- Gray shading indicates a result that exceeds a screening criterion.  
 -- not detected  
 J - estimated result  
 µg/L - micrograms per liter  
 MRC - Middle River Complex  
 NA - not analyzed or not available  
 SW - surface water





**FIGURE 4-1**  
**ANALYTES DETECTED IN SURFACE WATER**  
**SAMPLES, JUNE AND SEPTEMBER 2016**  
**COW PEN CREEK AND DARK HEAD COVE**

**LEGEND**

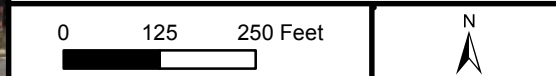
- SURFACE WATER SAMPLE LOCATION (JUNE AND SEPTEMBER 2016)
- STORMWATER OUTFALL LOCATION (UPDATED APRIL 2015)
- EXTENT OF TCE IN GROUNDWATER GREATER THAN 5 UG/L (DASHED WHERE INFERRED)

\* SAMPLES COLLECTED FOR 1,4-DIOXANE AND PCB HOMOLOGS IN JUNE ONLY.

J = ESTIMATED VALUE.  
 PCB = POLYCHLORINATED BIPHENYL.  
 ALL CONCENTRATIONS SHOWN ARE IN MICROGRAMS PER LITER (µg/L).

SAMPLES COLLECTED JUNE 13 AND SEPTEMBER 27, 2016.  
 TCE CONTOURS FROM TETRA TECH (2016) AND OCTOBER 2016 PROBE GROUNDWATER SAMPLING.  
 2014 AERIAL PHOTOGRAPH PROVIDED BY U.S. GEOLOGICAL SURVEY.

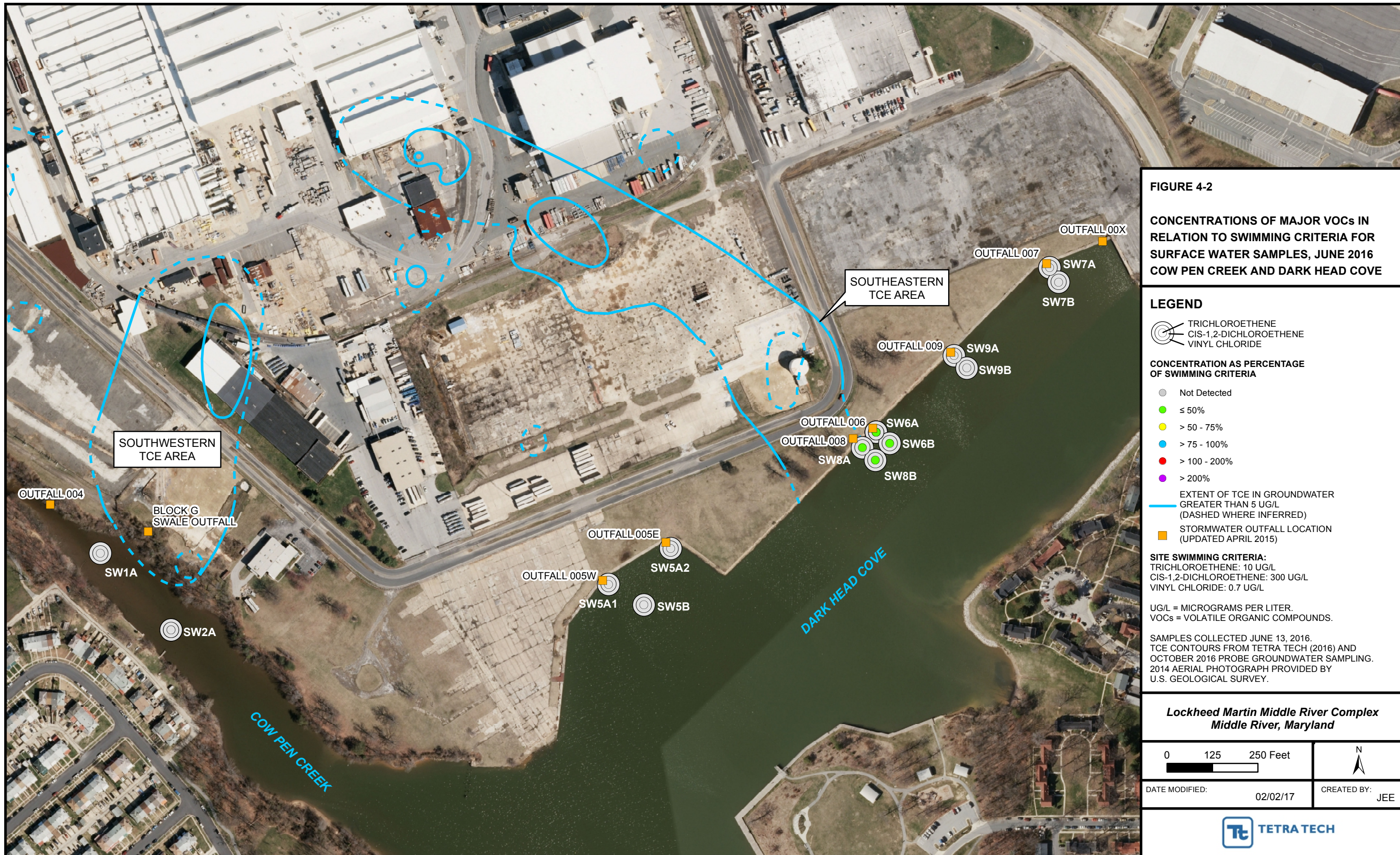
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**Middle River, Maryland**



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**FIGURE 4-2**  
**CONCENTRATIONS OF MAJOR VOCs IN RELATION TO SWIMMING CRITERIA FOR SURFACE WATER SAMPLES, JUNE 2016 COW PEN CREEK AND DARK HEAD COVE**

**LEGEND**

- TRICHLOROETHENE
- CIS-1,2-DICHLOROETHENE
- VINYL CHLORIDE

**CONCENTRATION AS PERCENTAGE OF SWIMMING CRITERIA**

- Not Detected
- ≤ 50%
- > 50 - 75%
- > 75 - 100%
- > 100 - 200%
- > 200%

— EXTENT OF TCE IN GROUNDWATER GREATER THAN 5 UG/L (DASHED WHERE INFERRED)

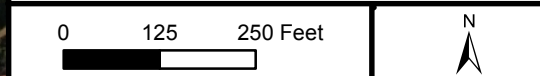
■ STORMWATER OUTFALL LOCATION (UPDATED APRIL 2015)

**SITE SWIMMING CRITERIA:**  
 TRICHLOROETHENE: 10 UG/L  
 CIS-1,2-DICHLOROETHENE: 300 UG/L  
 VINYL CHLORIDE: 0.7 UG/L

UG/L = MICROGRAMS PER LITER.  
 VOCs = VOLATILE ORGANIC COMPOUNDS.

SAMPLES COLLECTED JUNE 13, 2016.  
 TCE CONTOURS FROM TETRA TECH (2016) AND OCTOBER 2016 PROBE GROUNDWATER SAMPLING.  
 2014 AERIAL PHOTOGRAPH PROVIDED BY U.S. GEOLOGICAL SURVEY.

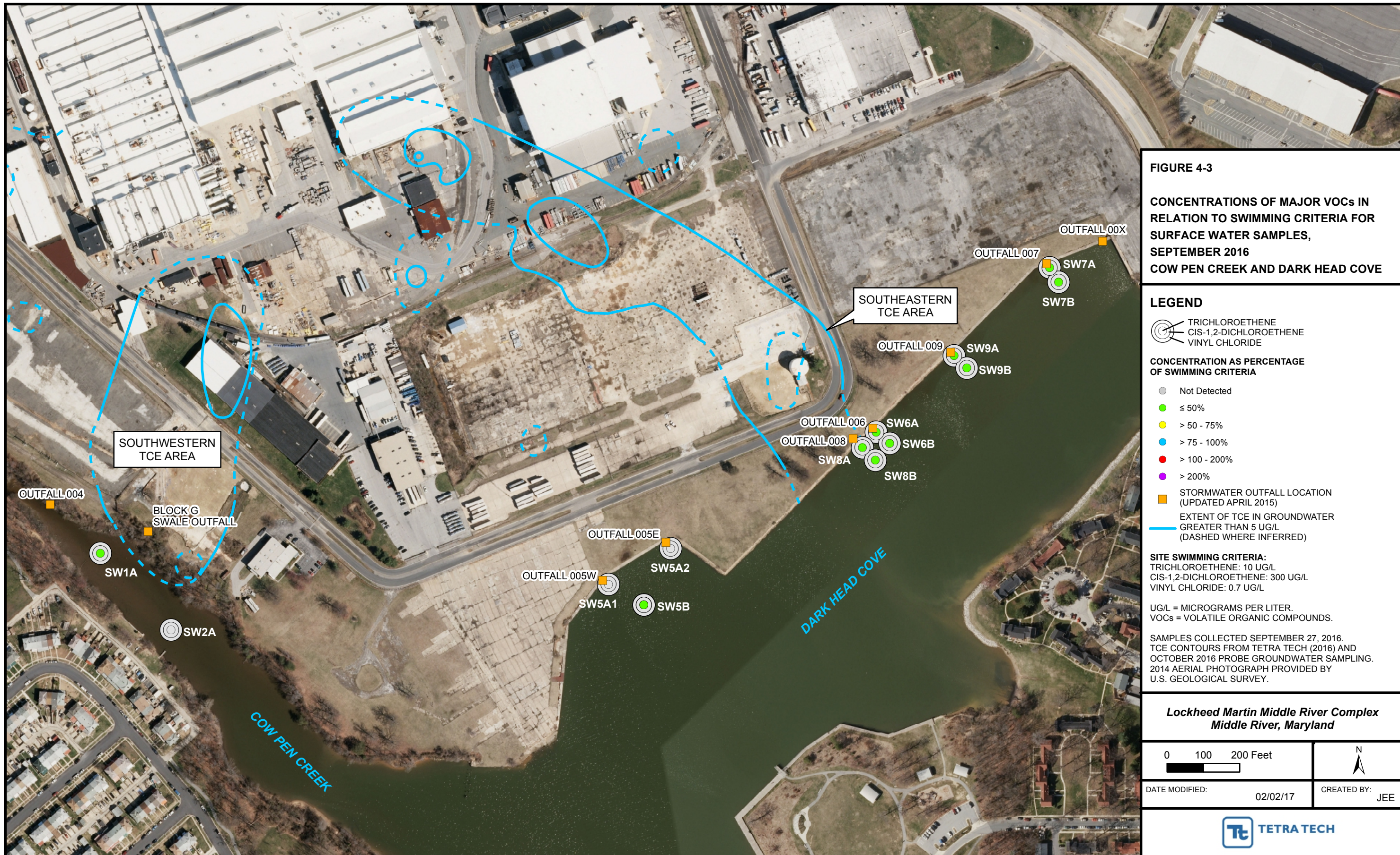
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**FIGURE 4-3**  
**CONCENTRATIONS OF MAJOR VOCs IN RELATION TO SWIMMING CRITERIA FOR SURFACE WATER SAMPLES, SEPTEMBER 2016**  
**COW PEN CREEK AND DARK HEAD COVE**

**LEGEND**

- TRICHLOROETHENE
- CIS-1,2-DICHLOROETHENE
- VINYL CHLORIDE

**CONCENTRATION AS PERCENTAGE OF SWIMMING CRITERIA**

- Not Detected
- ≤ 50%
- > 50 - 75%
- > 75 - 100%
- > 100 - 200%
- > 200%

- STORMWATER OUTFALL LOCATION (UPDATED APRIL 2015)
- EXTENT OF TCE IN GROUNDWATER GREATER THAN 5 UG/L (DASHED WHERE INFERRED)

**SITE SWIMMING CRITERIA:**  
 TRICHLOROETHENE: 10 UG/L  
 CIS-1,2-DICHLOROETHENE: 300 UG/L  
 VINYL CHLORIDE: 0.7 UG/L

UG/L = MICROGRAMS PER LITER.  
 VOCs = VOLATILE ORGANIC COMPOUNDS.

SAMPLES COLLECTED SEPTEMBER 27, 2016.  
 TCE CONTOURS FROM TETRA TECH (2016) AND OCTOBER 2016 PROBE GROUNDWATER SAMPLING.  
 2014 AERIAL PHOTOGRAPH PROVIDED BY U.S. GEOLOGICAL SURVEY.

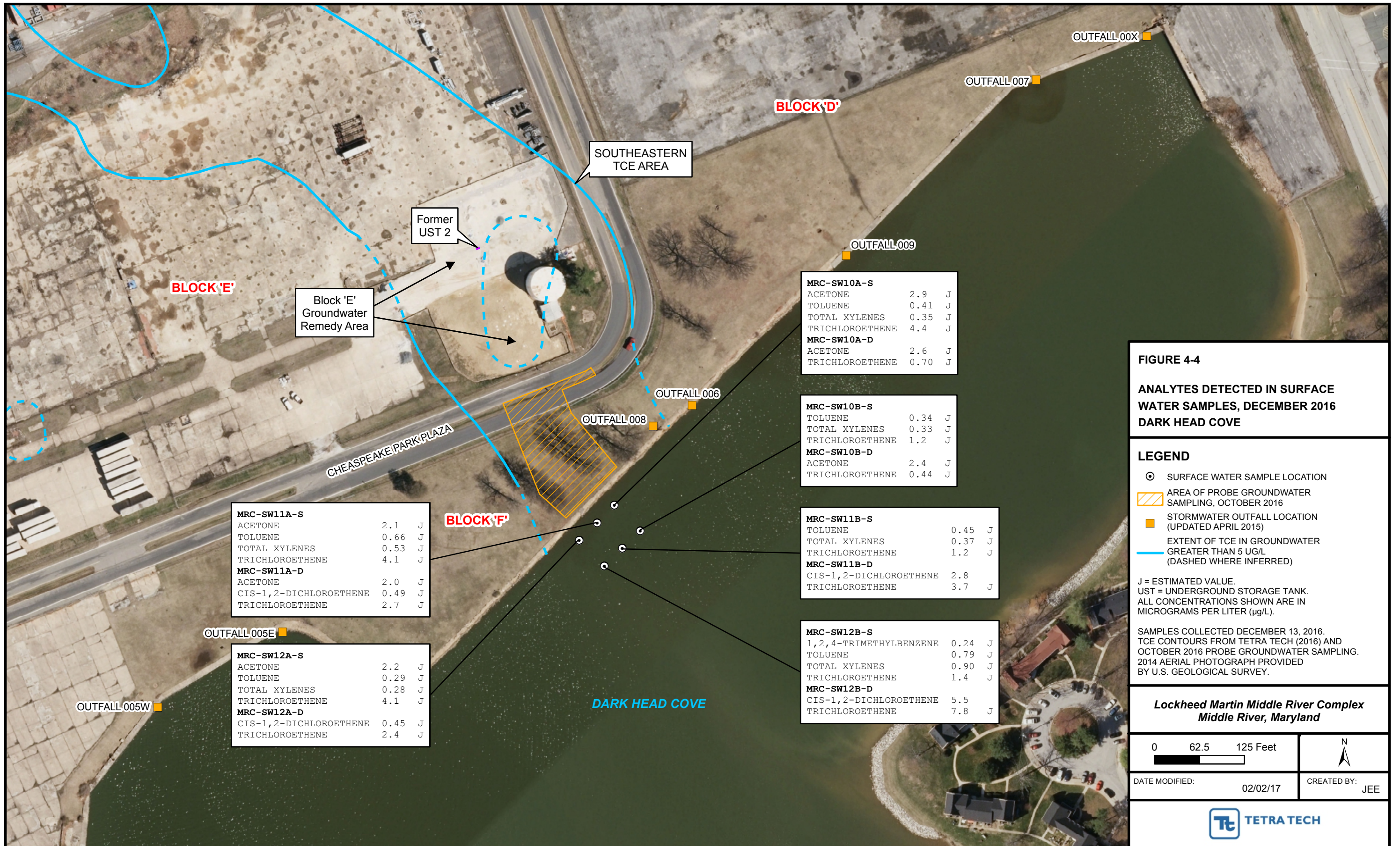
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**FIGURE 4-4**  
**ANALYTES DETECTED IN SURFACE WATER SAMPLES, DECEMBER 2016**  
**DARK HEAD COVE**

**LEGEND**

- ⊙ SURFACE WATER SAMPLE LOCATION
- ▨ AREA OF PROBE GROUNDWATER SAMPLING, OCTOBER 2016
- STORMWATER OUTFALL LOCATION (UPDATED APRIL 2015)
- EXTENT OF TCE IN GROUNDWATER GREATER THAN 5 UG/L (DASHED WHERE INFERRED)

J = ESTIMATED VALUE.  
 UST = UNDERGROUND STORAGE TANK.  
 ALL CONCENTRATIONS SHOWN ARE IN MICROGRAMS PER LITER (µg/L).

SAMPLES COLLECTED DECEMBER 13, 2016.  
 TCE CONTOURS FROM TETRA TECH (2016) AND OCTOBER 2016 PROBE GROUNDWATER SAMPLING.  
 2014 AERIAL PHOTOGRAPH PROVIDED BY U.S. GEOLOGICAL SURVEY.

**MRC-SW11A-S**

ACETONE	2.1	J
TOLUENE	0.66	J
TOTAL XYLENES	0.53	J
TRICHLOROETHENE	4.1	J

**MRC-SW11A-D**

ACETONE	2.0	J
CIS-1,2-DICHLOROETHENE	0.49	J
TRICHLOROETHENE	2.7	J

**MRC-SW12A-S**

ACETONE	2.2	J
TOLUENE	0.29	J
TOTAL XYLENES	0.28	J
TRICHLOROETHENE	4.1	J

**MRC-SW12A-D**

CIS-1,2-DICHLOROETHENE	0.45	J
TRICHLOROETHENE	2.4	J

**MRC-SW10A-S**

ACETONE	2.9	J
TOLUENE	0.41	J
TOTAL XYLENES	0.35	J
TRICHLOROETHENE	4.4	J

**MRC-SW10A-D**

ACETONE	2.6	J
TRICHLOROETHENE	0.70	J

**MRC-SW10B-S**

TOLUENE	0.34	J
TOTAL XYLENES	0.33	J
TRICHLOROETHENE	1.2	J

**MRC-SW10B-D**

ACETONE	2.4	J
TRICHLOROETHENE	0.44	J

**MRC-SW11B-S**

TOLUENE	0.45	J
TOTAL XYLENES	0.37	J
TRICHLOROETHENE	1.2	J

**MRC-SW11B-D**

CIS-1,2-DICHLOROETHENE	2.8	J
TRICHLOROETHENE	3.7	J

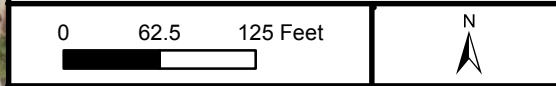
**MRC-SW12B-S**

1,2,4-TRIMETHYLBENZENE	0.24	J
TOLUENE	0.79	J
TOTAL XYLENES	0.90	J
TRICHLOROETHENE	1.4	J

**MRC-SW12B-D**

CIS-1,2-DICHLOROETHENE	5.5	J
TRICHLOROETHENE	7.8	J

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**Middle River, Maryland**



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**FIGURE 4-5**  
**CONCENTRATIONS OF MAJOR VOCs IN**  
**RELATION TO SWIMMING CRITERIA FOR**  
**SURFACE WATER SAMPLES,**  
**DECEMBER 2016**  
**DARK HEAD COVE**

**LEGEND**

SHALLOW SAMPLE  
 DEEP SAMPLE  
 TRICHLOROETHENE  
 CIS-1,2-DICHLOROETHENE  
 VINYL CHLORIDE

**CONCENTRATION AS PERCENTAGE OF SWIMMING CRITERIA**

- Not Detected
- ≤ 50%
- > 50 - 75%
- > 75 - 100%
- > 100 - 200%
- > 200%

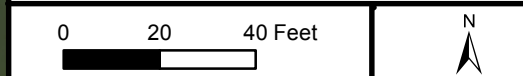
AREA OF PROBE GROUNDWATER SAMPLING, OCTOBER 2016  
 STORMWATER OUTFALL LOCATION (UPDATED APRIL 2015)  
 EXTENT OF TCE IN GROUNDWATER GREATER THAN 5 UG/L (DASHED WHERE INFERRED)

**SITE SWIMMING CRITERIA:**  
 TRICHLOROETHENE: 10 UG/L  
 CIS-1,2-DICHLOROETHENE: 300 UG/L  
 VINYL CHLORIDE: 0.7 UG/L

UG/L = MICROGRAMS PER LITER.  
 VOCs = VOLATILE ORGANIC COMPOUNDS.

SAMPLES COLLECTED DECEMBER 13, 2016.  
 TCE CONTOURS FROM TETRA TECH (2016) AND OCTOBER 2016 PROBE GROUNDWATER SAMPLING.  
 2014 AERIAL PHOTOGRAPH PROVIDED BY U.S. GEOLOGICAL SURVEY.

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**Middle River, Maryland**



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## Section 5

# Summary

Tetra Tech, Inc. (Tetra Tech) collected three rounds of surface water samples from Dark Head Cove and Cow Pen Creek in June, September, and December 2016 on behalf of Lockheed Martin Corporation (Lockheed Martin). June and September samples were collected along five transects in Dark Head Cove at Outfalls 005, 006, 007, 008, and 009, and at two locations in Cow Pen Creek. These locations are the same ones used in previous annual rounds. Surface water was sampled in June and September to determine if volatile organic compounds (VOCs), 1,4-dioxane, and polychlorinated biphenyls (PCBs) are in surface water, and if they originate from stormwater outfalls, sediments, or groundwater emanating from the Middle River Complex (MRC).

December samples were collected from two depths (one foot below the water surface and one foot above the cove bed) at six locations in Dark Head Cove in the southeastern portion of the Middle River Complex. These six locations were not the same as those sampled in June and September, which were collected near Middle River Complex storm-drain outfalls and in Cow Pen Creek. The December surface water samples were collected together along three transects west of Outfall 008 near the recently investigated landward edge of the southeastern trichloroethene (TCE) area in Tax Block (Block) F. In October 2016, probe groundwater-sampling in Tax Block F south of UST 2 (the trichloroethene source) and the Tax Block E groundwater remedy indicated field-analyzed trichloroethene concentrations of more than 60,000 micrograms per liter ( $\mu\text{g/L}$ ) in groundwater south of Chesapeake Park Plaza and near the shoreline of Dark Head Cove. Therefore, the December surface water samples were collected to determine the extent to which volatile organic compounds were emanating from southeastern trichloroethene area groundwater in Tax Block F to Dark Head Cove.

The June samples were chemically analyzed for volatile organic compounds, 1,4-dioxane (for the two Cow Pen Creek sampling locations only), and polychlorinated biphenyls (for the Dark Head Cove samples only). September and December samples were analyzed for volatile organic compounds only. These results were validated in accordance with United States Environmental



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Agency (USEPA) procedures and compared to ecological and human-health screening levels, including site-specific screening concentrations developed for Lockheed Martin's nearby Frog Mortar Creek sampling to evaluate risks to recreational swimmers from trichloroethene, *cis*-1,2-dichloroethene (*cis*-1,2-DCE), and vinyl chloride (VC) (three volatile organic compounds found at elevated concentrations in Middle River Complex groundwater plumes).

In June 2016, trichloroethene was detected at four of 11 Dark Head Cove samples near Outfalls 006 and 008, and was not detected in Cow Pen Creek samples. However, trichloroethene was detected more frequently in September at one of two Cow Pen Creek sampling locations, and in all but two Dark Head Cove samples. All trichloroethene detections were low; the maximum June and September concentrations are more than 15 times below its site-specific screening-level (10 µg/L) for evaluating exposure risks to swimmers. Trichloroethene was detected at similar concentrations during the June and September samplings (0.25–0.49 µg/L, and 0.165–0.62 µg/L, respectively). *cis*-1,2-Dichloroethene and vinyl chloride (common degradation compounds of trichloroethene and common compounds in Middle River Complex groundwater plumes) were not detected in the June and September surface water samples. Trichloroethene has not been detected in samples collected at Outfalls 005E (location SW5A2) since the Outfall 005 storm drain was plugged with concrete beneath Chesapeake Park Plaza in August 2015.

Trichloroethene was detected in the December shallow “S” samples (1.2–4.4 µg/L), and the deeper “D” samples (0.44–7.8 µg/L) collected above the cove bed. *cis*-1,2-Dichloroethene was detected in the four deeper samples collected from the center and western transects in Dark Head Cove. Vinyl chloride was not detected in these samples. All concentrations of trichloroethene and *cis*-1,2-dichloroethene were below their swimming criteria (10 µg/L and 300 µg/L, respectively). Other volatile organic compounds detected in the December Dark Head Cove samples (and found in Middle River Complex groundwater), such as acetone, toluene, total xylenes, and 1,2,4-trimethylbenzene, were also detected at concentrations below their respective ecological and human health screening levels.

For December, trichloroethene concentrations at SW11B and SW12B were higher in the deeper (“D”) samples than in the shallower (“S”) samples from the same locations, indicating increased dilution and volatilization in the upper portion of the water column as compared to seepage from the cove bed. The only exception was at eastern transect SW10B, where trichloroethene in the

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shallower (“S”) sample was higher than the concentration in the deeper sample. Trichloroethene and *cis*-1,2-dichloroethene (and to a lesser extent, the other volatile organic compounds) concentrations detected in samples collected farther from the shoreline show increasing concentrations trending from east to west (i.e., from SW10B to SW12B). These trends indicate that transect SW12 may be nearer to the seepage area (near the southeastern trichloroethene area than transects SW10 and SW11) that has the maximum volatile organic compound concentrations in groundwater. These results also indicate that volatile organic compounds in Dark Head Cove from the southeastern trichloroethene area groundwater seepage have not been fully delineated, and that additional surface water sampling will be required to delineate the extent of trichloroethene in Dark Head Cove west of Outfalls 006 and 008. Furthermore, low concentrations of trichloroethene previously detected at areas east and west of the December sampling locations (e.g., Outfalls 005, 009, and 007) may be due, in part, to tidal mixing and transport of higher concentrations of trichloroethene from this groundwater seepage zone to these areas, and not due to direct discharges of trichloroethene from these outfalls.

1,4-Dioxane was detected in two Cow Pen Creek surface water samples at concentrations of 0.13 µg/L and 0.16 µg/L. These concentrations are approximately one-half the Massachusetts drinking water guideline (0.3 µg/L) used for comparison herein, and more than five orders of magnitude (nearly 100,000 times) lower than its United States Environmental Protection Agency ecological screening-level (22,000 µg/L). 1,4-Dioxane may be discharging to Cow Pen Creek from the southwestern trichloroethene (and 1,4-dioxane) groundwater plume.

One polychlorinated biphenyl homolog (pentachlorobiphenyl) was detected in one surface water sample (SW6B) collected in June, at a location 50 feet from Outfall 006 in Dark Head Cove. This concentration (0.036 µg/L) exceeds the Biological Technical Advisory Group ecological screening level and the human health consumption-of-aquatic-organism screening level. However, this single detection of a polychlorinated biphenyl homolog indicates a reduction in the frequency and concentration of previous polychlorinated biphenyl concentrations detected in Dark Head Cove water samples collected in 2014. This concentration (and associated risk) reduction detected in the 2016 (and 2015) samples might be attributable to the removal of sediment with elevated levels of polychlorinated biphenyls, conducted adjacent to Outfall 005 in Dark Head Cove during the winter of 2014–2015.

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Future sampling of Dark Head Cove and Cow Pen Creek is scheduled for April, June, and September 2017. In 2017, Lockheed Martin will propose risk-based swimming criteria specifically developed for Dark Head Cove and Cow Pen Creek for Maryland Department of the Environment approval, as the contaminants of concern in these two water bodies differ from the contaminants of concern in Frog Mortar Creek (i.e., the study area where the current swimming criteria used in this report were developed). To date, vinyl chloride, the primary risk driver in Frog Mortar Creek, has not been detected in either Dark Head Cove or Cow Pen Creek. Additional swimming criteria will be developed for 1,4-dioxane and total polychlorinated biphenyls, chemicals that have been found in Dark Head Cove and Cow Pen Creek, but which are not contaminants of concern in Frog Mortar Creek.

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## Section 6

# References

1. *Code of Maryland Regulations (COMAR)*, 2016. “Numerical Criteria for Toxic Substances in Surface Waters.” COMAR Title 26, Subtitle 08, Chapter 02, Regulation 03: <http://www.dsd.state.md.us/comar/comarhtml/26/26.08.02.03-2.htm>.
2. Tetra Tech, Inc. (Tetra Tech), 2004. *Historical Research Report, Lockheed Martin Middle River Complex*. Report prepared by Tetra Tech, Inc., Germantown, Maryland for Lockheed Martin Corporation, Bethesda, Maryland. August.
3. Tetra Tech, Inc. (Tetra Tech), 2012. *Final Groundwater Response Action Plan, Lockheed Martin Middle River Complex, 2323 Eastern Boulevard, Middle River, Maryland*. Prepared by Tetra Tech, Inc., Germantown, Maryland for Lockheed Martin Corporation, Bethesda, Maryland. September.
4. Tetra Tech, Inc. (Tetra Tech), 2013. *2013 Surface Water Report, Martin State Airport, 701 Wilson Point Road, Middle River, Maryland*. Prepared by Tetra Tech, Inc., Germantown, Maryland for Lockheed Martin Corporation, Bethesda, Maryland. December.
5. Tetra Tech, Inc. (Tetra Tech), 2015a. *2015 Surface Water Sampling Report, Middle River Complex, 2323 Eastern Boulevard, Middle River, Maryland*. Report prepared by Tetra Tech, Inc., Germantown, Maryland for Lockheed Martin Corporation, Bethesda, Maryland. November.
6. Tetra Tech, Inc. (Tetra Tech), 2015b. *2016–2017 Groundwater and Surface Water Monitoring Work Plan, Middle River Complex, 2323 Eastern Boulevard, Middle River, Maryland*. Report prepared by Tetra Tech, Inc., Germantown, Maryland for Lockheed Martin Corporation, Bethesda, Maryland. December.
7. Tetra Tech, Inc. (Tetra Tech), 2016a. *Addendum to the 2016–2017 Groundwater and Surface Water Monitoring Work Plan, Middle River Complex, 2323 Eastern Boulevard, Middle River, Maryland*. Letter report prepared by Tetra Tech, Inc., Germantown, Maryland for Lockheed Martin Corporation, Bethesda, Maryland. June 20.
8. Tetra Tech, Inc. (Tetra Tech), 2016b. *Addendum No. 3 to the 2016–2017 Groundwater and Surface Water Monitoring Work Plan, Middle River Complex, 2323 Eastern Boulevard, Middle River, Maryland*. Report prepared by Tetra Tech, Inc., Germantown, Maryland for Lockheed Martin Corporation, Bethesda, Maryland. December 20.

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9. United States Environmental Protection Agency (USEPA), Region 3, 1993. *Region III Modifications to the Laboratory Data-Validation Functional Guidelines for Evaluating Inorganics Analyses*. USEPA Region 3 Central Regional Laboratory Quality Assurance Branch. April.
  10. United States Environmental Protection Agency (USEPA), Region 3, 1994. *Region III Modifications to the National Functional Guidelines for Organic-Data Review*. USEPA Region 3 Central Regional Laboratory Quality Assurance Branch. September.
  11. United States Environmental Protection Agency (USEPA), 2003. *Region 5 Ecological Screening Levels*. August.
  12. United States Environmental Protection Agency (USEPA), 2006. *Region III Biological Technical Advisory Group Freshwater Screening Benchmarks*. July.
  13. United States Environmental Protection Agency (USEPA), 2009. *National Recommended Water Quality Criteria*. U.S. Environmental Protection Agency, Offices of Water and of Science and Technology:  
<http://water.epa.gov/scitech/swguidance/standards/current/index.cfm>  
or <http://water.epa.gov/scitech/swguidance/standards/current/upload/nrwqc-2009.pdf>.
  14. United States Environmental Protection Agency (USEPA), 2014. *Technical Fact Sheet—1,4-Dioxane*, Office of Solid Waste and Emergency Response fact sheet. EPA 505-F-14-011. January.

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## **APPENDIX A—SURFACE-WATER-SAMPLING LOG SHEETS**



# SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Dark Head Cove, Middle River  
 Project No.: 112IC07776

Stream  
 Spring  
 Pond  
 Lake  
 Other: Tidal creek - freshwater  
 QA Sample Type: \_\_\_\_\_

Sample ID No.: MRC-SW5A1 -061316  
 Sample Location: MRC-SW5A1  
 Sampled By: J. Mullis  
 C.O.C. No.: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

### SAMPLING DATA:

Date:	6/13/2016	Color		pH		S.C.		Temp.		Turbidity		DO		Salinity		ORP	
Time:	1313	(Visual)		(S.U.)		(mS/cm)		(°C)		(NTU)		(mg/L)		(ppt)		mV	
Depth:	1 ft below water	clear		7.25		6.34		24.25		6.44		4.7		3.5		60	
Method:	Grab																

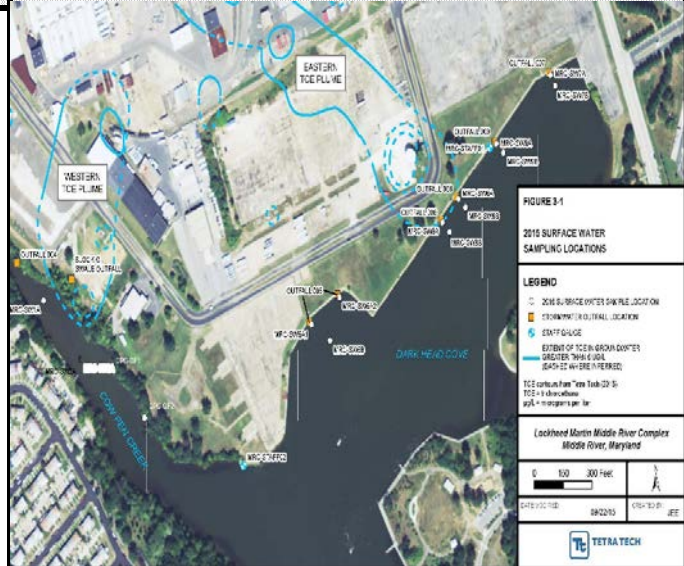
### SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCL pH<2	3 - 40 mL glass vials	Yes
PCBs (680)	None	2 - 1L ambers	Yes

### OBSERVATIONS / NOTES:

Water depth >4 meters  
 Hardness 840 mg/L CaCO3

### MAP:



### Circle if Applicable:

MS/MSD	Duplicate ID No.:
--------	-------------------

### Signature(s):



# SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Dark Head Cove, Middle River  
 Project No.: 112IC07776

Stream  
 Spring  
 Pond  
 Lake  
 Other: Tidal creek - freshwater  
 QA Sample Type: \_\_\_\_\_

Sample ID No.: MRC-SW5A2 -061316  
 Sample Location: MRC-SW5A2  
 Sampled By: J. Mullis  
 C.O.C. No.: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

## SAMPLING DATA:

Date:	6/13/2016	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	ORP
Time:	1318	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/L)	(%)	mV
Depth:	1 ft below water	clear	7.26	6.38	24.34	7.36	4.07	3.5	110
Method:	Grab								

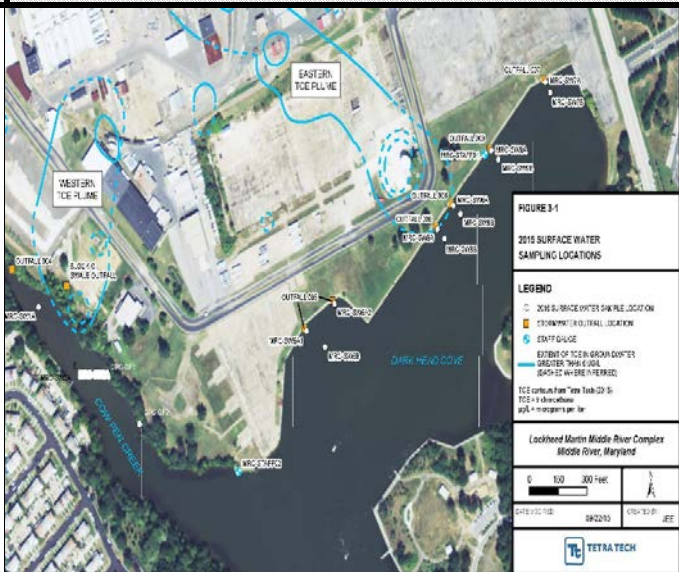
## SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCL pH<2	3 - 40 mL glass vials	Yes
PCBs (680)	None	2 - 1L ambers	Yes

## OBSERVATIONS / NOTES:

Water depth 3.2 meters  
 Hardness 860 mg/L CaCO3

## MAP:



Circle if Applicable:  
 MS/MSD Duplicate ID No.: \_\_\_\_\_

Signature(s): *J. Mullis*

















# SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Dark Head Cove, Middle River  
 Project No.: 112IC07489

Stream  
 Spring  
 Pond  
 Lake  
 Other: Tidal creek - freshwater  
 QA Sample Type: \_\_\_\_\_

Sample ID No.: MRC-SW8A -061316  
 Sample Location: MRC-SW8A  
 Sampled By: J. Mullis  
 C.O.C. No.: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

**SAMPLING DATA:**

Date:	6/13/2016	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/L)	Salinity (%)	ORP mV
Time:	1257	clear	7.4	6.32	24.71	4.77	5.47	3.4	143
Depth:	1 ft below water								
Method:	Grab								

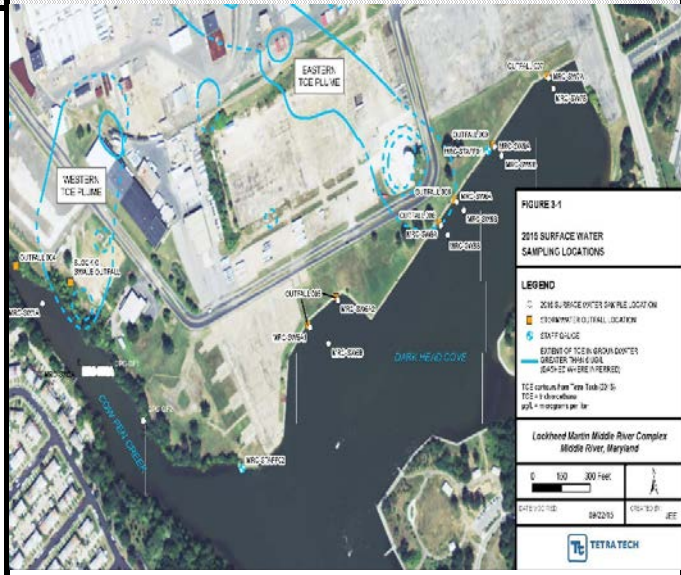
**SAMPLE COLLECTION INFORMATION:**

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCL pH<2	3 - 40 mL glass vials	Yes
PCBs (680)	None	2 - 1L ambers	Yes

**OBSERVATIONS / NOTES:**

Water depth                      2.2 meters  
 Hardness                              860 mg/L CaCO<sub>3</sub>

**MAP:**



**Circle if Applicable:**

MS/MSD      Duplicate ID No.:  
MRC-SWDUP-11242015

**Signature(s):**



# SURFACE WATER SAMPLE LOG SHEET

Project Site Name:	Dark Head Cove, Middle River	Sample ID No.:	MRC-SW8B -061316
Project No.:	112IC07776	Sample Location:	MRC-SW8B
<input type="checkbox"/> Stream <input type="checkbox"/> Spring <input type="checkbox"/> Pond <input type="checkbox"/> Lake <input checked="" type="checkbox"/> Other: Tidal creek - freshwater		Sampled By:	J. Mullis
<input type="checkbox"/> QA Sample Type: _____		C.O.C. No.:	_____
		Type of Sample:	<input checked="" type="checkbox"/> Low Concentration <input type="checkbox"/> High Concentration

**SAMPLING DATA:**

Date:	6/13/2016	Color		pH		S.C.		Temp.		Turbidity		DO		Salinity		ORP	
Time:	1304	(Visual)		(S.U.)		(mS/cm)		(°C)		(NTU)		(mg/L)		(%)		mV	
Depth:	1 ft below water	clear		7.40		6.31		24.72		4.67		6.18		3.4		142	
Method:	Grab																

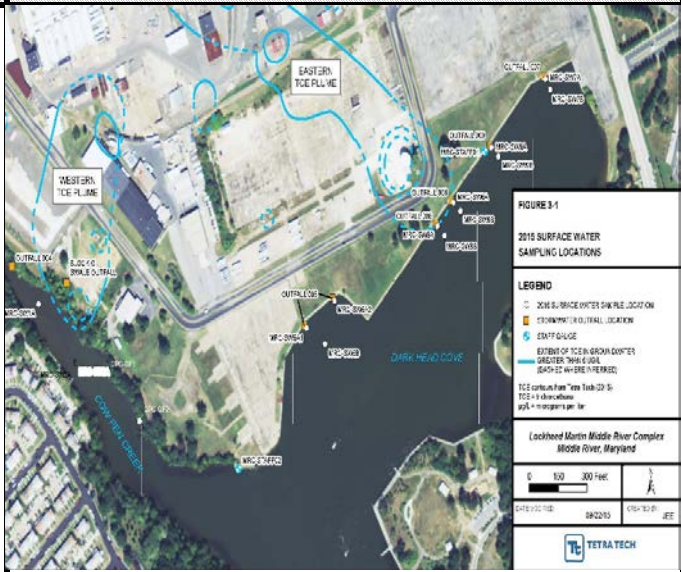
**SAMPLE COLLECTION INFORMATION:**

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCL pH<2	3 - 40 mL glass vials	Yes
PCBs (680)	None	2 - 1L ambers	Yes

**OBSERVATIONS / NOTES:**

Water depth 2.9 meters  
 Hardness 800 mg/L CaCO3

**MAP:**



<b>Circle if Applicable:</b>		Signature(s):  
MS/MSD	Duplicate ID No.:	



# SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Dark Head Cove, Middle River  
 Project No.: 112IC07776

Sample ID No.: MRC-SW9A -061316  
 Sample Location: MRC-SW9A  
 Sampled By: J. Mullis  
 C.O.C. No.: \_\_\_\_\_

- Stream
- Spring
- Pond
- Lake
- Other: Tidal creek - freshwater
- QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

### SAMPLING DATA:

Date:	6/13/2016	Color		pH		S.C.		Temp.		Turbidity		DO		Salinity		ORP	
Time:	1229	(Visual)		(S.U.)		(mS/cm)		(°C)		(NTU)		(mg/L)		(%)		mV	
Depth:	1 ft below water	clear		7.10		6.33		24.52		4.88		4.4		3.4		136	
Method:	Grab																

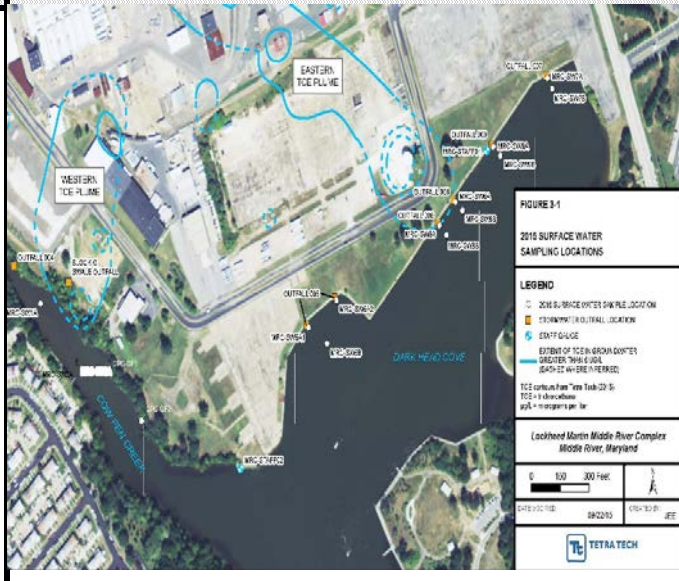
### SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCL pH<2	3 - 40 mL glass vials	Yes
PCBs (680)	None	2 - 1L ambers	Yes

### OBSERVATIONS / NOTES:

Water depth                    1.7 meters  
 Hardness                        860 mg/L CaCO<sub>3</sub>

### MAP:



### Circle if Applicable:

MS/MSD	Duplicate ID No.:
--------	-------------------

### Signature(s):

*J. Mullis*





# SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Dark Head Cove, Middle River  
 Project No.: 112IC07776

Sample ID No.: MRC-SW9B -061316  
 Sample Location: MRC-SW9B  
 Sampled By: J. Mullis  
 C.O.C. No.: \_\_\_\_\_

- Stream
- Spring
- Pond
- Lake
- Other: Tidal creek - freshwater
- QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

### SAMPLING DATA:

Date:	6/13/2016	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/L)	Salinity (%)	ORP mV
Time:	1234								
Depth:	1 ft below water	clear	7.20	6.3	24.63	6.58	4.4	3.4	139
Method:	Grab								

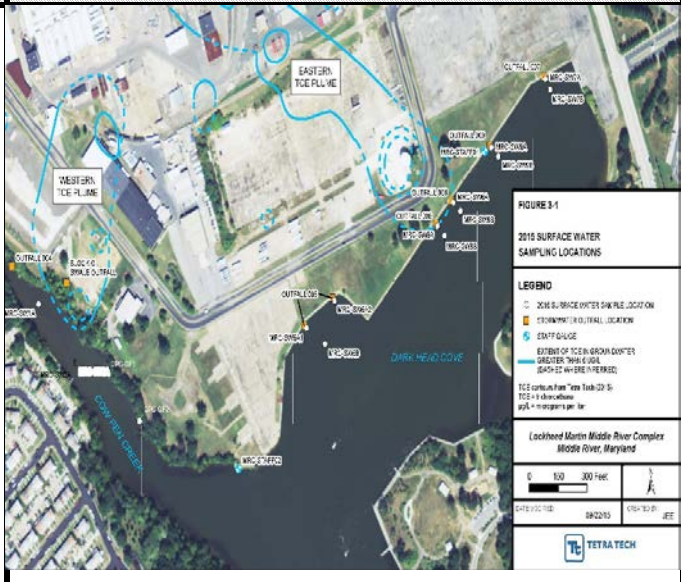
### SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCL pH<2	3 - 40 mL glass vials	Yes
PCBs (680)	None	2 - 1L ambers	Yes

### OBSERVATIONS / NOTES:

Water depth 2.4 meters  
 Hardness 800 mg/L CaCO3

### MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
--------	-------------------

Signature(s): *J. Mullis*

### SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Dark Head Cove, Middle River  
 Project No.: 112IC07776  
 Stream  
 Spring  
 Pond  
 Lake  
 Other: Tidal creek - freshwater  
 QA Sample Type:                                 

Sample ID No.: MRC-SW1A -061316  
 Sample Location: MRC-SW1A  
 Sampled By: J. Mullis  
 C.O.C. No.:                                 

Type of Sample:  
 Low Concentration  
 High Concentration

**SAMPLING DATA:**

Date:	6/13/2016	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	ORP
Time:	1151	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/L)	(%)	mV
Depth:	1 ft below water	clear	6.30	5.44	24.2	5.40	6.35	3	136
Method:	Grab								

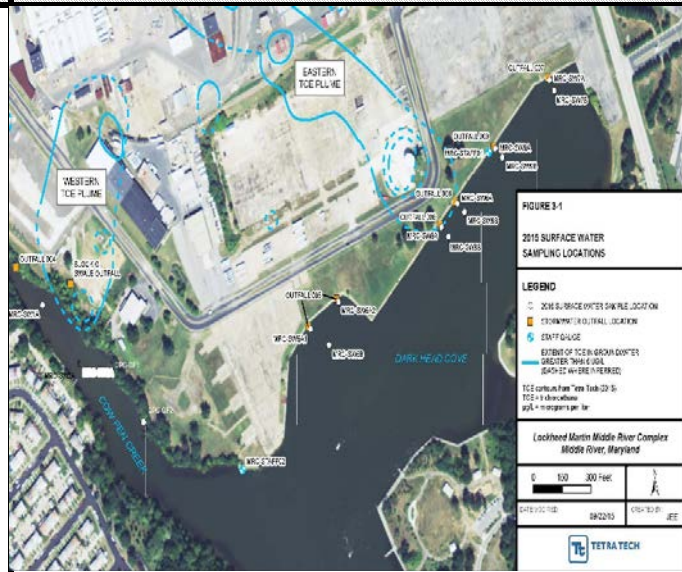
**SAMPLE COLLECTION INFORMATION:**

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCL pH<2	3 - 40 mL glass vials	Yes
1,4 Dioxane (522)	HCL pH<2	2 - 250 mL ambers	Yes

**OBSERVATIONS / NOTES:**

Water depth 0.4 meters  
 Hardness 700 mg/L CaCO3

**MAP:**



**Circle if Applicable:**

MS/MSD  Duplicate ID No.:                                 

**Signature(s):**

*J. Mullis*



### SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Dark Head Cove, Middle River  
 Project No.: 112IC07776

Sample ID No.: MRC-SW2A -061316  
 Sample Location: MRC-SW2A  
 Sampled By: J. Mullis  
 C.O.C. No.:                         

Stream  
 Spring  
 Pond  
 Lake  
 Other: Tidal creek - freshwater  
 QA Sample Type:                         

Type of Sample:  
 Low Concentration  
 High Concentration

**SAMPLING DATA:**

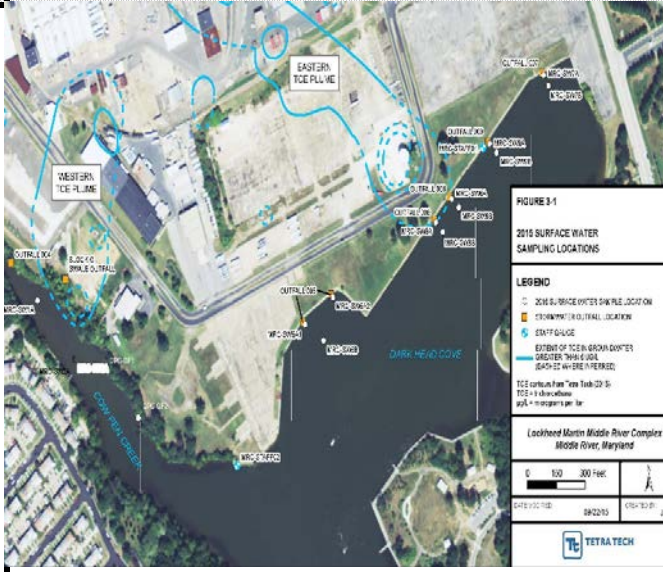
Date:	6/13/2016	Color		pH		S.C.		Temp.		Turbidity		DO		Salinity		ORP	
Time:	1158	(Visual)		(S.U.)		(mS/cm)		(°C)		(NTU)		(mg/L)		(%)		mV	
Depth:	1 ft below water	clear		6.7		6.02		24.54		6.22		5.47		3.3		149	
Method:	Grab																

**SAMPLE COLLECTION INFORMATION:**

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCL pH<2	3 - 40 mL glass vials	Yes
1,4 Dioxane	HCL pH<2	2 - 250 mL ambers	Yes

**OBSERVATIONS / NOTES:**

Water depth                    0.45 meters  
 Hardness                        720 mg/L CaCO3

**MAP:****Circle if Applicable:**

**MS/MSD**      Duplicate ID No.: MRC-SWDUP1-061316 FOR 1,4-DIOXANE ONLY

**Signature(s):**

**Water Quality Field Parameters-September 2016**  
**Cow Pen Creek and Dark Head Cove**  
**Lockheed Martin Middle River Complex, Middle River, Maryland**

Sample ID-Date (month/day/year)	Date month/ day/year	Time 24-hour units	pH Standard unit (S.U.)	Specific conductance (S.C.) MilliSiemens per centimeter (mS/cm)	Temperature (Temp.) Degrees Celsius (°C)	Turbidity Nephelometric turbidity unit (NTU)	Dissolved oxygen (DO) Milligrams per liter (mg/L)	Salinity Parts per thousand (ppt)	Oxidation- reduction potential (ORP) MilliVolts (mV)	Water Depth Meters (m)	Hardness Milligrams per liter (mg/L CaCO <sub>3</sub> )
MRC-SW5A1 -092716	9/27/2016	1100	7.02	9.53	23.21	4.05	3.50	5.3	187	>4	1520
MRC-SW5A2 -092716	9/27/2016	1105	6.99	9.66	23.21	3.28	2.87	5.4	180	3.2	1500
MRC-SW5B -092716	9/27/2016	1055	7.10	9.73	23.16	4.60	4.17	5.4	190	>4	1580
MRC-SW6A -092716	9/27/2016	1038	7.06	9.48	23.15	4.83	4.02	5.3	177	2.3	1580
MRC-SW6B -092716	9/27/2016	1041	7.09	9.49	23.17	3.90	4.20	5.3	182	3.0	1480
MRC-SW7A -092716	9/27/2016	1021	6.98	9.41	23.07	3.77	3.14	5.3	177	1.3	1540
MRC-SW7B -092716	9/27/2016	1027	6.96	9.55	23.27	3.93	3.19	5.3	171	2.20	1560
MRC-SW8A -092716	9/27/2016	1047	7.07	9.46	23.15	10.07	3.70	5.3	183	2.2	1540
MRC-SW8B -092716	9/27/2016	1050	7.10	9.51	23.20	5.16	4.47	5.3	186	2.9	1570
MRC-SW9A -092716	9/27/2016	1031	7.02	9.43	23.08	5.00	3.53	5.3	173	1.7	1550
MRC-SW9B -092716	9/27/2016	1035	7.01	9.49	23.19	4.86	3.54	5.3	169	2.4	1580
MRC-SW1A -092716	9/27/2016	1100	6.53	9.37	23.21	5.98	3.27	5.3	241	0.4	960
MRC-SW2A -092716	9/27/2016	1105	7.04	10.30	23.21	5.64	2.87	5.4	195	0.5	1440
Average:			7.00	9.57	23.18	5.01	3.57	5.32	185		1492

CaCO<sub>3</sub> - calcium carbonate





Project Site Name:	Dark Head Cove, Middle River, Maryland	Sample ID No.:	MRC-SW5A2 -092716
Project No.:	112IC07776	Sample Location:	MRC-SW5A2
		Sampled By:	J. Mullis
<input type="checkbox"/> Stream		C.O.C. No.:	
<input type="checkbox"/> Spring		Type of Sample:	
<input type="checkbox"/> Pond		<input checked="" type="checkbox"/> Low Concentration	
<input type="checkbox"/> Lake		<input type="checkbox"/> High Concentration	
<input checked="" type="checkbox"/> Other:	Tidal creek - freshwater		
<input type="checkbox"/> QA Sample Type:			

**SAMPLING DATA:**

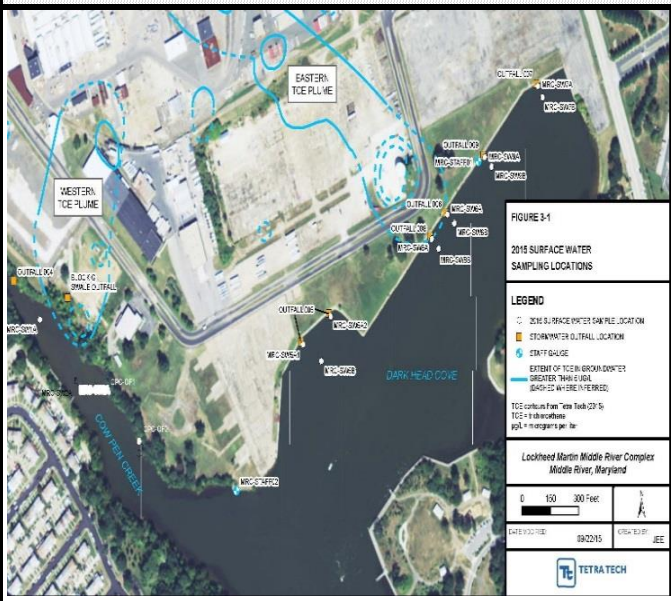
Date:	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	ORP
9/27/2016	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/L)	(ppt)	mV
Time: 1105	clear	6.99	9.66	23.21	3.28	2.87	5.4	180
Depth: 1 ft below water								
Method: Grab								

**SAMPLE COLLECTION INFORMATION:**

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCL pH<2	3 - 40 mL glass vials	Yes

**OBSERVATIONS / NOTES:**

Water depth 3.2 meters  
 Hardness 1500 mg/L CaCO3

**MAP:**

**Circle if Applicable:**

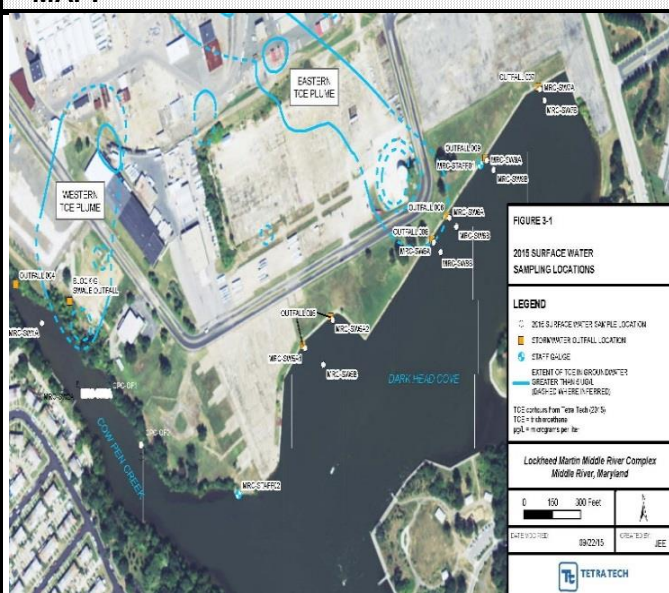
MS/MSD	Duplicate ID No.:
--------	-------------------


Signature(s): 

Project Site Name: <u>Dark Head Cove, Middle River, Maryland</u> Project No.: <u>112IC07776</u>  <input type="checkbox"/> Stream <input type="checkbox"/> Spring <input type="checkbox"/> Pond <input type="checkbox"/> Lake <input checked="" type="checkbox"/> Other: <u>Tidal creek - freshwater</u> <input type="checkbox"/> QA Sample Type: _____	Sample ID No.: <u>MRC-SW5B -092716</u> Sample Location: <u>MRC-SW5B</u> Sampled By: <u>J. Mullis</u> C.O.C. No.: _____  Type of Sample: <input checked="" type="checkbox"/> Low Concentration <input type="checkbox"/> High Concentration
--	--

SAMPLING DATA:									
Date:	9/27/2016	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	ORP
Time:	1055	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/L)	(ppt)	mV
Depth:	1 ft below water	clear	7.1	9.73	23.16	4.6	4.17	5.4	190
Method:	Grab								

SAMPLE COLLECTION INFORMATION:			
Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCL pH<2	3 - 40 mL glass vials	Yes

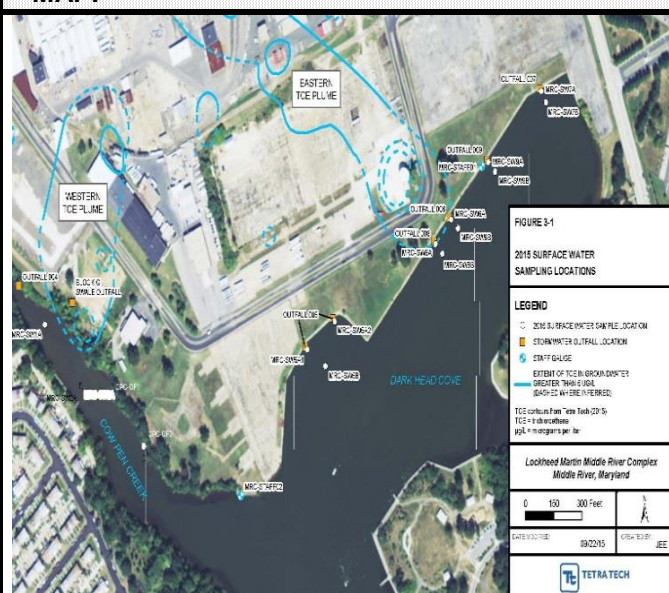
OBSERVATIONS / NOTES:	MAP:
Water depth <span style="float: right;">&gt;4 meters</span> Hardness <span style="float: right;">1580 mg/L CaCO3</span>	

<b>Circle if Applicable:</b>		<b>Signature(s):</b> 
MS/MSD	Duplicate ID No.: <b>MRC-SWDUP-092716 COLLECTED FOR VOCs</b>	

Project Site Name:	<u>Dark Head Cove, Middle River, Maryland</u>	Sample ID No.:	<u>MRC-SW6A -092716</u>
Project No.:	<u>112IC07776</u>	Sample Location:	<u>MRC-SW6A</u>
<input type="checkbox"/> Stream		Sampled By:	<u>J. Mullis</u>
<input type="checkbox"/> Spring		C.O.C. No.:	<u>                    </u>
<input type="checkbox"/> Pond		Type of Sample:	
<input type="checkbox"/> Lake		<input checked="" type="checkbox"/> Low Concentration	
<input checked="" type="checkbox"/> Other:	<u>Tidal creek - freshwater</u>	<input type="checkbox"/> High Concentration	
<input type="checkbox"/> QA Sample Type:	<u>                    </u>		

SAMPLING DATA:									
Date:	9/27/2016	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	ORP
Time:	1038	(Visual)	(S.U.)	(mS/cm)	( <sup>0</sup> C)	(NTU)	(mg/L)	(ppt)	mV
Depth:	1 ft below water	clear	7.06	9.48	23.15	4.83	4.02	5.3	177
Method:	Grab								

SAMPLE COLLECTION INFORMATION:			
Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCL pH<2	3 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:	MAP:
<p>Water depth                      2.3 meters</p> <p>Hardness                            1580 mg/L CaCO3</p>	

<b>Circle if Applicable:</b>		<b>Signature(s):</b>
<input type="checkbox"/> MS/MSD	Duplicate ID No.:	 <hr style="width: 100%;"/>





Tetra Tech

### SURFACE WATER SAMPLE LOG SHEET

Page      of     

Project Site Name: Dark Head Cove, Middle River, Maryland  
 Project No.: 112IC07776

Sample ID No.: MRC-SW6B -092716  
 Sample Location: MRC-SW6B  
 Sampled By: J. Mullis  
 C.O.C. No.:   

- Stream
- Spring
- Pond
- Lake
- Other: Tidal creek - freshwater
- QA Sample Type:

Type of Sample:  
 Low Concentration  
 High Concentration

**SAMPLING DATA:**

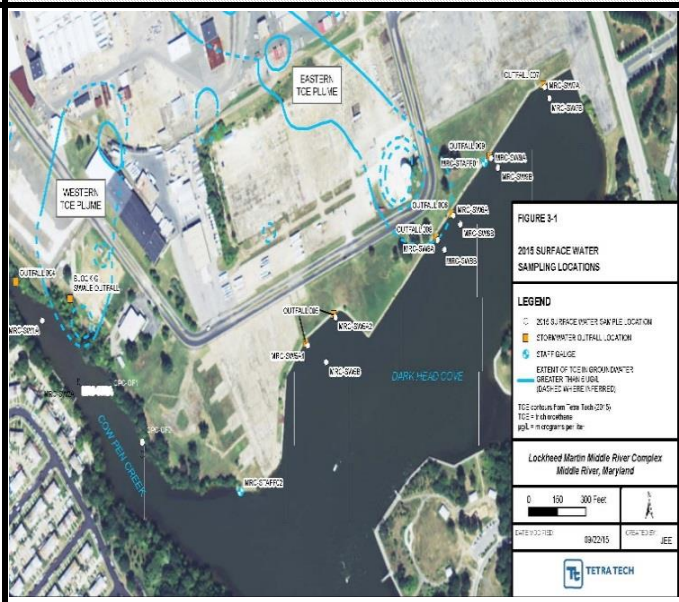
Date:	9/27/2016	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	ORP
Time:	1041	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/L)	(ppt)	mV
Depth:	1 ft below water	clear	7.09	9.49	23.17	3.9	4.2	5.3	182
Method:	Grab								

**SAMPLE COLLECTION INFORMATION:**

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCL pH<2	3 - 40 mL glass vials	Yes

**OBSERVATIONS / NOTES:**

Water depth 3 meters  
 Hardness 1480 mg/L CaCO3

**MAP:****Circle if Applicable:**

MS/MSD	Duplicate ID No.:
--------	-------------------

**Signature(s):**

Project Site Name:	Dark Head Cove, Middle River, Maryland	Sample ID No.:	MRC-SW7A -092716
Project No.:	112IC07776	Sample Location:	MRC-SW7A
		Sampled By:	J. Mullis
<input type="checkbox"/> Stream		C.O.C. No.:	
<input type="checkbox"/> Spring		Type of Sample:	
<input type="checkbox"/> Pond		<input checked="" type="checkbox"/> Low Concentration	
<input type="checkbox"/> Lake		<input type="checkbox"/> High Concentration	
<input checked="" type="checkbox"/> Other:	Tidal creek - freshwater		
<input type="checkbox"/> QA Sample Type:			

SAMPLING DATA:									
Date:	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	ORP	
9/27/2016	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/L)	(ppt)	mV	
Time: 1021	clear	6.98	9.41	23.07	3.77	3.14	5.3	177	
Depth: 1 ft below water									
Method: Grab									

SAMPLE COLLECTION INFORMATION:			
Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCL pH<2	3 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:	MAP:
<p>Water depth 1.3 meters</p> <p>Hardness 1540 mg/L CaCO3</p>	

Circle if Applicable:		Signature(s): 
MS/MSD	Duplicate ID No.:	



# SURFACE WATER SAMPLE LOG SHEET

Project Site Name:	<u>Dark Head Cove, Middle River, Maryland</u>	Sample ID No.:	<u>MRC-SW7B -092716</u>
Project No.:	<u>112IC07776</u>	Sample Location:	<u>MRC-SW7B</u>
<input type="checkbox"/> Stream <input type="checkbox"/> Spring <input type="checkbox"/> Pond <input type="checkbox"/> Lake <input checked="" type="checkbox"/> Other: <u>Tidal creek - freshwater</u> <input type="checkbox"/> QA Sample Type: _____		Sampled By:	<u>J. Mullis</u>
		C.O.C. No.:	_____
		Type of Sample:	
			<input checked="" type="checkbox"/> Low Concentration
			<input type="checkbox"/> High Concentration

SAMPLING DATA:									
Date:	9/27/2016	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	ORP
Time:	1027	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/L)	(ppt)	mV
Depth:	1 ft below water	clear	6.96	9.55	23.27	3.93	3.19	5.3	171
Method:	Grab								

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCL pH<2	3 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:	MAP:
<p>Water depth                      2.2 meters</p> <p>Hardness                            1560 mg/L CaCO3</p>	<p style="font-size: small;"> <b>FIGURE B-1</b>            2018 SURFACE WATER SAMPLING LOCATIONS  <b>LEGEND</b>            ○ ZONE B SURFACE WATER SAMPLE LOCATION            ■ STORMWATER OUTFALL LOCATION            ○ STAFF GAUGE            EXTENT OF TIDE IN BRACKISH WATER GREYER THAN USUAL (SHOULDER SHOULD BE IN RED)            TIDE Current from "New York 2015"            TIDE = 1.8 m above mean            10.4 = 10.4 meters per hr.            Lockheed Martin Middle River Complex            Middle River, Maryland            0 100 200 Feet            DATE PLOTTED: 9/20/16    CREATED BY: JEE  <b>TETRA TECH</b> </p>

<b>Circle if Applicable:</b>		Signature(s):  
MS/MSD	Duplicate ID No.:	







# SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Dark Head Cove, Middle River, Maryland  
Project No.: 112IC07776

Sample ID No.: MRC-SW8B -092716  
Sample Location: MRC-SW8B  
Sampled By: J. Mullis  
C.O.C. No.: \_\_\_\_\_

- Stream
- Spring
- Pond
- Lake
- Other: Tidal creek - freshwater
- QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

### SAMPLING DATA:

Date:	9/27/2016	Color		pH		S.C.		Temp.		Turbidity		DO		Salinity		ORP	
Time:	1050	(Visual)		(S.U.)		(mS/cm)		(°C)		(NTU)		(mg/L)		(ppt)		mV	
Depth:	1 ft below water	clear		7.10		9.51		23.2		5.16		4.47		5.3		186	
Method:	Grab																

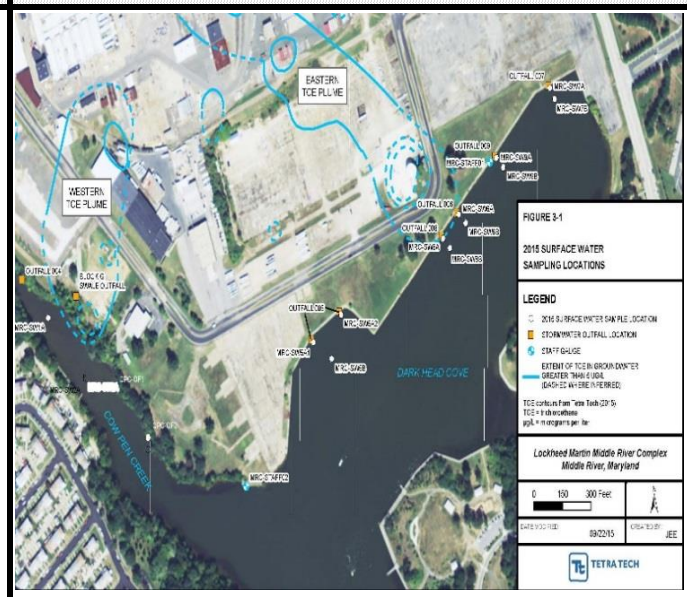
### SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCL pH<2	3 - 40 mL glass vials	Yes

### OBSERVATIONS / NOTES:

Water depth 2.9 meters  
 Hardness 1570 mg/L CaCO<sub>3</sub>

### MAP:



### Circle if Applicable:

MS/MSD	Duplicate ID No.:
--------	-------------------

### Signature(s):





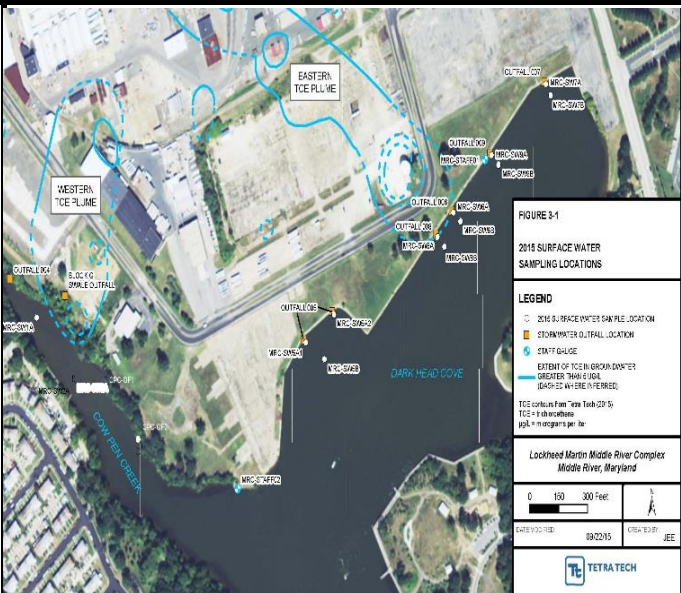




Project Site Name:	<u>Cow Pen Creek, Middle River, Maryland</u>	Sample ID No.:	<u>MRC-SW2A -092716</u>
Project No.:	<u>112IC07776</u>	Sample Location:	<u>MRC-SW2A</u>
<input type="checkbox"/> Stream		Sampled By:	<u>J. Mullis</u>
<input type="checkbox"/> Spring		C.O.C. No.:	<u>                    </u>
<input type="checkbox"/> Pond		Type of Sample:	
<input type="checkbox"/> Lake		<input checked="" type="checkbox"/> Low Concentration	
<input checked="" type="checkbox"/> Other:	<u>Tidal creek - freshwater</u>	<input type="checkbox"/> High Concentration	
<input type="checkbox"/> QA Sample Type:	<u>                    </u>		

SAMPLING DATA:									
Date:	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	ORP	
<u>9/27/2016</u>	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/L)	(ppt)	mV	
Time: <u>1105</u>	<u>clear</u>	<u>7.04</u>	<u>10.30</u>	<u>23.21</u>	<u>5.64</u>	<u>2.87</u>	<u>5.4</u>	<u>195</u>	
Depth: <u>1 ft below water</u>									
Method: <u>Grab</u>									

SAMPLE COLLECTION INFORMATION:			
Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCL pH<2	3 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:	MAP:
<p>Water depth <span style="float: right;">0.45 meters</span></p> <p>Hardness <span style="float: right;">1440 mg/L CaCO3</span></p>	

<b>Circle if Applicable:</b>		<b>Signature(s):</b>
<input type="checkbox"/> MS/MSD	Duplicate ID No.: <u>                    </u>	

**Water Quality Field Parameters-December 2016**

**Dark Head Cove**

**Lockheed Martin Middle River Complex, Middle River, Maryland**

Sample ID-Date (month/day/year)	Date month/ day/year	Time 24-hour units	pH Standard unit (S.U.)	Specific conductance (S.C.) MilliSiemens per centimeter (mS/cm)	Temperature (Temp.) Degrees Celsius (°C)	Turbidity Nephelometric turbidity unit (NTU)	Dissolved oxygen (DO) Milligrams per liter (mg/L)	Salinity Parts per thousand (ppt)	Oxidation- reduction potential (ORP) MilliVolts (mV)	Water Depth Meters (m)	Hardness Milligrams per liter (mg/L CaCO <sub>3</sub> )
MRC-SW10-A-S -121316	12/13/2016	917	9.18	29.60	5.91	9.63	12.58	17.6	--	2.0	--
MRC-SW10-A-D -121316	12/13/2016	916	9.30	28.90	5.60	9.63	14.68	17.1	--	2.3	--
MRC-SW10-B-S -121316	12/13/2016	945	9.16	29.80	5.04	7.56	15.13	17.6	--	2.3	--
MRC-SW10-B-D -121316	12/13/2016	941	9.11	30.40	5.29	12.68	14.01	18.0	--	2.3	--
MRC-SW11-A-S -121316	12/13/2016	956	9.11	29.80	5.18	7.82	12.84	17.6	--	2.0	--
MRC-SW11-A-D -121316	12/13/2016	953	9.08	30.10	5.25	10.31	13.50	17.8	--	2.0	--
MRC-SW11-B-S -121316	12/13/2016	1003	9.10	29.80	5.09	3.52	14.27	17.7	--	2.8	--
MRC-SW11-B-D -121316	12/13/2016	1003	9.03	30.20	5.27	11.60	12.71	17.9	--	2.8	--
MRC-SW12-A-S -121316	12/13/2016	1018	9.09	29.40	5.10	7.29	14.51	17.4	--	2.1	--
MRC-SW12-A-D -121316	12/13/2016	1013	9.05	29.40	5.28	11.40	11.75	17.4	--	2.1	--
MRC-SW12-B-S -121316	12/13/2016	1030	9.12	22.70	4.68	6.15	14.38	14.0	--	2.6	--
MRC-SW12-B-D -121316	12/13/2016	1024	9.04	30.30	5.20	12.60	12.64	18.0	--	2.6	--
		<b>Average:</b>	<b>9.11</b>	<b>29.20</b>	<b>5.24</b>	<b>9.18</b>	<b>13.58</b>	<b>17.34</b>	<b>--</b>	<b>2.3</b>	<b>--</b>

CaCO<sub>3</sub> - calcium carbonate

-- not collected/measured



# SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Dark Head Cove, Middle River, Maryland

Project No.: 112IC07776

Sample ID No.: MRC-SW10A-S -121316

Sample Location: MRC-SW10A

Sampled By: W. Pryor

C.O.C. No.: \_\_\_\_\_

- Stream
- Spring
- Pond
- Lake
- Other: Tidal creek - freshwater
- QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

### SAMPLING DATA:

Date:	12/13/2016	Color		pH		S.C.		Temp.		Turbidity		DO		Salinity		ORP	
Time:	917	(Visual)		(S.U.)		(mS/cm)		(°C)		(NTU)		(mg/L)		(ppt)		mV	
Depth:	1 ft below water			9.18		29.6		5.91		9.63		12.58		17.6		--	
Method:	Grab																

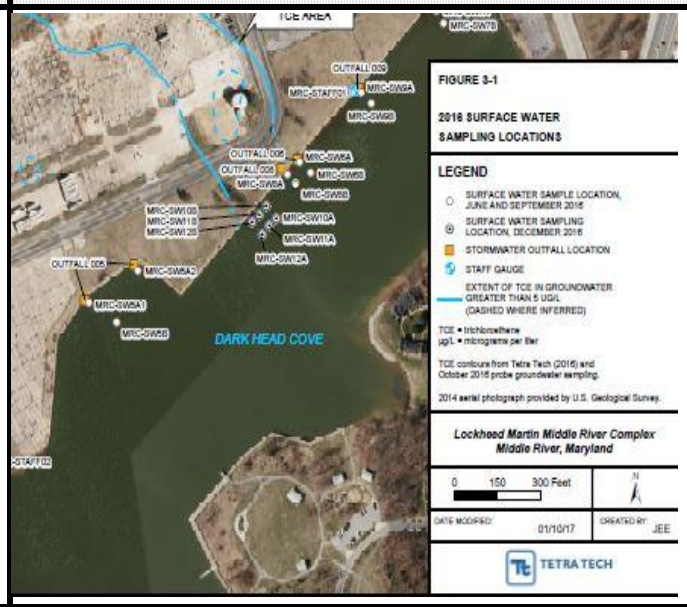
### SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCL pH<2	3 - 40 mL glass vials	Yes

### OBSERVATIONS / NOTES:

Water depth                    2.0 meters  
 Hardness                        -- mg/L CaCO3

### MAP:



### Circle if Applicable:

MS/MSD	Duplicate ID No.:
--------	-------------------

### Signature(s):

\_\_\_\_\_

















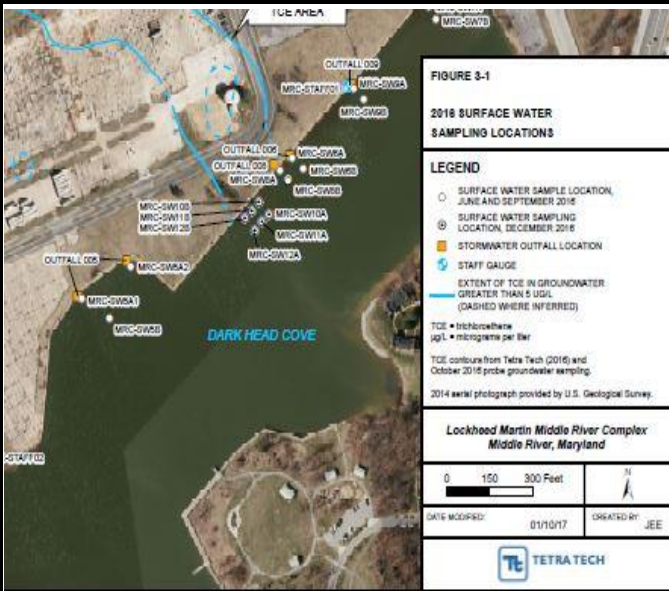


# SURFACE WATER SAMPLE LOG SHEET

Project Site Name:	<u>Dark Head Cove, Middle River, Maryland</u>	Sample ID No.:	<u>MRC-SW12A-S -121316</u>
Project No.:	<u>112IC07776</u>	Sample Location:	<u>MRC-SW12A</u>
		Sampled By:	<u>W. Pryor</u>
		C.O.C. No.:	_____
<input type="checkbox"/> Stream <input type="checkbox"/> Spring <input type="checkbox"/> Pond <input type="checkbox"/> Lake <input checked="" type="checkbox"/> Other: <u>Tidal creek - freshwater</u> <input type="checkbox"/> QA Sample Type: _____		Type of Sample: <input checked="" type="checkbox"/> Low Concentration <input type="checkbox"/> High Concentration	

SAMPLING DATA:									
Date:	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	ORP	
Time:	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/L)	(ppt)	mV	
12/13/2016		9.09	29.4	5.10	7.29	14.51	17.4	--	
1018									
1 ft below water									
Grab									

SAMPLE COLLECTION INFORMATION:			
Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCL pH<2	3 - 40 mL glass vials	Yes

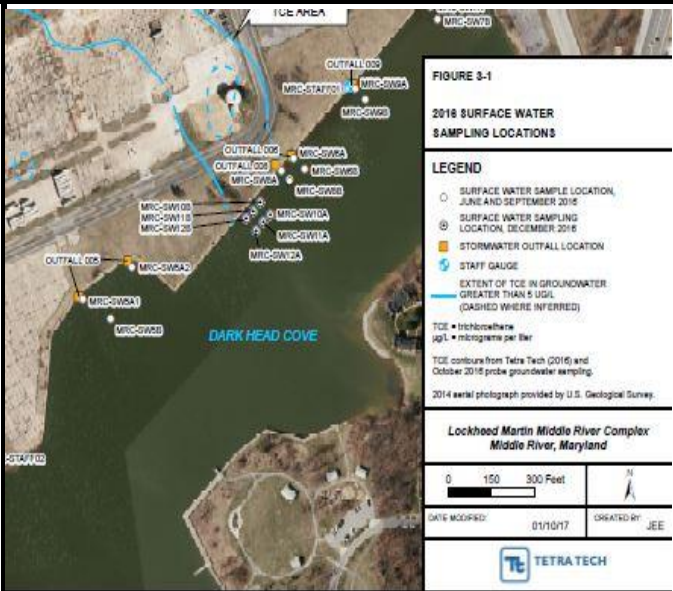
OBSERVATIONS / NOTES:	MAP:
<p>Water depth                      2.1 meters</p> <p>Hardness                            -- mg/L CaCO3</p>	 <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>FIGURE 3-1</b></p> <p><b>2018 SURFACE WATER SAMPLING LOCATIONS</b></p> <p><b>LEGEND</b></p> <ul style="list-style-type: none"> <li>○ SURFACE WATER SAMPLE LOCATION, JUNE AND SEPTEMBER 2018</li> <li>⊙ SURFACE WATER SAMPLING LOCATION, DECEMBER 2018</li> <li>⊠ STORMWATER OUTFALL LOCATION</li> <li>⊞ STAFF GAUGE</li> <li>— EXTENT OF TCE IN GROUNDWATER GREATER THAN 5 UGL (DASHED WHERE INFERRED)</li> </ul> <p>TCE = trichloroethane            ug/L = micrograms per liter</p> <p><small>TCE contours from Tetra Tech (2016) and October 2018 probe groundwater sampling. 2014 aerial photograph provided by U.S. Geological Survey.</small></p> <p style="text-align: center;"><b>Lockheed Martin Middle River Complex Middle River, Maryland</b></p> <div style="display: flex; justify-content: space-between;"> <div style="text-align: center;"> <p>0 150 300 Feet</p> </div> <div style="text-align: center;"> <p>DATE MODIFIED: 01/10/17    CREATED BY: JEE</p> </div> </div> <p style="text-align: right;"> <b>TETRA TECH</b></p> </div>

<b>Circle if Applicable:</b>		<b>Signature(s):</b>
MS/MSD	Duplicate ID No.:	

Project Site Name:	<u>Dark Head Cove, Middle River, Maryland</u>	Sample ID No.:	<u>MRC-SW12A-D -121316</u>
Project No.:	<u>112IC07776</u>	Sample Location:	<u>MRC-SW12A</u>
<input type="checkbox"/> Stream		Sampled By:	<u>W. Pryor</u>
<input type="checkbox"/> Spring		C.O.C. No.:	_____
<input type="checkbox"/> Pond		Type of Sample:	
<input type="checkbox"/> Lake		<input checked="" type="checkbox"/> Low Concentration	
<input checked="" type="checkbox"/> Other:	<u>Tidal creek - freshwater</u>	<input type="checkbox"/> High Concentration	
<input type="checkbox"/> QA Sample Type:	_____		

SAMPLING DATA:															
Date:	12/13/2016	Color		pH		S.C.		Temp.		DO		Salinity		ORP	
Time:	1013	(Visual)		(S.U.)		(mS/cm)		(°C)		(mg/L)		(ppt)		mV	
Depth:	1 ft above bottom			9.05		29.4		5.28		11.75		17.4		--	
Method:	Grab														

SAMPLE COLLECTION INFORMATION:			
Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCL pH<2	3 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:	MAP:
<p>Water depth                              2.1 meters</p> <p>Hardness                                    -- mg/L CaCO3</p>	

<b>Circle if Applicable:</b>		<b>Signature(s):</b>
<input type="checkbox"/> MS/MSD	Duplicate ID No.:	





<b>Project Site Name:</b>	<u>Dark Head Cove, Middle River, Maryland</u>	<b>Sample ID No.:</b>	<u>MRC-SW12B-S -121316</u>
<b>Project No.:</b>	<u>112IC07776</u>	<b>Sample Location:</b>	<u>MRC-SW12B</u>
		<b>Sampled By:</b>	<u>W. Pryor</u>
		<b>C.O.C. No.:</b>	<u>                                </u>
<input type="checkbox"/> Stream <input type="checkbox"/> Spring <input type="checkbox"/> Pond <input type="checkbox"/> Lake <input checked="" type="checkbox"/> Other: <u>Tidal creek - freshwater</u> <input type="checkbox"/> QA Sample Type: <u>                                </u>		<b>Type of Sample:</b> <input checked="" type="checkbox"/> Low Concentration <input type="checkbox"/> High Concentration	

**SAMPLING DATA:**

Date:	12/13/2016	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	ORP
Time:	1030	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/L)	(ppt)	mV
Depth:	1 ft below water		9.12	22.7	4.68	6.15	14.38	14.0	--
Method:	Grab								

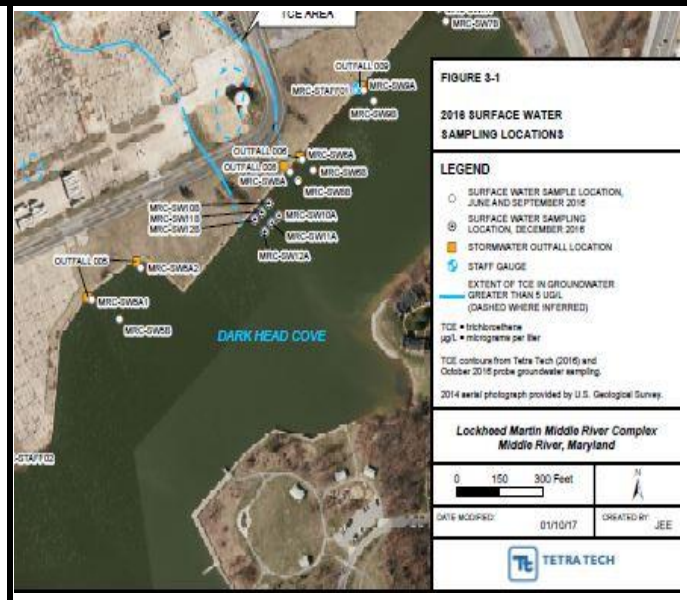
**SAMPLE COLLECTION INFORMATION:**

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCL pH<2	3 - 40 mL glass vials	Yes

**OBSERVATIONS / NOTES:**

Water depth                    2.6 meters  
 Hardness                        -- mg/L CaCO3

**MAP:**



<b>Circle if Applicable:</b>		<b>Signature(s):</b>
MS/MSD	Duplicate ID No.:	



**SURFACE WATER SAMPLE LOG SHEET**

Project Site Name:	<u>Dark Head Cove, Middle River, Maryland</u>	Sample ID No.:	<u>MRC-SW12B-D -121316</u>
Project No.:	<u>112IC07776</u>	Sample Location:	<u>MRC-SW12B</u>
<input type="checkbox"/> Stream		Sampled By:	<u>W. Pryor</u>
<input type="checkbox"/> Spring		C.O.C. No.:	_____
<input type="checkbox"/> Pond		Type of Sample:	
<input type="checkbox"/> Lake		<input checked="" type="checkbox"/> Low Concentration	
<input checked="" type="checkbox"/> Other:	<u>Tidal creek - freshwater</u>	<input type="checkbox"/> High Concentration	
<input type="checkbox"/> QA Sample Type:	_____		

SAMPLING DATA:										
Date:	12/13/2016	Color		pH		S.C.		Temp.		ORP
Time:	1024	(Visual)		(S.U.)		(mS/cm)		(°C)		mV
Depth:	1 ft above bottom			9.04		30.3		5.20		--
Method:	Grab									

SAMPLE COLLECTION INFORMATION:			
Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCL pH<2	3 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:	MAP:
<p>Water depth                      2.6 meters</p> <p>Hardness                              -- mg/L CaCO3</p>	

<b>Circle if Applicable:</b>		<b>Signature(s):</b>
MS/MSD	Duplicate ID No.:	



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## **APPENDIX B—DATA-VALIDATION REPORTS (ON CD)**



TO: M. MARTIN  
SDG: 240-65994-1

PAGE 2

chloromethane, dichlorofluoromethane, trichlorofluoromethane, and 1,2-dibromo-3-chloropropane on 6/20/2016 at 12:47 on instrument A3UX16 affecting samples MRC-SW1A-061316, MRC-SW2A-061316, MRC-SWDUP2-061316, the trip blank, and the field blank. The nondetected results for these parameters in the affected samples were qualified as estimated (UJ).

- Detected results reported below the Reporting Limit (RL) limit but above the Method Detection Limit (MDL) were qualified as estimated, (J).

#### Notes

VOC LCS %R was greater than QC limits for methylene chloride affecting samples in analysis batch 235154. No action was taken as methylene chloride results was in any sample.

The laboratory noted that there was insufficient sample volume to perform a VOC matrix spike/matrix spike duplicate associated with sample MRC-SW7B-061316.

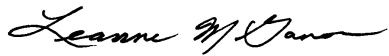
Non-detected results were reported to the MDL.

#### **Executive Summary**

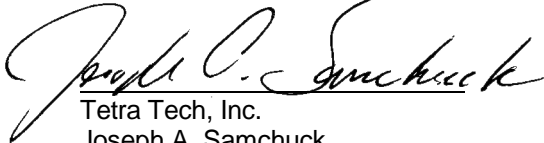
**Laboratory Performance:** Calibration noncompliance was noted for select VOCs.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Organic Review" (August 2014). The text of this report has been formulated to address only those areas affecting data quality.



Tetra Tech, Inc.  
Leanne Ganser  
Environmental Scientist/Data Validator



Tetra Tech, Inc.  
Joseph A. Samchuck  
Data Validation Manager

#### Attachments:

- Appendix A – Qualified Analytical Results
- Appendix B – Results as Reported by the Laboratory
- Appendix C – Support Documentation

**Appendix A**

Qualified Analytical Results

**Qualifier Codes:**

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = ICP PDS Recovery Noncompliance; MSA's  $r < 0.995$
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (i.e., base-time drifting)
- P = Uncertainty near detection limit ( $< 2 \times$  IDL for inorganics and  $<$ CRQL for organics)
- Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = RPD between columns/detectors  $>40\%$  for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient  $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids  $<30\%$
- Z = Uncertainty at 2 standard deviations is greater than sample activity
- Z1 = Tentatively Identified Compound considered presumptively present
- Z2 = Tentatively Identified Compound column bleed
- Z3 = Tentatively Identified Compound aldol condensate
- Z4 = Sample activity is less than the at uncertainty at 3 standard deviations and greater than the MDC
- Z5 = Sample activity is less than the at uncertainty at 3 standard deviations and less than the MDC



<b>PROJ_NO: 07776</b> <b>SDG: 240-65994-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW1A-061316			MRC-SW2A-061316			MRC-SW5A1-061316			MRC-SW5A2-061316		
	LAB_ID	240-65996-2			240-65996-3			240-65994-1			240-65994-2		
	SAMP_DATE	6/13/2016			6/13/2016			6/13/2016			6/13/2016		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
1,1,1-TRICHLOROETHANE	0.44	U		0.44	U		0.44	U		0.44	U		
1,1,2,2-TETRACHLOROETHANE	0.22	U		0.22	U		0.22	U		0.22	U		
1,1,2-TRICHLOROETHANE	0.24	U		0.24	U		0.24	U		0.24	U		
1,1,2-TRICHLOROTRIFLUOROETHANE	0.45	U		0.45	U		0.45	U		0.45	U		
1,1-DICHLOROETHANE	0.3	U		0.3	U		0.3	U		0.3	U		
1,1-DICHLOROETHENE	0.45	U		0.45	U		0.45	U		0.45	U		
1,2,4-TRICHLOROBENZENE	0.32	U		0.32	U		0.32	U		0.32	U		
1,2-DIBROMO-3-CHLOROPROPANE	0.82	UJ	C	0.82	UJ	C	0.82	UJ	C	0.82	UJ	C	
1,2-DIBROMOETHANE	0.32	U		0.32	U		0.32	U		0.32	U		
1,2-DICHLOROBENZENE	0.25	U		0.25	U		0.25	U		0.25	U		
1,2-DICHLOROETHANE	0.23	U		0.23	U		0.23	U		0.23	U		
1,2-DICHLOROPROPANE	0.25	U		0.25	U		0.25	U		0.25	U		
1,3-DICHLOROBENZENE	0.19	U		0.19	U		0.19	U		0.19	U		
1,4-DICHLOROBENZENE	0.27	U		0.27	U		0.27	U		0.27	U		
2-BUTANONE	0.53	U		0.53	U		0.53	U		0.53	U		
2-HEXANONE	0.48	U		0.48	U		0.48	U		0.48	U		
4-METHYL-2-PENTANONE	0.99	U		0.99	U		0.99	U		0.99	U		
ACETONE	0.94	U		0.94	U		0.94	U		0.94	U		
BENZENE	0.35	U		0.35	U		0.35	U		0.35	U		
BROMODICHLOROMETHANE	0.29	U		0.29	U		0.29	U		0.29	U		
BROMOFORM	0.56	U		0.56	U		0.56	U		0.56	U		
BROMOMETHANE	0.44	U		0.44	U		0.44	UJ	C	0.44	UJ	C	
CARBON DISULFIDE	0.38	U		0.38	U		0.38	U		0.38	U		
CARBON TETRACHLORIDE	0.43	U		0.43	U		0.43	U		0.43	U		
CHLOROBENZENE	0.25	U		0.25	U		0.25	U		0.25	U		
CHLORODIBROMOMETHANE	0.43	U		0.43	U		0.43	U		0.43	U		
CHLOROETHANE	0.32	U		0.32	U		0.32	U		0.32	U		
CHLOROFORM	0.25	U		0.25	U		0.25	U		0.25	U		
CHLOROMETHANE	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	
CIS-1,2-DICHLOROETHENE	0.26	U		0.26	U		0.26	U		0.26	U		
CIS-1,3-DICHLOROPROPENE	0.46	U		0.46	U		0.46	U		0.46	U		
CYCLOHEXANE	0.45	U		0.45	U		0.45	U		0.45	U		
DICHLORODIFLUOROMETHANE	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	
ETHYLBENZENE	0.25	U		0.25	U		0.25	U		0.25	U		
ISOPROPYLBENZENE	0.35	U		0.35	U		0.35	U		0.35	U		

<b>PROJ_NO: 07776</b> <b>SDG: 240-65994-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW5B-061316			MRC-SW6A-061316			MRC-SW6B-061316			MRC-SW7A-061316		
	LAB_ID	240-65994-3			240-65994-4			240-65994-5			240-65994-6		
	SAMP_DATE	6/13/2016			6/13/2016			6/13/2016			6/13/2016		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
1,1,1-TRICHLOROETHANE	0.44	U		0.44	U		0.44	U		0.44	U		
1,1,2,2-TETRACHLOROETHANE	0.22	U		0.22	U		0.22	U		0.22	U		
1,1,2-TRICHLOROETHANE	0.24	U		0.24	U		0.24	U		0.24	U		
1,1,2-TRICHLOROTRIFLUOROETHANE	0.45	U		0.45	U		0.45	U		0.45	U		
1,1-DICHLOROETHANE	0.3	U		0.3	U		0.3	U		0.3	U		
1,1-DICHLOROETHENE	0.45	U		0.45	U		0.45	U		0.45	U		
1,2,4-TRICHLOROBENZENE	0.32	U		0.32	U		0.32	U		0.32	U		
1,2-DIBROMO-3-CHLOROPROPANE	0.82	UJ	C	0.82	UJ	C	0.82	UJ	C	0.82	UJ	C	
1,2-DIBROMOETHANE	0.32	U		0.32	U		0.32	U		0.32	U		
1,2-DICHLOROBENZENE	0.25	U		0.25	U		0.25	U		0.25	U		
1,2-DICHLOROETHANE	0.23	U		0.23	U		0.23	U		0.23	U		
1,2-DICHLOROPROPANE	0.25	U		0.25	U		0.25	U		0.25	U		
1,3-DICHLOROBENZENE	0.19	U		0.19	U		0.19	U		0.19	U		
1,4-DICHLOROBENZENE	0.27	U		0.27	U		0.27	U		0.27	U		
2-BUTANONE	0.53	U		0.53	U		0.53	U		0.53	U		
2-HEXANONE	0.48	U		0.48	U		0.48	U		0.48	U		
4-METHYL-2-PENTANONE	0.99	U		0.99	U		0.99	U		0.99	U		
ACETONE	0.94	U		0.94	U		0.94	U		0.94	U		
BENZENE	0.35	U		0.35	U		0.35	U		0.35	U		
BROMODICHLOROMETHANE	0.29	U		0.29	U		0.29	U		0.29	U		
BROMOFORM	0.56	U		0.56	U		0.56	U		0.56	U		
BROMOMETHANE	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	
CARBON DISULFIDE	0.38	U		0.38	U		0.38	U		0.38	U		
CARBON TETRACHLORIDE	0.43	U		0.43	U		0.43	U		0.43	U		
CHLOROBENZENE	0.25	U		0.25	U		0.25	U		0.25	U		
CHLORODIBROMOMETHANE	0.43	U		0.43	U		0.43	U		0.43	U		
CHLOROETHANE	0.32	U		0.32	U		0.32	U		0.32	U		
CHLOROFORM	0.25	U		0.25	U		0.25	U		0.25	U		
CHLOROMETHANE	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	
CIS-1,2-DICHLOROETHENE	0.26	U		0.26	U		0.26	U		0.26	U		
CIS-1,3-DICHLOROPROPENE	0.46	U		0.46	U		0.46	U		0.46	U		
CYCLOHEXANE	0.45	U		0.45	U		0.45	U		0.45	U		
DICHLORODIFLUOROMETHANE	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	
ETHYLBENZENE	0.25	U		0.25	U		0.25	U		0.25	U		
ISOPROPYLBENZENE	0.35	U		0.35	U		0.35	U		0.35	U		

<b>PROJ_NO: 07776</b> <b>SDG: 240-65994-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW7B-061316			MRC-SW8A-061316			MRC-SW8B-061316			MRC-SW9A-061316		
	LAB_ID	240-65994-7			240-65994-8			240-65994-9			240-65994-10		
	SAMP_DATE	6/13/2016			6/13/2016			6/13/2016			6/13/2016		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
1,1,1-TRICHLOROETHANE	0.44	U		0.44	U		0.44	U		0.44	U		
1,1,2,2-TETRACHLOROETHANE	0.22	U		0.22	U		0.22	U		0.22	U		
1,1,2-TRICHLOROETHANE	0.24	U		0.24	U		0.24	U		0.24	U		
1,1,2-TRICHLOROTRIFLUOROETHANE	0.45	U		0.45	U		0.45	U		0.45	U		
1,1-DICHLOROETHANE	0.3	U		0.3	U		0.3	U		0.3	U		
1,1-DICHLOROETHENE	0.45	U		0.45	U		0.45	U		0.45	U		
1,2,4-TRICHLOROBENZENE	0.32	U		0.32	U		0.32	U		0.32	U		
1,2-DIBROMO-3-CHLOROPROPANE	0.82	UJ	C	0.82	UJ	C	0.82	UJ	C	0.82	UJ	C	
1,2-DIBROMOETHANE	0.32	U		0.32	U		0.32	U		0.32	U		
1,2-DICHLOROBENZENE	0.25	U		0.25	U		0.25	U		0.25	U		
1,2-DICHLOROETHANE	0.23	U		0.23	U		0.23	U		0.23	U		
1,2-DICHLOROPROPANE	0.25	U		0.25	U		0.25	U		0.25	U		
1,3-DICHLOROBENZENE	0.19	U		0.19	U		0.19	U		0.19	U		
1,4-DICHLOROBENZENE	0.27	U		0.27	U		0.27	U		0.27	U		
2-BUTANONE	0.53	U		0.53	U		0.53	U		0.53	U		
2-HEXANONE	0.48	U		0.48	U		0.48	U		0.48	U		
4-METHYL-2-PENTANONE	0.99	U		0.99	U		0.99	U		0.99	U		
ACETONE	2.2	J	P	0.94	U		0.94	U		0.94	U		
BENZENE	0.35	U		0.35	U		0.35	U		0.35	U		
BROMODICHLOROMETHANE	0.29	U		0.29	U		0.29	U		0.29	U		
BROMOFORM	0.56	U		0.56	U		0.56	U		0.56	U		
BROMOMETHANE	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	
CARBON DISULFIDE	0.38	U		0.38	U		0.38	U		0.38	U		
CARBON TETRACHLORIDE	0.43	U		0.43	U		0.43	U		0.43	U		
CHLOROBENZENE	0.25	U		0.25	U		0.25	U		0.25	U		
CHLORODIBROMOMETHANE	0.43	U		0.43	U		0.43	U		0.43	U		
CHLOROETHANE	0.32	U		0.32	U		0.32	U		0.32	U		
CHLOROFORM	0.25	U		0.25	U		0.25	U		0.25	U		
CHLOROMETHANE	1.1			0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	
CIS-1,2-DICHLOROETHENE	0.26	U		0.26	U		0.26	U		0.26	U		
CIS-1,3-DICHLOROPROPENE	0.46	U		0.46	U		0.46	U		0.46	U		
CYCLOHEXANE	0.45	U		0.45	U		0.45	U		0.45	U		
DICHLORODIFLUOROMETHANE	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	
ETHYLBENZENE	0.25	U		0.25	U		0.25	U		0.25	U		
ISOPROPYLBENZENE	0.35	U		0.35	U		0.35	U		0.35	U		

<b>PROJ_NO: 07776</b> <b>SDG: 240-65994-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW9B-061316			MRC-SWDUP2-061316			MRC-SWFB-061316			TB-061316		
	LAB_ID	240-65994-11			240-65996-5			240-65996-1			240-65996-4		
	SAMP_DATE	6/13/2016			6/13/2016			6/13/2016			6/13/2016		
	QC_TYPE	NM			FD			NM			TB		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF				MRC-SW6A-061316								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
1,1,1-TRICHLOROETHANE	0.44	U		0.44	U		0.44	U		0.44	U		
1,1,2,2-TETRACHLOROETHANE	0.22	U		0.22	U		0.22	U		0.22	U		
1,1,2-TRICHLOROETHANE	0.24	U		0.24	U		0.24	U		0.24	U		
1,1,2-TRICHLOROTRIFLUOROETHANE	0.45	U		0.45	U		0.45	U		0.45	U		
1,1-DICHLOROETHANE	0.3	U		0.3	U		0.3	U		0.3	U		
1,1-DICHLOROETHENE	0.45	U		0.45	U		0.45	U		0.45	U		
1,2,4-TRICHLOROBENZENE	0.32	U		0.32	U		0.32	U		0.32	U		
1,2-DIBROMO-3-CHLOROPROPANE	0.82	UJ	C	0.82	UJ	C	0.82	UJ	C	0.82	UJ	C	
1,2-DIBROMOETHANE	0.32	U		0.32	U		0.32	U		0.32	U		
1,2-DICHLOROBENZENE	0.25	U		0.25	U		0.25	U		0.25	U		
1,2-DICHLOROETHANE	0.23	U		0.23	U		0.23	U		0.23	U		
1,2-DICHLOROPROPANE	0.25	U		0.25	U		0.25	U		0.25	U		
1,3-DICHLOROBENZENE	0.19	U		0.19	U		0.19	U		0.19	U		
1,4-DICHLOROBENZENE	0.27	U		0.27	U		0.27	U		0.27	U		
2-BUTANONE	0.53	U		0.53	U		0.53	U		0.53	U		
2-HEXANONE	0.48	U		0.48	U		0.48	U		0.48	U		
4-METHYL-2-PENTANONE	0.99	U		0.99	U		0.99	U		0.99	U		
ACETONE	0.94	U		0.94	U		1.2	J	P	1.6	J	P	
BENZENE	0.35	U		0.35	U		0.35	U		0.35	U		
BROMODICHLOROMETHANE	0.29	U		0.29	U		0.46	J	P	0.46	J	P	
BROMOFORM	0.56	U		0.56	U		0.56	U		0.56	U		
BROMOMETHANE	0.44	UJ	C	0.44	U		0.44	U		0.44	U		
CARBON DISULFIDE	0.38	U		0.38	U		0.38	U		0.38	U		
CARBON TETRACHLORIDE	0.43	U		0.43	U		0.43	U		0.43	U		
CHLOROBENZENE	0.25	U		0.25	U		0.25	U		0.25	U		
CHLORODIBROMOMETHANE	0.43	U		0.43	U		0.43	U		0.43	U		
CHLOROETHANE	0.32	U		0.32	U		0.32	U		0.32	U		
CHLOROFORM	0.25	U		0.25	U		3.9			3.7			
CHLOROMETHANE	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	
CIS-1,2-DICHLOROETHENE	0.26	U		0.26	U		0.26	U		0.26	U		
CIS-1,3-DICHLOROPROPENE	0.46	U		0.46	U		0.46	U		0.46	U		
CYCLOHEXANE	0.45	U		0.45	U		0.45	U		0.45	U		
DICHLORODIFLUOROMETHANE	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	
ETHYLBENZENE	0.25	U		0.25	U		0.25	U		0.25	U		
ISOPROPYLBENZENE	0.35	U		0.35	U		0.35	U		0.35	U		

<b>PROJ_NO: 07776</b> <b>SDG: 240-65994-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW1A-061316			MRC-SW2A-061316			MRC-SW5A1-061316			MRC-SW5A2-061316		
	LAB_ID	240-65996-2			240-65996-3			240-65994-1			240-65994-2		
	SAMP_DATE	6/13/2016			6/13/2016			6/13/2016			6/13/2016		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
METHYL ACETATE	2.3	U		2.3	U		2.3	U		2.3	U		
METHYL CYCLOHEXANE	0.43	U		0.43	U		0.43	U		0.43	U		
METHYL TERT-BUTYL ETHER	0.2	U		0.2	U		0.2	U		0.2	U		
METHYLENE CHLORIDE	0.33	U		0.33	U		0.33	U		0.33	U		
STYRENE	0.45	U		0.45	U		0.45	U		0.45	U		
TETRACHLOROETHENE	0.31	U		0.31	U		0.31	U		0.31	U		
TOLUENE	0.23	U		0.23	U		0.23	U		0.23	U		
TOTAL XYLENES	0.52	U		0.52	U		0.52	U		0.52	U		
TRANS-1,2-DICHLOROETHENE	0.3	U		0.3	U		0.3	U		0.3	U		
TRANS-1,3-DICHLOROPROPENE	0.56	U		0.56	U		0.56	U		0.56	U		
TRICHLOROETHENE	0.22	U		0.22	U		0.22	U		0.22	U		
TRICHLOROFUOROMETHANE	0.49	UJ	C	0.49	UJ	C	0.49	UJ	C	0.49	UJ	C	
VINYL CHLORIDE	0.29	U		0.29	U		0.29	U		0.29	U		



<b>PROJ_NO: 07776</b> <b>SDG: 240-65994-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW5B-061316			MRC-SW6A-061316			MRC-SW6B-061316			MRC-SW7A-061316		
	LAB_ID	240-65994-3			240-65994-4			240-65994-5			240-65994-6		
	SAMP_DATE	6/13/2016			6/13/2016			6/13/2016			6/13/2016		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
METHYL ACETATE	2.3	U		2.3	U		2.3	U		2.3	U		
METHYL CYCLOHEXANE	0.43	U		0.43	U		0.43	U		0.43	U		
METHYL TERT-BUTYL ETHER	0.2	U		0.2	U		0.2	U		0.2	U		
METHYLENE CHLORIDE	0.33	U		0.33	U		0.33	U		0.33	U		
STYRENE	0.45	U		0.45	U		0.45	U		0.45	U		
TETRACHLOROETHENE	0.31	U		0.31	U		0.31	U		0.31	U		
TOLUENE	0.23	U		0.23	U		0.23	U		0.23	U		
TOTAL XYLENES	0.52	U		0.52	U		0.52	U		0.52	U		
TRANS-1,2-DICHLOROETHENE	0.3	U		0.3	U		0.3	U		0.3	U		
TRANS-1,3-DICHLOROPROPENE	0.56	U		0.56	U		0.56	U		0.56	U		
TRICHLOROETHENE	0.22	U		0.26	J	P	0.49	J	P	0.22	U		
TRICHLOROFUOROMETHANE	0.49	UJ	C	0.49	UJ	C	0.49	UJ	C	0.49	UJ	C	
VINYL CHLORIDE	0.29	U		0.29	U		0.29	U		0.29	U		

<b>PROJ_NO: 07776</b> <b>SDG: 240-65994-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW7B-061316			MRC-SW8A-061316			MRC-SW8B-061316			MRC-SW9A-061316		
	LAB_ID	240-65994-7			240-65994-8			240-65994-9			240-65994-10		
	SAMP_DATE	6/13/2016			6/13/2016			6/13/2016			6/13/2016		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
METHYL ACETATE	2.3	U		2.3	U		2.3	U		2.3	U		
METHYL CYCLOHEXANE	0.43	U		0.43	U		0.43	U		0.43	U		
METHYL TERT-BUTYL ETHER	0.2	U		0.2	U		0.2	U		0.2	U		
METHYLENE CHLORIDE	0.33	U		0.33	U		0.33	U		0.33	U		
STYRENE	0.45	U		0.45	U		0.45	U		0.45	U		
TETRACHLOROETHENE	0.31	U		0.31	U		0.31	U		0.31	U		
TOLUENE	0.23	U		0.23	U		0.23	U		0.23	U		
TOTAL XYLENES	0.52	U		0.52	U		0.52	U		0.52	U		
TRANS-1,2-DICHLOROETHENE	0.3	U		0.3	U		0.3	U		0.3	U		
TRANS-1,3-DICHLOROPROPENE	0.56	U		0.56	U		0.56	U		0.56	U		
TRICHLOROETHENE	0.22	U		0.48	J	P	0.42	J	P	0.22	U		
TRICHLOROFUOROMETHANE	0.49	UJ	C	0.49	UJ	C	0.49	UJ	C	0.49	UJ	C	
VINYL CHLORIDE	0.29	U		0.29	U		0.29	U		0.29	U		

<b>PROJ_NO: 07776</b> <b>SDG: 240-65994-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW9B-061316			MRC-SWDUP2-061316			MRC-SWFB-061316			TB-061316		
	LAB_ID	240-65994-11			240-65996-5			240-65996-1			240-65996-4		
	SAMP_DATE	6/13/2016			6/13/2016			6/13/2016			6/13/2016		
	QC_TYPE	NM			FD			NM			TB		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF				MRC-SW6A-061316								
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
METHYL ACETATE	2.3	U		2.3	U		2.3	U		2.3	U		
METHYL CYCLOHEXANE	0.43	U		0.43	U		0.43	U		0.43	U		
METHYL TERT-BUTYL ETHER	0.2	U		0.2	U		0.2	U		0.2	U		
METHYLENE CHLORIDE	0.33	U		0.33	U		0.33	U		0.33	U		
STYRENE	0.45	U		0.45	U		0.45	U		0.45	U		
TETRACHLOROETHENE	0.31	U		0.31	U		0.31	U		0.31	U		
TOLUENE	0.23	U		0.23	U		1.8			1.6			
TOTAL XYLENES	0.52	U		0.52	U		1.1	J	P	0.78	J	P	
TRANS-1,2-DICHLOROETHENE	0.3	U		0.3	U		0.3	U		0.3	U		
TRANS-1,3-DICHLOROPROPENE	0.56	U		0.56	U		0.56	U		0.56	U		
TRICHLOROETHENE	0.22	U		0.25	J	P	0.22	U		0.22	U		
TRICHLOROFUOROMETHANE	0.49	UJ	C	0.49	UJ	C	0.49	UJ	C	0.49	UJ	C	
VINYL CHLORIDE	0.29	U		0.29	U		0.29	U		0.29	U		

<b>PROJ_NO: 07776</b> <b>SDG: 240-65994-1</b> <b>FRACTION: OS</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW1A-061316			MRC-SW2A-061316			MRC-SWDUP1-061316			MRC-SWFB-061316		
	LAB_ID	240-65996-2			240-65996-3			240-65994-12			240-65996-1		
	SAMP_DATE	6/13/2016			6/13/2016			6/13/2016			6/13/2016		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF							MRC-SW2A-061316					
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
1,4-DIOXANE	0.13	J	P	0.16	J	P	0.12	J	P	0.057	U		

<b>PROJ_NO: 07776</b> <b>SDG: 240-65994-1</b> <b>FRACTION: PCB</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW5A1-061316			MRC-SW5A2-061316			MRC-SW5B-061316			MRC-SW6A-061316		
	LAB_ID	240-65994-1			240-65994-2			240-65994-3			240-65994-4		
	SAMP_DATE	6/13/2016			6/13/2016			6/13/2016			6/13/2016		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
DECACHLOROBIPHENYL	0.069	U		0.069	U		0.067	U		0.067	U		
DICHLOROBIPHENYLS	0.0054	U		0.0053	U		0.0052	U		0.0052	U		
HEPTACHLOROBIPHENYLS	0.03	U		0.029	U		0.029	U		0.029	U		
HEXACHLOROBIPHENYLS	0.015	U		0.015	U		0.014	U		0.014	U		
MONOCHLOROBIPHENYLS	0.0056	U		0.0055	U		0.0054	U		0.0054	U		
NONACHLOROBIPHENYLS	0.049	U		0.048	U		0.047	U		0.047	U		
OCTACHLOROBIPHENYLS	0.038	U		0.037	U		0.037	U		0.037	U		
PENTACHLOROBIPHENYLS	0.014	U		0.014	U		0.013	U		0.013	U		
TETRACHLOROBIPHENYLS	0.013	U		0.013	U		0.013	U		0.013	U		
TRICHLOROBIPHENYLS	0.0064	U		0.0064	U		0.0063	U		0.0063	U		



<b>PROJ_NO: 07776</b> <b>SDG: 240-65994-1</b> <b>FRACTION: PCB</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW6B-061316			MRC-SW7A-061316			MRC-SW7B-061316			MRC-SW8A-061316		
	LAB_ID	240-65994-5			240-65994-6			240-65994-7			240-65994-8		
	SAMP_DATE	6/13/2016			6/13/2016			6/13/2016			6/13/2016		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
DECACHLOROBIPHENYL	0.067	U		0.07	U		0.069	U		0.067	U		
DICHLOROBIPHENYLS	0.0052	U		0.0054	U		0.0053	U		0.0052	U		
HEPTACHLOROBIPHENYLS	0.029	U		0.03	U		0.03	U		0.029	U		
HEXACHLOROBIPHENYLS	0.014	U		0.015	U		0.015	U		0.014	U		
MONOCHLOROBIPHENYLS	0.0054	U		0.0056	U		0.0055	U		0.0054	U		
NONACHLOROBIPHENYLS	0.047	U		0.049	U		0.048	U		0.047	U		
OCTACHLOROBIPHENYLS	0.036	U		0.038	U		0.038	U		0.037	U		
PENTACHLOROBIPHENYLS	0.036	J	P	0.014	U		0.014	U		0.013	U		
TETRACHLOROBIPHENYLS	0.012	U		0.013	U		0.013	U		0.013	U		
TRICHLOROBIPHENYLS	0.0062	U		0.0065	U		0.0064	U		0.0063	U		

<b>PROJ_NO: 07776</b> <b>SDG: 240-65994-1</b> <b>FRACTION: PCB</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW8B-061316			MRC-SW9A-061316			MRC-SW9B-061316			MRC-SWDUP2-061316		
	LAB_ID	240-65994-9			240-65994-10			240-65994-11			240-65996-5		
	SAMP_DATE	6/13/2016			6/13/2016			6/13/2016			6/13/2016		
	QC_TYPE	NM			NM			NM			FD		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF										MRC-SW6A-061316		
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
DECACHLOROBIPHENYL	0.069	U		0.067	U		0.067	U		0.068	U		
DICHLOROBIPHENYLS	0.0054	U		0.0052	U		0.0052	U		0.0052	U		
HEPTACHLOROBIPHENYLS	0.03	U		0.029	U		0.029	U		0.029	U		
HEXACHLOROBIPHENYLS	0.015	U		0.014	U		0.014	U		0.014	U		
MONOCHLOROBIPHENYLS	0.0056	U		0.0054	U		0.0054	U		0.0054	U		
NONACHLOROBIPHENYLS	0.049	U		0.047	U		0.047	U		0.047	U		
OCTACHLOROBIPHENYLS	0.038	U		0.037	U		0.037	U		0.037	U		
PENTACHLOROBIPHENYLS	0.014	U		0.013	U		0.013	U		0.014	U		
TETRACHLOROBIPHENYLS	0.013	U		0.013	U		0.013	U		0.013	U		
TRICHLOROBIPHENYLS	0.0064	U		0.0063	U		0.0063	U		0.0063	U		

<b>PROJ_NO: 07776</b> <b>SDG: 240-65994-1</b> <b>FRACTION: PCB</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SWFB-061316		
	LAB_ID	240-65996-1		
	SAMP_DATE	6/13/2016		
	QC_TYPE	NM		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER	RESULT	VQL	QLCD	
DECACHLOROBIPHENYL	0.069	U		
DICHLOROBIPHENYLS	0.0053	U		
HEPTACHLOROBIPHENYLS	0.03	U		
HEXACHLOROBIPHENYLS	0.015	U		
MONOCHLOROBIPHENYLS	0.0055	U		
NONACHLOROBIPHENYLS	0.048	U		
OCTACHLOROBIPHENYLS	0.038	U		
PENTACHLOROBIPHENYLS	0.014	U		
TETRACHLOROBIPHENYLS	0.013	U		
TRICHLOROBIPHENYLS	0.0064	U		

**Appendix B**

Results as Reported by the Laboratory

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW5A1-061316 Lab Sample ID: 240-65994-1  
 Matrix: Water Lab File ID: UXJ5610.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 13:13  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 13:13  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	1.0	U	1.0	0.44
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.24
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.30
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	1.0	U	1.0	0.32
96-12-8	1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82
106-93-4	Ethylene Dibromide	1.0	U	1.0	0.32
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	0.25
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.23
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	0.27
78-93-3	2-Butanone (MEK)	10	U	10	0.53
591-78-6	2-Hexanone	10	U	10	0.48
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	0.99
67-64-1	Acetone	10	U	10	0.94
71-43-2	Benzene	1.0	U	1.0	0.35
75-27-4	Dichlorobromomethane	1.0	U	1.0	0.29
75-25-2	Bromoform	1.0	U	1.0	0.56
74-83-9	Bromomethane	1.0	U	1.0	0.44
75-15-0	Carbon disulfide	1.0	U	1.0	0.38
56-23-5	Carbon tetrachloride	1.0	U	1.0	0.43
108-90-7	Chlorobenzene	1.0	U	1.0	0.25
75-00-3	Chloroethane	1.0	U	1.0	0.32
67-66-3	Chloroform	1.0	U	1.0	0.25
74-87-3	Chloromethane	1.0	U	1.0	0.44
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.26
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.46
110-82-7	Cyclohexane	1.0	U	1.0	0.45
124-48-1	Chlorodibromomethane	1.0	U	1.0	0.43
75-71-8	Dichlorodifluoromethane	1.0	U	1.0	0.32
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
98-82-8	Isopropylbenzene	1.0	U	1.0	0.35



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW5A1-061316 Lab Sample ID: 240-65994-1  
 Matrix: Water Lab File ID: UXJ5610.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 13:13  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 13:13  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	10	U	10	2.3
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
108-87-2	Methylcyclohexane	1.0	U	1.0	0.43
75-09-2	Methylene Chloride	1.0	U *	1.0	0.33
100-42-5	Styrene	1.0	U	1.0	0.45
127-18-4	Tetrachloroethene	1.0	U	1.0	0.31
108-88-3	Toluene	1.0	U	1.0	0.23
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.30
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.56
79-01-6	Trichloroethene	1.0	U	1.0	0.22
75-69-4	Trichlorofluoromethane	1.0	U	1.0	0.49
75-01-4	Vinyl chloride	1.0	U	1.0	0.29
1330-20-7	Xylenes, Total	2.0	U	2.0	0.52

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	90		80-120
1868-53-7	Dibromofluoromethane (Surr)	92		79-120
460-00-4	4-Bromofluorobenzene (Surr)	86		61-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	96		78-125

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW5A2-061316 Lab Sample ID: 240-65994-2  
 Matrix: Water Lab File ID: UXJ5611.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 13:18  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 13:35  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	1.0	U	1.0	0.44
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.24
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.30
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	1.0	U	1.0	0.32
96-12-8	1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82
106-93-4	Ethylene Dibromide	1.0	U	1.0	0.32
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	0.25
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.23
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	0.27
78-93-3	2-Butanone (MEK)	10	U	10	0.53
591-78-6	2-Hexanone	10	U	10	0.48
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	0.99
67-64-1	Acetone	10	U	10	0.94
71-43-2	Benzene	1.0	U	1.0	0.35
75-27-4	Dichlorobromomethane	1.0	U	1.0	0.29
75-25-2	Bromoform	1.0	U	1.0	0.56
74-83-9	Bromomethane	1.0	U	1.0	0.44
75-15-0	Carbon disulfide	1.0	U	1.0	0.38
56-23-5	Carbon tetrachloride	1.0	U	1.0	0.43
108-90-7	Chlorobenzene	1.0	U	1.0	0.25
75-00-3	Chloroethane	1.0	U	1.0	0.32
67-66-3	Chloroform	1.0	U	1.0	0.25
74-87-3	Chloromethane	1.0	U	1.0	0.44
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.26
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.46
110-82-7	Cyclohexane	1.0	U	1.0	0.45
124-48-1	Chlorodibromomethane	1.0	U	1.0	0.43
75-71-8	Dichlorodifluoromethane	1.0	U	1.0	0.32
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
98-82-8	Isopropylbenzene	1.0	U	1.0	0.35

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW5A2-061316 Lab Sample ID: 240-65994-2  
 Matrix: Water Lab File ID: UXJ5611.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 13:18  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 13:35  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	10	U	10	2.3
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
108-87-2	Methylcyclohexane	1.0	U	1.0	0.43
75-09-2	Methylene Chloride	1.0	U *	1.0	0.33
100-42-5	Styrene	1.0	U	1.0	0.45
127-18-4	Tetrachloroethene	1.0	U	1.0	0.31
108-88-3	Toluene	1.0	U	1.0	0.23
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.30
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.56
79-01-6	Trichloroethene	1.0	U	1.0	0.22
75-69-4	Trichlorofluoromethane	1.0	U	1.0	0.49
75-01-4	Vinyl chloride	1.0	U	1.0	0.29
1330-20-7	Xylenes, Total	2.0	U	2.0	0.52

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	94		80-120
1868-53-7	Dibromofluoromethane (Surr)	93		79-120
460-00-4	4-Bromofluorobenzene (Surr)	89		61-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		78-125

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW5B-061316 Lab Sample ID: 240-65994-3  
 Matrix: Water Lab File ID: UXJ5612.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 13:22  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 13:57  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	1.0	U	1.0	0.44
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.24
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.30
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	1.0	U	1.0	0.32
96-12-8	1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82
106-93-4	Ethylene Dibromide	1.0	U	1.0	0.32
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	0.25
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.23
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	0.27
78-93-3	2-Butanone (MEK)	10	U	10	0.53
591-78-6	2-Hexanone	10	U	10	0.48
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	0.99
67-64-1	Acetone	10	U	10	0.94
71-43-2	Benzene	1.0	U	1.0	0.35
75-27-4	Dichlorobromomethane	1.0	U	1.0	0.29
75-25-2	Bromoform	1.0	U	1.0	0.56
74-83-9	Bromomethane	1.0	U	1.0	0.44
75-15-0	Carbon disulfide	1.0	U	1.0	0.38
56-23-5	Carbon tetrachloride	1.0	U	1.0	0.43
108-90-7	Chlorobenzene	1.0	U	1.0	0.25
75-00-3	Chloroethane	1.0	U	1.0	0.32
67-66-3	Chloroform	1.0	U	1.0	0.25
74-87-3	Chloromethane	1.0	U	1.0	0.44
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.26
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.46
110-82-7	Cyclohexane	1.0	U	1.0	0.45
124-48-1	Chlorodibromomethane	1.0	U	1.0	0.43
75-71-8	Dichlorodifluoromethane	1.0	U	1.0	0.32
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
98-82-8	Isopropylbenzene	1.0	U	1.0	0.35

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW5B-061316 Lab Sample ID: 240-65994-3  
 Matrix: Water Lab File ID: UXJ5612.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 13:22  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 13:57  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	10	U	10	2.3
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
108-87-2	Methylcyclohexane	1.0	U	1.0	0.43
75-09-2	Methylene Chloride	1.0	U *	1.0	0.33
100-42-5	Styrene	1.0	U	1.0	0.45
127-18-4	Tetrachloroethene	1.0	U	1.0	0.31
108-88-3	Toluene	1.0	U	1.0	0.23
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.30
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.56
79-01-6	Trichloroethene	1.0	U	1.0	0.22
75-69-4	Trichlorofluoromethane	1.0	U	1.0	0.49
75-01-4	Vinyl chloride	1.0	U	1.0	0.29
1330-20-7	Xylenes, Total	2.0	U	2.0	0.52

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	90		80-120
1868-53-7	Dibromofluoromethane (Surr)	93		79-120
460-00-4	4-Bromofluorobenzene (Surr)	85		61-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	95		78-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW6A-061316 Lab Sample ID: 240-65994-4  
 Matrix: Water Lab File ID: UXJ5613.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 12:41  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 14:20  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	1.0	U	1.0	0.44
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.24
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.30
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	1.0	U	1.0	0.32
96-12-8	1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82
106-93-4	Ethylene Dibromide	1.0	U	1.0	0.32
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	0.25
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.23
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	0.27
78-93-3	2-Butanone (MEK)	10	U	10	0.53
591-78-6	2-Hexanone	10	U	10	0.48
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	0.99
67-64-1	Acetone	10	U	10	0.94
71-43-2	Benzene	1.0	U	1.0	0.35
75-27-4	Dichlorobromomethane	1.0	U	1.0	0.29
75-25-2	Bromoform	1.0	U	1.0	0.56
74-83-9	Bromomethane	1.0	U	1.0	0.44
75-15-0	Carbon disulfide	1.0	U	1.0	0.38
56-23-5	Carbon tetrachloride	1.0	U	1.0	0.43
108-90-7	Chlorobenzene	1.0	U	1.0	0.25
75-00-3	Chloroethane	1.0	U	1.0	0.32
67-66-3	Chloroform	1.0	U	1.0	0.25
74-87-3	Chloromethane	1.0	U	1.0	0.44
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.26
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.46
110-82-7	Cyclohexane	1.0	U	1.0	0.45
124-48-1	Chlorodibromomethane	1.0	U	1.0	0.43
75-71-8	Dichlorodifluoromethane	1.0	U	1.0	0.32
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
98-82-8	Isopropylbenzene	1.0	U	1.0	0.35

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW6A-061316 Lab Sample ID: 240-65994-4  
 Matrix: Water Lab File ID: UXJ5613.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 12:41  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 14:20  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	10	U	10	2.3
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
108-87-2	Methylcyclohexane	1.0	U	1.0	0.43
75-09-2	Methylene Chloride	1.0	U *	1.0	0.33
100-42-5	Styrene	1.0	U	1.0	0.45
127-18-4	Tetrachloroethene	1.0	U	1.0	0.31
108-88-3	Toluene	1.0	U	1.0	0.23
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.30
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.56
79-01-6	Trichloroethene	0.26	J	1.0	0.22
75-69-4	Trichlorofluoromethane	1.0	U	1.0	0.49
75-01-4	Vinyl chloride	1.0	U	1.0	0.29
1330-20-7	Xylenes, Total	2.0	U	2.0	0.52

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	91		80-120
1868-53-7	Dibromofluoromethane (Surr)	93		79-120
460-00-4	4-Bromofluorobenzene (Surr)	86		61-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	96		78-125

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW6B-061316 Lab Sample ID: 240-65994-5  
 Matrix: Water Lab File ID: UXJ5614.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 12:52  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 14:43  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	1.0	U	1.0	0.44
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.24
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.30
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	1.0	U	1.0	0.32
96-12-8	1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82
106-93-4	Ethylene Dibromide	1.0	U	1.0	0.32
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	0.25
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.23
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	0.27
78-93-3	2-Butanone (MEK)	10	U	10	0.53
591-78-6	2-Hexanone	10	U	10	0.48
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	0.99
67-64-1	Acetone	10	U	10	0.94
71-43-2	Benzene	1.0	U	1.0	0.35
75-27-4	Dichlorobromomethane	1.0	U	1.0	0.29
75-25-2	Bromoform	1.0	U	1.0	0.56
74-83-9	Bromomethane	1.0	U	1.0	0.44
75-15-0	Carbon disulfide	1.0	U	1.0	0.38
56-23-5	Carbon tetrachloride	1.0	U	1.0	0.43
108-90-7	Chlorobenzene	1.0	U	1.0	0.25
75-00-3	Chloroethane	1.0	U	1.0	0.32
67-66-3	Chloroform	1.0	U	1.0	0.25
74-87-3	Chloromethane	1.0	U	1.0	0.44
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.26
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.46
110-82-7	Cyclohexane	1.0	U	1.0	0.45
124-48-1	Chlorodibromomethane	1.0	U	1.0	0.43
75-71-8	Dichlorodifluoromethane	1.0	U	1.0	0.32
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
98-82-8	Isopropylbenzene	1.0	U	1.0	0.35

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW6B-061316 Lab Sample ID: 240-65994-5  
 Matrix: Water Lab File ID: UXJ5614.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 12:52  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 14:43  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	10	U	10	2.3
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
108-87-2	Methylcyclohexane	1.0	U	1.0	0.43
75-09-2	Methylene Chloride	1.0	U *	1.0	0.33
100-42-5	Styrene	1.0	U	1.0	0.45
127-18-4	Tetrachloroethene	1.0	U	1.0	0.31
108-88-3	Toluene	1.0	U	1.0	0.23
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.30
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.56
79-01-6	Trichloroethene	0.49	J	1.0	0.22
75-69-4	Trichlorofluoromethane	1.0	U	1.0	0.49
75-01-4	Vinyl chloride	1.0	U	1.0	0.29
1330-20-7	Xylenes, Total	2.0	U	2.0	0.52

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	110		80-120
1868-53-7	Dibromofluoromethane (Surr)	113		79-120
460-00-4	4-Bromofluorobenzene (Surr)	104		61-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	115		78-125

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW7A-061316 Lab Sample ID: 240-65994-6  
 Matrix: Water Lab File ID: UXJ5615.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 12:18  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 15:05  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	1.0	U	1.0	0.44
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.24
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.30
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	1.0	U	1.0	0.32
96-12-8	1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82
106-93-4	Ethylene Dibromide	1.0	U	1.0	0.32
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	0.25
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.23
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	0.27
78-93-3	2-Butanone (MEK)	10	U	10	0.53
591-78-6	2-Hexanone	10	U	10	0.48
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	0.99
67-64-1	Acetone	10	U	10	0.94
71-43-2	Benzene	1.0	U	1.0	0.35
75-27-4	Dichlorobromomethane	1.0	U	1.0	0.29
75-25-2	Bromoform	1.0	U	1.0	0.56
74-83-9	Bromomethane	1.0	U	1.0	0.44
75-15-0	Carbon disulfide	1.0	U	1.0	0.38
56-23-5	Carbon tetrachloride	1.0	U	1.0	0.43
108-90-7	Chlorobenzene	1.0	U	1.0	0.25
75-00-3	Chloroethane	1.0	U	1.0	0.32
67-66-3	Chloroform	1.0	U	1.0	0.25
74-87-3	Chloromethane	1.0	U	1.0	0.44
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.26
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.46
110-82-7	Cyclohexane	1.0	U	1.0	0.45
124-48-1	Chlorodibromomethane	1.0	U	1.0	0.43
75-71-8	Dichlorodifluoromethane	1.0	U	1.0	0.32
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
98-82-8	Isopropylbenzene	1.0	U	1.0	0.35

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW7A-061316 Lab Sample ID: 240-65994-6  
 Matrix: Water Lab File ID: UXJ5615.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 12:18  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 15:05  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	10	U	10	2.3
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
108-87-2	Methylcyclohexane	1.0	U	1.0	0.43
75-09-2	Methylene Chloride	1.0	U *	1.0	0.33
100-42-5	Styrene	1.0	U	1.0	0.45
127-18-4	Tetrachloroethene	1.0	U	1.0	0.31
108-88-3	Toluene	1.0	U	1.0	0.23
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.30
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.56
79-01-6	Trichloroethene	1.0	U	1.0	0.22
75-69-4	Trichlorofluoromethane	1.0	U	1.0	0.49
75-01-4	Vinyl chloride	1.0	U	1.0	0.29
1330-20-7	Xylenes, Total	2.0	U	2.0	0.52

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	89		80-120
1868-53-7	Dibromofluoromethane (Surr)	91		79-120
460-00-4	4-Bromofluorobenzene (Surr)	83		61-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	96		78-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW7B-061316 Lab Sample ID: 240-65994-7  
 Matrix: Water Lab File ID: UXJ5616.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 12:24  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 15:27  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	1.0	U	1.0	0.44
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.24
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.30
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	1.0	U	1.0	0.32
96-12-8	1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82
106-93-4	Ethylene Dibromide	1.0	U	1.0	0.32
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	0.25
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.23
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	0.27
78-93-3	2-Butanone (MEK)	10	U	10	0.53
591-78-6	2-Hexanone	10	U	10	0.48
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	0.99
67-64-1	Acetone	2.2	J	10	0.94
71-43-2	Benzene	1.0	U	1.0	0.35
75-27-4	Dichlorobromomethane	1.0	U	1.0	0.29
75-25-2	Bromoform	1.0	U	1.0	0.56
74-83-9	Bromomethane	1.0	U	1.0	0.44
75-15-0	Carbon disulfide	1.0	U	1.0	0.38
56-23-5	Carbon tetrachloride	1.0	U	1.0	0.43
108-90-7	Chlorobenzene	1.0	U	1.0	0.25
75-00-3	Chloroethane	1.0	U	1.0	0.32
67-66-3	Chloroform	1.0	U	1.0	0.25
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.26
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.46
110-82-7	Cyclohexane	1.0	U	1.0	0.45
124-48-1	Chlorodibromomethane	1.0	U	1.0	0.43
75-71-8	Dichlorodifluoromethane	1.0	U	1.0	0.32
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
98-82-8	Isopropylbenzene	1.0	U	1.0	0.35
79-20-9	Methyl acetate	10	U	10	2.3

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW7B-061316 Lab Sample ID: 240-65994-7  
 Matrix: Water Lab File ID: UXJ5616.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 12:24  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 15:27  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
108-87-2	Methylcyclohexane	1.0	U	1.0	0.43
75-09-2	Methylene Chloride	1.0	U *	1.0	0.33
100-42-5	Styrene	1.0	U	1.0	0.45
127-18-4	Tetrachloroethene	1.0	U	1.0	0.31
108-88-3	Toluene	1.0	U	1.0	0.23
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.30
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.56
79-01-6	Trichloroethene	1.0	U	1.0	0.22
75-69-4	Trichlorofluoromethane	1.0	U	1.0	0.49
75-01-4	Vinyl chloride	1.0	U	1.0	0.29
1330-20-7	Xylenes, Total	2.0	U	2.0	0.52

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	89		80-120
1868-53-7	Dibromofluoromethane (Surr)	91		79-120
460-00-4	4-Bromofluorobenzene (Surr)	84		61-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		78-125

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW7B-061316 Lab Sample ID: 240-65994-7  
 Matrix: Water Lab File ID: UXJ5670.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 12:24  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/21/2016 13:59  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235310 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	1.1		1.0	0.44

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	95		80-120
1868-53-7	Dibromofluoromethane (Surr)	97		79-120
460-00-4	4-Bromofluorobenzene (Surr)	89		61-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		78-125

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW8A-061316 Lab Sample ID: 240-65994-8  
 Matrix: Water Lab File ID: UXJ5617.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 12:57  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 15:49  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	1.0	U	1.0	0.44
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.24
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.30
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	1.0	U	1.0	0.32
96-12-8	1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82
106-93-4	Ethylene Dibromide	1.0	U	1.0	0.32
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	0.25
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.23
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	0.27
78-93-3	2-Butanone (MEK)	10	U	10	0.53
591-78-6	2-Hexanone	10	U	10	0.48
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	0.99
67-64-1	Acetone	10	U	10	0.94
71-43-2	Benzene	1.0	U	1.0	0.35
75-27-4	Dichlorobromomethane	1.0	U	1.0	0.29
75-25-2	Bromoform	1.0	U	1.0	0.56
74-83-9	Bromomethane	1.0	U	1.0	0.44
75-15-0	Carbon disulfide	1.0	U	1.0	0.38
56-23-5	Carbon tetrachloride	1.0	U	1.0	0.43
108-90-7	Chlorobenzene	1.0	U	1.0	0.25
75-00-3	Chloroethane	1.0	U	1.0	0.32
67-66-3	Chloroform	1.0	U	1.0	0.25
74-87-3	Chloromethane	1.0	U	1.0	0.44
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.26
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.46
110-82-7	Cyclohexane	1.0	U	1.0	0.45
124-48-1	Chlorodibromomethane	1.0	U	1.0	0.43
75-71-8	Dichlorodifluoromethane	1.0	U	1.0	0.32
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
98-82-8	Isopropylbenzene	1.0	U	1.0	0.35

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW8A-061316 Lab Sample ID: 240-65994-8  
 Matrix: Water Lab File ID: UXJ5617.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 12:57  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 15:49  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	10	U	10	2.3
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
108-87-2	Methylcyclohexane	1.0	U	1.0	0.43
75-09-2	Methylene Chloride	1.0	U *	1.0	0.33
100-42-5	Styrene	1.0	U	1.0	0.45
127-18-4	Tetrachloroethene	1.0	U	1.0	0.31
108-88-3	Toluene	1.0	U	1.0	0.23
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.30
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.56
79-01-6	Trichloroethene	0.48	J	1.0	0.22
75-69-4	Trichlorofluoromethane	1.0	U	1.0	0.49
75-01-4	Vinyl chloride	1.0	U	1.0	0.29
1330-20-7	Xylenes, Total	2.0	U	2.0	0.52

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	94		80-120
1868-53-7	Dibromofluoromethane (Surr)	96		79-120
460-00-4	4-Bromofluorobenzene (Surr)	89		61-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		78-125

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW8B-061316 Lab Sample ID: 240-65994-9  
 Matrix: Water Lab File ID: UXJ5618.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 13:04  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 16:12  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	1.0	U	1.0	0.44
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.24
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.30
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	1.0	U	1.0	0.32
96-12-8	1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82
106-93-4	Ethylene Dibromide	1.0	U	1.0	0.32
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	0.25
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.23
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	0.27
78-93-3	2-Butanone (MEK)	10	U	10	0.53
591-78-6	2-Hexanone	10	U	10	0.48
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	0.99
67-64-1	Acetone	10	U	10	0.94
71-43-2	Benzene	1.0	U	1.0	0.35
75-27-4	Dichlorobromomethane	1.0	U	1.0	0.29
75-25-2	Bromoform	1.0	U	1.0	0.56
74-83-9	Bromomethane	1.0	U	1.0	0.44
75-15-0	Carbon disulfide	1.0	U	1.0	0.38
56-23-5	Carbon tetrachloride	1.0	U	1.0	0.43
108-90-7	Chlorobenzene	1.0	U	1.0	0.25
75-00-3	Chloroethane	1.0	U	1.0	0.32
67-66-3	Chloroform	1.0	U	1.0	0.25
74-87-3	Chloromethane	1.0	U	1.0	0.44
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.26
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.46
110-82-7	Cyclohexane	1.0	U	1.0	0.45
124-48-1	Chlorodibromomethane	1.0	U	1.0	0.43
75-71-8	Dichlorodifluoromethane	1.0	U	1.0	0.32
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
98-82-8	Isopropylbenzene	1.0	U	1.0	0.35



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW8B-061316 Lab Sample ID: 240-65994-9  
 Matrix: Water Lab File ID: UXJ5618.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 13:04  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 16:12  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	10	U	10	2.3
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
108-87-2	Methylcyclohexane	1.0	U	1.0	0.43
75-09-2	Methylene Chloride	1.0	U *	1.0	0.33
100-42-5	Styrene	1.0	U	1.0	0.45
127-18-4	Tetrachloroethene	1.0	U	1.0	0.31
108-88-3	Toluene	1.0	U	1.0	0.23
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.30
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.56
79-01-6	Trichloroethene	0.42	J	1.0	0.22
75-69-4	Trichlorofluoromethane	1.0	U	1.0	0.49
75-01-4	Vinyl chloride	1.0	U	1.0	0.29
1330-20-7	Xylenes, Total	2.0	U	2.0	0.52

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	91		80-120
1868-53-7	Dibromofluoromethane (Surr)	91		79-120
460-00-4	4-Bromofluorobenzene (Surr)	84		61-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	95		78-125

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW9A-061316 Lab Sample ID: 240-65994-10  
 Matrix: Water Lab File ID: UXJ5619.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 12:29  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 16:34  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	1.0	U	1.0	0.44
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.24
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.30
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	1.0	U	1.0	0.32
96-12-8	1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82
106-93-4	Ethylene Dibromide	1.0	U	1.0	0.32
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	0.25
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.23
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	0.27
78-93-3	2-Butanone (MEK)	10	U	10	0.53
591-78-6	2-Hexanone	10	U	10	0.48
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	0.99
67-64-1	Acetone	10	U	10	0.94
71-43-2	Benzene	1.0	U	1.0	0.35
75-27-4	Dichlorobromomethane	1.0	U	1.0	0.29
75-25-2	Bromoform	1.0	U	1.0	0.56
74-83-9	Bromomethane	1.0	U	1.0	0.44
75-15-0	Carbon disulfide	1.0	U	1.0	0.38
56-23-5	Carbon tetrachloride	1.0	U	1.0	0.43
108-90-7	Chlorobenzene	1.0	U	1.0	0.25
75-00-3	Chloroethane	1.0	U	1.0	0.32
67-66-3	Chloroform	1.0	U	1.0	0.25
74-87-3	Chloromethane	1.0	U	1.0	0.44
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.26
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.46
110-82-7	Cyclohexane	1.0	U	1.0	0.45
124-48-1	Chlorodibromomethane	1.0	U	1.0	0.43
75-71-8	Dichlorodifluoromethane	1.0	U	1.0	0.32
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
98-82-8	Isopropylbenzene	1.0	U	1.0	0.35

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW9A-061316 Lab Sample ID: 240-65994-10  
 Matrix: Water Lab File ID: UXJ5619.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 12:29  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 16:34  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	10	U	10	2.3
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
108-87-2	Methylcyclohexane	1.0	U	1.0	0.43
75-09-2	Methylene Chloride	1.0	U *	1.0	0.33
100-42-5	Styrene	1.0	U	1.0	0.45
127-18-4	Tetrachloroethene	1.0	U	1.0	0.31
108-88-3	Toluene	1.0	U	1.0	0.23
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.30
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.56
79-01-6	Trichloroethene	1.0	U	1.0	0.22
75-69-4	Trichlorofluoromethane	1.0	U	1.0	0.49
75-01-4	Vinyl chloride	1.0	U	1.0	0.29
1330-20-7	Xylenes, Total	2.0	U	2.0	0.52

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	94		80-120
1868-53-7	Dibromofluoromethane (Surr)	94		79-120
460-00-4	4-Bromofluorobenzene (Surr)	87		61-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		78-125

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW9B-061316 Lab Sample ID: 240-65994-11  
 Matrix: Water Lab File ID: UXJ5620.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 12:34  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 16:57  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	1.0	U	1.0	0.44
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.24
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.30
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	1.0	U	1.0	0.32
96-12-8	1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82
106-93-4	Ethylene Dibromide	1.0	U	1.0	0.32
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	0.25
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.23
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	0.27
78-93-3	2-Butanone (MEK)	10	U	10	0.53
591-78-6	2-Hexanone	10	U	10	0.48
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	0.99
67-64-1	Acetone	10	U	10	0.94
71-43-2	Benzene	1.0	U	1.0	0.35
75-27-4	Dichlorobromomethane	1.0	U	1.0	0.29
75-25-2	Bromoform	1.0	U	1.0	0.56
74-83-9	Bromomethane	1.0	U	1.0	0.44
75-15-0	Carbon disulfide	1.0	U	1.0	0.38
56-23-5	Carbon tetrachloride	1.0	U	1.0	0.43
108-90-7	Chlorobenzene	1.0	U	1.0	0.25
75-00-3	Chloroethane	1.0	U	1.0	0.32
67-66-3	Chloroform	1.0	U	1.0	0.25
74-87-3	Chloromethane	1.0	U	1.0	0.44
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.26
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.46
110-82-7	Cyclohexane	1.0	U	1.0	0.45
124-48-1	Chlorodibromomethane	1.0	U	1.0	0.43
75-71-8	Dichlorodifluoromethane	1.0	U	1.0	0.32
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
98-82-8	Isopropylbenzene	1.0	U	1.0	0.35

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW9B-061316 Lab Sample ID: 240-65994-11  
 Matrix: Water Lab File ID: UXJ5620.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 12:34  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 16:57  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	10	U	10	2.3
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
108-87-2	Methylcyclohexane	1.0	U	1.0	0.43
75-09-2	Methylene Chloride	1.0	U *	1.0	0.33
100-42-5	Styrene	1.0	U	1.0	0.45
127-18-4	Tetrachloroethene	1.0	U	1.0	0.31
108-88-3	Toluene	1.0	U	1.0	0.23
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.30
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.56
79-01-6	Trichloroethene	1.0	U	1.0	0.22
75-69-4	Trichlorofluoromethane	1.0	U	1.0	0.49
75-01-4	Vinyl chloride	1.0	U	1.0	0.29
1330-20-7	Xylenes, Total	2.0	U	2.0	0.52

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	91		80-120
1868-53-7	Dibromofluoromethane (Surr)	93		79-120
460-00-4	4-Bromofluorobenzene (Surr)	86		61-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		78-125

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SWFB-061316 Lab Sample ID: 240-65996-1  
 Matrix: Water Lab File ID: UXM6074.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 00:00  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 18:04  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235221 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	1.0	U	1.0	0.44
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.24
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.30
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	1.0	U	1.0	0.32
96-12-8	1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82
106-93-4	Ethylene Dibromide	1.0	U	1.0	0.32
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	0.25
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.23
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	0.27
78-93-3	2-Butanone (MEK)	10	U	10	0.53
591-78-6	2-Hexanone	10	U	10	0.48
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	0.99
67-64-1	Acetone	1.2	J	10	0.94
71-43-2	Benzene	1.0	U	1.0	0.35
75-27-4	Dichlorobromomethane	0.46	J	1.0	0.29
75-25-2	Bromoform	1.0	U	1.0	0.56
74-83-9	Bromomethane	1.0	U	1.0	0.44
75-15-0	Carbon disulfide	1.0	U	1.0	0.38
56-23-5	Carbon tetrachloride	1.0	U	1.0	0.43
108-90-7	Chlorobenzene	1.0	U	1.0	0.25
75-00-3	Chloroethane	1.0	U	1.0	0.32
67-66-3	Chloroform	3.9		1.0	0.25
74-87-3	Chloromethane	1.0	U	1.0	0.44
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.26
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.46
110-82-7	Cyclohexane	1.0	U	1.0	0.45
124-48-1	Chlorodibromomethane	1.0	U	1.0	0.43
75-71-8	Dichlorodifluoromethane	1.0	U	1.0	0.32
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
98-82-8	Isopropylbenzene	1.0	U	1.0	0.35



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SWFB-061316 Lab Sample ID: 240-65996-1  
 Matrix: Water Lab File ID: UXM6074.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 00:00  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 18:04  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235221 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	10	U	10	2.3
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
108-87-2	Methylcyclohexane	1.0	U	1.0	0.43
75-09-2	Methylene Chloride	1.0	U	1.0	0.33
100-42-5	Styrene	1.0	U	1.0	0.45
127-18-4	Tetrachloroethene	1.0	U	1.0	0.31
108-88-3	Toluene	1.8		1.0	0.23
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.30
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.56
79-01-6	Trichloroethene	1.0	U	1.0	0.22
75-69-4	Trichlorofluoromethane	1.0	U	1.0	0.49
75-01-4	Vinyl chloride	1.0	U	1.0	0.29
1330-20-7	Xylenes, Total	1.1	J	2.0	0.52

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	104		80-120
1868-53-7	Dibromofluoromethane (Surr)	99		79-120
460-00-4	4-Bromofluorobenzene (Surr)	99		61-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	95		78-125

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW1A-061316 Lab Sample ID: 240-65996-2  
 Matrix: Water Lab File ID: UXM6075.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 11:51  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 18:27  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235221 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	1.0	U	1.0	0.44
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.24
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.30
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	1.0	U	1.0	0.32
96-12-8	1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82
106-93-4	Ethylene Dibromide	1.0	U	1.0	0.32
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	0.25
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.23
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	0.27
78-93-3	2-Butanone (MEK)	10	U	10	0.53
591-78-6	2-Hexanone	10	U	10	0.48
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	0.99
67-64-1	Acetone	10	U	10	0.94
71-43-2	Benzene	1.0	U	1.0	0.35
75-27-4	Dichlorobromomethane	1.0	U	1.0	0.29
75-25-2	Bromoform	1.0	U	1.0	0.56
74-83-9	Bromomethane	1.0	U	1.0	0.44
75-15-0	Carbon disulfide	1.0	U	1.0	0.38
56-23-5	Carbon tetrachloride	1.0	U	1.0	0.43
108-90-7	Chlorobenzene	1.0	U	1.0	0.25
75-00-3	Chloroethane	1.0	U	1.0	0.32
67-66-3	Chloroform	1.0	U	1.0	0.25
74-87-3	Chloromethane	1.0	U	1.0	0.44
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.26
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.46
110-82-7	Cyclohexane	1.0	U	1.0	0.45
124-48-1	Chlorodibromomethane	1.0	U	1.0	0.43
75-71-8	Dichlorodifluoromethane	1.0	U	1.0	0.32
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
98-82-8	Isopropylbenzene	1.0	U	1.0	0.35

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW1A-061316 Lab Sample ID: 240-65996-2  
 Matrix: Water Lab File ID: UXM6075.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 11:51  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 18:27  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235221 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	10	U	10	2.3
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
108-87-2	Methylcyclohexane	1.0	U	1.0	0.43
75-09-2	Methylene Chloride	1.0	U	1.0	0.33
100-42-5	Styrene	1.0	U	1.0	0.45
127-18-4	Tetrachloroethene	1.0	U	1.0	0.31
108-88-3	Toluene	1.0	U	1.0	0.23
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.30
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.56
79-01-6	Trichloroethene	1.0	U	1.0	0.22
75-69-4	Trichlorofluoromethane	1.0	U	1.0	0.49
75-01-4	Vinyl chloride	1.0	U	1.0	0.29
1330-20-7	Xylenes, Total	2.0	U	2.0	0.52

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	104		80-120
1868-53-7	Dibromofluoromethane (Surr)	94		79-120
460-00-4	4-Bromofluorobenzene (Surr)	99		61-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	96		78-125

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW2A-061316 Lab Sample ID: 240-65996-3  
 Matrix: Water Lab File ID: UXM6076.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 11:58  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 18:50  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235221 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	1.0	U	1.0	0.44
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.24
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.30
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	1.0	U	1.0	0.32
96-12-8	1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82
106-93-4	Ethylene Dibromide	1.0	U	1.0	0.32
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	0.25
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.23
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	0.27
78-93-3	2-Butanone (MEK)	10	U	10	0.53
591-78-6	2-Hexanone	10	U	10	0.48
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	0.99
67-64-1	Acetone	10	U	10	0.94
71-43-2	Benzene	1.0	U	1.0	0.35
75-27-4	Dichlorobromomethane	1.0	U	1.0	0.29
75-25-2	Bromoform	1.0	U	1.0	0.56
74-83-9	Bromomethane	1.0	U	1.0	0.44
75-15-0	Carbon disulfide	1.0	U	1.0	0.38
56-23-5	Carbon tetrachloride	1.0	U	1.0	0.43
108-90-7	Chlorobenzene	1.0	U	1.0	0.25
75-00-3	Chloroethane	1.0	U	1.0	0.32
67-66-3	Chloroform	1.0	U	1.0	0.25
74-87-3	Chloromethane	1.0	U	1.0	0.44
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.26
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.46
110-82-7	Cyclohexane	1.0	U	1.0	0.45
124-48-1	Chlorodibromomethane	1.0	U	1.0	0.43
75-71-8	Dichlorodifluoromethane	1.0	U	1.0	0.32
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
98-82-8	Isopropylbenzene	1.0	U	1.0	0.35

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW2A-061316 Lab Sample ID: 240-65996-3  
 Matrix: Water Lab File ID: UXM6076.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 11:58  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 18:50  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235221 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	10	U	10	2.3
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
108-87-2	Methylcyclohexane	1.0	U	1.0	0.43
75-09-2	Methylene Chloride	1.0	U	1.0	0.33
100-42-5	Styrene	1.0	U	1.0	0.45
127-18-4	Tetrachloroethene	1.0	U	1.0	0.31
108-88-3	Toluene	1.0	U	1.0	0.23
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.30
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.56
79-01-6	Trichloroethene	1.0	U	1.0	0.22
75-69-4	Trichlorofluoromethane	1.0	U	1.0	0.49
75-01-4	Vinyl chloride	1.0	U	1.0	0.29
1330-20-7	Xylenes, Total	2.0	U	2.0	0.52

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	102		80-120
1868-53-7	Dibromofluoromethane (Surr)	91		79-120
460-00-4	4-Bromofluorobenzene (Surr)	97		61-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		78-125

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: TB-061316 Lab Sample ID: 240-65996-4  
 Matrix: Water Lab File ID: UXM6077.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 00:00  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 19:12  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235221 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	1.0	U	1.0	0.44
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.24
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.30
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	1.0	U	1.0	0.32
96-12-8	1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82
106-93-4	Ethylene Dibromide	1.0	U	1.0	0.32
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	0.25
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.23
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	0.27
78-93-3	2-Butanone (MEK)	10	U	10	0.53
591-78-6	2-Hexanone	10	U	10	0.48
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	0.99
67-64-1	Acetone	1.6	J	10	0.94
71-43-2	Benzene	1.0	U	1.0	0.35
75-27-4	Dichlorobromomethane	0.46	J	1.0	0.29
75-25-2	Bromoform	1.0	U	1.0	0.56
74-83-9	Bromomethane	1.0	U	1.0	0.44
75-15-0	Carbon disulfide	1.0	U	1.0	0.38
56-23-5	Carbon tetrachloride	1.0	U	1.0	0.43
108-90-7	Chlorobenzene	1.0	U	1.0	0.25
75-00-3	Chloroethane	1.0	U	1.0	0.32
67-66-3	Chloroform	3.7		1.0	0.25
74-87-3	Chloromethane	1.0	U	1.0	0.44
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.26
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.46
110-82-7	Cyclohexane	1.0	U	1.0	0.45
124-48-1	Chlorodibromomethane	1.0	U	1.0	0.43
75-71-8	Dichlorodifluoromethane	1.0	U	1.0	0.32
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
98-82-8	Isopropylbenzene	1.0	U	1.0	0.35



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: TB-061316 Lab Sample ID: 240-65996-4  
 Matrix: Water Lab File ID: UXM6077.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 00:00  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 19:12  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235221 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	10	U	10	2.3
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
108-87-2	Methylcyclohexane	1.0	U	1.0	0.43
75-09-2	Methylene Chloride	1.0	U	1.0	0.33
100-42-5	Styrene	1.0	U	1.0	0.45
127-18-4	Tetrachloroethene	1.0	U	1.0	0.31
108-88-3	Toluene	1.6		1.0	0.23
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.30
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.56
79-01-6	Trichloroethene	1.0	U	1.0	0.22
75-69-4	Trichlorofluoromethane	1.0	U	1.0	0.49
75-01-4	Vinyl chloride	1.0	U	1.0	0.29
1330-20-7	Xylenes, Total	0.78	J	2.0	0.52

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	104		80-120
1868-53-7	Dibromofluoromethane (Surr)	97		79-120
460-00-4	4-Bromofluorobenzene (Surr)	100		61-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		78-125

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SWDUP2-061316 Lab Sample ID: 240-65996-5  
 Matrix: Water Lab File ID: UXM6078.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 00:00  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 19:35  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235221 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	1.0	U	1.0	0.44
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.24
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.30
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	1.0	U	1.0	0.32
96-12-8	1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82
106-93-4	Ethylene Dibromide	1.0	U	1.0	0.32
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	0.25
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.23
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	0.27
78-93-3	2-Butanone (MEK)	10	U	10	0.53
591-78-6	2-Hexanone	10	U	10	0.48
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	0.99
67-64-1	Acetone	10	U	10	0.94
71-43-2	Benzene	1.0	U	1.0	0.35
75-27-4	Dichlorobromomethane	1.0	U	1.0	0.29
75-25-2	Bromoform	1.0	U	1.0	0.56
74-83-9	Bromomethane	1.0	U	1.0	0.44
75-15-0	Carbon disulfide	1.0	U	1.0	0.38
56-23-5	Carbon tetrachloride	1.0	U	1.0	0.43
108-90-7	Chlorobenzene	1.0	U	1.0	0.25
75-00-3	Chloroethane	1.0	U	1.0	0.32
67-66-3	Chloroform	1.0	U	1.0	0.25
74-87-3	Chloromethane	1.0	U	1.0	0.44
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.26
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.46
110-82-7	Cyclohexane	1.0	U	1.0	0.45
124-48-1	Chlorodibromomethane	1.0	U	1.0	0.43
75-71-8	Dichlorodifluoromethane	1.0	U	1.0	0.32
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
98-82-8	Isopropylbenzene	1.0	U	1.0	0.35

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SWDUP2-061316 Lab Sample ID: 240-65996-5  
 Matrix: Water Lab File ID: UXM6078.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 00:00  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 19:35  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235221 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	10	U	10	2.3
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
108-87-2	Methylcyclohexane	1.0	U	1.0	0.43
75-09-2	Methylene Chloride	1.0	U	1.0	0.33
100-42-5	Styrene	1.0	U	1.0	0.45
127-18-4	Tetrachloroethene	1.0	U	1.0	0.31
108-88-3	Toluene	1.0	U	1.0	0.23
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.30
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.56
79-01-6	Trichloroethene	0.25	J	1.0	0.22
75-69-4	Trichlorofluoromethane	1.0	U	1.0	0.49
75-01-4	Vinyl chloride	1.0	U	1.0	0.29
1330-20-7	Xylenes, Total	2.0	U	2.0	0.52

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	100		80-120
1868-53-7	Dibromofluoromethane (Surr)	92		79-120
460-00-4	4-Bromofluorobenzene (Surr)	98		61-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	94		78-125

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SWDUP1-061316 Lab Sample ID: 240-65994-12  
 Matrix: Water Lab File ID: 20474\_27.D  
 Analysis Method: 522 MOD Date Collected: 06/13/2016 00:00  
 Extract. Method: 3535A Date Extracted: 06/16/2016 18:26  
 Sample wt/vol: 100 (mL) Date Analyzed: 06/17/2016 16:32  
 Con. Extract Vol.: 2000 (uL) Dilution Factor: 1  
 Injection Volume: 2 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 105857 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.12	J	0.20	0.057

CAS NO.	SURROGATE	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8 (Surr)	105		70-130

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SWFB-061316 Lab Sample ID: 240-65996-1  
 Matrix: Water Lab File ID: 20593\_15.D  
 Analysis Method: 522 MOD Date Collected: 06/13/2016 00:00  
 Extract. Method: 3535A Date Extracted: 06/22/2016 18:02  
 Sample wt/vol: 100 (mL) Date Analyzed: 06/24/2016 23:32  
 Con. Extract Vol.: 2000 (uL) Dilution Factor: 1  
 Injection Volume: 2 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 106221 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.20	U	0.20	0.057

CAS NO.	SURROGATE	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8 (Surr)	95		70-130

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW1A-061316 Lab Sample ID: 240-65996-2  
 Matrix: Water Lab File ID: 20593\_16.D  
 Analysis Method: 522 MOD Date Collected: 06/13/2016 11:51  
 Extract. Method: 3535A Date Extracted: 06/22/2016 18:02  
 Sample wt/vol: 100 (mL) Date Analyzed: 06/24/2016 23:45  
 Con. Extract Vol.: 2000 (uL) Dilution Factor: 1  
 Injection Volume: 2 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 106221 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.13	J	0.20	0.057

CAS NO.	SURROGATE	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8 (Surr)	92		70-130



FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW2A-061316 Lab Sample ID: 240-65996-3  
 Matrix: Water Lab File ID: 20593\_17.D  
 Analysis Method: 522 MOD Date Collected: 06/13/2016 11:58  
 Extract. Method: 3535A Date Extracted: 06/22/2016 18:02  
 Sample wt/vol: 100 (mL) Date Analyzed: 06/24/2016 23:59  
 Con. Extract Vol.: 2000 (uL) Dilution Factor: 1  
 Injection Volume: 2 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 106221 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.16	J	0.20	0.057

CAS NO.	SURROGATE	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8 (Surr)	97		70-130

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW5A1-061316 Lab Sample ID: 240-65994-1  
 Matrix: Water Lab File ID: Xf2018.D  
 Analysis Method: 680 Date Collected: 06/13/2016 13:13  
 Extract. Method: 680 Date Extracted: 06/16/2016 13:29  
 Sample wt/vol: 504.4 (mL) Date Analyzed: 06/20/2016 16:30  
 Con. Extract Vol.: .5 (mL) Dilution Factor: 1  
 Injection Volume: 2 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 438006 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	0.30	U *	0.30	0.030
26601-64-9	Hexachlorobiphenyl	0.20	U *	0.20	0.015
53742-07-7	Nonachlorobiphenyl	0.50	U *	0.50	0.049
55722-26-4	Octachlorobiphenyl	0.30	U *	0.30	0.038
27323-18-8	Monochlorobiphenyl	0.099	U *	0.099	0.0056
2051-24-3	DCB Decachlorobiphenyl	0.50	U *	0.50	0.069
25512-42-9	Dichlorobiphenyl	0.099	U *	0.099	0.0054
25429-29-2	Pentachlorobiphenyl	0.20	U *	0.20	0.014
26914-33-0	Tetrachlorobiphenyl	0.20	U *	0.20	0.013
25323-68-6	Trichlorobiphenyl	0.099	U *	0.099	0.0064

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	48	*	25-113

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW5A2-061316 Lab Sample ID: 240-65994-2  
 Matrix: Water Lab File ID: Xf2112.D  
 Analysis Method: 680 Date Collected: 06/13/2016 13:18  
 Extract. Method: 680 Date Extracted: 06/16/2016 13:29  
 Sample wt/vol: 509.9(mL) Date Analyzed: 06/22/2016 01:01  
 Con. Extract Vol.: .5(mL) Dilution Factor: 1  
 Injection Volume: 2(uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 438264 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	0.29	U	0.29	0.029
26601-64-9	Hexachlorobiphenyl	0.20	U	0.20	0.015
53742-07-7	Nonachlorobiphenyl	0.49	U	0.49	0.048
55722-26-4	Octachlorobiphenyl	0.29	U	0.29	0.037
27323-18-8	Monochlorobiphenyl	0.098	U	0.098	0.0055
2051-24-3	DCB Decachlorobiphenyl	0.49	U	0.49	0.069
25512-42-9	Dichlorobiphenyl	0.098	U	0.098	0.0053
25429-29-2	Pentachlorobiphenyl	0.20	U	0.20	0.014
26914-33-0	Tetrachlorobiphenyl	0.20	U	0.20	0.013
25323-68-6	Trichlorobiphenyl	0.098	U	0.098	0.0064

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	83		25-113

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW5B-061316 Lab Sample ID: 240-65994-3  
 Matrix: Water Lab File ID: Xf2113.D  
 Analysis Method: 680 Date Collected: 06/13/2016 13:22  
 Extract. Method: 680 Date Extracted: 06/16/2016 13:29  
 Sample wt/vol: 1037.6 (mL) Date Analyzed: 06/22/2016 01:30  
 Con. Extract Vol.: 1 (mL) Dilution Factor: 1  
 Injection Volume: 2 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 438264 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	0.29	U	0.29	0.029
26601-64-9	Hexachlorobiphenyl	0.19	U	0.19	0.014
53742-07-7	Nonachlorobiphenyl	0.48	U	0.48	0.047
55722-26-4	Octachlorobiphenyl	0.29	U	0.29	0.037
27323-18-8	Monochlorobiphenyl	0.096	U	0.096	0.0054
2051-24-3	DCB Decachlorobiphenyl	0.48	U	0.48	0.067
25512-42-9	Dichlorobiphenyl	0.096	U	0.096	0.0052
25429-29-2	Pentachlorobiphenyl	0.19	U	0.19	0.013
26914-33-0	Tetrachlorobiphenyl	0.19	U	0.19	0.013
25323-68-6	Trichlorobiphenyl	0.096	U	0.096	0.0063

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	71		25-113

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW6A-061316 Lab Sample ID: 240-65994-4  
 Matrix: Water Lab File ID: Xf2114.D  
 Analysis Method: 680 Date Collected: 06/13/2016 12:41  
 Extract. Method: 680 Date Extracted: 06/16/2016 13:29  
 Sample wt/vol: 1037.6 (mL) Date Analyzed: 06/22/2016 01:59  
 Con. Extract Vol.: 1 (mL) Dilution Factor: 1  
 Injection Volume: 2 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 438264 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	0.29	U *	0.29	0.029
26601-64-9	Hexachlorobiphenyl	0.19	U *	0.19	0.014
53742-07-7	Nonachlorobiphenyl	0.48	U *	0.48	0.047
55722-26-4	Octachlorobiphenyl	0.29	U *	0.29	0.037
27323-18-8	Monochlorobiphenyl	0.096	U *	0.096	0.0054
2051-24-3	DCB Decachlorobiphenyl	0.48	U *	0.48	0.067
25512-42-9	Dichlorobiphenyl	0.096	U *	0.096	0.0052
25429-29-2	Pentachlorobiphenyl	0.19	U *	0.19	0.013
26914-33-0	Tetrachlorobiphenyl	0.19	U *	0.19	0.013
25323-68-6	Trichlorobiphenyl	0.096	U *	0.096	0.0063

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	74	*	25-113

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW6B-061316 Lab Sample ID: 240-65994-5  
 Matrix: Water Lab File ID: Xf2115.D  
 Analysis Method: 680 Date Collected: 06/13/2016 12:52  
 Extract. Method: 680 Date Extracted: 06/16/2016 13:29  
 Sample wt/vol: 1042.4 (mL) Date Analyzed: 06/22/2016 02:27  
 Con. Extract Vol.: 1 (mL) Dilution Factor: 1  
 Injection Volume: 2 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 438264 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	0.29	U *	0.29	0.029
26601-64-9	Hexachlorobiphenyl	0.19	U *	0.19	0.014
53742-07-7	Nonachlorobiphenyl	0.48	U *	0.48	0.047
55722-26-4	Octachlorobiphenyl	0.29	U *	0.29	0.036
27323-18-8	Monochlorobiphenyl	0.096	U *	0.096	0.0054
2051-24-3	DCB Decachlorobiphenyl	0.48	U *	0.48	0.067
25512-42-9	Dichlorobiphenyl	0.096	U *	0.096	0.0052
25429-29-2	Pentachlorobiphenyl	0.036	J *	0.19	0.013
26914-33-0	Tetrachlorobiphenyl	0.19	U *	0.19	0.012
25323-68-6	Trichlorobiphenyl	0.096	U *	0.096	0.0062

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	71	*	25-113

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW7A-061316 Lab Sample ID: 240-65994-6  
 Matrix: Water Lab File ID: Xf2116.D  
 Analysis Method: 680 Date Collected: 06/13/2016 12:18  
 Extract. Method: 680 Date Extracted: 06/16/2016 13:29  
 Sample wt/vol: 501.9(mL) Date Analyzed: 06/22/2016 02:56  
 Con. Extract Vol.: .5(mL) Dilution Factor: 1  
 Injection Volume: 2(uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 438264 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	0.30	U	0.30	0.030
26601-64-9	Hexachlorobiphenyl	0.20	U	0.20	0.015
53742-07-7	Nonachlorobiphenyl	0.50	U	0.50	0.049
55722-26-4	Octachlorobiphenyl	0.30	U	0.30	0.038
27323-18-8	Monochlorobiphenyl	0.10	U	0.10	0.0056
2051-24-3	DCB Decachlorobiphenyl	0.50	U	0.50	0.070
25512-42-9	Dichlorobiphenyl	0.10	U	0.10	0.0054
25429-29-2	Pentachlorobiphenyl	0.20	U	0.20	0.014
26914-33-0	Tetrachlorobiphenyl	0.20	U	0.20	0.013
25323-68-6	Trichlorobiphenyl	0.10	U	0.10	0.0065

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	68		25-113



FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW7B-061316 Lab Sample ID: 240-65994-7  
 Matrix: Water Lab File ID: Xf2117.D  
 Analysis Method: 680 Date Collected: 06/13/2016 12:24  
 Extract. Method: 680 Date Extracted: 06/16/2016 13:29  
 Sample wt/vol: 1012.9 (mL) Date Analyzed: 06/22/2016 03:25  
 Con. Extract Vol.: 1 (mL) Dilution Factor: 1  
 Injection Volume: 2 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 438264 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	0.30	U *	0.30	0.030
26601-64-9	Hexachlorobiphenyl	0.20	U *	0.20	0.015
53742-07-7	Nonachlorobiphenyl	0.49	U *	0.49	0.048
55722-26-4	Octachlorobiphenyl	0.30	U *	0.30	0.038
27323-18-8	Monochlorobiphenyl	0.099	U *	0.099	0.0055
2051-24-3	DCB Decachlorobiphenyl	0.49	U *	0.49	0.069
25512-42-9	Dichlorobiphenyl	0.099	U *	0.099	0.0053
25429-29-2	Pentachlorobiphenyl	0.20	U *	0.20	0.014
26914-33-0	Tetrachlorobiphenyl	0.20	U *	0.20	0.013
25323-68-6	Trichlorobiphenyl	0.099	U *	0.099	0.0064

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	78	*	25-113

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW8A-061316 Lab Sample ID: 240-65994-8  
 Matrix: Water Lab File ID: Xf2118.D  
 Analysis Method: 680 Date Collected: 06/13/2016 12:57  
 Extract. Method: 680 Date Extracted: 06/16/2016 13:29  
 Sample wt/vol: 1039.4 (mL) Date Analyzed: 06/22/2016 03:54  
 Con. Extract Vol.: 1 (mL) Dilution Factor: 1  
 Injection Volume: 2 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 438264 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	0.29	U *	0.29	0.029
26601-64-9	Hexachlorobiphenyl	0.19	U *	0.19	0.014
53742-07-7	Nonachlorobiphenyl	0.48	U *	0.48	0.047
55722-26-4	Octachlorobiphenyl	0.29	U *	0.29	0.037
27323-18-8	Monochlorobiphenyl	0.096	U *	0.096	0.0054
2051-24-3	DCB Decachlorobiphenyl	0.48	U *	0.48	0.067
25512-42-9	Dichlorobiphenyl	0.096	U *	0.096	0.0052
25429-29-2	Pentachlorobiphenyl	0.19	U *	0.19	0.013
26914-33-0	Tetrachlorobiphenyl	0.19	U *	0.19	0.013
25323-68-6	Trichlorobiphenyl	0.096	U *	0.096	0.0063

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	72	*	25-113

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW8B-061316 Lab Sample ID: 240-65994-9  
 Matrix: Water Lab File ID: Xf2119.D  
 Analysis Method: 680 Date Collected: 06/13/2016 13:04  
 Extract. Method: 680 Date Extracted: 06/16/2016 13:29  
 Sample wt/vol: 1008.3 (mL) Date Analyzed: 06/22/2016 04:22  
 Con. Extract Vol.: 1 (mL) Dilution Factor: 1  
 Injection Volume: 2 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 438264 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	0.30	U *	0.30	0.030
26601-64-9	Hexachlorobiphenyl	0.20	U *	0.20	0.015
53742-07-7	Nonachlorobiphenyl	0.50	U *	0.50	0.049
55722-26-4	Octachlorobiphenyl	0.30	U *	0.30	0.038
27323-18-8	Monochlorobiphenyl	0.099	U *	0.099	0.0056
2051-24-3	DCB Decachlorobiphenyl	0.50	U *	0.50	0.069
25512-42-9	Dichlorobiphenyl	0.099	U *	0.099	0.0054
25429-29-2	Pentachlorobiphenyl	0.20	U *	0.20	0.014
26914-33-0	Tetrachlorobiphenyl	0.20	U *	0.20	0.013
25323-68-6	Trichlorobiphenyl	0.099	U *	0.099	0.0064

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	67	*	25-113

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW9A-061316 Lab Sample ID: 240-65994-10  
 Matrix: Water Lab File ID: Xf2120.D  
 Analysis Method: 680 Date Collected: 06/13/2016 12:29  
 Extract. Method: 680 Date Extracted: 06/16/2016 13:29  
 Sample wt/vol: 1039.6 (mL) Date Analyzed: 06/22/2016 04:51  
 Con. Extract Vol.: 1 (mL) Dilution Factor: 1  
 Injection Volume: 2 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 438264 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	0.29	U	0.29	0.029
26601-64-9	Hexachlorobiphenyl	0.19	U	0.19	0.014
53742-07-7	Nonachlorobiphenyl	0.48	U	0.48	0.047
55722-26-4	Octachlorobiphenyl	0.29	U	0.29	0.037
27323-18-8	Monochlorobiphenyl	0.096	U	0.096	0.0054
2051-24-3	DCB Decachlorobiphenyl	0.48	U	0.48	0.067
25512-42-9	Dichlorobiphenyl	0.096	U	0.096	0.0052
25429-29-2	Pentachlorobiphenyl	0.19	U	0.19	0.013
26914-33-0	Tetrachlorobiphenyl	0.19	U	0.19	0.013
25323-68-6	Trichlorobiphenyl	0.096	U	0.096	0.0063

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	74		25-113

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW9B-061316 Lab Sample ID: 240-65994-11  
 Matrix: Water Lab File ID: Xf2121.D  
 Analysis Method: 680 Date Collected: 06/13/2016 12:34  
 Extract. Method: 680 Date Extracted: 06/16/2016 13:29  
 Sample wt/vol: 1038.3 (mL) Date Analyzed: 06/22/2016 05:20  
 Con. Extract Vol.: 1 (mL) Dilution Factor: 1  
 Injection Volume: 2 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 438264 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	0.29	U	0.29	0.029
26601-64-9	Hexachlorobiphenyl	0.19	U	0.19	0.014
53742-07-7	Nonachlorobiphenyl	0.48	U	0.48	0.047
55722-26-4	Octachlorobiphenyl	0.29	U	0.29	0.037
27323-18-8	Monochlorobiphenyl	0.096	U	0.096	0.0054
2051-24-3	DCB Decachlorobiphenyl	0.48	U	0.48	0.067
25512-42-9	Dichlorobiphenyl	0.096	U	0.096	0.0052
25429-29-2	Pentachlorobiphenyl	0.19	U	0.19	0.013
26914-33-0	Tetrachlorobiphenyl	0.19	U	0.19	0.013
25323-68-6	Trichlorobiphenyl	0.096	U	0.096	0.0063

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	68		25-113

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SWFB-061316 Lab Sample ID: 240-65996-1  
 Matrix: Water Lab File ID: Xf2122.D  
 Analysis Method: 680 Date Collected: 06/13/2016 00:00  
 Extract. Method: 680 Date Extracted: 06/16/2016 13:29  
 Sample wt/vol: 1011.3 (mL) Date Analyzed: 06/22/2016 05:48  
 Con. Extract Vol.: 1 (mL) Dilution Factor: 1  
 Injection Volume: 2 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 438264 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	0.30	U *	0.30	0.030
26601-64-9	Hexachlorobiphenyl	0.20	U *	0.20	0.015
53742-07-7	Nonachlorobiphenyl	0.49	U *	0.49	0.048
55722-26-4	Octachlorobiphenyl	0.30	U *	0.30	0.038
27323-18-8	Monochlorobiphenyl	0.099	U *	0.099	0.0055
2051-24-3	DCB Decachlorobiphenyl	0.49	U *	0.49	0.069
25512-42-9	Dichlorobiphenyl	0.099	U *	0.099	0.0053
25429-29-2	Pentachlorobiphenyl	0.20	U *	0.20	0.014
26914-33-0	Tetrachlorobiphenyl	0.20	U *	0.20	0.013
25323-68-6	Trichlorobiphenyl	0.099	U *	0.099	0.0064

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	81	*	25-113

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SWDUP2-061316 Lab Sample ID: 240-65996-5  
 Matrix: Water Lab File ID: Xf2123.D  
 Analysis Method: 680 Date Collected: 06/13/2016 00:00  
 Extract. Method: 680 Date Extracted: 06/16/2016 13:29  
 Sample wt/vol: 1035.6 (mL) Date Analyzed: 06/22/2016 06:17  
 Con. Extract Vol.: 1 (mL) Dilution Factor: 1  
 Injection Volume: 2 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 438264 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	0.29	U	0.29	0.029
26601-64-9	Hexachlorobiphenyl	0.19	U	0.19	0.014
53742-07-7	Nonachlorobiphenyl	0.48	U	0.48	0.047
55722-26-4	Octachlorobiphenyl	0.29	U	0.29	0.037
27323-18-8	Monochlorobiphenyl	0.097	U	0.097	0.0054
2051-24-3	DCB Decachlorobiphenyl	0.48	U	0.48	0.068
25512-42-9	Dichlorobiphenyl	0.097	U	0.097	0.0052
25429-29-2	Pentachlorobiphenyl	0.19	U	0.19	0.014
26914-33-0	Tetrachlorobiphenyl	0.19	U	0.19	0.013
25323-68-6	Trichlorobiphenyl	0.097	U	0.097	0.0063

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	78		25-113



**Appendix C**

Support Documentation

## CASE NARRATIVE

Client: Tetra Tech, Inc.

Project: MRC Surface Water Sampling

Report Number: 240-65994-1

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.

The 522 1,4-Dioxane analysis was performed at the TestAmerica Burlington laboratory. The 680 Polychlorinated Biphenyls analysis was performed at the TestAmerica Savannah laboratory.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

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.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

### **RECEIPT**

The samples were received on 6/14/2016 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 6 coolers at receipt time were 1.1° C, 1.1° C, 1.2° C, 1.2° C, 2.0° C and 2.0° C.

One container for the following samples was received broken 1XL each for: MRC-SW5A2-061316 (240-65994-2) and MRC-SW7A-061316 (240-65994-6). There is one liter that remains for each sample to have the 680 PCB analysis extracted.

### **VOLATILE ORGANIC COMPOUNDS (GCMS)**

Samples MRC-SW5A1-061316 (240-65994-1), MRC-SWFB-061316 (240-65996-1), MRC-SW5A2-061316 (240-65994-2), MRC-SW1A-061316 (240-65996-2), MRC-SW5B-061316 (240-65994-3), MRC-SW2A-061316 (240-65996-3), MRC-SW6A-061316 (240-65994-4), TB-061316 (240-65996-4), MRC-SW6B-061316 (240-65994-5), MRC-SWDUP2-061316 (240-65996-5), MRC-SW7A-061316 (240-65994-6), MRC-SW7B-061316 (240-65994-7), MRC-SW8A-061316 (240-65994-8), MRC-SW8B-061316 (240-65994-9), MRC-SW9A-061316 (240-65994-10) and MRC-SW9B-061316 (240-65994-11) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 06/20/2016 and 06/21/2016.

The continuing calibration verification (CCV) associated with batch 240-235221 recovered above the upper control limit for multiple analytes. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: MRC-SWFB-061316 (240-65996-1), MRC-SW1A-061316 (240-65996-2), MRC-SW2A-061316 (240-65996-3), TB-061316 (240-65996-4) and MRC-SWDUP2-061316 (240-65996-5).

The continuing calibration verification (CCV) for analytical batch 235154 exceeded control criteria for multiple compounds. The samples associated with this CCV were non-detects for the affected analytes. In accordance with the laboratory SOP, a low level CCV at the reporting limit (labeled as an MRL) was analyzed and the affected compounds were detected; therefore the data has been reported. No further corrective action was required. The following samples were impacted: MRC-SW5A1-061316 (240-65994-1), MRC-SW5A2-061316 (240-65994-2), MRC-SW5B-061316 (240-65994-3), MRC-SW6A-061316 (240-65994-4), MRC-SW6B-061316 (240-65994-5), MRC-SW7A-061316 (240-65994-6), MRC-SW7B-061316 (240-65994-7), MRC-SW8A-061316 (240-65994-8), MRC-SW8B-061316 (240-65994-9), MRC-SW9A-061316 (240-65994-10) and MRC-SW9B-061316 (240-65994-11).

The laboratory control sample (LCS) for 235154 recovered outside control limits for the following analytes: Methylene Chloride. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported. The following samples were impacted: MRC-SW5A1-061316 (240-65994-1), MRC-SW5A2-061316 (240-65994-2), MRC-SW5B-061316 (240-65994-3), MRC-SW6A-061316 (240-65994-4), MRC-SW6B-061316 (240-65994-5), MRC-SW7A-061316 (240-65994-6),

MRC-SW7B-061316 (240-65994-7), MRC-SW8A-061316 (240-65994-8), MRC-SW8B-061316 (240-65994-9), MRC-SW9A-061316 (240-65994-10), MRC-SW9B-061316 (240-65994-11) and (LCS 240-235154/4).

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with 235310.MRC-SW7B-061316 (240-65994-7)

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

#### **1,4-DIOXANE**

Samples MRC-SWFB-061316 (240-65996-1), MRC-SW1A-061316 (240-65996-2), MRC-SW2A-061316 (240-65996-3) and MRC-SWDUP1-061316 (240-65994-12) were analyzed for 1,4-Dioxane in accordance with EPA Method 522. The samples were prepared on 06/16/2016 and 06/22/2016 and analyzed on 06/17/2016 and 06/24/2016.

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

#### **POLYCHLORINATED BIPHENYLS (PCBS)**

Samples MRC-SW5A1-061316 (240-65994-1), MRC-SWFB-061316 (240-65996-1), MRC-SW5A2-061316 (240-65994-2), MRC-SW5B-061316 (240-65994-3), MRC-SW6A-061316 (240-65994-4), MRC-SW6B-061316 (240-65994-5), MRC-SWDUP2-061316 (240-65996-5), MRC-SW7A-061316 (240-65994-6), MRC-SW7B-061316 (240-65994-7), MRC-SW8A-061316 (240-65994-8), MRC-SW8B-061316 (240-65994-9), MRC-SW9A-061316 (240-65994-10) and MRC-SW9B-061316 (240-65994-11) were analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA Method 680. The samples were prepared on 06/16/2016 and analyzed on 06/20/2016 and 06/22/2016.

The SOP for the 680 Method allows that the capping CCV for soils has the limit of <30% average %D with no analyte >60%D and for liquids <20% average D with no analyte >40%D. Due to software limitations for this method, the limits are set at <20%D and flags will appear on data when data is outside that criteria. (CCV 680-438006/20) has been flagged.

The internal standard response for the following samples was outside of acceptance limits when compared to the area of the CCVIS(continuing calibration verification internal standard). The 680 method allows that the sample also be compared to the average internal standard area of the calibration (ICISAV). Due to limitations in the software, when the areas of the sample are out of control for either the CCVIS or the ICISAV both are flagged. Although a \* flag appears on the data, the sample is within the area range for the internal standard area of the calibration (ICISAV). MRC-SW5A1-061316 (240-65994-1MSD)

The internal standard response for the following samples was outside of acceptance limits when compared to the area of the internal standard area of the calibration (ICISAV). The 680 method allows that the sample also be compared to the internal standard area of the CCVIS(continuing calibration verification internal standard). Due to limitations in the software, when the areas of the sample are out of control for either the CCVIS or the ICISAV both are flagged. Although a \* flag appears on the data, the sample is within the area range for the internal standard area of the CCVIS(continuing calibration verification internal standard). LCS 680-437585/16-A, MB 680-437585/15-A, MRC-SW5A1-061316 (240-65994-1) and MRC-SW5A1-061316 (240-65994-1MS)

The internal standard response for the following samples was outside of acceptance limits when compared to the area of the CCVIS(continuing calibration verification internal standard). The 680 method allows that the sample also be compared to the average internal standard area of the calibration (ICISAV). Due to limitations in the software, when the areas of the sample are out of control for either the CCVIS or the ICISAV both are flagged. Although a \* flag appears on the data, the sample is within the area range for the internal standard area of the calibration (ICISAV). MRC-SWFB-061316 (240-65996-1), MRC-SW6A-061316 (240-65994-4), MRC-SW6B-061316 (240-65994-5), MRC-SW7B-061316 (240-65994-7), MRC-SW8A-061316 (240-65994-8) and MRC-SW8B-061316 (240-65994-9).

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

# Method Summary

Client: Tetra Tech, Inc.  
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 240-65994-1

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<b>Method</b>	<b>Method Description</b>	<b>Protocol</b>	<b>Laboratory</b>
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL CAN
522 MOD	1,4 Dioxane (GC/MS SIM)	EPA	TAL BUR
680	Polychlorinated Biphenyls (PCBs) (GC/MS)	EPA	TAL SAV

**Protocol References:**

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

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

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

# Sample Summary

Client: Tetra Tech, Inc.  
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 240-65994-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-65994-1	MRC-SW5A1-061316	Water	06/13/16 13:13	06/14/16 09:20
240-65994-2	MRC-SW5A2-061316	Water	06/13/16 13:18	06/14/16 09:20
240-65994-3	MRC-SW5B-061316	Water	06/13/16 13:22	06/14/16 09:20
240-65994-4	MRC-SW6A-061316	Water	06/13/16 12:41	06/14/16 09:20
240-65994-5	MRC-SW6B-061316	Water	06/13/16 12:52	06/14/16 09:20
240-65994-6	MRC-SW7A-061316	Water	06/13/16 12:18	06/14/16 09:20
240-65994-7	MRC-SW7B-061316	Water	06/13/16 12:24	06/14/16 09:20
240-65994-8	MRC-SW8A-061316	Water	06/13/16 12:57	06/14/16 09:20
240-65994-9	MRC-SW8B-061316	Water	06/13/16 13:04	06/14/16 09:20
240-65994-10	MRC-SW9A-061316	Water	06/13/16 12:29	06/14/16 09:20
240-65994-11	MRC-SW9B-061316	Water	06/13/16 12:34	06/14/16 09:20
240-65994-12	MRC-SWDUP1-061316	Water	06/13/16 00:00	06/14/16 09:20
240-65996-1	MRC-SWFB-061316	Water	06/13/16 00:00	06/14/16 09:20
240-65996-2	MRC-SW1A-061316	Water	06/13/16 11:51	06/14/16 09:20
240-65996-3	MRC-SW2A-061316	Water	06/13/16 11:58	06/14/16 09:20
240-65996-4	TB-061316	Water	06/13/16 00:00	06/14/16 09:20
240-65996-5	MRC-SWDUP2-061316	Water	06/13/16 00:00	06/14/16 09:20

North Canton  
4101 Shuffel Street, N. W.

North Canton, OH 44720  
phone 330.497.9396 fax 330.497.0772

1.0/2.0  
0.2/2

180325 0.1/1.1

BALTIMORE

Chain of Custody Record

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Tony Apanavage		Site Contact: Tony Apanavage		Date: 6/13/2016		COC No:		
Tetra Tech		Tel/Fax: 301-233-8230 (cell)		Lab Contact: John McFadden		Carrier: Fedex		1 of 2 COCs		
20251 Century Blvd, Suite 200		Analysis Turnaround Time		Filtered Sample VOCs (8260C) PCBs (680) <i>1-4 duplicate (5'22)</i>				Job No.  SDG No.  Sampler: MULLIS  Sample Specific Notes:		
Germantown, MD 20874		Calendar (C) or Work Days (W)								
(301) 528-3021 Phone		TAT if different from Below: <u>STANDARD</u>								
(301) 528-3000 FAX		<input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day								
Project Name: MRC Surface Water Sampling										
Site: MRC Dark Head Cove / Cow Per Creek										
Project # 112IC07776.07										
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs (8260C)	PCBs (680)	
MRC-SW5A1-061316		6/13/2016	1313	SW	Water	5		x	x	
MRC-SW5A2-061316		6/13/2016	1318	SW	Water	5		x	x	
MRC-SW5B-061316		6/13/2016	1322	SW	Water	5		x	x	
MRC-SW6A-061316		6/13/2016	1241	SW	Water	5		x	x	
MRC-SW6B-061316		6/13/2016	1252	SW	Water	5		x	x	
MRC-SW7A-061316		6/13/2016	1218	SW	Water	5		x	x	
MRC-SW7B-061316		6/13/2016	1224	SW	Water	5		x	x	
MRC-SW8A-061316		6/13/2016	1257	SW	Water	5		x	x	
MRC-SW8B-061316		6/13/2016	1304	SW	Water	5		x	x	
MRC-SW9A-061316		6/13/2016	1229	SW	Water	5		x	x	
MRC-SW9B-061316		6/13/2016	1234	SW	Water	5		x	x	
MRC-SW9C-061316		6/13/2016	0000	SW	Water	2			X	
Preservation Used: 1=Ice, 2=HCl; 3=H2SO4; 4=HNO3; 5=NaOH; 6= Other							2	1		
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown					<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Special Instructions/QC Requirements & Comments: <i>MRC-SW9C-061316 for 1,4-dioxane only</i>										
Relinquished by:		Company:		Date/Time:		Received by:		Company:		
<i>[Signature]</i>		Tetra Tech		6/13/16 1525		<i>[Signature]</i>		TestAmerica		
Relinquished by:		Company:		Date/Time:		Received by:		Company:		
<i>[Signature]</i>		TestAmerica		6/13/16 1650		<i>[Signature]</i>		TAC		
Relinquished by:		Company:		Date/Time:		Received by:		Company:		



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**TestAmerica Canton Sample Receipt Form/Narrative  
Canton Facility**

Login # : 05994

Client Tetra Tech Site Name \_\_\_\_\_ Cooler unpacked by: OSP  
 Cooler Received on 06-14-16 Opened on 06-14-16  
 FedEx: 1<sup>st</sup> Grd  Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other \_\_\_\_\_

Receipt After-hours: Drop-off Date/Time \_\_\_\_\_ Storage Location \_\_\_\_\_

TestAmerica Cooler # Baltimore Foam Box Client Cooler Box Other \_\_\_\_\_  
 Packing material used: Bubble Wrap Foam Plastic Bag None Other \_\_\_\_\_

COOLANT:  Wet Ice  Blue Ice  Dry Ice  Water  None

1. Cooler temperature upon receipt  See Multiple Cooler Form  
 IR GUN# IR-8 (CF +1.3 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C  
 IR GUN #36 (CF +1.0 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C
  2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1 each  Yes  No  
 -Were custody seals on the outside of the cooler(s) signed & dated?  Yes  No NA  
 -Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?  Yes  No
  3. Shippers' packing slip attached to the cooler(s)?  Yes  No
  4. Did custody papers accompany the sample(s)?  Yes  No
  5. Were the custody papers relinquished & signed in the appropriate place?  Yes  No
  6. Was/were the person(s) who collected the samples clearly identified on the COC?  Yes  No
  7. Did all bottles arrive in good condition (Unbroken)?  Yes  No
  8. Could all bottle labels be reconciled with the COC?  Yes  No
  9. Were correct bottle(s) used for the test(s) indicated?  Yes  No
  10. Sufficient quantity received to perform indicated analyses?  Yes  No
  11. Are these work share samples?  Yes  No  
 If yes, Questions 11-15 have been checked at the originating laboratory.
  11. Were sample(s) at the correct pH upon receipt?  Yes  No  NA pH Strip Lot# HC574756
  12. Were VOAs on the COC?  Yes  No
  13. Were air bubbles >6 mm in any VOA vials?  Yes  No NA
  14. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # \_\_\_\_\_  Yes  No
  15. Was a LL Hg or Me Hg trip blank present?  Yes  No
- Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal Voice Mail Other \_\_\_\_\_  
 Concerning \_\_\_\_\_

**14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES**

Samples processed by: \_\_\_\_\_

Samples MRC-SWSAZ and MRC-SW7A each had one broken  
1.0Lr Amber. Samples MRC-SWSAI / MRC-SWSAZ / MRC-SW8A each  
had one 1.0L broken in Ambers.

**15. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.  
 Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter. (Notify PM)

**16. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in the laboratory.  
 Time preserved: \_\_\_\_\_ Preservative(s) added/Lot number(s): \_\_\_\_\_





Temperature readings: \_\_\_\_\_

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container pH</u>	<u>Preservative Added (mls)</u>	<u>Lot #</u>
MRC-SWAPT-061316	240-65994-A-12	Amber Glass 250mL - hydrochloric	<2	_____	_____
MRC-SWAPT-061316	240-65994-B-12	Amber Glass 250mL - hydrochloric	<2	_____	_____

North Canton  
4101 Shuffel Street, N. W.

North Canton, OH 44720  
phone 330.497.9396 fax 330.497.0772

180325

BALTIMORE

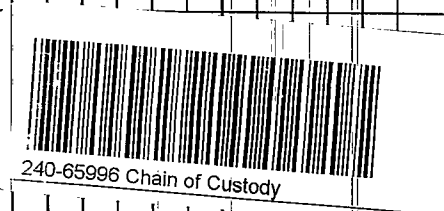
Chain of Custody Record

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Tony Apanavage		Site Contact: Tony Apanavage		Date: 6/13/2016		COC No:			
Tetra Tech		Tel/Fax: 301-233-8230 (cell)		Lab Contact: John Mcfadden		Carrier: Fedex		2 of 2 COCs			
20251 Century Blvd, Suite 200		Analysis Turnaround Time						Job No.			
Germantown, MD 20874		Calendar (C) or Work Days (W)						SDG No.			
(301) 528-3021 Phone		TAT if different from Below: <u>STANDARD</u>						Sampler: Mullis			
(301) 528-3000 FAX		<input type="checkbox"/> 2 weeks						Sample Specific Notes:			
Project Name: MRC Surface Water Sampling		<input type="checkbox"/> 1 week									
Site: MRC Dark Head Cove / Cow Pen Creek		<input type="checkbox"/> 2 days									
Project # 112IC07776.07		<input type="checkbox"/> 1 day									
Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs (8260C)	PCBs (680)	1,4-Dioxane (522)		
MRC-SWFB-061316	6/13/2016	0000	SW	Water	7		x	x	x	Field Rinsate Blank	
MRC-SW1A-061316	6/13/2016	1151	SW	Water	5		x		x		
MRC-SW2A-061316	6/13/2016	1158	SW	Water	5		x		x		
TB-061316	6/13/2016	0000	SW	Water	2		x				
MRC-SW DUP 2 - 061316	6/13/2016	0000	SW	Water	5		x	x		Duplicate 2	
Preservation Used: 1=Ice, 2=HCl; 3=H2SO4; 4=HNO3; 5=NaOH; 6= Other						2 1 1					
Possible Hazard Identification						Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)					
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/>						<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Special Instructions/QC Requirements & Comments: MRC-SW DUP 2 - 061316 for VOCs and PCBs											
Relinquished by: [Signature]		Company: Tetra Tech		Date/Time: 6/13/16 1525		Received by: [Signature]		Company: TestAmerica		Date/Time: 6/13/16 1525	
Relinquished by: [Signature]		Company: TestAmerica		Date/Time: 6/13/16 1550		Received by: [Signature]		Company: VAC		Date/Time: 6/14/16 9:20	
Relinquished by: [Signature]		Company:		Date/Time:		Received by:		Company:		Date/Time:	

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**TestAmerica Canton Sample Receipt Form/Narrative** Login # : 125996  
**Canton Facility**

Client Tetra Tech Site Name \_\_\_\_\_ Cooler unpacked by: PSD  
Cooler Received on 06-14-16 Opened on 06-14-16  
FedEx: 1<sup>st</sup> Grd  UPS FAS Stetson Client Drop Off TestAmerica Courier Other \_\_\_\_\_

**Receipt After-hours:** Drop-off Date/Time \_\_\_\_\_ Storage Location \_\_\_\_\_

TestAmerica Cooler # Balkin Foam Box Client Cooler Box Other \_\_\_\_\_  
Packing material used: Bubble Wrap  Foam Plastic Bag  None Other \_\_\_\_\_

COOLANT: Wet Ice  Blue Ice Dry Ice Water None

- Cooler temperature upon receipt  See Multiple Cooler Form  
IR GUN# IR-8 (CF +1.3 °C) Observed Cooler Temp. \_\_\_\_\_ Corrected Cooler Temp. \_\_\_\_\_ °C  
IR GUN #36 (CF +1.0 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C
- Were custody seals on the outside of the cooler(s)? If Yes Quantity 1 each Yes No  
-Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA  
-Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
- Shippers' packing slip attached to the cooler(s)? Yes No
- Did custody papers accompany the sample(s)? Yes No
- Were the custody papers relinquished & signed in the appropriate place? Yes No
- Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
- Did all bottles arrive in good condition (Unbroken)? Yes No
- Could all bottle labels be reconciled with the COC? Yes No
- Were correct bottle(s) used for the test(s) indicated? Yes No
- Sufficient quantity received to perform indicated analyses? Yes No
- Are these work share samples? Yes No

If yes, Questions 11-15 have been checked at the originating laboratory.

- Were sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC574756
- Were VOAs on the COC? Yes No
- Were air bubbles >6 mm in any VOA vials? Yes No NA
- Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # N/A Yes No
- Was a LL Hg or Me Hg trip blank present? Yes No

Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal Voice Mail Other \_\_\_\_\_

Concerning \_\_\_\_\_

**14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES** Samples processed by: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**15. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) \_\_\_\_\_ were received in a broken container.

Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter. (Notify PM)

**16. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in the laboratory.

Time preserved: \_\_\_\_\_ Preservative(s) added/Lot number(s): \_\_\_\_\_

Ref: SOP-NC-SC-0005, Sample Receiving  
L:\QAQC\QA Department\QA TARDIS\Document Control\Work Instructions\In Revision\WI-NC-099-061316 Cooler Receipt Form.doc djl



Temperature readings: \_\_\_\_\_

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container pH</u>	<u>Preservative Added (mls)</u>	<u>Lot #</u>
MRC-SWFB-0613 16	240-65996-D-1	Amber Glass 250mL - hydrochloric	<2	_____	_____
MRC-SWFB-0613 16	240-65996-E-1	Amber Glass 250mL - hydrochloric	<2	_____	_____
<del>MRC-SW1A-0613-16</del>	<del>240-65996-D-2</del>	<del>Amber Glass 250mL - hydrochloric</del>	<del>&lt;2</del>	<del>_____</del>	<del>_____</del>
MRC-SW1A-0613 16	240-65996-E-2	Amber Glass 250mL - hydrochloric	<2	_____	_____
MRC-SW2A-0613 16	240-65996-D-3	Amber Glass 250mL - hydrochloric	<2	_____	_____
MRC-SW2A-0613 16	240-65996-E-3	Amber Glass 250mL - hydrochloric	<2	_____	_____

# Method 8260C

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Volatile Organic Compounds (GC/MS)  
by Method 8260C



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

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: BFB6528.D BFB Injection Date: 05/28/2016  
 Instrument ID: A3UX11 BFB Injection Time: 08:28  
 Analysis Batch No.: 232366

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	15.5	
75	30.0 - 60.0 % of mass 95	43.7	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.4	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	89.7	
175	5.0 - 9.0 % of mass 174	6.8	(7.6) 1
176	95.0 - 101.0 % of mass 174	86.3	(96.2) 1
177	5.0 - 9.0 % of mass 176	5.8	(6.7) 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
	STD8260 240-232366/2	UXJ4939.D	05/28/2016	09:12
	STD8260 240-232366/3	UXJ4940.D	05/28/2016	09:34
	STD8260 240-232366/4	UXJ4941.D	05/28/2016	09:56
	STD8260 240-232366/5	UXJ4942.D	05/28/2016	10:19
	STD8260 240-232366/6	UXJ4943.D	05/28/2016	10:40
	STD8260 240-232366/7	UXJ4944.D	05/28/2016	11:03
	ICV 240-232366/14	UXJ4945.D	05/28/2016	11:25
	ICV 240-232366/15	UXJ4952.D	05/28/2016	14:03

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

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: BFB6620.D BFB Injection Date: 06/20/2016  
 Instrument ID: A3UX11 BFB Injection Time: 09:01  
 Analysis Batch No.: 235154

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	16.2
75	30.0 - 60.0 % of mass 95	46.4
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	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	84.1
175	5.0 - 9.0 % of mass 174	6.4 (7.6) 1
176	95.0 - 101.0 % of mass 174	81.9 (97.4) 1
177	5.0 - 9.0 % of mass 176	5.4 (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
	CCVIS 240-235154/2	UXJ5601.D	06/20/2016	09:34
	LCS 240-235154/4	UXJ5602.D	06/20/2016	09:57
	CCV 240-235154/3	UXJ5603.D	06/20/2016	10:20
	MB 240-235154/6	UXJ5605.D	06/20/2016	11:05
MRC-SW5A1-061316	240-65994-1	UXJ5610.D	06/20/2016	13:13
MRC-SW5A2-061316	240-65994-2	UXJ5611.D	06/20/2016	13:35
MRC-SW5B-061316	240-65994-3	UXJ5612.D	06/20/2016	13:57
MRC-SW6A-061316	240-65994-4	UXJ5613.D	06/20/2016	14:20
MRC-SW6B-061316	240-65994-5	UXJ5614.D	06/20/2016	14:43
MRC-SW7A-061316	240-65994-6	UXJ5615.D	06/20/2016	15:05
MRC-SW7B-061316	240-65994-7	UXJ5616.D	06/20/2016	15:27
MRC-SW8A-061316	240-65994-8	UXJ5617.D	06/20/2016	15:49
MRC-SW8B-061316	240-65994-9	UXJ5618.D	06/20/2016	16:12
MRC-SW9A-061316	240-65994-10	UXJ5619.D	06/20/2016	16:34
MRC-SW9B-061316	240-65994-11	UXJ5620.D	06/20/2016	16:57
	240-65995-B-5 MS	UXJ5626.D	06/20/2016	19:12
	240-65995-B-5 MSD	UXJ5627.D	06/20/2016	19:35

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

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: BFB6621.D BFB Injection Date: 06/21/2016  
 Instrument ID: A3UX11 BFB Injection Time: 08:00  
 Analysis Batch No.: 235310

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	17.1	
75	30.0 - 60.0 % of mass 95	46.0	
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	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	82.2	
175	5.0 - 9.0 % of mass 174	7.0	(8.5) 1
176	95.0 - 101.0 % of mass 174	80.6	(98.1) 1
177	5.0 - 9.0 % of mass 176	5.7	(7.1) 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 240-235310/2	UXJ5658.D	06/21/2016	08:52
	CCV 240-235310/3	UXJ5660.D	06/21/2016	09:36
	LCS 240-235310/4	UXJ5661.D	06/21/2016	10:17
	MB 240-235310/6	UXJ5663.D	06/21/2016	11:01
MRC-SW7B-061316	240-65994-7	UXJ5670.D	06/21/2016	13:59

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

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: BFB4865.D BFB Injection Date: 06/01/2016  
 Instrument ID: A3UX16 BFB Injection Time: 11:38  
 Analysis Batch No.: 232711

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	16.1
75	30.0 - 60.0 % of mass 95	47.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	6.2
173	Less than 2.0 % of mass 174	0.4 (0.5) 1
174	50.0 - 120.00 % of mass 95	74.9
175	5.0 - 9.0 % of mass 174	5.3 (7.1) 1
176	95.0 - 101.0 % of mass 174	73.3 (97.9) 1
177	5.0 - 9.0 % of mass 176	5.1 (7.0) 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
	STD8269 240-232711/2	UXM5570.D	06/01/2016	12:06
	STD8260 240-232711/3	UXM5571.D	06/01/2016	12:29
	STD8260 240-232711/4	UXM5572.D	06/01/2016	12:51
	STD8260 240-232711/5	UXM5573.D	06/01/2016	13:14
	STD8260 240-232711/6	UXM5574.D	06/01/2016	13:37
	STD8260 240-232711/7	UXM5575.D	06/01/2016	14:00
	STD8260 240-232711/8	UXM5576.D	06/01/2016	14:22
	ICV 240-232711/9	UXM5577.D	06/01/2016	14:45
	ICV 240-232711/16	UXM5584.D	06/01/2016	17:24

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

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: BFB4888.D BFB Injection Date: 06/20/2016  
 Instrument ID: A3UX16 BFB Injection Time: 11:25  
 Analysis Batch No.: 235221

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	18.0	
75	30.0 - 60.0 % of mass 95	48.4	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.3	
173	Less than 2.0 % of mass 174	0.2	(0.2) 1
174	50.0 - 120.00 % of mass 95	74.1	
175	5.0 - 9.0 % of mass 174	5.1	(6.9) 1
176	95.0 - 101.0 % of mass 174	72.1	(97.3) 1
177	5.0 - 9.0 % of mass 176	4.5	(6.2) 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
	LCS 240-235221/4	UXM6059.D	06/20/2016	12:25
	CCVIS 240-235221/2	UXM6060.D	06/20/2016	12:47
	CCV 240-235221/3	UXM6061.D	06/20/2016	13:10
	MB 240-235221/6	UXM6063.D	06/20/2016	13:55
	240-65962-B-1 MS	UXM6071.D	06/20/2016	16:56
	240-65962-B-1 MSD	UXM6072.D	06/20/2016	17:19
MRC-SWFB-061316	240-65996-1	UXM6074.D	06/20/2016	18:04
MRC-SW1A-061316	240-65996-2	UXM6075.D	06/20/2016	18:27
MRC-SW2A-061316	240-65996-3	UXM6076.D	06/20/2016	18:50
TB-061316	240-65996-4	UXM6077.D	06/20/2016	19:12
MRC-SWDUP2-061316	240-65996-5	UXM6078.D	06/20/2016	19:35

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

Lab Name: TestAmerica Canton Job No.: 240-65994-1 Analy Batch No.: 232366

SDG No.: \_\_\_\_\_

Instrument ID: A3UX11 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/28/2016 09:12 Calibration End Date: 05/28/2016 11:03 Calibration ID: 34632

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-232366/7	UXJ4944.D
Level 2	STD8260 240-232366/6	UXJ4943.D
Level 3	STD8260 240-232366/5	UXJ4942.D
Level 4	STD8260 240-232366/4	UXJ4941.D
Level 5	STD8260 240-232366/3	UXJ4940.D
Level 6	STD8260 240-232366/2	UXJ4939.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R <sup>2</sup> OR COD	#	MIN R <sup>2</sup> OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.1874 0.1365	0.1804	0.1569	0.1477	0.1345	Ave		0.1572			0.1000	14.2		20.0			
Chloromethane	0.2347 0.2087	0.2368	0.2391	0.2296	0.2034	Ave		0.2254			0.1000	6.8		20.0			
Vinyl chloride	0.2661 0.1948	0.2726	0.2549	0.2398	0.2079	Ave		0.2393			0.1000	13.3		20.0			
Butadiene	0.2902 0.1915	0.2430	0.2236	0.2072	0.1931	Ave		0.2248				16.7		20.0			
Bromomethane	0.1050 0.1039	0.1171	0.1178	0.1085	0.1034	Ave		0.1093			0.0500	6.0		20.0			
Chloroethane	0.1242 0.1044	0.1183	0.1173	0.1128	0.1037	Ave		0.1134			0.0500	7.2		20.0			
Dichlorofluoromethane	0.2652 0.2353	0.2510	0.2494	0.2472	0.2313	Ave		0.2466				4.9		20.0			
Trichlorofluoromethane	0.1586 0.1718	0.1896	0.1718	0.1763	0.1658	Ave		0.1723			0.1000	6.1		20.0			
Ethyl ether	0.2791 0.1930	0.2355	0.2143	0.2247	0.1967	Ave		0.2239				14.1		20.0			
Acrolein	0.0309 0.0285	0.0362	0.0322	0.0324	0.0295	Ave		0.0316				8.6		20.0			
1,1-Dichloroethene	0.1891 0.1632	0.1879	0.1767	0.1764	0.1670	Ave		0.1767			0.1000	6.0		20.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.1179 0.1005	0.1146	0.1068	0.1044	0.0984	Ave		0.1071			0.0500	7.2		20.0			
Acetone	0.1159 0.0473	0.0784	0.0616	0.0562	0.0505	Lin1	0.1399	0.0464			0.0100				0.9990		0.9900
Iodomethane	0.2712 0.2217	0.2508	0.2518	0.2412	0.2336	Ave		0.2451				7.0		20.0			
Carbon disulfide	0.5031 0.4104	0.4698	0.4742	0.4421	0.4373	Ave		0.4562			0.1000	7.2		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  
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-65994-1 Analy Batch No.: 232366

SDG No.: \_\_\_\_\_

Instrument ID: A3UX11 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/28/2016 09:12 Calibration End Date: 05/28/2016 11:03 Calibration ID: 34632

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
3-Chloro-1-propene	0.1477 0.1632	0.1624	0.1618	0.1717	0.1628	Ave		0.1616			4.8		20.0				
Methyl acetate	0.1492 0.1172	0.1415	0.1379	0.1354	0.1267	Ave		0.1347		0.1000	8.4		20.0				
Methylene Chloride	0.4395 0.1915	0.3287	0.2437	0.2251	0.2061	Lin1	0.2668	0.1891		0.1000				0.9990		0.9900	
2-Methyl-2-propanol	0.0152 ++++	0.0127	0.0136	0.0126	0.0116	Ave		0.0132			10.4		20.0				
Acrylonitrile	0.0740 0.0627	0.0715	0.0721	0.0723	0.0674	Ave		0.0700			6.0		20.0				
Methyl tert-butyl ether	0.6968 0.6087	0.6644	0.6642	0.6935	0.6425	Ave		0.6617		0.1000	5.0		20.0				
trans-1,2-Dichloroethene	0.2888 0.2454	0.2625	0.2591	0.2657	0.2505	Ave		0.2620		0.1000	5.8		20.0				
Hexane	0.0673 0.0553	0.0534	0.0515	0.0545	0.0543	Ave		0.0561			10.1		20.0				
1,1-Dichloroethane	0.4677 0.4326	0.4478	0.4396	0.4565	0.4422	Ave		0.4477		0.2000	2.8		20.0				
Vinyl acetate	0.4182 0.3938	0.4338	0.4161	0.4307	0.4152	Ave		0.4179			3.4		20.0				
cis-1,2-Dichloroethene	0.2801 0.2752	0.2762	0.2735	0.2834	0.2738	Ave		0.2770		0.1000	1.4		20.0				
2-Butanone (MEK)	0.0983 0.0737	0.0786	0.0817	0.0829	0.0790	Ave		0.0824		0.0100	10.2		20.0				
2,2-Dichloropropane	0.2080 0.1863	0.1876	0.1977	0.2027	0.1990	Ave		0.1969			4.3		20.0				
Chlorobromomethane	0.1272 0.1276	0.1218	0.1259	0.1333	0.1309	Ave		0.1278			3.1		20.0				
Tetrahydrofuran	0.0601 0.0461	0.0557	0.0518	0.0536	0.0500	Ave		0.0529			9.1		20.0				
Chloroform	0.4249 0.3958	0.3907	0.3887	0.4080	0.4090	Ave		0.4028		0.2000	3.4		20.0				
1,1,1-Trichloroethane	0.2866 0.2625	0.2619	0.2664	0.2757	0.2770	Ave		0.2717		0.1000	3.6		20.0				
Cyclohexane	0.3397 0.2916	0.3042	0.2938	0.2971	0.2985	Ave		0.3041		0.1000	5.9		20.0				
1,1-Dichloropropene	0.3733 0.3357	0.3276	0.3319	0.3472	0.3430	Ave		0.3431			4.8		20.0				
Carbon tetrachloride	0.2549 0.2547	0.2228	0.2418	0.2613	0.2561	Ave		0.2486		0.1000	5.7		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  
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-65994-1 Analy Batch No.: 232366

SDG No.: \_\_\_\_\_

Instrument ID: A3UX11 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/28/2016 09:12 Calibration End Date: 05/28/2016 11:03 Calibration ID: 34632

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Isobutyl alcohol	0.0062 0.0045	0.0059	0.0063	0.0071	0.0058	Ave		0.0060			14.3		20.0				
1,2-Dichloroethane	0.2981 0.2726	0.2707	0.2764	0.2862	0.2852	Ave		0.2815		0.1000	3.7		20.0				
Benzene	1.0915 1.0604	1.0274	1.0168	1.0745	1.0726	Ave		1.0572		0.5000	2.8		20.0				
n-Heptane	0.0767 0.0562	0.0637	0.0501	0.0519	0.0539	Ave		0.0587			17.0		20.0				
Trichloroethene	0.2904 0.2807	0.2627	0.2619	0.2746	0.2860	Ave		0.2761		0.1500	4.3		20.0				
Methylcyclohexane	0.3899 0.3159	0.3438	0.3048	0.3065	0.3225	Ave		0.3306		0.1000	9.8		20.0				
1,2-Dichloropropane	0.2636 0.2540	0.2477	0.2418	0.2504	0.2626	Ave		0.2533		0.1000	3.4		20.0				
Dibromomethane	0.1260 0.1258	0.1267	0.1228	0.1240	0.1303	Ave		0.1259			2.0		20.0				
1,4-Dioxane	0.0010 ++++	0.0013	0.0014	0.0016	0.0017	Lin1	-0.017	0.0017						0.9990		0.9900	
Dichlorobromomethane	0.2938 0.3017	0.2907	0.2723	0.2880	0.3112	Ave		0.2929		0.1500	4.5		20.0				
2-Chloroethyl vinyl ether	0.1384 0.1445	0.1484	0.1416	0.1458	0.1535	Ave		0.1454			3.6		20.0				
cis-1,3-Dichloropropene	0.3776 0.4191	0.3788	0.3775	0.4025	0.4308	Ave		0.3977		0.1500	5.9		20.0				
4-Methyl-2-pentanone (MIBK)	0.1794 0.1579	0.1670	0.1634	0.1645	0.1729	Ave		0.1675		0.0500	4.5		20.0				
Toluene	1.6592 1.5713	1.5809	1.5586	1.6505	1.6591	Ave		1.6133		0.4000	3.0		20.0				
trans-1,3-Dichloropropene	0.4368 0.4929	0.4583	0.4669	0.5112	0.5324	Ave		0.4831		0.1000	7.4		20.0				
Ethyl methacrylate	0.4247 0.4021	0.4124	0.4087	0.4397	0.4428	Ave		0.4217			4.0		20.0				
1,1,2-Trichloroethane	0.2779 0.2701	0.2893	0.2905	0.2951	0.3013	Ave		0.2874		0.1000	4.0		20.0				
Tetrachloroethene	0.3260 0.2981	0.2891	0.2964	0.3117	0.3178	Ave		0.3065		0.1500	4.6		20.0				
1,3-Dichloropropane	0.5178 0.4955	0.5274	0.5141	0.5435	0.5440	Ave		0.5237			3.6		20.0				
2-Hexanone	0.1845 0.1578	0.1883	0.1732	0.1827	0.1815	Ave		0.1780		0.0500	6.2		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  
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-65994-1 Analy Batch No.: 232366

SDG No.: \_\_\_\_\_

Instrument ID: A3UX11 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/28/2016 09:12 Calibration End Date: 05/28/2016 11:03 Calibration ID: 34632

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlorodibromomethane	0.2713 0.3118	0.2819	0.2799	0.3107	0.3300	Ave		0.2976			7.8		20.0				
Ethylene Dibromide	0.2749 0.2645	0.2712	0.2625	0.2827	0.2896	Ave		0.2742			3.8		20.0				
Chlorobenzene	1.0021 0.9778	0.9625	0.9467	0.9849	1.0339	Ave		0.9846		0.3000	3.1		20.0				
1,1,1,2-Tetrachloroethane	0.3124 0.3245	0.2955	0.3071	0.3343	0.3508	Ave		0.3208			6.2		20.0				
Ethylbenzene	0.5297 0.5154	0.5166	0.5168	0.5295	0.5569	Ave		0.5275			3.0		20.0				
m-Xylene & p-Xylene	0.6526 0.6339	0.6292	0.6072	0.6409	0.6817	Ave		0.6409			3.9		20.0				
o-Xylene	0.6267 0.6070	0.5789	0.5953	0.6248	0.6608	Ave		0.6156			4.6		20.0				
Styrene	1.0612 1.0573	1.0236	1.0246	1.0787	1.1399	Ave		1.0642		0.3000	4.0		20.0				
Bromoform	0.1294 0.1729	0.1399	0.1527	0.1658	0.1841	Ave		0.1575		0.1000	13.1		20.0				
Isopropylbenzene	1.4418 1.3777	1.3579	1.3867	1.4136	1.5024	Ave		1.4133		0.1000	3.7		20.0				
1,1,2,2-Tetrachloroethane	0.7048 0.6684	0.6947	0.6821	0.7009	0.7169	Ave		0.6946		0.3000	2.5		20.0				
Bromobenzene	0.9492 0.9267	0.9025	0.8699	0.9413	0.9437	Ave		0.9222			3.3		20.0				
1,2,3-Trichloropropane	0.2266 0.2086	0.2279	0.2147	0.2187	0.2292	Ave		0.2209			3.8		20.0				
trans-1,4-Dichloro-2-butene	0.1143 0.1900	0.1405	0.1609	0.1869	0.1886	Ave		0.1635			19.0		20.0				
N-Propylbenzene	0.8818 0.9344	0.8262	0.8621	0.9134	0.9434	Ave		0.8936			5.1		20.0				
2-Chlorotoluene	0.7900 0.8102	0.7694	0.7533	0.8111	0.8197	Ave		0.7923			3.3		20.0				
1,3,5-Trimethylbenzene	2.4904 2.4634	2.4676	2.4041	2.5168	2.5605	Ave		2.4838			2.1		20.0				
4-Chlorotoluene	0.8392 0.8484	0.7868	0.8198	0.8628	0.8527	Ave		0.8349			3.3		20.0				
tert-Butylbenzene	2.0991 2.0866	2.0122	2.0006	2.1022	2.1464	Ave		2.0745			2.7		20.0				
1,2,4-Trimethylbenzene	2.5486 2.4454	2.3862	2.4030	2.4835	2.5470	Ave		2.4689			2.8		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  
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-65994-1 Analy Batch No.: 232366

SDG No.: \_\_\_\_\_

Instrument ID: A3UX11 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/28/2016 09:12 Calibration End Date: 05/28/2016 11:03 Calibration ID: 34632

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
sec-Butylbenzene	2.7399 2.7081	2.5216	2.6264	2.7096	2.7610	Ave		2.6778			3.3		20.0				
1,3-Dichlorobenzene	1.4310 1.3899	1.4226	1.3716	1.4076	1.4392	Ave		1.4103		0.6000	1.8		20.0				
4-Isopropyltoluene	2.3727 2.2716	2.1405	2.1846	2.3189	2.3681	Ave		2.2761			4.2		20.0				
1,4-Dichlorobenzene	1.5090 1.3897	1.4507	1.3767	1.4493	1.4354	Ave		1.4351		0.5000	3.3		20.0				
n-Butylbenzene	1.6341 1.7034	1.5296	1.6133	1.6710	1.7165	Ave		1.6446			4.2		20.0				
1,2-Dichlorobenzene	1.3346 1.2285	1.2638	1.2189	1.2545	1.3092	Ave		1.2683		0.4000	3.6		20.0				
1,2-Dibromo-3-Chloropropane	0.1065 0.1011	0.1093	0.0973	0.1023	0.1039	Ave		0.1034		0.0500	4.0		20.0				
1,2,4-Trichlorobenzene	0.6139 0.6504	0.5991	0.5773	0.5968	0.6016	Ave		0.6065		0.2000	4.0		20.0				
Hexachlorobutadiene	0.2676 0.2710	0.2301	0.2389	0.2482	0.2407	Ave		0.2494			6.6		20.0				
Naphthalene	1.5365 1.5180	1.5623	1.4231	1.4795	1.4541	Ave		1.4956			3.5		20.0				
1,2,3-Trichlorobenzene	0.6048 0.5976	0.5621	0.5340	0.5478	0.5466	Ave		0.5655			5.2		20.0				
Dibromofluoromethane (Surr)	0.2118 0.2284	0.2331	0.2147	0.2235	0.2274	Ave		0.2231			3.7		20.0				
1,2-Dichloroethane-d4 (Surr)	0.2439 0.2455	0.2559	0.2483	0.2521	0.2548	Ave		0.2501			2.0		20.0				
Toluene-d8 (Surr)	1.3628 1.3928	1.4804	1.3814	1.4319	1.4793	Ave		1.4214			3.6		20.0				
4-Bromofluorobenzene (Surr)	0.4331 0.4121	0.4504	0.4110	0.4176	0.4550	Ave		0.4299			4.5		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  
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-65994-1 Analy Batch No.: 232711

SDG No.: \_\_\_\_\_

Instrument ID: A3UX16 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/01/2016 12:06 Calibration End Date: 06/01/2016 14:22 Calibration ID: 34643

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-232711/8	UXM5576.D
Level 2	STD8260 240-232711/7	UXM5575.D
Level 3	STD8260 240-232711/6	UXM5574.D
Level 4	STD8260 240-232711/5	UXM5573.D
Level 5	STD8260 240-232711/4	UXM5572.D
Level 6	STD8260 240-232711/3	UXM5571.D
Level 7	STD8269 240-232711/2	UXM5570.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R <sup>2</sup> OR COD	#	MIN R <sup>2</sup> OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
	LVL 6	LVL 7															
Dichlorodifluoromethane	0.2658 0.2547	0.2105 0.2462	0.2317	0.2446	0.2397	Ave	0.2419			0.1000	7.3		20.0				
Chloromethane	0.3226 0.2701	0.3026 0.2864	0.2941	0.3192	0.2884	Ave	0.2976			0.1000	6.3		20.0				
Vinyl chloride	0.3255 0.2922	0.3084 0.2978	0.2872	0.3180	0.3044	Ave	0.3048			0.1000	4.5		20.0				
Butadiene	0.3225 0.2831	0.3028 0.2740	0.3071	0.2922	0.2814	Ave	0.2947				5.8		20.0				
Bromomethane	0.1151 0.0765	0.1086 0.0681	0.1054	0.1220	0.0735	Qua	0.0578	0.0802	-0.000339	0.0500				0.9940		0.9900	
Chloroethane	0.1578 0.1246	0.1362 0.1173	0.1504	0.1643	0.1208	Ave	0.1388			0.0500	13.6		20.0				
Dichlorofluoromethane	0.5184 0.2583	0.2843 0.2476	0.3142	0.3606	0.2407	Qua	0.1531	0.2534	-0.000241					0.9970		0.9900	
Trichlorofluoromethane	0.2173 0.1946	0.2095 0.1761	0.1992	0.2109	0.1892	Ave	0.1995			0.1000	7.2		20.0				
Ethyl ether	0.3560 0.2099	0.3010 0.2201	0.2684	0.2256	0.2235	Lin1	0.0783	0.2144						0.9990		0.9900	
Acrolein	0.0391 0.0315	0.0353 0.0335	0.0358	0.0343	0.0330	Ave	0.0346				7.0		20.0				
1,1-Dichloroethene	0.3372 0.2539	0.2530 0.2663	0.2570	0.2618	0.2679	Ave	0.2710			0.1000	11.0		20.0				
1,1,2-Trichloro-1,2,2-trifluoroethane	0.2237 0.1940	0.1930 0.1798	0.1824	0.1752	0.1856	Ave	0.1905			0.0500	8.5		20.0				
Acetone	0.2239 0.0715	0.1440 0.0727	0.0985	0.0817	0.0769	Lin1	0.1458	0.0695		0.0100				0.9990		0.9900	
Iodomethane	0.4300 0.3525	0.3807 0.3707	0.3992	0.3934	0.3676	Ave	0.3849				6.6		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  
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-65994-1 Analy Batch No.: 232711

SDG No.: \_\_\_\_\_

Instrument ID: A3UX16 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/01/2016 12:06 Calibration End Date: 06/01/2016 14:22 Calibration ID: 34643

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R <sup>2</sup> OR COD	#	MIN R <sup>2</sup> OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
	LVL 6	LVL 7															
Carbon disulfide	0.9313 0.7876	0.8580 0.8159	0.8641	0.8340	0.8112	Ave		0.8432			0.1000	5.6	20.0				
3-Chloro-1-propene	0.2140 0.1616	0.1806 0.1737	0.1710	0.1652	0.1707	Ave		0.1767				9.9	20.0				
Methyl acetate	0.1637 0.1543	0.1612 0.1612	0.1513	0.1591	0.1572	Ave		0.1583			0.1000	2.7	20.0				
Methylene Chloride	0.8350 0.2580	0.5307 0.2734	0.3976	0.3123	0.2926	Lin1	0.2795	0.2595			0.1000			0.9980		0.9900	
2-Methyl-2-propanol	0.0208 0.0171	0.0210 0.0174	0.0189	0.0181	0.0178	Ave		0.0187				8.6	20.0				
Acrylonitrile	0.0805 0.0796	0.0790 0.0841	0.0791	0.0816	0.0804	Ave		0.0806				2.2	20.0				
Methyl tert-butyl ether	0.8433 0.7214	0.7518 0.7709	0.7713	0.7710	0.7554	Ave		0.7693			0.1000	4.8	20.0				
trans-1,2-Dichloroethene	0.2759 0.2557	0.2949 0.2720	0.2766	0.2759	0.2675	Ave		0.2741			0.1000	4.3	20.0				
Hexane	0.0907 0.0811	0.0761 0.0748	0.0790	0.0691	0.0739	Ave		0.0778				8.8	20.0				
1,1-Dichloroethane	0.5461 0.4561	0.4860 0.4895	0.4885	0.4978	0.4882	Ave		0.4932			0.2000	5.4	20.0				
Vinyl acetate	0.5072 0.4483	0.4180 0.4888	0.4474	0.4566	0.4610	Ave		0.4610				6.3	20.0				
2,2-Dichloropropane	0.3627 0.2755	0.3022 0.2852	0.3026	0.3055	0.2945	Ave		0.3040				9.2	20.0				
cis-1,2-Dichloroethene	0.3176 0.2733	0.3126 0.2967	0.3033	0.3019	0.2957	Ave		0.3002			0.1000	4.8	20.0				
2-Butanone (MEK)	0.1380 0.0937	0.0946 0.0974	0.1032	0.1041	0.0965	Ave		0.1039			0.0100	15.0	20.0				
Chlorobromomethane	0.1735 0.1257	0.1529 0.1358	0.1423	0.1389	0.1367	Ave		0.1437				10.8	20.0				
Tetrahydrofuran	0.0892 0.0598	0.0681 0.0620	0.0641	0.0630	0.0607	Ave		0.0667				15.4	20.0				
Chloroform	0.5085 0.4143	0.4584 0.4474	0.4645	0.4572	0.4407	Ave		0.4559			0.2000	6.3	20.0				
1,1,1-Trichloroethane	0.3792 0.3224	0.3829 0.3330	0.3471	0.3382	0.3447	Ave		0.3496			0.1000	6.6	20.0				
Cyclohexane	0.5099 0.4686	0.4608 0.4527	0.4342	0.4263	0.4547	Ave		0.4582			0.1000	5.9	20.0				
1,1-Dichloropropene	0.4261 0.3658	0.3951 0.3840	0.3808	0.3873	0.3786	Ave		0.3882				4.9	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  
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-65994-1 Analy Batch No.: 232711

SDG No.: \_\_\_\_\_

Instrument ID: A3UX16 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/01/2016 12:06 Calibration End Date: 06/01/2016 14:22 Calibration ID: 34643

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R <sup>2</sup> OR COD	#	MIN R <sup>2</sup> OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
	LVL 6	LVL 7															
Carbon tetrachloride	0.3923 0.3032	0.3529 0.3132	0.3067	0.3168	0.3107	Ave		0.3280			0.1000	10.0	20.0				
Isobutyl alcohol	0.0075 0.0057	0.0066 0.0058	0.0057	0.0060	0.0058	Ave		0.0062				10.8	20.0				
1,2-Dichloroethane	0.3912 0.3357	0.3572 0.3622	0.3523	0.3560	0.3524	Ave		0.3581			0.1000	4.7	20.0				
Benzene	1.1464 1.0413	1.0898 1.1584	1.1208	1.1182	1.1146	Ave		1.1128			0.5000	3.5	20.0				
n-Heptane	0.8658 0.1847	0.4891 0.1570	0.3113	0.2049	0.1790	Lin1	0.3425	0.1521						0.9950		0.9900	
Trichloroethene	0.3294 0.2661	0.2808 0.2899	0.2797	0.2846	0.2796	Ave		0.2871			0.1500	7.0	20.0				
Methylcyclohexane	0.5109 0.4682	0.4698 0.4413	0.4267	0.4101	0.4420	Ave		0.4527			0.1000	7.4	20.0				
1,2-Dichloropropane	0.3109 0.2464	0.2704 0.2680	0.2591	0.2638	0.2558	Ave		0.2678			0.1000	7.7	20.0				
Dibromomethane	0.1642 0.1341	0.1605 0.1454	0.1590	0.1411	0.1416	Ave		0.1494				7.8	20.0				
1,4-Dioxane	0.0020 0.0021	0.0022 0.0021	0.0021	0.0021	0.0023	Ave		0.0021				4.9	20.0				
Dichlorobromomethane	0.4212 0.3172	0.3564 0.3469	0.3437	0.3465	0.3397	Ave		0.3531			0.1500	9.2	20.0				
2-Chloroethyl vinyl ether	0.1538 0.1393	0.1407 0.1499	0.1420	0.1428	0.1448	Ave		0.1448				3.6	20.0				
cis-1,3-Dichloropropene	0.5169 0.4190	0.4311 0.4595	0.4377	0.4485	0.4405	Ave		0.4504			0.1500	7.1	20.0				
4-Methyl-2-pentanone (MIBK)	0.2155 0.1908	0.2069 0.1987	0.2027	0.2030	0.1990	Ave		0.2024			0.0500	3.8	20.0				
Toluene	1.8078 1.5456	1.6054 1.6831	1.6197	1.6140	1.6207	Ave		1.6423			0.4000	5.1	20.0				
trans-1,3-Dichloropropene	0.5854 0.5147	0.5278 0.5456	0.5557	0.5361	0.5421	Ave		0.5439			0.1000	4.1	20.0				
Ethyl methacrylate	0.5357 0.4188	0.4567 0.4334	0.4685	0.4479	0.4402	Ave		0.4573				8.3	20.0				
1,1,2-Trichloroethane	0.2886 0.2791	0.3013 0.2832	0.2772	0.2912	0.2815	Ave		0.2860			0.1000	2.9	20.0				
Tetrachloroethene	0.3308 0.2848	0.2972 0.2974	0.2777	0.2955	0.2960	Ave		0.2970			0.1500	5.6	20.0				
1,3-Dichloropropane	0.5948 0.5061	0.5208 0.5372	0.5370	0.5310	0.5300	Ave		0.5367				5.2	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  
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-65994-1 Analy Batch No.: 232711

SDG No.: \_\_\_\_\_

Instrument ID: A3UX16 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/01/2016 12:06 Calibration End Date: 06/01/2016 14:22 Calibration ID: 34643

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								
	LVL 6	LVL 7															
2-Hexanone	0.2702 0.1877	0.2135 0.1870	0.2111	0.1984	0.2007	Ave		0.2098		0.0500	13.6		20.0				
Chlorodibromomethane	0.4389 0.3177	0.3858 0.3399	0.3295	0.3314	0.3332	Ave		0.3538			12.3		20.0				
Ethylene Dibromide	0.3417 0.2751	0.2738 0.2835	0.2837	0.2848	0.2919	Ave		0.2906			8.0		20.0				
Chlorobenzene	1.1892 0.9615	1.0479 1.0412	1.0244	1.0192	1.0080	Ave		1.0416		0.3000	6.8		20.0				
1,1,1,2-Tetrachloroethane	0.4284 0.3412	0.3798 0.3634	0.3655	0.3675	0.3563	Ave		0.3717			7.4		20.0				
Ethylbenzene	0.6350 0.5391	0.5588 0.5736	0.5694	0.5716	0.5684	Ave		0.5737			5.1		20.0				
m-Xylene & p-Xylene	0.8090 0.6776	0.7153 0.7126	0.6856	0.7165	0.7005	Ave		0.7167			6.1		20.0				
o-Xylene	0.7828 0.6776	0.7402 0.7224	0.7109	0.7017	0.7035	Ave		0.7199			4.7		20.0				
Styrene	1.2751 1.1040	1.1525 1.1974	1.1650	1.1717	1.1713	Ave		1.1767		0.3000	4.4		20.0				
Bromoform	0.2021 0.1898	0.1856 0.1995	0.1907	0.1935	0.1934	Ave		0.1935		0.1000	2.9		20.0				
Isopropylbenzene	1.9322 1.7091	1.7543 1.8331	1.7487	1.7471	1.7692	Ave		1.7848		0.1000	4.2		20.0				
1,1,2,2-Tetrachloroethane	0.7589 0.6733	0.6721 0.6933	0.6958	0.6894	0.6915	Ave		0.6963		0.3000	4.2		20.0				
Bromobenzene	0.8272 0.7233	0.7890 0.7959	0.7889	0.7684	0.7816	Ave		0.7820			4.0		20.0				
1,2,3-Trichloropropane	0.4533 0.2033	0.2492 0.2083	0.2178	0.2037	0.2208	Lin1	0.0867	0.2029						0.9970		0.9900	
trans-1,4-Dichloro-2-butene	0.2081 0.1867	0.2098 0.1943	0.2115	0.1934	0.1898	Ave		0.1991			5.2		20.0				
N-Propylbenzene	1.0373 0.8830	0.9642 0.9436	0.9090	0.9136	0.9191	Ave		0.9385			5.4		20.0				
2-Chlorotoluene	0.9555 0.7312	0.8406 0.8014	0.7688	0.7644	0.7693	Ave		0.8045			9.3		20.0				
1,3,5-Trimethylbenzene	3.0092 2.6976	2.8007 2.9872	2.8557	2.7340	2.8511	Ave		2.8479			4.1		20.0				
4-Chlorotoluene	0.9328 0.7537	0.8369 0.8293	0.8042	0.8170	0.8228	Ave		0.8281			6.5		20.0				
tert-Butylbenzene	2.5383 2.3873	2.4568 2.5572	2.4127	2.3965	2.4849	Ave		2.4620			2.8		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  
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-65994-1 Analy Batch No.: 232711

SDG No.: \_\_\_\_\_

Instrument ID: A3UX16 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/01/2016 12:06 Calibration End Date: 06/01/2016 14:22 Calibration ID: 34643

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R <sup>2</sup> OR COD	#	MIN R <sup>2</sup> OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
	LVL 6	LVL 7															
1,2,4-Trimethylbenzene	3.2212 2.7820	2.8942 3.1098	2.9390	2.9103	2.9845	Ave		2.9773			4.9		20.0				
sec-Butylbenzene	3.6758 3.2676	3.3683 3.5151	3.2579	3.2123	3.3949	Ave		3.3846			4.8		20.0				
1,3-Dichlorobenzene	1.6908 1.4357	1.5371 1.5792	1.5479	1.5290	1.5344	Ave		1.5506		0.6000	4.9		20.0				
4-Isopropyltoluene	3.1582 2.8283	2.9369 3.0693	2.8226	2.8587	2.9339	Ave		2.9440			4.3		20.0				
1,4-Dichlorobenzene	1.6660 1.4327	1.5476 1.5967	1.5656	1.5412	1.5577	Ave		1.5582		0.5000	4.5		20.0				
n-Butylbenzene	2.8401 2.3843	2.5420 2.5448	2.4586	2.3986	2.4954	Ave		2.5234			6.1		20.0				
1,2-Dichlorobenzene	1.6201 1.3707	1.4940 1.5114	1.4046	1.4681	1.4834	Ave		1.4789		0.4000	5.4		20.0				
1,2-Dibromo-3-Chloropropane	0.1835 0.1490	0.1734 0.1502	0.1620	0.1504	0.1537	Ave		0.1603		0.0500	8.4		20.0				
1,2,4-Trichlorobenzene	1.0780 0.8798	0.9700 0.9507	0.9787	0.9584	0.9634	Ave		0.9684		0.2000	6.0		20.0				
Hexachlorobutadiene	0.4164 0.3120	0.3404 0.3143	0.3469	0.3377	0.3325	Ave		0.3429			10.2		20.0				
Naphthalene	2.8816 2.2973	2.4776 2.3452	2.5060	2.4521	2.4179	Ave		2.4825			7.7		20.0				
1,2,3-Trichlorobenzene	1.0204 0.7849	0.8513 0.8315	0.8741	0.8778	0.8406	Ave		0.8687			8.5		20.0				
Dibromofluoromethane (Surr)	++++ 0.2142	0.2459 0.2338	0.2421	0.2373	0.2329	Ave		0.2344			4.7		20.0				
1,2-Dichloroethane-d4 (Surr)	++++ 0.2610	0.2977 0.2881	0.2809	0.2939	0.2799	Ave		0.2836			4.6		20.0				
Toluene-d8 (Surr)	++++ 1.2967	1.2980 1.4211	1.3722	1.3589	1.3423	Ave		1.3482			3.5		20.0				
4-Bromofluorobenzene (Surr)	++++ 0.4756	0.5321 0.5221	0.5183	0.5087	0.5099	Ave		0.5111			3.8		20.0				

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 240-232366/14 Calibration Date: 05/28/2016 11:25  
 Instrument ID: A3UX11 Calib Start Date: 05/28/2016 09:12  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 05/28/2016 11:03  
 Lab File ID: UXJ4945.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.1572	0.0785*	0.1000	0.00499	0.0100	-50.1*	20.0
Chloromethane	Ave	0.2254	0.1613	0.1000	0.00716	0.0100	-28.4*	20.0
Vinyl chloride	Ave	0.2393	0.1918	0.1000	0.00801	0.0100	-19.9	20.0
Butadiene	Ave	0.2248	0.1710		0.00761	0.0100	-23.9	30.0
Bromomethane	Ave	0.1093	0.0897	0.0500	0.00821	0.0100	-17.9	20.0
Chloroethane	Ave	0.1134	0.0951	0.0500	0.00838	0.0100	-16.2	20.0
Dichlorofluoromethane	Ave	0.2466	0.2222		0.00901	0.0100	-9.9	20.0
Trichlorofluoromethane	Ave	0.1723	0.1649	0.1000	0.00957	0.0100	-4.3	20.0
Ethyl ether	Ave	0.2239	0.2205		0.00985	0.0100	-1.5	20.0
Acrolein	Ave	0.0316	0.0196		0.0309	0.0500	-38.1	50.0
1,1-Dichloroethene	Ave	0.1767	0.1892	0.1000	0.0107	0.0100	7.1	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1071	0.1197	0.0500	0.0112	0.0100	11.8	20.0
Acetone	Lin1		0.0409	0.0100	0.0146	0.0200	-27.1	50.0
Iodomethane	Ave	0.2451	0.2543		0.0104	0.0100	3.8	20.0
Carbon disulfide	Ave	0.4562	0.4979	0.1000	0.0109	0.0100	9.1	20.0
3-Chloro-1-propene	Ave	0.1616	0.1753		0.0108	0.0100	8.5	20.0
Methyl acetate	Ave	0.1347	0.1285	0.1000	0.0477	0.0500	-4.6	20.0
Methylene Chloride	Lin1		0.2133	0.1000	0.00987	0.0100	-1.3	50.0
2-Methyl-2-propanol	Ave	0.0132	0.0104		0.0788	0.100	-21.2	50.0
Acrylonitrile	Ave	0.0700	0.0688		0.0982	0.100	-1.8	20.0
Methyl tert-butyl ether	Ave	0.6617	0.6529	0.1000	0.00987	0.0100	-1.3	20.0
trans-1,2-Dichloroethene	Ave	0.2620	0.2698	0.1000	0.0103	0.0100	3.0	20.0
Hexane	Ave	0.0561	0.0718		0.0128	0.0100	28.0*	20.0
1,1-Dichloroethane	Ave	0.4477	0.4276	0.2000	0.00955	0.0100	-4.5	20.0
Vinyl acetate	Ave	0.4179	0.4341		0.0104	0.0100	3.9	50.0
2-Butanone (MEK)	Ave	0.0824	0.0709	0.0100	0.0172	0.0200	-13.9	20.0
cis-1,2-Dichloroethene	Ave	0.2770	0.2702	0.1000	0.00975	0.0100	-2.5	20.0
2,2-Dichloropropane	Ave	0.1969	0.1923		0.00977	0.0100	-2.3	20.0
Chlorobromomethane	Ave	0.1278	0.1279		0.0100	0.0100	0.0	20.0
Tetrahydrofuran	Ave	0.0529	0.0487		0.0184	0.0200	-8.0	20.0
Chloroform	Ave	0.4028	0.3863	0.2000	0.00959	0.0100	-4.1	20.0
1,1,1-Trichloroethane	Ave	0.2717	0.2653	0.1000	0.00977	0.0100	-2.3	20.0
Cyclohexane	Ave	0.3041	0.3496	0.1000	0.0115	0.0100	14.9	20.0
1,1-Dichloropropene	Ave	0.3431	0.3373		0.00983	0.0100	-1.7	20.0
Carbon tetrachloride	Ave	0.2486	0.2618	0.1000	0.0105	0.0100	5.3	20.0
Isobutyl alcohol	Ave	0.0060	0.0055		0.231	0.250	-7.5	20.0
1,2-Dichloroethane	Ave	0.2815	0.2824	0.1000	0.0100	0.0100	0.3	20.0
Benzene	Ave	1.057	1.019	0.5000	0.00964	0.0100	-3.6	20.0
n-Heptane	Ave	0.0587	0.0635		0.0108	0.0100	8.1	20.0
Trichloroethene	Ave	0.2761	0.2702	0.1500	0.00979	0.0100	-2.1	20.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 240-232366/14 Calibration Date: 05/28/2016 11:25  
 Instrument ID: A3UX11 Calib Start Date: 05/28/2016 09:12  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 05/28/2016 11:03  
 Lab File ID: UXJ4945.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	0.3306	0.3651	0.1000	0.0110	0.0100	10.4	20.0
1,2-Dichloropropane	Ave	0.2533	0.2462	0.1000	0.00972	0.0100	-2.8	20.0
Dibromomethane	Ave	0.1259	0.1188		0.00943	0.0100	-5.7	20.0
1,4-Dioxane	Lin1		0.0009		0.119	0.200	-40.4	50.0
Dichlorobromomethane	Ave	0.2929	0.2750	0.1500	0.00939	0.0100	-6.1	20.0
2-Chloroethyl vinyl ether	Ave	0.1454	0.1420		0.00977	0.0100	-2.3	20.0
cis-1,3-Dichloropropene	Ave	0.3977	0.3785	0.1500	0.00952	0.0100	-4.8	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1675	0.1619	0.0500	0.0193	0.0200	-3.4	20.0
Toluene	Ave	1.613	1.577	0.4000	0.00977	0.0100	-2.3	20.0
trans-1,3-Dichloropropene	Ave	0.4831	0.4634	0.1000	0.00959	0.0100	-4.1	20.0
Ethyl methacrylate	Ave	0.4217	0.4208		0.00998	0.0100	-0.2	20.0
1,1,2-Trichloroethane	Ave	0.2874	0.2803	0.1000	0.00975	0.0100	-2.5	20.0
Tetrachloroethene	Ave	0.3065	0.3058	0.1500	0.00998	0.0100	-0.2	20.0
1,3-Dichloropropane	Ave	0.5237	0.5135		0.00980	0.0100	-2.0	20.0
2-Hexanone	Ave	0.1780	0.1624	0.0500	0.0182	0.0200	-8.8	20.0
Chlorodibromomethane	Ave	0.2976	0.2888		0.00970	0.0100	-3.0	20.0
Ethylene Dibromide	Ave	0.2742	0.2692		0.00982	0.0100	-1.8	20.0
Chlorobenzene	Ave	0.9846	0.9345	0.3000	0.00949	0.0100	-5.1	20.0
1,1,1,2-Tetrachloroethane	Ave	0.3208	0.3054		0.00952	0.0100	-4.8	20.0
Ethylbenzene	Ave	0.5275	0.5081		0.00963	0.0100	-3.7	20.0
m-Xylene & p-Xylene	Ave	0.6409	0.6189		0.00966	0.0100	-3.4	20.0
o-Xylene	Ave	0.6156	0.5915		0.00961	0.0100	-3.9	20.0
Styrene	Ave	1.064	1.036	0.3000	0.00973	0.0100	-2.7	20.0
Bromoform	Ave	0.1575	0.1606	0.1000	0.0102	0.0100	2.0	20.0
Isopropylbenzene	Ave	1.413	1.372	0.1000	0.00971	0.0100	-2.9	20.0
1,1,2,2-Tetrachloroethane	Ave	0.6946	0.6670	0.3000	0.00960	0.0100	-4.0	20.0
Bromobenzene	Ave	0.9222	0.8545		0.00927	0.0100	-7.3	20.0
1,2,3-Trichloropropane	Ave	0.2209	0.2222		0.0101	0.0100	0.6	20.0
trans-1,4-Dichloro-2-butene	Ave	0.1635	0.1515		0.00927	0.0100	-7.3	20.0
N-Propylbenzene	Ave	0.8936	0.8451		0.00946	0.0100	-5.4	20.0
2-Chlorotoluene	Ave	0.7923	0.7318		0.00924	0.0100	-7.6	20.0
1,3,5-Trimethylbenzene	Ave	2.484	2.313		0.00931	0.0100	-6.9	20.0
4-Chlorotoluene	Ave	0.8349	0.7709		0.00923	0.0100	-7.7	20.0
tert-Butylbenzene	Ave	2.075	1.952		0.00941	0.0100	-5.9	20.0
1,2,4-Trimethylbenzene	Ave	2.469	2.264		0.00917	0.0100	-8.3	20.0
sec-Butylbenzene	Ave	2.678	2.475		0.00924	0.0100	-7.6	20.0
1,3-Dichlorobenzene	Ave	1.410	1.275	0.6000	0.00904	0.0100	-9.6	20.0
4-Isopropyltoluene	Ave	2.276	2.122		0.00933	0.0100	-6.7	20.0
1,4-Dichlorobenzene	Ave	1.435	1.312	0.5000	0.00914	0.0100	-8.6	20.0
n-Butylbenzene	Ave	1.645	1.481		0.00901	0.0100	-9.9	20.0
1,2-Dichlorobenzene	Ave	1.268	1.157	0.4000	0.00912	0.0100	-8.8	20.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 240-232366/14 Calibration Date: 05/28/2016 11:25  
 Instrument ID: A3UX11 Calib Start Date: 05/28/2016 09:12  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 05/28/2016 11:03  
 Lab File ID: UXJ4945.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Ave	0.1034	0.0919	0.0500	0.00889	0.0100	-11.1	50.0
1,2,4-Trichlorobenzene	Ave	0.6065	0.5148	0.2000	0.00849	0.0100	-15.1	50.0
Hexachlorobutadiene	Ave	0.2494	0.2019		0.00810	0.0100	-19.0	20.0
Naphthalene	Ave	1.496	1.340		0.00896	0.0100	-10.4	50.0
1,2,3-Trichlorobenzene	Ave	0.5655	0.4760		0.00842	0.0100	-15.8	20.0
Dibromofluoromethane (Surr)	Ave	0.2231	0.2015		0.0108	0.0120	-9.7	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2501	0.2259		0.0108	0.0120	-9.7	20.0
Toluene-d8 (Surr)	Ave	1.421	1.311		0.0110	0.0120	-7.8	20.0
4-Bromofluorobenzene (Surr)	Ave	0.4299	0.3884		0.0108	0.0120	-9.6	20.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 240-235154/2 Calibration Date: 06/20/2016 09:34  
 Instrument ID: A3UX11 Calib Start Date: 05/28/2016 09:12  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 05/28/2016 11:03  
 Lab File ID: UXJ5601.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.1572	0.2042	0.1000	0.0130	0.0100	29.8*	20.0
Chloromethane	Ave	0.2254	0.2846	0.1000	0.0126	0.0100	26.3*	20.0
Vinyl chloride	Ave	0.2393	0.2630	0.1000	0.0110	0.0100	9.9	20.0
Butadiene	Ave	0.2248	0.2519		0.0112	0.0100	12.1	20.0
Bromomethane	Ave	0.1093	0.0735	0.0500	0.00673	0.0100	-32.7*	20.0
Chloroethane	Ave	0.1134	0.0992	0.0500	0.00874	0.0100	-12.6	20.0
Dichlorofluoromethane	Ave	0.2466	0.2663		0.0108	0.0100	8.0	20.0
Trichlorofluoromethane	Ave	0.1723	0.2511	0.1000	0.0146	0.0100	45.7*	20.0
Ethyl ether	Ave	0.2239	0.2029		0.00906	0.0100	-9.4	20.0
Acrolein	Ave	0.0316	0.0237		0.0374	0.0500	-25.1	50.0
1,1-Dichloroethene	Ave	0.1767	0.1907	0.1000	0.0108	0.0100	7.9	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1071	0.1162	0.0500	0.0109	0.0100	8.5	20.0
Acetone	Lin1		0.0462	0.0100	0.0169	0.0200	-15.6	50.0
Iodomethane	Ave	0.2451	0.2368		0.00966	0.0100	-3.4	20.0
Carbon disulfide	Ave	0.4562	0.4742	0.1000	0.0104	0.0100	3.9	20.0
3-Chloro-1-propene	Ave	0.1616	0.1649		0.0102	0.0100	2.0	20.0
Methyl acetate	Ave	0.1347	0.1260	0.1000	0.0468	0.0500	-6.5	20.0
Methylene Chloride	Lin1		0.2338	0.1000	0.0110	0.0100	9.5	50.0
2-Methyl-2-propanol	Ave	0.0132	0.0088		0.0671	0.100	-32.9	50.0
Acrylonitrile	Ave	0.0700	0.0649		0.0927	0.100	-7.3	20.0
Methyl tert-butyl ether	Ave	0.6617	0.6433	0.1000	0.00972	0.0100	-2.8	20.0
trans-1,2-Dichloroethene	Ave	0.2620	0.2684	0.1000	0.0102	0.0100	2.5	20.0
Hexane	Ave	0.0561	0.0636		0.0113	0.0100	13.5	20.0
1,1-Dichloroethane	Ave	0.4477	0.4635	0.2000	0.0104	0.0100	3.5	20.0
Vinyl acetate	Ave	0.4179	0.3914		0.00937	0.0100	-6.3	50.0
2-Butanone (MEK)	Ave	0.0824	0.0736	0.0100	0.0179	0.0200	-10.6	20.0
cis-1,2-Dichloroethene	Ave	0.2770	0.2881	0.1000	0.0104	0.0100	4.0	20.0
2,2-Dichloropropane	Ave	0.1969	0.2061		0.0105	0.0100	4.7	20.0
Chlorobromomethane	Ave	0.1278	0.1340		0.0105	0.0100	4.8	20.0
Tetrahydrofuran	Ave	0.0529	0.0479		0.0181	0.0200	-9.6	20.0
Chloroform	Ave	0.4028	0.4281	0.2000	0.0106	0.0100	6.3	20.0
1,1,1-Trichloroethane	Ave	0.2717	0.2699	0.1000	0.00994	0.0100	-0.6	20.0
Cyclohexane	Ave	0.3041	0.3309	0.1000	0.0109	0.0100	8.8	20.0
1,1-Dichloropropene	Ave	0.3431	0.3652		0.0106	0.0100	6.4	20.0
Carbon tetrachloride	Ave	0.2486	0.2662	0.1000	0.0107	0.0100	7.1	20.0
Isobutyl alcohol	Ave	0.0060	0.0060		0.251	0.250	0.5	20.0
1,2-Dichloroethane	Ave	0.2815	0.3067	0.1000	0.0109	0.0100	8.9	20.0
Benzene	Ave	1.057	1.102	0.5000	0.0104	0.0100	4.3	20.0
n-Heptane	Ave	0.0587	0.0646		0.0110	0.0100	10.0	20.0
Trichloroethene	Ave	0.2761	0.2817	0.1500	0.0102	0.0100	2.1	20.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 240-235154/2 Calibration Date: 06/20/2016 09:34  
 Instrument ID: A3UX11 Calib Start Date: 05/28/2016 09:12  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 05/28/2016 11:03  
 Lab File ID: UXJ5601.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	0.3306	0.3513	0.1000	0.0106	0.0100	6.3	20.0
1,2-Dichloropropane	Ave	0.2533	0.2606	0.1000	0.0103	0.0100	2.8	20.0
Dibromomethane	Ave	0.1259	0.1313		0.0104	0.0100	4.3	20.0
1,4-Dioxane	Lin1		0.0011		0.140	0.200	-30.0	50.0
Dichlorobromomethane	Ave	0.2929	0.3045	0.1500	0.0104	0.0100	3.9	20.0
2-Chloroethyl vinyl ether	Ave	0.1454	0.1431		0.0197	0.0200	-1.6	20.0
cis-1,3-Dichloropropene	Ave	0.3977	0.3901	0.1500	0.00981	0.0100	-1.9	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1675	0.1582	0.0500	0.0189	0.0200	-5.6	20.0
Toluene	Ave	1.613	1.799	0.4000	0.0112	0.0100	11.5	20.0
trans-1,3-Dichloropropene	Ave	0.4831	0.5143	0.1000	0.0106	0.0100	6.5	20.0
Ethyl methacrylate	Ave	0.4217	0.4325		0.0103	0.0100	2.5	20.0
1,1,2-Trichloroethane	Ave	0.2874	0.3087	0.1000	0.0107	0.0100	7.4	20.0
Tetrachloroethene	Ave	0.3065	0.3272	0.1500	0.0107	0.0100	6.8	20.0
1,3-Dichloropropane	Ave	0.5237	0.5659		0.0108	0.0100	8.1	20.0
2-Hexanone	Ave	0.1780	0.1745	0.0500	0.0196	0.0200	-2.0	20.0
Chlorodibromomethane	Ave	0.2976	0.3188		0.0107	0.0100	7.1	20.0
Ethylene Dibromide	Ave	0.2742	0.2916		0.0106	0.0100	6.3	20.0
Chlorobenzene	Ave	0.9846	1.026	0.3000	0.0104	0.0100	4.2	20.0
1,1,1,2-Tetrachloroethane	Ave	0.3208	0.3317		0.0103	0.0100	3.4	20.0
Ethylbenzene	Ave	0.5275	0.5448		0.0103	0.0100	3.3	20.0
m-Xylene & p-Xylene	Ave	0.6409	0.6844		0.0107	0.0100	6.8	20.0
o-Xylene	Ave	0.6156	0.6439		0.0105	0.0100	4.6	20.0
Styrene	Ave	1.064	1.097	0.3000	0.0103	0.0100	3.1	20.0
Bromoform	Ave	0.1575	0.1430	0.1000	0.00908	0.0100	-9.2	20.0
Isopropylbenzene	Ave	1.413	1.434	0.1000	0.0101	0.0100	1.5	20.0
1,1,2,2-Tetrachloroethane	Ave	0.6946	0.7283	0.3000	0.0105	0.0100	4.8	20.0
Bromobenzene	Ave	0.9222	0.9786		0.0106	0.0100	6.1	20.0
1,2,3-Trichloropropane	Ave	0.2209	0.2415		0.0109	0.0100	9.3	20.0
trans-1,4-Dichloro-2-butene	Ave	0.1635	0.1683		0.0103	0.0100	2.9	20.0
N-Propylbenzene	Ave	0.8936	1.025		0.0115	0.0100	14.8	20.0
2-Chlorotoluene	Ave	0.7923	0.8593		0.0108	0.0100	8.5	20.0
1,3,5-Trimethylbenzene	Ave	2.484	2.685		0.0108	0.0100	8.1	20.0
4-Chlorotoluene	Ave	0.8349	0.9366		0.0112	0.0100	12.2	20.0
tert-Butylbenzene	Ave	2.075	2.162		0.0104	0.0100	4.2	20.0
1,2,4-Trimethylbenzene	Ave	2.469	2.647		0.0107	0.0100	7.2	20.0
sec-Butylbenzene	Ave	2.678	2.793		0.0104	0.0100	4.3	20.0
1,3-Dichlorobenzene	Ave	1.410	1.406	0.6000	0.00997	0.0100	-0.3	20.0
4-Isopropyltoluene	Ave	2.276	2.313		0.0102	0.0100	1.6	20.0
1,4-Dichlorobenzene	Ave	1.435	1.455	0.5000	0.0101	0.0100	1.4	20.0
n-Butylbenzene	Ave	1.645	1.667		0.0101	0.0100	1.4	20.0
1,2-Dichlorobenzene	Ave	1.268	1.206	0.4000	0.00951	0.0100	-4.9	20.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 240-235154/2 Calibration Date: 06/20/2016 09:34  
 Instrument ID: A3UX11 Calib Start Date: 05/28/2016 09:12  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 05/28/2016 11:03  
 Lab File ID: UXJ5601.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Ave	0.1034	0.0816	0.0500	0.00789	0.0100	-21.1	50.0
1,2,4-Trichlorobenzene	Ave	0.6065	0.5723	0.2000	0.00944	0.0100	-5.6	50.0
Hexachlorobutadiene	Ave	0.2494	0.2198		0.00881	0.0100	-11.9	20.0
Naphthalene	Ave	1.496	1.391		0.00930	0.0100	-7.0	50.0
1,2,3-Trichlorobenzene	Ave	0.5655	0.5329		0.00942	0.0100	-5.8	20.0
Dibromofluoromethane (Surr)	Ave	0.2231	0.2105		0.0113	0.0120	-5.7	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2501	0.2507		0.0120	0.0120	0.3	20.0
Toluene-d8 (Surr)	Ave	1.421	1.423		0.0120	0.0120	0.1	20.0
4-Bromofluorobenzene (Surr)	Ave	0.4299	0.3935		0.0109	0.0120	-8.5	20.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 240-235310/2 Calibration Date: 06/21/2016 08:52  
 Instrument ID: A3UX11 Calib Start Date: 05/28/2016 09:12  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 05/28/2016 11:03  
 Lab File ID: UXJ5658.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.1572	0.1689	0.1000	0.0107	0.0100	7.4	20.0
Chloromethane	Ave	0.2254	0.2423	0.1000	0.0108	0.0100	7.5	20.0
Vinyl chloride	Ave	0.2393	0.2266	0.1000	0.00947	0.0100	-5.3	20.0
Butadiene	Ave	0.2248	0.2087		0.00928	0.0100	-7.2	20.0
Bromomethane	Ave	0.1093	0.0650	0.0500	0.00595	0.0100	-40.5*	20.0
Chloroethane	Ave	0.1134	0.0823	0.0500	0.00726	0.0100	-27.4*	20.0
Dichlorofluoromethane	Ave	0.2466	0.2274		0.00922	0.0100	-7.8	20.0
Trichlorofluoromethane	Ave	0.1723	0.2008	0.1000	0.0117	0.0100	16.5	20.0
Ethyl ether	Ave	0.2239	0.1935		0.00864	0.0100	-13.6	20.0
Acrolein	Ave	0.0316	0.0215		0.0340	0.0500	-32.0	50.0
1,1-Dichloroethene	Ave	0.1767	0.1787	0.1000	0.0101	0.0100	1.1	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1071	0.1027	0.0500	0.00959	0.0100	-4.1	20.0
Acetone	Lin1		0.0365	0.0100	0.0127	0.0200	-36.5	50.0
Iodomethane	Ave	0.2451	0.2228		0.00909	0.0100	-9.1	20.0
Carbon disulfide	Ave	0.4562	0.4866	0.1000	0.0107	0.0100	6.7	20.0
3-Chloro-1-propene	Ave	0.1616	0.1508		0.00933	0.0100	-6.7	20.0
Methyl acetate	Ave	0.1347	0.1144	0.1000	0.0425	0.0500	-15.0	20.0
Methylene Chloride	Lin1		0.2045	0.1000	0.00941	0.0100	-5.9	50.0
2-Methyl-2-propanol	Ave	0.0132	0.0082		0.0622	0.100	-37.8	50.0
Acrylonitrile	Ave	0.0700	0.0605		0.0864	0.100	-13.6	20.0
Methyl tert-butyl ether	Ave	0.6617	0.5887	0.1000	0.00890	0.0100	-11.0	20.0
trans-1,2-Dichloroethene	Ave	0.2620	0.2466	0.1000	0.00941	0.0100	-5.9	20.0
Hexane	Ave	0.0561	0.0617		0.0110	0.0100	10.0	20.0
1,1-Dichloroethane	Ave	0.4477	0.4287	0.2000	0.00958	0.0100	-4.2	20.0
Vinyl acetate	Ave	0.4179	0.3691		0.00883	0.0100	-11.7	50.0
cis-1,2-Dichloroethene	Ave	0.2770	0.2551	0.1000	0.00921	0.0100	-7.9	20.0
2,2-Dichloropropane	Ave	0.1969	0.1843		0.00936	0.0100	-6.4	20.0
2-Butanone (MEK)	Ave	0.0824	0.0630	0.0100	0.0153	0.0200	-23.5*	20.0
Chlorobromomethane	Ave	0.1278	0.1210		0.00946	0.0100	-5.4	20.0
Tetrahydrofuran	Ave	0.0529	0.0444		0.0168	0.0200	-16.1	20.0
Chloroform	Ave	0.4028	0.3828	0.2000	0.00950	0.0100	-5.0	20.0
1,1,1-Trichloroethane	Ave	0.2717	0.2502	0.1000	0.00921	0.0100	-7.9	20.0
Cyclohexane	Ave	0.3041	0.3056	0.1000	0.0100	0.0100	0.5	20.0
1,1-Dichloropropene	Ave	0.3431	0.3313		0.00965	0.0100	-3.5	20.0
Carbon tetrachloride	Ave	0.2486	0.2326	0.1000	0.00936	0.0100	-6.4	20.0
Isobutyl alcohol	Ave	0.0060	0.0054		0.226	0.250	-9.5	20.0
1,2-Dichloroethane	Ave	0.2815	0.2865	0.1000	0.0102	0.0100	1.7	20.0
Benzene	Ave	1.057	1.003	0.5000	0.00949	0.0100	-5.1	20.0
n-Heptane	Ave	0.0587	0.0578		0.00984	0.0100	-1.6	20.0
Trichloroethene	Ave	0.2761	0.2556	0.1500	0.00926	0.0100	-7.4	20.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 240-235310/2 Calibration Date: 06/21/2016 08:52  
 Instrument ID: A3UX11 Calib Start Date: 05/28/2016 09:12  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 05/28/2016 11:03  
 Lab File ID: UXJ5658.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	0.3306	0.3178	0.1000	0.00961	0.0100	-3.9	20.0
1,2-Dichloropropane	Ave	0.2533	0.2303	0.1000	0.00909	0.0100	-9.1	20.0
Dibromomethane	Ave	0.1259	0.1203		0.00955	0.0100	-4.5	20.0
1,4-Dioxane	Lin1		0.0012		0.147	0.200	-26.5	50.0
Dichlorobromomethane	Ave	0.2929	0.2693	0.1500	0.00919	0.0100	-8.1	20.0
2-Chloroethyl vinyl ether	Ave	0.1454	0.1282		0.0176	0.0200	-11.8	20.0
cis-1,3-Dichloropropene	Ave	0.3977	0.3428	0.1500	0.00862	0.0100	-13.8	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1675	0.1470	0.0500	0.0176	0.0200	-12.2	20.0
Toluene	Ave	1.613	1.622	0.4000	0.0101	0.0100	0.5	20.0
trans-1,3-Dichloropropene	Ave	0.4831	0.4473	0.1000	0.00926	0.0100	-7.4	20.0
Ethyl methacrylate	Ave	0.4217	0.3893		0.00923	0.0100	-7.7	20.0
1,1,2-Trichloroethane	Ave	0.2874	0.2810	0.1000	0.00978	0.0100	-2.2	20.0
1,3-Dichloropropane	Ave	0.5237	0.5170		0.00987	0.0100	-1.3	20.0
Tetrachloroethene	Ave	0.3065	0.2963	0.1500	0.00967	0.0100	-3.3	20.0
2-Hexanone	Ave	0.1780	0.1510	0.0500	0.0170	0.0200	-15.2	20.0
Chlorodibromomethane	Ave	0.2976	0.2761		0.00928	0.0100	-7.2	20.0
Ethylene Dibromide	Ave	0.2742	0.2608		0.00951	0.0100	-4.9	20.0
Chlorobenzene	Ave	0.9846	0.9258	0.3000	0.00940	0.0100	-6.0	20.0
1,1,1,2-Tetrachloroethane	Ave	0.3208	0.3015		0.00940	0.0100	-6.0	20.0
Ethylbenzene	Ave	0.5275	0.5163		0.00979	0.0100	-2.1	20.0
m-Xylene & p-Xylene	Ave	0.6409	0.6193		0.00966	0.0100	-3.4	20.0
o-Xylene	Ave	0.6156	0.5720		0.00929	0.0100	-7.1	20.0
Styrene	Ave	1.064	1.009	0.3000	0.00948	0.0100	-5.2	20.0
Bromoform	Ave	0.1575	0.1254	0.1000	0.00796	0.0100	-20.4*	20.0
Isopropylbenzene	Ave	1.413	1.310	0.1000	0.00927	0.0100	-7.3	20.0
1,1,2,2-Tetrachloroethane	Ave	0.6946	0.6708	0.3000	0.00966	0.0100	-3.4	20.0
Bromobenzene	Ave	0.9222	0.9004		0.00976	0.0100	-2.4	20.0
1,2,3-Trichloropropane	Ave	0.2209	0.2233		0.0101	0.0100	1.1	20.0
trans-1,4-Dichloro-2-butene	Ave	0.1635	0.1219		0.00746	0.0100	-25.4*	20.0
N-Propylbenzene	Ave	0.8936	0.9048		0.0101	0.0100	1.3	20.0
2-Chlorotoluene	Ave	0.7923	0.7753		0.00979	0.0100	-2.1	20.0
1,3,5-Trimethylbenzene	Ave	2.484	2.428		0.00978	0.0100	-2.2	20.0
4-Chlorotoluene	Ave	0.8349	0.8245		0.00987	0.0100	-1.3	20.0
tert-Butylbenzene	Ave	2.075	1.943		0.00937	0.0100	-6.3	20.0
1,2,4-Trimethylbenzene	Ave	2.469	2.379		0.00964	0.0100	-3.6	20.0
sec-Butylbenzene	Ave	2.678	2.548		0.00952	0.0100	-4.8	20.0
1,3-Dichlorobenzene	Ave	1.410	1.291	0.6000	0.00915	0.0100	-8.5	20.0
4-Isopropyltoluene	Ave	2.276	2.115		0.00929	0.0100	-7.1	20.0
1,4-Dichlorobenzene	Ave	1.435	1.304	0.5000	0.00908	0.0100	-9.2	20.0
n-Butylbenzene	Ave	1.645	1.507		0.00916	0.0100	-8.4	20.0
1,2-Dichlorobenzene	Ave	1.268	1.114	0.4000	0.00879	0.0100	-12.1	20.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 240-235310/2 Calibration Date: 06/21/2016 08:52  
 Instrument ID: A3UX11 Calib Start Date: 05/28/2016 09:12  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 05/28/2016 11:03  
 Lab File ID: UXJ5658.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Ave	0.1034	0.0751	0.0500	0.00726	0.0100	-27.4	50.0
1,2,4-Trichlorobenzene	Ave	0.6065	0.5140	0.2000	0.00847	0.0100	-15.3	50.0
Hexachlorobutadiene	Ave	0.2494	0.1959		0.00785	0.0100	-21.5*	20.0
Naphthalene	Ave	1.496	1.240		0.00829	0.0100	-17.1	50.0
1,2,3-Trichlorobenzene	Ave	0.5655	0.4764		0.00842	0.0100	-15.8	20.0
Dibromofluoromethane (Surr)	Ave	0.2231	0.2064		0.0111	0.0120	-7.5	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2501	0.2401		0.0115	0.0120	-4.0	20.0
Toluene-d8 (Surr)	Ave	1.421	1.354		0.0114	0.0120	-4.7	20.0
4-Bromofluorobenzene (Surr)	Ave	0.4299	0.3806		0.0106	0.0120	-11.5	20.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 240-232711/9 Calibration Date: 06/01/2016 14:45  
 Instrument ID: A3UX16 Calib Start Date: 06/01/2016 12:06  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/01/2016 14:22  
 Lab File ID: UXM5577.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.2419	0.3305	0.1000	0.0137	0.0100	36.6*	20.0
Chloromethane	Ave	0.2976	0.3513	0.1000	0.0118	0.0100	18.0	20.0
Vinyl chloride	Ave	0.3048	0.3483	0.1000	0.0114	0.0100	14.3	20.0
Butadiene	Ave	0.2947	0.3177		0.0108	0.0100	7.8	30.0
Bromomethane	Qua		0.1145	0.0500	0.0144	0.0100	44.4*	20.0
Chloroethane	Ave	0.1388	0.1683	0.0500	0.0121	0.0100	21.3*	20.0
Dichlorofluoromethane	Qua		0.3588		0.0137	0.0100	37.3*	20.0
Trichlorofluoromethane	Ave	0.1995	0.2430	0.1000	0.0122	0.0100	21.8*	20.0
Ethyl ether	Lin1		0.2244		0.0101	0.0100	1.0	20.0
Acrolein	Ave	0.0346	0.0395		0.0569	0.0500	13.9	50.0
1,1-Dichloroethene	Ave	0.2710	0.2759	0.1000	0.0102	0.0100	1.8	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1905	0.1970	0.0500	0.0103	0.0100	3.4	20.0
Acetone	Lin1		0.0687	0.0100	0.0177	0.0200	-11.7	50.0
Iodomethane	Ave	0.3849	0.4271		0.0111	0.0100	11.0	20.0
Carbon disulfide	Ave	0.8432	0.8967	0.1000	0.0106	0.0100	6.3	20.0
3-Chloro-1-propene	Ave	0.1767	0.1932		0.0109	0.0100	9.3	20.0
Methyl acetate	Ave	0.1583	0.1544	0.1000	0.0488	0.0500	-2.5	20.0
Methylene Chloride	Lin1		0.3051	0.1000	0.0107	0.0100	6.8	50.0
2-Methyl-2-propanol	Ave	0.0187	0.0175		0.0933	0.100	-6.7	50.0
Acrylonitrile	Ave	0.0806	0.0825		0.102	0.100	2.3	20.0
trans-1,2-Dichloroethene	Ave	0.2741	0.2952	0.1000	0.0108	0.0100	7.7	20.0
Methyl tert-butyl ether	Ave	0.7693	0.7901	0.1000	0.0103	0.0100	2.7	20.0
Hexane	Ave	0.0778	0.0778		0.0100	0.0100	-0.0	20.0
1,1-Dichloroethane	Ave	0.4932	0.4950	0.2000	0.0100	0.0100	0.4	20.0
Vinyl acetate	Ave	0.4610	0.5063		0.0110	0.0100	9.8	50.0
2,2-Dichloropropane	Ave	0.3040	0.3134		0.0103	0.0100	3.1	20.0
2-Butanone (MEK)	Ave	0.1039	0.0862	0.0100	0.0166	0.0200	-17.0	20.0
cis-1,2-Dichloroethene	Ave	0.3002	0.3024	0.1000	0.0101	0.0100	0.7	20.0
Chlorobromomethane	Ave	0.1437	0.1388		0.00966	0.0100	-3.4	20.0
Tetrahydrofuran	Ave	0.0667	0.0577		0.0173	0.0200	-13.5	20.0
Chloroform	Ave	0.4559	0.4658	0.2000	0.0102	0.0100	2.2	20.0
1,1,1-Trichloroethane	Ave	0.3496	0.3618	0.1000	0.0103	0.0100	3.5	20.0
Cyclohexane	Ave	0.4582	0.4706	0.1000	0.0103	0.0100	2.7	20.0
1,1-Dichloropropene	Ave	0.3882	0.3966		0.0102	0.0100	2.1	20.0
Carbon tetrachloride	Ave	0.3280	0.3396	0.1000	0.0104	0.0100	3.6	20.0
Isobutyl alcohol	Ave	0.0062	0.0056		0.229	0.250	-8.3	20.0
1,2-Dichloroethane	Ave	0.3581	0.3730	0.1000	0.0104	0.0100	4.1	20.0
Benzene	Ave	1.113	1.149	0.5000	0.0103	0.0100	3.2	20.0
n-Heptane	Lin1		0.1858		0.00996	0.0100	-0.4	20.0
Trichloroethene	Ave	0.2871	0.2971	0.1500	0.0103	0.0100	3.5	20.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 240-232711/9 Calibration Date: 06/01/2016 14:45  
 Instrument ID: A3UX16 Calib Start Date: 06/01/2016 12:06  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/01/2016 14:22  
 Lab File ID: UXM5577.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	0.4527	0.4581	0.1000	0.0101	0.0100	1.2	20.0
1,2-Dichloropropane	Ave	0.2678	0.2796	0.1000	0.0104	0.0100	4.4	20.0
Dibromomethane	Ave	0.1494	0.1494		0.0100	0.0100	-0.0	20.0
1,4-Dioxane	Ave	0.0021	0.0020		0.188	0.200	-6.2	50.0
Dichlorobromomethane	Ave	0.3531	0.3505	0.1500	0.00993	0.0100	-0.7	20.0
2-Chloroethyl vinyl ether	Ave	0.1448	0.1445		0.00998	0.0100	-0.2	20.0
cis-1,3-Dichloropropene	Ave	0.4504	0.4612	0.1500	0.0102	0.0100	2.4	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.2024	0.1946	0.0500	0.0192	0.0200	-3.8	20.0
Toluene	Ave	1.642	1.695	0.4000	0.0103	0.0100	3.2	20.0
trans-1,3-Dichloropropene	Ave	0.5439	0.5423	0.1000	0.00997	0.0100	-0.3	20.0
Ethyl methacrylate	Ave	0.4573	0.4489		0.00982	0.0100	-1.8	20.0
1,1,2-Trichloroethane	Ave	0.2860	0.2886	0.1000	0.0101	0.0100	0.9	20.0
1,3-Dichloropropane	Ave	0.5367	0.5305		0.00988	0.0100	-1.2	20.0
Tetrachloroethene	Ave	0.2970	0.3033	0.1500	0.0102	0.0100	2.1	20.0
2-Hexanone	Ave	0.2098	0.1810	0.0500	0.0173	0.0200	-13.7	20.0
Chlorodibromomethane	Ave	0.3538	0.3434		0.00971	0.0100	-2.9	20.0
Ethylene Dibromide	Ave	0.2906	0.2993		0.0103	0.0100	3.0	20.0
Chlorobenzene	Ave	1.042	1.058	0.3000	0.0102	0.0100	1.5	20.0
1,1,1,2-Tetrachloroethane	Ave	0.3717	0.3698		0.00995	0.0100	-0.5	20.0
Ethylbenzene	Ave	0.5737	0.5909		0.0103	0.0100	3.0	20.0
m-Xylene & p-Xylene	Ave	0.7167	0.7377		0.0103	0.0100	2.9	20.0
o-Xylene	Ave	0.7199	0.7248		0.0101	0.0100	0.7	20.0
Styrene	Ave	1.177	1.231	0.3000	0.0105	0.0100	4.6	20.0
Bromoform	Ave	0.1935	0.2144	0.1000	0.0111	0.0100	10.8	20.0
Isopropylbenzene	Ave	1.785	1.881	0.1000	0.0105	0.0100	5.4	20.0
1,1,2,2-Tetrachloroethane	Ave	0.6963	0.6931	0.3000	0.00995	0.0100	-0.5	20.0
Bromobenzene	Ave	0.7820	0.7968		0.0102	0.0100	1.9	20.0
1,2,3-Trichloropropane	Lin1		0.2166		0.0102	0.0100	2.5	20.0
trans-1,4-Dichloro-2-butene	Ave	0.1991	0.1927		0.00968	0.0100	-3.2	20.0
N-Propylbenzene	Ave	0.9385	0.9345		0.00996	0.0100	-0.4	20.0
2-Chlorotoluene	Ave	0.8045	0.7957		0.00989	0.0100	-1.1	20.0
1,3,5-Trimethylbenzene	Ave	2.848	2.896		0.0102	0.0100	1.7	20.0
4-Chlorotoluene	Ave	0.8281	0.8207		0.00991	0.0100	-0.9	20.0
tert-Butylbenzene	Ave	2.462	2.517		0.0102	0.0100	2.2	20.0
1,2,4-Trimethylbenzene	Ave	2.977	2.954		0.00992	0.0100	-0.8	20.0
sec-Butylbenzene	Ave	3.385	3.413		0.0101	0.0100	0.8	20.0
1,3-Dichlorobenzene	Ave	1.551	1.549	0.6000	0.00999	0.0100	-0.0	20.0
4-Isopropyltoluene	Ave	2.944	3.021		0.0103	0.0100	2.6	20.0
1,4-Dichlorobenzene	Ave	1.558	1.570	0.5000	0.0101	0.0100	0.8	20.0
n-Butylbenzene	Ave	2.523	2.525		0.0100	0.0100	0.0	20.0
1,2-Dichlorobenzene	Ave	1.479	1.513	0.4000	0.0102	0.0100	2.3	20.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 240-232711/9 Calibration Date: 06/01/2016 14:45  
 Instrument ID: A3UX16 Calib Start Date: 06/01/2016 12:06  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/01/2016 14:22  
 Lab File ID: UXM5577.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Ave	0.1603	0.1597	0.0500	0.00996	0.0100	-0.4	50.0
1,2,4-Trichlorobenzene	Ave	0.9684	0.9683	0.2000	0.0100	0.0100	-0.0	50.0
Hexachlorobutadiene	Ave	0.3429	0.3303		0.00963	0.0100	-3.7	20.0
Naphthalene	Ave	2.483	2.405		0.00969	0.0100	-3.1	50.0
1,2,3-Trichlorobenzene	Ave	0.8687	0.8247		0.00949	0.0100	-5.1	20.0
Dibromofluoromethane (Surr)	Ave	0.2344	0.2353		0.0100	0.0100	0.4	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2836	0.2858		0.0101	0.0100	0.8	20.0
Toluene-d8 (Surr)	Ave	1.348	1.356		0.0101	0.0100	0.6	20.0
4-Bromofluorobenzene (Surr)	Ave	0.5111	0.5095		0.00997	0.0100	-0.3	20.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 240-232711/16 Calibration Date: 06/01/2016 17:24  
 Instrument ID: A3UX16 Calib Start Date: 06/01/2016 15:08  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/01/2016 17:02  
 Lab File ID: UXM5584.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acetonitrile	Ave	0.0228	0.0233		0.102	0.100	2.0	20.0
Isopropyl ether	Ave	0.2496	0.2758		0.0110	0.0100	10.5	20.0
2-Chloro-1,3-butadiene	Ave	0.4316	0.4683		0.0109	0.0100	8.5	20.0
Tert-butyl ethyl ether	Ave	0.8440	0.9047		0.0107	0.0100	7.2	20.0
Propionitrile	Ave	0.0286	0.0300		0.105	0.100	4.9	20.0
Ethyl acetate	Ave	0.1684	0.1820		0.0216	0.0200	8.1	50.0
Methacrylonitrile	Ave	0.1290	0.1351		0.105	0.100	4.7	20.0
Tert-amyl methyl ether	Ave	0.7756	0.8251		0.0106	0.0100	6.4	20.0
n-Butanol	Ave	0.0049	0.0047		0.240	0.250	-4.0	20.0
Methyl methacrylate	Ave	0.1806	0.1852		0.0205	0.0200	2.5	20.0
2-Nitropropane	Ave	0.0636	0.0608		0.0191	0.0200	-4.4	20.0
1-Chlorohexane	Ave	0.4765	0.4839		0.0102	0.0100	1.6	20.0
Cyclohexanone	Lin1		0.0159		0.0945	0.100	-5.5	20.0
1,2,3-Trimethylbenzene	Ave	2.977	3.064		0.0103	0.0100	2.9	20.0
1,3,5-Trichlorobenzene	Ave	0.996	1.031		0.0104	0.0100	3.5	20.0
2-Methylnaphthalene	Ave	1.416	1.326		0.0187	0.0200	-6.4	20.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 240-235221/2 Calibration Date: 06/20/2016 12:47  
 Instrument ID: A3UX16 Calib Start Date: 06/01/2016 12:06  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/01/2016 14:22  
 Lab File ID: UXM6060.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.2419	0.3045	0.1000	0.0126	0.0100	25.9*	20.0
Chloromethane	Ave	0.2976	0.3690	0.1000	0.0124	0.0100	24.0*	20.0
Vinyl chloride	Ave	0.3048	0.3498	0.1000	0.0115	0.0100	14.8	20.0
Butadiene	Ave	0.2947	0.3436		0.0117	0.0100	16.6	20.0
Bromomethane	Qua		0.0938	0.0500	0.0115	0.0100	15.4	20.0
Chloroethane	Ave	0.1388	0.1270	0.0500	0.00915	0.0100	-8.5	20.0
Dichlorofluoromethane	Qua		0.3349		0.0128	0.0100	27.7*	20.0
Trichlorofluoromethane	Ave	0.1995	0.2550	0.1000	0.0128	0.0100	27.8*	20.0
Ethyl ether	Lin1		0.2092		0.00939	0.0100	-6.1	20.0
Acrolein	Ave	0.0346	0.0256		0.0369	0.0500	-26.1	50.0
1,1-Dichloroethene	Ave	0.2710	0.2533	0.1000	0.00935	0.0100	-6.5	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1905	0.1799	0.0500	0.00944	0.0100	-5.6	20.0
Acetone	Lin1		0.0705	0.0100	0.0182	0.0200	-9.1	50.0
Iodomethane	Ave	0.3849	0.3976		0.0103	0.0100	3.3	20.0
Carbon disulfide	Ave	0.8432	0.8429	0.1000	0.0100	0.0100	-0.0	20.0
3-Chloro-1-propene	Ave	0.1767	0.1561		0.00883	0.0100	-11.7	20.0
Methyl acetate	Ave	0.1583	0.1373	0.1000	0.0434	0.0500	-13.2	20.0
Methylene Chloride	Lin1		0.2847	0.1000	0.00989	0.0100	-1.1	50.0
2-Methyl-2-propanol	Ave	0.0187	0.0159		0.0848	0.100	-15.2	50.0
Acrylonitrile	Ave	0.0806	0.0703		0.0872	0.100	-12.8	20.0
Methyl tert-butyl ether	Ave	0.7693	0.7135	0.1000	0.00927	0.0100	-7.3	20.0
trans-1,2-Dichloroethene	Ave	0.2741	0.2731	0.1000	0.00996	0.0100	-0.4	20.0
Hexane	Ave	0.0778	0.0763		0.00980	0.0100	-2.0	20.0
1,1-Dichloroethane	Ave	0.4932	0.5040	0.2000	0.0102	0.0100	2.2	20.0
Vinyl acetate	Ave	0.4610	0.4171		0.00905	0.0100	-9.5	50.0
2,2-Dichloropropane	Ave	0.3040	0.3496		0.0115	0.0100	15.0	20.0
2-Butanone (MEK)	Ave	0.1039	0.0871	0.0100	0.0168	0.0200	-16.2	20.0
cis-1,2-Dichloroethene	Ave	0.3002	0.2990	0.1000	0.00996	0.0100	-0.4	20.0
Chlorobromomethane	Ave	0.1437	0.1277		0.00889	0.0100	-11.1	20.0
Tetrahydrofuran	Ave	0.0667	0.0520		0.0156	0.0200	-22.0*	20.0
Chloroform	Ave	0.4559	0.4494	0.2000	0.00986	0.0100	-1.4	20.0
1,1,1-Trichloroethane	Ave	0.3496	0.3703	0.1000	0.0106	0.0100	5.9	20.0
Cyclohexane	Ave	0.4582	0.4711	0.1000	0.0103	0.0100	2.8	20.0
1,1-Dichloropropene	Ave	0.3882	0.3864		0.00995	0.0100	-0.5	20.0
Carbon tetrachloride	Ave	0.3280	0.3094	0.1000	0.00943	0.0100	-5.7	20.0
Isobutyl alcohol	Ave	0.0062	0.0051		0.208	0.250	-16.7	20.0
1,2-Dichloroethane	Ave	0.3581	0.3429	0.1000	0.00957	0.0100	-4.3	20.0
Benzene	Ave	1.113	1.120	0.5000	0.0101	0.0100	0.7	20.0
n-Heptane	Lin1		0.1848		0.00990	0.0100	-1.0	20.0
Trichloroethene	Ave	0.2871	0.2798	0.1500	0.00974	0.0100	-2.6	20.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 240-235221/2 Calibration Date: 06/20/2016 12:47  
 Instrument ID: A3UX16 Calib Start Date: 06/01/2016 12:06  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/01/2016 14:22  
 Lab File ID: UXM6060.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	0.4527	0.4490	0.1000	0.00992	0.0100	-0.8	20.0
1,2-Dichloropropane	Ave	0.2678	0.2618	0.1000	0.00978	0.0100	-2.2	20.0
Dibromomethane	Ave	0.1494	0.1352		0.00905	0.0100	-9.5	20.0
1,4-Dioxane	Ave	0.0021	0.0018		0.170	0.200	-15.1	50.0
Dichlorobromomethane	Ave	0.3531	0.3198	0.1500	0.00906	0.0100	-9.4	20.0
2-Chloroethyl vinyl ether	Ave	0.1448	0.1225		0.0169	0.0200	-15.4	20.0
cis-1,3-Dichloropropene	Ave	0.4504	0.4085	0.1500	0.00907	0.0100	-9.3	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.2024	0.1752	0.0500	0.0173	0.0200	-13.4	20.0
Toluene	Ave	1.642	1.674	0.4000	0.0102	0.0100	2.0	20.0
trans-1,3-Dichloropropene	Ave	0.5439	0.4881	0.1000	0.00897	0.0100	-10.3	20.0
Ethyl methacrylate	Ave	0.4573	0.3963		0.00867	0.0100	-13.3	20.0
1,1,2-Trichloroethane	Ave	0.2860	0.2732	0.1000	0.00955	0.0100	-4.5	20.0
1,3-Dichloropropane	Ave	0.5367	0.5078		0.00946	0.0100	-5.4	20.0
Tetrachloroethene	Ave	0.2970	0.2945	0.1500	0.00992	0.0100	-0.8	20.0
2-Hexanone	Ave	0.2098	0.1803	0.0500	0.0172	0.0200	-14.1	20.0
Chlorodibromomethane	Ave	0.3538	0.3004		0.00849	0.0100	-15.1	20.0
Ethylene Dibromide	Ave	0.2906	0.2608		0.00897	0.0100	-10.3	20.0
Chlorobenzene	Ave	1.042	1.027	0.3000	0.00986	0.0100	-1.4	20.0
1,1,1,2-Tetrachloroethane	Ave	0.3717	0.3528		0.00949	0.0100	-5.1	20.0
Ethylbenzene	Ave	0.5737	0.5706		0.00995	0.0100	-0.5	20.0
m-Xylene & p-Xylene	Ave	0.7167	0.7060		0.00985	0.0100	-1.5	20.0
o-Xylene	Ave	0.7199	0.7289		0.0101	0.0100	1.3	20.0
Styrene	Ave	1.177	1.156	0.3000	0.00982	0.0100	-1.8	20.0
Bromoform	Ave	0.1935	0.1556	0.1000	0.00804	0.0100	-19.6	20.0
Isopropylbenzene	Ave	1.785	1.817	0.1000	0.0102	0.0100	1.8	20.0
1,1,2,2-Tetrachloroethane	Ave	0.6963	0.6338	0.3000	0.00910	0.0100	-9.0	20.0
Bromobenzene	Ave	0.7820	0.7591		0.00971	0.0100	-2.9	20.0
1,2,3-Trichloropropane	Lin1		0.1878		0.00883	0.0100	-11.7	20.0
trans-1,4-Dichloro-2-butene	Ave	0.1991	0.1270		0.00638	0.0100	-36.2*	20.0
N-Propylbenzene	Ave	0.9385	0.9346		0.00996	0.0100	-0.4	20.0
2-Chlorotoluene	Ave	0.8045	0.7893		0.00981	0.0100	-1.9	20.0
1,3,5-Trimethylbenzene	Ave	2.848	2.835		0.00996	0.0100	-0.4	20.0
4-Chlorotoluene	Ave	0.8281	0.8238		0.00995	0.0100	-0.5	20.0
tert-Butylbenzene	Ave	2.462	2.541		0.0103	0.0100	3.2	20.0
1,2,4-Trimethylbenzene	Ave	2.977	2.990		0.0100	0.0100	0.4	20.0
sec-Butylbenzene	Ave	3.385	3.470		0.0103	0.0100	2.5	20.0
1,3-Dichlorobenzene	Ave	1.551	1.530	0.6000	0.00987	0.0100	-1.3	20.0
4-Isopropyltoluene	Ave	2.944	3.001		0.0102	0.0100	1.9	20.0
1,4-Dichlorobenzene	Ave	1.558	1.573	0.5000	0.0101	0.0100	1.0	20.0
n-Butylbenzene	Ave	2.523	2.544		0.0101	0.0100	0.8	20.0
1,2-Dichlorobenzene	Ave	1.479	1.484	0.4000	0.0100	0.0100	0.4	20.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 240-235221/2 Calibration Date: 06/20/2016 12:47  
 Instrument ID: A3UX16 Calib Start Date: 06/01/2016 12:06  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/01/2016 14:22  
 Lab File ID: UXM6060.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Ave	0.1603	0.1143	0.0500	0.00713	0.0100	-28.7	50.0
1,2,4-Trichlorobenzene	Ave	0.9684	0.9206	0.2000	0.00951	0.0100	-4.9	50.0
Hexachlorobutadiene	Ave	0.3429	0.3131		0.00913	0.0100	-8.7	20.0
Naphthalene	Ave	2.483	2.079		0.00838	0.0100	-16.2	50.0
1,2,3-Trichlorobenzene	Ave	0.8687	0.8010		0.00922	0.0100	-7.8	20.0
Dibromofluoromethane (Surr)	Ave	0.2344	0.2242		0.00957	0.0100	-4.3	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2836	0.2682		0.00946	0.0100	-5.4	20.0
Toluene-d8 (Surr)	Ave	1.348	1.399		0.0104	0.0100	3.8	20.0
4-Bromofluorobenzene (Surr)	Ave	0.5111	0.5053		0.00989	0.0100	-1.1	20.0



FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: UXJ5605.D Lab Sample ID: MB 240-235154/6  
 Matrix: Water Heated Purge: (Y/N) N  
 Instrument ID: A3UX11 Date Analyzed: 06/20/2016 11:05  
 GC Column: DB-624 ID: 0.18 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 240-235154/4	UXJ5602.D	06/20/2016 09:57
MRC-SW5A1-061316	240-65994-1	UXJ5610.D	06/20/2016 13:13
MRC-SW5A2-061316	240-65994-2	UXJ5611.D	06/20/2016 13:35
MRC-SW5B-061316	240-65994-3	UXJ5612.D	06/20/2016 13:57
MRC-SW6A-061316	240-65994-4	UXJ5613.D	06/20/2016 14:20
MRC-SW6B-061316	240-65994-5	UXJ5614.D	06/20/2016 14:43
MRC-SW7A-061316	240-65994-6	UXJ5615.D	06/20/2016 15:05
MRC-SW7B-061316	240-65994-7	UXJ5616.D	06/20/2016 15:27
MRC-SW8A-061316	240-65994-8	UXJ5617.D	06/20/2016 15:49
MRC-SW8B-061316	240-65994-9	UXJ5618.D	06/20/2016 16:12
MRC-SW9A-061316	240-65994-10	UXJ5619.D	06/20/2016 16:34
MRC-SW9B-061316	240-65994-11	UXJ5620.D	06/20/2016 16:57
	240-65995-B-5 MS	UXJ5626.D	06/20/2016 19:12
	240-65995-B-5 MSD	UXJ5627.D	06/20/2016 19:35

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 240-235154/6  
 Matrix: Water Lab File ID: UXJ5605.D  
 Analysis Method: 8260C Date Collected: \_\_\_\_\_  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 11:05  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	1.0	U	1.0	0.44
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.24
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.30
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	1.0	U	1.0	0.32
96-12-8	1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82
106-93-4	Ethylene Dibromide	1.0	U	1.0	0.32
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	0.25
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.23
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	0.27
78-93-3	2-Butanone (MEK)	10	U	10	0.53
591-78-6	2-Hexanone	10	U	10	0.48
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	0.99
67-64-1	Acetone	10	U	10	0.94
71-43-2	Benzene	1.0	U	1.0	0.35
75-27-4	Dichlorobromomethane	1.0	U	1.0	0.29
75-25-2	Bromoform	1.0	U	1.0	0.56
74-83-9	Bromomethane	1.0	U	1.0	0.44
75-15-0	Carbon disulfide	1.0	U	1.0	0.38
56-23-5	Carbon tetrachloride	1.0	U	1.0	0.43
108-90-7	Chlorobenzene	1.0	U	1.0	0.25
75-00-3	Chloroethane	1.0	U	1.0	0.32
67-66-3	Chloroform	1.0	U	1.0	0.25
74-87-3	Chloromethane	1.0	U	1.0	0.44
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.26
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.46
110-82-7	Cyclohexane	1.0	U	1.0	0.45
124-48-1	Chlorodibromomethane	1.0	U	1.0	0.43
75-71-8	Dichlorodifluoromethane	1.0	U	1.0	0.32
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
98-82-8	Isopropylbenzene	1.0	U	1.0	0.35

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 240-235154/6  
 Matrix: Water Lab File ID: UXJ5605.D  
 Analysis Method: 8260C Date Collected: \_\_\_\_\_  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 11:05  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	10	U	10	2.3
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
108-87-2	Methylcyclohexane	1.0	U	1.0	0.43
75-09-2	Methylene Chloride	1.0	U	1.0	0.33
100-42-5	Styrene	1.0	U	1.0	0.45
127-18-4	Tetrachloroethene	1.0	U	1.0	0.31
108-88-3	Toluene	1.0	U	1.0	0.23
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.30
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.56
79-01-6	Trichloroethene	1.0	U	1.0	0.22
75-69-4	Trichlorofluoromethane	1.0	U	1.0	0.49
75-01-4	Vinyl chloride	1.0	U	1.0	0.29
1330-20-7	Xylenes, Total	2.0	U	2.0	0.52

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	92		80-120
1868-53-7	Dibromofluoromethane (Surr)	91		79-120
460-00-4	4-Bromofluorobenzene (Surr)	88		61-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	94		78-125

FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: UXM6063.D Lab Sample ID: MB 240-235221/6  
 Matrix: Water Heated Purge: (Y/N) N  
 Instrument ID: A3UX16 Date Analyzed: 06/20/2016 13:55  
 GC Column: DB-624 ID: 0.18 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 240-235221/4	UXM6059.D	06/20/2016 12:25
	240-65962-B-1 MS	UXM6071.D	06/20/2016 16:56
	240-65962-B-1 MSD	UXM6072.D	06/20/2016 17:19
MRC-SWFB-061316	240-65996-1	UXM6074.D	06/20/2016 18:04
MRC-SW1A-061316	240-65996-2	UXM6075.D	06/20/2016 18:27
MRC-SW2A-061316	240-65996-3	UXM6076.D	06/20/2016 18:50
TB-061316	240-65996-4	UXM6077.D	06/20/2016 19:12
MRC-SWDUP2-061316	240-65996-5	UXM6078.D	06/20/2016 19:35

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 240-235221/6  
 Matrix: Water Lab File ID: UXM6063.D  
 Analysis Method: 8260C Date Collected: \_\_\_\_\_  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 13:55  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235221 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	1.0	U	1.0	0.44
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.24
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.30
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	1.0	U	1.0	0.32
96-12-8	1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82
106-93-4	Ethylene Dibromide	1.0	U	1.0	0.32
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	0.25
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.23
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	0.27
78-93-3	2-Butanone (MEK)	10	U	10	0.53
591-78-6	2-Hexanone	10	U	10	0.48
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	0.99
67-64-1	Acetone	10	U	10	0.94
71-43-2	Benzene	1.0	U	1.0	0.35
75-27-4	Dichlorobromomethane	1.0	U	1.0	0.29
75-25-2	Bromoform	1.0	U	1.0	0.56
74-83-9	Bromomethane	1.0	U	1.0	0.44
75-15-0	Carbon disulfide	1.0	U	1.0	0.38
56-23-5	Carbon tetrachloride	1.0	U	1.0	0.43
108-90-7	Chlorobenzene	1.0	U	1.0	0.25
75-00-3	Chloroethane	1.0	U	1.0	0.32
67-66-3	Chloroform	1.0	U	1.0	0.25
74-87-3	Chloromethane	1.0	U	1.0	0.44
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.26
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.46
110-82-7	Cyclohexane	1.0	U	1.0	0.45
124-48-1	Chlorodibromomethane	1.0	U	1.0	0.43
75-71-8	Dichlorodifluoromethane	1.0	U	1.0	0.32
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
98-82-8	Isopropylbenzene	1.0	U	1.0	0.35

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 240-235221/6  
 Matrix: Water Lab File ID: UXM6063.D  
 Analysis Method: 8260C Date Collected: \_\_\_\_\_  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 13:55  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235221 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	10	U	10	2.3
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
108-87-2	Methylcyclohexane	1.0	U	1.0	0.43
75-09-2	Methylene Chloride	1.0	U	1.0	0.33
100-42-5	Styrene	1.0	U	1.0	0.45
127-18-4	Tetrachloroethene	1.0	U	1.0	0.31
108-88-3	Toluene	1.0	U	1.0	0.23
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.30
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.56
79-01-6	Trichloroethene	1.0	U	1.0	0.22
75-69-4	Trichlorofluoromethane	1.0	U	1.0	0.49
75-01-4	Vinyl chloride	1.0	U	1.0	0.29
1330-20-7	Xylenes, Total	2.0	U	2.0	0.52

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	103		80-120
1868-53-7	Dibromofluoromethane (Surr)	95		79-120
460-00-4	4-Bromofluorobenzene (Surr)	97		61-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	94		78-125

FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: UXJ5663.D Lab Sample ID: MB 240-235310/6  
 Matrix: Water Heated Purge: (Y/N) N  
 Instrument ID: A3UX11 Date Analyzed: 06/21/2016 11:01  
 GC Column: DB-624 ID: 0.18 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 240-235310/4	UXJ5661.D	06/21/2016 10:17
MRC-SW7B-061316	240-65994-7	UXJ5670.D	06/21/2016 13:59

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 240-235310/6  
 Matrix: Water Lab File ID: UXJ5663.D  
 Analysis Method: 8260C Date Collected: \_\_\_\_\_  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/21/2016 11:01  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235310 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	1.0	U	1.0	0.44
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	0.24
75-34-3	1,1-Dichloroethane	1.0	U	1.0	0.30
75-35-4	1,1-Dichloroethene	1.0	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	1.0	U	1.0	0.32
96-12-8	1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.82
106-93-4	Ethylene Dibromide	1.0	U	1.0	0.32
95-50-1	1,2-Dichlorobenzene	1.0	U	1.0	0.25
107-06-2	1,2-Dichloroethane	1.0	U	1.0	0.23
78-87-5	1,2-Dichloropropane	1.0	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	1.0	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	1.0	U	1.0	0.27
78-93-3	2-Butanone (MEK)	10	U	10	0.53
591-78-6	2-Hexanone	10	U	10	0.48
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	0.99
67-64-1	Acetone	10	U	10	0.94
71-43-2	Benzene	1.0	U	1.0	0.35
75-27-4	Dichlorobromomethane	1.0	U	1.0	0.29
75-25-2	Bromoform	1.0	U	1.0	0.56
74-83-9	Bromomethane	1.0	U	1.0	0.44
75-15-0	Carbon disulfide	1.0	U	1.0	0.38
56-23-5	Carbon tetrachloride	1.0	U	1.0	0.43
108-90-7	Chlorobenzene	1.0	U	1.0	0.25
75-00-3	Chloroethane	1.0	U	1.0	0.32
67-66-3	Chloroform	1.0	U	1.0	0.25
74-87-3	Chloromethane	1.0	U	1.0	0.44
156-59-2	cis-1,2-Dichloroethene	1.0	U	1.0	0.26
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	0.46
110-82-7	Cyclohexane	1.0	U	1.0	0.45
124-48-1	Chlorodibromomethane	1.0	U	1.0	0.43
75-71-8	Dichlorodifluoromethane	1.0	U	1.0	0.32
100-41-4	Ethylbenzene	1.0	U	1.0	0.25
98-82-8	Isopropylbenzene	1.0	U	1.0	0.35



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 240-235310/6  
 Matrix: Water Lab File ID: UXJ5663.D  
 Analysis Method: 8260C Date Collected: \_\_\_\_\_  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/21/2016 11:01  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235310 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	10	U	10	2.3
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
108-87-2	Methylcyclohexane	1.0	U	1.0	0.43
75-09-2	Methylene Chloride	1.0	U	1.0	0.33
100-42-5	Styrene	1.0	U	1.0	0.45
127-18-4	Tetrachloroethene	1.0	U	1.0	0.31
108-88-3	Toluene	1.0	U	1.0	0.23
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.30
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.56
79-01-6	Trichloroethene	1.0	U	1.0	0.22
75-69-4	Trichlorofluoromethane	1.0	U	1.0	0.49
75-01-4	Vinyl chloride	1.0	U	1.0	0.29
1330-20-7	Xylenes, Total	2.0	U	2.0	0.52

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	109		80-120
1868-53-7	Dibromofluoromethane (Surr)	115		79-120
460-00-4	4-Bromofluorobenzene (Surr)	104		61-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	118		78-125

FORM II  
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Canton

Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water

Level: Low

GC Column (1): DB-624 ID: 0.18 (mm)

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
MRC-SW5A1-061316	240-65994-1	92	96	90	86
MRC-SW5A2-061316	240-65994-2	93	97	94	89
MRC-SW5B-061316	240-65994-3	93	95	90	85
MRC-SW6A-061316	240-65994-4	93	96	91	86
MRC-SW6B-061316	240-65994-5	113	115	110	104
MRC-SW7A-061316	240-65994-6	91	96	89	83
MRC-SW7B-061316	240-65994-7	91	93	89	84
MRC-SW7B-061316	240-65994-7	97	100	95	89
MRC-SW8A-061316	240-65994-8	96	99	94	89
MRC-SW8B-061316	240-65994-9	91	95	91	84
MRC-SW9A-061316	240-65994-10	94	97	94	87
MRC-SW9B-061316	240-65994-11	93	97	91	86
MRC-SWFB-061316	240-65996-1	99	95	104	99
MRC-SW1A-061316	240-65996-2	94	96	104	99
MRC-SW2A-061316	240-65996-3	91	93	102	97
TB-061316	240-65996-4	97	97	104	100
MRC-SWDUP2-061316	240-65996-5	92	94	100	98
	MB 240-235154/6	91	94	92	88
	MB 240-235221/6	95	94	103	97
	MB 240-235310/6	115	118	109	104
	LCS 240-235154/4	97	101	96	90
	LCS 240-235221/4	93	92	102	99
	LCS 240-235310/4	94	101	95	88
	240-65995-B-5 MS	98	104	96	92
	240-65962-B-1 MS	95	92	104	98
	240-65995-B-5 MSD	97	102	96	92
	240-65962-B-1 MSD	95	94	105	98

QC LIMITS

DBFM = Dibromofluoromethane (Surr)  
DCA = 1,2-Dichloroethane-d4 (Surr)  
TOL = Toluene-d8 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)

79-120  
78-125  
80-120  
61-120

# Column to be used to flag recovery values

FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low Lab File ID: UXJ5602.D

Lab ID: LCS 240-235154/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	10.0	11.0	110	77-123	
1,1,2,2-Tetrachloroethane	10.0	11.9	119	71-123	
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	7.70	77	67-138	
1,1,2-Trichloroethane	10.0	11.0	110	80-120	
1,1-Dichloroethane	10.0	11.2	112	79-125	
1,1-Dichloroethene	10.0	11.8	118	76-124	
1,2,4-Trichlorobenzene	10.0	10.5	105	61-120	
1,2-Dibromo-3-Chloropropane	10.0	9.15	91	50-132	
Ethylene Dibromide	10.0	11.2	112	80-120	
1,2-Dichlorobenzene	10.0	10.0	100	79-120	
1,2-Dichloroethane	10.0	11.9	119	80-120	
1,2-Dichloropropane	10.0	10.7	107	78-124	
1,3-Dichlorobenzene	10.0	10.3	103	79-120	
1,4-Dichlorobenzene	10.0	10.6	106	79-120	
2-Butanone (MEK)	20.0	19.3	97	56-138	
2-Hexanone	20.0	20.1	101	55-141	
4-Methyl-2-pentanone (MIBK)	20.0	20.4	102	64-135	
Acetone	20.0	18.0	90	34-148	
Benzene	10.0	11.0	110	80-120	
Dichlorobromomethane	10.0	10.5	105	80-120	
Bromoform	10.0	10.1	101	56-122	
Bromomethane	10.0	7.40	74	38-132	
Carbon disulfide	10.0	13.2	132	65-144	
Carbon tetrachloride	10.0	10.7	107	77-131	
Chlorobenzene	10.0	10.5	105	80-120	
Chloroethane	10.0	8.56	86	36-126	
Chloroform	10.0	11.1	111	80-120	
Chloromethane	10.0	11.6	116	48-133	
cis-1,2-Dichloroethene	10.0	10.9	109	79-120	
cis-1,3-Dichloropropene	10.0	9.91	99	74-126	
Cyclohexane	10.0	8.41	84	60-140	
Chlorodibromomethane	10.0	10.5	105	74-120	
Dichlorodifluoromethane	10.0	6.14	61	23-136	
Ethylbenzene	10.0	10.7	107	80-120	
Isopropylbenzene	10.0	10.4	104	77-120	
Methyl acetate	50.0	54.0	108	67-131	
Methyl tert-butyl ether	10.0	11.1	111	69-121	
Methylcyclohexane	10.0	7.51	75	61-134	
Methylene Chloride	10.0	13.1	131	77-129	*
Styrene	10.0	10.6	106	76-122	
Tetrachloroethene	10.0	9.93	99	78-121	

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low Lab File ID: UXJ5602.D

Lab ID: LCS 240-235154/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Toluene	10.0	11.2	112	80-120	
trans-1,2-Dichloroethene	10.0	11.6	116	80-124	
trans-1,3-Dichloropropene	10.0	10.3	103	75-131	
Trichloroethene	10.0	10.7	107	80-121	
Trichlorofluoromethane	10.0	9.13	91	61-133	
Vinyl chloride	10.0	9.48	95	52-121	
Xylenes, Total	20.0	21.1	106	80-120	
m-Xylene & p-Xylene	10.0	10.7	107	80-120	
o-Xylene	10.0	10.4	104	80-120	

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low Lab File ID: UXM6059.D

Lab ID: LCS 240-235221/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	10.0	9.62	96	77-123	
1,1,2,2-Tetrachloroethane	10.0	8.24	82	71-123	
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	8.44	84	67-138	
1,1,2-Trichloroethane	10.0	8.73	87	80-120	
1,1-Dichloroethane	10.0	9.16	92	79-125	
1,1-Dichloroethene	10.0	8.38	84	76-124	
1,2,4-Trichlorobenzene	10.0	8.52	85	61-120	
1,2-Dibromo-3-Chloropropane	10.0	6.30	63	50-132	
Ethylene Dibromide	10.0	8.44	84	80-120	
1,2-Dichlorobenzene	10.0	9.04	90	79-120	
1,2-Dichloroethane	10.0	8.84	88	80-120	
1,2-Dichloropropane	10.0	9.24	92	78-124	
1,3-Dichlorobenzene	10.0	9.07	91	79-120	
1,4-Dichlorobenzene	10.0	9.17	92	79-120	
2-Butanone (MEK)	20.0	14.5	72	56-138	
2-Hexanone	20.0	15.0	75	55-141	
4-Methyl-2-pentanone (MIBK)	20.0	15.2	76	64-135	
Acetone	20.0	12.6	63	34-148	
Benzene	10.0	9.25	93	80-120	
Dichlorobromomethane	10.0	8.58	86	80-120	
Bromoform	10.0	8.16	82	56-122	
Bromomethane	10.0	8.13	81	38-132	
Carbon disulfide	10.0	8.82	88	65-144	
Carbon tetrachloride	10.0	8.99	90	77-131	
Chlorobenzene	10.0	9.21	92	80-120	
Chloroethane	10.0	6.91	69	36-126	
Chloroform	10.0	9.23	92	80-120	
Chloromethane	10.0	9.86	99	48-133	
cis-1,2-Dichloroethene	10.0	9.12	91	79-120	
cis-1,3-Dichloropropene	10.0	8.58	86	74-126	
Cyclohexane	10.0	9.27	93	60-140	
Chlorodibromomethane	10.0	7.92	79	74-120	
Dichlorodifluoromethane	10.0	8.77	88	23-136	
Ethylbenzene	10.0	9.26	93	80-120	
Isopropylbenzene	10.0	9.53	95	77-120	
Methyl acetate	50.0	38.4	77	67-131	
Methyl tert-butyl ether	10.0	8.59	86	69-121	
Methylcyclohexane	10.0	9.02	90	61-134	
Methylene Chloride	10.0	9.66	97	77-129	
Styrene	10.0	9.23	92	76-122	
Tetrachloroethene	10.0	9.24	92	78-121	

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low Lab File ID: UXM6059.D

Lab ID: LCS 240-235221/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Toluene	10.0	9.54	95	80-120	
trans-1,2-Dichloroethene	10.0	9.31	93	80-124	
trans-1,3-Dichloropropene	10.0	8.30	83	75-131	
Trichloroethene	10.0	9.09	91	80-121	
Trichlorofluoromethane	10.0	9.97	100	61-133	
Vinyl chloride	10.0	9.23	92	52-121	
Xylenes, Total	20.0	18.4	92	80-120	
m-Xylene & p-Xylene	10.0	9.22	92	80-120	
o-Xylene	10.0	9.21	92	80-120	

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low Lab File ID: UXJ5661.D

Lab ID: LCS 240-235310/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	10.0	9.86	99	77-123	
1,1,2,2-Tetrachloroethane	10.0	10.1	101	71-123	
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	10.4	104	67-138	
1,1,2-Trichloroethane	10.0	9.96	100	80-120	
1,1-Dichloroethane	10.0	9.66	97	79-125	
1,1-Dichloroethene	10.0	10.6	106	76-124	
1,2,4-Trichlorobenzene	10.0	8.42	84	61-120	
1,2-Dibromo-3-Chloropropane	10.0	7.86	79	50-132	
Ethylene Dibromide	10.0	9.99	100	80-120	
1,2-Dichlorobenzene	10.0	8.92	89	79-120	
1,2-Dichloroethane	10.0	10.6	106	80-120	
1,2-Dichloropropane	10.0	9.38	94	78-124	
1,3-Dichlorobenzene	10.0	9.01	90	79-120	
1,4-Dichlorobenzene	10.0	9.38	94	79-120	
2-Butanone (MEK)	20.0	17.8	89	56-138	
2-Hexanone	20.0	17.7	88	55-141	
4-Methyl-2-pentanone (MIBK)	20.0	18.4	92	64-135	
Acetone	20.0	18.5	92	34-148	
Benzene	10.0	9.73	97	80-120	
Dichlorobromomethane	10.0	9.27	93	80-120	
Bromoform	10.0	9.53	95	56-122	
Bromomethane	10.0	6.15	61	38-132	
Carbon disulfide	10.0	11.3	113	65-144	
Carbon tetrachloride	10.0	10.1	101	77-131	
Chlorobenzene	10.0	9.29	93	80-120	
Chloroethane	10.0	7.57	76	36-126	
Chloroform	10.0	9.91	99	80-120	
Chloromethane	10.0	10.6	106	48-133	
cis-1,2-Dichloroethene	10.0	9.81	98	79-120	
cis-1,3-Dichloropropene	10.0	8.80	88	74-126	
Cyclohexane	10.0	10.7	107	60-140	
Chlorodibromomethane	10.0	9.54	95	74-120	
Dichlorodifluoromethane	10.0	10.4	104	23-136	
Ethylbenzene	10.0	9.52	95	80-120	
Isopropylbenzene	10.0	9.33	93	77-120	
Methyl acetate	50.0	49.1	98	67-131	
Methyl tert-butyl ether	10.0	9.87	99	69-121	
Methylcyclohexane	10.0	9.69	97	61-134	
Methylene Chloride	10.0	11.1	111	77-129	
Styrene	10.0	9.39	94	76-122	
Tetrachloroethene	10.0	9.24	92	78-121	

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low Lab File ID: UXJ5661.D

Lab ID: LCS 240-235310/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Toluene	10.0	9.97	100	80-120	
trans-1,2-Dichloroethene	10.0	10.2	102	80-124	
trans-1,3-Dichloropropene	10.0	9.17	92	75-131	
Trichloroethene	10.0	9.45	95	80-121	
Trichlorofluoromethane	10.0	12.6	126	61-133	
Vinyl chloride	10.0	9.75	98	52-121	
Xylenes, Total	20.0	18.4	92	80-120	
m-Xylene & p-Xylene	10.0	9.38	94	80-120	
o-Xylene	10.0	9.03	90	80-120	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Canton

Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low

Lab File ID: UXJ5626.D

Lab ID: 240-65995-B-5 MS

Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	1670	170 U	1810	109	69-122	
1,1,2,2-Tetrachloroethane	1670	170 U	1860	112	61-130	
1,1,2-Trichloro-1,2,2-trifluoroethane	1670	170 U	1030	62	44-140	
1,1,2-Trichloroethane	1670	170 U	1820	109	72-125	
1,1-Dichloroethane	1670	170 U	1830	110	73-124	
1,1-Dichloroethene	1670	170 U	2000	120	67-124	
1,2,4-Trichlorobenzene	1670	170 U	1640	98	48-120	
1,2-Dibromo-3-Chloropropane	1670	330 U	1380	83	42-130	
Ethylene Dibromide	1670	170 U	1830	110	69-125	
1,2-Dichlorobenzene	1670	170 U	1620	97	67-118	
1,2-Dichloroethane	1670	170 U	1980	119	74-125	
1,2-Dichloropropane	1670	170 U	1760	106	73-122	
1,3-Dichlorobenzene	1670	170 U	1650	99	65-120	
1,4-Dichlorobenzene	1670	170 U	1650	99	66-120	
2-Butanone (MEK)	3330	6200	9790	106	49-132	
2-Hexanone	3330	1700 U	3190	96	49-142	
4-Methyl-2-pentanone (MIBK)	3330	1700 U	3460	104	58-136	
Acetone	3330	8000	12900	149	32-126	F1
Benzene	1670	170 U	1830	110	73-121	
Dichlorobromomethane	1670	170 U	1730	104	72-120	
Bromoform	1670	170 U	1480	89	45-121	
Bromomethane	1670	170 U	1050	63	26-136	
Carbon disulfide	1670	170 U	2080	125	54-144	
Carbon tetrachloride	1670	170 U	1680	101	65-129	
Chlorobenzene	1670	170 U	1690	101	72-120	
Chloroethane	1670	170 U	1370	82	27-131	
Chloroform	1670	170 U	1890	113	73-121	
Chloromethane	1670	170 U	2080	125	39-134	
cis-1,2-Dichloroethene	1670	170 U	1830	110	66-124	
cis-1,3-Dichloropropene	1670	170 U	1590	96	60-120	
Cyclohexane	1670	170 U	1180	71	41-137	
Chlorodibromomethane	1670	170 U	1620	97	62-122	
Dichlorodifluoromethane	1670	170 U	1250	75	14-137	
Ethylbenzene	1670	170 U	1680	101	68-121	
Isopropylbenzene	1670	170 U	1610	96	61-122	
Methyl acetate	8330	1700 U	9080	109	64-124	
Methyl tert-butyl ether	1670	170 U	1850	111	61-121	
Methylcyclohexane	1670	170 U	985	59	39-135	
Methylene Chloride	1670	170 U	2080	125	70-124	F1
Styrene	1670	170 U	1690	101	64-126	
Tetrachloroethene	1670	170 U	1520	91	59-125	

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: UXJ5626.D  
 Lab ID: 240-65995-B-5 MS Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Toluene	1670	170 U	1750	105	72-122	
trans-1,2-Dichloroethene	1670	170 U	1880	113	72-125	
trans-1,3-Dichloropropene	1670	170 U	1580	95	58-132	
Trichloroethene	1670	170 U	1760	105	61-129	
Trichlorofluoromethane	1670	170 U	1850	111	49-133	
Vinyl chloride	1670	170 U	1730	104	44-122	
Xylenes, Total	3330	330 U	3310	99	67-122	
m-Xylene & p-Xylene	1670	330 U	1650	99	66-123	
o-Xylene	1670	170 U	1660	99	68-121	

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low Lab File ID: UXM6071.D

Lab ID: 240-65962-B-1 MS Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	3330	330 U	3230	97	69-122	
1,1,2,2-Tetrachloroethane	3330	330 U	2640	79	61-130	
1,1,2-Trichloro-1,2,2-trifluoroethane	3330	330 U	2730	82	44-140	
1,1,2-Trichloroethane	3330	330 U	2820	85	72-125	
1,1-Dichloroethane	3330	330 U	3030	91	73-124	
1,1-Dichloroethene	3330	330 U	2770	83	67-124	
1,2,4-Trichlorobenzene	3330	330 U	2870	86	48-120	
1,2-Dibromo-3-Chloropropane	3330	670 U	2080	62	42-130	
Ethylene Dibromide	3330	330 U	2690	81	69-125	
1,2-Dichlorobenzene	3330	330 U	3020	91	67-118	
1,2-Dichloroethane	3330	330 U	2900	87	74-125	
1,2-Dichloropropane	3330	330 U	2980	89	73-122	
1,3-Dichlorobenzene	3330	330 U	3020	91	65-120	
1,4-Dichlorobenzene	3330	330 U	3100	93	66-120	
2-Butanone (MEK)	6670	3300 U	4250	64	49-132	
2-Hexanone	6670	3300 U	4590	69	49-142	
4-Methyl-2-pentanone (MIBK)	6670	3300 U	4760	71	58-136	
Acetone	6670	3300 U	3700	56	32-126	
Benzene	3330	330 U	3080	92	73-121	
Dichlorobromomethane	3330	330 U	2760	83	72-120	
Bromoform	3330	330 U	2590	78	45-121	
Bromomethane	3330	330 U	3280	98	26-136	
Carbon disulfide	3330	330 U	2910	87	54-144	
Carbon tetrachloride	3330	330 U	3010	90	65-129	
Chlorobenzene	3330	330 U	3030	91	72-120	
Chloroethane	3330	330 U	2600	78	27-131	
Chloroform	3330	330 U	3110	93	73-121	
Chloromethane	3330	330 U	3220	97	39-134	
cis-1,2-Dichloroethene	3330	3400	6410	91	66-124	
cis-1,3-Dichloropropene	3330	330 U	2730	82	60-120	
Cyclohexane	3330	330 U	3050	92	41-137	
Chlorodibromomethane	3330	330 U	2530	76	62-122	
Dichlorodifluoromethane	3330	330 U	2830	85	14-137	
Ethylbenzene	3330	330 U	3100	93	68-121	
Isopropylbenzene	3330	330 U	3180	95	61-122	
Methyl acetate	16700	3300 U	12200	73	64-124	
Methyl tert-butyl ether	3330	330 U	2740	82	61-121	
Methylcyclohexane	3330	330 U	2960	89	39-135	
Methylene Chloride	3330	330 U	3090	93	70-124	
Styrene	3330	330 U	2990	90	64-126	
Tetrachloroethene	3330	330 U	3050	92	59-125	

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: UXM6071.D  
 Lab ID: 240-65962-B-1 MS Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Toluene	3330	330 U	3170	95	72-122	
trans-1,2-Dichloroethene	3330	330 U	3160	95	72-125	
trans-1,3-Dichloropropene	3330	330 U	2620	79	58-132	
Trichloroethene	3330	9400	12300	86	61-129	
Trichlorofluoromethane	3330	330 U	4020	121	49-133	
Vinyl chloride	3330	330 U	3120	94	44-122	
Xylenes, Total	6670	670 U	6060	91	67-122	
m-Xylene & p-Xylene	3330	670 U	3060	92	66-123	
o-Xylene	3330	330 U	3000	90	68-121	

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Canton

Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low

Lab File ID: UXJ5627.D

Lab ID: 240-65995-B-5 MSD

Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1-Trichloroethane	1670	1790	107	1	14	69-122	
1,1,2,2-Tetrachloroethane	1670	1930	116	4	18	61-130	
1,1,2-Trichloro-1,2,2-trifluoroethane	1670	1790	107	53	35	44-140	F2
1,1,2-Trichloroethane	1670	1800	108	1	19	72-125	
1,1-Dichloroethane	1670	1790	107	3	14	73-124	
1,1-Dichloroethene	1670	2070	124	4	24	67-124	
1,2,4-Trichlorobenzene	1670	1730	104	5	28	48-120	
1,2-Dibromo-3-Chloropropane	1670	1520	91	10	24	42-130	
Ethylene Dibromide	1670	1800	108	1	24	69-125	
1,2-Dichlorobenzene	1670	1600	96	1	15	67-118	
1,2-Dichloroethane	1670	1930	116	3	24	74-125	
1,2-Dichloropropane	1670	1720	103	2	15	73-122	
1,3-Dichlorobenzene	1670	1650	99	0	15	65-120	
1,4-Dichlorobenzene	1670	1660	100	1	16	66-120	
2-Butanone (MEK)	3330	9330	93	5	19	49-132	
2-Hexanone	3330	3160	95	1	27	49-142	
4-Methyl-2-pentanone (MIBK)	3330	3530	106	2	32	58-136	
Acetone	3330	12600	139	3	28	32-126	F1
Benzene	1670	1760	106	4	13	73-121	
Dichlorobromomethane	1670	1690	102	2	19	72-120	
Bromoform	1670	1510	90	2	19	45-121	
Bromomethane	1670	1200	72	13	35	26-136	
Carbon disulfide	1670	2090	125	1	34	54-144	
Carbon tetrachloride	1670	1850	111	10	20	65-129	
Chlorobenzene	1670	1660	99	2	15	72-120	
Chloroethane	1670	1430	86	5	35	27-131	
Chloroform	1670	1830	110	3	17	73-121	
Chloromethane	1670	1980	119	5	20	39-134	
cis-1,2-Dichloroethene	1670	1770	106	3	22	66-124	
cis-1,3-Dichloropropene	1670	1560	93	2	21	60-120	
Cyclohexane	1670	1830	110	43	35	41-137	F2
Chlorodibromomethane	1670	1640	99	1	19	62-122	
Dichlorodifluoromethane	1670	1710	102	31	34	14-137	
Ethylbenzene	1670	1630	98	3	16	68-121	
Isopropylbenzene	1670	1630	98	1	20	61-122	
Methyl acetate	8330	9210	111	1	12	64-124	
Methyl tert-butyl ether	1670	1840	110	0	12	61-121	
Methylcyclohexane	1670	1670	100	51	35	39-135	F2
Methylene Chloride	1670	2030	122	2	14	70-124	
Styrene	1670	1650	99	2	15	64-126	
Tetrachloroethene	1670	1590	95	4	20	59-125	

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low Lab File ID: UXJ5627.D

Lab ID: 240-65995-B-5 MSD Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Toluene	1670	1740	104	0	15	72-122	
trans-1,2-Dichloroethene	1670	1860	112	1	25	72-125	
trans-1,3-Dichloropropene	1670	1560	94	1	22	58-132	
Trichloroethene	1670	1690	102	4	14	61-129	
Trichlorofluoromethane	1670	2230	134	19	25	49-133	F1
Vinyl chloride	1670	1770	106	2	35	44-122	
Xylenes, Total	3330	3290	99	1	14	67-122	
m-Xylene & p-Xylene	1670	1650	99	0	15	66-123	
o-Xylene	1670	1640	98	1	14	68-121	

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Canton

Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low

Lab File ID: UXM6072.D

Lab ID: 240-65962-B-1 MSD

Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1-Trichloroethane	3330	3250	98	1	14	69-122	
1,1,2,2-Tetrachloroethane	3330	2790	84	5	18	61-130	
1,1,2-Trichloro-1,2,2-trifluoroethane	3330	2870	86	5	35	44-140	
1,1,2-Trichloroethane	3330	2990	90	6	19	72-125	
1,1-Dichloroethane	3330	3040	91	0	14	73-124	
1,1-Dichloroethene	3330	2810	84	1	24	67-124	
1,2,4-Trichlorobenzene	3330	2980	89	4	28	48-120	
1,2-Dibromo-3-Chloropropane	3330	2190	66	5	24	42-130	
Ethylene Dibromide	3330	2850	86	6	24	69-125	
1,2-Dichlorobenzene	3330	3140	94	4	15	67-118	
1,2-Dichloroethane	3330	2890	87	0	24	74-125	
1,2-Dichloropropane	3330	3090	93	3	15	73-122	
1,3-Dichlorobenzene	3330	3140	94	4	15	65-120	
1,4-Dichlorobenzene	3330	3190	96	3	16	66-120	
2-Butanone (MEK)	6670	4260	64	0	19	49-132	
2-Hexanone	6670	4890	73	6	27	49-142	
4-Methyl-2-pentanone (MIBK)	6670	5010	75	5	32	58-136	
Acetone	6670	4070	61	9	28	32-126	
Benzene	3330	3080	92	0	13	73-121	
Dichlorobromomethane	3330	2840	85	3	19	72-120	
Bromoform	3330	2590	78	0	19	45-121	
Bromomethane	3330	2510	75	26	35	26-136	
Carbon disulfide	3330	2940	88	1	34	54-144	
Carbon tetrachloride	3330	3020	91	0	20	65-129	
Chlorobenzene	3330	3170	95	4	15	72-120	
Chloroethane	3330	2250	67	15	35	27-131	
Chloroform	3330	3100	93	0	17	73-121	
Chloromethane	3330	3150	95	2	20	39-134	
cis-1,2-Dichloroethene	3330	6330	89	1	22	66-124	
cis-1,3-Dichloropropene	3330	2830	85	3	21	60-120	
Cyclohexane	3330	3120	94	2	35	41-137	
Chlorodibromomethane	3330	2630	79	4	19	62-122	
Dichlorodifluoromethane	3330	2950	88	4	34	14-137	
Ethylbenzene	3330	3210	96	3	16	68-121	
Isopropylbenzene	3330	3270	98	3	20	61-122	
Methyl acetate	16700	12700	76	4	12	64-124	
Methyl tert-butyl ether	3330	2820	85	3	12	61-121	
Methylcyclohexane	3330	3070	92	4	35	39-135	
Methylene Chloride	3330	3000	90	3	14	70-124	
Styrene	3330	3120	94	4	15	64-126	
Tetrachloroethene	3330	3100	93	1	20	59-125	

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low Lab File ID: UXM6072.D

Lab ID: 240-65962-B-1 MSD Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Toluene	3330	3250	98	3	15	72-122	
trans-1,2-Dichloroethene	3330	3180	95	1	25	72-125	
trans-1,3-Dichloropropene	3330	2790	84	6	22	58-132	
Trichloroethene	3330	12100	81	1	14	61-129	
Trichlorofluoromethane	3330	3670	110	9	25	49-133	
Vinyl chloride	3330	3140	94	1	35	44-122	
Xylenes, Total	6670	6300	95	4	14	67-122	
m-Xylene & p-Xylene	3330	3160	95	3	15	66-123	
o-Xylene	3330	3140	94	5	14	68-121	

# Column to be used to flag recovery and RPD values



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

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: STD8260 240-232366/4 Date Analyzed: 05/28/2016 09:56  
 Instrument ID: A3UX11 GC Column: DB-624 ID: 0.18 (mm)  
 Lab File ID (Standard): UXJ4941.D Heated Purge: (Y/N) N  
 Calibration ID: 34632

	FB		CBZ		DCB	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT	1420065	5.12	934240	7.78	380946	10.01
UPPER LIMIT	2840130	5.62	1868480	8.28	761892	10.51
LOWER LIMIT	710033	4.62	467120	7.28	190473	9.51
LAB SAMPLE ID	CLIENT SAMPLE ID					
ICV 240-232366/14	1349328	5.12	892490	7.78	381895	10.03
ICV 240-232366/15	1213041	5.12	839047	7.78	340685	10.01
CCVIS 240-235154/2	1716764	5.12	1087867	7.78	406999	10.03
CCVIS 240-235310/2	1764914	5.12	1113939	7.78	422612	10.03

FB = Fluorobenzene

CBZ = Chlorobenzene-d5

DCB = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 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 Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 240-235154/2 Date Analyzed: 06/20/2016 09:34  
 Instrument ID: A3UX11 GC Column: DB-624 ID: 0.18 (mm)  
 Lab File ID (Standard): UXJ5601.D Heated Purge: (Y/N) N  
 Calibration ID: 34635

	FB		CBZ		DCB		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
12/24 HOUR STD	1716764	5.12	1087867	7.78	406999	10.03	
UPPER LIMIT	3433528	5.62	2175734	8.28	813998	10.53	
LOWER LIMIT	858382	4.62	543934	7.28	203500	9.53	
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 240-235154/4		1371391	5.12	891005	7.78	335807	10.03
CCV 240-235154/3		1258361	5.12	837101	7.78	306679	10.03
MB 240-235154/6		1216667	5.12	818773	7.78	305253	10.03
240-65994-1	MRC-SW5A1-061316	1207550	5.12	812550	7.78	300326	10.03
240-65994-2	MRC-SW5A2-061316	1167662	5.12	784965	7.78	285557	10.03
240-65994-3	MRC-SW5B-061316	1165506	5.12	799768	7.78	292761	10.03
240-65994-4	MRC-SW6A-061316	1187019	5.12	803788	7.78	294540	10.03
240-65994-5	MRC-SW6B-061316	968710	5.12	656984	7.78	237604	10.03
240-65994-6	MRC-SW7A-061316	1200151	5.12	814993	7.78	290465	10.03
240-65994-7	MRC-SW7B-061316	1183978	5.12	806752	7.78	293158	10.03
240-65994-8	MRC-SW8A-061316	1135030	5.12	762893	7.78	279192	10.03
240-65994-9	MRC-SW8B-061316	1185147	5.12	807191	7.78	290157	10.03
240-65994-10	MRC-SW9A-061316	1174059	5.12	788089	7.78	291883	10.03
240-65994-11	MRC-SW9B-061316	1168374	5.12	802392	7.78	292727	10.03
240-65995-B-5 MS		1177106	5.12	791875	7.78	297138	10.03
240-65995-B-5 MSD		1207951	5.12	798086	7.78	290014	10.03

FB = Fluorobenzene

CBZ = Chlorobenzene-d5

DCB = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 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 Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 240-235310/2 Date Analyzed: 06/21/2016 08:52  
 Instrument ID: A3UX11 GC Column: DB-624 ID: 0.18 (mm)  
 Lab File ID (Standard): UXJ5658.D Heated Purge: (Y/N) N  
 Calibration ID: 34635

	FB		CBZ		DCB		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
12/24 HOUR STD	1764914	5.12	1113939	7.78	422612	10.03	
UPPER LIMIT	3529828	5.62	2227878	8.28	845224	10.53	
LOWER LIMIT	882457	4.62	556970	7.28	211306	9.53	
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 240-235310/3	1213542	5.12	834047	7.78	306694	10.03	
LCS 240-235310/4	1498486	5.12	959721	7.78	359922	10.03	
MB 240-235310/6	966867	5.12	676769	7.78	243781	10.03	
240-65994-7	MRC-SW7B-061316	1152494	5.12	782399	7.78	290345	10.03

FB = Fluorobenzene

CBZ = Chlorobenzene-d5

DCB = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 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 Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: STD8260 240-232711/4 Date Analyzed: 06/01/2016 12:51  
 Instrument ID: A3UX16 GC Column: DB-624 ID: 0.18 (mm)  
 Lab File ID (Standard): UXM5572.D Heated Purge: (Y/N) N  
 Calibration ID: 34643

	FB		CBZ		DCB		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
INITIAL CALIBRATION MID-POINT	1415622	5.17	1000389	7.87	522407	10.10	
UPPER LIMIT	2831244	5.67	2000778	8.37	1044814	10.60	
LOWER LIMIT	707811	4.67	500195	7.37	261204	9.60	
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 240-232711/9		1350700	5.17	956772	7.85	515548	10.10
ICV 240-232711/16		1312230	5.17	922566	7.85	494155	10.10
CCVIS 240-235221/2		1396171	5.17	949016	7.85	500239	10.10

FB = Fluorobenzene

CBZ = Chlorobenzene-d5

DCB = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 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 Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 240-235221/2 Date Analyzed: 06/20/2016 12:47  
 Instrument ID: A3UX16 GC Column: DB-624 ID: 0.18 (mm)  
 Lab File ID (Standard): UXM6060.D Heated Purge: (Y/N) N  
 Calibration ID: 34649

	FB		CBZ		DCB		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
12/24 HOUR STD	1396171	5.17	949016	7.85	500239	10.10	
UPPER LIMIT	2792342	5.67	1898032	8.35	1000478	10.60	
LOWER LIMIT	698086	4.67	474508	7.35	250120	9.60	
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 240-235221/3		1375714	5.17	916832	7.85	492698	10.10
MB 240-235221/6		1343976	5.17	893870	7.85	468158	10.10
240-65962-B-1 MS		1390550	5.17	929879	7.85	499779	10.10
240-65962-B-1 MSD		1373761	5.17	912327	7.87	488907	10.10
240-65996-1	MRC-SWFB-061316	1312400	5.17	902446	7.85	487740	10.10
240-65996-2	MRC-SW1A-061316	1340107	5.17	890190	7.85	473162	10.10
240-65996-3	MRC-SW2A-061316	1336499	5.17	896030	7.85	484805	10.10
240-65996-4	TB-061316	1339479	5.17	890612	7.87	476238	10.10
240-65996-5	MRC-SWDUP2-061316	1369329	5.17	924281	7.85	481400	10.10

FB = Fluorobenzene  
 CBZ = Chlorobenzene-d5  
 DCB = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
 RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Instrument ID: A3UX11 Start Date: 05/28/2016 08:28

Analysis Batch Number: 232366 End Date: 05/28/2016 14:03

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-232366/1		05/28/2016 08:28	1	BFB6528.D	DB-624 0.18 (mm)
STD8260 240-232366/2 IC		05/28/2016 09:12	1	UXJ4939.D	DB-624 0.18 (mm)
STD8260 240-232366/3 IC		05/28/2016 09:34	1	UXJ4940.D	DB-624 0.18 (mm)
STD8260 240-232366/4 ICIS		05/28/2016 09:56	1	UXJ4941.D	DB-624 0.18 (mm)
STD8260 240-232366/5 IC		05/28/2016 10:19	1	UXJ4942.D	DB-624 0.18 (mm)
STD8260 240-232366/6 IC		05/28/2016 10:40	1	UXJ4943.D	DB-624 0.18 (mm)
STD8260 240-232366/7 IC		05/28/2016 11:03	1	UXJ4944.D	DB-624 0.18 (mm)
ICV 240-232366/14		05/28/2016 11:25	1	UXJ4945.D	DB-624 0.18 (mm)
STD6 240-232366/8 IC		05/28/2016 11:48	1		DB-624 0.18 (mm)
STD5 240-232366/9 IC		05/28/2016 12:10	1		DB-624 0.18 (mm)
STD4 240-232366/10 IC		05/28/2016 12:33	1		DB-624 0.18 (mm)
STD3 240-232366/11 IC		05/28/2016 12:56	1		DB-624 0.18 (mm)
STD2 240-232366/12 IC		05/28/2016 13:18	1		DB-624 0.18 (mm)
STD1 240-232366/13 IC		05/28/2016 13:41	1		DB-624 0.18 (mm)
ICV 240-232366/15		05/28/2016 14:03	1	UXJ4952.D	DB-624 0.18 (mm)

## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica CantonJob No.: 240-65994-1

SDG No.: \_\_\_\_\_

Instrument ID: A3UX11Start Date: 06/20/2016 09:01Analysis Batch Number: 235154End Date: 06/20/2016 19:35

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-235154/1		06/20/2016 09:01	1	BFB6620.D	DB-624 0.18 (mm)
CCVIS 240-235154/2		06/20/2016 09:34	1	UXJ5601.D	DB-624 0.18 (mm)
LCS 240-235154/4		06/20/2016 09:57	1	UXJ5602.D	DB-624 0.18 (mm)
CCV 240-235154/3		06/20/2016 10:20	1	UXJ5603.D	DB-624 0.18 (mm)
ZZZZZ		06/20/2016 10:43	1		DB-624 0.18 (mm)
MB 240-235154/6		06/20/2016 11:05	1	UXJ5605.D	DB-624 0.18 (mm)
ZZZZZ		06/20/2016 11:42	1		DB-624 0.18 (mm)
ZZZZZ		06/20/2016 12:05	1		DB-624 0.18 (mm)
ZZZZZ		06/20/2016 12:28	20		DB-624 0.18 (mm)
ZZZZZ		06/20/2016 12:50	33.33		DB-624 0.18 (mm)
240-65994-1		06/20/2016 13:13	1	UXJ5610.D	DB-624 0.18 (mm)
240-65994-2		06/20/2016 13:35	1	UXJ5611.D	DB-624 0.18 (mm)
240-65994-3		06/20/2016 13:57	1	UXJ5612.D	DB-624 0.18 (mm)
240-65994-4		06/20/2016 14:20	1	UXJ5613.D	DB-624 0.18 (mm)
240-65994-5		06/20/2016 14:43	1	UXJ5614.D	DB-624 0.18 (mm)
240-65994-6		06/20/2016 15:05	1	UXJ5615.D	DB-624 0.18 (mm)
240-65994-7		06/20/2016 15:27	1	UXJ5616.D	DB-624 0.18 (mm)
240-65994-8		06/20/2016 15:49	1	UXJ5617.D	DB-624 0.18 (mm)
240-65994-9		06/20/2016 16:12	1	UXJ5618.D	DB-624 0.18 (mm)
240-65994-10		06/20/2016 16:34	1	UXJ5619.D	DB-624 0.18 (mm)
240-65994-11		06/20/2016 16:57	1	UXJ5620.D	DB-624 0.18 (mm)
ZZZZZ		06/20/2016 17:19	166.67		DB-624 0.18 (mm)
ZZZZZ		06/20/2016 17:42	166.67		DB-624 0.18 (mm)
ZZZZZ		06/20/2016 18:04	166.67		DB-624 0.18 (mm)
ZZZZZ		06/20/2016 18:27	166.67		DB-624 0.18 (mm)
ZZZZZ		06/20/2016 18:50	3.33		DB-624 0.18 (mm)
240-65995-B-5 MS		06/20/2016 19:12	166.67	UXJ5626.D	DB-624 0.18 (mm)
240-65995-B-5 MSD		06/20/2016 19:35	166.67	UXJ5627.D	DB-624 0.18 (mm)

## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Instrument ID: A3UX11 Start Date: 06/21/2016 08:00Analysis Batch Number: 235310 End Date: 06/21/2016 13:59

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-235310/1		06/21/2016 08:00	1	BFB6621.D	DB-624 0.18 (mm)
CCVIS 240-235310/2		06/21/2016 08:52	1	UXJ5658.D	DB-624 0.18 (mm)
CCV 240-235310/3		06/21/2016 09:36	1	UXJ5660.D	DB-624 0.18 (mm)
LCS 240-235310/4		06/21/2016 10:17	1	UXJ5661.D	DB-624 0.18 (mm)
MB 240-235310/6		06/21/2016 11:01	1	UXJ5663.D	DB-624 0.18 (mm)
240-65994-7		06/21/2016 13:59	1	UXJ5670.D	DB-624 0.18 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica CantonJob No.: 240-65994-1

SDG No.: \_\_\_\_\_

Instrument ID: A3UX16Start Date: 06/01/2016 11:38Analysis Batch Number: 232711End Date: 06/01/2016 19:41

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-232711/1		06/01/2016 11:38	1	BFB4865.D	DB-624 0.18 (mm)
STD8269 240-232711/2 IC		06/01/2016 12:06	1	UXM5570.D	DB-624 0.18 (mm)
STD8260 240-232711/3 IC		06/01/2016 12:29	1	UXM5571.D	DB-624 0.18 (mm)
STD8260 240-232711/4 ICIS		06/01/2016 12:51	1	UXM5572.D	DB-624 0.18 (mm)
STD8260 240-232711/5 IC		06/01/2016 13:14	1	UXM5573.D	DB-624 0.18 (mm)
STD8260 240-232711/6 IC		06/01/2016 13:37	1	UXM5574.D	DB-624 0.18 (mm)
STD8260 240-232711/7 IC		06/01/2016 14:00	1	UXM5575.D	DB-624 0.18 (mm)
STD8260 240-232711/8 IC		06/01/2016 14:22	1	UXM5576.D	DB-624 0.18 (mm)
ICV 240-232711/9		06/01/2016 14:45	1	UXM5577.D	DB-624 0.18 (mm)
STDA9 240-232711/10 IC		06/01/2016 15:08	1		DB-624 0.18 (mm)
STDA9 240-232711/11 IC		06/01/2016 15:31	1		DB-624 0.18 (mm)
STDA9 240-232711/12 IC		06/01/2016 15:53	1		DB-624 0.18 (mm)
STDA9 240-232711/13 IC		06/01/2016 16:16	1		DB-624 0.18 (mm)
STDA9 240-232711/14 IC		06/01/2016 16:39	1		DB-624 0.18 (mm)
STDA9 240-232711/15 IC		06/01/2016 17:02	1		DB-624 0.18 (mm)
ICV 240-232711/16		06/01/2016 17:24	1	UXM5584.D	DB-624 0.18 (mm)
STDTHT 240-232711/17 IC		06/01/2016 17:47	1		DB-624 0.18 (mm)
STDTHT 240-232711/18 IC		06/01/2016 18:10	1		DB-624 0.18 (mm)
STDTHT 240-232711/19 IC		06/01/2016 18:33	1		DB-624 0.18 (mm)
STDTHT 240-232711/20 IC		06/01/2016 18:55	1		DB-624 0.18 (mm)
STDTHT 240-232711/21 IC		06/01/2016 19:18	1		DB-624 0.18 (mm)
STDTHT 240-232711/22 IC		06/01/2016 19:41	1		DB-624 0.18 (mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Instrument ID: A3UX16 Start Date: 06/20/2016 11:25

Analysis Batch Number: 235221 End Date: 06/20/2016 22:59

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-235221/1		06/20/2016 11:25	1	BFB4888.D	DB-624 0.18 (mm)
LCS 240-235221/4		06/20/2016 12:25	1	UXM6059.D	DB-624 0.18 (mm)
CCVIS 240-235221/2		06/20/2016 12:47	1	UXM6060.D	DB-624 0.18 (mm)
CCV 240-235221/3		06/20/2016 13:10	1	UXM6061.D	DB-624 0.18 (mm)
ZZZZZ		06/20/2016 13:33	1		DB-624 0.18 (mm)
MB 240-235221/6		06/20/2016 13:55	1	UXM6063.D	DB-624 0.18 (mm)
ZZZZZ		06/20/2016 14:41	10000		DB-624 0.18 (mm)
ZZZZZ		06/20/2016 15:04	10000		DB-624 0.18 (mm)
ZZZZZ		06/20/2016 15:26	66.67		DB-624 0.18 (mm)
ZZZZZ		06/20/2016 15:49	25		DB-624 0.18 (mm)
ZZZZZ		06/20/2016 16:11	1		DB-624 0.18 (mm)
ZZZZZ		06/20/2016 16:33	333.33		DB-624 0.18 (mm)
240-65962-B-1 MS		06/20/2016 16:56	333.33	UXM6071.D	DB-624 0.18 (mm)
240-65962-B-1 MSD		06/20/2016 17:19	333.33	UXM6072.D	DB-624 0.18 (mm)
240-65996-1		06/20/2016 18:04	1	UXM6074.D	DB-624 0.18 (mm)
240-65996-2		06/20/2016 18:27	1	UXM6075.D	DB-624 0.18 (mm)
240-65996-3		06/20/2016 18:50	1	UXM6076.D	DB-624 0.18 (mm)
240-65996-4		06/20/2016 19:12	1	UXM6077.D	DB-624 0.18 (mm)
240-65996-5		06/20/2016 19:35	1	UXM6078.D	DB-624 0.18 (mm)
ZZZZZ		06/20/2016 19:58	1		DB-624 0.18 (mm)
ZZZZZ		06/20/2016 20:43	40		DB-624 0.18 (mm)
ZZZZZ		06/20/2016 21:06	100		DB-624 0.18 (mm)
ZZZZZ		06/20/2016 21:29	1		DB-624 0.18 (mm)
ZZZZZ		06/20/2016 21:51	1		DB-624 0.18 (mm)
ZZZZZ		06/20/2016 22:14	1		DB-624 0.18 (mm)
ZZZZZ		06/20/2016 22:36	1		DB-624 0.18 (mm)
ZZZZZ		06/20/2016 22:59	1		DB-624 0.18 (mm)

# Method 522 MOD

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1,4 Dioxane (GC/MS SIM) by Method  
522

FORM V  
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK  
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: 20247\_01.D BFB Injection Date: 06/01/2016  
 Instrument ID: CHS.i BFB Injection Time: 12:42  
 Analysis Batch No.: 105200

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	22.9
75	30.0 - 80.0 % of mass 95	51.1
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	6.4
173	Less than 2.0 % of mass 174	0.7 (1.0) 1
174	>50.0 % of mass 95	65.3
175	5.0 - 9.0 % of mass 174	4.6 (7.0) 1
176	>95.0 but <101.0 % of mass 174	63.7 (97.6) 1
177	5.0 - 9.0 % of mass 176	4.1 (6.4) 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 200-105200/2	20247_02.D	06/01/2016	12:52
	IC 200-105200/3	20247_03.D	06/01/2016	13:05
	IC 200-105200/4	20247_04.D	06/01/2016	13:19
	ICIS 200-105200/5	20247_05.D	06/01/2016	13:32
	IC 200-105200/6	20247_06.D	06/01/2016	13:46
	IC 200-105200/7	20247_07.D	06/01/2016	13:59
	IC 200-105200/8	20247_08.D	06/01/2016	14:13
	ICV 200-105200/9	20247_09.D	06/01/2016	14:26
	CCVL 200-105857/2	20474_02.D	06/17/2016	10:56
	LCS 200-105835/2-A	20474_03.D	06/17/2016	11:09
	MB 200-105835/1-A	20474_04.D	06/17/2016	11:22
	CCV 200-105857/15	20474_15.D	06/17/2016	13:50
	660-74368-A-3-B MSD	20474_17.D	06/17/2016	14:17
	660-74368-A-3-C MS	20474_18.D	06/17/2016	14:31
	CCV 200-105857/26	20474_26.D	06/17/2016	16:18
MRC-SWDUP1-061316	240-65994-12	20474_27.D	06/17/2016	16:32
	CCV 200-105857/28	20474_28.D	06/17/2016	16:45
	CCVL 200-106154/2	20570_02.D	06/23/2016	20:51
	LCS 200-106090/2-A	20570_09.D	06/23/2016	22:26
	MB 200-106090/1-A	20570_10.D	06/23/2016	22:40
	CCV 200-106154/14	20570_14.D	06/23/2016	23:34
	CCVL 200-106221/2	20593_02.D	06/24/2016	20:37
	480-101917-E-32-D MS	20593_10.D	06/24/2016	22:25
	480-101917-E-32-C MSD	20593_11.D	06/24/2016	22:38
	CCV 200-106221/13	20593_13.D	06/24/2016	23:05
MRC-SWFB-061316	240-65996-1	20593_15.D	06/24/2016	23:32
MRC-SW1A-061316	240-65996-2	20593_16.D	06/24/2016	23:45
MRC-SW2A-061316	240-65996-3	20593_17.D	06/24/2016	23:59

FORM V  
 GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK  
 DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: \_\_\_\_\_ BFB Injection Date: \_\_\_\_\_  
 Instrument ID: \_\_\_\_\_ BFB Injection Time: \_\_\_\_\_  
 Lab File ID: \_\_\_\_\_ DFTPP Injection Date: \_\_\_\_\_  
 Instrument ID: \_\_\_\_\_ DFTPP Injection Time: \_\_\_\_\_  
 Analysis Batch No.: \_\_\_\_\_

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE

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
	CCV 200-106221/24	20593_24.D	06/25/2016	01:33

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

Lab Name: TestAmerica Burlington Job No.: 240-65994-1 Analy Batch No.: 105200

SDG No.: \_\_\_\_\_

Instrument ID: CHS.i GC Column: Rxi-5ms ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/01/2016 12:52 Calibration End Date: 06/01/2016 14:13 Calibration ID: 34839

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 200-105200/8	20247_08.D
Level 2	IC 200-105200/7	20247_07.D
Level 3	IC 200-105200/6	20247_06.D
Level 4	ICIS 200-105200/5	20247_05.D
Level 5	IC 200-105200/4	20247_04.D
Level 6	IC 200-105200/3	20247_03.D
Level 7	IC 200-105200/2	20247_02.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								
	LVL 6	LVL 7															
1,4-Dioxane	0.5850	0.6144	0.5567	0.5785	0.5757	Ave		0.5991			0.0500	5.7		15.0			0.9900
1,4-Dioxane-d8 (Surr)	0.5502	0.5478	0.5635	0.5442	0.5514	Ave		0.5601				3.1		15.0			0.9900
	0.5927	0.5710															

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 200-105200/9 Calibration Date: 06/01/2016 14:26  
 Instrument ID: CHS.i Calib Start Date: 06/01/2016 12:52  
 GC Column: Rxi-5ms ID: 0.25 (mm) Calib End Date: 06/01/2016 14:13  
 Lab File ID: 20247\_09.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.5991	0.6292	0.0500	210	200	5.0	20.0

FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 200-105857/2 Calibration Date: 06/17/2016 10:56  
 Instrument ID: CHS.i Calib Start Date: 06/01/2016 12:52  
 GC Column: Rxi-5ms ID: 0.25 (mm) Calib End Date: 06/01/2016 14:13  
 Lab File ID: 20474\_02.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.5991	0.7389	0.0500	12.3	10.0	23.3	50.0
1,4-Dioxane-d8 (Surr)	Ave	0.5601	0.6933	0.0500	619	500	23.8	50.0



FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 200-105857/15 Calibration Date: 06/17/2016 13:50  
 Instrument ID: CHS.i Calib Start Date: 06/01/2016 12:52  
 GC Column: Rxi-5ms ID: 0.25 (mm) Calib End Date: 06/01/2016 14:13  
 Lab File ID: 20474\_15.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.5991	0.6665	0.0500	111	100	11.3	30.0
1,4-Dioxane-d8 (Surr)	Ave	0.5601	0.6648	0.0500	593	500	18.7	30.0

FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 200-105857/26 Calibration Date: 06/17/2016 16:18  
 Instrument ID: CHS.i Calib Start Date: 06/01/2016 12:52  
 GC Column: Rxi-5ms ID: 0.25 (mm) Calib End Date: 06/01/2016 14:13  
 Lab File ID: 20474\_26.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.5991	0.6693	0.0500	894	800	11.7	30.0
1,4-Dioxane-d8 (Surr)	Ave	0.5601	0.6753	0.0500	603	500	20.6	30.0

FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 200-105857/28 Calibration Date: 06/17/2016 16:45  
 Instrument ID: CHS.i Calib Start Date: 06/01/2016 12:52  
 GC Column: Rxi-5ms ID: 0.25 (mm) Calib End Date: 06/01/2016 14:13  
 Lab File ID: 20474\_28.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.5991	0.6569	0.0500	110	100	9.6	30.0
1,4-Dioxane-d8 (Surr)	Ave	0.5601	0.6582	0.0500	587	500	17.5	30.0

FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 200-106154/2 Calibration Date: 06/23/2016 20:51  
 Instrument ID: CHS.i Calib Start Date: 06/01/2016 12:52  
 GC Column: Rxi-5ms ID: 0.25 (mm) Calib End Date: 06/01/2016 14:13  
 Lab File ID: 20570\_02.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.5991	0.5277	0.0500	8.81	10.0	-11.9	50.0
1,4-Dioxane-d8 (Surr)	Ave	0.5601	0.6275	0.0500	560	500	12.0	50.0

FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 200-106154/14 Calibration Date: 06/23/2016 23:34  
 Instrument ID: CHS.i Calib Start Date: 06/01/2016 12:52  
 GC Column: Rxi-5ms ID: 0.25 (mm) Calib End Date: 06/01/2016 14:13  
 Lab File ID: 20570\_14.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.5991	0.6390	0.0500	107	100	6.7	30.0
1,4-Dioxane-d8 (Surr)	Ave	0.5601	0.6328	0.0500	565	500	13.0	30.0

FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 200-106221/2 Calibration Date: 06/24/2016 20:37  
 Instrument ID: CHS.i Calib Start Date: 06/01/2016 12:52  
 GC Column: Rxi-5ms ID: 0.25 (mm) Calib End Date: 06/01/2016 14:13  
 Lab File ID: 20593\_02.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.5991	0.7496	0.0500	12.5	10.0	25.1	50.0
1,4-Dioxane-d8 (Surr)	Ave	0.5601	0.6885	0.0500	615	500	22.9	50.0

FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 200-106221/13 Calibration Date: 06/24/2016 23:05  
 Instrument ID: CHS.i Calib Start Date: 06/01/2016 12:52  
 GC Column: Rxi-5ms ID: 0.25 (mm) Calib End Date: 06/01/2016 14:13  
 Lab File ID: 20593\_13.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.5991	0.6774	0.0500	113	100	13.1	30.0
1,4-Dioxane-d8 (Surr)	Ave	0.5601	0.6482	0.0500	579	500	15.7	30.0

FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 200-106221/24 Calibration Date: 06/25/2016 01:33  
 Instrument ID: CHS.i Calib Start Date: 06/01/2016 12:52  
 GC Column: Rxi-5ms ID: 0.25 (mm) Calib End Date: 06/01/2016 14:13  
 Lab File ID: 20593\_24.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.5991	0.7081	0.0500	946	800	18.2	30.0
1,4-Dioxane-d8 (Surr)	Ave	0.5601	0.5975	0.0500	533	500	6.7	30.0



FORM IV  
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: 20474\_04.D Lab Sample ID: MB 200-105835/1-A  
 Matrix: Water Date Extracted: 06/16/2016 18:26  
 Instrument ID: CHS.i Date Analyzed: 06/17/2016 11:22  
 Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 200-105835/2-A	20474_03.D	06/17/2016 11:09
	660-74368-A-3-B MSD	20474_17.D	06/17/2016 14:17
	660-74368-A-3-C MS	20474_18.D	06/17/2016 14:31
MRC-SWDUP1-061316	240-65994-12	20474_27.D	06/17/2016 16:32

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 200-105835/1-A  
 Matrix: Water Lab File ID: 20474\_04.D  
 Analysis Method: 522 MOD Date Collected: \_\_\_\_\_  
 Extract. Method: 3535A Date Extracted: 06/16/2016 18:26  
 Sample wt/vol: 100 (mL) Date Analyzed: 06/17/2016 11:22  
 Con. Extract Vol.: 2000 (uL) Dilution Factor: 1  
 Injection Volume: 2 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 105857 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.20	U	0.20	0.057

CAS NO.	SURROGATE	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8 (Surr)	110		70-130

FORM IV  
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: 20570\_10.D Lab Sample ID: MB 200-106090/1-A  
 Matrix: Water Date Extracted: 06/22/2016 18:02  
 Instrument ID: CHS.i Date Analyzed: 06/23/2016 22:40  
 Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 200-106090/2-A	20570_09.D	06/23/2016 22:26
	480-101917-E-32-D MS	20593_10.D	06/24/2016 22:25
	480-101917-E-32-C MSD	20593_11.D	06/24/2016 22:38
MRC-SWFB-061316	240-65996-1	20593_15.D	06/24/2016 23:32
MRC-SW1A-061316	240-65996-2	20593_16.D	06/24/2016 23:45
MRC-SW2A-061316	240-65996-3	20593_17.D	06/24/2016 23:59

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 200-106090/1-A  
 Matrix: Water Lab File ID: 20570\_10.D  
 Analysis Method: 522 MOD Date Collected: \_\_\_\_\_  
 Extract. Method: 3535A Date Extracted: 06/22/2016 18:02  
 Sample wt/vol: 100 (mL) Date Analyzed: 06/23/2016 22:40  
 Con. Extract Vol.: 2000 (uL) Dilution Factor: 1  
 Injection Volume: 2 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 106154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.20	U	0.20	0.057

CAS NO.	SURROGATE	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8 (Surr)	91		70-130

FORM II  
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: TestAmerica Burlington

Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water

Level: Low

GC Column (1): Rxi-5ms ID: 0.25 (mm)

Client Sample ID	Lab Sample ID	DXE #
MRC-SWDUP1-061316	240-65994-12	105
MRC-SWFB-061316	240-65996-1	95
MRC-SW1A-061316	240-65996-2	92
MRC-SW2A-061316	240-65996-3	97
	MB 200-105835/1-A	110
	MB 200-106090/1-A	91
	LCS 200-105835/2-A	99
	LCS 200-106090/2-A	99
	660-74368-A-3-C MS	97
	480-101917-E-32- D MS	103
	660-74368-A-3-B MSD	91
	480-101917-E-32- C MSD	102

DXE = 1,4-Dioxane-d8 (Surr)

QC LIMITS  
70-130

# Column to be used to flag recovery values

FORM II 522 MOD

FORM III  
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Burlington Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low Lab File ID: 20474\_03.D

Lab ID: LCS 200-105835/2-A Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,4-Dioxane	8.00	8.12	101	70-130	

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Burlington Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low Lab File ID: 20570\_09.D

Lab ID: LCS 200-106090/2-A Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,4-Dioxane	2.00	1.95	98	70-130	

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS SEMI VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Burlington Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low Lab File ID: 20474\_18.D

Lab ID: 660-74368-A-3-C MS Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,4-Dioxane	2.00	3.5	5.46	99	70-130	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS SEMI VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Burlington Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low Lab File ID: 20593\_10.D

Lab ID: 480-101917-E-32-D MS Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,4-Dioxane	2.00	1.5	3.32	92	70-130	

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS SEMI VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Burlington Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low Lab File ID: 20474\_17.D

Lab ID: 660-74368-A-3-B MSD Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,4-Dioxane	2.00	4.97	75	9	30	70-130	

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS SEMI VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Burlington Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low Lab File ID: 20593\_11.D

Lab ID: 480-101917-E-32-C MSD Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,4-Dioxane	2.00	3.56	104	7	30	70-130	

# Column to be used to flag recovery and RPD values

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

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 200-105200/5 Date Analyzed: 06/01/2016 13:32  
 Instrument ID: CHS.i GC Column: Rxi-5ms ID: 0.25 (mm)  
 Lab File ID (Standard): 20247\_05.D Heated Purge: (Y/N) N  
 Calibration ID: 34839

		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		361147	3.08				
UPPER LIMIT		541721	3.58				
LOWER LIMIT		180574	2.58				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 200-105200/9		334566	3.07				
CCVL 200-105857/2		344275	3.12				
LCS 200-105835/2-A		392530	3.11				
MB 200-105835/1-A		360040	3.11				
CCV 200-105857/15		336524	3.11				
660-74368-A-3-B MSD		375717	3.10				
660-74368-A-3-C MS		380078	3.10				
CCV 200-105857/26		336842	3.10				
240-65994-12	MRC-SWDUP1-061316	374633	3.11				
CCV 200-105857/28		332938	3.11				
CCVL 200-106154/2		329535	3.10				
LCS 200-106090/2-A		291429	3.09				
MB 200-106090/1-A		325171	3.10				
CCV 200-106154/14		340665	3.11				
CCVL 200-106221/2		349171	3.13				
480-101917-E-32-D MS		364283	3.11				
480-101917-E-32-C MSD		359007	3.11				
CCV 200-106221/13		314090	3.11				
240-65996-1	MRC-SWFB-061316	341279	3.10				
240-65996-2	MRC-SW1A-061316	340502	3.10				
240-65996-3	MRC-SW2A-061316	345460	3.10				
CCV 200-106221/24		304270	3.10				

= Tetrahydrofuran-d8

Area Limit = 50%-150% of internal standard area  
 RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits

## GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica BurlingtonJob No.: 240-65994-1

SDG No.: \_\_\_\_\_

Instrument ID: CHS.iStart Date: 06/01/2016 12:42Analysis Batch Number: 105200End Date: 06/01/2016 21:00

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 200-105200/1		06/01/2016 12:42	1	20247_01.D	Rxi-5ms 0.25 (mm)
IC 200-105200/2		06/01/2016 12:52	1	20247_02.D	Rxi-5ms 0.25 (mm)
IC 200-105200/3		06/01/2016 13:05	1	20247_03.D	Rxi-5ms 0.25 (mm)
IC 200-105200/4		06/01/2016 13:19	1	20247_04.D	Rxi-5ms 0.25 (mm)
ICIS 200-105200/5		06/01/2016 13:32	1	20247_05.D	Rxi-5ms 0.25 (mm)
IC 200-105200/6		06/01/2016 13:46	1	20247_06.D	Rxi-5ms 0.25 (mm)
IC 200-105200/7		06/01/2016 13:59	1	20247_07.D	Rxi-5ms 0.25 (mm)
IC 200-105200/8		06/01/2016 14:13	1	20247_08.D	Rxi-5ms 0.25 (mm)
ICV 200-105200/9		06/01/2016 14:26	1	20247_09.D	Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 14:42	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 14:56	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 15:09	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 15:22	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 15:36	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 15:49	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 16:03	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 16:16	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 16:30	1		Rxi-5ms 0.25 (mm)
CCV 200-105200/19		06/01/2016 16:43	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 16:57	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 17:11	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 17:24	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 17:37	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 17:51	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 18:04	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 18:18	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 18:31	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 18:45	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 18:58	1		Rxi-5ms 0.25 (mm)
CCV 200-105200/30		06/01/2016 19:12	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 19:25	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 19:39	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 19:52	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 20:06	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 20:19	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 20:33	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/01/2016 20:46	10		Rxi-5ms 0.25 (mm)
CCV 200-105200/38		06/01/2016 21:00	1		Rxi-5ms 0.25 (mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Burlington Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Instrument ID: CHS.i Start Date: 06/17/2016 10:43

Analysis Batch Number: 105857 End Date: 06/17/2016 16:45

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		06/17/2016 10:43	1		Rxi-5ms 0.25 (mm)
CCVL 200-105857/2		06/17/2016 10:56	1	20474_02.D	Rxi-5ms 0.25 (mm)
LCS 200-105835/2-A		06/17/2016 11:09	1	20474_03.D	Rxi-5ms 0.25 (mm)
MB 200-105835/1-A		06/17/2016 11:22	1	20474_04.D	Rxi-5ms 0.25 (mm)
ZZZZZ		06/17/2016 11:36	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/17/2016 11:49	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/17/2016 12:03	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/17/2016 12:16	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/17/2016 12:29	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/17/2016 12:43	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/17/2016 12:56	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/17/2016 13:10	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/17/2016 13:23	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/17/2016 13:37	1		Rxi-5ms 0.25 (mm)
CCV 200-105857/15		06/17/2016 13:50	1	20474_15.D	Rxi-5ms 0.25 (mm)
ZZZZZ		06/17/2016 14:04	1		Rxi-5ms 0.25 (mm)
660-74368-A-3-B MSD		06/17/2016 14:17	1	20474_17.D	Rxi-5ms 0.25 (mm)
660-74368-A-3-C MS		06/17/2016 14:31	1	20474_18.D	Rxi-5ms 0.25 (mm)
ZZZZZ		06/17/2016 14:44	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/17/2016 14:57	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/17/2016 15:11	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/17/2016 15:24	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/17/2016 15:38	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/17/2016 15:51	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/17/2016 16:05	1		Rxi-5ms 0.25 (mm)
CCV 200-105857/26		06/17/2016 16:18	1	20474_26.D	Rxi-5ms 0.25 (mm)
240-65994-12		06/17/2016 16:32	1	20474_27.D	Rxi-5ms 0.25 (mm)
CCV 200-105857/28		06/17/2016 16:45	1	20474_28.D	Rxi-5ms 0.25 (mm)

## GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica BurlingtonJob No.: 240-65994-1

SDG No.: \_\_\_\_\_

Instrument ID: CHS.iStart Date: 06/23/2016 20:38Analysis Batch Number: 106154End Date: 06/24/2016 09:26

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		06/23/2016 20:38	1		Rxi-5ms 0.25 (mm)
CCVL 200-106154/2		06/23/2016 20:51	1	20570_02.D	Rxi-5ms 0.25 (mm)
ZZZZZ		06/23/2016 21:05	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/23/2016 21:19	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/23/2016 21:32	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/23/2016 21:46	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/23/2016 21:59	2.5		Rxi-5ms 0.25 (mm)
ZZZZZ		06/23/2016 22:13	2.5		Rxi-5ms 0.25 (mm)
LCS 200-106090/2-A		06/23/2016 22:26	1	20570_09.D	Rxi-5ms 0.25 (mm)
MB 200-106090/1-A		06/23/2016 22:40	1	20570_10.D	Rxi-5ms 0.25 (mm)
ZZZZZ		06/23/2016 22:53	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/23/2016 23:07	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/23/2016 23:20	1		Rxi-5ms 0.25 (mm)
CCV 200-106154/14		06/23/2016 23:34	1	20570_14.D	Rxi-5ms 0.25 (mm)
ZZZZZ		06/23/2016 23:47	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 00:01	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 00:14	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 00:27	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 00:41	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 00:54	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 01:08	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 01:21	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 01:35	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 01:48	1		Rxi-5ms 0.25 (mm)
CCV 200-106154/25		06/24/2016 02:02	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 02:15	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 02:29	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 02:42	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 02:56	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 03:09	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 03:23	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 03:36	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 03:49	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 04:03	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 04:16	1		Rxi-5ms 0.25 (mm)
CCV 200-106154/38		06/24/2016 04:30	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 04:43	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 04:57	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 05:10	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 05:24	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 05:37	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 05:51	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 06:04	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 06:17	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 06:31	1		Rxi-5ms 0.25 (mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Burlington Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Instrument ID: CHS.i Start Date: 06/23/2016 20:38

Analysis Batch Number: 106154 End Date: 06/24/2016 09:26

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		06/24/2016 06:44	1		Rxi-5ms 0.25 (mm)
CCV 200-106154/49		06/24/2016 06:58	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 07:11	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 07:25	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 07:38	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 07:52	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 08:05	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 08:18	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 08:32	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 08:45	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 08:59	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 09:12	1		Rxi-5ms 0.25 (mm)
CCV 200-106154/60		06/24/2016 09:26	1		Rxi-5ms 0.25 (mm)



## GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica BurlingtonJob No.: 240-65994-1

SDG No.: \_\_\_\_\_

Instrument ID: CHS.iStart Date: 06/24/2016 20:23Analysis Batch Number: 106221End Date: 06/25/2016 06:29

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		06/24/2016 20:23	1		Rxi-5ms 0.25 (mm)
CCVL 200-106221/2		06/24/2016 20:37	1	20593_02.D	Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 20:50	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 21:04	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 21:17	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 21:31	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 21:44	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 21:58	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 22:11	1		Rxi-5ms 0.25 (mm)
480-101917-E-32-D MS		06/24/2016 22:25	1	20593_10.D	Rxi-5ms 0.25 (mm)
480-101917-E-32-C MSD		06/24/2016 22:38	1	20593_11.D	Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 22:52	1		Rxi-5ms 0.25 (mm)
CCV 200-106221/13		06/24/2016 23:05	1	20593_13.D	Rxi-5ms 0.25 (mm)
ZZZZZ		06/24/2016 23:18	1		Rxi-5ms 0.25 (mm)
240-65996-1		06/24/2016 23:32	1	20593_15.D	Rxi-5ms 0.25 (mm)
240-65996-2		06/24/2016 23:45	1	20593_16.D	Rxi-5ms 0.25 (mm)
240-65996-3		06/24/2016 23:59	1	20593_17.D	Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 00:12	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 00:26	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 00:39	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 00:53	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 01:06	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 01:20	1		Rxi-5ms 0.25 (mm)
CCV 200-106221/24		06/25/2016 01:33	1	20593_24.D	Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 01:47	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 02:00	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 02:14	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 02:27	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 02:41	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 02:54	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 03:08	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 03:21	5		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 03:34	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 03:48	5		Rxi-5ms 0.25 (mm)
CCV 200-106221/35		06/25/2016 04:01	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 04:15	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 04:28	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 04:42	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 04:55	2		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 05:09	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 05:22	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 05:36	2		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 05:49	1		Rxi-5ms 0.25 (mm)
ZZZZZ		06/25/2016 06:02	1		Rxi-5ms 0.25 (mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Burlington Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Instrument ID: CHS.i Start Date: 06/24/2016 20:23

Analysis Batch Number: 106221 End Date: 06/25/2016 06:29

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		06/25/2016 06:16	1		Rxi-5ms 0.25 (mm)
CCV 200-106221/46		06/25/2016 06:29	1		Rxi-5ms 0.25 (mm)

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Burlington Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Batch Number: 105835 Batch Start Date: 06/16/16 18:26 Batch Analyst: Bourdeau, Timothy P

Batch Method: 3535A Batch End Date: 06/16/16 20:17

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	EX522SPi 00011	EX522SUi 00018		
MB 200-105835/1		3535A, 522 MOD		100 mL	2000 uL		100 uL		
LCS 200-105835/2		3535A, 522 MOD		100 mL	2000 uL	400 uL	100 uL		
660-74368-A-3 MSD		3535A, 522 MOD	T	100 mL	2000 uL	100 uL	100 uL		
660-74368-A-3 MS		3535A, 522 MOD	T	100 mL	2000 uL	100 uL	100 uL		
240-65994-A-12	MRC-SWDUP1-06131 6	3535A, 522 MOD	T	100 mL	2000 uL		100 uL		

Batch Notes	
Acid ID	936696
Acid Name	HCl
First End time	1950
Solvent Lot #	935927
Solvent Name	MeCl2
SPE Cartridge ID	7332203
First Start time	1903

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Burlington Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Batch Number: 106090 Batch Start Date: 06/22/16 18:02 Batch Analyst: Bourdeau, Timothy P

Batch Method: 3535A Batch End Date: 06/22/16 20:51

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	EX522SPi 00011	EX522SUi 00018	AnalysisComment
MB 200-106090/1		3535A, 522 MOD		100 mL	2000 uL		100 uL	
LCS 200-106090/2		3535A, 522 MOD		100 mL	2000 uL	100 uL	100 uL	
480-101917-E-32 MSD		3535A, 522 MOD	T	100 mL	2000 uL	100 uL	100 uL	Containers D and E used to generate sample
480-101917-E-32 MS		3535A, 522 MOD	T	100 mL	2000 uL	100 uL	100 uL	Containers D and E used to generate sample
240-65996-E-1	MRC-SWFB-061316	3535A, 522 MOD	T	100 mL	2000 uL		100 uL	
240-65996-D-2	MRC-SW1A-061316	3535A, 522 MOD	T	100 mL	2000 uL		100 uL	
240-65996-D-3	MRC-SW2A-061316	3535A, 522 MOD	T	100 mL	2000 uL		100 uL	

Batch Notes	
Acid ID	936696
Acid Name	HCl
First End time	1925
Analyst ID - Reagent Drop Witness	BDL
Solvent Lot #	942210
Solvent Name	Methylene Chloride
SPE Cartridge ID	7463302
First Start time	1855

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

# Method 680

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Polychlorinated Biphenyls (PCBs)  
(GC/MS) by Method 680

FORM V  
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK  
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: Xd2402.D DFTPP Injection Date: 04/24/2016  
 Instrument ID: CMSX DFTPP Injection Time: 14:32  
 Analysis Batch No.: 430367

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
127	40 - 60 % of mass 198	47.8
197	Less than 1 % of mass 198	0.6
198	Base peak, 100 % Relative abundance	100.0
199	5 - 9 % of mass 198	6.4
275	10 - 30% of mass 198	25.7
365	Greater than 1% of mass 198	3.3
441	Present but less than mass 443	11.4 (64.3) 2
442	Greater than 40% of mass 198	92.8
443	17 - 23% of mass 442	17.7 (19.1) 1

1-Value is % mass 442

2-Value is % mass 443

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
	ICISAV 680-430367/4	Xd2404.D	04/24/2016	15:41
	IC 680-430367/25	Xd2405.D	04/24/2016	16:10
	IC 680-430367/26	Xd2406.D	04/24/2016	16:38
	IC 680-430367/27	Xd2407.D	04/24/2016	17:07
	IC 680-430367/28	Xd2408.D	04/24/2016	17:35
	ICV 680-430367/30	Xd2409.D	04/24/2016	18:04

FORM V  
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK  
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: Xf2002a.D DFTPP Injection Date: 06/20/2016  
 Instrument ID: CMSX DFTPP Injection Time: 08:48  
 Analysis Batch No.: 438006

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
127	40 - 60 % of mass 198	50.7
197	Less than 1 % of mass 198	0.0
198	Base peak, 100 % Relative abundance	100.0
199	5 - 9 % of mass 198	6.2
275	10 - 30% of mass 198	26.0
365	Greater than 1% of mass 198	3.6
441	Present but less than mass 443	10.4 (66.9) 2
442	Greater than 40% of mass 198	83.8
443	17 - 23% of mass 442	15.6 (18.6) 1

1-Value is % mass 442

2-Value is % mass 443

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
	WDM 680-438006/3	Xf2003.D	06/20/2016	09:19
	CCVIS 680-438006/4	Xf2004.D	06/20/2016	09:49
	MB 680-437585/15-A	Xf2014.D	06/20/2016	14:35
	LCS 680-437585/16-A	Xf2015.D	06/20/2016	15:04
MRC-SW5A1-061316 MS	240-65994-1 MS	Xf2016.D	06/20/2016	15:33
MRC-SW5A1-061316	240-65994-1	Xf2018.D	06/20/2016	16:30
	CCV 680-438006/20	Xf2020.D	06/20/2016	17:28

FORM V  
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK  
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: Xf2102.D DFTPP Injection Date: 06/21/2016  
 Instrument ID: CMSX DFTPP Injection Time: 20:10  
 Analysis Batch No.: 438264

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
127	40 - 60 % of mass 198	55.5
197	Less than 1 % of mass 198	1.0
198	Base peak, 100 % Relative abundance	100.0
199	5 - 9 % of mass 198	6.5
275	10 - 30% of mass 198	26.1
365	Greater than 1% of mass 198	3.0
441	Present but less than mass 443	4.4 (32.2) 2
442	Greater than 40% of mass 198	68.5
443	17 - 23% of mass 442	13.8 (20.2) 1

1-Value is % mass 442

2-Value is % mass 443

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
	WDM 680-438264/3	Xf2103.D	06/21/2016	20:41
	CCVIS 680-438264/4	Xf2104.D	06/21/2016	21:12
MRC-SW5A1-061316 MSD	240-65994-1 MSD	Xf2110.D	06/22/2016	00:04
MRC-SW5A2-061316	240-65994-2	Xf2112.D	06/22/2016	01:01
MRC-SW5B-061316	240-65994-3	Xf2113.D	06/22/2016	01:30
MRC-SW6A-061316	240-65994-4	Xf2114.D	06/22/2016	01:59
MRC-SW6B-061316	240-65994-5	Xf2115.D	06/22/2016	02:27
MRC-SW7A-061316	240-65994-6	Xf2116.D	06/22/2016	02:56
MRC-SW7B-061316	240-65994-7	Xf2117.D	06/22/2016	03:25
MRC-SW8A-061316	240-65994-8	Xf2118.D	06/22/2016	03:54
MRC-SW8B-061316	240-65994-9	Xf2119.D	06/22/2016	04:22
MRC-SW9A-061316	240-65994-10	Xf2120.D	06/22/2016	04:51
MRC-SW9B-061316	240-65994-11	Xf2121.D	06/22/2016	05:20
MRC-SWFB-061316	240-65996-1	Xf2122.D	06/22/2016	05:48
MRC-SWDUP2-061316	240-65996-5	Xf2123.D	06/22/2016	06:17
	CCV 680-438264/24	Xf2124.D	06/22/2016	06:45



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

Lab Name: TestAmerica Savannah Job No.: 240-65994-1 Analy Batch No.: 430367

SDG No.: \_\_\_\_\_

Instrument ID: CMSX GC Column: DB-5MS ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/24/2016 15:41 Calibration End Date: 04/24/2016 17:35 Calibration ID: 45292

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-430367/28	Xd2408.D
Level 2	IC 680-430367/27	Xd2407.D
Level 3	ICISAV 680-430367/4	Xd2404.D
Level 4	IC 680-430367/26	Xd2406.D
Level 5	IC 680-430367/25	Xd2405.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								
Monochlorobiphenyl	0.9409	0.9877	0.9866	1.0018	1.0386	Ave		0.9911			3.5		20.0				
Dichlorobiphenyl	0.6430	0.6782	0.6962	0.6962	0.7337	Ave		0.6895			4.8		20.0				
Trichlorobiphenyl	0.4097	0.4114	0.4253	0.4324	0.4604	Ave		0.4278			4.8		20.0				
PCB-104			0.2443			Ave		0.2443					30.0				
Tetrachlorobiphenyl	0.2470	0.2621	0.2562	0.2680	0.2810	Ave		0.2629			4.9		20.0				
Pentachlorobiphenyl	0.1465	0.1582	0.1680	0.1763	0.1852	Ave		0.1668			9.1		20.0				
PCB-77			0.3640			Ave		0.3640					30.0				
Hexachlorobiphenyl	0.1338	0.1411	0.1498	0.1546	0.1625	Ave		0.1484			7.6		20.0				
Heptachlorobiphenyl	0.1015	0.1109	0.1179	0.1228	0.1323	Ave		0.1171			10.0		20.0				
Octachlorobiphenyl	0.0938	0.1067	0.1105	0.1195	0.1284	Ave		0.1118			11.7		20.0				
PCB-208			0.0500			Ave		0.0500					30.0				
Nonachlorobiphenyl			0.0409			Ave		0.0380			14.1		20.0				
DCB Decachlorobiphenyl	0.0297	0.0366	0.0390	0.0413	0.0437	Ave		0.0380			14.1		20.0				
Decachlorobiphenyl-13C12	0.0248	0.0311	0.0307	0.0339	0.0354	Ave		0.0312			13.1		20.0				

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
RESOLUTION CHECK SUMMARY

Lab Name: TestAmerica Savannah Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Lab Sample ID (1): ICISAV 680-430367/4 Instrument ID (1): CMSX

GC Column (1): DB-5MS ID: 0.25 (mm) Date Analyzed (1): 04/24/2016 15:41

ANALYTE	RT	RESOLUTION (%)
Monochlorobiphenyl	8.82	100.0
Dichlorobiphenyl	10.58	100.0
Trichlorobiphenyl	12.25	100.0
Tetrachlorobiphenyl	13.75	100.0
Pentachlorobiphenyl	15.16	100.0
Hexachlorobiphenyl	16.45	100.0
Heptachlorobiphenyl	17.59	100.0
Octachlorobiphenyl	18.69	100.0
Nonachlorobiphenyl	19.75	100.0
DCB Decachlorobiphenyl	20.76	100.0

FORM VI  
RESOLUTION CHECK SUMMARY

Lab Name: TestAmerica Savannah

Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Lab Sample ID (1): CCVIS 680-438006/4

Instrument ID (1): CMSX

GC Column (1): DB-5MS ID: 0.25 (mm)

Date Analyzed (1): 06/20/2016 09:49

ANALYTE	RT	RESOLUTION (%)
Monochlorobiphenyl	8.48	100.0
Dichlorobiphenyl	10.23	100.0
Trichlorobiphenyl	11.87	100.0
Tetrachlorobiphenyl	13.37	100.0
Pentachlorobiphenyl	14.77	100.0
Hexachlorobiphenyl	16.07	100.0
Heptachlorobiphenyl	17.20	100.0
Octachlorobiphenyl	18.29	100.0
DCB Decachlorobiphenyl	20.34	100.0

FORM VI  
RESOLUTION CHECK SUMMARY

Lab Name: TestAmerica Savannah Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Lab Sample ID (1): CCVIS 680-438264/4 Instrument ID (1): CMSX

GC Column (1): DB-5MS ID: 0.25 (mm) Date Analyzed (1): 06/21/2016 21:12

ANALYTE	RT	RESOLUTION (%)
Monochlorobiphenyl	8.48	100.0
Dichlorobiphenyl	10.23	100.0
Trichlorobiphenyl	11.87	100.0
Tetrachlorobiphenyl	13.37	100.0
Pentachlorobiphenyl	14.77	100.0
Hexachlorobiphenyl	16.07	100.0
Heptachlorobiphenyl	17.20	100.0
Octachlorobiphenyl	18.29	100.0
DCB Decachlorobiphenyl	20.36	100.0

FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 680-430367/30 Calibration Date: 04/24/2016 18:04  
 Instrument ID: CMSX Calib Start Date: 04/24/2016 15:41  
 GC Column: DB-5MS ID: 0.25 (mm) Calib End Date: 04/24/2016 17:35  
 Lab File ID: Xd2409.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.9911	0.997		1.01	1.00	0.6	20.0
Dichlorobiphenyl	Ave	0.6895	0.6585		0.955	1.00	-4.5	20.0
Trichlorobiphenyl	Ave	0.4278	0.4548		1.06	1.00	6.3	20.0
Tetrachlorobiphenyl	Ave	0.2629	0.2724		2.07	2.00	3.6	20.0
Pentachlorobiphenyl	Ave	0.1668	0.1718		2.06	2.00	3.0	20.0
Hexachlorobiphenyl	Ave	0.1484	0.1534		2.07	2.00	3.4	20.0
Heptachlorobiphenyl	Ave	0.1171	0.1249		3.20	3.00	6.7	20.0
Octachlorobiphenyl	Ave	0.1118	0.1197		3.21	3.00	7.1	20.0
Nonachlorobiphenyl	Ave	0.0409	0.0557		5.86	4.00	36.3*	20.0
DCB Decachlorobiphenyl	Ave	0.0380	0.0408		5.36	5.00	7.2	20.0
Decachlorobiphenyl-13C12	Ave	0.0312	0.0325		5.21	5.00	4.2	20.0

FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 680-438006/4 Calibration Date: 06/20/2016 09:49  
 Instrument ID: CMSX Calib Start Date: 04/24/2016 15:41  
 GC Column: DB-5MS ID: 0.25 (mm) Calib End Date: 04/24/2016 17:35  
 Lab File ID: Xf2004.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.9911	0.9317		0.940	1.00	-6.0	20.0
Dichlorobiphenyl	Ave	0.6895	0.6668		0.967	1.00	-3.3	20.0
Trichlorobiphenyl	Ave	0.4278	0.4318		1.01	1.00	0.9	20.0
Tetrachlorobiphenyl	Ave	0.2629	0.2655		2.02	2.00	1.0	20.0
Pentachlorobiphenyl	Ave	0.1668	0.1804		2.16	2.00	8.1	20.0
Hexachlorobiphenyl	Ave	0.1484	0.1566		2.11	2.00	5.5	20.0
Heptachlorobiphenyl	Ave	0.1171	0.1236		3.17	3.00	5.6	20.0
Octachlorobiphenyl	Ave	0.1118	0.1167		3.13	3.00	4.4	20.0
DCB Decachlorobiphenyl	Ave	0.0380	0.0322		4.24	5.00	-15.3	20.0
Decachlorobiphenyl-13C12	Ave	0.0312	0.0292		4.68	5.00	-6.4	20.0

FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 680-438006/20 Calibration Date: 06/20/2016 17:28  
 Instrument ID: CMSX Calib Start Date: 04/24/2016 15:41  
 GC Column: DB-5MS ID: 0.25 (mm) Calib End Date: 04/24/2016 17:35  
 Lab File ID: Xf2020.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.9911	0.9482		0.957	1.00	-4.3	20.0
Dichlorobiphenyl	Ave	0.6895	0.6651		0.965	1.00	-3.5	20.0
Trichlorobiphenyl	Ave	0.4278	0.4229		0.989	1.00	-1.1	20.0
Tetrachlorobiphenyl	Ave	0.2629	0.2577		1.96	2.00	-2.0	20.0
Pentachlorobiphenyl	Ave	0.1668	0.1721		2.06	2.00	3.2	20.0
Hexachlorobiphenyl	Ave	0.1484	0.1457		1.96	2.00	-1.8	20.0
Heptachlorobiphenyl	Ave	0.1171	0.1142		2.93	3.00	-2.4	20.0
Octachlorobiphenyl	Ave	0.1118	0.1077		2.89	3.00	-3.7	20.0
DCB Decachlorobiphenyl	Ave	0.0380	0.0293		3.86	5.00	-22.9*	20.0
Decachlorobiphenyl-13C12	Ave	0.0312	0.0268		4.29	5.00	-14.1	20.0

FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 680-438264/4 Calibration Date: 06/21/2016 21:12  
 Instrument ID: CMSX Calib Start Date: 04/24/2016 15:41  
 GC Column: DB-5MS ID: 0.25 (mm) Calib End Date: 04/24/2016 17:35  
 Lab File ID: Xf2104.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.9911	0.9780		0.987	1.00	-1.3	20.0
Dichlorobiphenyl	Ave	0.6895	0.6920		1.00	1.00	0.4	20.0
Trichlorobiphenyl	Ave	0.4278	0.4442		1.04	1.00	3.8	20.0
Tetrachlorobiphenyl	Ave	0.2629	0.2761		2.10	2.00	5.0	20.0
Pentachlorobiphenyl	Ave	0.1668	0.1807		2.17	2.00	8.3	20.0
Hexachlorobiphenyl	Ave	0.1484	0.1593		2.15	2.00	7.3	20.0
Heptachlorobiphenyl	Ave	0.1171	0.1242		3.18	3.00	6.1	20.0
Octachlorobiphenyl	Ave	0.1118	0.1197		3.21	3.00	7.1	20.0
DCB Decachlorobiphenyl	Ave	0.0380	0.0338		4.45	5.00	-11.1	20.0
Decachlorobiphenyl-13C12	Ave	0.0312	0.0312		5.00	5.00	0.0	20.0



FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 680-438264/24 Calibration Date: 06/22/2016 06:45  
 Instrument ID: CMSX Calib Start Date: 04/24/2016 15:41  
 GC Column: DB-5MS ID: 0.25 (mm) Calib End Date: 04/24/2016 17:35  
 Lab File ID: Xf2124.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.9911	1.015		1.02	1.00	2.4	20.0
Dichlorobiphenyl	Ave	0.6895	0.7260		1.05	1.00	5.3	20.0
Trichlorobiphenyl	Ave	0.4278	0.4529		1.06	1.00	5.9	20.0
Tetrachlorobiphenyl	Ave	0.2629	0.2801		2.13	2.00	6.5	20.0
Pentachlorobiphenyl	Ave	0.1668	0.1900		2.28	2.00	13.9	20.0
Hexachlorobiphenyl	Ave	0.1484	0.1674		2.26	2.00	12.8	20.0
Heptachlorobiphenyl	Ave	0.1171	0.1285		3.29	3.00	9.8	20.0
Octachlorobiphenyl	Ave	0.1118	0.1223		3.28	3.00	9.4	20.0
DCB Decachlorobiphenyl	Ave	0.0380	0.0345		4.54	5.00	-9.3	20.0
Decachlorobiphenyl-13C12	Ave	0.0312	0.0309		4.96	5.00	-0.8	20.0

FORM IV  
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: Xf2014.D Lab Sample ID: MB 680-437585/15-A  
 Matrix: Water Date Extracted: 06/16/2016 13:29  
 Instrument ID: CMSX Date Analyzed: 06/20/2016 14:35  
 Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 680-437585/16-A	Xf2015.D	06/20/2016 15:04
MRC-SW5A1-061316 MS	240-65994-1 MS	Xf2016.D	06/20/2016 15:33
MRC-SW5A1-061316	240-65994-1	Xf2018.D	06/20/2016 16:30
MRC-SW5A1-061316 MSD	240-65994-1 MSD	Xf2110.D	06/22/2016 00:04
MRC-SW5A2-061316	240-65994-2	Xf2112.D	06/22/2016 01:01
MRC-SW5B-061316	240-65994-3	Xf2113.D	06/22/2016 01:30
MRC-SW6A-061316	240-65994-4	Xf2114.D	06/22/2016 01:59
MRC-SW6B-061316	240-65994-5	Xf2115.D	06/22/2016 02:27
MRC-SW7A-061316	240-65994-6	Xf2116.D	06/22/2016 02:56
MRC-SW7B-061316	240-65994-7	Xf2117.D	06/22/2016 03:25
MRC-SW8A-061316	240-65994-8	Xf2118.D	06/22/2016 03:54
MRC-SW8B-061316	240-65994-9	Xf2119.D	06/22/2016 04:22
MRC-SW9A-061316	240-65994-10	Xf2120.D	06/22/2016 04:51
MRC-SW9B-061316	240-65994-11	Xf2121.D	06/22/2016 05:20
MRC-SWFB-061316	240-65996-1	Xf2122.D	06/22/2016 05:48
MRC-SWDUP2-061316	240-65996-5	Xf2123.D	06/22/2016 06:17

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 680-437585/15-A  
 Matrix: Water Lab File ID: Xf2014.D  
 Analysis Method: 680 Date Collected: \_\_\_\_\_  
 Extract. Method: 680 Date Extracted: 06/16/2016 13:29  
 Sample wt/vol: 1000 (mL) Date Analyzed: 06/20/2016 14:35  
 Con. Extract Vol.: 1 (mL) Dilution Factor: 1  
 Injection Volume: 2 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 438006 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	0.30	U	0.30	0.030
26601-64-9	Hexachlorobiphenyl	0.20	U	0.20	0.015
53742-07-7	Nonachlorobiphenyl	0.50	U	0.50	0.049
55722-26-4	Octachlorobiphenyl	0.30	U	0.30	0.038
27323-18-8	Monochlorobiphenyl	0.10	U	0.10	0.0056
2051-24-3	DCB Decachlorobiphenyl	0.50	U	0.50	0.070
25512-42-9	Dichlorobiphenyl	0.10	U	0.10	0.0054
25429-29-2	Pentachlorobiphenyl	0.20	U	0.20	0.014
26914-33-0	Tetrachlorobiphenyl	0.20	U	0.20	0.013
25323-68-6	Trichlorobiphenyl	0.10	U	0.10	0.0065

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	75	*	25-113

FORM II  
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: TestAmerica Savannah

Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water

Level: Low

GC Column (1): DB-5MS ID: 0.25 (mm)

Client Sample ID	Lab Sample ID	13DCB #
MRC-SW5A1-061316	240-65994-1	48 *
MRC-SW5A2-061316	240-65994-2	83
MRC-SW5B-061316	240-65994-3	71
MRC-SW6A-061316	240-65994-4	74 *
MRC-SW6B-061316	240-65994-5	71 *
MRC-SW7A-061316	240-65994-6	68
MRC-SW7B-061316	240-65994-7	78 *
MRC-SW8A-061316	240-65994-8	72 *
MRC-SW8B-061316	240-65994-9	67 *
MRC-SW9A-061316	240-65994-10	74
MRC-SW9B-061316	240-65994-11	68
MRC-SWFB-061316	240-65996-1	81 *
MRC-SWDUP2-061316	240-65996-5	78
	MB 680-437585/15-A	75 *
	LCS 680-437585/16-A	64 *
MRC-SW5A1-061316 MS	240-65994-1 MS	63 *
MRC-SW5A1-061316 MSD	240-65994-1 MSD	60

13DCB = Decachlorobiphenyl-13C12

QC LIMITS  
25-113

# Column to be used to flag recovery values

FORM III  
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low Lab File ID: Xf2015.D

Lab ID: LCS 680-437585/16-A Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Heptachlorobiphenyl	6.00	4.42	74	62-130	*
Hexachlorobiphenyl	4.00	2.88	72	62-130	*
Nonachlorobiphenyl	10.0	9.09	91	70-195	*
Octachlorobiphenyl	6.00	4.50	75	64-130	*
Monochlorobiphenyl	2.00	1.20	60	42-130	*
DCB Decachlorobiphenyl	10.0	5.98	60	59-130	*
Dichlorobiphenyl	2.00	1.28	64	49-130	*
Pentachlorobiphenyl	4.00	2.94	74	63-130	*
Tetrachlorobiphenyl	4.00	2.72	68	54-130	*
Trichlorobiphenyl	2.00	1.37	68	51-130	*

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS SEMI VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: Xf2016.D  
 Lab ID: 240-65994-1 MS Client ID: MRC-SW5A1-061316 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Heptachlorobiphenyl	5.98	0.30 U	4.66	78	62-130	*
Hexachlorobiphenyl	3.99	0.20 U	3.07	77	62-130	*
Nonachlorobiphenyl	9.97	0.50 U	9.73	98	70-195	*
Octachlorobiphenyl	5.98	0.30 U	4.86	81	64-130	*
Monochlorobiphenyl	1.99	0.099 U	0.976	49	42-130	*
DCB Decachlorobiphenyl	9.97	0.50 U	6.48	65	59-130	*
Dichlorobiphenyl	1.99	0.099 U	1.16	58	49-130	*
Pentachlorobiphenyl	3.99	0.20 U	4.75	119	63-130	*
Tetrachlorobiphenyl	3.99	0.20 U	2.61	65	54-130	*
Trichlorobiphenyl	1.99	0.099 U	1.32	66	51-130	*

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS SEMI VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Savannah

Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low

Lab File ID: Xf2110.D

Lab ID: 240-65994-1 MSD

Client ID: MRC-SW5A1-061316 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Heptachlorobiphenyl	5.78	4.01	69	15	40	62-130	
Hexachlorobiphenyl	3.86	2.55	66	18	40	62-130	
Nonachlorobiphenyl	9.64	8.14	84	18	40	70-195	
Octachlorobiphenyl	5.78	4.15	72	16	40	64-130	
Monochlorobiphenyl	1.93	0.918	48	6	40	42-130	
DCB Decachlorobiphenyl	9.64	5.61	58	14	40	59-130	F1
Dichlorobiphenyl	1.93	1.06	55	9	40	49-130	
Pentachlorobiphenyl	3.86	4.12	107	14	40	63-130	
Tetrachlorobiphenyl	3.86	2.28	59	13	40	54-130	
Trichlorobiphenyl	1.93	1.16	60	13	40	51-130	

# Column to be used to flag recovery and RPD values

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

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: CMSX Calibration Start Date: 04/24/2016 15:41  
 GC Column: DB-5MS ID: 0.25 (mm) Calibration End Date: 04/24/2016 17:35  
 Calibration ID: 45292

	PHN		CRY		AREA #	RT #
	AREA #	RT #	AREA #	RT #		
INITIAL CALIBRATION MEAN AREA AND MEAN RT	50088	11.38	42340	17.58		
UPPER LIMIT	75132	11.88	63510	18.08		
LOWER LIMIT	25044	10.88	21170	17.08		
LAB SAMPLE ID	CLIENT SAMPLE ID					
CCVIS 680-438006/4	70060	11.00	48548	17.18		
MB 680-437585/15-A	81212*	11.01	52624	17.18		
LCS 680-437585/16-A	81077*	11.01	54298	17.18		
240-65994-1 MS	MRC-SW5A1-061316 MS	89943*	67009*	17.18		
240-65994-1	MRC-SW5A1-061316	89042*	63930*	17.18		
CCV 680-438006/20		72492	49012	17.18		
CCVIS 680-438264/4		38876	29902	17.18		
240-65994-1 MSD	MRC-SW5A1-061316 MSD	60632	46821	17.18		
240-65994-2	MRC-SW5A2-061316	49231	36697	17.18		
240-65994-3	MRC-SW5B-061316	55078	43310	17.18		
240-65994-4	MRC-SW6A-061316	61380*	48888*	17.18		
240-65994-5	MRC-SW6B-061316	70730*	55487*	17.18		
240-65994-6	MRC-SW7A-061316	58171	45678*	17.18		
240-65994-7	MRC-SW7B-061316	63478*	49763*	17.18		
240-65994-8	MRC-SW8A-061316	65299*	52331*	17.18		
240-65994-9	MRC-SW8B-061316	61876*	46997*	17.18		
240-65994-10	MRC-SW9A-061316	54250	43462	17.18		
240-65994-11	MRC-SW9B-061316	57973	44013	17.18		
240-65996-1	MRC-SWFB-061316	65480*	51756*	17.18		
240-65996-5	MRC-SWDUP2-061316	51793	42507	17.18		
CCV 680-438264/24		39470	29231	17.18		

ok, samples within limits for IC or CCVIS

PHN = Phenanthrene-d10  
CRY = Chrysene-d12

Area Limit = 50%-150% of internal standard area  
RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



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

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 680-438006/4 Date Analyzed: 06/20/2016 09:49  
 Instrument ID: CMSX GC Column: DB-5MS ID: 0.25 (mm)  
 Lab File ID (Standard): Xf2004.D Heated Purge: (Y/N) N  
 Calibration ID: 45292

	PHN		CRY		AREA #	RT #
	AREA #	RT #	AREA #	RT #		
12/24 HOUR STD	70060	11.00	48548	17.18		
UPPER LIMIT	91078	11.50	63112	17.68		
LOWER LIMIT	49042	10.50	33984	16.68		
LAB SAMPLE ID	CLIENT SAMPLE ID					
MB 680-437585/15-A	81212*	11.01	52624	17.18		
LCS 680-437585/16-A	81077*	11.01	54298	17.18		
240-65994-1 MS	MRC-SW5A1-061316 MS	89943*	11.00	67009*	17.18	
240-65994-1	MRC-SW5A1-061316	89042*	11.00	63930*	17.18	
CCV 680-438006/20		72492	11.00	49012	17.18	

ok, samples within limits for IC  
or CCVIS

PHN = Phenanthrene-d10  
CRY = Chrysene-d12

Area Limit = 70%-130% of internal standard area  
RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits

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

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 680-438264/4 Date Analyzed: 06/21/2016 21:12  
 Instrument ID: CMSX GC Column: DB-5MS ID: 0.25 (mm)  
 Lab File ID (Standard): Xf2104.D Heated Purge: (Y/N) N  
 Calibration ID: 45292

	PHN		CRY		AREA #	RT #
	AREA #	RT #	AREA #	RT #		
12/24 HOUR STD	38876	11.01	29902	17.18		
UPPER LIMIT	50539	11.51	38873	17.68		
LOWER LIMIT	27213	10.51	20931	16.68		
LAB SAMPLE ID	CLIENT SAMPLE ID					
240-65994-1 MSD	MRC-SW5A1-061316 MSD	60632	11.01	46821	17.18	
240-65994-2	MRC-SW5A2-061316	49231	11.01	36697	17.18	
240-65994-3	MRC-SW5B-061316	55078	11.01	43310	17.18	
240-65994-4	MRC-SW6A-061316	61380*	11.01	48888*	17.18	
240-65994-5	MRC-SW6B-061316	70730*	11.01	55487*	17.18	
240-65994-6	MRC-SW7A-061316	58171	11.01	45678*	17.18	
240-65994-7	MRC-SW7B-061316	63478*	11.00	49763*	17.18	
240-65994-8	MRC-SW8A-061316	65299*	11.01	52331*	17.18	
240-65994-9	MRC-SW8B-061316	61876*	11.01	46997*	17.18	
240-65994-10	MRC-SW9A-061316	54250	11.00	43462	17.18	
240-65994-11	MRC-SW9B-061316	57973	11.01	44013	17.18	
240-65996-1	MRC-SWFB-061316	65480*	11.01	51756*	17.18	
240-65996-5	MRC-SWDUP2-061316	51793	11.01	42507	17.18	
CCV 680-438264/24		39470	11.01	29231	17.18	

PHN = Phenanthrene-d10  
 CRY = Chrysene-d12

Area Limit = 70%-130% of internal standard area  
 RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Savannah Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Instrument ID: CMSX Start Date: 04/24/2016 14:32

Analysis Batch Number: 430367 End Date: 04/24/2016 22:50

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 680-430367/2		04/24/2016 14:32	1	Xd2402.D	DB-5MS 0.25 (mm)
WDM 680-430367/3		04/24/2016 15:03	1		DB-5MS 0.25 (mm)
ICISAV 680-430367/4		04/24/2016 15:41	1	Xd2404.D	DB-5MS 0.25 (mm)
IC 680-430367/25		04/24/2016 16:10	1	Xd2405.D	DB-5MS 0.25 (mm)
IC 680-430367/26		04/24/2016 16:38	1	Xd2406.D	DB-5MS 0.25 (mm)
IC 680-430367/27		04/24/2016 17:07	1	Xd2407.D	DB-5MS 0.25 (mm)
IC 680-430367/28		04/24/2016 17:35	1	Xd2408.D	DB-5MS 0.25 (mm)
ICV 680-430367/30		04/24/2016 18:04	1	Xd2409.D	DB-5MS 0.25 (mm)
ZZZZZ		04/24/2016 19:01	1		DB-5MS 0.25 (mm)
ZZZZZ		04/24/2016 19:30	1		DB-5MS 0.25 (mm)
ZZZZZ		04/24/2016 19:58	1		DB-5MS 0.25 (mm)
ZZZZZ		04/24/2016 20:27	1		DB-5MS 0.25 (mm)
ZZZZZ		04/24/2016 20:55	1		DB-5MS 0.25 (mm)
ZZZZZ		04/24/2016 21:24	1		DB-5MS 0.25 (mm)
ZZZZZ		04/24/2016 21:53	1		DB-5MS 0.25 (mm)
ZZZZZ		04/24/2016 22:21	1		DB-5MS 0.25 (mm)
CCVC 680-430367/24		04/24/2016 22:50	1		DB-5MS 0.25 (mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Savannah Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Instrument ID: CMSX Start Date: 06/20/2016 08:48

Analysis Batch Number: 438006 End Date: 06/20/2016 17:28

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 680-438006/2		06/20/2016 08:48	1	Xf2002a.D	DB-5MS 0.25 (mm)
WDM 680-438006/3		06/20/2016 09:19	1	Xf2003.D	DB-5MS 0.25 (mm)
CCVIS 680-438006/4		06/20/2016 09:49	1	Xf2004.D	DB-5MS 0.25 (mm)
ZZZZZ		06/20/2016 10:18	1		DB-5MS 0.25 (mm)
ZZZZZ		06/20/2016 10:46	1		DB-5MS 0.25 (mm)
ZZZZZ		06/20/2016 12:41	1		DB-5MS 0.25 (mm)
ZZZZZ		06/20/2016 14:07	1		DB-5MS 0.25 (mm)
MB 680-437585/15-A		06/20/2016 14:35	1	Xf2014.D	DB-5MS 0.25 (mm)
LCS 680-437585/16-A		06/20/2016 15:04	1	Xf2015.D	DB-5MS 0.25 (mm)
240-65994-1 MS		06/20/2016 15:33	1	Xf2016.D	DB-5MS 0.25 (mm)
240-65994-1		06/20/2016 16:30	1	Xf2018.D	DB-5MS 0.25 (mm)
ZZZZZ		06/20/2016 16:59	1		DB-5MS 0.25 (mm)
CCV 680-438006/20		06/20/2016 17:28	1	Xf2020.D	DB-5MS 0.25 (mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Savannah Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Instrument ID: CMSX Start Date: 06/21/2016 20:10

Analysis Batch Number: 438264 End Date: 06/22/2016 06:45

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 680-438264/2		06/21/2016 20:10	1	Xf2102.D	DB-5MS 0.25 (mm)
WDM 680-438264/3		06/21/2016 20:41	1	Xf2103.D	DB-5MS 0.25 (mm)
CCVIS 680-438264/4		06/21/2016 21:12	1	Xf2104.D	DB-5MS 0.25 (mm)
ZZZZZ		06/21/2016 21:40	1		DB-5MS 0.25 (mm)
ZZZZZ		06/21/2016 22:09	1		DB-5MS 0.25 (mm)
ZZZZZ		06/21/2016 22:38	1		DB-5MS 0.25 (mm)
ZZZZZ		06/21/2016 23:35	1		DB-5MS 0.25 (mm)
240-65994-1 MSD		06/22/2016 00:04	1	Xf2110.D	DB-5MS 0.25 (mm)
240-65994-2		06/22/2016 01:01	1	Xf2112.D	DB-5MS 0.25 (mm)
240-65994-3		06/22/2016 01:30	1	Xf2113.D	DB-5MS 0.25 (mm)
240-65994-4		06/22/2016 01:59	1	Xf2114.D	DB-5MS 0.25 (mm)
240-65994-5		06/22/2016 02:27	1	Xf2115.D	DB-5MS 0.25 (mm)
240-65994-6		06/22/2016 02:56	1	Xf2116.D	DB-5MS 0.25 (mm)
240-65994-7		06/22/2016 03:25	1	Xf2117.D	DB-5MS 0.25 (mm)
240-65994-8		06/22/2016 03:54	1	Xf2118.D	DB-5MS 0.25 (mm)
240-65994-9		06/22/2016 04:22	1	Xf2119.D	DB-5MS 0.25 (mm)
240-65994-10		06/22/2016 04:51	1	Xf2120.D	DB-5MS 0.25 (mm)
240-65994-11		06/22/2016 05:20	1	Xf2121.D	DB-5MS 0.25 (mm)
240-65996-1		06/22/2016 05:48	1	Xf2122.D	DB-5MS 0.25 (mm)
240-65996-5		06/22/2016 06:17	1	Xf2123.D	DB-5MS 0.25 (mm)
CCV 680-438264/24		06/22/2016 06:45	1	Xf2124.D	DB-5MS 0.25 (mm)

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Batch Number: 437585 Batch Start Date: 06/16/16 13:29 Batch Analyst: Simmons, Richard B

Batch Method: 680 Batch End Date: 06/17/16 07:29

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ReceivedpH	ResidualChloChe ck
240-65994-E-1	MRC-SW5A1-061316	680, 680	T			504.4 mL	.5 mL	8 SU	N
240-65994-D-2	MRC-SW5A2-061316	680, 680	T			509.9 mL	.5 mL	8 SU	N
240-65994-E-3	MRC-SW5B-061316	680, 680	T	1548.5 g	510.9 g	1037.6 mL	1 mL	8 SU	N
240-65994-E-4	MRC-SW6A-061316	680, 680	T	1548.0 g	510.4 g	1037.6 mL	1 mL	8 SU	N
240-65994-E-5	MRC-SW6B-061316	680, 680	T	1552.1 g	509.7 g	1042.4 mL	1 mL	8 SU	N
240-65994-D-6	MRC-SW7A-061316	680, 680	T			501.9 mL	.5 mL	8 SU	N
240-65994-E-7	MRC-SW7B-061316	680, 680	T	1522.7 g	509.8 g	1012.9 mL	1 mL	8 SU	N
240-65994-D-8	MRC-SW8A-061316	680, 680	T	1551.0 g	511.6 g	1039.4 mL	1 mL	8 SU	N
240-65994-D-9	MRC-SW8B-061316	680, 680	T	1518.1 g	509.8 g	1008.3 mL	1 mL	8 SU	N
240-65994-D-10	MRC-SW9A-061316	680, 680	T	1550.6 g	511.0 g	1039.6 mL	1 mL	8 SU	N
240-65994-E-11	MRC-SW9B-061316	680, 680	T	1549.1 g	510.8 g	1038.3 mL	1 mL	8 SU	N
240-65996-G-1	MRC-SWFB-061316	680, 680	T	1523.7 g	512.4 g	1011.3 mL	1 mL	7 SU	N
240-65996-E-5	MRC-SWDUP2-061316	680, 680	T	1547.6 g	512.0 g	1035.6 mL	1 mL	8 SU	N
MB 680-437585/15		680, 680				1000 mL	1 mL	7 SU	N
LCS 680-437585/16		680, 680				1000 mL	1 mL	7 SU	N
240-65994-D-1 MS	MRC-SW5A1-061316	680, 680	T			501.4 mL	.5 mL	8 SU	N
240-65994-D-1 MSD	MRC-SW5A1-061316	680, 680	T	1029.3 g	510.6 g	518.7 mL	.5 mL	8 SU	N

Lab Sample ID	Client Sample ID	Method Chain	Basis	680wkSPIKE 00096	680wkSURR 00112	680wkSURR 00113			
240-65994-E-1	MRC-SW5A1-061316	680, 680	T		0.5 mL				
240-65994-D-2	MRC-SW5A2-061316	680, 680	T		0.5 mL				
240-65994-E-3	MRC-SW5B-061316	680, 680	T		1 mL				
240-65994-E-4	MRC-SW6A-061316	680, 680	T		1 mL				
240-65994-E-5	MRC-SW6B-061316	680, 680	T		1 mL				
240-65994-D-6	MRC-SW7A-061316	680, 680	T		0.5 mL				
240-65994-E-7	MRC-SW7B-061316	680, 680	T		1 mL				
240-65994-D-8	MRC-SW8A-061316	680, 680	T		1 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Batch Number: 437585 Batch Start Date: 06/16/16 13:29 Batch Analyst: Simmons, Richard B

Batch Method: 680 Batch End Date: 06/17/16 07:29

Lab Sample ID	Client Sample ID	Method Chain	Basis	680wkSPIKE 00096	680wksURR 00112	680wksURR 00113			
240-65994-D-9	MRC-SW8B-061316	680, 680	T		1 mL				
240-65994-D-10	MRC-SW9A-061316	680, 680	T		1 mL				
240-65994-E-11	MRC-SW9B-061316	680, 680	T		1 mL				
240-65996-G-1	MRC-SWFB-061316	680, 680	T		1 mL				
240-65996-E-5	MRC-SWDUP2-061316	680, 680	T		1 mL				
MB 680-437585/15		680, 680				1 mL			
LCS 680-437585/16		680, 680		1 mL		1 mL			
240-65994-D-1 MS	MRC-SW5A1-061316	680, 680	T	0.5 mL		0.5 mL			
240-65994-D-1 MSD	MRC-SW5A1-061316	680, 680	T	0.5 mL		0.5 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

## GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 240-65994-1

SDG No.: \_\_\_\_\_

Batch Number: 437585 Batch Start Date: 06/16/16 13:29 Batch Analyst: Simmons, Richard BBatch Method: 680 Batch End Date: 06/17/16 07:29

Batch Notes	
Balance ID	23
Batch Comment	680 box M680-71
Concentration End Time	1059
Concentration Start Time	1012
Analyst ID - Concentration	CLP
Exchange Solvent ID	4526383
Exchange Solvent Name	Hexanes
Exchange Solvent Volume Used	10 mL
Extraction 1 End Time	0729
Extraction 1 Start Time	1329
pH Paper ID	4505419 4452485 4481609
Pipette ID	AA06G
Prep Solvent ID	4585720
Prep Solvent Name	MeCL2
Prep Solvent Volume Used	70 mL
Person's name who did the prep	RBS/CEW
Analyst ID - Reagent Drop Witness	CEW/RBS
Residual Chlorine Indicator ID	4577997
Analyst ID - Spike Analyst	RBS
Analyst ID - Spike Witness Analyst	CEW
Sufficient volume for MS/MSD?	Yes
Syringe ID	33814752
Vial ID	74552

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



SAMPLE IDENTIFICATION

MRC-SW6B-061316

COMPOUND

TRICHLOROETHENE

COMPOUND AREA

13232

INTERNAL STANDARD AMOUNT (ng)

10

DILUTION FACTOR

1

INTERNAL STANDARD AREA

968710

AVERAGE RRF

0.2761

$13232 \times 10 \times 1 / 968710 \times 0.2761$

0.49 ug/L

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW6B-061316 Lab Sample ID: 240-65994-5  
 Matrix: Water Lab File ID: UXJ5614.D  
 Analysis Method: 8260C Date Collected: 06/13/2016 12:52  
 Sample wt/vol: 5 (mL) Date Analyzed: 06/20/2016 14:43  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 235154 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	10	U	10	2.3
1634-04-4	Methyl tert-butyl ether	1.0	U	1.0	0.20
108-87-2	Methylcyclohexane	1.0	U	1.0	0.43
75-09-2	Methylene Chloride	1.0	U *	1.0	0.33
100-42-5	Styrene	1.0	U	1.0	0.45
127-18-4	Tetrachloroethene	1.0	U	1.0	0.31
108-88-3	Toluene	1.0	U	1.0	0.23
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	0.30
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	0.56
79-01-6	Trichloroethene	0.49	J	1.0	0.22
75-69-4	Trichlorofluoromethane	1.0	U	1.0	0.49
75-01-4	Vinyl chloride	1.0	U	1.0	0.29
1330-20-7	Xylenes, Total	2.0	U	2.0	0.52

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	110		80-120
1868-53-7	Dibromofluoromethane (Surr)	113		79-120
460-00-4	4-Bromofluorobenzene (Surr)	104		61-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	115		78-125

TestAmerica Canton  
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A3UX11\20160620-55569.b\UXJ5614.D  
 Lims ID: 240-65994-B-5  
 Client ID: MRC-SW6B-061316  
 Sample Type: Client  
 Inject. Date: 20-Jun-2016 14:43:30 ALS Bottle#: 14 Worklist Smp#: 42  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: 240-0055569-042  
 Misc. Info.: J60620A,8260LLUX11,,43582  
 Operator ID: 43582 Instrument ID: A3UX11  
 Method: \\ChromNA\Canton\ChromData\A3UX11\20160620-55569.b\8260\_11.m  
 Limit Group: MSV 8260C ICAL  
 Last Update: 21-Jun-2016 10:07:57 Calib Date: 28-May-2016 13:41:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Canton\ChromData\A3UX11\20160528-54939.b\UXJ4951.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK033

First Level Reviewer: evansle

Date: 21-Jun-2016 09:55:14

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.115	5.115	0.000	99	968710	10.0	
* 2 Chlorobenzene-d5	117	7.777	7.777	0.000	85	656984	10.0	
* 3 1,4-Dichlorobenzene-d4	152	10.026	10.026	0.000	94	237604	10.0	
\$ 4 Dibromofluoromethane (Surr	113	4.547	4.547	0.000	97	290819	13.5	
\$ 5 1,2-Dichloroethane-d4 (Sur	65	4.831	4.831	0.000	98	333773	13.8	
\$ 6 Toluene-d8 (Surr)	98	6.476	6.476	0.000	92	1224701	13.1	
\$ 7 4-Bromofluorobenzene (Surr	95	8.890	8.890	0.000	92	349842	12.4	
9 Dichlorodifluoromethane	85		1.506				ND	
10 Chloromethane	50		1.636				ND	
12 Vinyl chloride	62		1.731				ND	
15 Bromomethane	94		2.015				ND	
16 Chloroethane	64		2.110				ND	
18 Trichlorofluoromethane	101		2.311				ND	
21 1,1-Dichloroethene	96		2.737				ND	
22 1,1,2-Trichloro-1,2,2-trif	151		2.749				ND	
23 Acetone	43		2.760				ND	
26 Carbon disulfide	76		2.938				ND	
29 Methyl acetate	43		3.033				ND	
30 Methylene Chloride	84		3.115				ND	
33 Methyl tert-butyl ether	73		3.340				ND	
34 trans-1,2-Dichloroethene	96		3.352				ND	
36 1,1-Dichloroethane	63		3.683				ND	
41 cis-1,2-Dichloroethene	96		4.157				ND	
42 2-Butanone (MEK)	43		4.157				ND	
49 Chloroform	83		4.417				ND	
50 1,1,1-Trichloroethane	97		4.583				ND	
51 Cyclohexane	56		4.642				ND	
53 Carbon tetrachloride	117		4.725				ND	
55 Benzene	78		4.890				ND	
56 1,2-Dichloroethane	62		4.890				ND	
60 Trichloroethene	130	5.423	5.423	0.000	96	13232	0.4948	

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

Lab Name: TestAmerica Canton Job No.: 240-65994-1 Analy Batch No.: 232366

SDG No.: \_\_\_\_\_

Instrument ID: A3UX11 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/28/2016 09:12 Calibration End Date: 05/28/2016 11:03 Calibration ID: 34632

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Isobutyl alcohol	0.0062 0.0045	0.0059	0.0063	0.0071	0.0058	Ave		0.0060			14.3		20.0				
1,2-Dichloroethane	0.2981 0.2726	0.2707	0.2764	0.2862	0.2852	Ave		0.2815		0.1000	3.7		20.0				
Benzene	1.0915 1.0604	1.0274	1.0168	1.0745	1.0726	Ave		1.0572		0.5000	2.8		20.0				
n-Heptane	0.0767 0.0562	0.0637	0.0501	0.0519	0.0539	Ave		0.0587			17.0		20.0				
Trichloroethene	0.2904 0.2807	0.2627	0.2619	0.2746	0.2860	Ave		0.2761		0.1500	4.3		20.0				
Methylcyclohexane	0.3899 0.3159	0.3438	0.3048	0.3065	0.3225	Ave		0.3306		0.1000	9.8		20.0				
1,2-Dichloropropane	0.2636 0.2540	0.2477	0.2418	0.2504	0.2626	Ave		0.2533		0.1000	3.4		20.0				
Dibromomethane	0.1260 0.1258	0.1267	0.1228	0.1240	0.1303	Ave		0.1259			2.0		20.0				
1,4-Dioxane	0.0010 ++++	0.0013	0.0014	0.0016	0.0017	Lin1	-0.017	0.0017						0.9990		0.9900	
Dichlorobromomethane	0.2938 0.3017	0.2907	0.2723	0.2880	0.3112	Ave		0.2929		0.1500	4.5		20.0				
2-Chloroethyl vinyl ether	0.1384 0.1445	0.1484	0.1416	0.1458	0.1535	Ave		0.1454			3.6		20.0				
cis-1,3-Dichloropropene	0.3776 0.4191	0.3788	0.3775	0.4025	0.4308	Ave		0.3977		0.1500	5.9		20.0				
4-Methyl-2-pentanone (MIBK)	0.1794 0.1579	0.1670	0.1634	0.1645	0.1729	Ave		0.1675		0.0500	4.5		20.0				
Toluene	1.6592 1.5713	1.5809	1.5586	1.6505	1.6591	Ave		1.6133		0.4000	3.0		20.0				
trans-1,3-Dichloropropene	0.4368 0.4929	0.4583	0.4669	0.5112	0.5324	Ave		0.4831		0.1000	7.4		20.0				
Ethyl methacrylate	0.4247 0.4021	0.4124	0.4087	0.4397	0.4428	Ave		0.4217			4.0		20.0				
1,1,2-Trichloroethane	0.2779 0.2701	0.2893	0.2905	0.2951	0.3013	Ave		0.2874		0.1000	4.0		20.0				
Tetrachloroethene	0.3260 0.2981	0.2891	0.2964	0.3117	0.3178	Ave		0.3065		0.1500	4.6		20.0				
1,3-Dichloropropane	0.5178 0.4955	0.5274	0.5141	0.5435	0.5440	Ave		0.5237			3.6		20.0				
2-Hexanone	0.1845 0.1578	0.1883	0.1732	0.1827	0.1815	Ave		0.1780		0.0500	6.2		20.0				

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

SAMPLE IDENTIFICATION

MRC-SW1A-061316

COMPOUND

1,4-dioxane

COMPOUND AREA

2630

INTERNAL STANDARD AMOUNT (ng)

0.5

DILUTION FACTOR

1

INTERNAL STANDARD AREA

340502

AVERAGE RRF

0.5991

$2630 \times 0.5 \times 1 / 340502 \times 0.5991$

0.0064 ng

SAMPLE VOLUME (ml)

100

VOLUME EXTRACT (ml)

2

VOLUME INJECTED ( $\mu$ l)

1

conversion

1000

$0.00644624438424636 \times 2 / (100 \times 1) \times 1000$

0.13 ug/L

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW1A-061316 Lab Sample ID: 240-65996-2  
 Matrix: Water Lab File ID: 20593\_16.D  
 Analysis Method: 522 MOD Date Collected: 06/13/2016 11:51  
 Extract. Method: 3535A Date Extracted: 06/22/2016 18:02  
 Sample wt/vol: 100 (mL) Date Analyzed: 06/24/2016 23:45  
 Con. Extract Vol.: 2000 (uL) Dilution Factor: 1  
 Injection Volume: 2 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 106221 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.13	J	0.20	0.057

CAS NO.	SURROGATE	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8 (Surr)	92		70-130

TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\CHS.i\20160624-20593.b\20593\_16.D  
 Lims ID: 240-65996-D-2-A Lab Sample ID: 200-65996-2  
 Client ID: MRC-SW1A-061316  
 Sample Type: Client  
 Inject. Date: 24-Jun-2016 23:45:30 ALS Bottle#: 16 Worklist Smp#: 16  
 Injection Vol: 2.0 uL Dil. Factor: 1.0000  
 Sample Info: 200-0020593-016  
 Operator ID: jpd Instrument ID: CHS.i  
 Method: \\ChromNA\Burlington\ChromData\CHS.i\20160624-20593.b\522\_MOD\_2016.m  
 Limit Group: SV\_522\_Limits  
 Last Update: 27-Jun-2016 14:09:04 Calib Date: 01-Jun-2016 14:13:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Burlington\ChromData\CHS.i\20160601-20247.b\20247\_08.D  
 Column 1 : Rxi-5ms ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK027

First Level Reviewer: maheseep Date: 27-Jun-2016 08:40:31

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng/ul	Flags
* 1 Tetrahydrofuran-d8	46	3.103	3.112	-0.009	87	340502	0.5000	
\$ 2 1,4-Dioxane-d8 (Surr)	64	4.044	4.048	-0.004	100	35169	0.0922	
3 1,4-Dioxane	58	4.088	4.088	0.000	100	2630	0.006446	M
\$ 4 BFB								

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

SV522ISi\_00029 Amount Added: 4.00 Units: uL Run Reagent

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

Lab Name: TestAmerica Burlington Job No.: 240-65994-1 Analy Batch No.: 105200

SDG No.: \_\_\_\_\_

Instrument ID: CHS.i GC Column: Rxi-5ms ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/01/2016 12:52 Calibration End Date: 06/01/2016 14:13 Calibration ID: 34839

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 200-105200/8	20247_08.D
Level 2	IC 200-105200/7	20247_07.D
Level 3	IC 200-105200/6	20247_06.D
Level 4	ICIS 200-105200/5	20247_05.D
Level 5	IC 200-105200/4	20247_04.D
Level 6	IC 200-105200/3	20247_03.D
Level 7	IC 200-105200/2	20247_02.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								
	LVL 6	LVL 7															
1,4-Dioxane	0.5850 0.6358	0.6144 0.6477	0.5567	0.5785	0.5757	Ave	0.5991			0.0500	5.7		15.0			0.9900	
1,4-Dioxane-d8 (Surr)	0.5502 0.5927	0.5478 0.5710	0.5635	0.5442	0.5514	Ave	0.5601				3.1		15.0			0.9900	

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.



SAMPLE IDENTIFICATION

MRC-SW6B-061316

COMPOUND

Pentachlorobiphenyl

COMPOUND AREA 591

INTERNAL STANDARD AMOUNT (ng) 0.75

DILUTION FACTOR 1

INTERNAL STANDARD AREA 70730

AVERAGE RRF 0.1668

$591 \times 0.75 \times 1 / 70730 \times 0.1668$  0.0376 ng/ml

SAMPLE VOLUME (ml) 1042.4

VOLUME EXTRACT (ml) 1

VOLUME INJECTED ( $\mu$ l) 1

conversion 1000

$0.037570678647242 \times 1 / (1042.4 \times 1) \times 1000$  0.036  $\mu$ g/L

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 240-65994-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW6B-061316 Lab Sample ID: 240-65994-5  
 Matrix: Water Lab File ID: Xf2115.D  
 Analysis Method: 680 Date Collected: 06/13/2016 12:52  
 Extract. Method: 680 Date Extracted: 06/16/2016 13:29  
 Sample wt/vol: 1042.4 (mL) Date Analyzed: 06/22/2016 02:27  
 Con. Extract Vol.: 1 (mL) Dilution Factor: 1  
 Injection Volume: 2 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 438264 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	0.29	U *	0.29	0.029
26601-64-9	Hexachlorobiphenyl	0.19	U *	0.19	0.014
53742-07-7	Nonachlorobiphenyl	0.48	U *	0.48	0.047
55722-26-4	Octachlorobiphenyl	0.29	U *	0.29	0.036
27323-18-8	Monochlorobiphenyl	0.096	U *	0.096	0.0054
2051-24-3	DCB Decachlorobiphenyl	0.48	U *	0.48	0.067
25512-42-9	Dichlorobiphenyl	0.096	U *	0.096	0.0052
25429-29-2	Pentachlorobiphenyl	0.036	J *	0.19	0.013
26914-33-0	Tetrachlorobiphenyl	0.19	U *	0.19	0.012
25323-68-6	Trichlorobiphenyl	0.096	U *	0.096	0.0062

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	71	*	25-113

TestAmerica Savannah  
Target Compound Quantitation Report

Data File: \\ChromNA\Savannah\ChromData\CMSX\20160621-30741.b\Xf2115.D  
 Lims ID: 240-65994-E-5-A  
 Client ID: MRC-SW6B-061316  
 Sample Type: Client  
 Inject. Date: 22-Jun-2016 02:27:30 ALS Bottle#: 14 Worklist Smp#: 15  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 240-65994-E-5-A  
 Misc. Info.: 680-0030741-015  
 Operator ID: Instrument ID: CMSX  
 Method: \\ChromNA\Savannah\ChromData\CMSX\20160621-30741.b\680\CMSX.m  
 Limit Group: 680  
 Last Update: 24-Jun-2016 10:24:07 Calib Date: 24-Apr-2016 17:35:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Savannah\ChromData\CMSX\20160424-29094.b\Xd2408.D  
 Column 1 : Det: MS SCAN  
 Process Host: XAWRK013

First Level Reviewer: davisn Date: 22-Jun-2016 11:05:26

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	11.010	11.010	0.0	98	70730	0.7500	s
A 27 Total Pentachlorobiphenyls	326	14.771	12.923	-16.619	0	591	0.0376	
* 15 Chrysene-d12	240	17.177	17.177	0.0	100	55487	0.7500	s
\$ 22 Decachlorobiphenyl-13C12	510	20.334	20.334	0.0	42	5217	1.77	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Reagents:

SM-680istd\_00036 Amount Added: 30.00 Units: uL Run Reagent

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									
188	11.010	11.010	0.0	98	70730	0.7500			S
189	11.010	11.010	0.0		10911		5.9- 7.5	6.5	
A 27 Total Pentachlorobiphenyls									
326	12.949	12.923	-16.619	29	591	0.0376			
324	12.931				394		1.4- 1.8	1.5	
254	12.966				1343		41.9- 121.9	0.3	
* 15 Chrysene-d12									
240	17.177	17.177	0.0	100	55487	0.7500			S
241	17.177	17.177	0.0		11035		4.3- 5.9	5.0	
\$ 22 Decachlorobiphenyl-13C12									
510	20.334	20.334	0.0	42	5217	1.77			
512	20.334	20.355	-0.021		4359		0.9- 1.3	1.2	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Reagents:

SM-680istd\_00036                      Amount Added: 30.00                      Units: uL                      Run Reagent

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

Lab Name: TestAmerica Savannah Job No.: 240-65994-1 Analy Batch No.: 430367

SDG No.: \_\_\_\_\_

Instrument ID: CMSX GC Column: DB-5MS ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/24/2016 15:41 Calibration End Date: 04/24/2016 17:35 Calibration ID: 45292

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-430367/28	Xd2408.D
Level 2	IC 680-430367/27	Xd2407.D
Level 3	ICISAV 680-430367/4	Xd2404.D
Level 4	IC 680-430367/26	Xd2406.D
Level 5	IC 680-430367/25	Xd2405.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								
Monochlorobiphenyl	0.9409	0.9877	0.9866	1.0018	1.0386	Ave		0.9911			3.5	20.0					
Dichlorobiphenyl	0.6430	0.6782	0.6962	0.6962	0.7337	Ave		0.6895			4.8	20.0					
Trichlorobiphenyl	0.4097	0.4114	0.4253	0.4324	0.4604	Ave		0.4278			4.8	20.0					
PCB-104			0.2443			Ave		0.2443				30.0					
Tetrachlorobiphenyl	0.2470	0.2621	0.2562	0.2680	0.2810	Ave		0.2629			4.9	20.0					
Pentachlorobiphenyl	0.1465	0.1582	0.1680	0.1763	0.1852	Ave		0.1668			9.1	20.0					
PCB-77			0.3640			Ave		0.3640				30.0					
Hexachlorobiphenyl	0.1338	0.1411	0.1498	0.1546	0.1625	Ave		0.1484			7.6	20.0					
Heptachlorobiphenyl	0.1015	0.1109	0.1179	0.1228	0.1323	Ave		0.1171			10.0	20.0					
Octachlorobiphenyl	0.0938	0.1067	0.1105	0.1195	0.1284	Ave		0.1118			11.7	20.0					
PCB-208			0.0500			Ave		0.0500				30.0					
Nonachlorobiphenyl			0.0409			Ave		0.0380			14.1	20.0					
DCB Decachlorobiphenyl	0.0297	0.0366	0.0390	0.0413	0.0437	Ave		0.0380			14.1	20.0					
Decachlorobiphenyl-13C12	0.0248	0.0311	0.0307	0.0339	0.0354	Ave		0.0312			13.1	20.0					

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

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**MRC SW  
WATER DATA  
240-65994-1**

<b>FRACTION</b>	<b>CHEMICAL</b>	<b>MRC-SW6A-061316</b>	<b>UNITS</b>	<b>MRC-SWDUP2-061316</b>	<b>RPD</b>	<b>D</b>
OV	TRICHLOROETHENE	0.26 J	UG/L	0.25 J	3.92	0.01

Current RPD Quality Control Limit: 30 %.

Shaded cells indicate RPDs that exceed the applicable quality control limit.



**TETRA TECH**

## INTERNAL CORRESPONDENCE

**TO:** T. APANA VAGE                                      **DATE:** NOVEMBER 14, 2016  
**FROM:** L. GANSER                                        **COPIES:** DV FILE  
**SUBJECT:** DATA VALIDATION – VOC  
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER COMPLEX (MRC)  
SDG 240-70040-1

**SAMPLES:** 15/Aqueous/

MRC-SW1A-092716	MRC-SW2A-092716	MRC-SW5A1-092716	MRC-SW5A2-092716
MRC-SW5B-092716	MRC-SW6A-092716	MRC-SW6B-092716	MRC-SW7A-092716
MRC-SW7B-092716	MRC-SW8A-092716	MRC-SW8B-092716	MRC-SW9A-092716
MRC-SW9B-092716	MRC-SWDUP-092716	TB-092716	

### Overview

The sample set for LMC-MRC, SDG 240-70040-1 consisted of fourteen (14) aqueous environmental samples and one (1) trip blank. The samples were analyzed for volatile organic compounds (VOC). One field duplicate sample pair was included in this SDG: MRC-SWDUP-092716 / MRC-SW5B-092716.

The samples were collected by Tetra Tech, Inc. on September 27, 2016 and analyzed by TestAmerica, Inc. All analyses were conducted in accordance with SW-846 Method 8260C for VOC analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters: data completeness, holding times, GC/MS tuning, initial/continuing calibrations, laboratory method/preparation blanks, surrogate spike recoveries, laboratory control sample results, internal standard areas and recoveries, chromatographic resolution, field duplicate precision, analyte identification, analyte quantitation, and detection limits. Areas of concern are listed below.

### Major

No major issues were noted.

### Minor

- Continuing calibration percent difference (%D) greater than 20 percent was noted for dichlorodifluoromethane, bromomethane, chloroethane, trichlorofluoromethane, 1,1,2-trichlorotrifluoroethane, acetone, 2,2-dichloropropane, 2-butanone, 1,1,1-trichloroethane, carbon tetrachloride, 1,1,1,2-tetrachloroethane, and naphthalene on 10/08/2016 at 10:30 on instrument A3UX15 affecting all samples. Detected and nondetected results for these parameters were qualified as estimated, (J) and (UJ), respectively.
- Detected results reported below the Reporting Limit (RL) limit but above the Method Detection Limit (MDL) were qualified as estimated, (J).

### Notes

VOC laboratory control sample (LCS) percent recoveries were greater than QC limits for 2,2-dichloropropane and trichlorofluoromethane affecting all samples. No action was necessary as all results for 2,2-dichloropropane and trichlorofluoromethane were nondetect.

TO: T. APANAVAGE  
SDG: 240-70040-1

PAGE 2

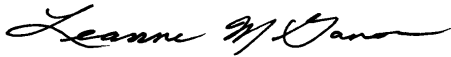
Nondetected results were reported at the MDL.

**Executive Summary**

**Laboratory Performance:** Calibration exceedances of %D criterion were noted for select VOCs. LCS noncompliances were noted for select VOCs.

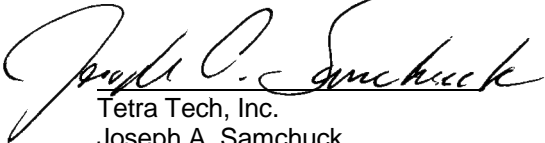
**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to "National Functional Guidelines for Organic Review" (September 2016). The text of this report has been formulated to address only those areas affecting data quality.



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Tetra Tech, Inc.  
Leanne Ganser  
Environmental Scientist/Data Validator



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Tetra Tech, Inc.  
Joseph A. Samchuck  
Data Validation Manager

**Attachments:**

- Appendix A – Qualified Analytical Results
- Appendix B – Results as Reported by the Laboratory
- Appendix C – Support Documentation



**Appendix A**

Qualified Analytical Results

**Qualifier Codes:**

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = ICP PDS Recovery Noncompliance; MSA's  $r < 0.995$
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (i.e., base-time drifting)
- P = Uncertainty near detection limit ( $< 2 \times$  IDL for inorganics and  $<$ CRQL for organics)
- Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = RPD between columns/detectors  $>40\%$  for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient  $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids  $<30\%$
- Z = Uncertainty at 2 standard deviations is greater than sample activity
- Z1 = Tentatively Identified Compound considered presumptively present
- Z2 = Tentatively Identified Compound column bleed
- Z3 = Tentatively Identified Compound aldol condensate
- Z4 = Sample activity is less than the at uncertainty at 3 standard deviations and greater than the MDC
- Z5 = Sample activity is less than the at uncertainty at 3 standard deviations and less than the MDC

<b>PROJ_NO: 07776</b> <b>SDG: 240-70040-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW1A-092716			MRC-SW2A-092716			MRC-SW5A1-092716			MRC-SW5A2-092716		
	LAB_ID	240-70040-1			240-70040-2			240-70040-3			240-70040-4		
	SAMP_DATE	9/27/2016			9/27/2016			9/27/2016			9/27/2016		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
1,1,1,2-TETRACHLOROETHANE	0.28	UJ	C	0.28	UJ	C	0.28	UJ	C	0.28	UJ	C	
1,1,1-TRICHLOROETHANE	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	
1,1,2,2-TETRACHLOROETHANE	0.22	U		0.22	U		0.22	U		0.22	U		
1,1,2-TRICHLOROTRIFLUOROETHANE	0.45	UJ	C	0.45	UJ	C	0.45	UJ	C	0.45	UJ	C	
1,1-DICHLOROETHANE	0.3	U		0.3	U		0.3	U		0.3	U		
1,1-DICHLOROETHENE	0.45	U		0.45	U		0.45	U		0.45	U		
1,1-DICHLOROPROPENE	0.42	U		0.42	U		0.42	U		0.42	U		
1,2,3-TRICHLOROBENZENE	0.37	U		0.37	U		0.37	U		0.37	U		
1,2,3-TRICHLOROPROPANE	0.44	U		0.44	U		0.44	U		0.44	U		
1,2,3-TRIMETHYLBENZENE	0.47	U		0.47	U		0.47	U		0.47	U		
1,2,4-TRICHLOROBENZENE	0.32	U		0.32	U		0.32	U		0.32	U		
1,2,4-TRIMETHYLBENZENE	0.41	U		0.41	U		0.41	U		0.41	U		
1,2-DIBROMO-3-CHLOROPROPANE	0.82	U		0.82	U		0.82	U		0.82	U		
1,2-DIBROMOETHANE	0.32	U		0.32	U		0.32	U		0.32	U		
1,2-DICHLOROBENZENE	0.25	U		0.25	U		0.25	U		0.25	U		
1,2-DICHLOROETHANE	0.23	U		0.23	U		0.23	U		0.23	U		
1,2-DICHLOROPROPANE	0.25	U		0.25	U		0.25	U		0.25	U		
1,3-DICHLOROBENZENE	0.19	U		0.19	U		0.19	U		0.19	U		
1,3-DICHLOROPROPANE	0.19	U		0.19	U		0.19	U		0.19	U		
1,4-DICHLOROBENZENE	0.27	U		0.27	U		0.27	U		0.27	U		
2,2-DICHLOROPROPANE	0.26	UJ	C	0.26	UJ	C	0.26	UJ	C	0.26	UJ	C	
2-BUTANONE	5.1	J	CP	0.92	J	CP	0.53	UJ	C	0.53	UJ	C	
2-CHLOROETHYL VINYL ETHER	0.59	U		0.59	U		0.59	U		0.59	U		
2-CHLOROTOLUENE	0.4	U		0.4	U		0.4	U		0.4	U		
2-HEXANONE	0.55	J	P	0.48	U		0.48	U		0.48	U		
4-CHLOROTOLUENE	0.29	U		0.29	U		0.29	U		0.29	U		
4-ISOPROPYLTOLUENE	0.43	U		0.43	U		0.43	U		0.43	U		
4-METHYL-2-PENTANONE	0.99	U		0.99	U		0.99	U		0.99	U		
ACETONE	7.7	J	CP	0.94	UJ	C	0.94	UJ	C	0.94	UJ	C	
BENZENE	0.35	U		0.35	U		0.35	U		0.35	U		
BROMOBENZENE	0.35	U		0.35	U		0.35	U		0.35	U		
BROMOCHLOROMETHANE	0.5	U		0.5	U		0.5	U		0.5	U		
BROMODICHLOROMETHANE	0.29	U		0.29	U		0.29	U		0.29	U		
BROMOFORM	0.56	U		0.56	U		0.56	U		0.56	U		
BROMOMETHANE	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	

<b>PROJ_NO: 07776</b> <b>SDG: 240-70040-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW5B-092716			MRC-SW6A-092716			MRC-SW6B-092716			MRC-SW7A-092716		
	LAB_ID	240-70040-5			240-70040-6			240-70040-7			240-70040-8		
	SAMP_DATE	9/27/2016			9/27/2016			9/27/2016			9/27/2016		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
1,1,1,2-TETRACHLOROETHANE	0.28	UJ	C	0.28	UJ	C	0.28	UJ	C	0.28	UJ	C	
1,1,1-TRICHLOROETHANE	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	
1,1,2,2-TETRACHLOROETHANE	0.22	U		0.22	U		0.22	U		0.22	U		
1,1,2-TRICHLOROTRIFLUOROETHANE	0.45	UJ	C	0.45	UJ	C	0.45	UJ	C	0.45	UJ	C	
1,1-DICHLOROETHANE	0.3	U		0.3	U		0.3	U		0.3	U		
1,1-DICHLOROETHENE	0.45	U		0.45	U		0.45	U		0.45	U		
1,1-DICHLOROPROPENE	0.42	U		0.42	U		0.42	U		0.42	U		
1,2,3-TRICHLOROBENZENE	0.37	U		0.37	U		0.37	U		0.37	U		
1,2,3-TRICHLOROPROPANE	0.44	U		0.44	U		0.44	U		0.44	U		
1,2,3-TRIMETHYLBENZENE	0.47	U		0.47	U		0.47	U		0.47	U		
1,2,4-TRICHLOROBENZENE	0.32	U		0.32	U		0.32	U		0.32	U		
1,2,4-TRIMETHYLBENZENE	0.41	U		0.41	U		0.41	U		0.41	U		
1,2-DIBROMO-3-CHLOROPROPANE	0.82	U		0.82	U		0.82	U		0.82	U		
1,2-DIBROMOETHANE	0.32	U		0.32	U		0.32	U		0.32	U		
1,2-DICHLOROBENZENE	0.25	U		0.25	U		0.25	U		0.25	U		
1,2-DICHLOROETHANE	0.23	U		0.23	U		0.23	U		0.23	U		
1,2-DICHLOROPROPANE	0.25	U		0.25	U		0.25	U		0.25	U		
1,3-DICHLOROBENZENE	0.19	U		0.19	U		0.19	U		0.19	U		
1,3-DICHLOROPROPANE	0.19	U		0.19	U		0.19	U		0.19	U		
1,4-DICHLOROBENZENE	0.27	U		0.27	U		0.27	U		0.27	U		
2,2-DICHLOROPROPANE	0.26	UJ	C	0.26	UJ	C	0.26	UJ	C	0.26	UJ	C	
2-BUTANONE	0.53	UJ	C	0.53	UJ	C	0.53	UJ	C	0.53	UJ	C	
2-CHLOROETHYL VINYL ETHER	0.59	U		0.59	U		0.59	U		0.59	U		
2-CHLOROTOLUENE	0.4	U		0.4	U		0.4	U		0.4	U		
2-HEXANONE	0.48	U		0.48	U		0.48	U		0.48	U		
4-CHLOROTOLUENE	0.29	U		0.29	U		0.29	U		0.29	U		
4-ISOPROPYLTOLUENE	0.43	U		0.43	U		0.43	U		0.43	U		
4-METHYL-2-PENTANONE	0.99	U		0.99	U		0.99	U		0.99	U		
ACETONE	0.94	UJ	C	0.94	UJ	C	0.94	UJ	C	0.94	UJ	C	
BENZENE	0.35	U		0.35	U		0.35	U		0.35	U		
BROMOBENZENE	0.35	U		0.35	U		0.35	U		0.35	U		
BROMOCHLOROMETHANE	0.5	U		0.5	U		0.5	U		0.5	U		
BROMODICHLOROMETHANE	0.29	U		0.29	U		0.29	U		0.29	U		
BROMOFORM	0.56	U		0.56	U		0.56	U		0.56	U		
BROMOMETHANE	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	

<b>PROJ_NO: 07776</b> <b>SDG: 240-70040-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW7B-092716			MRC-SW8A-092716			MRC-SW8B-092716			MRC-SW9A-092716		
	LAB_ID	240-70040-9			240-70040-10			240-70040-11			240-70040-12		
	SAMP_DATE	9/27/2016			9/27/2016			9/27/2016			9/27/2016		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
1,1,1,2-TETRACHLOROETHANE	0.28	UJ	C	0.28	UJ	C	0.28	UJ	C	0.28	UJ	C	
1,1,1-TRICHLOROETHANE	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	
1,1,2,2-TETRACHLOROETHANE	0.22	U		0.22	U		0.22	U		0.22	U		
1,1,2-TRICHLOROTRIFLUOROETHANE	0.45	UJ	C	0.45	UJ	C	0.45	UJ	C	0.45	UJ	C	
1,1-DICHLOROETHANE	0.3	U		0.3	U		0.3	U		0.3	U		
1,1-DICHLOROETHENE	0.45	U		0.45	U		0.45	U		0.45	U		
1,1-DICHLOROPROPENE	0.42	U		0.42	U		0.42	U		0.42	U		
1,2,3-TRICHLOROBENZENE	0.37	U		0.37	U		0.37	U		0.37	U		
1,2,3-TRICHLOROPROPANE	0.44	U		0.44	U		0.44	U		0.44	U		
1,2,3-TRIMETHYLBENZENE	0.47	U		0.47	U		0.47	U		0.47	U		
1,2,4-TRICHLOROBENZENE	0.32	U		0.32	U		0.32	U		0.32	U		
1,2,4-TRIMETHYLBENZENE	0.41	U		0.41	U		0.41	U		0.41	U		
1,2-DIBROMO-3-CHLOROPROPANE	0.82	U		0.82	U		0.82	U		0.82	U		
1,2-DIBROMOETHANE	0.32	U		0.32	U		0.32	U		0.32	U		
1,2-DICHLOROBENZENE	0.25	U		0.25	U		0.25	U		0.25	U		
1,2-DICHLOROETHANE	0.23	U		0.23	U		0.23	U		0.23	U		
1,2-DICHLOROPROPANE	0.25	U		0.25	U		0.25	U		0.25	U		
1,3-DICHLOROBENZENE	0.19	U		0.19	U		0.19	U		0.19	U		
1,3-DICHLOROPROPANE	0.19	U		0.19	U		0.19	U		0.19	U		
1,4-DICHLOROBENZENE	0.27	U		0.27	U		0.27	U		0.27	U		
2,2-DICHLOROPROPANE	0.26	UJ	C	0.26	UJ	C	0.26	UJ	C	0.26	UJ	C	
2-BUTANONE	0.53	UJ	C	0.53	UJ	C	0.53	UJ	C	0.53	UJ	C	
2-CHLOROETHYL VINYL ETHER	0.59	U		0.59	U		0.59	U		0.59	U		
2-CHLOROTOLUENE	0.4	U		0.4	U		0.4	U		0.4	U		
2-HEXANONE	0.48	U		0.48	U		0.48	U		0.48	U		
4-CHLOROTOLUENE	0.29	U		0.29	U		0.29	U		0.29	U		
4-ISOPROPYLTOLUENE	0.43	U		0.43	U		0.43	U		0.43	U		
4-METHYL-2-PENTANONE	0.99	U		0.99	U		0.99	U		0.99	U		
ACETONE	0.94	UJ	C	0.94	UJ	C	0.94	UJ	C	0.94	UJ	C	
BENZENE	0.35	U		0.35	U		0.35	U		0.35	U		
BROMOBENZENE	0.35	U		0.35	U		0.35	U		0.35	U		
BROMOCHLOROMETHANE	0.5	U		0.5	U		0.5	U		0.5	U		
BROMODICHLOROMETHANE	0.29	U		0.29	U		0.29	U		0.29	U		
BROMOFORM	0.56	U		0.56	U		0.56	U		0.56	U		
BROMOMETHANE	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	

<b>PROJ_NO: 07776</b> <b>SDG: 240-70040-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW9B-092716			MRC-SWDUP-092716			TB-092716		
	LAB_ID	240-70040-13			240-70040-15			240-70040-14		
	SAMP_DATE	9/27/2016			9/27/2016			9/27/2016		
	QC_TYPE	NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0		
	DUP_OF				MRC-SW5B-092716					
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
1,1,1,2-TETRACHLOROETHANE	0.28	UJ	C	0.28	UJ	C	0.28	UJ	C	
1,1,1-TRICHLOROETHANE	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	
1,1,2,2-TETRACHLOROETHANE	0.22	U		0.22	U		0.22	U		
1,1,2-TRICHLOROTRIFLUOROETHANE	0.45	UJ	C	0.45	UJ	C	0.45	UJ	C	
1,1-DICHLOROETHANE	0.3	U		0.3	U		0.3	U		
1,1-DICHLOROETHENE	0.45	U		0.45	U		0.45	U		
1,1-DICHLOROPROPENE	0.42	U		0.42	U		0.42	U		
1,2,3-TRICHLOROBENZENE	0.37	U		0.37	U		0.37	U		
1,2,3-TRICHLOROPROPANE	0.44	U		0.44	U		0.44	U		
1,2,3-TRIMETHYLBENZENE	0.47	U		0.47	U		0.47	U		
1,2,4-TRICHLOROBENZENE	0.32	U		0.32	U		0.32	U		
1,2,4-TRIMETHYLBENZENE	0.41	U		0.41	U		0.41	U		
1,2-DIBROMO-3-CHLOROPROPANE	0.82	U		0.82	U		0.82	U		
1,2-DIBROMOETHANE	0.32	U		0.32	U		0.32	U		
1,2-DICHLOROBENZENE	0.25	U		0.25	U		0.25	U		
1,2-DICHLOROETHANE	0.23	U		0.23	U		0.23	U		
1,2-DICHLOROPROPANE	0.25	U		0.25	U		0.25	U		
1,3-DICHLOROBENZENE	0.19	U		0.19	U		0.19	U		
1,3-DICHLOROPROPANE	0.19	U		0.19	U		0.19	U		
1,4-DICHLOROBENZENE	0.27	U		0.27	U		0.27	U		
2,2-DICHLOROPROPANE	0.26	UJ	C	0.26	UJ	C	0.26	UJ	C	
2-BUTANONE	0.53	UJ	C	0.53	UJ	C	0.53	UJ	C	
2-CHLOROETHYL VINYL ETHER	0.59	U		0.59	U		0.59	U		
2-CHLOROTOLUENE	0.4	U		0.4	U		0.4	U		
2-HEXANONE	0.48	U		0.48	U		0.48	U		
4-CHLOROTOLUENE	0.29	U		0.29	U		0.29	U		
4-ISOPROPYLTOLUENE	0.43	U		0.43	U		0.43	U		
4-METHYL-2-PENTANONE	0.99	U		0.99	U		0.99	U		
ACETONE	0.94	UJ	C	0.94	UJ	C	0.94	UJ	C	
BENZENE	0.35	U		0.35	U		0.35	U		
BROMOBENZENE	0.35	U		0.35	U		0.35	U		
BROMOCHLOROMETHANE	0.5	U		0.5	U		0.5	U		
BROMODICHLOROMETHANE	0.29	U		0.29	U		0.29	U		
BROMOFORM	0.56	U		0.56	U		0.56	U		
BROMOMETHANE	0.44	UJ	C	0.44	UJ	C	0.44	UJ	C	

<b>PROJ_NO: 07776</b> <b>SDG: 240-70040-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW1A-092716			MRC-SW2A-092716			MRC-SW5A1-092716			MRC-SW5A2-092716		
	LAB_ID	240-70040-1			240-70040-2			240-70040-3			240-70040-4		
	SAMP_DATE	9/27/2016			9/27/2016			9/27/2016			9/27/2016		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
CARBON DISULFIDE	0.38	U		0.38	U		0.38	U		0.38	U		
CARBON TETRACHLORIDE	0.43	UJ	C	0.43	UJ	C	0.43	UJ	C	0.43	UJ	C	
CHLOROBENZENE	0.25	U		0.25	U		0.25	U		0.25	U		
CHLORODIBROMOMETHANE	0.43	U		0.43	U		0.43	U		0.43	U		
CHLOROETHANE	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	
CHLOROFORM	0.25	U		0.25	U		0.25	U		0.25	U		
CHLOROMETHANE	0.44	U		0.44	U		0.44	U		0.44	U		
CIS-1,2-DICHLOROETHENE	0.26	U		0.26	U		0.26	U		0.26	U		
CIS-1,3-DICHLOROPROPENE	0.46	U		0.46	U		0.46	U		0.46	U		
DIBROMOMETHANE	0.42	U		0.42	U		0.42	U		0.42	U		
DICHLORODIFLUOROMETHANE	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	
DIISOPROPYL ETHER	0.5	U		0.5	U		0.5	U		0.5	U		
ETHYL TERT-BUTYL ETHER	0.23	U		0.23	U		0.23	U		0.23	U		
ETHYLBENZENE	0.25	U		0.25	U		0.25	U		0.25	U		
HEXACHLOROBUTADIENE	0.35	U		0.35	U		0.35	U		0.35	U		
ISOPROPYLBENZENE	0.35	U		0.35	U		0.35	U		0.35	U		
METHYL TERT-BUTYL ETHER	0.2	U		0.2	U		0.2	U		0.2	U		
METHYLENE CHLORIDE	0.33	U		0.33	U		0.33	U		0.33	U		
NAPHTHALENE	0.45	UJ	C	0.45	UJ	C	0.45	UJ	C	0.45	UJ	C	
N-BUTYLBENZENE	0.31	U		0.31	U		0.31	U		0.31	U		
N-PROPYLBENZENE	0.4	U		0.4	U		0.4	U		0.4	U		
SEC-BUTYLBENZENE	0.48	U		0.48	U		0.48	U		0.48	U		
STYRENE	0.45	U		0.45	U		0.45	U		0.45	U		
TERT-AMYL METHYL ETHER	0.3	U		0.3	U		0.3	U		0.3	U		
TERT-BUTYLBENZENE	0.41	U		0.41	U		0.41	U		0.41	U		
TERTIARY-BUTYL ALCOHOL	4.9	U		4.9	U		4.9	U		4.9	U		
TETRACHLOROETHENE	0.31	U		0.31	U		0.31	U		0.31	U		
TOLUENE	0.23	U		0.23	U		0.23	U		0.23	U		
TOTAL XYLENES	0.52	U		0.52	U		0.52	U		0.52	U		
TRANS-1,2-DICHLOROETHENE	0.3	U		0.3	U		0.3	U		0.3	U		
TRANS-1,3-DICHLOROPROPENE	0.56	U		0.56	U		0.56	U		0.56	U		
TRICHLOROETHENE	0.27	J	P	0.22	U		0.22	U		0.22	U		
TRICHLOROFUOROMETHANE	0.49	UJ	C	0.49	UJ	C	0.49	UJ	C	0.49	UJ	C	
VINYL ACETATE	0.41	U		0.41	U		0.41	U		0.41	U		
VINYL CHLORIDE	0.29	U		0.29	U		0.29	U		0.29	U		

<b>PROJ_NO: 07776</b> <b>SDG: 240-70040-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW5B-092716			MRC-SW6A-092716			MRC-SW6B-092716			MRC-SW7A-092716		
	LAB_ID	240-70040-5			240-70040-6			240-70040-7			240-70040-8		
	SAMP_DATE	9/27/2016			9/27/2016			9/27/2016			9/27/2016		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
CARBON DISULFIDE	0.38	U		0.38	U		0.38	U		0.38	U		
CARBON TETRACHLORIDE	0.43	UJ	C	0.43	UJ	C	0.43	UJ	C	0.43	UJ	C	
CHLOROENZENE	0.25	U		0.25	U		0.25	U		0.25	U		
CHLORODIBROMOMETHANE	0.43	U		0.43	U		0.43	U		0.43	U		
CHLOROETHANE	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	
CHLOROFORM	0.25	U		0.25	U		0.25	U		0.25	U		
CHLOROMETHANE	0.44	U		0.44	U		0.44	U		0.44	U		
CIS-1,2-DICHLOROETHENE	0.26	U		0.26	U		0.26	U		0.26	U		
CIS-1,3-DICHLOROPROPENE	0.46	U		0.46	U		0.46	U		0.46	U		
DIBROMOMETHANE	0.42	U		0.42	U		0.42	U		0.42	U		
DICHLORODIFLUOROMETHANE	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	
DIISOPROPYL ETHER	0.5	U		0.5	U		0.5	U		0.5	U		
ETHYL TERT-BUTYL ETHER	0.23	U		0.23	U		0.23	U		0.23	U		
ETHYLBENZENE	0.25	U		0.25	U		0.25	U		0.25	U		
HEXACHLOROBUTADIENE	0.35	U		0.35	U		0.35	U		0.35	U		
ISOPROPYLBENZENE	0.35	U		0.35	U		0.35	U		0.35	U		
METHYL TERT-BUTYL ETHER	0.2	U		0.2	U		0.2	U		0.2	U		
METHYLENE CHLORIDE	0.33	U		0.33	U		0.33	U		0.33	U		
NAPHTHALENE	0.45	UJ	C	0.45	UJ	C	0.45	UJ	C	0.45	UJ	C	
N-BUTYLBENZENE	0.31	U		0.31	U		0.31	U		0.31	U		
N-PROPYLBENZENE	0.4	U		0.4	U		0.4	U		0.4	U		
SEC-BUTYLBENZENE	0.48	U		0.48	U		0.48	U		0.48	U		
STYRENE	0.45	U		0.45	U		0.45	U		0.45	U		
TERT-AMYL METHYL ETHER	0.3	U		0.3	U		0.3	U		0.3	U		
TERT-BUTYLBENZENE	0.41	U		0.41	U		0.41	U		0.41	U		
TERTIARY-BUTYL ALCOHOL	4.9	U		4.9	U		4.9	U		4.9	U		
TETRACHLOROETHENE	0.31	U		0.31	U		0.31	U		0.31	U		
TOLUENE	0.23	U		0.23	U		0.23	U		0.23	U		
TOTAL XYLENES	0.52	U		0.52	U		0.52	U		0.52	U		
TRANS-1,2-DICHLOROETHENE	0.3	U		0.3	U		0.3	U		0.3	U		
TRANS-1,3-DICHLOROPROPENE	0.56	U		0.56	U		0.56	U		0.56	U		
TRICHLOROETHENE	0.22	J	P	0.59	J	P	0.62	J	P	0.56	J	P	
TRICHLOROFUOROMETHANE	0.49	UJ	C	0.49	UJ	C	0.49	UJ	C	0.49	UJ	C	
VINYL ACETATE	0.41	U		0.41	U		0.41	U		0.41	U		
VINYL CHLORIDE	0.29	U		0.29	U		0.29	U		0.29	U		



<b>PROJ_NO: 07776</b> <b>SDG: 240-70040-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW7B-092716			MRC-SW8A-092716			MRC-SW8B-092716			MRC-SW9A-092716		
	LAB_ID	240-70040-9			240-70040-10			240-70040-11			240-70040-12		
	SAMP_DATE	9/27/2016			9/27/2016			9/27/2016			9/27/2016		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
CARBON DISULFIDE	0.38	U		0.38	U		0.38	U		0.38	U		
CARBON TETRACHLORIDE	0.43	UJ	C	0.43	UJ	C	0.43	UJ	C	0.43	UJ	C	
CHLOROENZENE	0.25	U		0.25	U		0.25	U		0.25	U		
CHLORODIBROMOMETHANE	0.43	U		0.43	U		0.43	U		0.43	U		
CHLOROETHANE	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	
CHLOROFORM	0.25	U		0.25	U		0.25	U		0.25	U		
CHLOROMETHANE	0.44	U		0.44	U		0.44	U		0.44	U		
CIS-1,2-DICHLOROETHENE	0.26	U		0.26	U		0.26	U		0.26	U		
CIS-1,3-DICHLOROPROPENE	0.46	U		0.46	U		0.46	U		0.46	U		
DIBROMOMETHANE	0.42	U		0.42	U		0.42	U		0.42	U		
DICHLORODIFLUOROMETHANE	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	
DIISOPROPYL ETHER	0.5	U		0.5	U		0.5	U		0.5	U		
ETHYL TERT-BUTYL ETHER	0.23	U		0.23	U		0.23	U		0.23	U		
ETHYLBENZENE	0.25	U		0.25	U		0.25	U		0.25	U		
HEXACHLOROBUTADIENE	0.35	U		0.35	U		0.35	U		0.35	U		
ISOPROPYLBENZENE	0.35	U		0.35	U		0.35	U		0.35	U		
METHYL TERT-BUTYL ETHER	0.2	U		0.2	U		0.2	U		0.2	U		
METHYLENE CHLORIDE	0.33	U		0.33	U		0.33	U		0.33	U		
NAPHTHALENE	0.45	UJ	C	0.45	UJ	C	0.45	UJ	C	0.45	UJ	C	
N-BUTYLBENZENE	0.31	U		0.31	U		0.31	U		0.31	U		
N-PROPYLBENZENE	0.4	U		0.4	U		0.4	U		0.4	U		
SEC-BUTYLBENZENE	0.48	U		0.48	U		0.48	U		0.48	U		
STYRENE	0.45	U		0.45	U		0.45	U		0.45	U		
TERT-AMYL METHYL ETHER	0.3	U		0.3	U		0.3	U		0.3	U		
TERT-BUTYLBENZENE	0.41	U		0.41	U		0.41	U		0.41	U		
TERTIARY-BUTYL ALCOHOL	4.9	U		4.9	U		4.9	U		4.9	U		
TETRACHLOROETHENE	0.31	U		0.31	U		0.31	U		0.31	U		
TOLUENE	0.23	U		0.23	U		0.23	U		0.23	U		
TOTAL XYLENES	0.52	U		0.52	U		0.52	U		0.52	U		
TRANS-1,2-DICHLOROETHENE	0.3	U		0.3	U		0.3	U		0.3	U		
TRANS-1,3-DICHLOROPROPENE	0.56	U		0.56	U		0.56	U		0.56	U		
TRICHLOROETHENE	0.58	J	P	0.61	J	P	0.62	J	P	0.52	J	P	
TRICHLOROFUOROMETHANE	0.49	UJ	C	0.49	UJ	C	0.49	UJ	C	0.49	UJ	C	
VINYL ACETATE	0.41	U		0.41	U		0.41	U		0.41	U		
VINYL CHLORIDE	0.29	U		0.29	U		0.29	U		0.29	U		

<b>PROJ_NO: 07776</b> <b>SDG: 240-70040-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW9B-092716			MRC-SWDUP-092716			TB-092716		
	LAB_ID	240-70040-13			240-70040-15			240-70040-14		
	SAMP_DATE	9/27/2016			9/27/2016			9/27/2016		
	QC_TYPE	NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0		
	DUP_OF				MRC-SW5B-092716					
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
CARBON DISULFIDE	0.38	U		0.38	U		0.38	U		
CARBON TETRACHLORIDE	0.43	UJ	C	0.43	UJ	C	0.43	UJ	C	
CHLOROENZENE	0.25	U		0.25	U		0.25	U		
CHLORODIBROMOMETHANE	0.43	U		0.43	U		0.43	U		
CHLOROETHANE	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	
CHLOROFORM	0.25	U		0.25	U		0.25	U		
CHLOROMETHANE	0.44	U		0.44	U		0.44	U		
CIS-1,2-DICHLOROETHENE	0.26	U		0.26	U		0.26	U		
CIS-1,3-DICHLOROPROPENE	0.46	U		0.46	U		0.46	U		
DIBROMOMETHANE	0.42	U		0.42	U		0.42	U		
DICHLORODIFLUOROMETHANE	0.32	UJ	C	0.32	UJ	C	0.32	UJ	C	
DIISOPROPYL ETHER	0.5	U		0.5	U		0.5	U		
ETHYL TERT-BUTYL ETHER	0.23	U		0.23	U		0.23	U		
ETHYLBENZENE	0.25	U		0.25	U		0.25	U		
HEXACHLOROBUTADIENE	0.35	U		0.35	U		0.35	U		
ISOPROPYLBENZENE	0.35	U		0.35	U		0.35	U		
METHYL TERT-BUTYL ETHER	0.2	U		0.2	U		0.2	U		
METHYLENE CHLORIDE	0.33	U		0.33	U		0.33	U		
NAPHTHALENE	0.45	UJ	C	0.45	UJ	C	0.45	UJ	C	
N-BUTYLBENZENE	0.31	U		0.31	U		0.31	U		
N-PROPYLBENZENE	0.4	U		0.4	U		0.4	U		
SEC-BUTYLBENZENE	0.48	U		0.48	U		0.48	U		
STYRENE	0.45	U		0.45	U		0.45	U		
TERT-AMYL METHYL ETHER	0.3	U		0.3	U		0.3	U		
TERT-BUTYLBENZENE	0.41	U		0.41	U		0.41	U		
TERTIARY-BUTYL ALCOHOL	4.9	U		4.9	U		4.9	U		
TETRACHLOROETHENE	0.31	U		0.31	U		0.31	U		
TOLUENE	0.23	U		0.23	U		0.23	U		
TOTAL XYLENES	0.52	U		0.52	U		0.52	U		
TRANS-1,2-DICHLOROETHENE	0.3	U		0.3	U		0.3	U		
TRANS-1,3-DICHLOROPROPENE	0.56	U		0.56	U		0.56	U		
TRICHLOROETHENE	0.62	J	P	0.22	U		0.22	U		
TRICHLOROFLUOROMETHANE	0.49	UJ	C	0.49	UJ	C	0.49	UJ	C	
VINYL ACETATE	0.41	U		0.41	U		0.41	U		
VINYL CHLORIDE	0.29	U		0.29	U		0.29	U		

**Appendix B**

Results as Reported by the Laboratory

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW1A-092716 Lab Sample ID: 240-70040-1  
 Matrix: Water Lab File ID: UXC8760.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:02  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 12:24  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	7.7	J	10	0.94
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	1.0	0.28
71-43-2	Benzene	0.35	U	1.0	0.35
75-27-4	Bromodichloromethane	0.29	U	1.0	0.29
75-25-2	Bromoform	0.56	U	1.0	0.56
74-83-9	Bromomethane	0.44	U	1.0	0.44
78-93-3	2-Butanone (MEK)	5.1	J	10	0.53
75-15-0	Carbon disulfide	0.38	U	1.0	0.38
56-23-5	Carbon tetrachloride	0.43	U	1.0	0.43
108-90-7	Chlorobenzene	0.25	U	1.0	0.25
75-00-3	Chloroethane	0.32	U	1.0	0.32
67-66-3	Chloroform	0.25	U	1.0	0.25
563-58-6	1,1-Dichloropropene	0.42	U	1.0	0.42
74-87-3	Chloromethane	0.44	U	1.0	0.44
75-34-3	1,1-Dichloroethane	0.30	U	1.0	0.30
87-61-6	1,2,3-Trichlorobenzene	0.37	U	1.0	0.37
96-18-4	1,2,3-Trichloropropane	0.44	U	1.0	0.44
107-06-2	1,2-Dichloroethane	0.23	U	1.0	0.23
75-35-4	1,1-Dichloroethene	0.45	U	1.0	0.45
526-73-8	1,2,3-Trimethylbenzene	0.47	U	5.0	0.47
78-87-5	1,2-Dichloropropane	0.25	U	1.0	0.25
95-63-6	1,2,4-Trimethylbenzene	0.41	U	1.0	0.41
10061-01-5	cis-1,3-Dichloropropene	0.46	U	1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	0.56	U	1.0	0.56
100-41-4	Ethylbenzene	0.25	U	1.0	0.25
591-78-6	2-Hexanone	0.55	J	10	0.48
75-09-2	Methylene Chloride	0.33	U	1.0	0.33
108-10-1	4-Methyl-2-pentanone (MIBK)	0.99	U	10	0.99
100-42-5	Styrene	0.45	U	1.0	0.45
79-34-5	1,1,2,2-Tetrachloroethane	0.22	U	1.0	0.22
127-18-4	Tetrachloroethene	0.31	U	1.0	0.31
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.27	J	1.0	0.22
75-01-4	Vinyl chloride	0.29	U	1.0	0.29
1330-20-7	Xylenes, Total	0.52	U	2.0	0.52
71-55-6	1,1,1-Trichloroethane	0.44	U	1.0	0.44

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW1A-092716 Lab Sample ID: 240-70040-1  
 Matrix: Water Lab File ID: UXC8760.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:02  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 12:24  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.19	U	1.0	0.19
96-12-8	1,2-Dibromo-3-Chloropropane	0.82	U	2.0	0.82
106-93-4	1,2-Dibromoethane	0.32	U	1.0	0.32
75-71-8	Dichlorodifluoromethane	0.32	U	1.0	0.32
156-59-2	cis-1,2-Dichloroethene	0.26	U	1.0	0.26
156-60-5	trans-1,2-Dichloroethene	0.30	U	1.0	0.30
98-82-8	Isopropylbenzene	0.35	U	1.0	0.35
1634-04-4	Methyl tert-butyl ether	0.20	U	1.0	0.20
76-13-1	1,1,2-Trichlorotrifluoroethane	0.45	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	0.32	U	1.0	0.32
594-20-7	2,2-Dichloropropane	0.26	U *	1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.25	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	0.19	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	0.27	U	1.0	0.27
110-75-8	2-Chloroethyl vinyl ether	0.59	U	10	0.59
75-69-4	Trichlorofluoromethane	0.49	U *	1.0	0.49
95-49-8	2-Chlorotoluene	0.40	U	1.0	0.40
124-48-1	Chlorodibromomethane	0.43	U	1.0	0.43
108-86-1	Bromobenzene	0.35	U	1.0	0.35
74-97-5	Bromochloromethane	0.50	U	1.0	0.50
106-43-4	4-Chlorotoluene	0.29	U	1.0	0.29
99-87-6	4-Isopropyltoluene	0.43	U	1.0	0.43
87-68-3	Hexachlorobutadiene	0.35	U	1.0	0.35
74-95-3	Dibromomethane	0.42	U	1.0	0.42
108-20-3	Diisopropyl ether	0.50	U	10	0.50
91-20-3	Naphthalene	0.45	U	1.0	0.45
104-51-8	n-Butylbenzene	0.31	U	1.0	0.31
103-65-1	N-Propylbenzene	0.40	U	1.0	0.40
135-98-8	sec-Butylbenzene	0.48	U	1.0	0.48
994-05-8	Tert-amyl methyl ether	0.30	U	5.0	0.30
637-92-3	Ethyl tert-butyl ether	0.23	U	5.0	0.23
98-06-6	tert-Butylbenzene	0.41	U	1.0	0.41
108-05-4	Vinyl acetate	0.41	U	2.0	0.41
75-65-0	tert-Butyl alcohol	4.9	U	50	4.9

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW1A-092716 Lab Sample ID: 240-70040-1  
 Matrix: Water Lab File ID: UXC8760.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:02  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 12:24  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		63-132
460-00-4	4-Bromofluorobenzene (Surr)	115		73-120
2037-26-5	Toluene-d8 (Surr)	105		73-124
1868-53-7	Dibromofluoromethane (Surr)	107		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW2A-092716 Lab Sample ID: 240-70040-2  
 Matrix: Water Lab File ID: UXC8761.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:10  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 12:49  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	0.94	U	10	0.94
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	1.0	0.28
71-43-2	Benzene	0.35	U	1.0	0.35
75-27-4	Bromodichloromethane	0.29	U	1.0	0.29
75-25-2	Bromoform	0.56	U	1.0	0.56
74-83-9	Bromomethane	0.44	U	1.0	0.44
78-93-3	2-Butanone (MEK)	0.92	J	10	0.53
75-15-0	Carbon disulfide	0.38	U	1.0	0.38
56-23-5	Carbon tetrachloride	0.43	U	1.0	0.43
108-90-7	Chlorobenzene	0.25	U	1.0	0.25
75-00-3	Chloroethane	0.32	U	1.0	0.32
67-66-3	Chloroform	0.25	U	1.0	0.25
563-58-6	1,1-Dichloropropene	0.42	U	1.0	0.42
74-87-3	Chloromethane	0.44	U	1.0	0.44
75-34-3	1,1-Dichloroethane	0.30	U	1.0	0.30
87-61-6	1,2,3-Trichlorobenzene	0.37	U	1.0	0.37
96-18-4	1,2,3-Trichloropropane	0.44	U	1.0	0.44
107-06-2	1,2-Dichloroethane	0.23	U	1.0	0.23
75-35-4	1,1-Dichloroethene	0.45	U	1.0	0.45
526-73-8	1,2,3-Trimethylbenzene	0.47	U	5.0	0.47
78-87-5	1,2-Dichloropropane	0.25	U	1.0	0.25
95-63-6	1,2,4-Trimethylbenzene	0.41	U	1.0	0.41
10061-01-5	cis-1,3-Dichloropropene	0.46	U	1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	0.56	U	1.0	0.56
100-41-4	Ethylbenzene	0.25	U	1.0	0.25
591-78-6	2-Hexanone	0.48	U	10	0.48
75-09-2	Methylene Chloride	0.33	U	1.0	0.33
108-10-1	4-Methyl-2-pentanone (MIBK)	0.99	U	10	0.99
100-42-5	Styrene	0.45	U	1.0	0.45
79-34-5	1,1,2,2-Tetrachloroethane	0.22	U	1.0	0.22
127-18-4	Tetrachloroethene	0.31	U	1.0	0.31
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.22	U	1.0	0.22
75-01-4	Vinyl chloride	0.29	U	1.0	0.29
1330-20-7	Xylenes, Total	0.52	U	2.0	0.52
71-55-6	1,1,1-Trichloroethane	0.44	U	1.0	0.44

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW2A-092716 Lab Sample ID: 240-70040-2  
 Matrix: Water Lab File ID: UXC8761.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:10  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 12:49  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.19	U	1.0	0.19
96-12-8	1,2-Dibromo-3-Chloropropane	0.82	U	2.0	0.82
106-93-4	1,2-Dibromoethane	0.32	U	1.0	0.32
75-71-8	Dichlorodifluoromethane	0.32	U	1.0	0.32
156-59-2	cis-1,2-Dichloroethene	0.26	U	1.0	0.26
156-60-5	trans-1,2-Dichloroethene	0.30	U	1.0	0.30
98-82-8	Isopropylbenzene	0.35	U	1.0	0.35
1634-04-4	Methyl tert-butyl ether	0.20	U	1.0	0.20
76-13-1	1,1,2-Trichlorotrifluoroethane	0.45	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	0.32	U	1.0	0.32
594-20-7	2,2-Dichloropropane	0.26	U *	1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.25	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	0.19	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	0.27	U	1.0	0.27
110-75-8	2-Chloroethyl vinyl ether	0.59	U	10	0.59
75-69-4	Trichlorofluoromethane	0.49	U *	1.0	0.49
95-49-8	2-Chlorotoluene	0.40	U	1.0	0.40
124-48-1	Chlorodibromomethane	0.43	U	1.0	0.43
108-86-1	Bromobenzene	0.35	U	1.0	0.35
74-97-5	Bromochloromethane	0.50	U	1.0	0.50
106-43-4	4-Chlorotoluene	0.29	U	1.0	0.29
99-87-6	4-Isopropyltoluene	0.43	U	1.0	0.43
87-68-3	Hexachlorobutadiene	0.35	U	1.0	0.35
74-95-3	Dibromomethane	0.42	U	1.0	0.42
108-20-3	Diisopropyl ether	0.50	U	10	0.50
91-20-3	Naphthalene	0.45	U	1.0	0.45
104-51-8	n-Butylbenzene	0.31	U	1.0	0.31
103-65-1	N-Propylbenzene	0.40	U	1.0	0.40
135-98-8	sec-Butylbenzene	0.48	U	1.0	0.48
994-05-8	Tert-amyl methyl ether	0.30	U	5.0	0.30
637-92-3	Ethyl tert-butyl ether	0.23	U	5.0	0.23
98-06-6	tert-Butylbenzene	0.41	U	1.0	0.41
108-05-4	Vinyl acetate	0.41	U	2.0	0.41
75-65-0	tert-Butyl alcohol	4.9	U	50	4.9



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW2A-092716 Lab Sample ID: 240-70040-2  
 Matrix: Water Lab File ID: UXC8761.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:10  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 12:49  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		63-132
460-00-4	4-Bromofluorobenzene (Surr)	113		73-120
2037-26-5	Toluene-d8 (Surr)	106		73-124
1868-53-7	Dibromofluoromethane (Surr)	104		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW5A1-092716 Lab Sample ID: 240-70040-3  
 Matrix: Water Lab File ID: UXC8762.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 11:00  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 13:12  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	0.94	U	10	0.94
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	1.0	0.28
71-43-2	Benzene	0.35	U	1.0	0.35
75-27-4	Bromodichloromethane	0.29	U	1.0	0.29
75-25-2	Bromoform	0.56	U	1.0	0.56
74-83-9	Bromomethane	0.44	U	1.0	0.44
78-93-3	2-Butanone (MEK)	0.53	U	10	0.53
75-15-0	Carbon disulfide	0.38	U	1.0	0.38
56-23-5	Carbon tetrachloride	0.43	U	1.0	0.43
108-90-7	Chlorobenzene	0.25	U	1.0	0.25
75-00-3	Chloroethane	0.32	U	1.0	0.32
67-66-3	Chloroform	0.25	U	1.0	0.25
563-58-6	1,1-Dichloropropene	0.42	U	1.0	0.42
74-87-3	Chloromethane	0.44	U	1.0	0.44
75-34-3	1,1-Dichloroethane	0.30	U	1.0	0.30
87-61-6	1,2,3-Trichlorobenzene	0.37	U	1.0	0.37
96-18-4	1,2,3-Trichloropropane	0.44	U	1.0	0.44
107-06-2	1,2-Dichloroethane	0.23	U	1.0	0.23
75-35-4	1,1-Dichloroethene	0.45	U	1.0	0.45
526-73-8	1,2,3-Trimethylbenzene	0.47	U	5.0	0.47
78-87-5	1,2-Dichloropropane	0.25	U	1.0	0.25
95-63-6	1,2,4-Trimethylbenzene	0.41	U	1.0	0.41
10061-01-5	cis-1,3-Dichloropropene	0.46	U	1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	0.56	U	1.0	0.56
100-41-4	Ethylbenzene	0.25	U	1.0	0.25
591-78-6	2-Hexanone	0.48	U	10	0.48
75-09-2	Methylene Chloride	0.33	U	1.0	0.33
108-10-1	4-Methyl-2-pentanone (MIBK)	0.99	U	10	0.99
100-42-5	Styrene	0.45	U	1.0	0.45
79-34-5	1,1,2,2-Tetrachloroethane	0.22	U	1.0	0.22
127-18-4	Tetrachloroethene	0.31	U	1.0	0.31
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.22	U	1.0	0.22
75-01-4	Vinyl chloride	0.29	U	1.0	0.29
1330-20-7	Xylenes, Total	0.52	U	2.0	0.52
71-55-6	1,1,1-Trichloroethane	0.44	U	1.0	0.44

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW5A1-092716 Lab Sample ID: 240-70040-3  
 Matrix: Water Lab File ID: UXC8762.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 11:00  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 13:12  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.19	U	1.0	0.19
96-12-8	1,2-Dibromo-3-Chloropropane	0.82	U	2.0	0.82
106-93-4	1,2-Dibromoethane	0.32	U	1.0	0.32
75-71-8	Dichlorodifluoromethane	0.32	U	1.0	0.32
156-59-2	cis-1,2-Dichloroethene	0.26	U	1.0	0.26
156-60-5	trans-1,2-Dichloroethene	0.30	U	1.0	0.30
98-82-8	Isopropylbenzene	0.35	U	1.0	0.35
1634-04-4	Methyl tert-butyl ether	0.20	U	1.0	0.20
76-13-1	1,1,2-Trichlorotrifluoroethane	0.45	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	0.32	U	1.0	0.32
594-20-7	2,2-Dichloropropane	0.26	U *	1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.25	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	0.19	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	0.27	U	1.0	0.27
110-75-8	2-Chloroethyl vinyl ether	0.59	U	10	0.59
75-69-4	Trichlorofluoromethane	0.49	U *	1.0	0.49
95-49-8	2-Chlorotoluene	0.40	U	1.0	0.40
124-48-1	Chlorodibromomethane	0.43	U	1.0	0.43
108-86-1	Bromobenzene	0.35	U	1.0	0.35
74-97-5	Bromochloromethane	0.50	U	1.0	0.50
106-43-4	4-Chlorotoluene	0.29	U	1.0	0.29
99-87-6	4-Isopropyltoluene	0.43	U	1.0	0.43
87-68-3	Hexachlorobutadiene	0.35	U	1.0	0.35
74-95-3	Dibromomethane	0.42	U	1.0	0.42
108-20-3	Diisopropyl ether	0.50	U	10	0.50
91-20-3	Naphthalene	0.45	U	1.0	0.45
104-51-8	n-Butylbenzene	0.31	U	1.0	0.31
103-65-1	N-Propylbenzene	0.40	U	1.0	0.40
135-98-8	sec-Butylbenzene	0.48	U	1.0	0.48
994-05-8	Tert-amyl methyl ether	0.30	U	5.0	0.30
637-92-3	Ethyl tert-butyl ether	0.23	U	5.0	0.23
98-06-6	tert-Butylbenzene	0.41	U	1.0	0.41
108-05-4	Vinyl acetate	0.41	U	2.0	0.41
75-65-0	tert-Butyl alcohol	4.9	U	50	4.9

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW5A1-092716 Lab Sample ID: 240-70040-3  
 Matrix: Water Lab File ID: UXC8762.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 11:00  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 13:12  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		63-132
460-00-4	4-Bromofluorobenzene (Surr)	109		73-120
2037-26-5	Toluene-d8 (Surr)	106		73-124
1868-53-7	Dibromofluoromethane (Surr)	101		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW5A2-092716 Lab Sample ID: 240-70040-4  
 Matrix: Water Lab File ID: UXC8763.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 11:05  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 13:34  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	0.94	U	10	0.94
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	1.0	0.28
71-43-2	Benzene	0.35	U	1.0	0.35
75-27-4	Bromodichloromethane	0.29	U	1.0	0.29
75-25-2	Bromoform	0.56	U	1.0	0.56
74-83-9	Bromomethane	0.44	U	1.0	0.44
78-93-3	2-Butanone (MEK)	0.53	U	10	0.53
75-15-0	Carbon disulfide	0.38	U	1.0	0.38
56-23-5	Carbon tetrachloride	0.43	U	1.0	0.43
108-90-7	Chlorobenzene	0.25	U	1.0	0.25
75-00-3	Chloroethane	0.32	U	1.0	0.32
67-66-3	Chloroform	0.25	U	1.0	0.25
563-58-6	1,1-Dichloropropene	0.42	U	1.0	0.42
74-87-3	Chloromethane	0.44	U	1.0	0.44
75-34-3	1,1-Dichloroethane	0.30	U	1.0	0.30
87-61-6	1,2,3-Trichlorobenzene	0.37	U	1.0	0.37
96-18-4	1,2,3-Trichloropropane	0.44	U	1.0	0.44
107-06-2	1,2-Dichloroethane	0.23	U	1.0	0.23
75-35-4	1,1-Dichloroethene	0.45	U	1.0	0.45
526-73-8	1,2,3-Trimethylbenzene	0.47	U	5.0	0.47
78-87-5	1,2-Dichloropropane	0.25	U	1.0	0.25
95-63-6	1,2,4-Trimethylbenzene	0.41	U	1.0	0.41
10061-01-5	cis-1,3-Dichloropropene	0.46	U	1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	0.56	U	1.0	0.56
100-41-4	Ethylbenzene	0.25	U	1.0	0.25
591-78-6	2-Hexanone	0.48	U	10	0.48
75-09-2	Methylene Chloride	0.33	U	1.0	0.33
108-10-1	4-Methyl-2-pentanone (MIBK)	0.99	U	10	0.99
100-42-5	Styrene	0.45	U	1.0	0.45
79-34-5	1,1,2,2-Tetrachloroethane	0.22	U	1.0	0.22
127-18-4	Tetrachloroethene	0.31	U	1.0	0.31
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.22	U	1.0	0.22
75-01-4	Vinyl chloride	0.29	U	1.0	0.29
1330-20-7	Xylenes, Total	0.52	U	2.0	0.52
71-55-6	1,1,1-Trichloroethane	0.44	U	1.0	0.44

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW5A2-092716 Lab Sample ID: 240-70040-4  
 Matrix: Water Lab File ID: UXC8763.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 11:05  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 13:34  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.19	U	1.0	0.19
96-12-8	1,2-Dibromo-3-Chloropropane	0.82	U	2.0	0.82
106-93-4	1,2-Dibromoethane	0.32	U	1.0	0.32
75-71-8	Dichlorodifluoromethane	0.32	U	1.0	0.32
156-59-2	cis-1,2-Dichloroethene	0.26	U	1.0	0.26
156-60-5	trans-1,2-Dichloroethene	0.30	U	1.0	0.30
98-82-8	Isopropylbenzene	0.35	U	1.0	0.35
1634-04-4	Methyl tert-butyl ether	0.20	U	1.0	0.20
76-13-1	1,1,2-Trichlorotrifluoroethane	0.45	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	0.32	U	1.0	0.32
594-20-7	2,2-Dichloropropane	0.26	U *	1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.25	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	0.19	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	0.27	U	1.0	0.27
110-75-8	2-Chloroethyl vinyl ether	0.59	U	10	0.59
75-69-4	Trichlorofluoromethane	0.49	U *	1.0	0.49
95-49-8	2-Chlorotoluene	0.40	U	1.0	0.40
124-48-1	Chlorodibromomethane	0.43	U	1.0	0.43
108-86-1	Bromobenzene	0.35	U	1.0	0.35
74-97-5	Bromochloromethane	0.50	U	1.0	0.50
106-43-4	4-Chlorotoluene	0.29	U	1.0	0.29
99-87-6	4-Isopropyltoluene	0.43	U	1.0	0.43
87-68-3	Hexachlorobutadiene	0.35	U	1.0	0.35
74-95-3	Dibromomethane	0.42	U	1.0	0.42
108-20-3	Diisopropyl ether	0.50	U	10	0.50
91-20-3	Naphthalene	0.45	U	1.0	0.45
104-51-8	n-Butylbenzene	0.31	U	1.0	0.31
103-65-1	N-Propylbenzene	0.40	U	1.0	0.40
135-98-8	sec-Butylbenzene	0.48	U	1.0	0.48
994-05-8	Tert-amyl methyl ether	0.30	U	5.0	0.30
637-92-3	Ethyl tert-butyl ether	0.23	U	5.0	0.23
98-06-6	tert-Butylbenzene	0.41	U	1.0	0.41
108-05-4	Vinyl acetate	0.41	U	2.0	0.41
75-65-0	tert-Butyl alcohol	4.9	U	50	4.9

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW5A2-092716 Lab Sample ID: 240-70040-4  
 Matrix: Water Lab File ID: UXC8763.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 11:05  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 13:34  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	96		63-132
460-00-4	4-Bromofluorobenzene (Surr)	109		73-120
2037-26-5	Toluene-d8 (Surr)	101		73-124
1868-53-7	Dibromofluoromethane (Surr)	103		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW5B-092716 Lab Sample ID: 240-70040-5  
 Matrix: Water Lab File ID: UXC8764.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:55  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 13:56  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	0.94	U	10	0.94
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	1.0	0.28
71-43-2	Benzene	0.35	U	1.0	0.35
75-27-4	Bromodichloromethane	0.29	U	1.0	0.29
75-25-2	Bromoform	0.56	U	1.0	0.56
74-83-9	Bromomethane	0.44	U	1.0	0.44
78-93-3	2-Butanone (MEK)	0.53	U	10	0.53
75-15-0	Carbon disulfide	0.38	U	1.0	0.38
56-23-5	Carbon tetrachloride	0.43	U	1.0	0.43
108-90-7	Chlorobenzene	0.25	U	1.0	0.25
75-00-3	Chloroethane	0.32	U	1.0	0.32
67-66-3	Chloroform	0.25	U	1.0	0.25
563-58-6	1,1-Dichloropropene	0.42	U	1.0	0.42
74-87-3	Chloromethane	0.44	U	1.0	0.44
75-34-3	1,1-Dichloroethane	0.30	U	1.0	0.30
87-61-6	1,2,3-Trichlorobenzene	0.37	U	1.0	0.37
96-18-4	1,2,3-Trichloropropane	0.44	U	1.0	0.44
107-06-2	1,2-Dichloroethane	0.23	U	1.0	0.23
75-35-4	1,1-Dichloroethene	0.45	U	1.0	0.45
526-73-8	1,2,3-Trimethylbenzene	0.47	U	5.0	0.47
78-87-5	1,2-Dichloropropane	0.25	U	1.0	0.25
95-63-6	1,2,4-Trimethylbenzene	0.41	U	1.0	0.41
10061-01-5	cis-1,3-Dichloropropene	0.46	U	1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	0.56	U	1.0	0.56
100-41-4	Ethylbenzene	0.25	U	1.0	0.25
591-78-6	2-Hexanone	0.48	U	10	0.48
75-09-2	Methylene Chloride	0.33	U	1.0	0.33
108-10-1	4-Methyl-2-pentanone (MIBK)	0.99	U	10	0.99
100-42-5	Styrene	0.45	U	1.0	0.45
79-34-5	1,1,2,2-Tetrachloroethane	0.22	U	1.0	0.22
127-18-4	Tetrachloroethene	0.31	U	1.0	0.31
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.22	J	1.0	0.22
75-01-4	Vinyl chloride	0.29	U	1.0	0.29
1330-20-7	Xylenes, Total	0.52	U	2.0	0.52
71-55-6	1,1,1-Trichloroethane	0.44	U	1.0	0.44



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW5B-092716 Lab Sample ID: 240-70040-5  
 Matrix: Water Lab File ID: UXC8764.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:55  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 13:56  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.19	U	1.0	0.19
96-12-8	1,2-Dibromo-3-Chloropropane	0.82	U	2.0	0.82
106-93-4	1,2-Dibromoethane	0.32	U	1.0	0.32
75-71-8	Dichlorodifluoromethane	0.32	U	1.0	0.32
156-59-2	cis-1,2-Dichloroethene	0.26	U	1.0	0.26
156-60-5	trans-1,2-Dichloroethene	0.30	U	1.0	0.30
98-82-8	Isopropylbenzene	0.35	U	1.0	0.35
1634-04-4	Methyl tert-butyl ether	0.20	U	1.0	0.20
76-13-1	1,1,2-Trichlorotrifluoroethane	0.45	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	0.32	U	1.0	0.32
594-20-7	2,2-Dichloropropane	0.26	U *	1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.25	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	0.19	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	0.27	U	1.0	0.27
110-75-8	2-Chloroethyl vinyl ether	0.59	U	10	0.59
75-69-4	Trichlorofluoromethane	0.49	U *	1.0	0.49
95-49-8	2-Chlorotoluene	0.40	U	1.0	0.40
124-48-1	Chlorodibromomethane	0.43	U	1.0	0.43
108-86-1	Bromobenzene	0.35	U	1.0	0.35
74-97-5	Bromochloromethane	0.50	U	1.0	0.50
106-43-4	4-Chlorotoluene	0.29	U	1.0	0.29
99-87-6	4-Isopropyltoluene	0.43	U	1.0	0.43
87-68-3	Hexachlorobutadiene	0.35	U	1.0	0.35
74-95-3	Dibromomethane	0.42	U	1.0	0.42
108-20-3	Diisopropyl ether	0.50	U	10	0.50
91-20-3	Naphthalene	0.45	U	1.0	0.45
104-51-8	n-Butylbenzene	0.31	U	1.0	0.31
103-65-1	N-Propylbenzene	0.40	U	1.0	0.40
135-98-8	sec-Butylbenzene	0.48	U	1.0	0.48
994-05-8	Tert-amyl methyl ether	0.30	U	5.0	0.30
637-92-3	Ethyl tert-butyl ether	0.23	U	5.0	0.23
98-06-6	tert-Butylbenzene	0.41	U	1.0	0.41
108-05-4	Vinyl acetate	0.41	U	2.0	0.41
75-65-0	tert-Butyl alcohol	4.9	U	50	4.9

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW5B-092716 Lab Sample ID: 240-70040-5  
 Matrix: Water Lab File ID: UXC8764.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:55  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 13:56  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		63-132
460-00-4	4-Bromofluorobenzene (Surr)	111		73-120
2037-26-5	Toluene-d8 (Surr)	104		73-124
1868-53-7	Dibromofluoromethane (Surr)	103		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW6A-092716 Lab Sample ID: 240-70040-6  
 Matrix: Water Lab File ID: UXC8765.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:38  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 14:18  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	0.94	U	10	0.94
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	1.0	0.28
71-43-2	Benzene	0.35	U	1.0	0.35
75-27-4	Bromodichloromethane	0.29	U	1.0	0.29
75-25-2	Bromoform	0.56	U	1.0	0.56
74-83-9	Bromomethane	0.44	U	1.0	0.44
78-93-3	2-Butanone (MEK)	0.53	U	10	0.53
75-15-0	Carbon disulfide	0.38	U	1.0	0.38
56-23-5	Carbon tetrachloride	0.43	U	1.0	0.43
108-90-7	Chlorobenzene	0.25	U	1.0	0.25
75-00-3	Chloroethane	0.32	U	1.0	0.32
67-66-3	Chloroform	0.25	U	1.0	0.25
563-58-6	1,1-Dichloropropene	0.42	U	1.0	0.42
74-87-3	Chloromethane	0.44	U	1.0	0.44
75-34-3	1,1-Dichloroethane	0.30	U	1.0	0.30
87-61-6	1,2,3-Trichlorobenzene	0.37	U	1.0	0.37
96-18-4	1,2,3-Trichloropropane	0.44	U	1.0	0.44
107-06-2	1,2-Dichloroethane	0.23	U	1.0	0.23
75-35-4	1,1-Dichloroethene	0.45	U	1.0	0.45
526-73-8	1,2,3-Trimethylbenzene	0.47	U	5.0	0.47
78-87-5	1,2-Dichloropropane	0.25	U	1.0	0.25
95-63-6	1,2,4-Trimethylbenzene	0.41	U	1.0	0.41
10061-01-5	cis-1,3-Dichloropropene	0.46	U	1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	0.56	U	1.0	0.56
100-41-4	Ethylbenzene	0.25	U	1.0	0.25
591-78-6	2-Hexanone	0.48	U	10	0.48
75-09-2	Methylene Chloride	0.33	U	1.0	0.33
108-10-1	4-Methyl-2-pentanone (MIBK)	0.99	U	10	0.99
100-42-5	Styrene	0.45	U	1.0	0.45
79-34-5	1,1,2,2-Tetrachloroethane	0.22	U	1.0	0.22
127-18-4	Tetrachloroethene	0.31	U	1.0	0.31
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.59	J	1.0	0.22
75-01-4	Vinyl chloride	0.29	U	1.0	0.29
1330-20-7	Xylenes, Total	0.52	U	2.0	0.52
71-55-6	1,1,1-Trichloroethane	0.44	U	1.0	0.44

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW6A-092716 Lab Sample ID: 240-70040-6  
 Matrix: Water Lab File ID: UXC8765.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:38  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 14:18  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.19	U	1.0	0.19
96-12-8	1,2-Dibromo-3-Chloropropane	0.82	U	2.0	0.82
106-93-4	1,2-Dibromoethane	0.32	U	1.0	0.32
75-71-8	Dichlorodifluoromethane	0.32	U	1.0	0.32
156-59-2	cis-1,2-Dichloroethene	0.26	U	1.0	0.26
156-60-5	trans-1,2-Dichloroethene	0.30	U	1.0	0.30
98-82-8	Isopropylbenzene	0.35	U	1.0	0.35
1634-04-4	Methyl tert-butyl ether	0.20	U	1.0	0.20
76-13-1	1,1,2-Trichlorotrifluoroethane	0.45	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	0.32	U	1.0	0.32
594-20-7	2,2-Dichloropropane	0.26	U *	1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.25	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	0.19	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	0.27	U	1.0	0.27
110-75-8	2-Chloroethyl vinyl ether	0.59	U	10	0.59
75-69-4	Trichlorofluoromethane	0.49	U *	1.0	0.49
95-49-8	2-Chlorotoluene	0.40	U	1.0	0.40
124-48-1	Chlorodibromomethane	0.43	U	1.0	0.43
108-86-1	Bromobenzene	0.35	U	1.0	0.35
74-97-5	Bromochloromethane	0.50	U	1.0	0.50
106-43-4	4-Chlorotoluene	0.29	U	1.0	0.29
99-87-6	4-Isopropyltoluene	0.43	U	1.0	0.43
87-68-3	Hexachlorobutadiene	0.35	U	1.0	0.35
74-95-3	Dibromomethane	0.42	U	1.0	0.42
108-20-3	Diisopropyl ether	0.50	U	10	0.50
91-20-3	Naphthalene	0.45	U	1.0	0.45
104-51-8	n-Butylbenzene	0.31	U	1.0	0.31
103-65-1	N-Propylbenzene	0.40	U	1.0	0.40
135-98-8	sec-Butylbenzene	0.48	U	1.0	0.48
994-05-8	Tert-amyl methyl ether	0.30	U	5.0	0.30
637-92-3	Ethyl tert-butyl ether	0.23	U	5.0	0.23
98-06-6	tert-Butylbenzene	0.41	U	1.0	0.41
108-05-4	Vinyl acetate	0.41	U	2.0	0.41
75-65-0	tert-Butyl alcohol	4.9	U	50	4.9

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW6A-092716 Lab Sample ID: 240-70040-6  
 Matrix: Water Lab File ID: UXC8765.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:38  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 14:18  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	96		63-132
460-00-4	4-Bromofluorobenzene (Surr)	113		73-120
2037-26-5	Toluene-d8 (Surr)	104		73-124
1868-53-7	Dibromofluoromethane (Surr)	106		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW6B-092716 Lab Sample ID: 240-70040-7  
 Matrix: Water Lab File ID: UXC8766.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:41  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 14:41  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	0.94	U	10	0.94
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	1.0	0.28
71-43-2	Benzene	0.35	U	1.0	0.35
75-27-4	Bromodichloromethane	0.29	U	1.0	0.29
75-25-2	Bromoform	0.56	U	1.0	0.56
74-83-9	Bromomethane	0.44	U	1.0	0.44
78-93-3	2-Butanone (MEK)	0.53	U	10	0.53
75-15-0	Carbon disulfide	0.38	U	1.0	0.38
56-23-5	Carbon tetrachloride	0.43	U	1.0	0.43
108-90-7	Chlorobenzene	0.25	U	1.0	0.25
75-00-3	Chloroethane	0.32	U	1.0	0.32
67-66-3	Chloroform	0.25	U	1.0	0.25
563-58-6	1,1-Dichloropropene	0.42	U	1.0	0.42
74-87-3	Chloromethane	0.44	U	1.0	0.44
75-34-3	1,1-Dichloroethane	0.30	U	1.0	0.30
87-61-6	1,2,3-Trichlorobenzene	0.37	U	1.0	0.37
96-18-4	1,2,3-Trichloropropane	0.44	U	1.0	0.44
107-06-2	1,2-Dichloroethane	0.23	U	1.0	0.23
75-35-4	1,1-Dichloroethene	0.45	U	1.0	0.45
526-73-8	1,2,3-Trimethylbenzene	0.47	U	5.0	0.47
78-87-5	1,2-Dichloropropane	0.25	U	1.0	0.25
95-63-6	1,2,4-Trimethylbenzene	0.41	U	1.0	0.41
10061-01-5	cis-1,3-Dichloropropene	0.46	U	1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	0.56	U	1.0	0.56
100-41-4	Ethylbenzene	0.25	U	1.0	0.25
591-78-6	2-Hexanone	0.48	U	10	0.48
75-09-2	Methylene Chloride	0.33	U	1.0	0.33
108-10-1	4-Methyl-2-pentanone (MIBK)	0.99	U	10	0.99
100-42-5	Styrene	0.45	U	1.0	0.45
79-34-5	1,1,2,2-Tetrachloroethane	0.22	U	1.0	0.22
127-18-4	Tetrachloroethene	0.31	U	1.0	0.31
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.62	J	1.0	0.22
75-01-4	Vinyl chloride	0.29	U	1.0	0.29
1330-20-7	Xylenes, Total	0.52	U	2.0	0.52
71-55-6	1,1,1-Trichloroethane	0.44	U	1.0	0.44

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW6B-092716 Lab Sample ID: 240-70040-7  
 Matrix: Water Lab File ID: UXC8766.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:41  
 Sample wt/vol: 5(mL) Date Analyzed: 10/08/2016 14:41  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.19	U	1.0	0.19
96-12-8	1,2-Dibromo-3-Chloropropane	0.82	U	2.0	0.82
106-93-4	1,2-Dibromoethane	0.32	U	1.0	0.32
75-71-8	Dichlorodifluoromethane	0.32	U	1.0	0.32
156-59-2	cis-1,2-Dichloroethene	0.26	U	1.0	0.26
156-60-5	trans-1,2-Dichloroethene	0.30	U	1.0	0.30
98-82-8	Isopropylbenzene	0.35	U	1.0	0.35
1634-04-4	Methyl tert-butyl ether	0.20	U	1.0	0.20
76-13-1	1,1,2-Trichlorotrifluoroethane	0.45	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	0.32	U	1.0	0.32
594-20-7	2,2-Dichloropropane	0.26	U *	1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.25	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	0.19	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	0.27	U	1.0	0.27
110-75-8	2-Chloroethyl vinyl ether	0.59	U	10	0.59
75-69-4	Trichlorofluoromethane	0.49	U *	1.0	0.49
95-49-8	2-Chlorotoluene	0.40	U	1.0	0.40
124-48-1	Chlorodibromomethane	0.43	U	1.0	0.43
108-86-1	Bromobenzene	0.35	U	1.0	0.35
74-97-5	Bromochloromethane	0.50	U	1.0	0.50
106-43-4	4-Chlorotoluene	0.29	U	1.0	0.29
99-87-6	4-Isopropyltoluene	0.43	U	1.0	0.43
87-68-3	Hexachlorobutadiene	0.35	U	1.0	0.35
74-95-3	Dibromomethane	0.42	U	1.0	0.42
108-20-3	Diisopropyl ether	0.50	U	10	0.50
91-20-3	Naphthalene	0.45	U	1.0	0.45
104-51-8	n-Butylbenzene	0.31	U	1.0	0.31
103-65-1	N-Propylbenzene	0.40	U	1.0	0.40
135-98-8	sec-Butylbenzene	0.48	U	1.0	0.48
994-05-8	Tert-amyl methyl ether	0.30	U	5.0	0.30
637-92-3	Ethyl tert-butyl ether	0.23	U	5.0	0.23
98-06-6	tert-Butylbenzene	0.41	U	1.0	0.41
108-05-4	Vinyl acetate	0.41	U	2.0	0.41
75-65-0	tert-Butyl alcohol	4.9	U	50	4.9

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW6B-092716 Lab Sample ID: 240-70040-7  
 Matrix: Water Lab File ID: UXC8766.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:41  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 14:41  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	96		63-132
460-00-4	4-Bromofluorobenzene (Surr)	110		73-120
2037-26-5	Toluene-d8 (Surr)	101		73-124
1868-53-7	Dibromofluoromethane (Surr)	104		80-120



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW7A-092716 Lab Sample ID: 240-70040-8  
 Matrix: Water Lab File ID: UXC8767.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:21  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 15:03  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	0.94	U	10	0.94
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	1.0	0.28
71-43-2	Benzene	0.35	U	1.0	0.35
75-27-4	Bromodichloromethane	0.29	U	1.0	0.29
75-25-2	Bromoform	0.56	U	1.0	0.56
74-83-9	Bromomethane	0.44	U	1.0	0.44
78-93-3	2-Butanone (MEK)	0.53	U	10	0.53
75-15-0	Carbon disulfide	0.38	U	1.0	0.38
56-23-5	Carbon tetrachloride	0.43	U	1.0	0.43
108-90-7	Chlorobenzene	0.25	U	1.0	0.25
75-00-3	Chloroethane	0.32	U	1.0	0.32
67-66-3	Chloroform	0.25	U	1.0	0.25
563-58-6	1,1-Dichloropropene	0.42	U	1.0	0.42
74-87-3	Chloromethane	0.44	U	1.0	0.44
75-34-3	1,1-Dichloroethane	0.30	U	1.0	0.30
87-61-6	1,2,3-Trichlorobenzene	0.37	U	1.0	0.37
96-18-4	1,2,3-Trichloropropane	0.44	U	1.0	0.44
107-06-2	1,2-Dichloroethane	0.23	U	1.0	0.23
75-35-4	1,1-Dichloroethene	0.45	U	1.0	0.45
526-73-8	1,2,3-Trimethylbenzene	0.47	U	5.0	0.47
78-87-5	1,2-Dichloropropane	0.25	U	1.0	0.25
95-63-6	1,2,4-Trimethylbenzene	0.41	U	1.0	0.41
10061-01-5	cis-1,3-Dichloropropene	0.46	U	1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	0.56	U	1.0	0.56
100-41-4	Ethylbenzene	0.25	U	1.0	0.25
591-78-6	2-Hexanone	0.48	U	10	0.48
75-09-2	Methylene Chloride	0.33	U	1.0	0.33
108-10-1	4-Methyl-2-pentanone (MIBK)	0.99	U	10	0.99
100-42-5	Styrene	0.45	U	1.0	0.45
79-34-5	1,1,2,2-Tetrachloroethane	0.22	U	1.0	0.22
127-18-4	Tetrachloroethene	0.31	U	1.0	0.31
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.56	J	1.0	0.22
75-01-4	Vinyl chloride	0.29	U	1.0	0.29
1330-20-7	Xylenes, Total	0.52	U	2.0	0.52
71-55-6	1,1,1-Trichloroethane	0.44	U	1.0	0.44

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW7A-092716 Lab Sample ID: 240-70040-8  
 Matrix: Water Lab File ID: UXC8767.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:21  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 15:03  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.19	U	1.0	0.19
96-12-8	1,2-Dibromo-3-Chloropropane	0.82	U	2.0	0.82
106-93-4	1,2-Dibromoethane	0.32	U	1.0	0.32
75-71-8	Dichlorodifluoromethane	0.32	U	1.0	0.32
156-59-2	cis-1,2-Dichloroethene	0.26	U	1.0	0.26
156-60-5	trans-1,2-Dichloroethene	0.30	U	1.0	0.30
98-82-8	Isopropylbenzene	0.35	U	1.0	0.35
1634-04-4	Methyl tert-butyl ether	0.20	U	1.0	0.20
76-13-1	1,1,2-Trichlorotrifluoroethane	0.45	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	0.32	U	1.0	0.32
594-20-7	2,2-Dichloropropane	0.26	U *	1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.25	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	0.19	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	0.27	U	1.0	0.27
110-75-8	2-Chloroethyl vinyl ether	0.59	U	10	0.59
75-69-4	Trichlorofluoromethane	0.49	U *	1.0	0.49
95-49-8	2-Chlorotoluene	0.40	U	1.0	0.40
124-48-1	Chlorodibromomethane	0.43	U	1.0	0.43
108-86-1	Bromobenzene	0.35	U	1.0	0.35
74-97-5	Bromochloromethane	0.50	U	1.0	0.50
106-43-4	4-Chlorotoluene	0.29	U	1.0	0.29
99-87-6	4-Isopropyltoluene	0.43	U	1.0	0.43
87-68-3	Hexachlorobutadiene	0.35	U	1.0	0.35
74-95-3	Dibromomethane	0.42	U	1.0	0.42
108-20-3	Diisopropyl ether	0.50	U	10	0.50
91-20-3	Naphthalene	0.45	U	1.0	0.45
104-51-8	n-Butylbenzene	0.31	U	1.0	0.31
103-65-1	N-Propylbenzene	0.40	U	1.0	0.40
135-98-8	sec-Butylbenzene	0.48	U	1.0	0.48
994-05-8	Tert-amyl methyl ether	0.30	U	5.0	0.30
637-92-3	Ethyl tert-butyl ether	0.23	U	5.0	0.23
98-06-6	tert-Butylbenzene	0.41	U	1.0	0.41
108-05-4	Vinyl acetate	0.41	U	2.0	0.41
75-65-0	tert-Butyl alcohol	4.9	U	50	4.9

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW7A-092716 Lab Sample ID: 240-70040-8  
 Matrix: Water Lab File ID: UXC8767.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:21  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 15:03  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		63-132
460-00-4	4-Bromofluorobenzene (Surr)	112		73-120
2037-26-5	Toluene-d8 (Surr)	105		73-124
1868-53-7	Dibromofluoromethane (Surr)	105		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW7B-092716 Lab Sample ID: 240-70040-9  
 Matrix: Water Lab File ID: UXC8768.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:27  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 15:26  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	0.94	U	10	0.94
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	1.0	0.28
71-43-2	Benzene	0.35	U	1.0	0.35
75-27-4	Bromodichloromethane	0.29	U	1.0	0.29
75-25-2	Bromoform	0.56	U	1.0	0.56
74-83-9	Bromomethane	0.44	U	1.0	0.44
78-93-3	2-Butanone (MEK)	0.53	U	10	0.53
75-15-0	Carbon disulfide	0.38	U	1.0	0.38
56-23-5	Carbon tetrachloride	0.43	U	1.0	0.43
108-90-7	Chlorobenzene	0.25	U	1.0	0.25
75-00-3	Chloroethane	0.32	U	1.0	0.32
67-66-3	Chloroform	0.25	U	1.0	0.25
563-58-6	1,1-Dichloropropene	0.42	U	1.0	0.42
74-87-3	Chloromethane	0.44	U	1.0	0.44
75-34-3	1,1-Dichloroethane	0.30	U	1.0	0.30
87-61-6	1,2,3-Trichlorobenzene	0.37	U	1.0	0.37
96-18-4	1,2,3-Trichloropropane	0.44	U	1.0	0.44
107-06-2	1,2-Dichloroethane	0.23	U	1.0	0.23
75-35-4	1,1-Dichloroethene	0.45	U	1.0	0.45
526-73-8	1,2,3-Trimethylbenzene	0.47	U	5.0	0.47
78-87-5	1,2-Dichloropropane	0.25	U	1.0	0.25
95-63-6	1,2,4-Trimethylbenzene	0.41	U	1.0	0.41
10061-01-5	cis-1,3-Dichloropropene	0.46	U	1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	0.56	U	1.0	0.56
100-41-4	Ethylbenzene	0.25	U	1.0	0.25
591-78-6	2-Hexanone	0.48	U	10	0.48
75-09-2	Methylene Chloride	0.33	U	1.0	0.33
108-10-1	4-Methyl-2-pentanone (MIBK)	0.99	U	10	0.99
100-42-5	Styrene	0.45	U	1.0	0.45
79-34-5	1,1,2,2-Tetrachloroethane	0.22	U	1.0	0.22
127-18-4	Tetrachloroethene	0.31	U	1.0	0.31
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.58	J	1.0	0.22
75-01-4	Vinyl chloride	0.29	U	1.0	0.29
1330-20-7	Xylenes, Total	0.52	U	2.0	0.52
71-55-6	1,1,1-Trichloroethane	0.44	U	1.0	0.44

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW7B-092716 Lab Sample ID: 240-70040-9  
 Matrix: Water Lab File ID: UXC8768.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:27  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 15:26  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.19	U	1.0	0.19
96-12-8	1,2-Dibromo-3-Chloropropane	0.82	U	2.0	0.82
106-93-4	1,2-Dibromoethane	0.32	U	1.0	0.32
75-71-8	Dichlorodifluoromethane	0.32	U	1.0	0.32
156-59-2	cis-1,2-Dichloroethene	0.26	U	1.0	0.26
156-60-5	trans-1,2-Dichloroethene	0.30	U	1.0	0.30
98-82-8	Isopropylbenzene	0.35	U	1.0	0.35
1634-04-4	Methyl tert-butyl ether	0.20	U	1.0	0.20
76-13-1	1,1,2-Trichlorotrifluoroethane	0.45	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	0.32	U	1.0	0.32
594-20-7	2,2-Dichloropropane	0.26	U *	1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.25	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	0.19	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	0.27	U	1.0	0.27
110-75-8	2-Chloroethyl vinyl ether	0.59	U	10	0.59
75-69-4	Trichlorofluoromethane	0.49	U *	1.0	0.49
95-49-8	2-Chlorotoluene	0.40	U	1.0	0.40
124-48-1	Chlorodibromomethane	0.43	U	1.0	0.43
108-86-1	Bromobenzene	0.35	U	1.0	0.35
74-97-5	Bromochloromethane	0.50	U	1.0	0.50
106-43-4	4-Chlorotoluene	0.29	U	1.0	0.29
99-87-6	4-Isopropyltoluene	0.43	U	1.0	0.43
87-68-3	Hexachlorobutadiene	0.35	U	1.0	0.35
74-95-3	Dibromomethane	0.42	U	1.0	0.42
108-20-3	Diisopropyl ether	0.50	U	10	0.50
91-20-3	Naphthalene	0.45	U	1.0	0.45
104-51-8	n-Butylbenzene	0.31	U	1.0	0.31
103-65-1	N-Propylbenzene	0.40	U	1.0	0.40
135-98-8	sec-Butylbenzene	0.48	U	1.0	0.48
994-05-8	Tert-amyl methyl ether	0.30	U	5.0	0.30
637-92-3	Ethyl tert-butyl ether	0.23	U	5.0	0.23
98-06-6	tert-Butylbenzene	0.41	U	1.0	0.41
108-05-4	Vinyl acetate	0.41	U	2.0	0.41
75-65-0	tert-Butyl alcohol	4.9	U	50	4.9

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW7B-092716 Lab Sample ID: 240-70040-9  
 Matrix: Water Lab File ID: UXC8768.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:27  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 15:26  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	96		63-132
460-00-4	4-Bromofluorobenzene (Surr)	107		73-120
2037-26-5	Toluene-d8 (Surr)	102		73-124
1868-53-7	Dibromofluoromethane (Surr)	100		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW8A-092716 Lab Sample ID: 240-70040-10  
 Matrix: Water Lab File ID: UXC8769.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:47  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 15:48  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	0.94	U	10	0.94
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	1.0	0.28
71-43-2	Benzene	0.35	U	1.0	0.35
75-27-4	Bromodichloromethane	0.29	U	1.0	0.29
75-25-2	Bromoform	0.56	U	1.0	0.56
74-83-9	Bromomethane	0.44	U	1.0	0.44
78-93-3	2-Butanone (MEK)	0.53	U	10	0.53
75-15-0	Carbon disulfide	0.38	U	1.0	0.38
56-23-5	Carbon tetrachloride	0.43	U	1.0	0.43
108-90-7	Chlorobenzene	0.25	U	1.0	0.25
75-00-3	Chloroethane	0.32	U	1.0	0.32
67-66-3	Chloroform	0.25	U	1.0	0.25
563-58-6	1,1-Dichloropropene	0.42	U	1.0	0.42
74-87-3	Chloromethane	0.44	U	1.0	0.44
75-34-3	1,1-Dichloroethane	0.30	U	1.0	0.30
87-61-6	1,2,3-Trichlorobenzene	0.37	U	1.0	0.37
96-18-4	1,2,3-Trichloropropane	0.44	U	1.0	0.44
107-06-2	1,2-Dichloroethane	0.23	U	1.0	0.23
75-35-4	1,1-Dichloroethene	0.45	U	1.0	0.45
526-73-8	1,2,3-Trimethylbenzene	0.47	U	5.0	0.47
78-87-5	1,2-Dichloropropane	0.25	U	1.0	0.25
95-63-6	1,2,4-Trimethylbenzene	0.41	U	1.0	0.41
10061-01-5	cis-1,3-Dichloropropene	0.46	U	1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	0.56	U	1.0	0.56
100-41-4	Ethylbenzene	0.25	U	1.0	0.25
591-78-6	2-Hexanone	0.48	U	10	0.48
75-09-2	Methylene Chloride	0.33	U	1.0	0.33
108-10-1	4-Methyl-2-pentanone (MIBK)	0.99	U	10	0.99
100-42-5	Styrene	0.45	U	1.0	0.45
79-34-5	1,1,2,2-Tetrachloroethane	0.22	U	1.0	0.22
127-18-4	Tetrachloroethene	0.31	U	1.0	0.31
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.61	J	1.0	0.22
75-01-4	Vinyl chloride	0.29	U	1.0	0.29
1330-20-7	Xylenes, Total	0.52	U	2.0	0.52
71-55-6	1,1,1-Trichloroethane	0.44	U	1.0	0.44

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW8A-092716 Lab Sample ID: 240-70040-10  
 Matrix: Water Lab File ID: UXC8769.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:47  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 15:48  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.19	U	1.0	0.19
96-12-8	1,2-Dibromo-3-Chloropropane	0.82	U	2.0	0.82
106-93-4	1,2-Dibromoethane	0.32	U	1.0	0.32
75-71-8	Dichlorodifluoromethane	0.32	U	1.0	0.32
156-59-2	cis-1,2-Dichloroethene	0.26	U	1.0	0.26
156-60-5	trans-1,2-Dichloroethene	0.30	U	1.0	0.30
98-82-8	Isopropylbenzene	0.35	U	1.0	0.35
1634-04-4	Methyl tert-butyl ether	0.20	U	1.0	0.20
76-13-1	1,1,2-Trichlorotrifluoroethane	0.45	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	0.32	U	1.0	0.32
594-20-7	2,2-Dichloropropane	0.26	U *	1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.25	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	0.19	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	0.27	U	1.0	0.27
110-75-8	2-Chloroethyl vinyl ether	0.59	U	10	0.59
75-69-4	Trichlorofluoromethane	0.49	U *	1.0	0.49
95-49-8	2-Chlorotoluene	0.40	U	1.0	0.40
124-48-1	Chlorodibromomethane	0.43	U	1.0	0.43
108-86-1	Bromobenzene	0.35	U	1.0	0.35
74-97-5	Bromochloromethane	0.50	U	1.0	0.50
106-43-4	4-Chlorotoluene	0.29	U	1.0	0.29
99-87-6	4-Isopropyltoluene	0.43	U	1.0	0.43
87-68-3	Hexachlorobutadiene	0.35	U	1.0	0.35
74-95-3	Dibromomethane	0.42	U	1.0	0.42
108-20-3	Diisopropyl ether	0.50	U	10	0.50
91-20-3	Naphthalene	0.45	U	1.0	0.45
104-51-8	n-Butylbenzene	0.31	U	1.0	0.31
103-65-1	N-Propylbenzene	0.40	U	1.0	0.40
135-98-8	sec-Butylbenzene	0.48	U	1.0	0.48
994-05-8	Tert-amyl methyl ether	0.30	U	5.0	0.30
637-92-3	Ethyl tert-butyl ether	0.23	U	5.0	0.23
98-06-6	tert-Butylbenzene	0.41	U	1.0	0.41
108-05-4	Vinyl acetate	0.41	U	2.0	0.41
75-65-0	tert-Butyl alcohol	4.9	U	50	4.9



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW8A-092716 Lab Sample ID: 240-70040-10  
 Matrix: Water Lab File ID: UXC8769.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:47  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 15:48  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		63-132
460-00-4	4-Bromofluorobenzene (Surr)	111		73-120
2037-26-5	Toluene-d8 (Surr)	103		73-124
1868-53-7	Dibromofluoromethane (Surr)	104		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW8B-092716 Lab Sample ID: 240-70040-11  
 Matrix: Water Lab File ID: UXC8770.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:50  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 16:10  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	0.94	U	10	0.94
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	1.0	0.28
71-43-2	Benzene	0.35	U	1.0	0.35
75-27-4	Bromodichloromethane	0.29	U	1.0	0.29
75-25-2	Bromoform	0.56	U	1.0	0.56
74-83-9	Bromomethane	0.44	U	1.0	0.44
78-93-3	2-Butanone (MEK)	0.53	U	10	0.53
75-15-0	Carbon disulfide	0.38	U	1.0	0.38
56-23-5	Carbon tetrachloride	0.43	U	1.0	0.43
108-90-7	Chlorobenzene	0.25	U	1.0	0.25
75-00-3	Chloroethane	0.32	U	1.0	0.32
67-66-3	Chloroform	0.25	U	1.0	0.25
563-58-6	1,1-Dichloropropene	0.42	U	1.0	0.42
74-87-3	Chloromethane	0.44	U	1.0	0.44
75-34-3	1,1-Dichloroethane	0.30	U	1.0	0.30
87-61-6	1,2,3-Trichlorobenzene	0.37	U	1.0	0.37
96-18-4	1,2,3-Trichloropropane	0.44	U	1.0	0.44
107-06-2	1,2-Dichloroethane	0.23	U	1.0	0.23
75-35-4	1,1-Dichloroethene	0.45	U	1.0	0.45
526-73-8	1,2,3-Trimethylbenzene	0.47	U	5.0	0.47
78-87-5	1,2-Dichloropropane	0.25	U	1.0	0.25
95-63-6	1,2,4-Trimethylbenzene	0.41	U	1.0	0.41
10061-01-5	cis-1,3-Dichloropropene	0.46	U	1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	0.56	U	1.0	0.56
100-41-4	Ethylbenzene	0.25	U	1.0	0.25
591-78-6	2-Hexanone	0.48	U	10	0.48
75-09-2	Methylene Chloride	0.33	U	1.0	0.33
108-10-1	4-Methyl-2-pentanone (MIBK)	0.99	U	10	0.99
100-42-5	Styrene	0.45	U	1.0	0.45
79-34-5	1,1,2,2-Tetrachloroethane	0.22	U	1.0	0.22
127-18-4	Tetrachloroethene	0.31	U	1.0	0.31
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.62	J	1.0	0.22
75-01-4	Vinyl chloride	0.29	U	1.0	0.29
1330-20-7	Xylenes, Total	0.52	U	2.0	0.52
71-55-6	1,1,1-Trichloroethane	0.44	U	1.0	0.44

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW8B-092716 Lab Sample ID: 240-70040-11  
 Matrix: Water Lab File ID: UXC8770.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:50  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 16:10  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.19	U	1.0	0.19
96-12-8	1,2-Dibromo-3-Chloropropane	0.82	U	2.0	0.82
106-93-4	1,2-Dibromoethane	0.32	U	1.0	0.32
75-71-8	Dichlorodifluoromethane	0.32	U	1.0	0.32
156-59-2	cis-1,2-Dichloroethene	0.26	U	1.0	0.26
156-60-5	trans-1,2-Dichloroethene	0.30	U	1.0	0.30
98-82-8	Isopropylbenzene	0.35	U	1.0	0.35
1634-04-4	Methyl tert-butyl ether	0.20	U	1.0	0.20
76-13-1	1,1,2-Trichlorotrifluoroethane	0.45	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	0.32	U	1.0	0.32
594-20-7	2,2-Dichloropropane	0.26	U *	1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.25	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	0.19	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	0.27	U	1.0	0.27
110-75-8	2-Chloroethyl vinyl ether	0.59	U	10	0.59
75-69-4	Trichlorofluoromethane	0.49	U *	1.0	0.49
95-49-8	2-Chlorotoluene	0.40	U	1.0	0.40
124-48-1	Chlorodibromomethane	0.43	U	1.0	0.43
108-86-1	Bromobenzene	0.35	U	1.0	0.35
74-97-5	Bromochloromethane	0.50	U	1.0	0.50
106-43-4	4-Chlorotoluene	0.29	U	1.0	0.29
99-87-6	4-Isopropyltoluene	0.43	U	1.0	0.43
87-68-3	Hexachlorobutadiene	0.35	U	1.0	0.35
74-95-3	Dibromomethane	0.42	U	1.0	0.42
108-20-3	Diisopropyl ether	0.50	U	10	0.50
91-20-3	Naphthalene	0.45	U	1.0	0.45
104-51-8	n-Butylbenzene	0.31	U	1.0	0.31
103-65-1	N-Propylbenzene	0.40	U	1.0	0.40
135-98-8	sec-Butylbenzene	0.48	U	1.0	0.48
994-05-8	Tert-amyl methyl ether	0.30	U	5.0	0.30
637-92-3	Ethyl tert-butyl ether	0.23	U	5.0	0.23
98-06-6	tert-Butylbenzene	0.41	U	1.0	0.41
108-05-4	Vinyl acetate	0.41	U	2.0	0.41
75-65-0	tert-Butyl alcohol	4.9	U	50	4.9

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW8B-092716 Lab Sample ID: 240-70040-11  
 Matrix: Water Lab File ID: UXC8770.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:50  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 16:10  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		63-132
460-00-4	4-Bromofluorobenzene (Surr)	107		73-120
2037-26-5	Toluene-d8 (Surr)	104		73-124
1868-53-7	Dibromofluoromethane (Surr)	104		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW9A-092716 Lab Sample ID: 240-70040-12  
 Matrix: Water Lab File ID: UXC8771.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:31  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 16:32  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	0.94	U	10	0.94
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	1.0	0.28
71-43-2	Benzene	0.35	U	1.0	0.35
75-27-4	Bromodichloromethane	0.29	U	1.0	0.29
75-25-2	Bromoform	0.56	U	1.0	0.56
74-83-9	Bromomethane	0.44	U	1.0	0.44
78-93-3	2-Butanone (MEK)	0.53	U	10	0.53
75-15-0	Carbon disulfide	0.38	U	1.0	0.38
56-23-5	Carbon tetrachloride	0.43	U	1.0	0.43
108-90-7	Chlorobenzene	0.25	U	1.0	0.25
75-00-3	Chloroethane	0.32	U	1.0	0.32
67-66-3	Chloroform	0.25	U	1.0	0.25
563-58-6	1,1-Dichloropropene	0.42	U	1.0	0.42
74-87-3	Chloromethane	0.44	U	1.0	0.44
75-34-3	1,1-Dichloroethane	0.30	U	1.0	0.30
87-61-6	1,2,3-Trichlorobenzene	0.37	U	1.0	0.37
96-18-4	1,2,3-Trichloropropane	0.44	U	1.0	0.44
107-06-2	1,2-Dichloroethane	0.23	U	1.0	0.23
75-35-4	1,1-Dichloroethene	0.45	U	1.0	0.45
526-73-8	1,2,3-Trimethylbenzene	0.47	U	5.0	0.47
78-87-5	1,2-Dichloropropane	0.25	U	1.0	0.25
95-63-6	1,2,4-Trimethylbenzene	0.41	U	1.0	0.41
10061-01-5	cis-1,3-Dichloropropene	0.46	U	1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	0.56	U	1.0	0.56
100-41-4	Ethylbenzene	0.25	U	1.0	0.25
591-78-6	2-Hexanone	0.48	U	10	0.48
75-09-2	Methylene Chloride	0.33	U	1.0	0.33
108-10-1	4-Methyl-2-pentanone (MIBK)	0.99	U	10	0.99
100-42-5	Styrene	0.45	U	1.0	0.45
79-34-5	1,1,2,2-Tetrachloroethane	0.22	U	1.0	0.22
127-18-4	Tetrachloroethene	0.31	U	1.0	0.31
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.52	J	1.0	0.22
75-01-4	Vinyl chloride	0.29	U	1.0	0.29
1330-20-7	Xylenes, Total	0.52	U	2.0	0.52
71-55-6	1,1,1-Trichloroethane	0.44	U	1.0	0.44

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW9A-092716 Lab Sample ID: 240-70040-12  
 Matrix: Water Lab File ID: UXC8771.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:31  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 16:32  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.19	U	1.0	0.19
96-12-8	1,2-Dibromo-3-Chloropropane	0.82	U	2.0	0.82
106-93-4	1,2-Dibromoethane	0.32	U	1.0	0.32
75-71-8	Dichlorodifluoromethane	0.32	U	1.0	0.32
156-59-2	cis-1,2-Dichloroethene	0.26	U	1.0	0.26
156-60-5	trans-1,2-Dichloroethene	0.30	U	1.0	0.30
98-82-8	Isopropylbenzene	0.35	U	1.0	0.35
1634-04-4	Methyl tert-butyl ether	0.20	U	1.0	0.20
76-13-1	1,1,2-Trichlorotrifluoroethane	0.45	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	0.32	U	1.0	0.32
594-20-7	2,2-Dichloropropane	0.26	U *	1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.25	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	0.19	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	0.27	U	1.0	0.27
110-75-8	2-Chloroethyl vinyl ether	0.59	U	10	0.59
75-69-4	Trichlorofluoromethane	0.49	U *	1.0	0.49
95-49-8	2-Chlorotoluene	0.40	U	1.0	0.40
124-48-1	Chlorodibromomethane	0.43	U	1.0	0.43
108-86-1	Bromobenzene	0.35	U	1.0	0.35
74-97-5	Bromochloromethane	0.50	U	1.0	0.50
106-43-4	4-Chlorotoluene	0.29	U	1.0	0.29
99-87-6	4-Isopropyltoluene	0.43	U	1.0	0.43
87-68-3	Hexachlorobutadiene	0.35	U	1.0	0.35
74-95-3	Dibromomethane	0.42	U	1.0	0.42
108-20-3	Diisopropyl ether	0.50	U	10	0.50
91-20-3	Naphthalene	0.45	U	1.0	0.45
104-51-8	n-Butylbenzene	0.31	U	1.0	0.31
103-65-1	N-Propylbenzene	0.40	U	1.0	0.40
135-98-8	sec-Butylbenzene	0.48	U	1.0	0.48
994-05-8	Tert-amyl methyl ether	0.30	U	5.0	0.30
637-92-3	Ethyl tert-butyl ether	0.23	U	5.0	0.23
98-06-6	tert-Butylbenzene	0.41	U	1.0	0.41
108-05-4	Vinyl acetate	0.41	U	2.0	0.41
75-65-0	tert-Butyl alcohol	4.9	U	50	4.9

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW9A-092716 Lab Sample ID: 240-70040-12  
 Matrix: Water Lab File ID: UXC8771.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:31  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 16:32  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		63-132
460-00-4	4-Bromofluorobenzene (Surr)	108		73-120
2037-26-5	Toluene-d8 (Surr)	103		73-124
1868-53-7	Dibromofluoromethane (Surr)	104		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW9B-092716 Lab Sample ID: 240-70040-13  
 Matrix: Water Lab File ID: UXC8772.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:35  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 16:55  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	0.94	U	10	0.94
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	1.0	0.28
71-43-2	Benzene	0.35	U	1.0	0.35
75-27-4	Bromodichloromethane	0.29	U	1.0	0.29
75-25-2	Bromoform	0.56	U	1.0	0.56
74-83-9	Bromomethane	0.44	U	1.0	0.44
78-93-3	2-Butanone (MEK)	0.53	U	10	0.53
75-15-0	Carbon disulfide	0.38	U	1.0	0.38
56-23-5	Carbon tetrachloride	0.43	U	1.0	0.43
108-90-7	Chlorobenzene	0.25	U	1.0	0.25
75-00-3	Chloroethane	0.32	U	1.0	0.32
67-66-3	Chloroform	0.25	U	1.0	0.25
563-58-6	1,1-Dichloropropene	0.42	U	1.0	0.42
74-87-3	Chloromethane	0.44	U	1.0	0.44
75-34-3	1,1-Dichloroethane	0.30	U	1.0	0.30
87-61-6	1,2,3-Trichlorobenzene	0.37	U	1.0	0.37
96-18-4	1,2,3-Trichloropropane	0.44	U	1.0	0.44
107-06-2	1,2-Dichloroethane	0.23	U	1.0	0.23
75-35-4	1,1-Dichloroethene	0.45	U	1.0	0.45
526-73-8	1,2,3-Trimethylbenzene	0.47	U	5.0	0.47
78-87-5	1,2-Dichloropropane	0.25	U	1.0	0.25
95-63-6	1,2,4-Trimethylbenzene	0.41	U	1.0	0.41
10061-01-5	cis-1,3-Dichloropropene	0.46	U	1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	0.56	U	1.0	0.56
100-41-4	Ethylbenzene	0.25	U	1.0	0.25
591-78-6	2-Hexanone	0.48	U	10	0.48
75-09-2	Methylene Chloride	0.33	U	1.0	0.33
108-10-1	4-Methyl-2-pentanone (MIBK)	0.99	U	10	0.99
100-42-5	Styrene	0.45	U	1.0	0.45
79-34-5	1,1,2,2-Tetrachloroethane	0.22	U	1.0	0.22
127-18-4	Tetrachloroethene	0.31	U	1.0	0.31
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.62	J	1.0	0.22
75-01-4	Vinyl chloride	0.29	U	1.0	0.29
1330-20-7	Xylenes, Total	0.52	U	2.0	0.52
71-55-6	1,1,1-Trichloroethane	0.44	U	1.0	0.44



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW9B-092716 Lab Sample ID: 240-70040-13  
 Matrix: Water Lab File ID: UXC8772.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:35  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 16:55  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.19	U	1.0	0.19
96-12-8	1,2-Dibromo-3-Chloropropane	0.82	U	2.0	0.82
106-93-4	1,2-Dibromoethane	0.32	U	1.0	0.32
75-71-8	Dichlorodifluoromethane	0.32	U	1.0	0.32
156-59-2	cis-1,2-Dichloroethene	0.26	U	1.0	0.26
156-60-5	trans-1,2-Dichloroethene	0.30	U	1.0	0.30
98-82-8	Isopropylbenzene	0.35	U	1.0	0.35
1634-04-4	Methyl tert-butyl ether	0.20	U	1.0	0.20
76-13-1	1,1,2-Trichlorotrifluoroethane	0.45	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	0.32	U	1.0	0.32
594-20-7	2,2-Dichloropropane	0.26	U *	1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.25	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	0.19	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	0.27	U	1.0	0.27
110-75-8	2-Chloroethyl vinyl ether	0.59	U	10	0.59
75-69-4	Trichlorofluoromethane	0.49	U *	1.0	0.49
95-49-8	2-Chlorotoluene	0.40	U	1.0	0.40
124-48-1	Chlorodibromomethane	0.43	U	1.0	0.43
108-86-1	Bromobenzene	0.35	U	1.0	0.35
74-97-5	Bromochloromethane	0.50	U	1.0	0.50
106-43-4	4-Chlorotoluene	0.29	U	1.0	0.29
99-87-6	4-Isopropyltoluene	0.43	U	1.0	0.43
87-68-3	Hexachlorobutadiene	0.35	U	1.0	0.35
74-95-3	Dibromomethane	0.42	U	1.0	0.42
108-20-3	Diisopropyl ether	0.50	U	10	0.50
91-20-3	Naphthalene	0.45	U	1.0	0.45
104-51-8	n-Butylbenzene	0.31	U	1.0	0.31
103-65-1	N-Propylbenzene	0.40	U	1.0	0.40
135-98-8	sec-Butylbenzene	0.48	U	1.0	0.48
994-05-8	Tert-amyl methyl ether	0.30	U	5.0	0.30
637-92-3	Ethyl tert-butyl ether	0.23	U	5.0	0.23
98-06-6	tert-Butylbenzene	0.41	U	1.0	0.41
108-05-4	Vinyl acetate	0.41	U	2.0	0.41
75-65-0	tert-Butyl alcohol	4.9	U	50	4.9

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW9B-092716 Lab Sample ID: 240-70040-13  
 Matrix: Water Lab File ID: UXC8772.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:35  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 16:55  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	96		63-132
460-00-4	4-Bromofluorobenzene (Surr)	113		73-120
2037-26-5	Toluene-d8 (Surr)	103		73-124
1868-53-7	Dibromofluoromethane (Surr)	104		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: TB-092716 Lab Sample ID: 240-70040-14  
 Matrix: Water Lab File ID: UXC8773.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 00:00  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 17:17  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	0.94	U	10	0.94
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	1.0	0.28
71-43-2	Benzene	0.35	U	1.0	0.35
75-27-4	Bromodichloromethane	0.29	U	1.0	0.29
75-25-2	Bromoform	0.56	U	1.0	0.56
74-83-9	Bromomethane	0.44	U	1.0	0.44
78-93-3	2-Butanone (MEK)	0.53	U	10	0.53
75-15-0	Carbon disulfide	0.38	U	1.0	0.38
56-23-5	Carbon tetrachloride	0.43	U	1.0	0.43
108-90-7	Chlorobenzene	0.25	U	1.0	0.25
75-00-3	Chloroethane	0.32	U	1.0	0.32
67-66-3	Chloroform	0.25	U	1.0	0.25
563-58-6	1,1-Dichloropropene	0.42	U	1.0	0.42
74-87-3	Chloromethane	0.44	U	1.0	0.44
75-34-3	1,1-Dichloroethane	0.30	U	1.0	0.30
87-61-6	1,2,3-Trichlorobenzene	0.37	U	1.0	0.37
96-18-4	1,2,3-Trichloropropane	0.44	U	1.0	0.44
107-06-2	1,2-Dichloroethane	0.23	U	1.0	0.23
75-35-4	1,1-Dichloroethene	0.45	U	1.0	0.45
526-73-8	1,2,3-Trimethylbenzene	0.47	U	5.0	0.47
78-87-5	1,2-Dichloropropane	0.25	U	1.0	0.25
95-63-6	1,2,4-Trimethylbenzene	0.41	U	1.0	0.41
10061-01-5	cis-1,3-Dichloropropene	0.46	U	1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	0.56	U	1.0	0.56
100-41-4	Ethylbenzene	0.25	U	1.0	0.25
591-78-6	2-Hexanone	0.48	U	10	0.48
75-09-2	Methylene Chloride	0.33	U	1.0	0.33
108-10-1	4-Methyl-2-pentanone (MIBK)	0.99	U	10	0.99
100-42-5	Styrene	0.45	U	1.0	0.45
79-34-5	1,1,2,2-Tetrachloroethane	0.22	U	1.0	0.22
127-18-4	Tetrachloroethene	0.31	U	1.0	0.31
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.22	U	1.0	0.22
75-01-4	Vinyl chloride	0.29	U	1.0	0.29
1330-20-7	Xylenes, Total	0.52	U	2.0	0.52
71-55-6	1,1,1-Trichloroethane	0.44	U	1.0	0.44

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: TB-092716 Lab Sample ID: 240-70040-14  
 Matrix: Water Lab File ID: UXC8773.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 00:00  
 Sample wt/vol: 5(mL) Date Analyzed: 10/08/2016 17:17  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18(mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.19	U	1.0	0.19
96-12-8	1,2-Dibromo-3-Chloropropane	0.82	U	2.0	0.82
106-93-4	1,2-Dibromoethane	0.32	U	1.0	0.32
75-71-8	Dichlorodifluoromethane	0.32	U	1.0	0.32
156-59-2	cis-1,2-Dichloroethene	0.26	U	1.0	0.26
156-60-5	trans-1,2-Dichloroethene	0.30	U	1.0	0.30
98-82-8	Isopropylbenzene	0.35	U	1.0	0.35
1634-04-4	Methyl tert-butyl ether	0.20	U	1.0	0.20
76-13-1	1,1,2-Trichlorotrifluoroethane	0.45	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	0.32	U	1.0	0.32
594-20-7	2,2-Dichloropropane	0.26	U *	1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.25	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	0.19	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	0.27	U	1.0	0.27
110-75-8	2-Chloroethyl vinyl ether	0.59	U	10	0.59
75-69-4	Trichlorofluoromethane	0.49	U *	1.0	0.49
95-49-8	2-Chlorotoluene	0.40	U	1.0	0.40
124-48-1	Chlorodibromomethane	0.43	U	1.0	0.43
108-86-1	Bromobenzene	0.35	U	1.0	0.35
74-97-5	Bromochloromethane	0.50	U	1.0	0.50
106-43-4	4-Chlorotoluene	0.29	U	1.0	0.29
99-87-6	4-Isopropyltoluene	0.43	U	1.0	0.43
87-68-3	Hexachlorobutadiene	0.35	U	1.0	0.35
74-95-3	Dibromomethane	0.42	U	1.0	0.42
108-20-3	Diisopropyl ether	0.50	U	10	0.50
91-20-3	Naphthalene	0.45	U	1.0	0.45
104-51-8	n-Butylbenzene	0.31	U	1.0	0.31
103-65-1	N-Propylbenzene	0.40	U	1.0	0.40
135-98-8	sec-Butylbenzene	0.48	U	1.0	0.48
994-05-8	Tert-amyl methyl ether	0.30	U	5.0	0.30
637-92-3	Ethyl tert-butyl ether	0.23	U	5.0	0.23
98-06-6	tert-Butylbenzene	0.41	U	1.0	0.41
108-05-4	Vinyl acetate	0.41	U	2.0	0.41
75-65-0	tert-Butyl alcohol	4.9	U	50	4.9

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: TB-092716 Lab Sample ID: 240-70040-14  
 Matrix: Water Lab File ID: UXC8773.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 00:00  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 17:17  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		63-132
460-00-4	4-Bromofluorobenzene (Surr)	110		73-120
2037-26-5	Toluene-d8 (Surr)	103		73-124
1868-53-7	Dibromofluoromethane (Surr)	103		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SWDUP-092716 Lab Sample ID: 240-70040-15  
 Matrix: Water Lab File ID: UXC8774.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 00:00  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 17:39  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	0.94	U	10	0.94
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	1.0	0.28
71-43-2	Benzene	0.35	U	1.0	0.35
75-27-4	Bromodichloromethane	0.29	U	1.0	0.29
75-25-2	Bromoform	0.56	U	1.0	0.56
74-83-9	Bromomethane	0.44	U	1.0	0.44
78-93-3	2-Butanone (MEK)	0.53	U	10	0.53
75-15-0	Carbon disulfide	0.38	U	1.0	0.38
56-23-5	Carbon tetrachloride	0.43	U	1.0	0.43
108-90-7	Chlorobenzene	0.25	U	1.0	0.25
75-00-3	Chloroethane	0.32	U	1.0	0.32
67-66-3	Chloroform	0.25	U	1.0	0.25
563-58-6	1,1-Dichloropropene	0.42	U	1.0	0.42
74-87-3	Chloromethane	0.44	U	1.0	0.44
75-34-3	1,1-Dichloroethane	0.30	U	1.0	0.30
87-61-6	1,2,3-Trichlorobenzene	0.37	U	1.0	0.37
96-18-4	1,2,3-Trichloropropane	0.44	U	1.0	0.44
107-06-2	1,2-Dichloroethane	0.23	U	1.0	0.23
75-35-4	1,1-Dichloroethene	0.45	U	1.0	0.45
526-73-8	1,2,3-Trimethylbenzene	0.47	U	5.0	0.47
78-87-5	1,2-Dichloropropane	0.25	U	1.0	0.25
95-63-6	1,2,4-Trimethylbenzene	0.41	U	1.0	0.41
10061-01-5	cis-1,3-Dichloropropene	0.46	U	1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	0.56	U	1.0	0.56
100-41-4	Ethylbenzene	0.25	U	1.0	0.25
591-78-6	2-Hexanone	0.48	U	10	0.48
75-09-2	Methylene Chloride	0.33	U	1.0	0.33
108-10-1	4-Methyl-2-pentanone (MIBK)	0.99	U	10	0.99
100-42-5	Styrene	0.45	U	1.0	0.45
79-34-5	1,1,2,2-Tetrachloroethane	0.22	U	1.0	0.22
127-18-4	Tetrachloroethene	0.31	U	1.0	0.31
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.22	U	1.0	0.22
75-01-4	Vinyl chloride	0.29	U	1.0	0.29
1330-20-7	Xylenes, Total	0.52	U	2.0	0.52
71-55-6	1,1,1-Trichloroethane	0.44	U	1.0	0.44

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SWDUP-092716 Lab Sample ID: 240-70040-15  
 Matrix: Water Lab File ID: UXC8774.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 00:00  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 17:39  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.19	U	1.0	0.19
96-12-8	1,2-Dibromo-3-Chloropropane	0.82	U	2.0	0.82
106-93-4	1,2-Dibromoethane	0.32	U	1.0	0.32
75-71-8	Dichlorodifluoromethane	0.32	U	1.0	0.32
156-59-2	cis-1,2-Dichloroethene	0.26	U	1.0	0.26
156-60-5	trans-1,2-Dichloroethene	0.30	U	1.0	0.30
98-82-8	Isopropylbenzene	0.35	U	1.0	0.35
1634-04-4	Methyl tert-butyl ether	0.20	U	1.0	0.20
76-13-1	1,1,2-Trichlorotrifluoroethane	0.45	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	0.32	U	1.0	0.32
594-20-7	2,2-Dichloropropane	0.26	U *	1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.25	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	0.19	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	0.27	U	1.0	0.27
110-75-8	2-Chloroethyl vinyl ether	0.59	U	10	0.59
75-69-4	Trichlorofluoromethane	0.49	U *	1.0	0.49
95-49-8	2-Chlorotoluene	0.40	U	1.0	0.40
124-48-1	Chlorodibromomethane	0.43	U	1.0	0.43
108-86-1	Bromobenzene	0.35	U	1.0	0.35
74-97-5	Bromochloromethane	0.50	U	1.0	0.50
106-43-4	4-Chlorotoluene	0.29	U	1.0	0.29
99-87-6	4-Isopropyltoluene	0.43	U	1.0	0.43
87-68-3	Hexachlorobutadiene	0.35	U	1.0	0.35
74-95-3	Dibromomethane	0.42	U	1.0	0.42
108-20-3	Diisopropyl ether	0.50	U	10	0.50
91-20-3	Naphthalene	0.45	U	1.0	0.45
104-51-8	n-Butylbenzene	0.31	U	1.0	0.31
103-65-1	N-Propylbenzene	0.40	U	1.0	0.40
135-98-8	sec-Butylbenzene	0.48	U	1.0	0.48
994-05-8	Tert-amyl methyl ether	0.30	U	5.0	0.30
637-92-3	Ethyl tert-butyl ether	0.23	U	5.0	0.23
98-06-6	tert-Butylbenzene	0.41	U	1.0	0.41
108-05-4	Vinyl acetate	0.41	U	2.0	0.41
75-65-0	tert-Butyl alcohol	4.9	U	50	4.9

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SWDUP-092716 Lab Sample ID: 240-70040-15  
 Matrix: Water Lab File ID: UXC8774.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 00:00  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 17:39  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		63-132
460-00-4	4-Bromofluorobenzene (Surr)	110		73-120
2037-26-5	Toluene-d8 (Surr)	103		73-124
1868-53-7	Dibromofluoromethane (Surr)	104		80-120



**Appendix C**

Support Documentation

## CASE NARRATIVE

Client: Tetra Tech, Inc.

Project: MRC Surface Water Sampling

Report Number: 240-70040-1

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.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

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.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

### **RECEIPT**

The samples were received on 9/28/2016 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.2° C.

### **VOLATILE ORGANIC COMPOUNDS (GCMS)**

Samples MRC-SW1A-092716 (240-70040-1), MRC-SW2A-092716 (240-70040-2), MRC-SW5A1-092716 (240-70040-3), MRC-SW5A2-092716 (240-70040-4), MRC-SW5B-092716 (240-70040-5), MRC-SW6A-092716 (240-70040-6), MRC-SW6B-092716 (240-70040-7), MRC-SW7A-092716 (240-70040-8), MRC-SW7B-092716 (240-70040-9), MRC-SW8A-092716 (240-70040-10), MRC-SW8B-092716 (240-70040-11), MRC-SW9A-092716 (240-70040-12), MRC-SW9B-092716 (240-70040-13), TB-092716 (240-70040-14) and MRC-SWDUP-092716 (240-70040-15) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 10/08/2016.

The laboratory control sample (LCS) for 250454 recovered outside control limits for the following analytes: 2-2-Dichloropropane and/or Trichlorofluoromethane. These analytes have been identified as poor performing analytes when analyzed using this method; therefore, re-extraction/re-analysis was not performed: MRC-SW1A-092716 (240-70040-1), MRC-SW2A-092716 (240-70040-2), MRC-SW5A1-092716 (240-70040-3), MRC-SW5A2-092716 (240-70040-4), MRC-SW5B-092716 (240-70040-5), MRC-SW6A-092716 (240-70040-6), MRC-SW6B-092716 (240-70040-7), MRC-SW7A-092716 (240-70040-8), MRC-SW7B-092716 (240-70040-9), MRC-SW8A-092716 (240-70040-10), MRC-SW8B-092716 (240-70040-11), MRC-SW9A-092716 (240-70040-12), MRC-SW9B-092716 (240-70040-13), TB-092716 (240-70040-14), MRC-SWDUP-092716 (240-70040-15) and (LCS 240-250454/4).

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

# QC Association Summary

Client: Tetra Tech, Inc.  
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 240-70040-1

## GC/MS VOA

### Analysis Batch: 250454

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-70040-1	MRC-SW1A-092716	Total/NA	Water	8260B	
240-70040-2	MRC-SW2A-092716	Total/NA	Water	8260B	
240-70040-3	MRC-SW5A1-092716	Total/NA	Water	8260B	
240-70040-4	MRC-SW5A2-092716	Total/NA	Water	8260B	
240-70040-5	MRC-SW5B-092716	Total/NA	Water	8260B	
240-70040-6	MRC-SW6A-092716	Total/NA	Water	8260B	
240-70040-7	MRC-SW6B-092716	Total/NA	Water	8260B	
240-70040-8	MRC-SW7A-092716	Total/NA	Water	8260B	
240-70040-9	MRC-SW7B-092716	Total/NA	Water	8260B	
240-70040-10	MRC-SW8A-092716	Total/NA	Water	8260B	
240-70040-11	MRC-SW8B-092716	Total/NA	Water	8260B	
240-70040-12	MRC-SW9A-092716	Total/NA	Water	8260B	
240-70040-13	MRC-SW9B-092716	Total/NA	Water	8260B	
240-70040-14	TB-092716	Total/NA	Water	8260B	
240-70040-15	MRC-SWDUP-092716	Total/NA	Water	8260B	
MB 240-250454/7	Method Blank	Total/NA	Water	8260B	
LCS 240-250454/4	Lab Control Sample	Total/NA	Water	8260B	

# Method Summary

Client: Tetra Tech, Inc.  
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 240-70040-1

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<b>Method</b>	<b>Method Description</b>	<b>Protocol</b>	<b>Laboratory</b>
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

North Canton  
4101 Shuffel Street, N. W.

180325

3.8/C4.2

TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING

Chain of Custody Record

North Canton, OH 44720  
phone 330.497.9396 fax 330.497.0772

BALTIMORE

TestAmerica Laboratories, Inc.

Client Contact Tetra Tech 20251 Century Blvd, Suite 200 Germantown, MD 20874 (301) 528-3021 Phone (301) 528-3000 FAX Project Name: MRC Surface Water Sampling Site: Middle River Complex P O # 112107776.07		Project Manager: Tony Apanavage Tel/Fax: 301-233-8230 (cell)		Site Contact: Josh Mullis Lab Contact: Pat Omeara		Date: 9/27/2016 Carrier: Fedex		COC No: 1 of 2 COCs Job No. SDG No. Sampler: MULLIS	
		Analysis Turnaround Time Calendar (C) or Work Days (W) W TAT if different from Below 21 day <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Filtered Sample VOCs		240-70040 Chain of Custody		Sample Specific Notes:	
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	# of Cont.			
MRC-SW1A-092716		9/27/2016	1002	SW	Water	3	x	x	
MRC-SW2A-092716		9/27/2016	1010	SW	Water	3	x	x	
MRC-SW5A1-092716		9/27/2016	1100	SW	Water	3	x	x	
MRC-SW5A2-092716		9/27/2016	1105	SW	Water	3	x	x	
MRC-SW5B-092716		9/27/2016	1055	SW	Water	3	x	x	
MRC-SW6A-092716		9/27/2016	1038	SW	Water	3	x	x	
MRC-SW6B-092716		9/27/2016	1041	SW	Water	3	x	x	
MRC-SW7A-092716		9/27/2016	1021	SW	Water	3	x	x	
MRC-SW7B-092716		9/27/2016	1027	SW	Water	3	x	x	
MRC-SW8A-092716		9/27/2016	1047	SW	Water	3	x	x	
MRC-SW8B-092716		9/27/2016	1050	SW	Water	3	x	x	
MRC-SW9A-092716		9/27/2016	1031	SW	Water	3	x	x	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other							2		
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				
Special Instructions/QC Requirements & Comments: MRC SW Sept Event									
Relinquished by: [Signature]		Company: Tetra Tech		Date/Time: 9/27/16 1225		Received by: [Signature]		Company: TestAmerica	
Relinquished by: [Signature]		Company: Test America		Date/Time: 9-27-2016/1430		Received by: [Signature]		Company: TAC	
Relinquished by:		Company:		Date/Time:		Received by:		Company:	

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North Canton  
4101 Shuffel Street, N. W.

180325

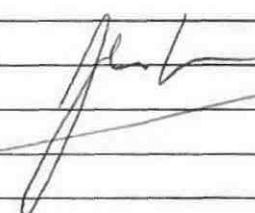
### Chain of Custody Record

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

North Canton, OH 44720  
phone 330.497.9396 fax 330.497.0772

**BALTIMORE**

TestAmerica Laboratories, Inc.

<b>Client Contact</b> Tetra Tech 20251 Century Blvd, Suite 200 Germantown, MD 20874 (301) 528-3021 Phone (301) 528-3000 FAX Project Name: MRC Surface Water Sampling Site: Middle River Complex P O # 1125C07776.07		<b>Project Manager: Tony Apanavage</b> Tel/Fax: 301-233-8230 (cell)		<b>Site Contact: Josh Mullis</b> Lab Contact: Pat Omeara		<b>Date: 9/27/16</b> Carrier: Fedex		<b>COC No:</b> 2 of 2 COCs	
		<b>Analysis Turnaround Time</b> Calendar (C) or Work Days (W) TAT if different from Below <u>24 DAYS</u> <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		<b>Filtered Sample</b> VOCs				Job No.	
		SDG No.							
		Sampler: <u>MULLIS</u>							
		Sample Specific Notes:							
<b>Sample Identification</b>		<b>Sample Date</b>	<b>Sample Time</b>	<b>Sample Type</b>	<b>Matrix</b>	<b># of Cont.</b>	<b>Filtered Sample</b>		
MRC-SW9B-092716		9/27/2016	1035	SW	Water	3	x		
TB-092716		-	-	SW	Water	2	x		
<u>MRC-SW09B-092716</u>		<u>9/27/16</u>	<u>-</u>	<u>SW</u>	<u>Water</u>	<u>3</u>	<u>x</u>		
		<u>9/27/16</u>							
<b>Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other</b>							2		
<b>Possible Hazard Identification</b> <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown							<b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		
<b>Special Instructions/QC Requirements &amp; Comments:</b>									
Relinquished by: <u>Josh Mullis</u>		Company: <u>Tetra Tech</u>		Date/Time: <u>9/27/16 1225</u>		Received by: <u>[Signature]</u>		Company: <u>TestAmerica</u>	
Relinquished by: <u>[Signature]</u>		Company: <u>TestAmerica</u>		Date/Time: <u>9-27-2016/1430</u>		Received by: <u>[Signature]</u>		Company: <u>TAC</u>	
Relinquished by:		Company:		Date/Time:		Received by:		Date/Time: <u>09/28/16 920</u>	

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TestAmerica Canton Sample Receipt Form/Narrative  
Canton Facility

Login # : 70040

Client Tetra Tech Site Name \_\_\_\_\_  
Cooler Received on 09/28/16 Opened on 09/28/16  
FedEx: 1<sup>st</sup> Grd  UPS  FAS  Stetson Client Drop Off  TestAmerica Courier  Other \_\_\_\_\_

Cooler unpacked by:  
DSD

Receipt After-hours: Drop-off Date/Time \_\_\_\_\_ Storage Location \_\_\_\_\_

TestAmerica Cooler # \_\_\_\_\_ Foam Box  Client Cooler  Box  Other \_\_\_\_\_  
Packing material used: Bubble Wrap  Foam  Plastic Bag  None  Other \_\_\_\_\_  
COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None

1. Cooler temperature upon receipt  See Multiple Cooler Form  
 IR GUN# IR-8 (CF +0.4 °C) Observed Cooler Temp. 3-8 °C Corrected Cooler Temp. 4.2 °C  
 IR GUN #36 (CF +1.3 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No  
 -Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA  
 -Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes  No
3. Shippers' packing slip attached to the cooler(s)? Yes No  
 4. Did custody papers accompany the sample(s)? Yes No  
 5. Were the custody papers relinquished & signed in the appropriate place? Yes No  
 6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No  
 7. Did all bottles arrive in good condition (Unbroken)? Yes No  
 8. Could all bottle labels be reconciled with the COC? Yes No  
 9. Were correct bottle(s) used for the test(s) indicated? Yes No  
 10. Sufficient quantity received to perform indicated analyses? Yes No  
 11. Are these work share samples? Yes  No  
 If yes, Questions 11-15 have been checked at the originating laboratory.
11. Were sample(s) at the correct pH upon receipt? Yes No  NA pH Strip Lot# HCS74756  
 12. Were VOAs on the COC? Yes No  
 13. Were air bubbles >6 mm in any VOA vials? Yes  NA  
 14. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # \_\_\_\_\_ Yes No  
 15. Was a LL Hg or Me Hg trip blank present? Yes  No

Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal Voice Mail Other \_\_\_\_\_

Concerning \_\_\_\_\_

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

15. SAMPLE CONDITION

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
Sample(s) \_\_\_\_\_ were received in a broken container.  
Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) \_\_\_\_\_ were further preserved in the laboratory.  
Time preserved: \_\_\_\_\_ Preservative(s) added/Lot number(s): \_\_\_\_\_

# Method 8260B

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Volatile Organic Compounds (GC/MS)  
by Method 8260B



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

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: BFB619.D BFB Injection Date: 06/23/2016  
 Instrument ID: A3UX15 BFB Injection Time: 11:35  
 Analysis Batch No.: 235700

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	16.7
75	30.0 - 60.0 % of mass 95	46.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.2
173	Less than 2.0 % of mass 174	0.4 (0.4) 1
174	50.0 - 120.00 % of mass 95	90.4
175	5.0 - 9.0 % of mass 174	6.2 (6.8) 1
176	95.0 - 101.0 % of mass 174	87.8 (97.1) 1
177	5.0 - 9.0 % of mass 176	5.4 (6.1) 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
	STD8260 240-235700/2	UXC9008.D	06/23/2016	12:01
	STD8260 240-235700/3	UXC9009.D	06/23/2016	12:23
	STD8260 240-235700/4	UXC9010.D	06/23/2016	12:46
	STD8260 240-235700/5	UXC9011.D	06/23/2016	13:08
	STD8260 240-235700/6	UXC9012.D	06/23/2016	13:31
	STD8260 240-235700/7	UXC9013.D	06/23/2016	13:53
	ICV 240-235700/14	UXC9014.D	06/23/2016	14:16
	STD 240-235700/8	UXC9015.D	06/23/2016	14:38
	STD 240-235700/9	UXC9016.D	06/23/2016	15:00
	STD 240-235700/10	UXC9017.D	06/23/2016	15:22
	STD 240-235700/11	UXC9018.D	06/23/2016	15:45
	STD 240-235700/12	UXC9019.D	06/23/2016	16:07
	STD 240-235700/13	UXC9020.D	06/23/2016	16:30
	ICV 240-235700/15	UXC9021.D	06/23/2016	16:52

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

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: BFB61008.D BFB Injection Date: 10/08/2016  
 Instrument ID: A3UX15 BFB Injection Time: 09:41  
 Analysis Batch No.: 250454

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	15.4
75	30.0 - 60.0 % of mass 95	45.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	6.7
173	Less than 2.0 % of mass 174	0.5 (0.6) 1
174	50.0 - 120.00 % of mass 95	89.9
175	5.0 - 9.0 % of mass 174	6.2 (6.9) 1
176	95.0 - 101.0 % of mass 174	88.1 (97.9) 1
177	5.0 - 9.0 % of mass 176	5.7 (6.4) 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 240-250454/2	UXC8755.D	10/08/2016	10:30
	LCS 240-250454/4	UXC8756.D	10/08/2016	10:53
	CCV 240-250454/3	UXC8757.D	10/08/2016	11:16
	MB 240-250454/7	UXC8759.D	10/08/2016	12:01
MRC-SW1A-092716	240-70040-1	UXC8760.D	10/08/2016	12:24
MRC-SW2A-092716	240-70040-2	UXC8761.D	10/08/2016	12:49
MRC-SW5A1-092716	240-70040-3	UXC8762.D	10/08/2016	13:12
MRC-SW5A2-092716	240-70040-4	UXC8763.D	10/08/2016	13:34
MRC-SW5B-092716	240-70040-5	UXC8764.D	10/08/2016	13:56
MRC-SW6A-092716	240-70040-6	UXC8765.D	10/08/2016	14:18
MRC-SW6B-092716	240-70040-7	UXC8766.D	10/08/2016	14:41
MRC-SW7A-092716	240-70040-8	UXC8767.D	10/08/2016	15:03
MRC-SW7B-092716	240-70040-9	UXC8768.D	10/08/2016	15:26
MRC-SW8A-092716	240-70040-10	UXC8769.D	10/08/2016	15:48
MRC-SW8B-092716	240-70040-11	UXC8770.D	10/08/2016	16:10
MRC-SW9A-092716	240-70040-12	UXC8771.D	10/08/2016	16:32
MRC-SW9B-092716	240-70040-13	UXC8772.D	10/08/2016	16:55
TB-092716	240-70040-14	UXC8773.D	10/08/2016	17:17
MRC-SWDUP-092716	240-70040-15	UXC8774.D	10/08/2016	17:39

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

Lab Name: TestAmerica Canton Job No.: 240-70040-1 Analy Batch No.: 235700

SDG No.: \_\_\_\_\_

Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/23/2016 12:01 Calibration End Date: 06/23/2016 13:53 Calibration ID: 34930

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-235700/7	UXC9013.D
Level 2	STD8260 240-235700/6	UXC9012.D
Level 3	STD8260 240-235700/5	UXC9011.D
Level 4	STD8260 240-235700/4	UXC9010.D
Level 5	STD8260 240-235700/3	UXC9009.D
Level 6	STD8260 240-235700/2	UXC9008.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R <sup>2</sup> OR COD	#	MIN R <sup>2</sup> OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.3321 0.3340	0.3168	0.3294	0.3233	0.3421	Ave		0.3296			2.7		15.0				
Chloromethane	0.5208 0.4361	0.4774	0.4696	0.4288	0.4654	Ave		0.4664		0.1000	7.1		15.0				
Vinyl chloride	0.4391 0.4197	0.4151	0.4242	0.3962	0.4333	Ave		0.4213			3.6		15.0				
Butadiene	0.4013 0.3963	0.3836	0.3985	0.3823	0.4088	Ave		0.3951			2.6		15.0				
Bromomethane	0.1340 0.1484	0.1393	0.1381	0.1229	0.1534	Ave		0.1393			7.7		15.0				
Chloroethane	0.2365 0.2202	0.2232	0.2271	0.2108	0.2270	Ave		0.2241			3.8		15.0				
Dichlorofluoromethane	0.5040 0.4904	0.5039	0.4975	0.4540	0.5047	Ave		0.4924			4.0		15.0				
Trichlorofluoromethane	0.2480 0.2661	0.2535	0.2474	0.2379	0.2614	Ave		0.2524			4.1		15.0				
Ethyl ether	0.2476 0.2339	0.2449	0.2241	0.2370	0.2362	Ave		0.2373			3.5		15.0				
Acrolein	0.0273 0.0276	0.0269	0.0279	0.0278	0.0281	Ave		0.0276			1.5		15.0				
1,1-Dichloroethene	0.2949 0.3034	0.2936	0.2845	0.2901	0.3022	Ave		0.2948			2.4		15.0				
1,1,2-Trichlorotrifluoroethane	0.2043 0.2209	0.2241	0.2068	0.1967	0.2302	Ave		0.2139			6.1		15.0				
Acetone	0.1395 0.0726	0.1118	0.0878	0.0765	0.0741	Lin1	0.1478	0.0706						1.0000		0.9900	
Iodomethane	0.4298 0.4393	0.4742	0.4386	0.4552	0.4550	Ave		0.4487			3.6		15.0				
Carbon disulfide	0.8263 0.9010	0.8422	0.8083	0.8576	0.9046	Ave		0.8567			4.6		15.0				

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 Canton Job No.: 240-70040-1 Analy Batch No.: 235700

SDG No.: \_\_\_\_\_

Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/23/2016 12:01 Calibration End Date: 06/23/2016 13:53 Calibration ID: 34930

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R <sup>2</sup> OR COD	#	MIN R <sup>2</sup> OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
3-Chloro-1-propene	0.1554 0.1784	0.1576	0.1559	0.1742	0.1827	Ave		0.1674			7.4		15.0				
Methyl acetate	0.1618 0.1580	0.1598	0.1514	0.1507	0.1555	Ave		0.1562			2.9		15.0				
Methylene Chloride	0.4936 0.3132	0.4248	0.3449	0.3381	0.3268	Lin1	0.1973	0.3119						1.0000			0.9900
tert-Butyl alcohol	0.0096 0.0085	0.0101	0.0097	0.0091	0.0098	Ave		0.0095			5.9		15.0				
Methyl tert-butyl ether	0.5514 0.5919	0.5838	0.5562	0.5860	0.5987	Ave		0.5780			3.4		15.0				
Acrylonitrile	0.0865 0.0883	0.0907	0.0851	0.0849	0.0870	Ave		0.0871			2.5		15.0				
trans-1,2-Dichloroethene	0.3240 0.3105	0.3275	0.3102	0.3200	0.3216	Ave		0.3190			2.2		15.0				
Hexane	0.0821 0.0795	0.0794	0.0711	0.0762	0.0800	Ave		0.0781			5.0		15.0				
1,1-Dichloroethane	0.5384 0.5434	0.5585	0.5285	0.5452	0.5510	Ave		0.5441		0.1000	1.9		15.0				
Vinyl acetate	0.3327 0.4085	0.3342	0.3408	0.3597	0.3885	Ave		0.3607			8.7		15.0				
2,2-Dichloropropane	0.1567 0.1717	0.1672	0.1652	0.1881	0.1921	Ave		0.1735			8.0		15.0				
cis-1,2-Dichloroethene	0.3493 0.3361	0.3547	0.3327	0.3418	0.3441	Ave		0.3431			2.4		15.0				
2-Butanone (MEK)	0.1156 0.0989	0.1075	0.0977	0.0935	0.0974	Ave		0.1018			8.1		15.0				
Bromochloromethane	0.1540 0.1507	0.1555	0.1493	0.1527	0.1537	Ave		0.1527			1.5		15.0				
Tetrahydrofuran	0.0572 0.0606	0.0583	0.0537	0.0538	0.0574	Ave		0.0568			4.7		15.0				
Chloroform	0.5050 0.5062	0.5301	0.4888	0.5048	0.5160	Ave		0.5085			2.7		15.0				
1,1,1-Trichloroethane	0.2852 0.3173	0.3011	0.2949	0.3230	0.3345	Ave		0.3093			6.0		15.0				
Cyclohexane	0.5215 0.5527	0.5316	0.5133	0.5316	0.5628	Ave		0.5356			3.5		15.0				
1,1-Dichloropropene	0.4167 0.4309	0.4314	0.4054	0.4204	0.4364	Ave		0.4235			2.7		15.0				
Carbon tetrachloride	0.2299 0.2784	0.2395	0.2362	0.2634	0.2833	Ave		0.2551			9.0		15.0				

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 Canton Job No.: 240-70040-1 Analy Batch No.: 235700

SDG No.: \_\_\_\_\_

Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/23/2016 12:01 Calibration End Date: 06/23/2016 13:53 Calibration ID: 34930

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Isobutyl alcohol	0.0044 0.0049	0.0050	0.0049	0.0045	0.0052	Ave		0.0048			6.2		15.0				
Benzene	1.2947 1.3224	1.3476	1.2332	1.2686	1.3184	Ave		1.2975			3.2		15.0				
1,2-Dichloroethane	0.3772 0.3692	0.3872	0.3588	0.3580	0.3701	Ave		0.3701			3.0		15.0				
n-Heptane	0.0707 0.0754	0.0678	0.0671	0.0694	0.0748	Ave		0.0709			5.0		15.0				
Trichloroethene	0.3257 0.3255	0.3303	0.3132	0.3205	0.3298	Ave		0.3242			2.0		15.0				
Methylcyclohexane	0.4725 0.5041	0.4829	0.4609	0.4756	0.5114	Ave		0.4846			4.0		15.0				
1,2-Dichloropropane	0.2716 0.3011	0.2967	0.2760	0.2859	0.2981	Ave		0.2882			4.3		15.0				
Dibromomethane	0.1477 0.1578	0.1546	0.1476	0.1507	0.1554	Ave		0.1523			2.8		15.0				
1,4-Dioxane	0.0018 0.0020	0.0021	0.0022	0.0020	0.0024	Ave		0.0021			10.4		15.0				
Bromodichloromethane	0.2755 0.3482	0.2939	0.2900	0.3099	0.3353	Ave		0.3088			9.1		15.0				
2-Chloroethyl vinyl ether	0.1285 0.1675	0.1385	0.1373	0.1440	0.1608	Ave		0.1461			10.3		15.0				
cis-1,3-Dichloropropene	0.2821 0.4251	0.3138	0.3239	0.3522	0.4012	Lin1	-0.207	0.4144						0.9960		0.9900	
4-Methyl-2-pentanone (MIBK)	0.1559 0.1939	0.1659	0.1670	0.1782	0.1883	Ave		0.1749			8.3		15.0				
Toluene	1.8454 1.8440	1.8252	1.6979	1.7996	1.8461	Ave		1.8097			3.2		15.0				
trans-1,3-Dichloropropene	0.2726 0.4490	0.3002	0.3104	0.3649	0.4144	Lin1	-0.265	0.4348						0.9930		0.9900	
Ethyl methacrylate	0.3014 0.4225	0.3234	0.3291	0.3763	0.4067	Ave		0.3599			13.7		15.0				
1,1,2-Trichloroethane	0.3188 0.3147	0.3102	0.2977	0.3101	0.3157	Ave		0.3112			2.4		15.0				
Tetrachloroethene	0.3611 0.3541	0.3544	0.3269	0.3481	0.3554	Ave		0.3500			3.4		15.0				
1,3-Dichloropropane	0.5883 0.5924	0.5978	0.5552	0.5681	0.5922	Ave		0.5823			2.9		15.0				
2-Hexanone	0.1386 0.1847	0.1470	0.1601	0.1648	0.1828	Ave		0.1630			11.4		15.0				

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 Canton Job No.: 240-70040-1 Analy Batch No.: 235700

SDG No.: \_\_\_\_\_

Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/23/2016 12:01 Calibration End Date: 06/23/2016 13:53 Calibration ID: 34930

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R <sup>2</sup> OR COD	#	MIN R <sup>2</sup> OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlorodibromomethane	0.2261 0.3274	0.2475	0.2505	0.2847	0.3137	Ave		0.2750			14.6		15.0				
1,2-Dibromoethane	0.2774 0.3104	0.2927	0.2790	0.2998	0.3114	Ave		0.2951			5.0		15.0				
Chlorobenzene	1.1961 1.1713	1.1891	1.1210	1.1448	1.1639	Ave		1.1644		0.3000	2.4		15.0				
1,1,1,2-Tetrachloroethane	0.2725 0.3478	0.2873	0.2883	0.3111	0.3365	Ave		0.3072			9.7		15.0				
Ethylbenzene	0.6049 0.6363	0.6212	0.5904	0.6147	0.6332	Ave		0.6168			2.8		15.0				
m-Xylene & p-Xylene	1.5175 1.5637	1.5565	1.4594	1.5035	1.5590	Ave		1.5266			2.7		15.0				
o-Xylene	0.6940 0.7507	0.7369	0.7052	0.7149	0.7489	Ave		0.7251			3.3		15.0				
Styrene	1.0918 1.3099	1.2017	1.1803	1.2357	1.2846	Ave		1.2173			6.4		15.0				
Bromoform	0.1065 0.1710	0.1173	0.1240	0.1392	0.1569	Lin1	-0.095	0.1654		0.1000				0.9940		0.9900	
Isopropylbenzene	1.6591 1.8007	1.7054	1.6662	1.6882	1.7718	Ave		1.7152			3.4		15.0				
1,1,2,2-Tetrachloroethane	0.7544 0.7783	0.7987	0.7374	0.7885	0.8054	Ave		0.7771		0.3000	3.4		15.0				
Bromobenzene	0.9784 1.0520	1.0763	0.9992	1.0201	1.0915	Ave		1.0362			4.3		15.0				
1,2,3-Trichloropropane	0.2309 0.2475	0.2509	0.2407	0.2509	0.2552	Ave		0.2460			3.6		15.0				
trans-1,4-Dichloro-2-butene	0.2006 0.2385	0.2147	0.2001	0.2165	0.2397	Ave		0.2183			8.0		15.0				
N-Propylbenzene	0.9622 1.0807	1.0815	1.0048	1.0306	1.1185	Ave		1.0464			5.5		15.0				
2-Chlorotoluene	0.8538 0.9207	0.9561	0.8891	0.9079	0.9420	Ave		0.9116			4.1		15.0				
1,3,5-Trimethylbenzene	2.8746 3.0704	2.9843	2.8406	2.9341	3.0812	Ave		2.9642			3.4		15.0				
4-Chlorotoluene	3.0370 3.1778	3.3117	3.0525	3.1150	3.2501	Ave		3.1573			3.5		15.0				
tert-Butylbenzene	2.2647 2.5252	2.3995	2.3043	2.3833	2.5293	Ave		2.4010			4.6		15.0				
1,2,4-Trimethylbenzene	3.0029 3.0543	3.0523	2.8941	2.9667	3.0688	Ave		3.0065			2.2		15.0				

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 Canton Job No.: 240-70040-1 Analy Batch No.: 235700

SDG No.: \_\_\_\_\_

Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/23/2016 12:01 Calibration End Date: 06/23/2016 13:53 Calibration ID: 34930

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
sec-Butylbenzene	3.0231 3.4048	3.2243	3.0768	3.1838	3.3627	Ave		3.2126			4.7		15.0				
1,3-Dichlorobenzene	1.7546 1.7099	1.7746	1.6796	1.7043	1.7149	Ave		1.7230			2.0		15.0				
4-Isopropyltoluene	2.5011 2.9007	2.6300	2.6148	2.7211	2.8304	Ave		2.6997			5.5		15.0				
1,4-Dichlorobenzene	1.8619 1.7322	1.8194	1.7077	1.7335	1.7343	Ave		1.7648			3.5		15.0				
n-Butylbenzene	2.0048 2.3308	2.0827	2.0417	2.1624	2.2859	Ave		2.1514			6.2		15.0				
1,2-Dichlorobenzene	1.6369 1.5498	1.6372	1.5209	1.5641	1.5550	Ave		1.5773			3.1		15.0				
1,2-Dibromo-3-Chloropropane	0.0713 0.0968	0.0775	0.0764	0.0877	0.0937	Ave		0.0839			12.3		15.0				
1,2,4-Trichlorobenzene	0.8718 0.7845	0.8230	0.8095	0.8148	0.8000	Ave		0.8173			3.6		15.0				
Hexachlorobutadiene	0.4286 0.3302	0.4026	0.3714	0.3683	0.3604	Ave		0.3769			9.1		15.0				
Naphthalene	1.6356 1.6877	1.6077	1.7526	1.8425	1.8273	Ave		1.7256			5.7		15.0				
1,2,3-Trichlorobenzene	0.7978 0.6410	0.7359	0.7435	0.7184	0.7003	Ave		0.7228			7.2		15.0				
Dibromofluoromethane (Surr)	0.2526 0.2636	0.2509	0.2605	0.2635	0.2693	Ave		0.2601			2.7		15.0				
1,2-Dichloroethane-d4 (Surr)	0.3324 0.3123	0.3098	0.3131	0.3078	0.3160	Ave		0.3152			2.8		15.0				
Toluene-d8 (Surr)	1.5529 1.5694	1.4893	1.5049	1.5498	1.5942	Ave		1.5434			2.6		15.0				
4-Bromofluorobenzene (Surr)	0.5282 0.5273	0.5194	0.5346	0.5225	0.5355	Ave		0.5279			1.2		15.0				

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 Canton Job No.: 240-70040-1 Analy Batch No.: 235700

SDG No.: \_\_\_\_\_

Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/23/2016 14:38 Calibration End Date: 06/23/2016 16:30 Calibration ID: 34932

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 240-235700/13	UXC9020.D
Level 2	STD 240-235700/12	UXC9019.D
Level 3	STD 240-235700/11	UXC9018.D
Level 4	STD 240-235700/10	UXC9017.D
Level 5	STD 240-235700/9	UXC9016.D
Level 6	STD 240-235700/8	UXC9015.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R <sup>2</sup> OR COD	#	MIN R <sup>2</sup> OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Acetonitrile	0.0371 0.0231	0.0281	0.0274	0.0194	0.0290	Ave		0.0274			21.8	*	15.0				
Diisopropyl ether	0.2497 0.2582	0.2419	0.2443	0.2635	0.2625	Ave		0.2533			3.7		15.0				
2-Chloro-1,3-butadiene	0.4420 0.4704	0.4205	0.4511	0.4740	0.4713	Ave		0.4549			4.6		15.0				
Ethyl tert-butyl ether	0.6211 0.6584	0.5879	0.6198	0.6492	0.6651	Ave		0.6336			4.6		15.0				
Ethyl acetate	0.1632 0.1658	0.1506	0.1495	0.1390	0.1611	Ave		0.1549			6.6		15.0				
Propionitrile	0.0323 0.0304	0.0285	0.0316	0.0274	0.0314	Ave		0.0303			6.3		15.0				
Methacrylonitrile	0.1405 0.1382	0.1264	0.1332	0.1307	0.1364	Ave		0.1342			3.9		15.0				
Tert-amyl methyl ether	0.4696 0.5053	0.4421	0.4624	0.4953	0.5015	Ave		0.4794			5.3		15.0				
n-Butanol	0.0033 0.0036	0.0029	0.0035	0.0026	0.0039	Ave		0.0033			14.8		15.0				
Ethyl acrylate	0.1948 0.2549	0.1923	0.2166	0.2112	0.2430	Ave		0.2188			11.6		15.0				
Methyl methacrylate	0.1627 0.1910	0.1550	0.1754	0.1669	0.1881	Ave		0.1732			8.3		15.0				
2-Nitropropane	0.0209 0.0282	0.0197	0.0215	0.0212	0.0248	Ave		0.0227			14.0		15.0				
n-Butyl acetate	0.1945 0.2865	0.1844	0.2185	0.2229	0.2597	Lin1	-0.151	0.2749						0.9930		0.9900	
1-Chlorohexane	0.4540 0.4857	0.4231	0.4478	0.4555	0.4907	Ave		0.4595			5.5		15.0				
Cyclohexanone	0.0135 0.0138	0.0125	0.0152	0.0121	0.0159	Ave		0.0138			10.8		15.0				

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 Canton Job No.: 240-70040-1 Analy Batch No.: 235700

SDG No.: \_\_\_\_\_

Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/23/2016 14:38 Calibration End Date: 06/23/2016 16:30 Calibration ID: 34932

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Pentachloroethane	0.0921 0.1497	0.0900	0.1037	0.0991	0.1534	Qua	-0.330	0.1448	0.0001243					0.9930		0.9900	
1,2,3-Trimethylbenzene	2.9918 2.9864	2.6781	2.8844	2.7917	3.1763	Ave		2.9181			6.0		15.0				
Benzyl chloride	0.0675 0.1096	0.0593	0.0659	0.0672	0.0896	Qua	-0.025	0.0660	0.0011122					0.9990		0.9900	
1,3,5-Trichlorobenzene	1.2280 0.8870	0.9726	0.9640	0.9309	1.1773	Ave		1.0266			13.7		15.0				
2-Methylnaphthalene	1.0982 0.5699	0.7226	0.7098	1.2187	0.9000	Ave		0.8699			28.7	*	15.0				

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 240-235700/14 Calibration Date: 06/23/2016 14:16  
 Instrument ID: A3UX15 Calib Start Date: 06/23/2016 12:01  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/23/2016 13:53  
 Lab File ID: UXC9014.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3296	0.3164		0.00960	0.0100	-4.0	50.0
Chloromethane	Ave	0.4664	0.4448	0.1000	0.00954	0.0100	-4.6	50.0
Vinyl chloride	Ave	0.4213	0.4126		0.00979	0.0100	-2.1	20.0
Butadiene	Ave	0.3951	0.3681		0.00932	0.0100	-6.8	50.0
Bromomethane	Ave	0.1393	0.1386		0.00995	0.0100	-0.5	50.0
Chloroethane	Ave	0.2241	0.2155		0.00962	0.0100	-3.8	50.0
Dichlorofluoromethane	Ave	0.4924	0.4860		0.00987	0.0100	-1.3	50.0
Trichlorofluoromethane	Ave	0.2524	0.2694		0.0107	0.0100	6.8	50.0
Ethyl ether	Ave	0.2373	0.2405		0.0101	0.0100	1.4	50.0
Acrolein	Ave	0.0276	0.0413		0.0749	0.0500	49.8	50.0
1,1,2-Trichlorotrifluoroethane	Ave	0.2139	0.2353		0.0110	0.0100	10.0	50.0
1,1-Dichloroethene	Ave	0.2948	0.3180		0.0108	0.0100	7.9	20.0
Acetone	Lin1		0.0617		0.0154	0.0200	-23.0	50.0
Iodomethane	Ave	0.4487	0.5028		0.0112	0.0100	12.1	50.0
Carbon disulfide	Ave	0.8567	0.9472		0.0111	0.0100	10.6	50.0
3-Chloro-1-propene	Ave	0.1674	0.1872		0.0112	0.0100	11.9	50.0
Methyl acetate	Ave	0.1562	0.1548		0.0495	0.0500	-0.9	50.0
Methylene Chloride	Lin1		0.3544		0.0107	0.0100	7.3	50.0
tert-Butyl alcohol	Ave	0.0095	0.0086		0.0907	0.100	-9.3	50.0
Acrylonitrile	Ave	0.0871	0.0893		0.103	0.100	2.6	50.0
Methyl tert-butyl ether	Ave	0.5780	0.6020		0.0104	0.0100	4.1	50.0
trans-1,2-Dichloroethene	Ave	0.3190	0.3457		0.0108	0.0100	8.4	50.0
Hexane	Ave	0.0781	0.0849		0.0109	0.0100	8.7	20.0
1,1-Dichloroethane	Ave	0.5441	0.5576	0.1000	0.0102	0.0100	2.5	50.0
Vinyl acetate	Ave	0.3607	0.4002		0.0111	0.0100	10.9	50.0
2,2-Dichloropropane	Ave	0.1735	0.1819		0.0105	0.0100	4.8	50.0
cis-1,2-Dichloroethene	Ave	0.3431	0.3582		0.0104	0.0100	4.4	50.0
2-Butanone (MEK)	Ave	0.1018	0.0930		0.0183	0.0200	-8.6	50.0
Bromochloromethane	Ave	0.1527	0.1581		0.0104	0.0100	3.6	50.0
Tetrahydrofuran	Ave	0.0568	0.0553		0.0195	0.0200	-2.6	50.0
Chloroform	Ave	0.5085	0.5370		0.0106	0.0100	5.6	20.0
1,1,1-Trichloroethane	Ave	0.3093	0.3345		0.0108	0.0100	8.1	50.0
Cyclohexane	Ave	0.5356	0.5820		0.0109	0.0100	8.7	50.0
1,1-Dichloropropene	Ave	0.4235	0.4371		0.0103	0.0100	3.2	50.0
Carbon tetrachloride	Ave	0.2551	0.2760		0.0108	0.0100	8.2	50.0
Isobutyl alcohol	Ave	0.0048	0.0045		0.231	0.250	-7.7	50.0
Benzene	Ave	1.297	1.346		0.0104	0.0100	3.7	50.0
1,2-Dichloroethane	Ave	0.3701	0.3803		0.0103	0.0100	2.8	50.0
n-Heptane	Ave	0.0709	0.0751		0.0106	0.0100	6.0	50.0
Trichloroethene	Ave	0.3242	0.3424		0.0106	0.0100	5.6	50.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 240-235700/14 Calibration Date: 06/23/2016 14:16  
 Instrument ID: A3UX15 Calib Start Date: 06/23/2016 12:01  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/23/2016 13:53  
 Lab File ID: UXC9014.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	0.4846	0.5143		0.0106	0.0100	6.1	50.0
1,2-Dichloropropane	Ave	0.2882	0.3125		0.0108	0.0100	8.4	20.0
Dibromomethane	Ave	0.1523	0.1580		0.0104	0.0100	3.7	50.0
1,4-Dioxane	Ave	0.0021	0.0016		0.153	0.200	-23.6	50.0
Bromodichloromethane	Ave	0.3088	0.3286		0.0106	0.0100	6.4	50.0
2-Chloroethyl vinyl ether	Ave	0.1461	0.1547		0.0106	0.0100	5.9	50.0
cis-1,3-Dichloropropene	Lin1		0.3799		0.00967	0.0100	-3.3	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1749	0.1785		0.0204	0.0200	2.1	50.0
Toluene	Ave	1.810	1.889		0.0104	0.0100	4.4	20.0
trans-1,3-Dichloropropene	Lin1		0.3654		0.00901	0.0100	-9.9	50.0
Ethyl methacrylate	Ave	0.3599	0.4014		0.0112	0.0100	11.5	50.0
1,1,2-Trichloroethane	Ave	0.3112	0.3226		0.0104	0.0100	3.7	50.0
Tetrachloroethene	Ave	0.3500	0.3627		0.0104	0.0100	3.6	50.0
1,3-Dichloropropane	Ave	0.5823	0.6023		0.0103	0.0100	3.4	50.0
2-Hexanone	Ave	0.1630	0.1674		0.0205	0.0200	2.7	50.0
Chlorodibromomethane	Ave	0.2750	0.2891		0.0105	0.0100	5.1	50.0
1,2-Dibromoethane	Ave	0.2951	0.3176		0.0108	0.0100	7.6	50.0
Chlorobenzene	Ave	1.164	1.192	0.3000	0.0102	0.0100	2.3	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3072	0.3146		0.0102	0.0100	2.4	50.0
Ethylbenzene	Ave	0.6168	0.6406		0.0104	0.0100	3.9	20.0
m-Xylene & p-Xylene	Ave	1.527	1.578		0.0103	0.0100	3.3	50.0
o-Xylene	Ave	0.7251	0.7431		0.0102	0.0100	2.5	50.0
Styrene	Ave	1.217	1.297		0.0107	0.0100	6.6	50.0
Bromoform	Lin1		0.1506	0.1000	0.00968	0.0100	-3.2	50.0
Isopropylbenzene	Ave	1.715	1.785		0.0104	0.0100	4.1	50.0
1,1,2,2-Tetrachloroethane	Ave	0.7771	0.8287	0.3000	0.0107	0.0100	6.6	50.0
Bromobenzene	Ave	1.036	1.111		0.0107	0.0100	7.2	50.0
1,2,3-Trichloropropane	Ave	0.2460	0.2711		0.0110	0.0100	10.2	50.0
trans-1,4-Dichloro-2-butene	Ave	0.2183	0.2313		0.0106	0.0100	5.9	50.0
N-Propylbenzene	Ave	1.046	1.121		0.0107	0.0100	7.2	50.0
2-Chlorotoluene	Ave	0.9116	0.9667		0.0106	0.0100	6.0	50.0
1,3,5-Trimethylbenzene	Ave	2.964	3.080		0.0104	0.0100	3.9	50.0
4-Chlorotoluene	Ave	3.157	3.319		0.0105	0.0100	5.1	50.0
tert-Butylbenzene	Ave	2.401	2.534		0.0106	0.0100	5.6	50.0
1,2,4-Trimethylbenzene	Ave	3.007	3.055		0.0102	0.0100	1.6	50.0
sec-Butylbenzene	Ave	3.213	3.336		0.0104	0.0100	3.8	50.0
1,3-Dichlorobenzene	Ave	1.723	1.718		0.00997	0.0100	-0.3	50.0
4-Isopropyltoluene	Ave	2.700	2.773		0.0103	0.0100	2.7	50.0
1,4-Dichlorobenzene	Ave	1.765	1.763		0.00999	0.0100	-0.1	50.0
n-Butylbenzene	Ave	2.151	2.130		0.00990	0.0100	-1.0	50.0
1,2-Dichlorobenzene	Ave	1.577	1.548		0.00981	0.0100	-1.9	50.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 240-235700/14 Calibration Date: 06/23/2016 14:16  
 Instrument ID: A3UX15 Calib Start Date: 06/23/2016 12:01  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/23/2016 13:53  
 Lab File ID: UXC9014.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Ave	0.0839	0.0824		0.00982	0.0100	-1.8	50.0
1,2,4-Trichlorobenzene	Ave	0.8173	0.7237		0.00885	0.0100	-11.5	50.0
Hexachlorobutadiene	Ave	0.3769	0.3089		0.00820	0.0100	-18.0	50.0
Naphthalene	Ave	1.726	1.505		0.00872	0.0100	-12.8	50.0
1,2,3-Trichlorobenzene	Ave	0.7228	0.5970		0.00826	0.0100	-17.4	50.0
Dibromofluoromethane (Surr)	Ave	0.2601	0.2609		0.00804	0.00801	0.3	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3152	0.3049		0.00775	0.00801	-3.3	50.0
Toluene-d8 (Surr)	Ave	1.543	1.568		0.00814	0.00801	1.6	50.0
4-Bromofluorobenzene (Surr)	Ave	0.5279	0.5475		0.00831	0.00801	3.7	50.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 240-235700/15 Calibration Date: 06/23/2016 16:52  
 Instrument ID: A3UX15 Calib Start Date: 06/23/2016 14:38  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/23/2016 16:30  
 Lab File ID: UXC9021.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acetonitrile	Ave	0.0274	0.0239		0.0873	0.100	-12.7	50.0
Diisopropyl ether	Ave	0.2533	0.2592		0.0102	0.0100	2.3	50.0
2-Chloro-1,3-butadiene	Ave	0.4549	0.4689		0.0103	0.0100	3.1	50.0
Ethyl tert-butyl ether	Ave	0.6336	0.6351		0.0100	0.0100	0.2	50.0
Ethyl acetate	Ave	0.1549	0.1602		0.0207	0.0200	3.4	50.0
Propionitrile	Ave	0.0303	0.0294		0.0970	0.100	-3.0	50.0
Methacrylonitrile	Ave	0.1342	0.1343		0.100	0.100	0.0	50.0
Tert-amyl methyl ether	Ave	0.4794	0.4766		0.00994	0.0100	-0.6	50.0
n-Butanol	Ave	0.0033	0.0025		0.189	0.250	-24.4	50.0
Methyl methacrylate	Ave	0.1732	0.1774		0.0205	0.0200	2.4	50.0
2-Nitropropane	Ave	0.0227	0.0209		0.0183	0.0200	-8.3	50.0
1-Chlorohexane	Ave	0.4595	0.4468		0.00973	0.0100	-2.7	50.0
Cyclohexanone	Ave	0.0138	0.0107		0.0771	0.100	-22.9	50.0
Pentachloroethane	Qua		0.0896		0.0145	0.0200	-27.7	50.0
1,2,3-Trimethylbenzene	Ave	2.918	2.777		0.00952	0.0100	-4.8	50.0
Benzyl chloride	Qua		0.0650		0.00889	0.0100	-11.1	50.0
1,3,5-Trichlorobenzene	Ave	1.027	0.8443		0.00822	0.0100	-17.8	50.0
2-Methylnaphthalene	Ave	0.8699	0.4078		0.00938	0.0200	-53.1*	50.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 240-250454/2 Calibration Date: 10/08/2016 10:30  
 Instrument ID: A3UX15 Calib Start Date: 06/23/2016 12:01  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/23/2016 13:53  
 Lab File ID: UXC8755.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3296	0.3973		0.0121	0.0100	20.5	50.0
Chloromethane	Ave	0.4664	0.4429	0.1000	0.00950	0.0100	-5.0	50.0
Vinyl chloride	Ave	0.4213	0.3958		0.00940	0.0100	-6.0	20.0
Butadiene	Ave	0.3951	0.3637		0.00921	0.0100	-7.9	50.0
Bromomethane	Ave	0.1393	0.0991		0.00711	0.0100	-28.9	50.0
Chloroethane	Ave	0.2241	0.1684		0.00751	0.0100	-24.9	50.0
Dichlorofluoromethane	Ave	0.4924	0.4212		0.00855	0.0100	-14.5	50.0
Trichlorofluoromethane	Ave	0.2524	0.4335		0.0172	0.0100	71.8*	50.0
Ethyl ether	Ave	0.2373	0.2081		0.00877	0.0100	-12.3	50.0
Acrolein	Ave	0.0276	0.0234		0.0424	0.0500	-15.2	50.0
1,1-Dichloroethene	Ave	0.2948	0.3113		0.0106	0.0100	5.6	20.0
1,1,2-Trichlorotrifluoroethane	Ave	0.2139	0.2582		0.0121	0.0100	20.7	50.0
Acetone	Lin1		0.0564		0.0139	0.0200	-30.5	50.0
Iodomethane	Ave	0.4487	0.5269		0.0117	0.0100	17.4	50.0
Carbon disulfide	Ave	0.8567	0.9074		0.0106	0.0100	5.9	50.0
3-Chloro-1-propene	Ave	0.1674	0.1810		0.0108	0.0100	8.2	50.0
Methyl acetate	Ave	0.1562	0.1352		0.0433	0.0500	-13.5	50.0
Methylene Chloride	Lin1		0.3535		0.0107	0.0100	7.0	50.0
tert-Butyl alcohol	Ave	0.0095	0.0086		0.0904	0.100	-9.6	50.0
Acrylonitrile	Ave	0.0871	0.0745		0.0855	0.100	-14.5	50.0
Methyl tert-butyl ether	Ave	0.5780	0.6211		0.0107	0.0100	7.5	50.0
trans-1,2-Dichloroethene	Ave	0.3190	0.3400		0.0107	0.0100	6.6	50.0
Hexane	Ave	0.0781	0.0840		0.0108	0.0100	7.5	20.0
1,1-Dichloroethane	Ave	0.5441	0.5563	0.1000	0.0102	0.0100	2.2	50.0
Vinyl acetate	Ave	0.3607	0.3087		0.00856	0.0100	-14.4	50.0
2,2-Dichloropropane	Ave	0.1735	0.2739		0.0158	0.0100	57.9*	50.0
cis-1,2-Dichloroethene	Ave	0.3431	0.3557		0.0104	0.0100	3.7	50.0
2-Butanone (MEK)	Ave	0.1018	0.0810		0.0159	0.0200	-20.4	50.0
Bromochloromethane	Ave	0.1527	0.1628		0.0107	0.0100	6.7	50.0
Tetrahydrofuran	Ave	0.0568	0.0507		0.0178	0.0200	-10.8	50.0
Chloroform	Ave	0.5085	0.5199		0.0102	0.0100	2.2	20.0
1,1,1-Trichloroethane	Ave	0.3093	0.4155		0.0134	0.0100	34.3	50.0
Cyclohexane	Ave	0.5356	0.5713		0.0107	0.0100	6.7	50.0
1,1-Dichloropropene	Ave	0.4235	0.4352		0.0103	0.0100	2.8	50.0
Carbon tetrachloride	Ave	0.2551	0.3775		0.0148	0.0100	48.0	50.0
Isobutyl alcohol	Ave	0.0048	0.0038		0.196	0.250	-21.5	50.0
Benzene	Ave	1.297	1.324		0.0102	0.0100	2.0	50.0
1,2-Dichloroethane	Ave	0.3701	0.3515		0.00950	0.0100	-5.0	50.0
n-Heptane	Ave	0.0709	0.0800		0.0113	0.0100	12.9	50.0
Trichloroethene	Ave	0.3242	0.3477		0.0107	0.0100	7.2	50.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 240-250454/2 Calibration Date: 10/08/2016 10:30  
 Instrument ID: A3UX15 Calib Start Date: 06/23/2016 12:01  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/23/2016 13:53  
 Lab File ID: UXC8755.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	0.4846	0.5289		0.0109	0.0100	9.2	50.0
1,2-Dichloropropane	Ave	0.2882	0.3034		0.0105	0.0100	5.3	20.0
1,4-Dioxane	Ave	0.0021	0.0011		0.106	0.200	-47.0	50.0
Dibromomethane	Ave	0.1523	0.1496		0.00982	0.0100	-1.8	50.0
Bromodichloromethane	Ave	0.3088	0.3368		0.0109	0.0100	9.1	50.0
2-Chloroethyl vinyl ether	Ave	0.1461	0.1453		0.0199	0.0200	-0.5	50.0
cis-1,3-Dichloropropene	Lin1		0.4021		0.0102	0.0100	2.0	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1749	0.1577		0.0180	0.0200	-9.8	50.0
Toluene	Ave	1.810	1.942		0.0107	0.0100	7.3	20.0
trans-1,3-Dichloropropene	Lin1		0.4035		0.00989	0.0100	-1.1	50.0
Ethyl methacrylate	Ave	0.3599	0.3736		0.0104	0.0100	3.8	50.0
1,1,2-Trichloroethane	Ave	0.3112	0.3148		0.0101	0.0100	1.2	50.0
Tetrachloroethene	Ave	0.3500	0.3923		0.0112	0.0100	12.1	50.0
1,3-Dichloropropane	Ave	0.5823	0.5751		0.00988	0.0100	-1.2	50.0
2-Hexanone	Ave	0.1630	0.1409		0.0173	0.0200	-13.6	50.0
Chlorodibromomethane	Ave	0.2750	0.3193		0.0116	0.0100	16.1	50.0
1,2-Dibromoethane	Ave	0.2951	0.2982		0.0101	0.0100	1.0	50.0
Chlorobenzene	Ave	1.164	1.240	0.3000	0.0107	0.0100	6.5	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3072	0.3839		0.0125	0.0100	24.9	50.0
Ethylbenzene	Ave	0.6168	0.6688		0.0108	0.0100	8.4	20.0
m-Xylene & p-Xylene	Ave	1.527	1.599		0.0105	0.0100	4.8	50.0
o-Xylene	Ave	0.7251	0.7852		0.0108	0.0100	8.3	50.0
Styrene	Ave	1.217	1.349		0.0111	0.0100	10.8	50.0
Bromoform	Lin1		0.1484	0.1000	0.00954	0.0100	-4.6	50.0
Isopropylbenzene	Ave	1.715	1.903		0.0111	0.0100	11.0	50.0
1,1,2,2-Tetrachloroethane	Ave	0.7771	0.6361	0.3000	0.00819	0.0100	-18.1	50.0
Bromobenzene	Ave	1.036	0.9727		0.00939	0.0100	-6.1	50.0
1,2,3-Trichloropropane	Ave	0.2460	0.2064		0.00839	0.0100	-16.1	50.0
trans-1,4-Dichloro-2-butene	Ave	0.2183	0.1715		0.00786	0.0100	-21.4	50.0
N-Propylbenzene	Ave	1.046	1.008		0.00963	0.0100	-3.7	50.0
2-Chlorotoluene	Ave	0.9116	0.8680		0.00952	0.0100	-4.8	50.0
1,3,5-Trimethylbenzene	Ave	2.964	2.826		0.00953	0.0100	-4.7	50.0
4-Chlorotoluene	Ave	3.157	2.966		0.00939	0.0100	-6.1	50.0
tert-Butylbenzene	Ave	2.401	2.503		0.0104	0.0100	4.3	50.0
1,2,4-Trimethylbenzene	Ave	3.007	2.923		0.00972	0.0100	-2.8	50.0
sec-Butylbenzene	Ave	3.213	3.205		0.00998	0.0100	-0.2	50.0
1,3-Dichlorobenzene	Ave	1.723	1.699		0.00986	0.0100	-1.4	50.0
4-Isopropyltoluene	Ave	2.700	2.828		0.0105	0.0100	4.8	50.0
1,4-Dichlorobenzene	Ave	1.765	1.737		0.00984	0.0100	-1.6	50.0
n-Butylbenzene	Ave	2.151	2.174		0.0101	0.0100	1.1	50.0
1,2-Dichlorobenzene	Ave	1.577	1.546		0.00980	0.0100	-2.0	50.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 240-250454/2 Calibration Date: 10/08/2016 10:30  
 Instrument ID: A3UX15 Calib Start Date: 06/23/2016 12:01  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/23/2016 13:53  
 Lab File ID: UXC8755.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Ave	0.0839	0.0693		0.00826	0.0100	-17.4	50.0
1,2,4-Trichlorobenzene	Ave	0.8173	0.7673		0.00939	0.0100	-6.1	50.0
Hexachlorobutadiene	Ave	0.3769	0.3715		0.00986	0.0100	-1.4	50.0
Naphthalene	Ave	1.726	1.237		0.00717	0.0100	-28.3	50.0
1,2,3-Trichlorobenzene	Ave	0.7228	0.6058		0.00838	0.0100	-16.2	50.0
Dibromofluoromethane (Surr)	Ave	0.2601	0.2782		0.00857	0.00801	7.0	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3152	0.2951		0.00750	0.00801	-6.4	50.0
Toluene-d8 (Surr)	Ave	1.543	1.726		0.00896	0.00801	11.8	50.0
4-Bromofluorobenzene (Surr)	Ave	0.5279	0.6143		0.00932	0.00801	16.4	50.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 240-250454/3 Calibration Date: 10/08/2016 11:16  
 Instrument ID: A3UX15 Calib Start Date: 06/23/2016 14:38  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/23/2016 16:30  
 Lab File ID: UXC8757.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acetonitrile	Ave	0.0274	0.0260		0.0950	0.100	-5.0	50.0
Diisopropyl ether	Ave	0.2533	0.2754		0.0109	0.0100	8.7	50.0
2-Chloro-1,3-butadiene	Ave	0.4549	0.4911		0.0108	0.0100	8.0	50.0
Ethyl tert-butyl ether	Ave	0.6336	0.7139		0.0113	0.0100	12.7	50.0
Ethyl acetate	Ave	0.1549	0.1625		0.0210	0.0200	4.9	50.0
Propionitrile	Ave	0.0303	0.0284		0.0939	0.100	-6.1	50.0
Methacrylonitrile	Ave	0.1342	0.1257		0.0936	0.100	-6.4	50.0
Tert-amyl methyl ether	Ave	0.4794	0.5589		0.0117	0.0100	16.6	50.0
n-Butanol	Ave	0.0033	0.0031		0.235	0.250	-5.8	50.0
Methyl methacrylate	Ave	0.1732	0.1713		0.0198	0.0200	-1.1	50.0
2-Nitropropane	Ave	0.0227	0.0258		0.0227	0.0200	13.6	50.0
1-Chlorohexane	Ave	0.4595	0.4959		0.0108	0.0100	7.9	50.0
Cyclohexanone	Ave	0.0138	0.0119		0.0856	0.100	-14.4	50.0
Pentachloroethane	Qua		0.2322		0.0334	0.0200	66.9*	50.0
1,2,3-Trimethylbenzene	Ave	2.918	2.893		0.00991	0.0100	-0.9	50.0
Benzyl chloride	Qua		0.0905		0.0118	0.0100	17.6	50.0
1,3,5-Trichlorobenzene	Ave	1.027	0.9737		0.00948	0.0100	-5.2	50.0
2-Methylnaphthalene	Ave	0.8699	0.2530		0.00582	0.0200	-70.9*	50.0

FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: UXC8759.D Lab Sample ID: MB 240-250454/7  
 Matrix: Water Heated Purge: (Y/N) N  
 Instrument ID: A3UX15 Date Analyzed: 10/08/2016 12:01  
 GC Column: DB-624 ID: 0.18 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 240-250454/4	UXC8756.D	10/08/2016 10:53
MRC-SW1A-092716	240-70040-1	UXC8760.D	10/08/2016 12:24
MRC-SW2A-092716	240-70040-2	UXC8761.D	10/08/2016 12:49
MRC-SW5A1-092716	240-70040-3	UXC8762.D	10/08/2016 13:12
MRC-SW5A2-092716	240-70040-4	UXC8763.D	10/08/2016 13:34
MRC-SW5B-092716	240-70040-5	UXC8764.D	10/08/2016 13:56
MRC-SW6A-092716	240-70040-6	UXC8765.D	10/08/2016 14:18
MRC-SW6B-092716	240-70040-7	UXC8766.D	10/08/2016 14:41
MRC-SW7A-092716	240-70040-8	UXC8767.D	10/08/2016 15:03
MRC-SW7B-092716	240-70040-9	UXC8768.D	10/08/2016 15:26
MRC-SW8A-092716	240-70040-10	UXC8769.D	10/08/2016 15:48
MRC-SW8B-092716	240-70040-11	UXC8770.D	10/08/2016 16:10
MRC-SW9A-092716	240-70040-12	UXC8771.D	10/08/2016 16:32
MRC-SW9B-092716	240-70040-13	UXC8772.D	10/08/2016 16:55
TB-092716	240-70040-14	UXC8773.D	10/08/2016 17:17
MRC-SWDUP-092716	240-70040-15	UXC8774.D	10/08/2016 17:39

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 240-250454/7  
 Matrix: Water Lab File ID: UXC8759.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 12:01  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	0.94	U	10	0.94
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	1.0	0.28
71-43-2	Benzene	0.35	U	1.0	0.35
75-27-4	Bromodichloromethane	0.29	U	1.0	0.29
75-25-2	Bromoform	0.56	U	1.0	0.56
74-83-9	Bromomethane	0.44	U	1.0	0.44
78-93-3	2-Butanone (MEK)	0.53	U	10	0.53
75-15-0	Carbon disulfide	0.38	U	1.0	0.38
56-23-5	Carbon tetrachloride	0.43	U	1.0	0.43
108-90-7	Chlorobenzene	0.25	U	1.0	0.25
75-00-3	Chloroethane	0.32	U	1.0	0.32
67-66-3	Chloroform	0.25	U	1.0	0.25
563-58-6	1,1-Dichloropropene	0.42	U	1.0	0.42
74-87-3	Chloromethane	0.44	U	1.0	0.44
75-34-3	1,1-Dichloroethane	0.30	U	1.0	0.30
87-61-6	1,2,3-Trichlorobenzene	0.37	U	1.0	0.37
96-18-4	1,2,3-Trichloropropane	0.44	U	1.0	0.44
107-06-2	1,2-Dichloroethane	0.23	U	1.0	0.23
75-35-4	1,1-Dichloroethene	0.45	U	1.0	0.45
526-73-8	1,2,3-Trimethylbenzene	0.47	U	5.0	0.47
78-87-5	1,2-Dichloropropane	0.25	U	1.0	0.25
95-63-6	1,2,4-Trimethylbenzene	0.41	U	1.0	0.41
10061-01-5	cis-1,3-Dichloropropene	0.46	U	1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	0.56	U	1.0	0.56
100-41-4	Ethylbenzene	0.25	U	1.0	0.25
591-78-6	2-Hexanone	0.48	U	10	0.48
75-09-2	Methylene Chloride	0.33	U	1.0	0.33
108-10-1	4-Methyl-2-pentanone (MIBK)	0.99	U	10	0.99
100-42-5	Styrene	0.45	U	1.0	0.45
79-34-5	1,1,2,2-Tetrachloroethane	0.22	U	1.0	0.22
127-18-4	Tetrachloroethene	0.31	U	1.0	0.31
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.22	U	1.0	0.22
75-01-4	Vinyl chloride	0.29	U	1.0	0.29
1330-20-7	Xylenes, Total	0.52	U	2.0	0.52
71-55-6	1,1,1-Trichloroethane	0.44	U	1.0	0.44

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 240-250454/7  
 Matrix: Water Lab File ID: UXC8759.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 12:01  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.19	U	1.0	0.19
96-12-8	1,2-Dibromo-3-Chloropropane	0.82	U	2.0	0.82
106-93-4	1,2-Dibromoethane	0.32	U	1.0	0.32
75-71-8	Dichlorodifluoromethane	0.32	U	1.0	0.32
156-59-2	cis-1,2-Dichloroethene	0.26	U	1.0	0.26
156-60-5	trans-1,2-Dichloroethene	0.30	U	1.0	0.30
98-82-8	Isopropylbenzene	0.35	U	1.0	0.35
1634-04-4	Methyl tert-butyl ether	0.20	U	1.0	0.20
76-13-1	1,1,2-Trichlorotrifluoroethane	0.45	U	1.0	0.45
120-82-1	1,2,4-Trichlorobenzene	0.32	U	1.0	0.32
594-20-7	2,2-Dichloropropane	0.26	U	1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.25	U	1.0	0.25
541-73-1	1,3-Dichlorobenzene	0.19	U	1.0	0.19
106-46-7	1,4-Dichlorobenzene	0.27	U	1.0	0.27
110-75-8	2-Chloroethyl vinyl ether	0.59	U	10	0.59
75-69-4	Trichlorofluoromethane	0.49	U	1.0	0.49
95-49-8	2-Chlorotoluene	0.40	U	1.0	0.40
124-48-1	Chlorodibromomethane	0.43	U	1.0	0.43
108-86-1	Bromobenzene	0.35	U	1.0	0.35
74-97-5	Bromochloromethane	0.50	U	1.0	0.50
106-43-4	4-Chlorotoluene	0.29	U	1.0	0.29
99-87-6	4-Isopropyltoluene	0.43	U	1.0	0.43
87-68-3	Hexachlorobutadiene	0.35	U	1.0	0.35
74-95-3	Dibromomethane	0.42	U	1.0	0.42
108-20-3	Diisopropyl ether	0.50	U	10	0.50
91-20-3	Naphthalene	0.45	U	1.0	0.45
104-51-8	n-Butylbenzene	0.31	U	1.0	0.31
103-65-1	N-Propylbenzene	0.40	U	1.0	0.40
135-98-8	sec-Butylbenzene	0.48	U	1.0	0.48
994-05-8	Tert-amyl methyl ether	0.30	U	5.0	0.30
637-92-3	Ethyl tert-butyl ether	0.23	U	5.0	0.23
98-06-6	tert-Butylbenzene	0.41	U	1.0	0.41
108-05-4	Vinyl acetate	0.41	U	2.0	0.41
75-65-0	tert-Butyl alcohol	4.9	U	50	4.9

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 240-250454/7  
 Matrix: Water Lab File ID: UXC8759.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 12:01  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		63-132
460-00-4	4-Bromofluorobenzene (Surr)	107		73-120
2037-26-5	Toluene-d8 (Surr)	103		73-124
1868-53-7	Dibromofluoromethane (Surr)	101		80-120

FORM II  
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-70040-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low

GC Column (1): DB-624 ID: 0.18 (mm)

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
MRC-SW1A-092716	240-70040-1	107	98	105	115
MRC-SW2A-092716	240-70040-2	104	98	106	113
MRC-SW5A1-092716	240-70040-3	101	99	106	109
MRC-SW5A2-092716	240-70040-4	103	96	101	109
MRC-SW5B-092716	240-70040-5	103	97	104	111
MRC-SW6A-092716	240-70040-6	106	96	104	113
MRC-SW6B-092716	240-70040-7	104	96	101	110
MRC-SW7A-092716	240-70040-8	105	97	105	112
MRC-SW7B-092716	240-70040-9	100	96	102	107
MRC-SW8A-092716	240-70040-10	104	99	103	111
MRC-SW8B-092716	240-70040-11	104	97	104	107
MRC-SW9A-092716	240-70040-12	104	98	103	108
MRC-SW9B-092716	240-70040-13	104	96	103	113
TB-092716	240-70040-14	103	98	103	110
MRC-SWDUP-092716	240-70040-15	104	98	103	110
	MB 240-250454/7	101	93	103	107
	LCS 240-250454/4	108	96	108	117

DBFM = Dibromofluoromethane (Surr)  
DCA = 1,2-Dichloroethane-d4 (Surr)  
TOL = Toluene-d8 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)

QC LIMITS  
80-120  
63-132  
73-124  
73-120

# Column to be used to flag recovery values

FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-70040-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low Lab File ID: UXC8756.D

Lab ID: LCS 240-250454/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Acetone	20.0	12.5	62	46-120	
1,1,1,2-Tetrachloroethane	10.0	11.2	112	77-126	
Benzene	10.0	9.48	95	80-120	
Bromodichloromethane	10.0	9.88	99	76-125	
Bromoform	10.0	9.02	90	52-157	
Bromomethane	10.0	8.95	90	24-160	
2-Butanone (MEK)	20.0	14.6	73	54-122	
Carbon disulfide	10.0	9.30	93	58-160	
Carbon tetrachloride	10.0	13.3	133	69-149	
Chlorobenzene	10.0	9.67	97	80-120	
Chloroethane	10.0	8.87	89	24-147	
Chloroform	10.0	9.81	98	80-120	
1,1-Dichloropropene	10.0	9.30	93	80-120	
Chloromethane	10.0	9.50	95	50-135	
1,1-Dichloroethane	10.0	9.37	94	77-121	
1,2,3-Trichlorobenzene	10.0	9.39	94	53-135	
1,2,3-Trichloropropane	10.0	7.56	76	65-135	
1,2-Dichloroethane	10.0	8.94	89	76-130	
1,1-Dichloroethene	10.0	9.33	93	70-141	
1,2-Dichloropropane	10.0	9.80	98	79-121	
1,2,4-Trimethylbenzene	10.0	9.17	92	77-120	
cis-1,3-Dichloropropene	10.0	9.16	92	75-120	
trans-1,3-Dichloropropene	10.0	8.64	86	65-120	
Ethylbenzene	10.0	9.73	97	80-120	
2-Hexanone	20.0	14.4	72	56-124	
Methylene Chloride	10.0	10.0	100	68-136	
4-Methyl-2-pentanone (MIBK)	20.0	17.0	85	60-131	
Styrene	10.0	10.3	103	80-120	
1,1,2,2-Tetrachloroethane	10.0	7.37	74	61-130	
Tetrachloroethene	10.0	9.99	100	80-123	
Toluene	10.0	9.63	96	80-121	
Trichloroethene	10.0	10.2	102	80-122	
Vinyl chloride	10.0	9.20	92	60-129	
Xylenes, Total	20.0	19.7	99	80-120	
1,1,1-Trichloroethane	10.0	12.1	121	79-133	
1,3-Dichloropropane	10.0	8.63	86	77-120	
1,2-Dibromo-3-Chloropropane	10.0	8.64	86	46-140	
1,2-Dibromoethane	10.0	9.13	91	80-126	
Dichlorodifluoromethane	10.0	10.1	101	32-140	
cis-1,2-Dichloroethene	10.0	9.98	100	80-120	
trans-1,2-Dichloroethene	10.0	10.1	101	80-123	
Isopropylbenzene	10.0	10.8	108	80-120	

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: UXC8756.D  
 Lab ID: LCS 240-250454/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Methyl tert-butyl ether	10.0	10.1	101	75-126	
1,1,2-Trichlorotrifluoroethane	10.0	11.0	110	65-151	
1,2,4-Trichlorobenzene	10.0	10.2	102	53-137	
2,2-Dichloropropane	10.0	13.8	138	70-137	*
1,2-Dichlorobenzene	10.0	9.61	96	80-120	
1,3-Dichlorobenzene	10.0	9.35	94	80-120	
1,4-Dichlorobenzene	10.0	9.46	95	80-120	
2-Chloroethyl vinyl ether	10.0	8.32 J	83	51-138	
Trichlorofluoromethane	10.0	16.8	168	56-161	*
2-Chlorotoluene	10.0	8.73	87	76-120	
Bromobenzene	10.0	8.36	84	79-120	
Bromochloromethane	10.0	10.0	100	77-125	
4-Chlorotoluene	10.0	8.54	85	77-120	
4-Isopropyltoluene	10.0	10.1	101	75-120	
m-Xylene & p-Xylene	10.0	9.70	97	80-120	
o-Xylene	10.0	10.0	100	80-120	
Hexachlorobutadiene	10.0	10.5	105	55-134	
Dibromomethane	10.0	9.28	93	73-127	
Naphthalene	10.0	8.34	83	39-148	
n-Butylbenzene	10.0	9.74	97	66-120	
N-Propylbenzene	10.0	8.56	86	75-121	
sec-Butylbenzene	10.0	9.43	94	72-120	
tert-Butylbenzene	10.0	9.25	92	78-120	
Vinyl acetate	10.0	8.11	81	57-144	
tert-Butyl alcohol	100	97.9	98	47-137	

# Column to be used to flag recovery and RPD values



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

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: STD8260 240-235700/4 Date Analyzed: 06/23/2016 12:46  
 Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18 (mm)  
 Lab File ID (Standard): UXC9010.D Heated Purge: (Y/N) N  
 Calibration ID: 34930

	FB		CBNZd5		DCBd4		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
INITIAL CALIBRATION MID-POINT	1646184	5.13	1222360	7.81	530154	10.04	
UPPER LIMIT	3292368	5.63	2444720	8.31	1060308	10.54	
LOWER LIMIT	823092	4.63	611180	7.31	265077	9.54	
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 240-235700/14		1661685	5.13	1268289	7.81	530949	10.04
ICV 240-235700/15		1649875	5.13	1270373	7.81	493234	10.04
CCVIS 240-250454/2		1916572	5.03	1440646	7.68	751283	9.91

FB = Fluorobenzene

CBNZd5 = Chlorobenzene-d5

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 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 Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 240-250454/2 Date Analyzed: 10/08/2016 10:30  
 Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18 (mm)  
 Lab File ID (Standard): UXC8755.D Heated Purge: (Y/N) N  
 Calibration ID: 36079

	FB		CBNZd5		DCBd4		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
12/24 HOUR STD	1916572	5.03	1440646	7.68	751283	9.91	
UPPER LIMIT	3833144	5.53	2881292	8.18	1502566	10.41	
LOWER LIMIT	958286	4.53	720323	7.18	375642	9.41	
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 240-250454/4		1962696	5.03	1492659	7.68	844633	9.91
CCV 240-250454/3		2020204	5.03	1622318	7.68	889810	9.91
MB 240-250454/7		1974790	5.03	1527963	7.68	784855	9.91
240-70040-1	MRC-SW1A-092716	1859881	5.03	1402297	7.68	771622	9.91
240-70040-2	MRC-SW2A-092716	1963809	5.03	1521134	7.68	810855	9.91
240-70040-3	MRC-SW5A1-092716	2006477	5.03	1515069	7.68	792802	9.91
240-70040-4	MRC-SW5A2-092716	1955749	5.03	1547569	7.68	835290	9.91
240-70040-5	MRC-SW5B-092716	1961527	5.03	1521750	7.68	834325	9.91
240-70040-6	MRC-SW6A-092716	1858972	5.03	1436289	7.68	788408	9.91
240-70040-7	MRC-SW6B-092716	1901386	5.03	1486896	7.68	773066	9.91
240-70040-8	MRC-SW7A-092716	1962808	5.03	1523666	7.68	852159	9.91
240-70040-9	MRC-SW7B-092716	1935948	5.03	1539252	7.68	800388	9.91
240-70040-10	MRC-SW8A-092716	1968573	5.03	1548415	7.68	831934	9.91
240-70040-11	MRC-SW8B-092716	1886152	5.03	1445279	7.68	743207	9.91
240-70040-12	MRC-SW9A-092716	1880065	5.03	1429210	7.68	772443	9.91
240-70040-13	MRC-SW9B-092716	1932347	5.03	1516412	7.68	863395	9.91
240-70040-14	TB-092716	1903197	5.03	1489465	7.68	816347	9.91
240-70040-15	MRC-SWDUP-092716	1962417	5.03	1550980	7.68	870717	9.91

FB = Fluorobenzene

CBNZd5 = Chlorobenzene-d5

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits

## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica CantonJob No.: 240-70040-1

SDG No.: \_\_\_\_\_

Instrument ID: A3UX15Start Date: 06/23/2016 11:35Analysis Batch Number: 235700End Date: 06/23/2016 23:14

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-235700/1		06/23/2016 11:35	1	BFB619.D	DB-624 0.18 (mm)
STD8260 240-235700/2 IC		06/23/2016 12:01	1	UXC9008.D	DB-624 0.18 (mm)
STD8260 240-235700/3 IC		06/23/2016 12:23	1	UXC9009.D	DB-624 0.18 (mm)
STD8260 240-235700/4 ICIS		06/23/2016 12:46	1	UXC9010.D	DB-624 0.18 (mm)
STD8260 240-235700/5 IC		06/23/2016 13:08	1	UXC9011.D	DB-624 0.18 (mm)
STD8260 240-235700/6 IC		06/23/2016 13:31	1	UXC9012.D	DB-624 0.18 (mm)
STD8260 240-235700/7 IC		06/23/2016 13:53	1	UXC9013.D	DB-624 0.18 (mm)
ICV 240-235700/14		06/23/2016 14:16	1	UXC9014.D	DB-624 0.18 (mm)
STD 240-235700/8 IC		06/23/2016 14:38	1	UXC9015.D	DB-624 0.18 (mm)
STD 240-235700/9 IC		06/23/2016 15:00	1	UXC9016.D	DB-624 0.18 (mm)
STD 240-235700/10 IC		06/23/2016 15:22	1	UXC9017.D	DB-624 0.18 (mm)
STD 240-235700/11 IC		06/23/2016 15:45	1	UXC9018.D	DB-624 0.18 (mm)
STD 240-235700/12 IC		06/23/2016 16:07	1	UXC9019.D	DB-624 0.18 (mm)
STD 240-235700/13 IC		06/23/2016 16:30	1	UXC9020.D	DB-624 0.18 (mm)
ICV 240-235700/15		06/23/2016 16:52	1	UXC9021.D	DB-624 0.18 (mm)
ZZZZZ		06/23/2016 17:15	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 18:00	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 18:23	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 18:45	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 19:08	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 19:30	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 19:53	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 20:15	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 20:37	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 21:00	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 21:22	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 21:45	4		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 22:07	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 22:30	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 22:52	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 23:14	1		DB-624 0.18 (mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-70040-1

SDG No.: \_\_\_\_\_

Instrument ID: A3UX15 Start Date: 10/08/2016 09:41

Analysis Batch Number: 250454 End Date: 10/08/2016 20:17

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-250454/1		10/08/2016 09:41	1	BFB61008.D	DB-624 0.18 (mm)
CCVIS 240-250454/2		10/08/2016 10:30	1	UXC8755.D	DB-624 0.18 (mm)
LCS 240-250454/4		10/08/2016 10:53	1	UXC8756.D	DB-624 0.18 (mm)
CCV 240-250454/3		10/08/2016 11:16	1	UXC8757.D	DB-624 0.18 (mm)
MB 240-250454/7		10/08/2016 12:01	1	UXC8759.D	DB-624 0.18 (mm)
240-70040-1		10/08/2016 12:24	1	UXC8760.D	DB-624 0.18 (mm)
240-70040-2		10/08/2016 12:49	1	UXC8761.D	DB-624 0.18 (mm)
240-70040-3		10/08/2016 13:12	1	UXC8762.D	DB-624 0.18 (mm)
240-70040-4		10/08/2016 13:34	1	UXC8763.D	DB-624 0.18 (mm)
240-70040-5		10/08/2016 13:56	1	UXC8764.D	DB-624 0.18 (mm)
240-70040-6		10/08/2016 14:18	1	UXC8765.D	DB-624 0.18 (mm)
240-70040-7		10/08/2016 14:41	1	UXC8766.D	DB-624 0.18 (mm)
240-70040-8		10/08/2016 15:03	1	UXC8767.D	DB-624 0.18 (mm)
240-70040-9		10/08/2016 15:26	1	UXC8768.D	DB-624 0.18 (mm)
240-70040-10		10/08/2016 15:48	1	UXC8769.D	DB-624 0.18 (mm)
240-70040-11		10/08/2016 16:10	1	UXC8770.D	DB-624 0.18 (mm)
240-70040-12		10/08/2016 16:32	1	UXC8771.D	DB-624 0.18 (mm)
240-70040-13		10/08/2016 16:55	1	UXC8772.D	DB-624 0.18 (mm)
240-70040-14		10/08/2016 17:17	1	UXC8773.D	DB-624 0.18 (mm)
240-70040-15		10/08/2016 17:39	1	UXC8774.D	DB-624 0.18 (mm)
ZZZZZ		10/08/2016 18:02	200		DB-624 0.18 (mm)
ZZZZZ		10/08/2016 18:25	20		DB-624 0.18 (mm)
ZZZZZ		10/08/2016 18:47	1		DB-624 0.18 (mm)
ZZZZZ		10/08/2016 19:10	1		DB-624 0.18 (mm)
ZZZZZ		10/08/2016 19:32	1		DB-624 0.18 (mm)
ZZZZZ		10/08/2016 19:54	20		DB-624 0.18 (mm)
ZZZZZ		10/08/2016 20:17	20		DB-624 0.18 (mm)

SAMPLE IDENTIFICATION

MRC-SW1A-092716

COMPOUND

2-Butanone

COMPOUND AREA

97153

INTERNAL STANDARD AMOUNT (ug)

10

DILUTION FACTOR

1

INTERNAL STANDARD AREA

1859881

AVERAGE RRF

0.1018

$97153 \times 10 \times 1 / 1859881 \times 0.1018$

5.13 ug/L

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-70040-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW1A-092716 Lab Sample ID: 240-70040-1  
 Matrix: Water Lab File ID: UXC8760.D  
 Analysis Method: 8260B Date Collected: 09/27/2016 10:02  
 Sample wt/vol: 5 (mL) Date Analyzed: 10/08/2016 12:24  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 250454 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	7.7	J	10	0.94
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	1.0	0.28
71-43-2	Benzene	0.35	U	1.0	0.35
75-27-4	Bromodichloromethane	0.29	U	1.0	0.29
75-25-2	Bromoform	0.56	U	1.0	0.56
74-83-9	Bromomethane	0.44	U	1.0	0.44
78-93-3	2-Butanone (MEK)	5.1	J	10	0.53
75-15-0	Carbon disulfide	0.38	U	1.0	0.38
56-23-5	Carbon tetrachloride	0.43	U	1.0	0.43
108-90-7	Chlorobenzene	0.25	U	1.0	0.25
75-00-3	Chloroethane	0.32	U	1.0	0.32
67-66-3	Chloroform	0.25	U	1.0	0.25
563-58-6	1,1-Dichloropropene	0.42	U	1.0	0.42
74-87-3	Chloromethane	0.44	U	1.0	0.44
75-34-3	1,1-Dichloroethane	0.30	U	1.0	0.30
87-61-6	1,2,3-Trichlorobenzene	0.37	U	1.0	0.37
96-18-4	1,2,3-Trichloropropane	0.44	U	1.0	0.44
107-06-2	1,2-Dichloroethane	0.23	U	1.0	0.23
75-35-4	1,1-Dichloroethene	0.45	U	1.0	0.45
526-73-8	1,2,3-Trimethylbenzene	0.47	U	5.0	0.47
78-87-5	1,2-Dichloropropane	0.25	U	1.0	0.25
95-63-6	1,2,4-Trimethylbenzene	0.41	U	1.0	0.41
10061-01-5	cis-1,3-Dichloropropene	0.46	U	1.0	0.46
10061-02-6	trans-1,3-Dichloropropene	0.56	U	1.0	0.56
100-41-4	Ethylbenzene	0.25	U	1.0	0.25
591-78-6	2-Hexanone	0.55	J	10	0.48
75-09-2	Methylene Chloride	0.33	U	1.0	0.33
108-10-1	4-Methyl-2-pentanone (MIBK)	0.99	U	10	0.99
100-42-5	Styrene	0.45	U	1.0	0.45
79-34-5	1,1,2,2-Tetrachloroethane	0.22	U	1.0	0.22
127-18-4	Tetrachloroethene	0.31	U	1.0	0.31
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.27	J	1.0	0.22
75-01-4	Vinyl chloride	0.29	U	1.0	0.29
1330-20-7	Xylenes, Total	0.52	U	2.0	0.52
71-55-6	1,1,1-Trichloroethane	0.44	U	1.0	0.44

TestAmerica Canton  
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A3UX15\20161008-58782.b\UXC8760.D  
 Lims ID: 240-70040-B-1  
 Client ID: MRC-SW1A-092716  
 Sample Type: Client  
 Inject. Date: 08-Oct-2016 12:24:30 ALS Bottle#: 6 Worklist Smp#: 33  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: 240-0058782-033  
 Misc. Info.: C61008A,8260LLUX15,,43582  
 Operator ID: Instrument ID: A3UX15  
 Method: \\ChromNA\Canton\ChromData\A3UX15\20161008-58782.b\8260\_15.m  
 Limit Group: MSV 8260B ICAL  
 Last Update: 10-Oct-2016 08:26:45 Calib Date: 17-Sep-2016 00:05:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Canton\ChromData\A3UX15\20160916-58103.b\UXC8208.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK047

First Level Reviewer: evansle

Date: 10-Oct-2016 08:14:36

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.027	5.028	-0.001	99	1859881	10.0	
* 2 Chlorobenzene-d5	117	7.684	7.684	0.000	86	1402297	10.0	
* 3 1,4-Dichlorobenzene-d4	152	9.913	9.913	0.000	94	771622	10.0	
\$ 4 Dibromofluoromethane (Surr	113	4.470	4.482	-0.012	95	415330	8.59	
\$ 5 1,2-Dichloroethane-d4 (Sur	65	4.755	4.767	-0.012	0	459636	7.84	
\$ 6 Toluene-d8 (Surr)	98	6.379	6.379	0.000	93	1824599	8.43	
\$ 7 4-Bromofluorobenzene (Surr	95	8.798	8.798	0.000	97	682250	9.22	
9 Dichlorodifluoromethane	85		1.470				ND	
10 Chloromethane	50		1.600				ND	
11 Vinyl chloride	62		1.695				ND	
13 Bromomethane	94		1.968				ND	
14 Chloroethane	64		2.051				ND	
16 Trichlorofluoromethane	101		2.229				ND	
19 1,1-Dichloroethene	96		2.656				ND	
20 1,1,2-Trichloro-1,2,2-trif	151		2.668				ND	
22 Acetone	43	2.691	2.703	-0.012	99	128445	7.69	
24 Carbon disulfide	76		2.834				ND	
28 Methylene Chloride	84		3.047				ND	
29 2-Methyl-2-propanol	59		3.130				ND	
31 Methyl tert-butyl ether	73		3.261				ND	
30 trans-1,2-Dichloroethene	96		3.272				ND	
34 1,1-Dichloroethane	63		3.616				ND	
35 Isopropyl ether	87		3.628				ND	
36 Vinyl acetate	43		3.640				ND	
38 Tert-butyl ethyl ether	59		3.925				ND	
40 2,2-Dichloropropane	77		4.079				ND	
39 cis-1,2-Dichloroethene	96		4.091				ND	
41 2-Butanone (MEK)	43	4.090	4.103	-0.013	99	97153	5.13	
45 Chlorobromomethane	128		4.292				ND	
47 Chloroform	83		4.340				ND	
48 1,1,1-Trichloroethane	97		4.494				ND	

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

Lab Name: TestAmerica Canton Job No.: 240-70040-1 Analy Batch No.: 235700

SDG No.: \_\_\_\_\_

Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/23/2016 12:01 Calibration End Date: 06/23/2016 13:53 Calibration ID: 34930

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R <sup>2</sup> OR COD	#	MIN R <sup>2</sup> OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
3-Chloro-1-propene	0.1554 0.1784	0.1576	0.1559	0.1742	0.1827	Ave		0.1674			7.4		15.0				
Methyl acetate	0.1618 0.1580	0.1598	0.1514	0.1507	0.1555	Ave		0.1562			2.9		15.0				
Methylene Chloride	0.4936 0.3132	0.4248	0.3449	0.3381	0.3268	Lin1	0.1973	0.3119						1.0000		0.9900	
tert-Butyl alcohol	0.0096 0.0085	0.0101	0.0097	0.0091	0.0098	Ave		0.0095			5.9		15.0				
Methyl tert-butyl ether	0.5514 0.5919	0.5838	0.5562	0.5860	0.5987	Ave		0.5780			3.4		15.0				
Acrylonitrile	0.0865 0.0883	0.0907	0.0851	0.0849	0.0870	Ave		0.0871			2.5		15.0				
trans-1,2-Dichloroethene	0.3240 0.3105	0.3275	0.3102	0.3200	0.3216	Ave		0.3190			2.2		15.0				
Hexane	0.0821 0.0795	0.0794	0.0711	0.0762	0.0800	Ave		0.0781			5.0		15.0				
1,1-Dichloroethane	0.5384 0.5434	0.5585	0.5285	0.5452	0.5510	Ave		0.5441		0.1000	1.9		15.0				
Vinyl acetate	0.3327 0.4085	0.3342	0.3408	0.3597	0.3885	Ave		0.3607			8.7		15.0				
2,2-Dichloropropane	0.1567 0.1717	0.1672	0.1652	0.1881	0.1921	Ave		0.1735			8.0		15.0				
cis-1,2-Dichloroethene	0.3493 0.3361	0.3547	0.3327	0.3418	0.3441	Ave		0.3431			2.4		15.0				
2-Butanone (MEK)	0.1156 0.0989	0.1075	0.0977	0.0935	0.0974	Ave		0.1018			8.1		15.0				
Bromochloromethane	0.1540 0.1507	0.1555	0.1493	0.1527	0.1537	Ave		0.1527			1.5		15.0				
Tetrahydrofuran	0.0572 0.0606	0.0583	0.0537	0.0538	0.0574	Ave		0.0568			4.7		15.0				
Chloroform	0.5050 0.5062	0.5301	0.4888	0.5048	0.5160	Ave		0.5085			2.7		15.0				
1,1,1-Trichloroethane	0.2852 0.3173	0.3011	0.2949	0.3230	0.3345	Ave		0.3093			6.0		15.0				
Cyclohexane	0.5215 0.5527	0.5316	0.5133	0.5316	0.5628	Ave		0.5356			3.5		15.0				
1,1-Dichloropropene	0.4167 0.4309	0.4314	0.4054	0.4204	0.4364	Ave		0.4235			2.7		15.0				
Carbon tetrachloride	0.2299 0.2784	0.2395	0.2362	0.2634	0.2833	Ave		0.2551			9.0		15.0				

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.



**MRC SW  
WATER DATA  
240-70040-1**

<b>FRACTION</b>	<b>CHEMICAL</b>	<b>MRC-SW5B-092716</b>	<b>UNITS</b>	<b>MRC-SWDUP-092716</b>	<b>RPD</b>	<b>D</b>
OV	TRICHLOROETHENE	0.22 J	UG/L	ND	200.00	0.22

Current RPD Quality Control Limit: 30 %.

Shaded cells indicate RPDs that exceed the applicable quality control limit.



**TO:** A. APANAVAGE **DATE:** JANUARY 6, 2017  
**FROM:** L. GANSER **COPIES:** DV FILE  
**SUBJECT:** DATA VALIDATION – VOC  
 LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER COMPLEX (MRC)  
 SDG 240-73352-1

**SAMPLES:** 13/Aqueous/  
 MRC-SW10A-D-121316 MRC-SW10A-S-121316 MRC-SW10B-D-121316  
 MRC-SW10B-S-121316 MRC-SW11A-D-121316 MRC-SW11A-S-121316  
 MRC-SW11B-D-121316 MRC-SW11B-S-121316 MRC-SW12A-D-121316  
 MRC-SW12A-S-121316 MRC-SW12B-D-121316 MRC-SW12B-S-121316  
 TB-121316

Overview

The sample set for LMC-MRC, SDG 240-73352-1 consisted of twelve (12) aqueous environmental samples and one (1) trip blank. The samples were analyzed for volatile organic compounds (VOC). No field duplicate sample pair was included in this SDG.

The samples were collected by Tetra Tech, Inc. on December 13, 2016 and analyzed by TestAmerica, Inc. All analyses were conducted in accordance with SW-846 Methods 8260C for VOC analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters: data completeness, holding times, GC/MS tuning, initial/continuing calibrations, laboratory method/preparation blanks, surrogate spike recoveries, laboratory control sample results, internal standard areas and recoveries, chromatographic resolution, analyte identification, analyte quantitation, and detection limits. Areas of concern are listed below.

Major

- As stated in the case narrative, 2-chloroethyl vinyl ether cannot be reliably recovered in acid preserved samples. Because the environmental samples were preserved in acid, the recovery of this compound is unreliable. The non-detected results reported for 2-chloroethyl vinyl ether in all samples were qualified as rejected, (UR).

Minor

- Continuing calibration percent difference greater than 20 percent was noted for tert-amyl methyl ether, dichlorodifluoromethane, bromomethane, chloroethane, trichlorofluoromethane, 1,1,2-trichlorotrifluoroethane, methylene chloride, tert-butyl alcohol, methyl tert-butyl ether, vinyl acetate, 2,2-dichloropropane, bromochloromethane, 1,1,1-trichloroethane, carbon tetrachloride, trichloroethene, bromodichloromethane, 4-methyl-2-pentanone, 1,1,1,2-tetrachloroethane, isopropylbenzene, 1,2,4-trichlorobenzene, hexachlorobutadiene, and 1,2,3-trichlorobenzene on 12/22/2016 at 10:25 on instrument A3UX15 affecting all samples. Detected and nondetected results for these parameters were qualified as estimated, (J) and (UJ), respectively.
- Detected results reported below the Reporting Limit (RL) limit but above the Method Detection Limit (MDL) were qualified as estimated, (J).

TO: A. APANAVAGE  
SDG: 240-73352-1

PAGE 2

Notes

Non-detected results were reported to the MDL.

VOC laboratory control sample (LCS) percent recovery was greater than QC limits for carbon tetrachloride and 2,2-dichloropropane. Not action was taken as results for these parameters were nondetect.

**Executive Summary**

**Laboratory Performance:** Calibration noncompliance was noted for select VOCs.

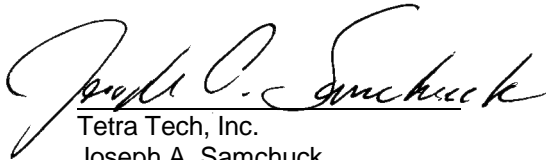
**Other Factors Affecting Data Quality:** Because all environmental samples were preserved in acid, the recovery of 2-chloroethyl vinyl ether is unreliable.

The data for these analyses were reviewed with reference to "National Functional Guidelines for Organic Review" (September 2016). The text of this report has been formulated to address only those areas affecting data quality.



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Attachments:

- Appendix A – Qualified Analytical Results
- Appendix B – Results as Reported by the Laboratory
- Appendix C – Support Documentation

### Data Qualifier Definitions

The following definitions provide brief explanations of the validation qualifiers assigned to results in the data review process.

<b>U</b>	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted method detection limit for sample and method.
<b>J</b>	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the reporting limit).
<b>J+</b>	The result is an estimated quantity, but the result may be biased high.
<b>J-</b>	The result is an estimated quantity, but the result may be biased low.
<b>UJ</b>	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
<b>R</b>	The sample result (detected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
<b>UR</b>	The sample result (nondetected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.

**Appendix A**

Qualified Analytical Results

**Qualifier Codes:**

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = ICP PDS Recovery Noncompliance; MSA's  $r < 0.995$
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (i.e., base-time drifting)
- P = Uncertainty near detection limit ( $< 2 \times$  IDL for inorganics and  $<$ CRQL for organics)
- Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = RPD between columns/detectors  $>40\%$  for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient  $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids  $<30\%$
- Z = Uncertainty at 2 standard deviations is greater than sample activity
- Z1 = Tentatively Identified Compound considered presumptively present
- Z2 = Tentatively Identified Compound column bleed
- Z3 = Tentatively Identified Compound aldol condensate
- Z4 = Sample activity is less than the at uncertainty at 3 standard deviations and greater than the MDC
- Z5 = Sample activity is less than the at uncertainty at 3 standard deviations and less than the MDC

<b>PROJ_NO: 07776</b> <b>SDG: 240-73352-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW10A-D-121316			MRC-SW10A-S-121316			MRC-SW10B-D-121316			MRC-SW10B-S-121316		
	LAB_ID	240-73352-2			240-73352-3			240-73352-4			240-73352-5		
	SAMP_DATE	12/13/2016			12/13/2016			12/13/2016			12/13/2016		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
1,1,1,2-TETRACHLOROETHANE	0.46	UJ	C	0.46	UJ	C	0.46	UJ	C	0.46	UJ	C	
1,1,1-TRICHLOROETHANE	0.23	UJ	C	0.23	UJ	C	0.23	UJ	C	0.23	UJ	C	
1,1,2,2-TETRACHLOROETHANE	0.32	U		0.32	U		0.32	U		0.32	U		
1,1,2-TRICHLOROTRIFLUOROETHANE	0.41	UJ	C	0.41	UJ	C	0.41	UJ	C	0.41	UJ	C	
1,1-DICHLOROETHANE	0.25	U		0.25	U		0.25	U		0.25	U		
1,1-DICHLOROETHENE	0.27	U		0.27	U		0.27	U		0.27	U		
1,1-DICHLOROPROPENE	0.28	U		0.28	U		0.28	U		0.28	U		
1,2,3-TRICHLOROBENZENE	0.35	UJ	C	0.35	UJ	C	0.35	UJ	C	0.35	UJ	C	
1,2,3-TRICHLOROPROPANE	0.54	U		0.54	U		0.54	U		0.54	U		
1,2,3-TRIMETHYLBENZENE	0.22	U		0.22	U		0.22	U		0.22	U		
1,2,4-TRICHLOROBENZENE	0.27	UJ	C	0.27	UJ	C	0.27	UJ	C	0.27	UJ	C	
1,2,4-TRIMETHYLBENZENE	0.24	U		0.24	U		0.24	U		0.24	U		
1,2-DIBROMO-3-CHLOROPROPANE	0.47	U		0.47	U		0.47	U		0.47	U		
1,2-DIBROMOETHANE	0.23	U		0.23	U		0.23	U		0.23	U		
1,2-DICHLOROBENZENE	0.26	U		0.26	U		0.26	U		0.26	U		
1,2-DICHLOROETHANE	0.3	U		0.3	U		0.3	U		0.3	U		
1,2-DICHLOROPROPANE	0.3	U		0.3	U		0.3	U		0.3	U		
1,3-DICHLOROBENZENE	0.32	U		0.32	U		0.32	U		0.32	U		
1,3-DICHLOROPROPANE	0.29	U		0.29	U		0.29	U		0.29	U		
1,4-DICHLOROBENZENE	0.23	U		0.23	U		0.23	U		0.23	U		
2,2-DICHLOROPROPANE	0.34	UJ	C	0.34	UJ	C	0.34	UJ	C	0.34	UJ	C	
2-BUTANONE	1	U		1	U		1	U		1	U		
2-CHLOROETHYL VINYL ETHER	0.65	UR	M	0.65	UR	M	0.65	UR	M	0.65	UR	M	
2-CHLOROTOLUENE	0.28	U		0.28	U		0.28	U		0.28	U		
2-HEXANONE	1.2	U		1.2	U		1.2	U		1.2	U		
4-CHLOROTOLUENE	0.23	U		0.23	U		0.23	U		0.23	U		
4-ISOPROPYLTOLUENE	0.29	U		0.29	U		0.29	U		0.29	U		
4-METHYL-2-PENTANONE	0.71	UJ	C	0.71	UJ	C	0.71	UJ	C	0.71	UJ	C	
ACETONE	2.6	J	P	2.9	J	P	2.4	J	P	1.8	U		
BENZENE	0.28	U		0.28	U		0.28	U		0.28	U		
BROMOBENZENE	0.31	U		0.31	U		0.31	U		0.31	U		
BROMOCHLOROMETHANE	0.47	UJ	C	0.47	UJ	C	0.47	UJ	C	0.47	UJ	C	
BROMODICHLOROMETHANE	0.3	UJ	C	0.3	UJ	C	0.3	UJ	C	0.3	UJ	C	
BROMOFORM	0.43	U		0.43	U		0.43	U		0.43	U		
BROMOMETHANE	0.42	UJ	C	0.42	UJ	C	0.42	UJ	C	0.42	UJ	C	

<b>PROJ_NO: 07776</b> <b>SDG: 240-73352-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW11A-D-121316			MRC-SW11A-S-121316			MRC-SW11B-D-121316			MRC-SW11B-S-121316		
	LAB_ID	240-73352-6			240-73352-7			240-73352-8			240-73352-9		
	SAMP_DATE	12/13/2016			12/13/2016			12/13/2016			12/13/2016		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
1,1,1,2-TETRACHLOROETHANE	0.46	UJ	C	0.46	UJ	C	0.46	UJ	C	0.46	UJ	C	
1,1,1-TRICHLOROETHANE	0.23	UJ	C	0.23	UJ	C	0.23	UJ	C	0.23	UJ	C	
1,1,2,2-TETRACHLOROETHANE	0.32	U		0.32	U		0.32	U		0.32	U		
1,1,2-TRICHLOROTRIFLUOROETHANE	0.41	UJ	C	0.41	UJ	C	0.41	UJ	C	0.41	UJ	C	
1,1-DICHLOROETHANE	0.25	U		0.25	U		0.25	U		0.25	U		
1,1-DICHLOROETHENE	0.27	U		0.27	U		0.27	U		0.27	U		
1,1-DICHLOROPROPENE	0.28	U		0.28	U		0.28	U		0.28	U		
1,2,3-TRICHLOROBENZENE	0.35	UJ	C	0.35	UJ	C	0.35	UJ	C	0.35	UJ	C	
1,2,3-TRICHLOROPROPANE	0.54	U		0.54	U		0.54	U		0.54	U		
1,2,3-TRIMETHYLBENZENE	0.22	U		0.22	U		0.22	U		0.22	U		
1,2,4-TRICHLOROBENZENE	0.27	UJ	C	0.27	UJ	C	0.27	UJ	C	0.27	UJ	C	
1,2,4-TRIMETHYLBENZENE	0.24	U		0.24	U		0.24	U		0.24	U		
1,2-DIBROMO-3-CHLOROPROPANE	0.47	U		0.47	U		0.47	U		0.47	U		
1,2-DIBROMOETHANE	0.23	U		0.23	U		0.23	U		0.23	U		
1,2-DICHLOROBENZENE	0.26	U		0.26	U		0.26	U		0.26	U		
1,2-DICHLOROETHANE	0.3	U		0.3	U		0.3	U		0.3	U		
1,2-DICHLOROPROPANE	0.3	U		0.3	U		0.3	U		0.3	U		
1,3-DICHLOROBENZENE	0.32	U		0.32	U		0.32	U		0.32	U		
1,3-DICHLOROPROPANE	0.29	U		0.29	U		0.29	U		0.29	U		
1,4-DICHLOROBENZENE	0.23	U		0.23	U		0.23	U		0.23	U		
2,2-DICHLOROPROPANE	0.34	UJ	C	0.34	UJ	C	0.34	UJ	C	0.34	UJ	C	
2-BUTANONE	1	U		1	U		1	U		1	U		
2-CHLOROETHYL VINYL ETHER	0.65	UR	M	0.65	UR	M	0.65	UR	M	0.65	UR	M	
2-CHLOROTOLUENE	0.28	U		0.28	U		0.28	U		0.28	U		
2-HEXANONE	1.2	U		1.2	U		1.2	U		1.2	U		
4-CHLOROTOLUENE	0.23	U		0.23	U		0.23	U		0.23	U		
4-ISOPROPYLTOLUENE	0.29	U		0.29	U		0.29	U		0.29	U		
4-METHYL-2-PENTANONE	0.71	UJ	C	0.71	UJ	C	0.71	UJ	C	0.71	UJ	C	
ACETONE	2	J	P	2.1	J	P	1.8	U		1.8	U		
BENZENE	0.28	U		0.28	U		0.28	U		0.28	U		
BROMOBENZENE	0.31	U		0.31	U		0.31	U		0.31	U		
BROMOCHLOROMETHANE	0.47	UJ	C	0.47	UJ	C	0.47	UJ	C	0.47	UJ	C	
BROMODICHLOROMETHANE	0.3	UJ	C	0.3	UJ	C	0.3	UJ	C	0.3	UJ	C	
BROMOFORM	0.43	U		0.43	U		0.43	U		0.43	U		
BROMOMETHANE	0.42	UJ	C	0.42	UJ	C	0.42	UJ	C	0.42	UJ	C	



<b>PROJ_NO: 07776</b> <b>SDG: 240-73352-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW12A-D-121316			MRC-SW12A-S-121316			MRC-SW12B-D-121316			MRC-SW12B-S-121316		
	LAB_ID	240-73352-10			240-73352-11			240-73352-12			240-73352-13		
	SAMP_DATE	12/13/2016			12/13/2016			12/13/2016			12/13/2016		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
1,1,1,2-TETRACHLOROETHANE	0.46	UJ	C	0.46	UJ	C	0.46	UJ	C	0.46	UJ	C	
1,1,1-TRICHLOROETHANE	0.23	UJ	C	0.23	UJ	C	0.23	UJ	C	0.23	UJ	C	
1,1,2,2-TETRACHLOROETHANE	0.32	U		0.32	U		0.32	U		0.32	U		
1,1,2-TRICHLOROTRIFLUOROETHANE	0.41	UJ	C	0.41	UJ	C	0.41	UJ	C	0.41	UJ	C	
1,1-DICHLOROETHANE	0.25	U		0.25	U		0.25	U		0.25	U		
1,1-DICHLOROETHENE	0.27	U		0.27	U		0.27	U		0.27	U		
1,1-DICHLOROPROPENE	0.28	U		0.28	U		0.28	U		0.28	U		
1,2,3-TRICHLOROBENZENE	0.35	UJ	C	0.35	UJ	C	0.35	UJ	C	0.35	UJ	C	
1,2,3-TRICHLOROPROPANE	0.54	U		0.54	U		0.54	U		0.54	U		
1,2,3-TRIMETHYLBENZENE	0.22	U		0.22	U		0.22	U		0.22	U		
1,2,4-TRICHLOROBENZENE	0.27	UJ	C	0.27	UJ	C	0.27	UJ	C	0.27	UJ	C	
1,2,4-TRIMETHYLBENZENE	0.24	U		0.24	U		0.24	U		0.24	J	P	
1,2-DIBROMO-3-CHLOROPROPANE	0.47	U		0.47	U		0.47	U		0.47	U		
1,2-DIBROMOETHANE	0.23	U		0.23	U		0.23	U		0.23	U		
1,2-DICHLOROBENZENE	0.26	U		0.26	U		0.26	U		0.26	U		
1,2-DICHLOROETHANE	0.3	U		0.3	U		0.3	U		0.3	U		
1,2-DICHLOROPROPANE	0.3	U		0.3	U		0.3	U		0.3	U		
1,3-DICHLOROBENZENE	0.32	U		0.32	U		0.32	U		0.32	U		
1,3-DICHLOROPROPANE	0.29	U		0.29	U		0.29	U		0.29	U		
1,4-DICHLOROBENZENE	0.23	U		0.23	U		0.23	U		0.23	U		
2,2-DICHLOROPROPANE	0.34	UJ	C	0.34	UJ	C	0.34	UJ	C	0.34	UJ	C	
2-BUTANONE	1	U		1	U		1	U		1	U		
2-CHLOROETHYL VINYL ETHER	0.65	UR	M	0.65	UR	M	0.65	UR	M	0.65	UR	M	
2-CHLOROTOLUENE	0.28	U		0.28	U		0.28	U		0.28	U		
2-HEXANONE	1.2	U		1.2	U		1.2	U		1.2	U		
4-CHLOROTOLUENE	0.23	U		0.23	U		0.23	U		0.23	U		
4-ISOPROPYLTOLUENE	0.29	U		0.29	U		0.29	U		0.29	U		
4-METHYL-2-PENTANONE	0.71	UJ	C	0.71	UJ	C	0.71	UJ	C	0.71	UJ	C	
ACETONE	1.8	U		2.2	J	P	1.8	U		1.8	U		
BENZENE	0.28	U		0.28	U		0.28	U		0.28	U		
BROMOBENZENE	0.31	U		0.31	U		0.31	U		0.31	U		
BROMOCHLOROMETHANE	0.47	UJ	C	0.47	UJ	C	0.47	UJ	C	0.47	UJ	C	
BROMODICHLOROMETHANE	0.3	UJ	C	0.3	UJ	C	0.3	UJ	C	0.3	UJ	C	
BROMOFORM	0.43	U		0.43	U		0.43	U		0.43	U		
BROMOMETHANE	0.42	UJ	C	0.42	UJ	C	0.42	UJ	C	0.42	UJ	C	

<b>PROJ_NO: 07776</b> <b>SDG: 240-73352-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	TB-121316		
	LAB_ID	240-73352-1		
	SAMP_DATE	12/13/2016		
	QC_TYPE	NM		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER	RESULT	VQL	QLCD	
1,1,1,2-TETRACHLOROETHANE	0.46	UJ	C	
1,1,1-TRICHLOROETHANE	0.23	UJ	C	
1,1,2,2-TETRACHLOROETHANE	0.32	U		
1,1,2-TRICHLOROTRIFLUOROETHANE	0.41	UJ	C	
1,1-DICHLOROETHANE	0.25	U		
1,1-DICHLOROETHENE	0.27	U		
1,1-DICHLOROPROPENE	0.28	U		
1,2,3-TRICHLOROBENZENE	0.35	UJ	C	
1,2,3-TRICHLOROPROPANE	0.54	U		
1,2,3-TRIMETHYLBENZENE	0.22	U		
1,2,4-TRICHLOROBENZENE	0.27	UJ	C	
1,2,4-TRIMETHYLBENZENE	0.24	U		
1,2-DIBROMO-3-CHLOROPROPANE	0.47	U		
1,2-DIBROMOETHANE	0.23	U		
1,2-DICHLOROBENZENE	0.26	U		
1,2-DICHLOROETHANE	0.3	U		
1,2-DICHLOROPROPANE	0.3	U		
1,3-DICHLOROBENZENE	0.32	U		
1,3-DICHLOROPROPANE	0.29	U		
1,4-DICHLOROBENZENE	0.23	U		
2,2-DICHLOROPROPANE	0.34	UJ	C	
2-BUTANONE	1	U		
2-CHLOROETHYL VINYL ETHER	0.65	UR	M	
2-CHLOROTOLUENE	0.28	U		
2-HEXANONE	1.2	U		
4-CHLOROTOLUENE	0.23	U		
4-ISOPROPYLTOLUENE	0.29	U		
4-METHYL-2-PENTANONE	0.71	UJ	C	
ACETONE	1.8	U		
BENZENE	0.28	U		
BROMOBENZENE	0.31	U		
BROMOCHLOROMETHANE	0.47	UJ	C	
BROMODICHLOROMETHANE	0.3	UJ	C	
BROMOFORM	0.43	U		
BROMOMETHANE	0.42	UJ	C	

<b>PROJ_NO: 07776</b> <b>SDG: 240-73352-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW10A-D-121316			MRC-SW10A-S-121316			MRC-SW10B-D-121316			MRC-SW10B-S-121316		
	LAB_ID	240-73352-2			240-73352-3			240-73352-4			240-73352-5		
	SAMP_DATE	12/13/2016			12/13/2016			12/13/2016			12/13/2016		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
CARBON DISULFIDE	0.34	U		0.34	U		0.34	U		0.34	U		
CARBON TETRACHLORIDE	0.35	UJ	C	0.35	UJ	C	0.35	UJ	C	0.35	UJ	C	
CHLOROENZENE	0.32	U		0.32	U		0.32	U		0.32	U		
CHLORODIBROMOMETHANE	0.25	U		0.25	U		0.25	U		0.25	U		
CHLOROETHANE	0.41	UJ	C	0.41	UJ	C	0.41	UJ	C	0.41	UJ	C	
CHLOROFORM	0.31	U		0.31	U		0.31	U		0.31	U		
CHLOROMETHANE	0.43	U		0.43	U		0.43	U		0.43	U		
CIS-1,2-DICHLOROETHENE	0.3	U		0.3	U		0.3	U		0.3	U		
CIS-1,3-DICHLOROPROPENE	0.26	U		0.26	U		0.26	U		0.26	U		
DIBROMOMETHANE	0.46	U		0.46	U		0.46	U		0.46	U		
DICHLORODIFLUOROMETHANE	0.5	UJ	C	0.5	UJ	C	0.5	UJ	C	0.5	UJ	C	
DIISOPROPYL ETHER	0.44	U		0.44	U		0.44	U		0.44	U		
ETHYL TERT-BUTYL ETHER	0.35	U		0.35	U		0.35	U		0.35	U		
ETHYLBENZENE	0.26	U		0.26	U		0.26	U		0.26	U		
HEXACHLOROBUTADIENE	0.36	UJ	C	0.36	UJ	C	0.36	UJ	C	0.36	UJ	C	
ISOPROPYLBENZENE	0.21	UJ	C	0.21	UJ	C	0.21	UJ	C	0.21	UJ	C	
METHYL TERT-BUTYL ETHER	0.27	UJ	C	0.27	UJ	C	0.27	UJ	C	0.27	UJ	C	
METHYLENE CHLORIDE	0.53	UJ	C	0.53	UJ	C	0.53	UJ	C	0.53	UJ	C	
NAPHTHALENE	0.25	U		0.25	U		0.25	U		0.25	U		
N-BUTYLBENZENE	0.21	U		0.21	U		0.21	U		0.21	U		
N-PROPYLBENZENE	0.45	U		0.45	U		0.45	U		0.45	U		
SEC-BUTYLBENZENE	0.27	U		0.27	U		0.27	U		0.27	U		
STYRENE	0.23	U		0.23	U		0.23	U		0.23	U		
TERT-AMYL METHYL ETHER	0.29	UJ	C	0.29	UJ	C	0.29	UJ	C	0.29	UJ	C	
TERT-BUTYLBENZENE	0.26	U		0.26	U		0.26	U		0.26	U		
TERTIARY-BUTYL ALCOHOL	4.6	UJ	C	4.6	UJ	C	4.6	UJ	C	4.6	UJ	C	
TETRACHLOROETHENE	0.3	U		0.3	U		0.3	U		0.3	U		
TOLUENE	0.23	U		0.41	J	P	0.23	U		0.34	J	P	
TOTAL XYLENES	0.24	U		0.35	J	P	0.24	U		0.33	J	P	
TRANS-1,2-DICHLOROETHENE	0.29	U		0.29	U		0.29	U		0.29	U		
TRANS-1,3-DICHLOROPROPENE	0.31	U		0.31	U		0.31	U		0.31	U		
TRICHLOROETHENE	0.7	J	CP	4.4	J	C	0.44	J	CP	1.2	J	C	
TRICHLOROFLUOROMETHANE	0.5	UJ	C	0.5	UJ	C	0.5	UJ	C	0.5	UJ	C	
VINYL ACETATE	0.28	UJ	C	0.28	UJ	C	0.28	UJ	C	0.28	UJ	C	
VINYL CHLORIDE	0.45	U		0.45	U		0.45	U		0.45	U		

<b>PROJ_NO: 07776</b> <b>SDG: 240-73352-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW11A-D-121316			MRC-SW11A-S-121316			MRC-SW11B-D-121316			MRC-SW11B-S-121316		
	LAB_ID	240-73352-6			240-73352-7			240-73352-8			240-73352-9		
	SAMP_DATE	12/13/2016			12/13/2016			12/13/2016			12/13/2016		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
CARBON DISULFIDE	0.34	U		0.34	U		0.34	U		0.34	U		
CARBON TETRACHLORIDE	0.35	UJ	C	0.35	UJ	C	0.35	UJ	C	0.35	UJ	C	
CHLOROENZENE	0.32	U		0.32	U		0.32	U		0.32	U		
CHLORODIBROMOMETHANE	0.25	U		0.25	U		0.25	U		0.25	U		
CHLOROETHANE	0.41	UJ	C	0.41	UJ	C	0.41	UJ	C	0.41	UJ	C	
CHLOROFORM	0.31	U		0.31	U		0.31	U		0.31	U		
CHLOROMETHANE	0.43	U		0.43	U		0.43	U		0.43	U		
CIS-1,2-DICHLOROETHENE	0.49	J	P	0.3	U		2.8			0.3	U		
CIS-1,3-DICHLOROPROPENE	0.26	U		0.26	U		0.26	U		0.26	U		
DIBROMOMETHANE	0.46	U		0.46	U		0.46	U		0.46	U		
DICHLORODIFLUOROMETHANE	0.5	UJ	C	0.5	UJ	C	0.5	UJ	C	0.5	UJ	C	
DIISOPROPYL ETHER	0.44	U		0.44	U		0.44	U		0.44	U		
ETHYL TERT-BUTYL ETHER	0.35	U		0.35	U		0.35	U		0.35	U		
ETHYLBENZENE	0.26	U		0.26	U		0.26	U		0.26	U		
HEXACHLOROBUTADIENE	0.36	UJ	C	0.36	UJ	C	0.36	UJ	C	0.36	UJ	C	
ISOPROPYLBENZENE	0.21	UJ	C	0.21	UJ	C	0.21	UJ	C	0.21	UJ	C	
METHYL TERT-BUTYL ETHER	0.27	UJ	C	0.27	UJ	C	0.27	UJ	C	0.27	UJ	C	
METHYLENE CHLORIDE	0.53	UJ	C	0.53	UJ	C	0.53	UJ	C	0.53	UJ	C	
NAPHTHALENE	0.25	U		0.25	U		0.25	U		0.25	U		
N-BUTYLBENZENE	0.21	U		0.21	U		0.21	U		0.21	U		
N-PROPYLBENZENE	0.45	U		0.45	U		0.45	U		0.45	U		
SEC-BUTYLBENZENE	0.27	U		0.27	U		0.27	U		0.27	U		
STYRENE	0.23	U		0.23	U		0.23	U		0.23	U		
TERT-AMYL METHYL ETHER	0.29	UJ	C	0.29	UJ	C	0.29	UJ	C	0.29	UJ	C	
TERT-BUTYLBENZENE	0.26	U		0.26	U		0.26	U		0.26	U		
TERTIARY-BUTYL ALCOHOL	4.6	UJ	C	4.6	UJ	C	4.6	UJ	C	4.6	UJ	C	
TETRACHLOROETHENE	0.3	U		0.3	U		0.3	U		0.3	U		
TOLUENE	0.23	U		0.66	J	P	0.23	U		0.45	J	P	
TOTAL XYLENES	0.24	U		0.53	J	P	0.24	U		0.37	J	P	
TRANS-1,2-DICHLOROETHENE	0.29	U		0.29	U		0.29	U		0.29	U		
TRANS-1,3-DICHLOROPROPENE	0.31	U		0.31	U		0.31	U		0.31	U		
TRICHLOROETHENE	2.7	J	C	4.1	J	C	3.7	J	C	1.2	J	C	
TRICHLOROFLUOROMETHANE	0.5	UJ	C	0.5	UJ	C	0.5	UJ	C	0.5	UJ	C	
VINYL ACETATE	0.28	UJ	C	0.28	UJ	C	0.28	UJ	C	0.28	UJ	C	
VINYL CHLORIDE	0.45	U		0.45	U		0.45	U		0.45	U		

<b>PROJ_NO: 07776</b> <b>SDG: 240-73352-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	MRC-SW12A-D-121316			MRC-SW12A-S-121316			MRC-SW12B-D-121316			MRC-SW12B-S-121316		
	LAB_ID	240-73352-10			240-73352-11			240-73352-12			240-73352-13		
	SAMP_DATE	12/13/2016			12/13/2016			12/13/2016			12/13/2016		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
CARBON DISULFIDE	0.34	U		0.34	U		0.34	U		0.34	U		
CARBON TETRACHLORIDE	0.35	UJ	C	0.35	UJ	C	0.35	UJ	C	0.35	UJ	C	
CHLOROENZENE	0.32	U		0.32	U		0.32	U		0.32	U		
CHLORODIBROMOMETHANE	0.25	U		0.25	U		0.25	U		0.25	U		
CHLOROETHANE	0.41	UJ	C	0.41	UJ	C	0.41	UJ	C	0.41	UJ	C	
CHLOROFORM	0.31	U		0.31	U		0.31	U		0.31	U		
CHLOROMETHANE	0.43	U		0.43	U		0.43	U		0.43	U		
CIS-1,2-DICHLOROETHENE	0.45	J	P	0.3	U		5.5			0.3	U		
CIS-1,3-DICHLOROPROPENE	0.26	U		0.26	U		0.26	U		0.26	U		
DIBROMOMETHANE	0.46	U		0.46	U		0.46	U		0.46	U		
DICHLORODIFLUOROMETHANE	0.5	UJ	C	0.5	UJ	C	0.5	UJ	C	0.5	UJ	C	
DIISOPROPYL ETHER	0.44	U		0.44	U		0.44	U		0.44	U		
ETHYL TERT-BUTYL ETHER	0.35	U		0.35	U		0.35	U		0.35	U		
ETHYLBENZENE	0.26	U		0.26	U		0.26	U		0.26	U		
HEXACHLOROBUTADIENE	0.36	UJ	C	0.36	UJ	C	0.36	UJ	C	0.36	UJ	C	
ISOPROPYLBENZENE	0.21	UJ	C	0.21	UJ	C	0.21	UJ	C	0.21	UJ	C	
METHYL TERT-BUTYL ETHER	0.27	UJ	C	0.27	UJ	C	0.27	UJ	C	0.27	UJ	C	
METHYLENE CHLORIDE	0.53	UJ	C	0.53	UJ	C	0.53	UJ	C	0.53	UJ	C	
NAPHTHALENE	0.25	U		0.25	U		0.25	U		0.25	U		
N-BUTYLBENZENE	0.21	U		0.21	U		0.21	U		0.21	U		
N-PROPYLBENZENE	0.45	U		0.45	U		0.45	U		0.45	U		
SEC-BUTYLBENZENE	0.27	U		0.27	U		0.27	U		0.27	U		
STYRENE	0.23	U		0.23	U		0.23	U		0.23	U		
TERT-AMYL METHYL ETHER	0.29	UJ	C	0.29	UJ	C	0.29	UJ	C	0.29	UJ	C	
TERT-BUTYLBENZENE	0.26	U		0.26	U		0.26	U		0.26	U		
TERTIARY-BUTYL ALCOHOL	4.6	UJ	C	4.6	UJ	C	4.6	UJ	C	4.6	UJ	C	
TETRACHLOROETHENE	0.3	U		0.3	U		0.3	U		0.3	U		
TOLUENE	0.23	U		0.29	J	P	0.23	U		0.79	J	P	
TOTAL XYLENES	0.24	U		0.28	J	P	0.24	U		0.9	J	P	
TRANS-1,2-DICHLOROETHENE	0.29	U		0.29	U		0.29	U		0.29	U		
TRANS-1,3-DICHLOROPROPENE	0.31	U		0.31	U		0.31	U		0.31	U		
TRICHLOROETHENE	2.4	J	C	4.1	J	C	7.8	J	C	1.4	J	C	
TRICHLOROFLUOROMETHANE	0.5	UJ	C	0.5	UJ	C	0.5	UJ	C	0.5	UJ	C	
VINYL ACETATE	0.28	UJ	C	0.28	UJ	C	0.28	UJ	C	0.28	UJ	C	
VINYL CHLORIDE	0.45	U		0.45	U		0.45	U		0.45	U		

<b>PROJ_NO: 07776</b> <b>SDG: 240-73352-1</b> <b>FRACTION: OV</b> <b>MEDIA: WATER</b>	NSAMPLE	TB-121316		
	LAB_ID	240-73352-1		
	SAMP_DATE	12/13/2016		
	QC_TYPE	NM		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER	RESULT	VQL	QLCD	
CARBON DISULFIDE	0.34	U		
CARBON TETRACHLORIDE	0.35	UJ	C	
CHLOROENZENE	0.32	U		
CHLORODIBROMOMETHANE	0.25	U		
CHLOROETHANE	0.41	UJ	C	
CHLOROFORM	0.31	U		
CHLOROMETHANE	0.43	U		
CIS-1,2-DICHLOROETHENE	0.3	U		
CIS-1,3-DICHLOROPROPENE	0.26	U		
DIBROMOMETHANE	0.46	U		
DICHLORODIFLUOROMETHANE	0.5	UJ	C	
DIISOPROPYL ETHER	0.44	U		
ETHYL TERT-BUTYL ETHER	0.35	U		
ETHYLBENZENE	0.26	U		
HEXACHLOROBUTADIENE	0.36	UJ	C	
ISOPROPYLBENZENE	0.21	UJ	C	
METHYL TERT-BUTYL ETHER	0.27	UJ	C	
METHYLENE CHLORIDE	0.53	UJ	C	
NAPHTHALENE	0.25	U		
N-BUTYLBENZENE	0.21	U		
N-PROPYLBENZENE	0.45	U		
SEC-BUTYLBENZENE	0.27	U		
STYRENE	0.23	U		
TERT-AMYL METHYL ETHER	0.29	UJ	C	
TERT-BUTYLBENZENE	0.26	U		
TERTIARY-BUTYL ALCOHOL	4.6	UJ	C	
TETRACHLOROETHENE	0.3	U		
TOLUENE	0.23	U		
TOTAL XYLENES	0.24	U		
TRANS-1,2-DICHLOROETHENE	0.29	U		
TRANS-1,3-DICHLOROPROPENE	0.31	U		
TRICHLOROETHENE	0.33	UJ	C	
TRICHLOROFLUOROMETHANE	0.5	UJ	C	
VINYL ACETATE	0.28	UJ	C	
VINYL CHLORIDE	0.45	U		

**Appendix B**

Results as Reported by the Laboratory

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: TB-121316 Lab Sample ID: 240-73352-1  
 Matrix: Water Lab File ID: UXC0642.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 00:00  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 15:17  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	1.8	U	10	1.8
630-20-6	1,1,1,2-Tetrachloroethane	0.46	U	1.0	0.46
71-43-2	Benzene	0.28	U	1.0	0.28
75-27-4	Bromodichloromethane	0.30	U	1.0	0.30
75-25-2	Bromoform	0.43	U	1.0	0.43
74-83-9	Bromomethane	0.42	U	1.0	0.42
78-93-3	2-Butanone (MEK)	1.0	U	10	1.0
75-15-0	Carbon disulfide	0.34	U	1.0	0.34
56-23-5	Carbon tetrachloride	0.35	U *	1.0	0.35
108-90-7	Chlorobenzene	0.32	U	1.0	0.32
75-00-3	Chloroethane	0.41	U	1.0	0.41
67-66-3	Chloroform	0.31	U	1.0	0.31
563-58-6	1,1-Dichloropropene	0.28	U	1.0	0.28
74-87-3	Chloromethane	0.43	U	1.0	0.43
75-34-3	1,1-Dichloroethane	0.25	U	1.0	0.25
87-61-6	1,2,3-Trichlorobenzene	0.35	U	1.0	0.35
96-18-4	1,2,3-Trichloropropane	0.54	U	1.0	0.54
107-06-2	1,2-Dichloroethane	0.30	U	1.0	0.30
75-35-4	1,1-Dichloroethene	0.27	U	1.0	0.27
526-73-8	1,2,3-Trimethylbenzene	0.22	U	5.0	0.22
78-87-5	1,2-Dichloropropane	0.30	U	1.0	0.30
95-63-6	1,2,4-Trimethylbenzene	0.24	U	1.0	0.24
10061-01-5	cis-1,3-Dichloropropene	0.26	U	1.0	0.26
10061-02-6	trans-1,3-Dichloropropene	0.31	U	1.0	0.31
100-41-4	Ethylbenzene	0.26	U	1.0	0.26
591-78-6	2-Hexanone	1.2	U	10	1.2
75-09-2	Methylene Chloride	0.53	U	1.0	0.53
108-10-1	4-Methyl-2-pentanone (MIBK)	0.71	U	10	0.71
100-42-5	Styrene	0.23	U	1.0	0.23
79-34-5	1,1,2,2-Tetrachloroethane	0.32	U	1.0	0.32
127-18-4	Tetrachloroethene	0.30	U	1.0	0.30
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.33	U	1.0	0.33
75-01-4	Vinyl chloride	0.45	U	1.0	0.45
1330-20-7	Xylenes, Total	0.24	U	2.0	0.24
71-55-6	1,1,1-Trichloroethane	0.23	U	1.0	0.23



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: TB-121316 Lab Sample ID: 240-73352-1  
 Matrix: Water Lab File ID: UXC0642.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 00:00  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 15:17  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.29	U	1.0	0.29
96-12-8	1,2-Dibromo-3-Chloropropane	0.47	U	2.0	0.47
106-93-4	1,2-Dibromoethane	0.23	U	1.0	0.23
75-71-8	Dichlorodifluoromethane	0.50	U	1.0	0.50
156-59-2	cis-1,2-Dichloroethene	0.30	U	1.0	0.30
156-60-5	trans-1,2-Dichloroethene	0.29	U	1.0	0.29
98-82-8	Isopropylbenzene	0.21	U	1.0	0.21
1634-04-4	Methyl tert-butyl ether	0.27	U	1.0	0.27
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
120-82-1	1,2,4-Trichlorobenzene	0.27	U	1.0	0.27
594-20-7	2,2-Dichloropropane	0.34	U *	1.0	0.34
95-50-1	1,2-Dichlorobenzene	0.26	U	1.0	0.26
541-73-1	1,3-Dichlorobenzene	0.32	U	1.0	0.32
106-46-7	1,4-Dichlorobenzene	0.23	U	1.0	0.23
110-75-8	2-Chloroethyl vinyl ether	0.65	U	10	0.65
75-69-4	Trichlorofluoromethane	0.50	U	1.0	0.50
95-49-8	2-Chlorotoluene	0.28	U	1.0	0.28
124-48-1	Chlorodibromomethane	0.25	U	1.0	0.25
108-86-1	Bromobenzene	0.31	U	1.0	0.31
74-97-5	Bromochloromethane	0.47	U	1.0	0.47
106-43-4	4-Chlorotoluene	0.23	U	1.0	0.23
99-87-6	4-Isopropyltoluene	0.29	U	1.0	0.29
87-68-3	Hexachlorobutadiene	0.36	U	1.0	0.36
74-95-3	Dibromomethane	0.46	U	1.0	0.46
108-20-3	Diisopropyl ether	0.44	U	10	0.44
91-20-3	Naphthalene	0.25	U	1.0	0.25
104-51-8	n-Butylbenzene	0.21	U	1.0	0.21
103-65-1	N-Propylbenzene	0.45	U	1.0	0.45
135-98-8	sec-Butylbenzene	0.27	U	1.0	0.27
994-05-8	Tert-amyl methyl ether	0.29	U	5.0	0.29
637-92-3	Ethyl tert-butyl ether	0.35	U	5.0	0.35
98-06-6	tert-Butylbenzene	0.26	U	1.0	0.26
108-05-4	Vinyl acetate	0.28	U	2.0	0.28
75-65-0	tert-Butyl alcohol	4.6	U	50	4.6

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: TB-121316 Lab Sample ID: 240-73352-1  
 Matrix: Water Lab File ID: UXC0642.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 00:00  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 15:17  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		63-132
460-00-4	4-Bromofluorobenzene (Surr)	103		73-120
2037-26-5	Toluene-d8 (Surr)	98		73-124
1868-53-7	Dibromofluoromethane (Surr)	110		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW10A-D-121316 Lab Sample ID: 240-73352-2  
 Matrix: Water Lab File ID: UXC0643.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 09:16  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 15:39  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	2.6	J	10	1.8
630-20-6	1,1,1,2-Tetrachloroethane	0.46	U	1.0	0.46
71-43-2	Benzene	0.28	U	1.0	0.28
75-27-4	Bromodichloromethane	0.30	U	1.0	0.30
75-25-2	Bromoform	0.43	U	1.0	0.43
74-83-9	Bromomethane	0.42	U	1.0	0.42
78-93-3	2-Butanone (MEK)	1.0	U	10	1.0
75-15-0	Carbon disulfide	0.34	U	1.0	0.34
56-23-5	Carbon tetrachloride	0.35	U *	1.0	0.35
108-90-7	Chlorobenzene	0.32	U	1.0	0.32
75-00-3	Chloroethane	0.41	U	1.0	0.41
67-66-3	Chloroform	0.31	U	1.0	0.31
563-58-6	1,1-Dichloropropene	0.28	U	1.0	0.28
74-87-3	Chloromethane	0.43	U	1.0	0.43
75-34-3	1,1-Dichloroethane	0.25	U	1.0	0.25
87-61-6	1,2,3-Trichlorobenzene	0.35	U	1.0	0.35
96-18-4	1,2,3-Trichloropropane	0.54	U	1.0	0.54
107-06-2	1,2-Dichloroethane	0.30	U	1.0	0.30
75-35-4	1,1-Dichloroethene	0.27	U	1.0	0.27
526-73-8	1,2,3-Trimethylbenzene	0.22	U	5.0	0.22
78-87-5	1,2-Dichloropropane	0.30	U	1.0	0.30
95-63-6	1,2,4-Trimethylbenzene	0.24	U	1.0	0.24
10061-01-5	cis-1,3-Dichloropropene	0.26	U	1.0	0.26
10061-02-6	trans-1,3-Dichloropropene	0.31	U	1.0	0.31
100-41-4	Ethylbenzene	0.26	U	1.0	0.26
591-78-6	2-Hexanone	1.2	U	10	1.2
75-09-2	Methylene Chloride	0.53	U	1.0	0.53
108-10-1	4-Methyl-2-pentanone (MIBK)	0.71	U	10	0.71
100-42-5	Styrene	0.23	U	1.0	0.23
79-34-5	1,1,2,2-Tetrachloroethane	0.32	U	1.0	0.32
127-18-4	Tetrachloroethene	0.30	U	1.0	0.30
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.70	J	1.0	0.33
75-01-4	Vinyl chloride	0.45	U	1.0	0.45
1330-20-7	Xylenes, Total	0.24	U	2.0	0.24
71-55-6	1,1,1-Trichloroethane	0.23	U	1.0	0.23

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW10A-D-121316 Lab Sample ID: 240-73352-2  
 Matrix: Water Lab File ID: UXC0643.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 09:16  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 15:39  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.29	U	1.0	0.29
96-12-8	1,2-Dibromo-3-Chloropropane	0.47	U	2.0	0.47
106-93-4	1,2-Dibromoethane	0.23	U	1.0	0.23
75-71-8	Dichlorodifluoromethane	0.50	U	1.0	0.50
156-59-2	cis-1,2-Dichloroethene	0.30	U	1.0	0.30
156-60-5	trans-1,2-Dichloroethene	0.29	U	1.0	0.29
98-82-8	Isopropylbenzene	0.21	U	1.0	0.21
1634-04-4	Methyl tert-butyl ether	0.27	U	1.0	0.27
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
120-82-1	1,2,4-Trichlorobenzene	0.27	U	1.0	0.27
594-20-7	2,2-Dichloropropane	0.34	U *	1.0	0.34
95-50-1	1,2-Dichlorobenzene	0.26	U	1.0	0.26
541-73-1	1,3-Dichlorobenzene	0.32	U	1.0	0.32
106-46-7	1,4-Dichlorobenzene	0.23	U	1.0	0.23
110-75-8	2-Chloroethyl vinyl ether	0.65	U	10	0.65
75-69-4	Trichlorofluoromethane	0.50	U	1.0	0.50
95-49-8	2-Chlorotoluene	0.28	U	1.0	0.28
124-48-1	Chlorodibromomethane	0.25	U	1.0	0.25
108-86-1	Bromobenzene	0.31	U	1.0	0.31
74-97-5	Bromochloromethane	0.47	U	1.0	0.47
106-43-4	4-Chlorotoluene	0.23	U	1.0	0.23
99-87-6	4-Isopropyltoluene	0.29	U	1.0	0.29
87-68-3	Hexachlorobutadiene	0.36	U	1.0	0.36
74-95-3	Dibromomethane	0.46	U	1.0	0.46
108-20-3	Diisopropyl ether	0.44	U	10	0.44
91-20-3	Naphthalene	0.25	U	1.0	0.25
104-51-8	n-Butylbenzene	0.21	U	1.0	0.21
103-65-1	N-Propylbenzene	0.45	U	1.0	0.45
135-98-8	sec-Butylbenzene	0.27	U	1.0	0.27
994-05-8	Tert-amyl methyl ether	0.29	U	5.0	0.29
637-92-3	Ethyl tert-butyl ether	0.35	U	5.0	0.35
98-06-6	tert-Butylbenzene	0.26	U	1.0	0.26
108-05-4	Vinyl acetate	0.28	U	2.0	0.28
75-65-0	tert-Butyl alcohol	4.6	U	50	4.6

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW10A-D-121316 Lab Sample ID: 240-73352-2  
 Matrix: Water Lab File ID: UXC0643.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 09:16  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 15:39  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	107		63-132
460-00-4	4-Bromofluorobenzene (Surr)	102		73-120
2037-26-5	Toluene-d8 (Surr)	94		73-124
1868-53-7	Dibromofluoromethane (Surr)	115		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW10A-S-121316 Lab Sample ID: 240-73352-3  
 Matrix: Water Lab File ID: UXC0644.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 09:17  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 16:02  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	2.9	J	10	1.8
630-20-6	1,1,1,2-Tetrachloroethane	0.46	U	1.0	0.46
71-43-2	Benzene	0.28	U	1.0	0.28
75-27-4	Bromodichloromethane	0.30	U	1.0	0.30
75-25-2	Bromoform	0.43	U	1.0	0.43
74-83-9	Bromomethane	0.42	U	1.0	0.42
78-93-3	2-Butanone (MEK)	1.0	U	10	1.0
75-15-0	Carbon disulfide	0.34	U	1.0	0.34
56-23-5	Carbon tetrachloride	0.35	U *	1.0	0.35
108-90-7	Chlorobenzene	0.32	U	1.0	0.32
75-00-3	Chloroethane	0.41	U	1.0	0.41
67-66-3	Chloroform	0.31	U	1.0	0.31
563-58-6	1,1-Dichloropropene	0.28	U	1.0	0.28
74-87-3	Chloromethane	0.43	U	1.0	0.43
75-34-3	1,1-Dichloroethane	0.25	U	1.0	0.25
87-61-6	1,2,3-Trichlorobenzene	0.35	U	1.0	0.35
96-18-4	1,2,3-Trichloropropane	0.54	U	1.0	0.54
107-06-2	1,2-Dichloroethane	0.30	U	1.0	0.30
75-35-4	1,1-Dichloroethene	0.27	U	1.0	0.27
526-73-8	1,2,3-Trimethylbenzene	0.22	U	5.0	0.22
78-87-5	1,2-Dichloropropane	0.30	U	1.0	0.30
95-63-6	1,2,4-Trimethylbenzene	0.24	U	1.0	0.24
10061-01-5	cis-1,3-Dichloropropene	0.26	U	1.0	0.26
10061-02-6	trans-1,3-Dichloropropene	0.31	U	1.0	0.31
100-41-4	Ethylbenzene	0.26	U	1.0	0.26
591-78-6	2-Hexanone	1.2	U	10	1.2
75-09-2	Methylene Chloride	0.53	U	1.0	0.53
108-10-1	4-Methyl-2-pentanone (MIBK)	0.71	U	10	0.71
100-42-5	Styrene	0.23	U	1.0	0.23
79-34-5	1,1,2,2-Tetrachloroethane	0.32	U	1.0	0.32
127-18-4	Tetrachloroethene	0.30	U	1.0	0.30
108-88-3	Toluene	0.41	J	1.0	0.23
79-01-6	Trichloroethene	4.4		1.0	0.33
75-01-4	Vinyl chloride	0.45	U	1.0	0.45
1330-20-7	Xylenes, Total	0.35	J	2.0	0.24
71-55-6	1,1,1-Trichloroethane	0.23	U	1.0	0.23

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW10A-S-121316 Lab Sample ID: 240-73352-3  
 Matrix: Water Lab File ID: UXC0644.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 09:17  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 16:02  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.29	U	1.0	0.29
96-12-8	1,2-Dibromo-3-Chloropropane	0.47	U	2.0	0.47
106-93-4	1,2-Dibromoethane	0.23	U	1.0	0.23
75-71-8	Dichlorodifluoromethane	0.50	U	1.0	0.50
156-59-2	cis-1,2-Dichloroethene	0.30	U	1.0	0.30
156-60-5	trans-1,2-Dichloroethene	0.29	U	1.0	0.29
98-82-8	Isopropylbenzene	0.21	U	1.0	0.21
1634-04-4	Methyl tert-butyl ether	0.27	U	1.0	0.27
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
120-82-1	1,2,4-Trichlorobenzene	0.27	U	1.0	0.27
594-20-7	2,2-Dichloropropane	0.34	U *	1.0	0.34
95-50-1	1,2-Dichlorobenzene	0.26	U	1.0	0.26
541-73-1	1,3-Dichlorobenzene	0.32	U	1.0	0.32
106-46-7	1,4-Dichlorobenzene	0.23	U	1.0	0.23
110-75-8	2-Chloroethyl vinyl ether	0.65	U	10	0.65
75-69-4	Trichlorofluoromethane	0.50	U	1.0	0.50
95-49-8	2-Chlorotoluene	0.28	U	1.0	0.28
124-48-1	Chlorodibromomethane	0.25	U	1.0	0.25
108-86-1	Bromobenzene	0.31	U	1.0	0.31
74-97-5	Bromochloromethane	0.47	U	1.0	0.47
106-43-4	4-Chlorotoluene	0.23	U	1.0	0.23
99-87-6	4-Isopropyltoluene	0.29	U	1.0	0.29
87-68-3	Hexachlorobutadiene	0.36	U	1.0	0.36
74-95-3	Dibromomethane	0.46	U	1.0	0.46
108-20-3	Diisopropyl ether	0.44	U	10	0.44
91-20-3	Naphthalene	0.25	U	1.0	0.25
104-51-8	n-Butylbenzene	0.21	U	1.0	0.21
103-65-1	N-Propylbenzene	0.45	U	1.0	0.45
135-98-8	sec-Butylbenzene	0.27	U	1.0	0.27
994-05-8	Tert-amyl methyl ether	0.29	U	5.0	0.29
637-92-3	Ethyl tert-butyl ether	0.35	U	5.0	0.35
98-06-6	tert-Butylbenzene	0.26	U	1.0	0.26
108-05-4	Vinyl acetate	0.28	U	2.0	0.28
75-65-0	tert-Butyl alcohol	4.6	U	50	4.6

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW10A-S-121316 Lab Sample ID: 240-73352-3  
 Matrix: Water Lab File ID: UXC0644.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 09:17  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 16:02  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	109		63-132
460-00-4	4-Bromofluorobenzene (Surr)	104		73-120
2037-26-5	Toluene-d8 (Surr)	95		73-124
1868-53-7	Dibromofluoromethane (Surr)	115		80-120



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GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW10B-D-121316 Lab Sample ID: 240-73352-4  
 Matrix: Water Lab File ID: UXC0645.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 09:41  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 16:25  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	2.4	J	10	1.8
630-20-6	1,1,1,2-Tetrachloroethane	0.46	U	1.0	0.46
71-43-2	Benzene	0.28	U	1.0	0.28
75-27-4	Bromodichloromethane	0.30	U	1.0	0.30
75-25-2	Bromoform	0.43	U	1.0	0.43
74-83-9	Bromomethane	0.42	U	1.0	0.42
78-93-3	2-Butanone (MEK)	1.0	U	10	1.0
75-15-0	Carbon disulfide	0.34	U	1.0	0.34
56-23-5	Carbon tetrachloride	0.35	U *	1.0	0.35
108-90-7	Chlorobenzene	0.32	U	1.0	0.32
75-00-3	Chloroethane	0.41	U	1.0	0.41
67-66-3	Chloroform	0.31	U	1.0	0.31
563-58-6	1,1-Dichloropropene	0.28	U	1.0	0.28
74-87-3	Chloromethane	0.43	U	1.0	0.43
75-34-3	1,1-Dichloroethane	0.25	U	1.0	0.25
87-61-6	1,2,3-Trichlorobenzene	0.35	U	1.0	0.35
96-18-4	1,2,3-Trichloropropane	0.54	U	1.0	0.54
107-06-2	1,2-Dichloroethane	0.30	U	1.0	0.30
75-35-4	1,1-Dichloroethene	0.27	U	1.0	0.27
526-73-8	1,2,3-Trimethylbenzene	0.22	U	5.0	0.22
78-87-5	1,2-Dichloropropane	0.30	U	1.0	0.30
95-63-6	1,2,4-Trimethylbenzene	0.24	U	1.0	0.24
10061-01-5	cis-1,3-Dichloropropene	0.26	U	1.0	0.26
10061-02-6	trans-1,3-Dichloropropene	0.31	U	1.0	0.31
100-41-4	Ethylbenzene	0.26	U	1.0	0.26
591-78-6	2-Hexanone	1.2	U	10	1.2
75-09-2	Methylene Chloride	0.53	U	1.0	0.53
108-10-1	4-Methyl-2-pentanone (MIBK)	0.71	U	10	0.71
100-42-5	Styrene	0.23	U	1.0	0.23
79-34-5	1,1,2,2-Tetrachloroethane	0.32	U	1.0	0.32
127-18-4	Tetrachloroethene	0.30	U	1.0	0.30
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.44	J	1.0	0.33
75-01-4	Vinyl chloride	0.45	U	1.0	0.45
1330-20-7	Xylenes, Total	0.24	U	2.0	0.24
71-55-6	1,1,1-Trichloroethane	0.23	U	1.0	0.23

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW10B-D-121316 Lab Sample ID: 240-73352-4  
 Matrix: Water Lab File ID: UXC0645.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 09:41  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 16:25  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.29	U	1.0	0.29
96-12-8	1,2-Dibromo-3-Chloropropane	0.47	U	2.0	0.47
106-93-4	1,2-Dibromoethane	0.23	U	1.0	0.23
75-71-8	Dichlorodifluoromethane	0.50	U	1.0	0.50
156-59-2	cis-1,2-Dichloroethene	0.30	U	1.0	0.30
156-60-5	trans-1,2-Dichloroethene	0.29	U	1.0	0.29
98-82-8	Isopropylbenzene	0.21	U	1.0	0.21
1634-04-4	Methyl tert-butyl ether	0.27	U	1.0	0.27
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
120-82-1	1,2,4-Trichlorobenzene	0.27	U	1.0	0.27
594-20-7	2,2-Dichloropropane	0.34	U *	1.0	0.34
95-50-1	1,2-Dichlorobenzene	0.26	U	1.0	0.26
541-73-1	1,3-Dichlorobenzene	0.32	U	1.0	0.32
106-46-7	1,4-Dichlorobenzene	0.23	U	1.0	0.23
110-75-8	2-Chloroethyl vinyl ether	0.65	U	10	0.65
75-69-4	Trichlorofluoromethane	0.50	U	1.0	0.50
95-49-8	2-Chlorotoluene	0.28	U	1.0	0.28
124-48-1	Chlorodibromomethane	0.25	U	1.0	0.25
108-86-1	Bromobenzene	0.31	U	1.0	0.31
74-97-5	Bromochloromethane	0.47	U	1.0	0.47
106-43-4	4-Chlorotoluene	0.23	U	1.0	0.23
99-87-6	4-Isopropyltoluene	0.29	U	1.0	0.29
87-68-3	Hexachlorobutadiene	0.36	U	1.0	0.36
74-95-3	Dibromomethane	0.46	U	1.0	0.46
108-20-3	Diisopropyl ether	0.44	U	10	0.44
91-20-3	Naphthalene	0.25	U	1.0	0.25
104-51-8	n-Butylbenzene	0.21	U	1.0	0.21
103-65-1	N-Propylbenzene	0.45	U	1.0	0.45
135-98-8	sec-Butylbenzene	0.27	U	1.0	0.27
994-05-8	Tert-amyl methyl ether	0.29	U	5.0	0.29
637-92-3	Ethyl tert-butyl ether	0.35	U	5.0	0.35
98-06-6	tert-Butylbenzene	0.26	U	1.0	0.26
108-05-4	Vinyl acetate	0.28	U	2.0	0.28
75-65-0	tert-Butyl alcohol	4.6	U	50	4.6

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW10B-D-121316 Lab Sample ID: 240-73352-4  
 Matrix: Water Lab File ID: UXC0645.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 09:41  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 16:25  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	107		63-132
460-00-4	4-Bromofluorobenzene (Surr)	103		73-120
2037-26-5	Toluene-d8 (Surr)	93		73-124
1868-53-7	Dibromofluoromethane (Surr)	115		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW10B-S-121316 Lab Sample ID: 240-73352-5  
 Matrix: Water Lab File ID: UXC0646.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 09:45  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 16:47  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	1.8	U	10	1.8
630-20-6	1,1,1,2-Tetrachloroethane	0.46	U	1.0	0.46
71-43-2	Benzene	0.28	U	1.0	0.28
75-27-4	Bromodichloromethane	0.30	U	1.0	0.30
75-25-2	Bromoform	0.43	U	1.0	0.43
74-83-9	Bromomethane	0.42	U	1.0	0.42
78-93-3	2-Butanone (MEK)	1.0	U	10	1.0
75-15-0	Carbon disulfide	0.34	U	1.0	0.34
56-23-5	Carbon tetrachloride	0.35	U *	1.0	0.35
108-90-7	Chlorobenzene	0.32	U	1.0	0.32
75-00-3	Chloroethane	0.41	U	1.0	0.41
67-66-3	Chloroform	0.31	U	1.0	0.31
563-58-6	1,1-Dichloropropene	0.28	U	1.0	0.28
74-87-3	Chloromethane	0.43	U	1.0	0.43
75-34-3	1,1-Dichloroethane	0.25	U	1.0	0.25
87-61-6	1,2,3-Trichlorobenzene	0.35	U	1.0	0.35
96-18-4	1,2,3-Trichloropropane	0.54	U	1.0	0.54
107-06-2	1,2-Dichloroethane	0.30	U	1.0	0.30
75-35-4	1,1-Dichloroethene	0.27	U	1.0	0.27
526-73-8	1,2,3-Trimethylbenzene	0.22	U	5.0	0.22
78-87-5	1,2-Dichloropropane	0.30	U	1.0	0.30
95-63-6	1,2,4-Trimethylbenzene	0.24	U	1.0	0.24
10061-01-5	cis-1,3-Dichloropropene	0.26	U	1.0	0.26
10061-02-6	trans-1,3-Dichloropropene	0.31	U	1.0	0.31
100-41-4	Ethylbenzene	0.26	U	1.0	0.26
591-78-6	2-Hexanone	1.2	U	10	1.2
75-09-2	Methylene Chloride	0.53	U	1.0	0.53
108-10-1	4-Methyl-2-pentanone (MIBK)	0.71	U	10	0.71
100-42-5	Styrene	0.23	U	1.0	0.23
79-34-5	1,1,2,2-Tetrachloroethane	0.32	U	1.0	0.32
127-18-4	Tetrachloroethene	0.30	U	1.0	0.30
108-88-3	Toluene	0.34	J	1.0	0.23
79-01-6	Trichloroethene	1.2		1.0	0.33
75-01-4	Vinyl chloride	0.45	U	1.0	0.45
1330-20-7	Xylenes, Total	0.33	J	2.0	0.24
71-55-6	1,1,1-Trichloroethane	0.23	U	1.0	0.23

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW10B-S-121316 Lab Sample ID: 240-73352-5  
 Matrix: Water Lab File ID: UXC0646.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 09:45  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 16:47  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.29	U	1.0	0.29
96-12-8	1,2-Dibromo-3-Chloropropane	0.47	U	2.0	0.47
106-93-4	1,2-Dibromoethane	0.23	U	1.0	0.23
75-71-8	Dichlorodifluoromethane	0.50	U	1.0	0.50
156-59-2	cis-1,2-Dichloroethene	0.30	U	1.0	0.30
156-60-5	trans-1,2-Dichloroethene	0.29	U	1.0	0.29
98-82-8	Isopropylbenzene	0.21	U	1.0	0.21
1634-04-4	Methyl tert-butyl ether	0.27	U	1.0	0.27
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
120-82-1	1,2,4-Trichlorobenzene	0.27	U	1.0	0.27
594-20-7	2,2-Dichloropropane	0.34	U *	1.0	0.34
95-50-1	1,2-Dichlorobenzene	0.26	U	1.0	0.26
541-73-1	1,3-Dichlorobenzene	0.32	U	1.0	0.32
106-46-7	1,4-Dichlorobenzene	0.23	U	1.0	0.23
110-75-8	2-Chloroethyl vinyl ether	0.65	U	10	0.65
75-69-4	Trichlorofluoromethane	0.50	U	1.0	0.50
95-49-8	2-Chlorotoluene	0.28	U	1.0	0.28
124-48-1	Chlorodibromomethane	0.25	U	1.0	0.25
108-86-1	Bromobenzene	0.31	U	1.0	0.31
74-97-5	Bromochloromethane	0.47	U	1.0	0.47
106-43-4	4-Chlorotoluene	0.23	U	1.0	0.23
99-87-6	4-Isopropyltoluene	0.29	U	1.0	0.29
87-68-3	Hexachlorobutadiene	0.36	U	1.0	0.36
74-95-3	Dibromomethane	0.46	U	1.0	0.46
108-20-3	Diisopropyl ether	0.44	U	10	0.44
91-20-3	Naphthalene	0.25	U	1.0	0.25
104-51-8	n-Butylbenzene	0.21	U	1.0	0.21
103-65-1	N-Propylbenzene	0.45	U	1.0	0.45
135-98-8	sec-Butylbenzene	0.27	U	1.0	0.27
994-05-8	Tert-amyl methyl ether	0.29	U	5.0	0.29
637-92-3	Ethyl tert-butyl ether	0.35	U	5.0	0.35
98-06-6	tert-Butylbenzene	0.26	U	1.0	0.26
108-05-4	Vinyl acetate	0.28	U	2.0	0.28
75-65-0	tert-Butyl alcohol	4.6	U	50	4.6

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW10B-S-121316 Lab Sample ID: 240-73352-5  
 Matrix: Water Lab File ID: UXC0646.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 09:45  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 16:47  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	106		63-132
460-00-4	4-Bromofluorobenzene (Surr)	100		73-120
2037-26-5	Toluene-d8 (Surr)	98		73-124
1868-53-7	Dibromofluoromethane (Surr)	109		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW11A-D-121316 Lab Sample ID: 240-73352-6  
 Matrix: Water Lab File ID: UXC0647.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 09:53  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 17:10  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	2.0	J	10	1.8
630-20-6	1,1,1,2-Tetrachloroethane	0.46	U	1.0	0.46
71-43-2	Benzene	0.28	U	1.0	0.28
75-27-4	Bromodichloromethane	0.30	U	1.0	0.30
75-25-2	Bromoform	0.43	U	1.0	0.43
74-83-9	Bromomethane	0.42	U	1.0	0.42
78-93-3	2-Butanone (MEK)	1.0	U	10	1.0
75-15-0	Carbon disulfide	0.34	U	1.0	0.34
56-23-5	Carbon tetrachloride	0.35	U *	1.0	0.35
108-90-7	Chlorobenzene	0.32	U	1.0	0.32
75-00-3	Chloroethane	0.41	U	1.0	0.41
67-66-3	Chloroform	0.31	U	1.0	0.31
563-58-6	1,1-Dichloropropene	0.28	U	1.0	0.28
74-87-3	Chloromethane	0.43	U	1.0	0.43
75-34-3	1,1-Dichloroethane	0.25	U	1.0	0.25
87-61-6	1,2,3-Trichlorobenzene	0.35	U	1.0	0.35
96-18-4	1,2,3-Trichloropropane	0.54	U	1.0	0.54
107-06-2	1,2-Dichloroethane	0.30	U	1.0	0.30
75-35-4	1,1-Dichloroethene	0.27	U	1.0	0.27
526-73-8	1,2,3-Trimethylbenzene	0.22	U	5.0	0.22
78-87-5	1,2-Dichloropropane	0.30	U	1.0	0.30
95-63-6	1,2,4-Trimethylbenzene	0.24	U	1.0	0.24
10061-01-5	cis-1,3-Dichloropropene	0.26	U	1.0	0.26
10061-02-6	trans-1,3-Dichloropropene	0.31	U	1.0	0.31
100-41-4	Ethylbenzene	0.26	U	1.0	0.26
591-78-6	2-Hexanone	1.2	U	10	1.2
75-09-2	Methylene Chloride	0.53	U	1.0	0.53
108-10-1	4-Methyl-2-pentanone (MIBK)	0.71	U	10	0.71
100-42-5	Styrene	0.23	U	1.0	0.23
79-34-5	1,1,2,2-Tetrachloroethane	0.32	U	1.0	0.32
127-18-4	Tetrachloroethene	0.30	U	1.0	0.30
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	2.7		1.0	0.33
75-01-4	Vinyl chloride	0.45	U	1.0	0.45
1330-20-7	Xylenes, Total	0.24	U	2.0	0.24
71-55-6	1,1,1-Trichloroethane	0.23	U	1.0	0.23

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW11A-D-121316 Lab Sample ID: 240-73352-6  
 Matrix: Water Lab File ID: UXC0647.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 09:53  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 17:10  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.29	U	1.0	0.29
96-12-8	1,2-Dibromo-3-Chloropropane	0.47	U	2.0	0.47
106-93-4	1,2-Dibromoethane	0.23	U	1.0	0.23
75-71-8	Dichlorodifluoromethane	0.50	U	1.0	0.50
156-59-2	cis-1,2-Dichloroethene	0.49	J	1.0	0.30
156-60-5	trans-1,2-Dichloroethene	0.29	U	1.0	0.29
98-82-8	Isopropylbenzene	0.21	U	1.0	0.21
1634-04-4	Methyl tert-butyl ether	0.27	U	1.0	0.27
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
120-82-1	1,2,4-Trichlorobenzene	0.27	U	1.0	0.27
594-20-7	2,2-Dichloropropane	0.34	U *	1.0	0.34
95-50-1	1,2-Dichlorobenzene	0.26	U	1.0	0.26
541-73-1	1,3-Dichlorobenzene	0.32	U	1.0	0.32
106-46-7	1,4-Dichlorobenzene	0.23	U	1.0	0.23
110-75-8	2-Chloroethyl vinyl ether	0.65	U	10	0.65
75-69-4	Trichlorofluoromethane	0.50	U	1.0	0.50
95-49-8	2-Chlorotoluene	0.28	U	1.0	0.28
124-48-1	Chlorodibromomethane	0.25	U	1.0	0.25
108-86-1	Bromobenzene	0.31	U	1.0	0.31
74-97-5	Bromochloromethane	0.47	U	1.0	0.47
106-43-4	4-Chlorotoluene	0.23	U	1.0	0.23
99-87-6	4-Isopropyltoluene	0.29	U	1.0	0.29
87-68-3	Hexachlorobutadiene	0.36	U	1.0	0.36
74-95-3	Dibromomethane	0.46	U	1.0	0.46
108-20-3	Diisopropyl ether	0.44	U	10	0.44
91-20-3	Naphthalene	0.25	U	1.0	0.25
104-51-8	n-Butylbenzene	0.21	U	1.0	0.21
103-65-1	N-Propylbenzene	0.45	U	1.0	0.45
135-98-8	sec-Butylbenzene	0.27	U	1.0	0.27
994-05-8	Tert-amyl methyl ether	0.29	U	5.0	0.29
637-92-3	Ethyl tert-butyl ether	0.35	U	5.0	0.35
98-06-6	tert-Butylbenzene	0.26	U	1.0	0.26
108-05-4	Vinyl acetate	0.28	U	2.0	0.28
75-65-0	tert-Butyl alcohol	4.6	U	50	4.6



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW11A-D-121316 Lab Sample ID: 240-73352-6  
 Matrix: Water Lab File ID: UXC0647.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 09:53  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 17:10  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	107		63-132
460-00-4	4-Bromofluorobenzene (Surr)	101		73-120
2037-26-5	Toluene-d8 (Surr)	94		73-124
1868-53-7	Dibromofluoromethane (Surr)	115		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW11A-S-121316 Lab Sample ID: 240-73352-7  
 Matrix: Water Lab File ID: UXC0648.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 09:56  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 17:33  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	2.1	J	10	1.8
630-20-6	1,1,1,2-Tetrachloroethane	0.46	U	1.0	0.46
71-43-2	Benzene	0.28	U	1.0	0.28
75-27-4	Bromodichloromethane	0.30	U	1.0	0.30
75-25-2	Bromoform	0.43	U	1.0	0.43
74-83-9	Bromomethane	0.42	U	1.0	0.42
78-93-3	2-Butanone (MEK)	1.0	U	10	1.0
75-15-0	Carbon disulfide	0.34	U	1.0	0.34
56-23-5	Carbon tetrachloride	0.35	U *	1.0	0.35
108-90-7	Chlorobenzene	0.32	U	1.0	0.32
75-00-3	Chloroethane	0.41	U	1.0	0.41
67-66-3	Chloroform	0.31	U	1.0	0.31
563-58-6	1,1-Dichloropropene	0.28	U	1.0	0.28
74-87-3	Chloromethane	0.43	U	1.0	0.43
75-34-3	1,1-Dichloroethane	0.25	U	1.0	0.25
87-61-6	1,2,3-Trichlorobenzene	0.35	U	1.0	0.35
96-18-4	1,2,3-Trichloropropane	0.54	U	1.0	0.54
107-06-2	1,2-Dichloroethane	0.30	U	1.0	0.30
75-35-4	1,1-Dichloroethene	0.27	U	1.0	0.27
526-73-8	1,2,3-Trimethylbenzene	0.22	U	5.0	0.22
78-87-5	1,2-Dichloropropane	0.30	U	1.0	0.30
95-63-6	1,2,4-Trimethylbenzene	0.24	U	1.0	0.24
10061-01-5	cis-1,3-Dichloropropene	0.26	U	1.0	0.26
10061-02-6	trans-1,3-Dichloropropene	0.31	U	1.0	0.31
100-41-4	Ethylbenzene	0.26	U	1.0	0.26
591-78-6	2-Hexanone	1.2	U	10	1.2
75-09-2	Methylene Chloride	0.53	U	1.0	0.53
108-10-1	4-Methyl-2-pentanone (MIBK)	0.71	U	10	0.71
100-42-5	Styrene	0.23	U	1.0	0.23
79-34-5	1,1,2,2-Tetrachloroethane	0.32	U	1.0	0.32
127-18-4	Tetrachloroethene	0.30	U	1.0	0.30
108-88-3	Toluene	0.66	J	1.0	0.23
79-01-6	Trichloroethene	4.1		1.0	0.33
75-01-4	Vinyl chloride	0.45	U	1.0	0.45
1330-20-7	Xylenes, Total	0.53	J	2.0	0.24
71-55-6	1,1,1-Trichloroethane	0.23	U	1.0	0.23

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW11A-S-121316 Lab Sample ID: 240-73352-7  
 Matrix: Water Lab File ID: UXC0648.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 09:56  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 17:33  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.29	U	1.0	0.29
96-12-8	1,2-Dibromo-3-Chloropropane	0.47	U	2.0	0.47
106-93-4	1,2-Dibromoethane	0.23	U	1.0	0.23
75-71-8	Dichlorodifluoromethane	0.50	U	1.0	0.50
156-59-2	cis-1,2-Dichloroethene	0.30	U	1.0	0.30
156-60-5	trans-1,2-Dichloroethene	0.29	U	1.0	0.29
98-82-8	Isopropylbenzene	0.21	U	1.0	0.21
1634-04-4	Methyl tert-butyl ether	0.27	U	1.0	0.27
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
120-82-1	1,2,4-Trichlorobenzene	0.27	U	1.0	0.27
594-20-7	2,2-Dichloropropane	0.34	U *	1.0	0.34
95-50-1	1,2-Dichlorobenzene	0.26	U	1.0	0.26
541-73-1	1,3-Dichlorobenzene	0.32	U	1.0	0.32
106-46-7	1,4-Dichlorobenzene	0.23	U	1.0	0.23
110-75-8	2-Chloroethyl vinyl ether	0.65	U	10	0.65
75-69-4	Trichlorofluoromethane	0.50	U	1.0	0.50
95-49-8	2-Chlorotoluene	0.28	U	1.0	0.28
124-48-1	Chlorodibromomethane	0.25	U	1.0	0.25
108-86-1	Bromobenzene	0.31	U	1.0	0.31
74-97-5	Bromochloromethane	0.47	U	1.0	0.47
106-43-4	4-Chlorotoluene	0.23	U	1.0	0.23
99-87-6	4-Isopropyltoluene	0.29	U	1.0	0.29
87-68-3	Hexachlorobutadiene	0.36	U	1.0	0.36
74-95-3	Dibromomethane	0.46	U	1.0	0.46
108-20-3	Diisopropyl ether	0.44	U	10	0.44
91-20-3	Naphthalene	0.25	U	1.0	0.25
104-51-8	n-Butylbenzene	0.21	U	1.0	0.21
103-65-1	N-Propylbenzene	0.45	U	1.0	0.45
135-98-8	sec-Butylbenzene	0.27	U	1.0	0.27
994-05-8	Tert-amyl methyl ether	0.29	U	5.0	0.29
637-92-3	Ethyl tert-butyl ether	0.35	U	5.0	0.35
98-06-6	tert-Butylbenzene	0.26	U	1.0	0.26
108-05-4	Vinyl acetate	0.28	U	2.0	0.28
75-65-0	tert-Butyl alcohol	4.6	U	50	4.6

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW11A-S-121316 Lab Sample ID: 240-73352-7  
 Matrix: Water Lab File ID: UXC0648.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 09:56  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 17:33  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	107		63-132
460-00-4	4-Bromofluorobenzene (Surr)	102		73-120
2037-26-5	Toluene-d8 (Surr)	96		73-124
1868-53-7	Dibromofluoromethane (Surr)	115		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW11B-D-121316 Lab Sample ID: 240-73352-8  
 Matrix: Water Lab File ID: UXC0649.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 10:03  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 17:55  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	1.8	U	10	1.8
630-20-6	1,1,1,2-Tetrachloroethane	0.46	U	1.0	0.46
71-43-2	Benzene	0.28	U	1.0	0.28
75-27-4	Bromodichloromethane	0.30	U	1.0	0.30
75-25-2	Bromoform	0.43	U	1.0	0.43
74-83-9	Bromomethane	0.42	U	1.0	0.42
78-93-3	2-Butanone (MEK)	1.0	U	10	1.0
75-15-0	Carbon disulfide	0.34	U	1.0	0.34
56-23-5	Carbon tetrachloride	0.35	U *	1.0	0.35
108-90-7	Chlorobenzene	0.32	U	1.0	0.32
75-00-3	Chloroethane	0.41	U	1.0	0.41
67-66-3	Chloroform	0.31	U	1.0	0.31
563-58-6	1,1-Dichloropropene	0.28	U	1.0	0.28
74-87-3	Chloromethane	0.43	U	1.0	0.43
75-34-3	1,1-Dichloroethane	0.25	U	1.0	0.25
87-61-6	1,2,3-Trichlorobenzene	0.35	U	1.0	0.35
96-18-4	1,2,3-Trichloropropane	0.54	U	1.0	0.54
107-06-2	1,2-Dichloroethane	0.30	U	1.0	0.30
75-35-4	1,1-Dichloroethene	0.27	U	1.0	0.27
526-73-8	1,2,3-Trimethylbenzene	0.22	U	5.0	0.22
78-87-5	1,2-Dichloropropane	0.30	U	1.0	0.30
95-63-6	1,2,4-Trimethylbenzene	0.24	U	1.0	0.24
10061-01-5	cis-1,3-Dichloropropene	0.26	U	1.0	0.26
10061-02-6	trans-1,3-Dichloropropene	0.31	U	1.0	0.31
100-41-4	Ethylbenzene	0.26	U	1.0	0.26
591-78-6	2-Hexanone	1.2	U	10	1.2
75-09-2	Methylene Chloride	0.53	U	1.0	0.53
108-10-1	4-Methyl-2-pentanone (MIBK)	0.71	U	10	0.71
100-42-5	Styrene	0.23	U	1.0	0.23
79-34-5	1,1,2,2-Tetrachloroethane	0.32	U	1.0	0.32
127-18-4	Tetrachloroethene	0.30	U	1.0	0.30
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	3.7		1.0	0.33
75-01-4	Vinyl chloride	0.45	U	1.0	0.45
1330-20-7	Xylenes, Total	0.24	U	2.0	0.24
71-55-6	1,1,1-Trichloroethane	0.23	U	1.0	0.23

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW11B-D-121316 Lab Sample ID: 240-73352-8  
 Matrix: Water Lab File ID: UXC0649.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 10:03  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 17:55  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.29	U	1.0	0.29
96-12-8	1,2-Dibromo-3-Chloropropane	0.47	U	2.0	0.47
106-93-4	1,2-Dibromoethane	0.23	U	1.0	0.23
75-71-8	Dichlorodifluoromethane	0.50	U	1.0	0.50
156-59-2	cis-1,2-Dichloroethene	2.8		1.0	0.30
156-60-5	trans-1,2-Dichloroethene	0.29	U	1.0	0.29
98-82-8	Isopropylbenzene	0.21	U	1.0	0.21
1634-04-4	Methyl tert-butyl ether	0.27	U	1.0	0.27
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
120-82-1	1,2,4-Trichlorobenzene	0.27	U	1.0	0.27
594-20-7	2,2-Dichloropropane	0.34	U *	1.0	0.34
95-50-1	1,2-Dichlorobenzene	0.26	U	1.0	0.26
541-73-1	1,3-Dichlorobenzene	0.32	U	1.0	0.32
106-46-7	1,4-Dichlorobenzene	0.23	U	1.0	0.23
110-75-8	2-Chloroethyl vinyl ether	0.65	U	10	0.65
75-69-4	Trichlorofluoromethane	0.50	U	1.0	0.50
95-49-8	2-Chlorotoluene	0.28	U	1.0	0.28
124-48-1	Chlorodibromomethane	0.25	U	1.0	0.25
108-86-1	Bromobenzene	0.31	U	1.0	0.31
74-97-5	Bromochloromethane	0.47	U	1.0	0.47
106-43-4	4-Chlorotoluene	0.23	U	1.0	0.23
99-87-6	4-Isopropyltoluene	0.29	U	1.0	0.29
87-68-3	Hexachlorobutadiene	0.36	U	1.0	0.36
74-95-3	Dibromomethane	0.46	U	1.0	0.46
108-20-3	Diisopropyl ether	0.44	U	10	0.44
91-20-3	Naphthalene	0.25	U	1.0	0.25
104-51-8	n-Butylbenzene	0.21	U	1.0	0.21
103-65-1	N-Propylbenzene	0.45	U	1.0	0.45
135-98-8	sec-Butylbenzene	0.27	U	1.0	0.27
994-05-8	Tert-amyl methyl ether	0.29	U	5.0	0.29
637-92-3	Ethyl tert-butyl ether	0.35	U	5.0	0.35
98-06-6	tert-Butylbenzene	0.26	U	1.0	0.26
108-05-4	Vinyl acetate	0.28	U	2.0	0.28
75-65-0	tert-Butyl alcohol	4.6	U	50	4.6

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW11B-D-121316 Lab Sample ID: 240-73352-8  
 Matrix: Water Lab File ID: UXC0649.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 10:03  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 17:55  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	108		63-132
460-00-4	4-Bromofluorobenzene (Surr)	99		73-120
2037-26-5	Toluene-d8 (Surr)	96		73-124
1868-53-7	Dibromofluoromethane (Surr)	114		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW11B-S-121316 Lab Sample ID: 240-73352-9  
 Matrix: Water Lab File ID: UXC0650.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 10:08  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 18:17  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	1.8	U	10	1.8
630-20-6	1,1,1,2-Tetrachloroethane	0.46	U	1.0	0.46
71-43-2	Benzene	0.28	U	1.0	0.28
75-27-4	Bromodichloromethane	0.30	U	1.0	0.30
75-25-2	Bromoform	0.43	U	1.0	0.43
74-83-9	Bromomethane	0.42	U	1.0	0.42
78-93-3	2-Butanone (MEK)	1.0	U	10	1.0
75-15-0	Carbon disulfide	0.34	U	1.0	0.34
56-23-5	Carbon tetrachloride	0.35	U *	1.0	0.35
108-90-7	Chlorobenzene	0.32	U	1.0	0.32
75-00-3	Chloroethane	0.41	U	1.0	0.41
67-66-3	Chloroform	0.31	U	1.0	0.31
563-58-6	1,1-Dichloropropene	0.28	U	1.0	0.28
74-87-3	Chloromethane	0.43	U	1.0	0.43
75-34-3	1,1-Dichloroethane	0.25	U	1.0	0.25
87-61-6	1,2,3-Trichlorobenzene	0.35	U	1.0	0.35
96-18-4	1,2,3-Trichloropropane	0.54	U	1.0	0.54
107-06-2	1,2-Dichloroethane	0.30	U	1.0	0.30
75-35-4	1,1-Dichloroethene	0.27	U	1.0	0.27
526-73-8	1,2,3-Trimethylbenzene	0.22	U	5.0	0.22
78-87-5	1,2-Dichloropropane	0.30	U	1.0	0.30
95-63-6	1,2,4-Trimethylbenzene	0.24	U	1.0	0.24
10061-01-5	cis-1,3-Dichloropropene	0.26	U	1.0	0.26
10061-02-6	trans-1,3-Dichloropropene	0.31	U	1.0	0.31
100-41-4	Ethylbenzene	0.26	U	1.0	0.26
591-78-6	2-Hexanone	1.2	U	10	1.2
75-09-2	Methylene Chloride	0.53	U	1.0	0.53
108-10-1	4-Methyl-2-pentanone (MIBK)	0.71	U	10	0.71
100-42-5	Styrene	0.23	U	1.0	0.23
79-34-5	1,1,2,2-Tetrachloroethane	0.32	U	1.0	0.32
127-18-4	Tetrachloroethene	0.30	U	1.0	0.30
108-88-3	Toluene	0.45	J	1.0	0.23
79-01-6	Trichloroethene	1.2		1.0	0.33
75-01-4	Vinyl chloride	0.45	U	1.0	0.45
1330-20-7	Xylenes, Total	0.37	J	2.0	0.24
71-55-6	1,1,1-Trichloroethane	0.23	U	1.0	0.23



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW11B-S-121316 Lab Sample ID: 240-73352-9  
 Matrix: Water Lab File ID: UXC0650.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 10:08  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 18:17  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.29	U	1.0	0.29
96-12-8	1,2-Dibromo-3-Chloropropane	0.47	U	2.0	0.47
106-93-4	1,2-Dibromoethane	0.23	U	1.0	0.23
75-71-8	Dichlorodifluoromethane	0.50	U	1.0	0.50
156-59-2	cis-1,2-Dichloroethene	0.30	U	1.0	0.30
156-60-5	trans-1,2-Dichloroethene	0.29	U	1.0	0.29
98-82-8	Isopropylbenzene	0.21	U	1.0	0.21
1634-04-4	Methyl tert-butyl ether	0.27	U	1.0	0.27
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
120-82-1	1,2,4-Trichlorobenzene	0.27	U	1.0	0.27
594-20-7	2,2-Dichloropropane	0.34	U *	1.0	0.34
95-50-1	1,2-Dichlorobenzene	0.26	U	1.0	0.26
541-73-1	1,3-Dichlorobenzene	0.32	U	1.0	0.32
106-46-7	1,4-Dichlorobenzene	0.23	U	1.0	0.23
110-75-8	2-Chloroethyl vinyl ether	0.65	U	10	0.65
75-69-4	Trichlorofluoromethane	0.50	U	1.0	0.50
95-49-8	2-Chlorotoluene	0.28	U	1.0	0.28
124-48-1	Chlorodibromomethane	0.25	U	1.0	0.25
108-86-1	Bromobenzene	0.31	U	1.0	0.31
74-97-5	Bromochloromethane	0.47	U	1.0	0.47
106-43-4	4-Chlorotoluene	0.23	U	1.0	0.23
99-87-6	4-Isopropyltoluene	0.29	U	1.0	0.29
87-68-3	Hexachlorobutadiene	0.36	U	1.0	0.36
74-95-3	Dibromomethane	0.46	U	1.0	0.46
108-20-3	Diisopropyl ether	0.44	U	10	0.44
91-20-3	Naphthalene	0.25	U	1.0	0.25
104-51-8	n-Butylbenzene	0.21	U	1.0	0.21
103-65-1	N-Propylbenzene	0.45	U	1.0	0.45
135-98-8	sec-Butylbenzene	0.27	U	1.0	0.27
994-05-8	Tert-amyl methyl ether	0.29	U	5.0	0.29
637-92-3	Ethyl tert-butyl ether	0.35	U	5.0	0.35
98-06-6	tert-Butylbenzene	0.26	U	1.0	0.26
108-05-4	Vinyl acetate	0.28	U	2.0	0.28
75-65-0	tert-Butyl alcohol	4.6	U	50	4.6

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW11B-S-121316 Lab Sample ID: 240-73352-9  
 Matrix: Water Lab File ID: UXC0650.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 10:08  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 18:17  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	108		63-132
460-00-4	4-Bromofluorobenzene (Surr)	98		73-120
2037-26-5	Toluene-d8 (Surr)	93		73-124
1868-53-7	Dibromofluoromethane (Surr)	119		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW12A-D-121316 Lab Sample ID: 240-73352-10  
 Matrix: Water Lab File ID: UXC0651.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 10:13  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 18:40  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	1.8	U	10	1.8
630-20-6	1,1,1,2-Tetrachloroethane	0.46	U	1.0	0.46
71-43-2	Benzene	0.28	U	1.0	0.28
75-27-4	Bromodichloromethane	0.30	U	1.0	0.30
75-25-2	Bromoform	0.43	U	1.0	0.43
74-83-9	Bromomethane	0.42	U	1.0	0.42
78-93-3	2-Butanone (MEK)	1.0	U	10	1.0
75-15-0	Carbon disulfide	0.34	U	1.0	0.34
56-23-5	Carbon tetrachloride	0.35	U *	1.0	0.35
108-90-7	Chlorobenzene	0.32	U	1.0	0.32
75-00-3	Chloroethane	0.41	U	1.0	0.41
67-66-3	Chloroform	0.31	U	1.0	0.31
563-58-6	1,1-Dichloropropene	0.28	U	1.0	0.28
74-87-3	Chloromethane	0.43	U	1.0	0.43
75-34-3	1,1-Dichloroethane	0.25	U	1.0	0.25
87-61-6	1,2,3-Trichlorobenzene	0.35	U	1.0	0.35
96-18-4	1,2,3-Trichloropropane	0.54	U	1.0	0.54
107-06-2	1,2-Dichloroethane	0.30	U	1.0	0.30
75-35-4	1,1-Dichloroethene	0.27	U	1.0	0.27
526-73-8	1,2,3-Trimethylbenzene	0.22	U	5.0	0.22
78-87-5	1,2-Dichloropropane	0.30	U	1.0	0.30
95-63-6	1,2,4-Trimethylbenzene	0.24	U	1.0	0.24
10061-01-5	cis-1,3-Dichloropropene	0.26	U	1.0	0.26
10061-02-6	trans-1,3-Dichloropropene	0.31	U	1.0	0.31
100-41-4	Ethylbenzene	0.26	U	1.0	0.26
591-78-6	2-Hexanone	1.2	U	10	1.2
75-09-2	Methylene Chloride	0.53	U	1.0	0.53
108-10-1	4-Methyl-2-pentanone (MIBK)	0.71	U	10	0.71
100-42-5	Styrene	0.23	U	1.0	0.23
79-34-5	1,1,2,2-Tetrachloroethane	0.32	U	1.0	0.32
127-18-4	Tetrachloroethene	0.30	U	1.0	0.30
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	2.4		1.0	0.33
75-01-4	Vinyl chloride	0.45	U	1.0	0.45
1330-20-7	Xylenes, Total	0.24	U	2.0	0.24
71-55-6	1,1,1-Trichloroethane	0.23	U	1.0	0.23

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW12A-D-121316 Lab Sample ID: 240-73352-10  
 Matrix: Water Lab File ID: UXC0651.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 10:13  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 18:40  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.29	U	1.0	0.29
96-12-8	1,2-Dibromo-3-Chloropropane	0.47	U	2.0	0.47
106-93-4	1,2-Dibromoethane	0.23	U	1.0	0.23
75-71-8	Dichlorodifluoromethane	0.50	U	1.0	0.50
156-59-2	cis-1,2-Dichloroethene	0.45	J	1.0	0.30
156-60-5	trans-1,2-Dichloroethene	0.29	U	1.0	0.29
98-82-8	Isopropylbenzene	0.21	U	1.0	0.21
1634-04-4	Methyl tert-butyl ether	0.27	U	1.0	0.27
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
120-82-1	1,2,4-Trichlorobenzene	0.27	U	1.0	0.27
594-20-7	2,2-Dichloropropane	0.34	U *	1.0	0.34
95-50-1	1,2-Dichlorobenzene	0.26	U	1.0	0.26
541-73-1	1,3-Dichlorobenzene	0.32	U	1.0	0.32
106-46-7	1,4-Dichlorobenzene	0.23	U	1.0	0.23
110-75-8	2-Chloroethyl vinyl ether	0.65	U	10	0.65
75-69-4	Trichlorofluoromethane	0.50	U	1.0	0.50
95-49-8	2-Chlorotoluene	0.28	U	1.0	0.28
124-48-1	Chlorodibromomethane	0.25	U	1.0	0.25
108-86-1	Bromobenzene	0.31	U	1.0	0.31
74-97-5	Bromochloromethane	0.47	U	1.0	0.47
106-43-4	4-Chlorotoluene	0.23	U	1.0	0.23
99-87-6	4-Isopropyltoluene	0.29	U	1.0	0.29
87-68-3	Hexachlorobutadiene	0.36	U	1.0	0.36
74-95-3	Dibromomethane	0.46	U	1.0	0.46
108-20-3	Diisopropyl ether	0.44	U	10	0.44
91-20-3	Naphthalene	0.25	U	1.0	0.25
104-51-8	n-Butylbenzene	0.21	U	1.0	0.21
103-65-1	N-Propylbenzene	0.45	U	1.0	0.45
135-98-8	sec-Butylbenzene	0.27	U	1.0	0.27
994-05-8	Tert-amyl methyl ether	0.29	U	5.0	0.29
637-92-3	Ethyl tert-butyl ether	0.35	U	5.0	0.35
98-06-6	tert-Butylbenzene	0.26	U	1.0	0.26
108-05-4	Vinyl acetate	0.28	U	2.0	0.28
75-65-0	tert-Butyl alcohol	4.6	U	50	4.6

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW12A-D-121316 Lab Sample ID: 240-73352-10  
 Matrix: Water Lab File ID: UXC0651.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 10:13  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 18:40  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	111		63-132
460-00-4	4-Bromofluorobenzene (Surr)	100		73-120
2037-26-5	Toluene-d8 (Surr)	95		73-124
1868-53-7	Dibromofluoromethane (Surr)	120		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW12A-S-121316 Lab Sample ID: 240-73352-11  
 Matrix: Water Lab File ID: UXC0652.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 10:18  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 19:02  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	2.2	J	10	1.8
630-20-6	1,1,1,2-Tetrachloroethane	0.46	U	1.0	0.46
71-43-2	Benzene	0.28	U	1.0	0.28
75-27-4	Bromodichloromethane	0.30	U	1.0	0.30
75-25-2	Bromoform	0.43	U	1.0	0.43
74-83-9	Bromomethane	0.42	U	1.0	0.42
78-93-3	2-Butanone (MEK)	1.0	U	10	1.0
75-15-0	Carbon disulfide	0.34	U	1.0	0.34
56-23-5	Carbon tetrachloride	0.35	U *	1.0	0.35
108-90-7	Chlorobenzene	0.32	U	1.0	0.32
75-00-3	Chloroethane	0.41	U	1.0	0.41
67-66-3	Chloroform	0.31	U	1.0	0.31
563-58-6	1,1-Dichloropropene	0.28	U	1.0	0.28
74-87-3	Chloromethane	0.43	U	1.0	0.43
75-34-3	1,1-Dichloroethane	0.25	U	1.0	0.25
87-61-6	1,2,3-Trichlorobenzene	0.35	U	1.0	0.35
96-18-4	1,2,3-Trichloropropane	0.54	U	1.0	0.54
107-06-2	1,2-Dichloroethane	0.30	U	1.0	0.30
75-35-4	1,1-Dichloroethene	0.27	U	1.0	0.27
526-73-8	1,2,3-Trimethylbenzene	0.22	U	5.0	0.22
78-87-5	1,2-Dichloropropane	0.30	U	1.0	0.30
95-63-6	1,2,4-Trimethylbenzene	0.24	U	1.0	0.24
10061-01-5	cis-1,3-Dichloropropene	0.26	U	1.0	0.26
10061-02-6	trans-1,3-Dichloropropene	0.31	U	1.0	0.31
100-41-4	Ethylbenzene	0.26	U	1.0	0.26
591-78-6	2-Hexanone	1.2	U	10	1.2
75-09-2	Methylene Chloride	0.53	U	1.0	0.53
108-10-1	4-Methyl-2-pentanone (MIBK)	0.71	U	10	0.71
100-42-5	Styrene	0.23	U	1.0	0.23
79-34-5	1,1,2,2-Tetrachloroethane	0.32	U	1.0	0.32
127-18-4	Tetrachloroethene	0.30	U	1.0	0.30
108-88-3	Toluene	0.29	J	1.0	0.23
79-01-6	Trichloroethene	4.1		1.0	0.33
75-01-4	Vinyl chloride	0.45	U	1.0	0.45
1330-20-7	Xylenes, Total	0.28	J	2.0	0.24
71-55-6	1,1,1-Trichloroethane	0.23	U	1.0	0.23

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW12A-S-121316 Lab Sample ID: 240-73352-11  
 Matrix: Water Lab File ID: UXC0652.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 10:18  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 19:02  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.29	U	1.0	0.29
96-12-8	1,2-Dibromo-3-Chloropropane	0.47	U	2.0	0.47
106-93-4	1,2-Dibromoethane	0.23	U	1.0	0.23
75-71-8	Dichlorodifluoromethane	0.50	U	1.0	0.50
156-59-2	cis-1,2-Dichloroethene	0.30	U	1.0	0.30
156-60-5	trans-1,2-Dichloroethene	0.29	U	1.0	0.29
98-82-8	Isopropylbenzene	0.21	U	1.0	0.21
1634-04-4	Methyl tert-butyl ether	0.27	U	1.0	0.27
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
120-82-1	1,2,4-Trichlorobenzene	0.27	U	1.0	0.27
594-20-7	2,2-Dichloropropane	0.34	U *	1.0	0.34
95-50-1	1,2-Dichlorobenzene	0.26	U	1.0	0.26
541-73-1	1,3-Dichlorobenzene	0.32	U	1.0	0.32
106-46-7	1,4-Dichlorobenzene	0.23	U	1.0	0.23
110-75-8	2-Chloroethyl vinyl ether	0.65	U	10	0.65
75-69-4	Trichlorofluoromethane	0.50	U	1.0	0.50
95-49-8	2-Chlorotoluene	0.28	U	1.0	0.28
124-48-1	Chlorodibromomethane	0.25	U	1.0	0.25
108-86-1	Bromobenzene	0.31	U	1.0	0.31
74-97-5	Bromochloromethane	0.47	U	1.0	0.47
106-43-4	4-Chlorotoluene	0.23	U	1.0	0.23
99-87-6	4-Isopropyltoluene	0.29	U	1.0	0.29
87-68-3	Hexachlorobutadiene	0.36	U	1.0	0.36
74-95-3	Dibromomethane	0.46	U	1.0	0.46
108-20-3	Diisopropyl ether	0.44	U	10	0.44
91-20-3	Naphthalene	0.25	U	1.0	0.25
104-51-8	n-Butylbenzene	0.21	U	1.0	0.21
103-65-1	N-Propylbenzene	0.45	U	1.0	0.45
135-98-8	sec-Butylbenzene	0.27	U	1.0	0.27
994-05-8	Tert-amyl methyl ether	0.29	U	5.0	0.29
637-92-3	Ethyl tert-butyl ether	0.35	U	5.0	0.35
98-06-6	tert-Butylbenzene	0.26	U	1.0	0.26
108-05-4	Vinyl acetate	0.28	U	2.0	0.28
75-65-0	tert-Butyl alcohol	4.6	U	50	4.6

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW12A-S-121316 Lab Sample ID: 240-73352-11  
 Matrix: Water Lab File ID: UXC0652.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 10:18  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 19:02  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	110		63-132
460-00-4	4-Bromofluorobenzene (Surr)	104		73-120
2037-26-5	Toluene-d8 (Surr)	95		73-124
1868-53-7	Dibromofluoromethane (Surr)	116		80-120



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW12B-D-121316 Lab Sample ID: 240-73352-12  
 Matrix: Water Lab File ID: UXC0653.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 10:24  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 19:24  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	1.8	U	10	1.8
630-20-6	1,1,1,2-Tetrachloroethane	0.46	U	1.0	0.46
71-43-2	Benzene	0.28	U	1.0	0.28
75-27-4	Bromodichloromethane	0.30	U	1.0	0.30
75-25-2	Bromoform	0.43	U	1.0	0.43
74-83-9	Bromomethane	0.42	U	1.0	0.42
78-93-3	2-Butanone (MEK)	1.0	U	10	1.0
75-15-0	Carbon disulfide	0.34	U	1.0	0.34
56-23-5	Carbon tetrachloride	0.35	U *	1.0	0.35
108-90-7	Chlorobenzene	0.32	U	1.0	0.32
75-00-3	Chloroethane	0.41	U	1.0	0.41
67-66-3	Chloroform	0.31	U	1.0	0.31
563-58-6	1,1-Dichloropropene	0.28	U	1.0	0.28
74-87-3	Chloromethane	0.43	U	1.0	0.43
75-34-3	1,1-Dichloroethane	0.25	U	1.0	0.25
87-61-6	1,2,3-Trichlorobenzene	0.35	U	1.0	0.35
96-18-4	1,2,3-Trichloropropane	0.54	U	1.0	0.54
107-06-2	1,2-Dichloroethane	0.30	U	1.0	0.30
75-35-4	1,1-Dichloroethene	0.27	U	1.0	0.27
526-73-8	1,2,3-Trimethylbenzene	0.22	U	5.0	0.22
78-87-5	1,2-Dichloropropane	0.30	U	1.0	0.30
95-63-6	1,2,4-Trimethylbenzene	0.24	U	1.0	0.24
10061-01-5	cis-1,3-Dichloropropene	0.26	U	1.0	0.26
10061-02-6	trans-1,3-Dichloropropene	0.31	U	1.0	0.31
100-41-4	Ethylbenzene	0.26	U	1.0	0.26
591-78-6	2-Hexanone	1.2	U	10	1.2
75-09-2	Methylene Chloride	0.53	U	1.0	0.53
108-10-1	4-Methyl-2-pentanone (MIBK)	0.71	U	10	0.71
100-42-5	Styrene	0.23	U	1.0	0.23
79-34-5	1,1,2,2-Tetrachloroethane	0.32	U	1.0	0.32
127-18-4	Tetrachloroethene	0.30	U	1.0	0.30
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	7.8		1.0	0.33
75-01-4	Vinyl chloride	0.45	U	1.0	0.45
1330-20-7	Xylenes, Total	0.24	U	2.0	0.24
71-55-6	1,1,1-Trichloroethane	0.23	U	1.0	0.23

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW12B-D-121316 Lab Sample ID: 240-73352-12  
 Matrix: Water Lab File ID: UXC0653.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 10:24  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 19:24  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.29	U	1.0	0.29
96-12-8	1,2-Dibromo-3-Chloropropane	0.47	U	2.0	0.47
106-93-4	1,2-Dibromoethane	0.23	U	1.0	0.23
75-71-8	Dichlorodifluoromethane	0.50	U	1.0	0.50
156-59-2	cis-1,2-Dichloroethene	5.5		1.0	0.30
156-60-5	trans-1,2-Dichloroethene	0.29	U	1.0	0.29
98-82-8	Isopropylbenzene	0.21	U	1.0	0.21
1634-04-4	Methyl tert-butyl ether	0.27	U	1.0	0.27
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
120-82-1	1,2,4-Trichlorobenzene	0.27	U	1.0	0.27
594-20-7	2,2-Dichloropropane	0.34	U *	1.0	0.34
95-50-1	1,2-Dichlorobenzene	0.26	U	1.0	0.26
541-73-1	1,3-Dichlorobenzene	0.32	U	1.0	0.32
106-46-7	1,4-Dichlorobenzene	0.23	U	1.0	0.23
110-75-8	2-Chloroethyl vinyl ether	0.65	U	10	0.65
75-69-4	Trichlorofluoromethane	0.50	U	1.0	0.50
95-49-8	2-Chlorotoluene	0.28	U	1.0	0.28
124-48-1	Chlorodibromomethane	0.25	U	1.0	0.25
108-86-1	Bromobenzene	0.31	U	1.0	0.31
74-97-5	Bromochloromethane	0.47	U	1.0	0.47
106-43-4	4-Chlorotoluene	0.23	U	1.0	0.23
99-87-6	4-Isopropyltoluene	0.29	U	1.0	0.29
87-68-3	Hexachlorobutadiene	0.36	U	1.0	0.36
74-95-3	Dibromomethane	0.46	U	1.0	0.46
108-20-3	Diisopropyl ether	0.44	U	10	0.44
91-20-3	Naphthalene	0.25	U	1.0	0.25
104-51-8	n-Butylbenzene	0.21	U	1.0	0.21
103-65-1	N-Propylbenzene	0.45	U	1.0	0.45
135-98-8	sec-Butylbenzene	0.27	U	1.0	0.27
994-05-8	Tert-amyl methyl ether	0.29	U	5.0	0.29
637-92-3	Ethyl tert-butyl ether	0.35	U	5.0	0.35
98-06-6	tert-Butylbenzene	0.26	U	1.0	0.26
108-05-4	Vinyl acetate	0.28	U	2.0	0.28
75-65-0	tert-Butyl alcohol	4.6	U	50	4.6

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW12B-D-121316 Lab Sample ID: 240-73352-12  
 Matrix: Water Lab File ID: UXC0653.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 10:24  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 19:24  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	109		63-132
460-00-4	4-Bromofluorobenzene (Surr)	93		73-120
2037-26-5	Toluene-d8 (Surr)	96		73-124
1868-53-7	Dibromofluoromethane (Surr)	119		80-120

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW12B-S-121316 Lab Sample ID: 240-73352-13  
 Matrix: Water Lab File ID: UXC0654.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 10:30  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 19:46  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	1.8	U	10	1.8
630-20-6	1,1,1,2-Tetrachloroethane	0.46	U	1.0	0.46
71-43-2	Benzene	0.28	U	1.0	0.28
75-27-4	Bromodichloromethane	0.30	U	1.0	0.30
75-25-2	Bromoform	0.43	U	1.0	0.43
74-83-9	Bromomethane	0.42	U	1.0	0.42
78-93-3	2-Butanone (MEK)	1.0	U	10	1.0
75-15-0	Carbon disulfide	0.34	U	1.0	0.34
56-23-5	Carbon tetrachloride	0.35	U *	1.0	0.35
108-90-7	Chlorobenzene	0.32	U	1.0	0.32
75-00-3	Chloroethane	0.41	U	1.0	0.41
67-66-3	Chloroform	0.31	U	1.0	0.31
563-58-6	1,1-Dichloropropene	0.28	U	1.0	0.28
74-87-3	Chloromethane	0.43	U	1.0	0.43
75-34-3	1,1-Dichloroethane	0.25	U	1.0	0.25
87-61-6	1,2,3-Trichlorobenzene	0.35	U	1.0	0.35
96-18-4	1,2,3-Trichloropropane	0.54	U	1.0	0.54
107-06-2	1,2-Dichloroethane	0.30	U	1.0	0.30
75-35-4	1,1-Dichloroethene	0.27	U	1.0	0.27
526-73-8	1,2,3-Trimethylbenzene	0.22	U	5.0	0.22
78-87-5	1,2-Dichloropropane	0.30	U	1.0	0.30
95-63-6	1,2,4-Trimethylbenzene	0.24	J	1.0	0.24
10061-01-5	cis-1,3-Dichloropropene	0.26	U	1.0	0.26
10061-02-6	trans-1,3-Dichloropropene	0.31	U	1.0	0.31
100-41-4	Ethylbenzene	0.26	U	1.0	0.26
591-78-6	2-Hexanone	1.2	U	10	1.2
75-09-2	Methylene Chloride	0.53	U	1.0	0.53
108-10-1	4-Methyl-2-pentanone (MIBK)	0.71	U	10	0.71
100-42-5	Styrene	0.23	U	1.0	0.23
79-34-5	1,1,2,2-Tetrachloroethane	0.32	U	1.0	0.32
127-18-4	Tetrachloroethene	0.30	U	1.0	0.30
108-88-3	Toluene	0.79	J	1.0	0.23
79-01-6	Trichloroethene	1.4		1.0	0.33
75-01-4	Vinyl chloride	0.45	U	1.0	0.45
1330-20-7	Xylenes, Total	0.90	J	2.0	0.24
71-55-6	1,1,1-Trichloroethane	0.23	U	1.0	0.23

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW12B-S-121316 Lab Sample ID: 240-73352-13  
 Matrix: Water Lab File ID: UXC0654.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 10:30  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 19:46  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.29	U	1.0	0.29
96-12-8	1,2-Dibromo-3-Chloropropane	0.47	U	2.0	0.47
106-93-4	1,2-Dibromoethane	0.23	U	1.0	0.23
75-71-8	Dichlorodifluoromethane	0.50	U	1.0	0.50
156-59-2	cis-1,2-Dichloroethene	0.30	U	1.0	0.30
156-60-5	trans-1,2-Dichloroethene	0.29	U	1.0	0.29
98-82-8	Isopropylbenzene	0.21	U	1.0	0.21
1634-04-4	Methyl tert-butyl ether	0.27	U	1.0	0.27
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
120-82-1	1,2,4-Trichlorobenzene	0.27	U	1.0	0.27
594-20-7	2,2-Dichloropropane	0.34	U *	1.0	0.34
95-50-1	1,2-Dichlorobenzene	0.26	U	1.0	0.26
541-73-1	1,3-Dichlorobenzene	0.32	U	1.0	0.32
106-46-7	1,4-Dichlorobenzene	0.23	U	1.0	0.23
110-75-8	2-Chloroethyl vinyl ether	0.65	U	10	0.65
75-69-4	Trichlorofluoromethane	0.50	U	1.0	0.50
95-49-8	2-Chlorotoluene	0.28	U	1.0	0.28
124-48-1	Chlorodibromomethane	0.25	U	1.0	0.25
108-86-1	Bromobenzene	0.31	U	1.0	0.31
74-97-5	Bromochloromethane	0.47	U	1.0	0.47
106-43-4	4-Chlorotoluene	0.23	U	1.0	0.23
99-87-6	4-Isopropyltoluene	0.29	U	1.0	0.29
87-68-3	Hexachlorobutadiene	0.36	U	1.0	0.36
74-95-3	Dibromomethane	0.46	U	1.0	0.46
108-20-3	Diisopropyl ether	0.44	U	10	0.44
91-20-3	Naphthalene	0.25	U	1.0	0.25
104-51-8	n-Butylbenzene	0.21	U	1.0	0.21
103-65-1	N-Propylbenzene	0.45	U	1.0	0.45
135-98-8	sec-Butylbenzene	0.27	U	1.0	0.27
994-05-8	Tert-amyl methyl ether	0.29	U	5.0	0.29
637-92-3	Ethyl tert-butyl ether	0.35	U	5.0	0.35
98-06-6	tert-Butylbenzene	0.26	U	1.0	0.26
108-05-4	Vinyl acetate	0.28	U	2.0	0.28
75-65-0	tert-Butyl alcohol	4.6	U	50	4.6

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW12B-S-121316 Lab Sample ID: 240-73352-13  
 Matrix: Water Lab File ID: UXC0654.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 10:30  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 19:46  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	108		63-132
460-00-4	4-Bromofluorobenzene (Surr)	94		73-120
2037-26-5	Toluene-d8 (Surr)	98		73-124
1868-53-7	Dibromofluoromethane (Surr)	117		80-120

**Appendix C**

Support Documentation

## CASE NARRATIVE

Client: Tetra Tech, Inc.

Project: Middle River Center SW

Report Number: 240-73352-1

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.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

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.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

### **RECEIPT**

The samples were received on 12/14/2016 9:55 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.4° C.

### **VOLATILE ORGANIC COMPOUNDS (GCMS)**

Samples TB-121316 (240-73352-1), MRC-SW10A-D-121316 (240-73352-2), MRC-SW10A-S-121316 (240-73352-3), MRC-SW10B-D-121316 (240-73352-4), MRC-SW10B-S-121316 (240-73352-5), MRC-SW11A-D-121316 (240-73352-6), MRC-SW11A-S-121316 (240-73352-7), MRC-SW11B-D-121316 (240-73352-8), MRC-SW11B-S-121316 (240-73352-9), MRC-SW12A-D-121316 (240-73352-10), MRC-SW12A-S-121316 (240-73352-11), MRC-SW12B-D-121316 (240-73352-12) and MRC-SW12B-S-121316 (240-73352-13) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 12/22/2016.

The laboratory control sample (LCS) for 260599 recovered outside control limits for the following analytes: Carbon Tetrachloride and 2,2-Dichloropropane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported: TB-121316 (240-73352-1), MRC-SW10A-D-121316 (240-73352-2), MRC-SW10A-S-121316 (240-73352-3), MRC-SW10B-D-121316 (240-73352-4), MRC-SW10B-S-121316 (240-73352-5), MRC-SW11A-D-121316 (240-73352-6), MRC-SW11A-S-121316 (240-73352-7), MRC-SW11B-D-121316 (240-73352-8), MRC-SW11B-S-121316 (240-73352-9), MRC-SW12A-D-121316 (240-73352-10), MRC-SW12A-S-121316 (240-73352-11), MRC-SW12B-D-121316 (240-73352-12), MRC-SW12B-S-121316 (240-73352-13) and (LCS 240-260599/4).

2-Chloroethyl vinyl ether cannot be reliably recovered in an acid preserved sample: TB-121316 (240-73352-1), MRC-SW10A-D-121316 (240-73352-2), MRC-SW10A-S-121316 (240-73352-3), MRC-SW10B-D-121316 (240-73352-4), MRC-SW10B-S-121316 (240-73352-5), MRC-SW11A-D-121316 (240-73352-6), MRC-SW11A-S-121316 (240-73352-7), MRC-SW11B-D-121316 (240-73352-8), MRC-SW11B-S-121316 (240-73352-9), MRC-SW12A-D-121316 (240-73352-10), MRC-SW12A-S-121316 (240-73352-11), MRC-SW12B-D-121316 (240-73352-12) and MRC-SW12B-S-121316 (240-73352-13).

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



# Definitions/Glossary

Client: Tetra Tech, Inc.  
Project/Site: Middle River Center SW

TestAmerica Job ID: 240-73352-1

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## Qualifiers

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### GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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## Glossary

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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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

# Method Summary

Client: Tetra Tech, Inc.  
Project/Site: Middle River Center SW

TestAmerica Job ID: 240-73352-1

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<b>Method</b>	<b>Method Description</b>	<b>Protocol</b>	<b>Laboratory</b>
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396


# Sample Summary

Client: Tetra Tech, Inc.  
Project/Site: Middle River Center SW

TestAmerica Job ID: 240-73352-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-73352-1	TB-121316	Water	12/13/16 00:00	12/14/16 09:55
240-73352-2	MRC-SW10A-D-121316	Water	12/13/16 09:16	12/14/16 09:55
240-73352-3	MRC-SW10A-S-121316	Water	12/13/16 09:17	12/14/16 09:55
240-73352-4	MRC-SW10B-D-121316	Water	12/13/16 09:41	12/14/16 09:55
240-73352-5	MRC-SW10B-S-121316	Water	12/13/16 09:45	12/14/16 09:55
240-73352-6	MRC-SW11A-D-121316	Water	12/13/16 09:53	12/14/16 09:55
240-73352-7	MRC-SW11A-S-121316	Water	12/13/16 09:56	12/14/16 09:55
240-73352-8	MRC-SW11B-D-121316	Water	12/13/16 10:03	12/14/16 09:55
240-73352-9	MRC-SW11B-S-121316	Water	12/13/16 10:08	12/14/16 09:55
240-73352-10	MRC-SW12A-D-121316	Water	12/13/16 10:13	12/14/16 09:55
240-73352-11	MRC-SW12A-S-121316	Water	12/13/16 10:18	12/14/16 09:55
240-73352-12	MRC-SW12B-D-121316	Water	12/13/16 10:24	12/14/16 09:55
240-73352-13	MRC-SW12B-S-121316	Water	12/13/16 10:30	12/14/16 09:55

0.4/CO.M

PROJECT NO:		FACILITY: <i>Middle River Center</i>		PROJECT MANAGER: <i>Tony Apunavage</i>		PHONE NUMBER: <i>301 528-3021</i>		LABORATORY NAME AND CONTACT: <i>Test America John Mcfadden</i>				
SAMPLERS (SIGNATURE): <i>Walt P</i>				FIELD OPERATIONS LEADER: <i>Walt Paxon</i>		PHONE NUMBER: <i>301 991-3914</i>		ADDRESS: <i>4101 Shuffel ST N.W</i>				
				CARRIER/WAYBILL NUMBER: <i>Fed Ex</i>				CITY, STATE: <i>North Canton, OH 44720</i>				
STANDARD TAT <input checked="" type="checkbox"/>		RUSH TAT <input type="checkbox"/>		CONTAINER TYPE: PLASTIC (P) or GLASS (G)		PRESERVATIVE USED:		TYPE OF ANALYSIS <i>VOCS (8260C) HCl G</i>				
<input type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr. <input type="checkbox"/> 72 hr. <input type="checkbox"/> 7 day <input type="checkbox"/> 14 day												
DATE YEAR	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	COMMENTS			
<i>12/13</i>	<i>—</i>	<i>TB-121316</i>	<i>TB</i>	<i>—</i>	<i>—</i>	<i>SW</i>	<i>G</i>	<i>2</i>	240-73352 Chain of Custody 			
	<i>0916</i>	<i>MCC-SW10A-D-121316</i>	<i>SW10A</i>	<i>—</i>	<i>—</i>			<i>3</i>				
	<i>0917</i>	<i>MCC-SW10A-S-121316</i>	<i>SW10A</i>	<i>—</i>	<i>—</i>			<i>3</i>				
	<i>0941</i>	<i>MCC-SW10B-D-121316</i>	<i>SW10B</i>	<i>—</i>	<i>—</i>			<i>3</i>				
	<i>0945</i>	<i>MCC-SW10B-S-121316</i>	<i>SW10B</i>	<i>—</i>	<i>—</i>			<i>3</i>				
	<i>0953</i>	<i>MCC-SW11A-D-121316</i>	<i>SW11A</i>	<i>—</i>	<i>—</i>			<i>3</i>				
	<i>0956</i>	<i>MCC-SW11A-S-121316</i>	<i>SW11A</i>	<i>—</i>	<i>—</i>			<i>3</i>				
	<i>1003</i>	<i>MCC-SW11B-D-121316</i>	<i>SW11B</i>	<i>—</i>	<i>—</i>			<i>3</i>				
	<i>1008</i>	<i>MCC-SW11B-S-121316</i>	<i>SW11B</i>	<i>—</i>	<i>—</i>			<i>3</i>				
	<i>1013</i>	<i>MCC-SW12A-D-121316</i>	<i>SW12A</i>	<i>—</i>	<i>—</i>			<i>3</i>				
	<i>1018</i>	<i>MCC-SW12A-S-121316</i>	<i>SW12A</i>	<i>—</i>	<i>—</i>			<i>3</i>				
	<i>1024</i>	<i>MCC-SW12B-D-121316</i>	<i>SW12B</i>	<i>—</i>	<i>—</i>			<i>3</i>				
	<i>1030</i>	<i>MCC-SW12B-S-121316</i>	<i>SW12B</i>	<i>—</i>	<i>—</i>			<i>3</i>				
1. RELINQUISHED BY: <i>Walt Paxon</i>				DATE: <i>12-13-16</i>		TIME: <i>1500</i>		1. RECEIVED BY: <i>POP</i>		DATE: <i>12-14-16</i>		TIME: <i>9:55</i>
2. RELINQUISHED BY:				DATE:		TIME:		2. RECEIVED BY:		DATE:		TIME:
3. RELINQUISHED BY:				DATE:		TIME:		3. RECEIVED BY:		DATE:		TIME:
COMMENTS												

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TestAmerica Canton Sample Receipt Form/Narrative

Login # : 73352

Canton Facility

Client TETRA TECH Site Name -

Cooler unpacked by:

GP

Cooler Received on 12-14-16 Opened on 12-14-16

FedEx: 1st Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # Foam Box Client Cooler Box Other
Packing material used: Bubble Wrap Foam Plastic Bag None Other
COOLANT: Wet Ice Blue Ice Dry Ice Water None

- 1. Cooler temperature upon receipt
IR GUN# IR-8 (CF +0 °C) Observed Cooler Temp. 0.4 °C Corrected Cooler Temp. 0.4 °C
IR GUN #36 (CF +1.1 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
- Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA
- Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
If yes, Questions 11-15 have been checked at the originating laboratory.
11. Were sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC682547
12. Were VOAs on the COC? Yes No
13. Were air bubbles >6 mm in any VOA vials? Yes No NA
14. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 370 Yes No
15. Was a LL Hg or Me Hg trip blank present? Yes No

Contacted PM Date by via Verbal Voice Mail Other

Concerning

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

Blank lines for Chain of Custody and Sample Discrepancies.

15. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.
Sample(s) were received in a broken container.
Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.
Time preserved: Preservative(s) added/Lot number(s):

# QC Association Summary

Client: Tetra Tech, Inc.  
Project/Site: Middle River Center SW

TestAmerica Job ID: 240-73352-1

## GC/MS VOA

### Analysis Batch: 260599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-73352-1	TB-121316	Total/NA	Water	8260B	
240-73352-2	MRC-SW10A-D-121316	Total/NA	Water	8260B	
240-73352-3	MRC-SW10A-S-121316	Total/NA	Water	8260B	
240-73352-4	MRC-SW10B-D-121316	Total/NA	Water	8260B	
240-73352-5	MRC-SW10B-S-121316	Total/NA	Water	8260B	
240-73352-6	MRC-SW11A-D-121316	Total/NA	Water	8260B	
240-73352-7	MRC-SW11A-S-121316	Total/NA	Water	8260B	
240-73352-8	MRC-SW11B-D-121316	Total/NA	Water	8260B	
240-73352-9	MRC-SW11B-S-121316	Total/NA	Water	8260B	
240-73352-10	MRC-SW12A-D-121316	Total/NA	Water	8260B	
240-73352-11	MRC-SW12A-S-121316	Total/NA	Water	8260B	
240-73352-12	MRC-SW12B-D-121316	Total/NA	Water	8260B	
240-73352-13	MRC-SW12B-S-121316	Total/NA	Water	8260B	
MB 240-260599/7	Method Blank	Total/NA	Water	8260B	
LCS 240-260599/4	Lab Control Sample	Total/NA	Water	8260B	

# Method 8260B

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Volatile Organic Compounds (GC/MS)  
by Method 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: BFB619.D BFB Injection Date: 06/23/2016  
 Instrument ID: A3UX15 BFB Injection Time: 11:35  
 Analysis Batch No.: 235700

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	16.7
75	30.0 - 60.0 % of mass 95	46.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.2
173	Less than 2.0 % of mass 174	0.4 (0.4) 1
174	50.0 - 120.00 % of mass 95	90.4
175	5.0 - 9.0 % of mass 174	6.2 (6.8) 1
176	95.0 - 101.0 % of mass 174	87.8 (97.1) 1
177	5.0 - 9.0 % of mass 176	5.4 (6.1) 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
	STD8260 240-235700/2	UXC9008.D	06/23/2016	12:01
	STD8260 240-235700/3	UXC9009.D	06/23/2016	12:23
	STD8260 240-235700/4	UXC9010.D	06/23/2016	12:46
	STD8260 240-235700/5	UXC9011.D	06/23/2016	13:08
	STD8260 240-235700/6	UXC9012.D	06/23/2016	13:31
	STD8260 240-235700/7	UXC9013.D	06/23/2016	13:53
	ICV 240-235700/14	UXC9014.D	06/23/2016	14:16
	STD 240-235700/8	UXC9015.D	06/23/2016	14:38
	STD 240-235700/9	UXC9016.D	06/23/2016	15:00
	STD 240-235700/10	UXC9017.D	06/23/2016	15:22
	STD 240-235700/11	UXC9018.D	06/23/2016	15:45
	STD 240-235700/12	UXC9019.D	06/23/2016	16:07
	STD 240-235700/13	UXC9020.D	06/23/2016	16:30
	ICV 240-235700/15	UXC9021.D	06/23/2016	16:52



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

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: BFB61222.D BFB Injection Date: 12/22/2016  
 Instrument ID: A3UX15 BFB Injection Time: 08:59  
 Analysis Batch No.: 260599

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	15.5
75	30.0 - 60.0 % of mass 95	46.0
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	6.1
173	Less than 2.0 % of mass 174	0.3 (0.4) 1
174	50.0 - 120.00 % of mass 95	91.6
175	5.0 - 9.0 % of mass 174	6.0 (6.5) 1
176	95.0 - 101.0 % of mass 174	89.9 (98.2) 1
177	5.0 - 9.0 % of mass 176	5.9 (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
	LCS 240-260599/4	UXC0628.D	12/22/2016	10:03
	CCV 240-260599/3	UXC0629.D	12/22/2016	10:25
	CCVIS 240-260599/2	UXC0630.D	12/22/2016	10:48
	MB 240-260599/7	UXC0632.D	12/22/2016	11:33
TB-121316	240-73352-1	UXC0642.D	12/22/2016	15:17
MRC-SW10A-D-121316	240-73352-2	UXC0643.D	12/22/2016	15:39
MRC-SW10A-S-121316	240-73352-3	UXC0644.D	12/22/2016	16:02
MRC-SW10B-D-121316	240-73352-4	UXC0645.D	12/22/2016	16:25
MRC-SW10B-S-121316	240-73352-5	UXC0646.D	12/22/2016	16:47
MRC-SW11A-D-121316	240-73352-6	UXC0647.D	12/22/2016	17:10
MRC-SW11A-S-121316	240-73352-7	UXC0648.D	12/22/2016	17:33
MRC-SW11B-D-121316	240-73352-8	UXC0649.D	12/22/2016	17:55
MRC-SW11B-S-121316	240-73352-9	UXC0650.D	12/22/2016	18:17
MRC-SW12A-D-121316	240-73352-10	UXC0651.D	12/22/2016	18:40
MRC-SW12A-S-121316	240-73352-11	UXC0652.D	12/22/2016	19:02
MRC-SW12B-D-121316	240-73352-12	UXC0653.D	12/22/2016	19:24
MRC-SW12B-S-121316	240-73352-13	UXC0654.D	12/22/2016	19:46

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

Lab Name: TestAmerica Canton Job No.: 240-73352-1 Analy Batch No.: 235700

SDG No.: \_\_\_\_\_

Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/23/2016 12:01 Calibration End Date: 06/23/2016 13:53 Calibration ID: 34930

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-235700/7	UXC9013.D
Level 2	STD8260 240-235700/6	UXC9012.D
Level 3	STD8260 240-235700/5	UXC9011.D
Level 4	STD8260 240-235700/4	UXC9010.D
Level 5	STD8260 240-235700/3	UXC9009.D
Level 6	STD8260 240-235700/2	UXC9008.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R <sup>2</sup> OR COD	#	MIN R <sup>2</sup> OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.3321 0.3340	0.3168	0.3294	0.3233	0.3421	Ave		0.3296			2.7		15.0				
Chloromethane	0.5208 0.4361	0.4774	0.4696	0.4288	0.4654	Ave		0.4664		0.1000	7.1		15.0				
Vinyl chloride	0.4391 0.4197	0.4151	0.4242	0.3962	0.4333	Ave		0.4213			3.6		15.0				
Butadiene	0.4013 0.3963	0.3836	0.3985	0.3823	0.4088	Ave		0.3951			2.6		15.0				
Bromomethane	0.1340 0.1484	0.1393	0.1381	0.1229	0.1534	Ave		0.1393			7.7		15.0				
Chloroethane	0.2365 0.2202	0.2232	0.2271	0.2108	0.2270	Ave		0.2241			3.8		15.0				
Dichlorofluoromethane	0.5040 0.4904	0.5039	0.4975	0.4540	0.5047	Ave		0.4924			4.0		15.0				
Trichlorofluoromethane	0.2480 0.2661	0.2535	0.2474	0.2379	0.2614	Ave		0.2524			4.1		15.0				
Ethyl ether	0.2476 0.2339	0.2449	0.2241	0.2370	0.2362	Ave		0.2373			3.5		15.0				
Acrolein	0.0273 0.0276	0.0269	0.0279	0.0278	0.0281	Ave		0.0276			1.5		15.0				
1,1-Dichloroethene	0.2949 0.3034	0.2936	0.2845	0.2901	0.3022	Ave		0.2948			2.4		15.0				
1,1,2-Trichlorotrifluoroethane	0.2043 0.2209	0.2241	0.2068	0.1967	0.2302	Ave		0.2139			6.1		15.0				
Acetone	0.1395 0.0726	0.1118	0.0878	0.0765	0.0741	Lin1	0.1478	0.0706						1.0000		0.9900	
Iodomethane	0.4298 0.4393	0.4742	0.4386	0.4552	0.4550	Ave		0.4487			3.6		15.0				
Carbon disulfide	0.8263 0.9010	0.8422	0.8083	0.8576	0.9046	Ave		0.8567			4.6		15.0				

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 Canton Job No.: 240-73352-1 Analy Batch No.: 235700

SDG No.: \_\_\_\_\_

Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/23/2016 12:01 Calibration End Date: 06/23/2016 13:53 Calibration ID: 34930

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R <sup>2</sup> OR COD	#	MIN R <sup>2</sup> OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
3-Chloro-1-propene	0.1554 0.1784	0.1576	0.1559	0.1742	0.1827	Ave		0.1674			7.4		15.0				
Methyl acetate	0.1618 0.1580	0.1598	0.1514	0.1507	0.1555	Ave		0.1562			2.9		15.0				
Methylene Chloride	0.4936 0.3132	0.4248	0.3449	0.3381	0.3268	Lin1	0.1973	0.3119						1.0000			0.9900
tert-Butyl alcohol	0.0096 0.0085	0.0101	0.0097	0.0091	0.0098	Ave		0.0095			5.9		15.0				
Methyl tert-butyl ether	0.5514 0.5919	0.5838	0.5562	0.5860	0.5987	Ave		0.5780			3.4		15.0				
Acrylonitrile	0.0865 0.0883	0.0907	0.0851	0.0849	0.0870	Ave		0.0871			2.5		15.0				
trans-1,2-Dichloroethene	0.3240 0.3105	0.3275	0.3102	0.3200	0.3216	Ave		0.3190			2.2		15.0				
Hexane	0.0821 0.0795	0.0794	0.0711	0.0762	0.0800	Ave		0.0781			5.0		15.0				
1,1-Dichloroethane	0.5384 0.5434	0.5585	0.5285	0.5452	0.5510	Ave		0.5441		0.1000	1.9		15.0				
Vinyl acetate	0.3327 0.4085	0.3342	0.3408	0.3597	0.3885	Ave		0.3607			8.7		15.0				
2,2-Dichloropropane	0.1567 0.1717	0.1672	0.1652	0.1881	0.1921	Ave		0.1735			8.0		15.0				
cis-1,2-Dichloroethene	0.3493 0.3361	0.3547	0.3327	0.3418	0.3441	Ave		0.3431			2.4		15.0				
2-Butanone (MEK)	0.1156 0.0989	0.1075	0.0977	0.0935	0.0974	Ave		0.1018			8.1		15.0				
Bromochloromethane	0.1540 0.1507	0.1555	0.1493	0.1527	0.1537	Ave		0.1527			1.5		15.0				
Tetrahydrofuran	0.0572 0.0606	0.0583	0.0537	0.0538	0.0574	Ave		0.0568			4.7		15.0				
Chloroform	0.5050 0.5062	0.5301	0.4888	0.5048	0.5160	Ave		0.5085			2.7		15.0				
1,1,1-Trichloroethane	0.2852 0.3173	0.3011	0.2949	0.3230	0.3345	Ave		0.3093			6.0		15.0				
Cyclohexane	0.5215 0.5527	0.5316	0.5133	0.5316	0.5628	Ave		0.5356			3.5		15.0				
1,1-Dichloropropene	0.4167 0.4309	0.4314	0.4054	0.4204	0.4364	Ave		0.4235			2.7		15.0				
Carbon tetrachloride	0.2299 0.2784	0.2395	0.2362	0.2634	0.2833	Ave		0.2551			9.0		15.0				

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 Canton Job No.: 240-73352-1 Analy Batch No.: 235700

SDG No.: \_\_\_\_\_

Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/23/2016 12:01 Calibration End Date: 06/23/2016 13:53 Calibration ID: 34930

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R <sup>2</sup> OR COD	#	MIN R <sup>2</sup> OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Isobutyl alcohol	0.0044 0.0049	0.0050	0.0049	0.0045	0.0052	Ave		0.0048			6.2		15.0				
Benzene	1.2947 1.3224	1.3476	1.2332	1.2686	1.3184	Ave		1.2975			3.2		15.0				
1,2-Dichloroethane	0.3772 0.3692	0.3872	0.3588	0.3580	0.3701	Ave		0.3701			3.0		15.0				
n-Heptane	0.0707 0.0754	0.0678	0.0671	0.0694	0.0748	Ave		0.0709			5.0		15.0				
Trichloroethene	0.3257 0.3255	0.3303	0.3132	0.3205	0.3298	Ave		0.3242			2.0		15.0				
Methylcyclohexane	0.4725 0.5041	0.4829	0.4609	0.4756	0.5114	Ave		0.4846			4.0		15.0				
1,2-Dichloropropane	0.2716 0.3011	0.2967	0.2760	0.2859	0.2981	Ave		0.2882			4.3		15.0				
Dibromomethane	0.1477 0.1578	0.1546	0.1476	0.1507	0.1554	Ave		0.1523			2.8		15.0				
1,4-Dioxane	0.0018 0.0020	0.0021	0.0022	0.0020	0.0024	Ave		0.0021			10.4		15.0				
Bromodichloromethane	0.2755 0.3482	0.2939	0.2900	0.3099	0.3353	Ave		0.3088			9.1		15.0				
2-Chloroethyl vinyl ether	0.1285 0.1675	0.1385	0.1373	0.1440	0.1608	Ave		0.1461			10.3		15.0				
cis-1,3-Dichloropropene	0.2821 0.4251	0.3138	0.3239	0.3522	0.4012	Lin1	-0.207	0.4144						0.9960		0.9900	
4-Methyl-2-pentanone (MIBK)	0.1559 0.1939	0.1659	0.1670	0.1782	0.1883	Ave		0.1749			8.3		15.0				
Toluene	1.8454 1.8440	1.8252	1.6979	1.7996	1.8461	Ave		1.8097			3.2		15.0				
trans-1,3-Dichloropropene	0.2726 0.4490	0.3002	0.3104	0.3649	0.4144	Lin1	-0.265	0.4348						0.9930		0.9900	
Ethyl methacrylate	0.3014 0.4225	0.3234	0.3291	0.3763	0.4067	Ave		0.3599			13.7		15.0				
1,1,2-Trichloroethane	0.3188 0.3147	0.3102	0.2977	0.3101	0.3157	Ave		0.3112			2.4		15.0				
Tetrachloroethene	0.3611 0.3541	0.3544	0.3269	0.3481	0.3554	Ave		0.3500			3.4		15.0				
1,3-Dichloropropane	0.5883 0.5924	0.5978	0.5552	0.5681	0.5922	Ave		0.5823			2.9		15.0				
2-Hexanone	0.1386 0.1847	0.1470	0.1601	0.1648	0.1828	Ave		0.1630			11.4		15.0				

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 Canton Job No.: 240-73352-1 Analy Batch No.: 235700

SDG No.: \_\_\_\_\_

Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/23/2016 12:01 Calibration End Date: 06/23/2016 13:53 Calibration ID: 34930

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R <sup>2</sup> OR COD	#	MIN R <sup>2</sup> OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlorodibromomethane	0.2261 0.3274	0.2475	0.2505	0.2847	0.3137	Ave		0.2750			14.6		15.0				
1,2-Dibromoethane	0.2774 0.3104	0.2927	0.2790	0.2998	0.3114	Ave		0.2951			5.0		15.0				
Chlorobenzene	1.1961 1.1713	1.1891	1.1210	1.1448	1.1639	Ave		1.1644		0.3000	2.4		15.0				
1,1,1,2-Tetrachloroethane	0.2725 0.3478	0.2873	0.2883	0.3111	0.3365	Ave		0.3072			9.7		15.0				
Ethylbenzene	0.6049 0.6363	0.6212	0.5904	0.6147	0.6332	Ave		0.6168			2.8		15.0				
m-Xylene & p-Xylene	1.5175 1.5637	1.5565	1.4594	1.5035	1.5590	Ave		1.5266			2.7		15.0				
o-Xylene	0.6940 0.7507	0.7369	0.7052	0.7149	0.7489	Ave		0.7251			3.3		15.0				
Styrene	1.0918 1.3099	1.2017	1.1803	1.2357	1.2846	Ave		1.2173			6.4		15.0				
Bromoform	0.1065 0.1710	0.1173	0.1240	0.1392	0.1569	Lin1	-0.095	0.1654		0.1000				0.9940		0.9900	
Isopropylbenzene	1.6591 1.8007	1.7054	1.6662	1.6882	1.7718	Ave		1.7152			3.4		15.0				
1,1,2,2-Tetrachloroethane	0.7544 0.7783	0.7987	0.7374	0.7885	0.8054	Ave		0.7771		0.3000	3.4		15.0				
Bromobenzene	0.9784 1.0520	1.0763	0.9992	1.0201	1.0915	Ave		1.0362			4.3		15.0				
1,2,3-Trichloropropane	0.2309 0.2475	0.2509	0.2407	0.2509	0.2552	Ave		0.2460			3.6		15.0				
trans-1,4-Dichloro-2-butene	0.2006 0.2385	0.2147	0.2001	0.2165	0.2397	Ave		0.2183			8.0		15.0				
N-Propylbenzene	0.9622 1.0807	1.0815	1.0048	1.0306	1.1185	Ave		1.0464			5.5		15.0				
2-Chlorotoluene	0.8538 0.9207	0.9561	0.8891	0.9079	0.9420	Ave		0.9116			4.1		15.0				
1,3,5-Trimethylbenzene	2.8746 3.0704	2.9843	2.8406	2.9341	3.0812	Ave		2.9642			3.4		15.0				
4-Chlorotoluene	3.0370 3.1778	3.3117	3.0525	3.1150	3.2501	Ave		3.1573			3.5		15.0				
tert-Butylbenzene	2.2647 2.5252	2.3995	2.3043	2.3833	2.5293	Ave		2.4010			4.6		15.0				
1,2,4-Trimethylbenzene	3.0029 3.0543	3.0523	2.8941	2.9667	3.0688	Ave		3.0065			2.2		15.0				

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 Canton Job No.: 240-73352-1 Analy Batch No.: 235700

SDG No.: \_\_\_\_\_

Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/23/2016 12:01 Calibration End Date: 06/23/2016 13:53 Calibration ID: 34930

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
sec-Butylbenzene	3.0231 3.4048	3.2243	3.0768	3.1838	3.3627	Ave		3.2126			4.7		15.0				
1,3-Dichlorobenzene	1.7546 1.7099	1.7746	1.6796	1.7043	1.7149	Ave		1.7230			2.0		15.0				
4-Isopropyltoluene	2.5011 2.9007	2.6300	2.6148	2.7211	2.8304	Ave		2.6997			5.5		15.0				
1,4-Dichlorobenzene	1.8619 1.7322	1.8194	1.7077	1.7335	1.7343	Ave		1.7648			3.5		15.0				
n-Butylbenzene	2.0048 2.3308	2.0827	2.0417	2.1624	2.2859	Ave		2.1514			6.2		15.0				
1,2-Dichlorobenzene	1.6369 1.5498	1.6372	1.5209	1.5641	1.5550	Ave		1.5773			3.1		15.0				
1,2-Dibromo-3-Chloropropane	0.0713 0.0968	0.0775	0.0764	0.0877	0.0937	Ave		0.0839			12.3		15.0				
1,2,4-Trichlorobenzene	0.8718 0.7845	0.8230	0.8095	0.8148	0.8000	Ave		0.8173			3.6		15.0				
Hexachlorobutadiene	0.4286 0.3302	0.4026	0.3714	0.3683	0.3604	Ave		0.3769			9.1		15.0				
Naphthalene	1.6356 1.6877	1.6077	1.7526	1.8425	1.8273	Ave		1.7256			5.7		15.0				
1,2,3-Trichlorobenzene	0.7978 0.6410	0.7359	0.7435	0.7184	0.7003	Ave		0.7228			7.2		15.0				
Dibromofluoromethane (Surr)	0.2526 0.2636	0.2509	0.2605	0.2635	0.2693	Ave		0.2601			2.7		15.0				
1,2-Dichloroethane-d4 (Surr)	0.3324 0.3123	0.3098	0.3131	0.3078	0.3160	Ave		0.3152			2.8		15.0				
Toluene-d8 (Surr)	1.5529 1.5694	1.4893	1.5049	1.5498	1.5942	Ave		1.5434			2.6		15.0				
4-Bromofluorobenzene (Surr)	0.5282 0.5273	0.5194	0.5346	0.5225	0.5355	Ave		0.5279			1.2		15.0				

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 Canton Job No.: 240-73352-1 Analy Batch No.: 235700

SDG No.: \_\_\_\_\_

Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/23/2016 14:38 Calibration End Date: 06/23/2016 16:30 Calibration ID: 34932

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 240-235700/13	UXC9020.D
Level 2	STD 240-235700/12	UXC9019.D
Level 3	STD 240-235700/11	UXC9018.D
Level 4	STD 240-235700/10	UXC9017.D
Level 5	STD 240-235700/9	UXC9016.D
Level 6	STD 240-235700/8	UXC9015.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R <sup>2</sup> OR COD	#	MIN R <sup>2</sup> OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Acetonitrile	0.0371 0.0231	0.0281	0.0274	0.0194	0.0290	Ave		0.0274			21.8	*	15.0				
Diisopropyl ether	0.2497 0.2582	0.2419	0.2443	0.2635	0.2625	Ave		0.2533			3.7		15.0				
2-Chloro-1,3-butadiene	0.4420 0.4704	0.4205	0.4511	0.4740	0.4713	Ave		0.4549			4.6		15.0				
Ethyl tert-butyl ether	0.6211 0.6584	0.5879	0.6198	0.6492	0.6651	Ave		0.6336			4.6		15.0				
Ethyl acetate	0.1632 0.1658	0.1506	0.1495	0.1390	0.1611	Ave		0.1549			6.6		15.0				
Propionitrile	0.0323 0.0304	0.0285	0.0316	0.0274	0.0314	Ave		0.0303			6.3		15.0				
Methacrylonitrile	0.1405 0.1382	0.1264	0.1332	0.1307	0.1364	Ave		0.1342			3.9		15.0				
Tert-amyl methyl ether	0.4696 0.5053	0.4421	0.4624	0.4953	0.5015	Ave		0.4794			5.3		15.0				
n-Butanol	0.0033 0.0036	0.0029	0.0035	0.0026	0.0039	Ave		0.0033			14.8		15.0				
Ethyl acrylate	0.1948 0.2549	0.1923	0.2166	0.2112	0.2430	Ave		0.2188			11.6		15.0				
Methyl methacrylate	0.1627 0.1910	0.1550	0.1754	0.1669	0.1881	Ave		0.1732			8.3		15.0				
2-Nitropropane	0.0209 0.0282	0.0197	0.0215	0.0212	0.0248	Ave		0.0227			14.0		15.0				
n-Butyl acetate	0.1945 0.2865	0.1844	0.2185	0.2229	0.2597	Lin1	-0.151	0.2749						0.9930		0.9900	
1-Chlorohexane	0.4540 0.4857	0.4231	0.4478	0.4555	0.4907	Ave		0.4595			5.5		15.0				
Cyclohexanone	0.0135 0.0138	0.0125	0.0152	0.0121	0.0159	Ave		0.0138			10.8		15.0				

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 Canton Job No.: 240-73352-1 Analy Batch No.: 235700

SDG No.: \_\_\_\_\_

Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/23/2016 14:38 Calibration End Date: 06/23/2016 16:30 Calibration ID: 34932

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								
	LVL 6																
Pentachloroethane	0.0921 0.1497	0.0900	0.1037	0.0991	0.1534	Qua	-0.330	0.1448	0.0001243					0.9930		0.9900	
1,2,3-Trimethylbenzene	2.9918 2.9864	2.6781	2.8844	2.7917	3.1763	Ave		2.9181			6.0		15.0				
Benzyl chloride	0.0675 0.1096	0.0593	0.0659	0.0672	0.0896	Qua	-0.025	0.0660	0.0011122					0.9990		0.9900	
1,3,5-Trichlorobenzene	1.2280 0.8870	0.9726	0.9640	0.9309	1.1773	Ave		1.0266			13.7		15.0				
2-Methylnaphthalene	1.0982 0.5699	0.7226	0.7098	1.2187	0.9000	Ave		0.8699			28.7	*	15.0				

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 240-235700/14 Calibration Date: 06/23/2016 14:16  
 Instrument ID: A3UX15 Calib Start Date: 06/23/2016 12:01  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/23/2016 13:53  
 Lab File ID: UXC9014.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3296	0.3164		0.00960	0.0100	-4.0	50.0
Chloromethane	Ave	0.4664	0.4448	0.1000	0.00954	0.0100	-4.6	50.0
Vinyl chloride	Ave	0.4213	0.4126		0.00979	0.0100	-2.1	20.0
Butadiene	Ave	0.3951	0.3681		0.00932	0.0100	-6.8	50.0
Bromomethane	Ave	0.1393	0.1386		0.00995	0.0100	-0.5	50.0
Chloroethane	Ave	0.2241	0.2155		0.00962	0.0100	-3.8	50.0
Dichlorofluoromethane	Ave	0.4924	0.4860		0.00987	0.0100	-1.3	50.0
Trichlorofluoromethane	Ave	0.2524	0.2694		0.0107	0.0100	6.8	50.0
Ethyl ether	Ave	0.2373	0.2405		0.0101	0.0100	1.4	50.0
Acrolein	Ave	0.0276	0.0413		0.0749	0.0500	49.8	50.0
1,1,2-Trichlorotrifluoroethane	Ave	0.2139	0.2353		0.0110	0.0100	10.0	50.0
1,1-Dichloroethene	Ave	0.2948	0.3180		0.0108	0.0100	7.9	20.0
Acetone	Lin1		0.0617		0.0154	0.0200	-23.0	50.0
Iodomethane	Ave	0.4487	0.5028		0.0112	0.0100	12.1	50.0
Carbon disulfide	Ave	0.8567	0.9472		0.0111	0.0100	10.6	50.0
3-Chloro-1-propene	Ave	0.1674	0.1872		0.0112	0.0100	11.9	50.0
Methyl acetate	Ave	0.1562	0.1548		0.0495	0.0500	-0.9	50.0
Methylene Chloride	Lin1		0.3544		0.0107	0.0100	7.3	50.0
tert-Butyl alcohol	Ave	0.0095	0.0086		0.0907	0.100	-9.3	50.0
Acrylonitrile	Ave	0.0871	0.0893		0.103	0.100	2.6	50.0
Methyl tert-butyl ether	Ave	0.5780	0.6020		0.0104	0.0100	4.1	50.0
trans-1,2-Dichloroethene	Ave	0.3190	0.3457		0.0108	0.0100	8.4	50.0
Hexane	Ave	0.0781	0.0849		0.0109	0.0100	8.7	20.0
1,1-Dichloroethane	Ave	0.5441	0.5576	0.1000	0.0102	0.0100	2.5	50.0
Vinyl acetate	Ave	0.3607	0.4002		0.0111	0.0100	10.9	50.0
2,2-Dichloropropane	Ave	0.1735	0.1819		0.0105	0.0100	4.8	50.0
cis-1,2-Dichloroethene	Ave	0.3431	0.3582		0.0104	0.0100	4.4	50.0
2-Butanone (MEK)	Ave	0.1018	0.0930		0.0183	0.0200	-8.6	50.0
Bromochloromethane	Ave	0.1527	0.1581		0.0104	0.0100	3.6	50.0
Tetrahydrofuran	Ave	0.0568	0.0553		0.0195	0.0200	-2.6	50.0
Chloroform	Ave	0.5085	0.5370		0.0106	0.0100	5.6	20.0
1,1,1-Trichloroethane	Ave	0.3093	0.3345		0.0108	0.0100	8.1	50.0
Cyclohexane	Ave	0.5356	0.5820		0.0109	0.0100	8.7	50.0
1,1-Dichloropropene	Ave	0.4235	0.4371		0.0103	0.0100	3.2	50.0
Carbon tetrachloride	Ave	0.2551	0.2760		0.0108	0.0100	8.2	50.0
Isobutyl alcohol	Ave	0.0048	0.0045		0.231	0.250	-7.7	50.0
Benzene	Ave	1.297	1.346		0.0104	0.0100	3.7	50.0
1,2-Dichloroethane	Ave	0.3701	0.3803		0.0103	0.0100	2.8	50.0
n-Heptane	Ave	0.0709	0.0751		0.0106	0.0100	6.0	50.0
Trichloroethene	Ave	0.3242	0.3424		0.0106	0.0100	5.6	50.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 240-235700/14 Calibration Date: 06/23/2016 14:16  
 Instrument ID: A3UX15 Calib Start Date: 06/23/2016 12:01  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/23/2016 13:53  
 Lab File ID: UXC9014.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	0.4846	0.5143		0.0106	0.0100	6.1	50.0
1,2-Dichloropropane	Ave	0.2882	0.3125		0.0108	0.0100	8.4	20.0
Dibromomethane	Ave	0.1523	0.1580		0.0104	0.0100	3.7	50.0
1,4-Dioxane	Ave	0.0021	0.0016		0.153	0.200	-23.6	50.0
Bromodichloromethane	Ave	0.3088	0.3286		0.0106	0.0100	6.4	50.0
2-Chloroethyl vinyl ether	Ave	0.1461	0.1547		0.0106	0.0100	5.9	50.0
cis-1,3-Dichloropropene	Lin1		0.3799		0.00967	0.0100	-3.3	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1749	0.1785		0.0204	0.0200	2.1	50.0
Toluene	Ave	1.810	1.889		0.0104	0.0100	4.4	20.0
trans-1,3-Dichloropropene	Lin1		0.3654		0.00901	0.0100	-9.9	50.0
Ethyl methacrylate	Ave	0.3599	0.4014		0.0112	0.0100	11.5	50.0
1,1,2-Trichloroethane	Ave	0.3112	0.3226		0.0104	0.0100	3.7	50.0
Tetrachloroethene	Ave	0.3500	0.3627		0.0104	0.0100	3.6	50.0
1,3-Dichloropropane	Ave	0.5823	0.6023		0.0103	0.0100	3.4	50.0
2-Hexanone	Ave	0.1630	0.1674		0.0205	0.0200	2.7	50.0
Chlorodibromomethane	Ave	0.2750	0.2891		0.0105	0.0100	5.1	50.0
1,2-Dibromoethane	Ave	0.2951	0.3176		0.0108	0.0100	7.6	50.0
Chlorobenzene	Ave	1.164	1.192	0.3000	0.0102	0.0100	2.3	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3072	0.3146		0.0102	0.0100	2.4	50.0
Ethylbenzene	Ave	0.6168	0.6406		0.0104	0.0100	3.9	20.0
m-Xylene & p-Xylene	Ave	1.527	1.578		0.0103	0.0100	3.3	50.0
o-Xylene	Ave	0.7251	0.7431		0.0102	0.0100	2.5	50.0
Styrene	Ave	1.217	1.297		0.0107	0.0100	6.6	50.0
Bromoform	Lin1		0.1506	0.1000	0.00968	0.0100	-3.2	50.0
Isopropylbenzene	Ave	1.715	1.785		0.0104	0.0100	4.1	50.0
1,1,2,2-Tetrachloroethane	Ave	0.7771	0.8287	0.3000	0.0107	0.0100	6.6	50.0
Bromobenzene	Ave	1.036	1.111		0.0107	0.0100	7.2	50.0
1,2,3-Trichloropropane	Ave	0.2460	0.2711		0.0110	0.0100	10.2	50.0
trans-1,4-Dichloro-2-butene	Ave	0.2183	0.2313		0.0106	0.0100	5.9	50.0
N-Propylbenzene	Ave	1.046	1.121		0.0107	0.0100	7.2	50.0
2-Chlorotoluene	Ave	0.9116	0.9667		0.0106	0.0100	6.0	50.0
1,3,5-Trimethylbenzene	Ave	2.964	3.080		0.0104	0.0100	3.9	50.0
4-Chlorotoluene	Ave	3.157	3.319		0.0105	0.0100	5.1	50.0
tert-Butylbenzene	Ave	2.401	2.534		0.0106	0.0100	5.6	50.0
1,2,4-Trimethylbenzene	Ave	3.007	3.055		0.0102	0.0100	1.6	50.0
sec-Butylbenzene	Ave	3.213	3.336		0.0104	0.0100	3.8	50.0
1,3-Dichlorobenzene	Ave	1.723	1.718		0.00997	0.0100	-0.3	50.0
4-Isopropyltoluene	Ave	2.700	2.773		0.0103	0.0100	2.7	50.0
1,4-Dichlorobenzene	Ave	1.765	1.763		0.00999	0.0100	-0.1	50.0
n-Butylbenzene	Ave	2.151	2.130		0.00990	0.0100	-1.0	50.0
1,2-Dichlorobenzene	Ave	1.577	1.548		0.00981	0.0100	-1.9	50.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 240-235700/14 Calibration Date: 06/23/2016 14:16  
 Instrument ID: A3UX15 Calib Start Date: 06/23/2016 12:01  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/23/2016 13:53  
 Lab File ID: UXC9014.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Ave	0.0839	0.0824		0.00982	0.0100	-1.8	50.0
1,2,4-Trichlorobenzene	Ave	0.8173	0.7237		0.00885	0.0100	-11.5	50.0
Hexachlorobutadiene	Ave	0.3769	0.3089		0.00820	0.0100	-18.0	50.0
Naphthalene	Ave	1.726	1.505		0.00872	0.0100	-12.8	50.0
1,2,3-Trichlorobenzene	Ave	0.7228	0.5970		0.00826	0.0100	-17.4	50.0
Dibromofluoromethane (Surr)	Ave	0.2601	0.2609		0.00804	0.00801	0.3	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3152	0.3049		0.00775	0.00801	-3.3	50.0
Toluene-d8 (Surr)	Ave	1.543	1.568		0.00814	0.00801	1.6	50.0
4-Bromofluorobenzene (Surr)	Ave	0.5279	0.5475		0.00831	0.00801	3.7	50.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 240-235700/15 Calibration Date: 06/23/2016 16:52  
 Instrument ID: A3UX15 Calib Start Date: 06/23/2016 14:38  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/23/2016 16:30  
 Lab File ID: UXC9021.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acetonitrile	Ave	0.0274	0.0239		0.0873	0.100	-12.7	50.0
Diisopropyl ether	Ave	0.2533	0.2592		0.0102	0.0100	2.3	50.0
2-Chloro-1,3-butadiene	Ave	0.4549	0.4689		0.0103	0.0100	3.1	50.0
Ethyl tert-butyl ether	Ave	0.6336	0.6351		0.0100	0.0100	0.2	50.0
Ethyl acetate	Ave	0.1549	0.1602		0.0207	0.0200	3.4	50.0
Propionitrile	Ave	0.0303	0.0294		0.0970	0.100	-3.0	50.0
Methacrylonitrile	Ave	0.1342	0.1343		0.100	0.100	0.0	50.0
Tert-amyl methyl ether	Ave	0.4794	0.4766		0.00994	0.0100	-0.6	50.0
n-Butanol	Ave	0.0033	0.0025		0.189	0.250	-24.4	50.0
Ethyl acrylate	Ave	0.2188	0.2186		0.00999	0.0100	-0.0	50.0
Methyl methacrylate	Ave	0.1732	0.1774		0.0205	0.0200	2.4	50.0
2-Nitropropane	Ave	0.0227	0.0209		0.0183	0.0200	-8.3	50.0
n-Butyl acetate	Lin1		0.2371		0.00917	0.0100	-8.3	50.0
1-Chlorohexane	Ave	0.4595	0.4468		0.00973	0.0100	-2.7	50.0
Cyclohexanone	Ave	0.0138	0.0107		0.0771	0.100	-22.9	50.0
Pentachloroethane	Qua		0.0896		0.0145	0.0200	-27.7	50.0
1,2,3-Trimethylbenzene	Ave	2.918	2.777		0.00952	0.0100	-4.8	50.0
Benzyl chloride	Qua		0.0650		0.00889	0.0100	-11.1	50.0
1,3,5-Trichlorobenzene	Ave	1.027	0.8443		0.00822	0.0100	-17.8	50.0
2-Methylnaphthalene	Ave	0.8699	0.4078		0.00938	0.0200	-53.1*	50.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 240-260599/3 Calibration Date: 12/22/2016 10:25  
 Instrument ID: A3UX15 Calib Start Date: 06/23/2016 14:38  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/23/2016 16:30  
 Lab File ID: UXC0629.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acetonitrile	Ave	0.0274	0.0238		0.0871	0.100	-12.9	50.0
Diisopropyl ether	Ave	0.2533	0.2743		0.0108	0.0100	8.3	50.0
2-Chloro-1,3-butadiene	Ave	0.4549	0.4827		0.0106	0.0100	6.1	50.0
Ethyl tert-butyl ether	Ave	0.6336	0.7235		0.0114	0.0100	14.2	50.0
Ethyl acetate	Ave	0.1549	0.1767		0.0228	0.0200	14.1	50.0
Propionitrile	Ave	0.0303	0.0315		0.104	0.100	3.9	50.0
Methacrylonitrile	Ave	0.1342	0.1408		0.105	0.100	4.9	50.0
Tert-amyl methyl ether	Ave	0.4794	0.5958		0.0124	0.0100	24.3	50.0
n-Butanol	Ave	0.0033	0.0036		0.273	0.250	9.4	50.0
Ethyl acrylate	Ave	0.2188	0.2419		0.0111	0.0100	10.5	50.0
Methyl methacrylate	Ave	0.1732	0.1835		0.0212	0.0200	6.0	50.0
2-Nitropropane	Ave	0.0227	0.0309		0.0272	0.0200	35.9	50.0
n-Butyl acetate	Lin1		0.2702		0.0104	0.0100	3.8	50.0
1-Chlorohexane	Ave	0.4595	0.4589		0.00999	0.0100	-0.1	50.0
Cyclohexanone	Ave	0.0138	0.0106		0.0765	0.100	-23.5	50.0
Pentachloroethane	Qua		0.2123		0.0308	0.0200	53.9*	50.0
1,2,3-Trimethylbenzene	Ave	2.918	2.793		0.00957	0.0100	-4.3	50.0
Benzyl chloride	Qua		0.0942		0.0122	0.0100	21.6	50.0
1,3,5-Trichlorobenzene	Ave	1.027	1.111		0.0108	0.0100	8.2	50.0
2-Methylnaphthalene	Ave	0.8699	0.4644		0.0107	0.0200	-46.6	50.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 240-260599/2 Calibration Date: 12/22/2016 10:48  
 Instrument ID: A3UX15 Calib Start Date: 06/23/2016 12:01  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/23/2016 13:53  
 Lab File ID: UXC0630.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3296	0.5307		0.0161	0.0100	61.0*	50.0
Chloromethane	Ave	0.4664	0.4380	0.1000	0.00939	0.0100	-6.1	50.0
Vinyl chloride	Ave	0.4213	0.3528		0.00837	0.0100	-16.3	20.0
Butadiene	Ave	0.3951	0.2753		0.00697	0.0100	-30.3	50.0
Bromomethane	Ave	0.1393	0.0771		0.00554	0.0100	-44.6	50.0
Chloroethane	Ave	0.2241	0.0718		0.00320	0.0100	-68.0*	50.0
Dichlorofluoromethane	Ave	0.4924	0.3348		0.00680	0.0100	-32.0	50.0
Trichlorofluoromethane	Ave	0.2524	0.3961		0.0157	0.0100	56.9*	50.0
Ethyl ether	Ave	0.2373	0.1833		0.00773	0.0100	-22.7	50.0
Acrolein	Ave	0.0276	0.0257		0.0465	0.0500	-7.0	50.0
1,1-Dichloroethene	Ave	0.2948	0.3298		0.0112	0.0100	11.9	20.0
1,1,2-Trichlorotrifluoroethane	Ave	0.2139	0.2941		0.0138	0.0100	37.5	50.0
Acetone	Lin1		0.0715		0.0182	0.0200	-9.2	50.0
Iodomethane	Ave	0.4487	0.5682		0.0127	0.0100	26.6	50.0
Carbon disulfide	Ave	0.8567	1.003		0.0117	0.0100	17.1	50.0
3-Chloro-1-propene	Ave	0.1674	0.1944		0.0116	0.0100	16.2	50.0
Methyl acetate	Ave	0.1562	0.1714		0.0549	0.0500	9.7	50.0
Methylene Chloride	Lin1		0.4066		0.0124	0.0100	24.0	50.0
tert-Butyl alcohol	Ave	0.0095	0.0120		0.126	0.100	26.5	50.0
Methyl tert-butyl ether	Ave	0.5780	0.7015		0.0121	0.0100	21.4	50.0
Acrylonitrile	Ave	0.0871	0.0951		0.109	0.100	9.2	50.0
trans-1,2-Dichloroethene	Ave	0.3190	0.3805		0.0119	0.0100	19.3	50.0
Hexane	Ave	0.0781	0.0976		0.0125	0.0100	25.0*	20.0
1,1-Dichloroethane	Ave	0.5441	0.6180	0.1000	0.0114	0.0100	13.6	50.0
Vinyl acetate	Ave	0.3607	0.4536		0.0126	0.0100	25.7	50.0
2,2-Dichloropropane	Ave	0.1735	0.2825		0.0163	0.0100	62.8*	50.0
cis-1,2-Dichloroethene	Ave	0.3431	0.4041		0.0118	0.0100	17.8	50.0
2-Butanone (MEK)	Ave	0.1018	0.1042		0.0205	0.0200	2.4	50.0
Bromochloromethane	Ave	0.1527	0.1922		0.0126	0.0100	25.9	50.0
Tetrahydrofuran	Ave	0.0568	0.0636		0.0224	0.0200	11.9	50.0
Chloroform	Ave	0.5085	0.5986		0.0118	0.0100	17.7	20.0
1,1,1-Trichloroethane	Ave	0.3093	0.4500		0.0145	0.0100	45.5	50.0
Cyclohexane	Ave	0.5356	0.6466		0.0121	0.0100	20.7	50.0
1,1-Dichloropropene	Ave	0.4235	0.4994		0.0118	0.0100	17.9	50.0
Carbon tetrachloride	Ave	0.2551	0.4166		0.0163	0.0100	63.3*	50.0
Isobutyl alcohol	Ave	0.0048	0.0053		0.276	0.250	10.2	50.0
Benzene	Ave	1.297	1.512		0.0117	0.0100	16.5	50.0
1,2-Dichloroethane	Ave	0.3701	0.4107		0.0111	0.0100	11.0	50.0
n-Heptane	Ave	0.0709	0.0887		0.0125	0.0100	25.1	50.0
Trichloroethene	Ave	0.3242	0.4023		0.0124	0.0100	24.1	50.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 240-260599/2 Calibration Date: 12/22/2016 10:48  
 Instrument ID: A3UX15 Calib Start Date: 06/23/2016 12:01  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/23/2016 13:53  
 Lab File ID: UXC0630.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	0.4846	0.6155		0.0127	0.0100	27.0	50.0
1,2-Dichloropropane	Ave	0.2882	0.3398		0.0118	0.0100	17.9	20.0
Dibromomethane	Ave	0.1523	0.1746		0.0115	0.0100	14.6	50.0
1,4-Dioxane	Ave	0.0021	0.0024		0.231	0.200	15.6	50.0
Bromodichloromethane	Ave	0.3088	0.3740		0.0121	0.0100	21.1	50.0
2-Chloroethyl vinyl ether	Ave	0.1461	0.1650		0.0226	0.0200	12.9	50.0
cis-1,3-Dichloropropene	Lin1		0.4380		0.0111	0.0100	10.7	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1749	0.2111		0.0241	0.0200	20.7	50.0
Toluene	Ave	1.810	1.954		0.0108	0.0100	8.0	20.0
trans-1,3-Dichloropropene	Lin1		0.3955		0.00971	0.0100	-2.9	50.0
Ethyl methacrylate	Ave	0.3599	0.3972		0.0110	0.0100	10.4	50.0
1,1,2-Trichloroethane	Ave	0.3112	0.3288		0.0106	0.0100	5.6	50.0
Tetrachloroethene	Ave	0.3500	0.4201		0.0120	0.0100	20.0	50.0
1,3-Dichloropropane	Ave	0.5823	0.5892		0.0101	0.0100	1.2	50.0
2-Hexanone	Ave	0.1630	0.1718		0.0211	0.0200	5.4	50.0
Chlorodibromomethane	Ave	0.2750	0.3161		0.0115	0.0100	14.9	50.0
1,2-Dibromoethane	Ave	0.2951	0.3173		0.0108	0.0100	7.5	50.0
Chlorobenzene	Ave	1.164	1.290	0.3000	0.0111	0.0100	10.8	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3072	0.3944		0.0128	0.0100	28.4	50.0
Ethylbenzene	Ave	0.6168	0.6932		0.0112	0.0100	12.4	20.0
m-Xylene & p-Xylene	Ave	1.527	1.687		0.0110	0.0100	10.5	50.0
o-Xylene	Ave	0.7251	0.8439		0.0116	0.0100	16.4	50.0
Styrene	Ave	1.217	1.432		0.0118	0.0100	17.6	50.0
Bromoform	Lin1		0.1599	0.1000	0.0102	0.0100	2.4	50.0
Isopropylbenzene	Ave	1.715	2.113		0.0123	0.0100	23.2	50.0
1,1,2,2-Tetrachloroethane	Ave	0.7771	0.6435	0.3000	0.00828	0.0100	-17.2	50.0
Bromobenzene	Ave	1.036	0.9319		0.00899	0.0100	-10.1	50.0
1,2,3-Trichloropropane	Ave	0.2460	0.2022		0.00822	0.0100	-17.8	50.0
trans-1,4-Dichloro-2-butene	Ave	0.2183	0.1513		0.00693	0.0100	-30.7	50.0
N-Propylbenzene	Ave	1.046	0.9745		0.00931	0.0100	-6.9	50.0
2-Chlorotoluene	Ave	0.9116	0.8448		0.00927	0.0100	-7.3	50.0
1,3,5-Trimethylbenzene	Ave	2.964	2.849		0.00961	0.0100	-3.9	50.0
4-Chlorotoluene	Ave	3.157	2.852		0.00903	0.0100	-9.7	50.0
tert-Butylbenzene	Ave	2.401	2.476		0.0103	0.0100	3.1	50.0
1,2,4-Trimethylbenzene	Ave	3.007	2.997		0.00997	0.0100	-0.3	50.0
sec-Butylbenzene	Ave	3.213	3.309		0.0103	0.0100	3.0	50.0
1,3-Dichlorobenzene	Ave	1.723	1.775		0.0103	0.0100	3.0	50.0
4-Isopropyltoluene	Ave	2.700	2.990		0.0111	0.0100	10.8	50.0
1,4-Dichlorobenzene	Ave	1.765	1.817		0.0103	0.0100	3.0	50.0
n-Butylbenzene	Ave	2.151	2.356		0.0110	0.0100	9.5	50.0
1,2-Dichlorobenzene	Ave	1.577	1.696		0.0107	0.0100	7.5	50.0

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 240-260599/2 Calibration Date: 12/22/2016 10:48  
 Instrument ID: A3UX15 Calib Start Date: 06/23/2016 12:01  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 06/23/2016 13:53  
 Lab File ID: UXC0630.D Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Ave	0.0839	0.0927		0.0111	0.0100	10.5	50.0
1,2,4-Trichlorobenzene	Ave	0.8173	1.022		0.0125	0.0100	25.1	50.0
Hexachlorobutadiene	Ave	0.3769	0.4624		0.0123	0.0100	22.7	50.0
Naphthalene	Ave	1.726	1.993		0.0115	0.0100	15.5	50.0
1,2,3-Trichlorobenzene	Ave	0.7228	0.9212		0.0127	0.0100	27.5	50.0
Dibromofluoromethane (Surr)	Ave	0.2601	0.2907		0.00895	0.00801	11.8	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3152	0.3145		0.00799	0.00801	-0.2	50.0
Toluene-d8 (Surr)	Ave	1.543	1.589		0.00825	0.00801	2.9	50.0
4-Bromofluorobenzene (Surr)	Ave	0.5279	0.5912		0.00897	0.00801	12.0	50.0



FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: UXC0632.D Lab Sample ID: MB 240-260599/7  
 Matrix: Water Heated Purge: (Y/N) N  
 Instrument ID: A3UX15 Date Analyzed: 12/22/2016 11:33  
 GC Column: DB-624 ID: 0.18 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 240-260599/4	UXC0628.D	12/22/2016 10:03
TB-121316	240-73352-1	UXC0642.D	12/22/2016 15:17
MRC-SW10A-D-121316	240-73352-2	UXC0643.D	12/22/2016 15:39
MRC-SW10A-S-121316	240-73352-3	UXC0644.D	12/22/2016 16:02
MRC-SW10B-D-121316	240-73352-4	UXC0645.D	12/22/2016 16:25
MRC-SW10B-S-121316	240-73352-5	UXC0646.D	12/22/2016 16:47
MRC-SW11A-D-121316	240-73352-6	UXC0647.D	12/22/2016 17:10
MRC-SW11A-S-121316	240-73352-7	UXC0648.D	12/22/2016 17:33
MRC-SW11B-D-121316	240-73352-8	UXC0649.D	12/22/2016 17:55
MRC-SW11B-S-121316	240-73352-9	UXC0650.D	12/22/2016 18:17
MRC-SW12A-D-121316	240-73352-10	UXC0651.D	12/22/2016 18:40
MRC-SW12A-S-121316	240-73352-11	UXC0652.D	12/22/2016 19:02
MRC-SW12B-D-121316	240-73352-12	UXC0653.D	12/22/2016 19:24
MRC-SW12B-S-121316	240-73352-13	UXC0654.D	12/22/2016 19:46

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 240-260599/7  
 Matrix: Water Lab File ID: UXC0632.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 11:33  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	1.8	U	10	1.8
630-20-6	1,1,1,2-Tetrachloroethane	0.46	U	1.0	0.46
71-43-2	Benzene	0.28	U	1.0	0.28
75-27-4	Bromodichloromethane	0.30	U	1.0	0.30
75-25-2	Bromoform	0.43	U	1.0	0.43
74-83-9	Bromomethane	0.42	U	1.0	0.42
78-93-3	2-Butanone (MEK)	1.0	U	10	1.0
75-15-0	Carbon disulfide	0.34	U	1.0	0.34
56-23-5	Carbon tetrachloride	0.35	U	1.0	0.35
108-90-7	Chlorobenzene	0.32	U	1.0	0.32
75-00-3	Chloroethane	0.41	U	1.0	0.41
67-66-3	Chloroform	0.31	U	1.0	0.31
563-58-6	1,1-Dichloropropene	0.28	U	1.0	0.28
74-87-3	Chloromethane	0.43	U	1.0	0.43
75-34-3	1,1-Dichloroethane	0.25	U	1.0	0.25
87-61-6	1,2,3-Trichlorobenzene	0.35	U	1.0	0.35
96-18-4	1,2,3-Trichloropropane	0.54	U	1.0	0.54
107-06-2	1,2-Dichloroethane	0.30	U	1.0	0.30
75-35-4	1,1-Dichloroethene	0.27	U	1.0	0.27
526-73-8	1,2,3-Trimethylbenzene	0.22	U	5.0	0.22
78-87-5	1,2-Dichloropropane	0.30	U	1.0	0.30
95-63-6	1,2,4-Trimethylbenzene	0.24	U	1.0	0.24
10061-01-5	cis-1,3-Dichloropropene	0.26	U	1.0	0.26
10061-02-6	trans-1,3-Dichloropropene	0.31	U	1.0	0.31
100-41-4	Ethylbenzene	0.26	U	1.0	0.26
591-78-6	2-Hexanone	1.2	U	10	1.2
75-09-2	Methylene Chloride	0.53	U	1.0	0.53
108-10-1	4-Methyl-2-pentanone (MIBK)	0.71	U	10	0.71
100-42-5	Styrene	0.23	U	1.0	0.23
79-34-5	1,1,2,2-Tetrachloroethane	0.32	U	1.0	0.32
127-18-4	Tetrachloroethene	0.30	U	1.0	0.30
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.33	U	1.0	0.33
75-01-4	Vinyl chloride	0.45	U	1.0	0.45
1330-20-7	Xylenes, Total	0.24	U	2.0	0.24
71-55-6	1,1,1-Trichloroethane	0.23	U	1.0	0.23

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 240-260599/7  
 Matrix: Water Lab File ID: UXC0632.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 11:33  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.29	U	1.0	0.29
96-12-8	1,2-Dibromo-3-Chloropropane	0.47	U	2.0	0.47
106-93-4	1,2-Dibromoethane	0.23	U	1.0	0.23
75-71-8	Dichlorodifluoromethane	0.50	U	1.0	0.50
156-59-2	cis-1,2-Dichloroethene	0.30	U	1.0	0.30
156-60-5	trans-1,2-Dichloroethene	0.29	U	1.0	0.29
98-82-8	Isopropylbenzene	0.21	U	1.0	0.21
1634-04-4	Methyl tert-butyl ether	0.27	U	1.0	0.27
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
120-82-1	1,2,4-Trichlorobenzene	0.27	U	1.0	0.27
594-20-7	2,2-Dichloropropane	0.34	U	1.0	0.34
95-50-1	1,2-Dichlorobenzene	0.26	U	1.0	0.26
541-73-1	1,3-Dichlorobenzene	0.32	U	1.0	0.32
106-46-7	1,4-Dichlorobenzene	0.23	U	1.0	0.23
110-75-8	2-Chloroethyl vinyl ether	0.65	U	10	0.65
75-69-4	Trichlorofluoromethane	0.50	U	1.0	0.50
95-49-8	2-Chlorotoluene	0.28	U	1.0	0.28
124-48-1	Chlorodibromomethane	0.25	U	1.0	0.25
108-86-1	Bromobenzene	0.31	U	1.0	0.31
74-97-5	Bromochloromethane	0.47	U	1.0	0.47
106-43-4	4-Chlorotoluene	0.23	U	1.0	0.23
99-87-6	4-Isopropyltoluene	0.29	U	1.0	0.29
87-68-3	Hexachlorobutadiene	0.36	U	1.0	0.36
74-95-3	Dibromomethane	0.46	U	1.0	0.46
108-20-3	Diisopropyl ether	0.44	U	10	0.44
91-20-3	Naphthalene	0.25	U	1.0	0.25
104-51-8	n-Butylbenzene	0.21	U	1.0	0.21
103-65-1	N-Propylbenzene	0.45	U	1.0	0.45
135-98-8	sec-Butylbenzene	0.27	U	1.0	0.27
994-05-8	Tert-amyl methyl ether	0.29	U	5.0	0.29
637-92-3	Ethyl tert-butyl ether	0.35	U	5.0	0.35
98-06-6	tert-Butylbenzene	0.26	U	1.0	0.26
108-05-4	Vinyl acetate	0.28	U	2.0	0.28
75-65-0	tert-Butyl alcohol	4.6	U	50	4.6

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 240-260599/7  
 Matrix: Water Lab File ID: UXC0632.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 11:33  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		63-132
460-00-4	4-Bromofluorobenzene (Surr)	101		73-120
2037-26-5	Toluene-d8 (Surr)	100		73-124
1868-53-7	Dibromofluoromethane (Surr)	111		80-120

FORM II  
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-73352-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low

GC Column (1): DB-624 ID: 0.18 (mm)

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
TB-121316	240-73352-1	110	104	98	103
MRC-SW10A-D-121316	240-73352-2	115	107	94	102
MRC-SW10A-S-121316	240-73352-3	115	109	95	104
MRC-SW10B-D-121316	240-73352-4	115	107	93	103
MRC-SW10B-S-121316	240-73352-5	109	106	98	100
MRC-SW11A-D-121316	240-73352-6	115	107	94	101
MRC-SW11A-S-121316	240-73352-7	115	107	96	102
MRC-SW11B-D-121316	240-73352-8	114	108	96	99
MRC-SW11B-S-121316	240-73352-9	119	108	93	98
MRC-SW12A-D-121316	240-73352-10	120	111	95	100
MRC-SW12A-S-121316	240-73352-11	116	110	95	104
MRC-SW12B-D-121316	240-73352-12	119	109	96	93
MRC-SW12B-S-121316	240-73352-13	117	108	98	94
	MB 240-260599/7	111	101	100	101
	LCS 240-260599/4	107	96	101	107

DBFM = Dibromofluoromethane (Surr)  
DCA = 1,2-Dichloroethane-d4 (Surr)  
TOL = Toluene-d8 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)

QC LIMITS  
80-120  
63-132  
73-124  
73-120

# Column to be used to flag recovery values

FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton

Job No.: 240-73352-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low

Lab File ID: UXC0628.D

Lab ID: LCS 240-260599/4

Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Acetone	20.0	12.7	63	46-120	
1,1,1,2-Tetrachloroethane	10.0	12.0	120	77-126	
Benzene	10.0	10.7	107	80-120	
Bromodichloromethane	10.0	11.3	113	76-125	
Bromoform	10.0	10.0	100	52-157	
Bromomethane	10.0	5.21	52	24-160	
2-Butanone (MEK)	20.0	16.6	83	54-122	
Carbon disulfide	10.0	10.9	109	58-160	
Carbon tetrachloride	10.0	15.3	153	69-149	*
Chlorobenzene	10.0	10.4	104	80-120	
Chloroethane	10.0	3.23	32	24-147	
Chloroform	10.0	10.9	109	80-120	
1,1-Dichloropropene	10.0	10.7	107	80-120	
Chloromethane	10.0	8.90	89	50-135	
1,1-Dichloroethane	10.0	10.2	102	77-121	
1,2,3-Trichlorobenzene	10.0	8.14	81	53-135	
1,2,3-Trichloropropane	10.0	8.21	82	65-135	
1,2-Dichloroethane	10.0	10.1	101	76-130	
1,1-Dichloroethene	10.0	9.12	91	70-141	
1,2-Dichloropropane	10.0	11.0	110	79-121	
1,2,4-Trimethylbenzene	10.0	9.13	91	77-120	
cis-1,3-Dichloropropene	10.0	10.6	106	75-120	
trans-1,3-Dichloropropene	10.0	8.95	89	65-120	
Ethylbenzene	10.0	10.3	103	80-120	
2-Hexanone	20.0	16.8	84	56-124	
Methylene Chloride	10.0	11.4	114	68-136	
4-Methyl-2-pentanone (MIBK)	20.0	18.5	92	60-131	
Styrene	10.0	10.7	107	80-120	
1,1,2,2-Tetrachloroethane	10.0	7.89	79	61-130	
Tetrachloroethene	10.0	11.2	112	80-123	
Toluene	10.0	10.2	102	80-121	
Trichloroethene	10.0	11.8	118	80-122	
Vinyl chloride	10.0	7.43	74	60-129	
Xylenes, Total	20.0	20.3	102	80-120	
1,1,1-Trichloroethane	10.0	12.9	129	79-133	
1,3-Dichloropropane	10.0	9.35	93	77-120	
1,2-Dibromo-3-Chloropropane	10.0	8.93	89	46-140	
1,2-Dibromoethane	10.0	9.88	99	80-126	
Dichlorodifluoromethane	10.0	12.4	124	32-140	
cis-1,2-Dichloroethene	10.0	10.9	109	80-120	
trans-1,2-Dichloroethene	10.0	11.3	113	80-123	
Isopropylbenzene	10.0	11.0	110	80-120	

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: UXC0628.D  
 Lab ID: LCS 240-260599/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Methyl tert-butyl ether	10.0	10.6	106	75-126	
1,1,2-Trichlorotrifluoroethane	10.0	11.3	113	65-151	
1,2,4-Trichlorobenzene	10.0	8.15	82	53-137	
2,2-Dichloropropane	10.0	14.1	141	70-137	*
1,2-Dichlorobenzene	10.0	9.62	96	80-120	
1,3-Dichlorobenzene	10.0	9.58	96	80-120	
1,4-Dichlorobenzene	10.0	9.62	96	80-120	
2-Chloroethyl vinyl ether	10.0	9.22 J	92	51-138	
Trichlorofluoromethane	10.0	13.7	137	56-161	
2-Chlorotoluene	10.0	9.25	93	76-120	
Bromobenzene	10.0	9.19	92	79-120	
Bromochloromethane	10.0	11.3	113	77-125	
4-Chlorotoluene	10.0	9.02	90	77-120	
4-Isopropyltoluene	10.0	9.90	99	75-120	
m-Xylene & p-Xylene	10.0	9.84	98	80-120	
o-Xylene	10.0	10.5	105	80-120	
Hexachlorobutadiene	10.0	9.37	94	55-134	
Dibromomethane	10.0	10.3	103	73-127	
Naphthalene	10.0	6.73	67	39-148	
n-Butylbenzene	10.0	9.20	92	66-120	
N-Propylbenzene	10.0	9.37	94	75-121	
sec-Butylbenzene	10.0	9.52	95	72-120	
tert-Butylbenzene	10.0	9.69	97	78-120	
Vinyl acetate	10.0	9.95	100	57-144	
tert-Butyl alcohol	100	100	100	47-137	

# Column to be used to flag recovery and RPD values  
 FORM III 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: STD8260 240-235700/4 Date Analyzed: 06/23/2016 12:46  
 Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18 (mm)  
 Lab File ID (Standard): UXC9010.D Heated Purge: (Y/N) N  
 Calibration ID: 34930

	FB		CBNZd5		DCBd4		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
INITIAL CALIBRATION MID-POINT	1646184	5.13	1222360	7.81	530154	10.04	
UPPER LIMIT	3292368	5.63	2444720	8.31	1060308	10.54	
LOWER LIMIT	823092	4.63	611180	7.31	265077	9.54	
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 240-235700/14		1661685	5.13	1268289	7.81	530949	10.04
ICV 240-235700/15		1649875	5.13	1270373	7.81	493234	10.04
CCVIS 240-260599/2		1451104	5.03	1214573	7.68	743858	9.93

FB = Fluorobenzene

CBNZd5 = Chlorobenzene-d5

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 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 Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 240-260599/2 Date Analyzed: 12/22/2016 10:48  
 Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18 (mm)  
 Lab File ID (Standard): UXC0630.D Heated Purge: (Y/N) N  
 Calibration ID: 36079

	FB		CBNZd5		DCBd4		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
12/24 HOUR STD	1451104	5.03	1214573	7.68	743858	9.93	
UPPER LIMIT	2902208	5.53	2429146	8.18	1487716	10.43	
LOWER LIMIT	725552	4.53	607287	7.18	371929	9.43	
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 240-260599/7		1409598	5.03	1212636	7.68	676660	9.93
240-73352-1	TB-121316	1370505	5.03	1130787	7.68	654568	9.93
240-73352-2	MRC-SW10A-D-121316	1302816	5.03	1120092	7.68	656973	9.93
240-73352-3	MRC-SW10A-S-121316	1299123	5.03	1097899	7.68	628119	9.93
240-73352-4	MRC-SW10B-D-121316	1267624	5.03	1072095	7.68	634017	9.93
240-73352-5	MRC-SW10B-S-121316	1375621	5.03	1139095	7.68	641993	9.93
240-73352-6	MRC-SW11A-D-121316	1265447	5.03	1082316	7.68	623806	9.93
240-73352-7	MRC-SW11A-S-121316	1283158	5.03	1100431	7.68	635445	9.93
240-73352-8	MRC-SW11B-D-121316	1307750	5.03	1115789	7.68	627914	9.93
240-73352-9	MRC-SW11B-S-121316	1218199	5.03	1057887	7.68	522686	9.93
240-73352-10	MRC-SW12A-D-121316	1260103	5.03	1076267	7.68	565664	9.93
240-73352-11	MRC-SW12A-S-121316	1259002	5.03	1076845	7.68	678607	9.93
240-73352-12	MRC-SW12B-D-121316	1244428	5.03	1045001	7.68	473337	9.93
240-73352-13	MRC-SW12B-S-121316	1262603	5.03	1050079	7.68	485396	9.93

FB = Fluorobenzene

CBNZd5 = Chlorobenzene-d5

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits

## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica CantonJob No.: 240-73352-1

SDG No.: \_\_\_\_\_

Instrument ID: A3UX15Start Date: 06/23/2016 11:35Analysis Batch Number: 235700End Date: 06/23/2016 23:14

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-235700/1		06/23/2016 11:35	1	BFB619.D	DB-624 0.18 (mm)
STD8260 240-235700/2 IC		06/23/2016 12:01	1	UXC9008.D	DB-624 0.18 (mm)
STD8260 240-235700/3 IC		06/23/2016 12:23	1	UXC9009.D	DB-624 0.18 (mm)
STD8260 240-235700/4 ICIS		06/23/2016 12:46	1	UXC9010.D	DB-624 0.18 (mm)
STD8260 240-235700/5 IC		06/23/2016 13:08	1	UXC9011.D	DB-624 0.18 (mm)
STD8260 240-235700/6 IC		06/23/2016 13:31	1	UXC9012.D	DB-624 0.18 (mm)
STD8260 240-235700/7 IC		06/23/2016 13:53	1	UXC9013.D	DB-624 0.18 (mm)
ICV 240-235700/14		06/23/2016 14:16	1	UXC9014.D	DB-624 0.18 (mm)
STD 240-235700/8 IC		06/23/2016 14:38	1	UXC9015.D	DB-624 0.18 (mm)
STD 240-235700/9 IC		06/23/2016 15:00	1	UXC9016.D	DB-624 0.18 (mm)
STD 240-235700/10 IC		06/23/2016 15:22	1	UXC9017.D	DB-624 0.18 (mm)
STD 240-235700/11 IC		06/23/2016 15:45	1	UXC9018.D	DB-624 0.18 (mm)
STD 240-235700/12 IC		06/23/2016 16:07	1	UXC9019.D	DB-624 0.18 (mm)
STD 240-235700/13 IC		06/23/2016 16:30	1	UXC9020.D	DB-624 0.18 (mm)
ICV 240-235700/15		06/23/2016 16:52	1	UXC9021.D	DB-624 0.18 (mm)
ZZZZZ		06/23/2016 17:15	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 18:00	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 18:23	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 18:45	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 19:08	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 19:30	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 19:53	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 20:15	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 20:37	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 21:00	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 21:22	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 21:45	4		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 22:07	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 22:30	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 22:52	1		DB-624 0.18 (mm)
ZZZZZ		06/23/2016 23:14	1		DB-624 0.18 (mm)

## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica CantonJob No.: 240-73352-1

SDG No.: \_\_\_\_\_

Instrument ID: A3UX15Start Date: 12/22/2016 08:59Analysis Batch Number: 260599End Date: 12/22/2016 20:54

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-260599/1		12/22/2016 08:59	1	BFB61222.D	DB-624 0.18 (mm)
LCS 240-260599/4		12/22/2016 10:03	1	UXC0628.D	DB-624 0.18 (mm)
CCV 240-260599/3		12/22/2016 10:25	1	UXC0629.D	DB-624 0.18 (mm)
CCVIS 240-260599/2		12/22/2016 10:48	1	UXC0630.D	DB-624 0.18 (mm)
MB 240-260599/7		12/22/2016 11:33	1	UXC0632.D	DB-624 0.18 (mm)
ZZZZZ		12/22/2016 12:18	100		DB-624 0.18 (mm)
ZZZZZ		12/22/2016 12:40	2		DB-624 0.18 (mm)
ZZZZZ		12/22/2016 13:02	10		DB-624 0.18 (mm)
ZZZZZ		12/22/2016 13:25	5		DB-624 0.18 (mm)
ZZZZZ		12/22/2016 13:48	142.86		DB-624 0.18 (mm)
ZZZZZ		12/22/2016 14:10	142.86		DB-624 0.18 (mm)
ZZZZZ		12/22/2016 14:55	142.86		DB-624 0.18 (mm)
240-73352-1		12/22/2016 15:17	1	UXC0642.D	DB-624 0.18 (mm)
240-73352-2		12/22/2016 15:39	1	UXC0643.D	DB-624 0.18 (mm)
240-73352-3		12/22/2016 16:02	1	UXC0644.D	DB-624 0.18 (mm)
240-73352-4		12/22/2016 16:25	1	UXC0645.D	DB-624 0.18 (mm)
240-73352-5		12/22/2016 16:47	1	UXC0646.D	DB-624 0.18 (mm)
240-73352-6		12/22/2016 17:10	1	UXC0647.D	DB-624 0.18 (mm)
240-73352-7		12/22/2016 17:33	1	UXC0648.D	DB-624 0.18 (mm)
240-73352-8		12/22/2016 17:55	1	UXC0649.D	DB-624 0.18 (mm)
240-73352-9		12/22/2016 18:17	1	UXC0650.D	DB-624 0.18 (mm)
240-73352-10		12/22/2016 18:40	1	UXC0651.D	DB-624 0.18 (mm)
240-73352-11		12/22/2016 19:02	1	UXC0652.D	DB-624 0.18 (mm)
240-73352-12		12/22/2016 19:24	1	UXC0653.D	DB-624 0.18 (mm)
240-73352-13		12/22/2016 19:46	1	UXC0654.D	DB-624 0.18 (mm)
ZZZZZ		12/22/2016 20:09	1000		DB-624 0.18 (mm)
ZZZZZ		12/22/2016 20:31	625		DB-624 0.18 (mm)
ZZZZZ		12/22/2016 20:54	16666. 67		DB-624 0.18 (mm)

SAMPLE IDENTIFICATION

MRC-SW10A-D-121316

COMPOUND

Trichloroethene

COMPOUND AREA

29515

INTERNAL STANDARD AMOUNT

10

DILUTION FACTOR

1

INTERNAL STANDARD AREA

1302816

AVERAGE RRF

0.3242

0.70 µg/L

$29515 \times 10 \times 1 / 1302816 \times 0.3242$

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-73352-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MRC-SW10A-D-121316 Lab Sample ID: 240-73352-2  
 Matrix: Water Lab File ID: UXC0643.D  
 Analysis Method: 8260B Date Collected: 12/13/2016 09:16  
 Sample wt/vol: 5 (mL) Date Analyzed: 12/22/2016 15:39  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 260599 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	2.6	J	10	1.8
630-20-6	1,1,1,2-Tetrachloroethane	0.46	U	1.0	0.46
71-43-2	Benzene	0.28	U	1.0	0.28
75-27-4	Bromodichloromethane	0.30	U	1.0	0.30
75-25-2	Bromoform	0.43	U	1.0	0.43
74-83-9	Bromomethane	0.42	U	1.0	0.42
78-93-3	2-Butanone (MEK)	1.0	U	10	1.0
75-15-0	Carbon disulfide	0.34	U	1.0	0.34
56-23-5	Carbon tetrachloride	0.35	U *	1.0	0.35
108-90-7	Chlorobenzene	0.32	U	1.0	0.32
75-00-3	Chloroethane	0.41	U	1.0	0.41
67-66-3	Chloroform	0.31	U	1.0	0.31
563-58-6	1,1-Dichloropropene	0.28	U	1.0	0.28
74-87-3	Chloromethane	0.43	U	1.0	0.43
75-34-3	1,1-Dichloroethane	0.25	U	1.0	0.25
87-61-6	1,2,3-Trichlorobenzene	0.35	U	1.0	0.35
96-18-4	1,2,3-Trichloropropane	0.54	U	1.0	0.54
107-06-2	1,2-Dichloroethane	0.30	U	1.0	0.30
75-35-4	1,1-Dichloroethene	0.27	U	1.0	0.27
526-73-8	1,2,3-Trimethylbenzene	0.22	U	5.0	0.22
78-87-5	1,2-Dichloropropane	0.30	U	1.0	0.30
95-63-6	1,2,4-Trimethylbenzene	0.24	U	1.0	0.24
10061-01-5	cis-1,3-Dichloropropene	0.26	U	1.0	0.26
10061-02-6	trans-1,3-Dichloropropene	0.31	U	1.0	0.31
100-41-4	Ethylbenzene	0.26	U	1.0	0.26
591-78-6	2-Hexanone	1.2	U	10	1.2
75-09-2	Methylene Chloride	0.53	U	1.0	0.53
108-10-1	4-Methyl-2-pentanone (MIBK)	0.71	U	10	0.71
100-42-5	Styrene	0.23	U	1.0	0.23
79-34-5	1,1,2,2-Tetrachloroethane	0.32	U	1.0	0.32
127-18-4	Tetrachloroethene	0.30	U	1.0	0.30
108-88-3	Toluene	0.23	U	1.0	0.23
79-01-6	Trichloroethene	0.70	J	1.0	0.33
75-01-4	Vinyl chloride	0.45	U	1.0	0.45
1330-20-7	Xylenes, Total	0.24	U	2.0	0.24
71-55-6	1,1,1-Trichloroethane	0.23	U	1.0	0.23

TestAmerica Canton  
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A3UX15\20161222-61021.b\UXC0643.D  
 Lims ID: 240-73352-B-2  
 Client ID: MRC-SW10A-D-121316  
 Sample Type: Client  
 Inject. Date: 22-Dec-2016 15:39:30 ALS Bottle#: 17 Worklist Smp#: 44  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: 240-0061021-044  
 Misc. Info.: C61222A,8260LLUX15,,43582  
 Operator ID: Instrument ID: A3UX15  
 Method: \\ChromNA\Canton\ChromData\A3UX15\20161222-61021.b\8260\_15.m  
 Limit Group: MSV 8260B ICAL  
 Last Update: 23-Dec-2016 08:24:55 Calib Date: 17-Sep-2016 00:05:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Canton\ChromData\A3UX15\20160916-58103.b\UXC8208.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK009

First Level Reviewer: evansle

Date: 23-Dec-2016 08:14:07

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.027	5.028	-0.001	99	1302816	10.0	
* 2 Chlorobenzene-d5	117	7.684	7.684	0.000	85	1120092	10.0	
* 3 1,4-Dichlorobenzene-d4	152	9.925	9.913	0.012	93	656973	10.0	
\$ 4 Dibromofluoromethane (Surr	113	4.470	4.470	0.000	95	312395	9.22	
\$ 5 1,2-Dichloroethane-d4 (Sur	65	4.755	4.755	0.000	0	350603	8.54	
\$ 6 Toluene-d8 (Surr)	98	6.379	6.379	0.000	93	1305314	7.55	
\$ 7 4-Bromofluorobenzene (Surr	95	8.798	8.798	0.000	97	485204	8.21	
9 Dichlorodifluoromethane	85		1.446				ND	
10 Chloromethane	50		1.588				ND	
11 Vinyl chloride	62		1.683				ND	
13 Bromomethane	94		1.956				ND	
14 Chloroethane	64		2.039				ND	
16 Trichlorofluoromethane	101		2.217				ND	
19 1,1-Dichloroethene	96		2.644				ND	
20 1,1,2-Trichloro-1,2,2-trif	151		2.667				ND	
22 Acetone	43	2.703	2.703	0.000	99	43128	2.60	
24 Carbon disulfide	76		2.834				ND	
28 Methylene Chloride	84		3.047				ND	
29 2-Methyl-2-propanol	59		3.130				ND	
31 Methyl tert-butyl ether	73		3.249				ND	
30 trans-1,2-Dichloroethene	96		3.260				ND	
34 1,1-Dichloroethane	63		3.604				ND	
36 Vinyl acetate	43		3.640				ND	
35 Isopropyl ether	87		3.640				ND	
38 Tert-butyl ethyl ether	59		3.925				ND	
40 2,2-Dichloropropane	77		4.079				ND	
39 cis-1,2-Dichloroethene	96	4.079	4.079	0.000	75	7484	0.1674	
41 2-Butanone (MEK)	43	4.103	4.091	0.013	63	5493	0.4143	
45 Chlorobromomethane	128		4.280				ND	
47 Chloroform	83		4.340				ND	
48 1,1,1-Trichloroethane	97		4.494				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
50 Carbon tetrachloride	117		4.624				ND	
51 1,1-Dichloropropene	75		4.624				ND	
53 Benzene	78		4.802				ND	
54 1,2-Dichloroethane	62		4.826				ND	
55 Tert-amyl methyl ether	73		4.861				ND	
58 Trichloroethene	130	5.324	5.336	-0.012	94	29515	0.6988	
61 1,2-Dichloropropane	63		5.537				ND	
63 Dibromomethane	93		5.644				ND	
65 Dichlorobromomethane	83		5.763				ND	
67 2-Chloroethyl vinyl ether	63		6.012				ND	
68 cis-1,3-Dichloropropene	75		6.142				ND	
69 4-Methyl-2-pentanone (MIBK)	43		6.272				ND	
70 Toluene	91	6.439	6.438	0.001	96	40386	0.1992	
71 trans-1,3-Dichloropropene	75		6.640				ND	
74 Tetrachloroethene	164		6.925				ND	
75 1,3-Dichloropropane	76		6.960				ND	
76 2-Hexanone	43		7.020				ND	
79 Chlorodibromomethane	129		7.162				ND	
80 Ethylene Dibromide	107		7.280				ND	
82 Chlorobenzene	112		7.719				ND	
83 1,1,1,2-Tetrachloroethane	131		7.790				ND	
84 Ethylbenzene	106		7.802				ND	
85 m-Xylene & p-Xylene	91	7.909	7.909	0.000	92	31221	0.1826	
86 o-Xylene	106	8.289	8.288	0.001	96	8563	0.1054	
87 Styrene	104		8.312				ND	
88 Bromoform	173		8.502				ND	
89 Isopropylbenzene	105		8.632				ND	
93 1,1,2,2-Tetrachloroethane	83		8.941				ND	
92 Bromobenzene	156		8.952				ND	
94 1,2,3-Trichloropropane	110		8.988				ND	
96 N-Propylbenzene	120		9.036				ND	
97 2-Chlorotoluene	126		9.130				ND	
99 4-Chlorotoluene	91		9.225				ND	
101 tert-Butylbenzene	119		9.522				ND	
103 1,2,4-Trimethylbenzene	105		9.569				ND	
105 sec-Butylbenzene	105		9.735				ND	
106 1,3-Dichlorobenzene	146		9.854				ND	
107 4-Isopropyltoluene	119		9.877				ND	
108 1,4-Dichlorobenzene	146		9.937				ND	
109 1,2,3-Trimethylbenzene	105		9.984				ND	
111 n-Butylbenzene	91		10.281				ND	
112 1,2-Dichlorobenzene	146		10.316				ND	
113 1,2-Dibromo-3-Chloropropan	157		11.099				ND	
115 1,2,4-Trichlorobenzene	180		11.905				ND	
116 Hexachlorobutadiene	225		12.059				ND	
117 Naphthalene	128		12.154				ND	
118 1,2,3-Trichlorobenzene	180		12.391				ND	
S 129 Xylenes, Total	106				0		0.2880	

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

Lab Name: TestAmerica Canton Job No.: 240-73352-1 Analy Batch No.: 235700  
 SDG No.: \_\_\_\_\_  
 Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N  
 Calibration Start Date: 06/23/2016 12:01 Calibration End Date: 06/23/2016 13:53 Calibration ID: 34930

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R <sup>2</sup> OR COD	#	MIN R <sup>2</sup> OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Isobutyl alcohol	0.0044 0.0049	0.0050	0.0049	0.0045	0.0052	Ave		0.0048			6.2		15.0				
Benzene	1.2947 1.3224	1.3476	1.2332	1.2686	1.3184	Ave		1.2975			3.2		15.0				
1,2-Dichloroethane	0.3772 0.3692	0.3872	0.3588	0.3580	0.3701	Ave		0.3701			3.0		15.0				
n-Heptane	0.0707 0.0754	0.0678	0.0671	0.0694	0.0748	Ave		0.0709			5.0		15.0				
Trichloroethene	0.3257 0.3255	0.3303	0.3132	0.3205	0.3298	Ave		0.3242			2.0		15.0				
Methylcyclohexane	0.4725 0.5041	0.4829	0.4609	0.4756	0.5114	Ave		0.4846			4.0		15.0				
1,2-Dichloropropane	0.2716 0.3011	0.2967	0.2760	0.2859	0.2981	Ave		0.2882			4.3		15.0				
Dibromomethane	0.1477 0.1578	0.1546	0.1476	0.1507	0.1554	Ave		0.1523			2.8		15.0				
1,4-Dioxane	0.0018 0.0020	0.0021	0.0022	0.0020	0.0024	Ave		0.0021			10.4		15.0				
Bromodichloromethane	0.2755 0.3482	0.2939	0.2900	0.3099	0.3353	Ave		0.3088			9.1		15.0				
2-Chloroethyl vinyl ether	0.1285 0.1675	0.1385	0.1373	0.1440	0.1608	Ave		0.1461			10.3		15.0				
cis-1,3-Dichloropropene	0.2821 0.4251	0.3138	0.3239	0.3522	0.4012	Lin1	-0.207	0.4144						0.9960		0.9900	
4-Methyl-2-pentanone (MIBK)	0.1559 0.1939	0.1659	0.1670	0.1782	0.1883	Ave		0.1749			8.3		15.0				
Toluene	1.8454 1.8440	1.8252	1.6979	1.7996	1.8461	Ave		1.8097			3.2		15.0				
trans-1,3-Dichloropropene	0.2726 0.4490	0.3002	0.3104	0.3649	0.4144	Lin1	-0.265	0.4348						0.9930		0.9900	
Ethyl methacrylate	0.3014 0.4225	0.3234	0.3291	0.3763	0.4067	Ave		0.3599			13.7		15.0				
1,1,2-Trichloroethane	0.3188 0.3147	0.3102	0.2977	0.3101	0.3157	Ave		0.3112			2.4		15.0				
Tetrachloroethene	0.3611 0.3541	0.3544	0.3269	0.3481	0.3554	Ave		0.3500			3.4		15.0				
1,3-Dichloropropane	0.5883 0.5924	0.5978	0.5552	0.5681	0.5922	Ave		0.5823			2.9		15.0				
2-Hexanone	0.1386 0.1847	0.1470	0.1601	0.1648	0.1828	Ave		0.1630			11.4		15.0				

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.



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## APPENDIX C—CHEMICAL-RESULTS DATA TABLES

Table C-1

**Primary VOC and 1,4-Dioxane Results for Surface Water Samples, 2012-2016**  
**Cow Pen Creek and Dark Head Cove**  
**Lockheed Martin Middle River Complex, Middle River, Maryland**  
**Page 1 of 3**

Location/Date	Trichloroethene (µg/L)	cis-1,2-Dichloroethene (µg/L)	Vinyl chloride (µg/L)	1,4-Dioxane (µg/L)
<b>Cow Pen Creek</b>				
<b>SW1A</b>				
2016 (Sept.)	0.27 J	--	--	NA
2016 (June)	--	--	--	0.13 J
2015 (June)	--	--	--	0.13
2014 (June)	--	--	--	0.235 J
2013 (June)	0.33 J	--	--	--
2012 (June)	--	--	--	NA
<b>SW2A</b>				
2016 (Sept.)	--	--	--	NA
2016 (June)	--	--	--	0.16 J
2016 (June)-Dupl.	--	--	--	0.12 J
2015 (June)	--	--	--	0.13
2014 (June)	--	--	--	0.156 J
2013 (June)	--	--	--	--
2012 (June)	--	--	--	NA
<b>Dark Head Cove</b>				
<b>SW5A1</b>				
2016 (Sept.)	--	--	--	NA
2016 (June)	--	--	--	NA
2015 (June)	--	--	--	NA
2014 (June)	--	--	--	NA
2013 (June)	1.1	0.17 J	--	NA
2012 (June)	0.17 J	--	--	NA
<b>SW5A2</b>				
2016 (Sept.)	--	--	--	NA
2016 (June)	--	--	--	NA
2015 (June)	0.42J	--	--	NA
2014 (June)	0.3 J	--	--	NA
2013 (June)	1.9	0.26 J	--	NA
2012 (June)	0.19 J	--	--	NA
<b>SW5B</b>				
2016 (Sept.)	0.22 J	--	--	NA
2016 (Sept.)-Dupl.	--	--	--	NA
2016 (June)	--	--	--	NA
2015 (June)	--	--	--	NA
2014 (June)	--	--	--	NA
2013 (June)	1.5	0.35 J	--	NA
2012 (June)	0.19 J	--	--	NA
<b>SW6A</b>				
2016 (Sept.)	0.59 J	--	--	NA
2016 (June)	0.26 J	--	--	NA
2016 (June)-Dupl.	0.25 J	--	--	NA
2015 (June)	--	--	--	NA
2014 (June)	0.52 J	--	--	NA
2013 (June)	0.46 J	--	--	NA
2012 (June)	0.55 J	--	--	NA
<b>SW6B</b>				
2016 (Sept.)	0.62 J	--	--	NA
2016 (June)	0.49J	--	--	NA
2015 (June)	--	--	--	NA
2014 (June)	0.39 J	--	--	NA
2013 (June)	0.81 J	--	--	NA
2012 (June)	0.63 J	--	--	NA

Table C-1

**Primary VOC and 1,4-Dioxane Results for Surface Water Samples, 2012-2016**  
**Cow Pen Creek and Dark Head Cove**  
**Lockheed Martin Middle River Complex, Middle River, Maryland**  
**Page 2 of 3**

Location/Date	Trichloroethene (µg/L)	cis-1,2-Dichloroethene (µg/L)	Vinyl chloride (µg/L)	1,4-Dioxane (µg/L)
<b>Dark Head Cove</b>				
<b>SW7A</b>				
2016 (Sept.)	0.56 J	--	--	NA
2016 (June)	--	--	--	NA
2015 (June)	--	--	--	NA
2014 (June)	0.44 J	--	--	NA
2013 (June)	0.70 J	--	--	NA
2012 (June)	--	--	--	NA
<b>SW7B</b>				
2016 (Sept.)	0.58 J	--	--	NA
2016 (June)	--	--	--	NA
2015 (June)	--	--	--	NA
2014 (June)	0.49 J	--	--	NA
2013 (June)	0.51 J	--	--	NA
2012 (June)	0.32 J	--	--	NA
<b>SW8A</b>				
2016 (Sept.)	0.61 J	--	--	NA
2016 (June)	0.48 J	--	--	NA
2015 (June)	--	--	--	NA
2014 (June)	0.54 J	--	--	NA
2013 (June)	0.65 J	--	--	NA
2012 (June)	0.66 J	--	--	NA
<b>SW8B</b>				
2016 (Sept.)	0.62 J	--	--	NA
2016 (June)	0.42 J	--	--	NA
2015 (June)	--	--	--	NA
2014 (June)	0.47 J	--	--	NA
2013 (June)	0.65 J	--	--	NA
2012 (June)	0.82 J	--	--	NA
<b>SW9A</b>				
2016 (Sept.)	0.52 J	--	--	NA
2016 (June)	--	--	--	NA
2015 (June)	--	--	--	NA
2014 (June)	0.45 J	--	--	NA
2013 (June)	0.62 J	--	--	NA
2012 (June)	0.33 J	--	--	NA
<b>SW9B</b>				
2016 (Sept.)	0.62 J	--	--	NA
2016 (June)	--	--	--	NA
2015 (June)	--	--	--	NA
2014 (June)	0.47 J	--	--	NA
2013 (June)	0.35 J	--	--	NA
2012 (June)	0.34 J	--	--	NA
<b>SW10A-S</b>				
2016 (Dec.)	4.4	--	--	NA
<b>SW10A-D</b>				
2016 (Dec.)	0.70 J	--	--	NA
<b>SW10B-S</b>				
2016 (Dec.)	1.2	--	--	NA
<b>SW10B-D</b>				
2016 (Dec.)	0.44 J	--	--	NA
<b>SW11A-S</b>				
2016 (Dec.)	4.1	--	--	NA
<b>SW11A-D</b>				
2016 (Dec.)	2.7	0.49 J	--	NA

Table C-1

Primary VOC and 1,4-Dioxane Results for Surface Water Samples, 2012-2016  
 Cow Pen Creek and Dark Head Cove  
 Lockheed Martin Middle River Complex, Middle River, Maryland  
 Page 3 of 3

Location/Date	Trichloroethene (µg/L)	cis-1,2-Dichloroethene (µg/L)	Vinyl chloride (µg/L)	1,4-Dioxane (µg/L)
<b>Dark Head Cove</b>				
2016 (Dec.)	1.2	--	--	NA
<b>SW11B-D</b>				
2016 (Dec.)	3.7	2.8	--	NA
<b>SW12A-S</b>				
2016 (Dec.)	4.1	--	--	NA
<b>SW12A-D</b>				
2016 (Dec.)	2.4	0.45 J	--	NA
<b>SW12B-S</b>				
2016 (Dec.)	1.4	--	--	NA
<b>SW12B-D</b>				
2016 (Dec.)	7.8	5.5	--	NA

-- not detected

NA - not analyzed

J - estimated concentration

VOC - volatile organic compound

µg/L - micrograms per liter

Table C-2

**Chemical Results for Surface Water Samples - June 2016**  
**Cow Pen Creek and Dark Head Cove**  
**Lockheed Martin Middle River Complex, Middle River, Maryland**  
**Page 1 of 8**

LOCATION	MRC-SW1A	MRC-SW2A	MRC-SW2A	MRC-SW2A
SAMPLE ID	MRC-SW1A-061316	MRC-SW2A-061316	MRC-SW2A-061316-AVG	MRC-SW2A-061316-D
SAMPLE DATE	20160613	20160613	20160613	20160613
<b>VOLATILES (UG/L)</b>				
1,1,1-TRICHLOROETHANE	0.44 U	0.44 U	0.44 U	NA
1,1,2,2-TETRACHLOROETHANE	0.22 U	0.22 U	0.22 U	NA
1,1,2-TRICHLOROETHANE	0.24 U	0.24 U	0.24 U	NA
1,1,2-TRICHLOROTRIFLUOROETHANE	0.45 U	0.45 U	0.45 U	NA
1,1-DICHLOROETHANE	0.3 U	0.3 U	0.3 U	NA
1,1-DICHLOROETHENE	0.45 U	0.45 U	0.45 U	NA
1,2,4-TRICHLOROBENZENE	0.32 U	0.32 U	0.32 U	NA
1,2-DIBROMO-3-CHLOROPROPANE	0.82 UJ	0.82 UJ	0.82 UJ	NA
1,2-DIBROMOETHANE	0.32 U	0.32 U	0.32 U	NA
1,2-DICHLOROBENZENE	0.25 U	0.25 U	0.25 U	NA
1,2-DICHLOROETHANE	0.23 U	0.23 U	0.23 U	NA
1,2-DICHLOROPROPANE	0.25 U	0.25 U	0.25 U	NA
1,3-DICHLOROBENZENE	0.19 U	0.19 U	0.19 U	NA
1,4-DICHLOROBENZENE	0.27 U	0.27 U	0.27 U	NA
2-BUTANONE	0.53 U	0.53 U	0.53 U	NA
2-HEXANONE	0.48 U	0.48 U	0.48 U	NA
4-METHYL-2-PENTANONE	0.99 U	0.99 U	0.99 U	NA
ACETONE	0.94 U	0.94 U	0.94 U	NA
BENZENE	0.35 U	0.35 U	0.35 U	NA
BROMODICHLOROMETHANE	0.29 U	0.29 U	0.29 U	NA
BROMOFORM	0.56 U	0.56 U	0.56 U	NA
BROMOMETHANE	0.44 U	0.44 U	0.44 U	NA
CARBON DISULFIDE	0.38 U	0.38 U	0.38 U	NA
CARBON TETRACHLORIDE	0.43 U	0.43 U	0.43 U	NA
CHLOROBENZENE	0.25 U	0.25 U	0.25 U	NA
CHLORODIBROMOMETHANE	0.43 U	0.43 U	0.43 U	NA
CHLOROETHANE	0.32 U	0.32 U	0.32 U	NA
CHLOROFORM	0.25 U	0.25 U	0.25 U	NA
CHLOROMETHANE	0.44 UJ	0.44 UJ	0.44 UJ	NA
CIS-1,2-DICHLOROETHENE	0.26 U	0.26 U	0.26 U	NA
CIS-1,3-DICHLOROPROPENE	0.46 U	0.46 U	0.46 U	NA
CYCLOHEXANE	0.45 U	0.45 U	0.45 U	NA
DICHLORODIFLUOROMETHANE	0.32 UJ	0.32 UJ	0.32 UJ	NA
ETHYLBENZENE	0.25 U	0.25 U	0.25 U	NA
ISOPROPYLBENZENE	0.35 U	0.35 U	0.35 U	NA
METHYL ACETATE	2.3 U	2.3 U	2.3 U	NA
METHYL CYCLOHEXANE	0.43 U	0.43 U	0.43 U	NA

Table C-2

**Chemical Results for Surface Water Samples - June 2016**  
**Cow Pen Creek and Dark Head Cove**  
**Lockheed Martin Middle River Complex, Middle River, Maryland**  
**Page 2 of 8**

LOCATION SAMPLE ID SAMPLE DATE	MRC-SW1A	MRC-SW2A-061316 20160613	MRC-SW2A	MRC-SW2A-061316-D 20160613
	MRC-SW1A-061316 20160613		MRC-SW2A-061316-AVG 20160613	
METHYL TERT-BUTYL ETHER	0.2 U	0.2 U	0.2 U	NA
METHYLENE CHLORIDE	0.33 U	0.33 U	0.33 U	NA
STYRENE	0.45 U	0.45 U	0.45 U	NA
TETRACHLOROETHENE	0.31 U	0.31 U	0.31 U	NA
TOLUENE	0.23 U	0.23 U	0.23 U	NA
TOTAL XYLENES	0.52 U	0.52 U	0.52 U	NA
TRANS-1,2-DICHLOROETHENE	0.3 U	0.3 U	0.3 U	NA
TRANS-1,3-DICHLOROPROPENE	0.56 U	0.56 U	0.56 U	NA
TRICHLOROETHENE	0.22 U	0.22 U	0.22 U	NA
TRICHLOROFLUOROMETHANE	0.49 UJ	0.49 UJ	0.49 UJ	NA
VINYL CHLORIDE	0.29 U	0.29 U	0.29 U	NA
<b>SEMIVOLATILES (UG/L)</b>				
1,4-DIOXANE	0.13 J	0.16 J	0.14	0.12 J
<b>PCBS (UG/L)</b>				
DECACHLOROBIPHENYL	NA	NA	NA	NA
DICHLOROBIPHENYLS	NA	NA	NA	NA
HEPTACHLOROBIPHENYLS	NA	NA	NA	NA
HEXACHLOROBIPHENYLS	NA	NA	NA	NA
MONOCHLOROBIPHENYLS	NA	NA	NA	NA
NONACHLOROBIPHENYLS	NA	NA	NA	NA
OCTACHLOROBIPHENYLS	NA	NA	NA	NA
PENTACHLOROBIPHENYLS	NA	NA	NA	NA
TETRACHLOROBIPHENYLS	NA	NA	NA	NA
TRICHLOROBIPHENYLS	NA	NA	NA	NA

Table C-2

**Chemical Results for Surface Water Samples - June 2016**  
**Cow Pen Creek and Dark Head Cove**  
**Lockheed Martin Middle River Complex, Middle River, Maryland**  
**Page 3 of 8**

LOCATION	MRC-SW5A1	MRC-SW5A2	MRC-SW5B	
SAMPLE ID	MRC-SW5A1-061316	MRC-SW5A2-061316	MRC-SW5B-061316	MRC-SW6A-061316
SAMPLE DATE	20160613	20160613	20160613	20160613
<b>VOLATILES (UG/L)</b>				
1,1,1-TRICHLOROETHANE	0.44 U	0.44 U	0.44 U	0.44 U
1,1,2,2-TETRACHLOROETHANE	0.22 U	0.22 U	0.22 U	0.22 U
1,1,2-TRICHLOROETHANE	0.24 U	0.24 U	0.24 U	0.24 U
1,1,2-TRICHLOROTRIFLUOROETHANE	0.45 U	0.45 U	0.45 U	0.45 U
1,1-DICHLOROETHANE	0.3 U	0.3 U	0.3 U	0.3 U
1,1-DICHLOROETHENE	0.45 U	0.45 U	0.45 U	0.45 U
1,2,4-TRICHLOROBENZENE	0.32 U	0.32 U	0.32 U	0.32 U
1,2-DIBROMO-3-CHLOROPROPANE	0.82 UJ	0.82 UJ	0.82 UJ	0.82 UJ
1,2-DIBROMOETHANE	0.32 U	0.32 U	0.32 U	0.32 U
1,2-DICHLOROBENZENE	0.25 U	0.25 U	0.25 U	0.25 U
1,2-DICHLOROETHANE	0.23 U	0.23 U	0.23 U	0.23 U
1,2-DICHLOROPROPANE	0.25 U	0.25 U	0.25 U	0.25 U
1,3-DICHLOROBENZENE	0.19 U	0.19 U	0.19 U	0.19 U
1,4-DICHLOROBENZENE	0.27 U	0.27 U	0.27 U	0.27 U
2-BUTANONE	0.53 U	0.53 U	0.53 U	0.53 U
2-HEXANONE	0.48 U	0.48 U	0.48 U	0.48 U
4-METHYL-2-PENTANONE	0.99 U	0.99 U	0.99 U	0.99 U
ACETONE	0.94 U	0.94 U	0.94 U	0.94 U
BENZENE	0.35 U	0.35 U	0.35 U	0.35 U
BROMODICHLOROMETHANE	0.29 U	0.29 U	0.29 U	0.29 U
BROMOFORM	0.56 U	0.56 U	0.56 U	0.56 U
BROMOMETHANE	0.44 UJ	0.44 UJ	0.44 UJ	0.44 UJ
CARBON DISULFIDE	0.38 U	0.38 U	0.38 U	0.38 U
CARBON TETRACHLORIDE	0.43 U	0.43 U	0.43 U	0.43 U
CHLOROBENZENE	0.25 U	0.25 U	0.25 U	0.25 U
CHLORODIBROMOMETHANE	0.43 U	0.43 U	0.43 U	0.43 U
CHLOROETHANE	0.32 U	0.32 U	0.32 U	0.32 U
CHLOROFORM	0.25 U	0.25 U	0.25 U	0.25 U
CHLOROMETHANE	0.44 UJ	0.44 UJ	0.44 UJ	0.44 UJ
CIS-1,2-DICHLOROETHENE	0.26 U	0.26 U	0.26 U	0.26 U
CIS-1,3-DICHLOROPROPENE	0.46 U	0.46 U	0.46 U	0.46 U
CYCLOHEXANE	0.45 U	0.45 U	0.45 U	0.45 U
DICHLORODIFLUOROMETHANE	0.32 UJ	0.32 UJ	0.32 UJ	0.32 UJ
ETHYLBENZENE	0.25 U	0.25 U	0.25 U	0.25 U
ISOPROPYLBENZENE	0.35 U	0.35 U	0.35 U	0.35 U
METHYL ACETATE	2.3 U	2.3 U	2.3 U	2.3 U
METHYL CYCLOHEXANE	0.43 U	0.43 U	0.43 U	0.43 U

Table C-2

**Chemical Results for Surface Water Samples - June 2016**  
**Cow Pen Creek and Dark Head Cove**  
**Lockheed Martin Middle River Complex, Middle River, Maryland**  
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<b>LOCATION</b>	<b>MRC-SW5A1</b>	<b>MRC-SW5A2</b>	<b>MRC-SW5B</b>	<b>MRC-SW6A-061316</b>
<b>SAMPLE ID</b>	<b>MRC-SW5A1-061316</b>	<b>MRC-SW5A2-061316</b>	<b>MRC-SW5B-061316</b>	<b>MRC-SW6A-061316</b>
<b>SAMPLE DATE</b>	<b>20160613</b>	<b>20160613</b>	<b>20160613</b>	<b>20160613</b>
METHYL TERT-BUTYL ETHER	0.2 U	0.2 U	0.2 U	0.2 U
METHYLENE CHLORIDE	0.33 U	0.33 U	0.33 U	0.33 U
STYRENE	0.45 U	0.45 U	0.45 U	0.45 U
TETRACHLOROETHENE	0.31 U	0.31 U	0.31 U	0.31 U
TOLUENE	0.23 U	0.23 U	0.23 U	0.23 U
TOTAL XYLENES	0.52 U	0.52 U	0.52 U	0.52 U
TRANS-1,2-DICHLOROETHENE	0.3 U	0.3 U	0.3 U	0.3 U
TRANS-1,3-DICHLOROPROPENE	0.56 U	0.56 U	0.56 U	0.56 U
TRICHLOROETHENE	0.22 U	0.22 U	0.22 U	0.26 J
TRICHLOROFLUOROMETHANE	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ
VINYL CHLORIDE	0.29 U	0.29 U	0.29 U	0.29 U
<b>SEMIVOLATILES (UG/L)</b>				
1,4-DIOXANE	NA	NA	NA	NA
<b>PCBS (UG/L)</b>				
DECACHLOROBIPHENYL	0.069 U	0.069 U	0.067 U	0.067 U
DICHLOROBIPHENYLS	0.0054 U	0.0053 U	0.0052 U	0.0052 U
HEPTACHLOROBIPHENYLS	0.03 U	0.029 U	0.029 U	0.029 U
HEXACHLOROBIPHENYLS	0.015 U	0.015 U	0.014 U	0.014 U
MONOCHLOROBIPHENYLS	0.0056 U	0.0055 U	0.0054 U	0.0054 U
NONACHLOROBIPHENYLS	0.049 U	0.048 U	0.047 U	0.047 U
OCTACHLOROBIPHENYLS	0.038 U	0.037 U	0.037 U	0.037 U
PENTACHLOROBIPHENYLS	0.014 U	0.014 U	0.013 U	0.013 U
TETRACHLOROBIPHENYLS	0.013 U	0.013 U	0.013 U	0.013 U
TRICHLOROBIPHENYLS	0.0064 U	0.0064 U	0.0063 U	0.0063 U



Table C-2

**Chemical Results for Surface Water Samples - June 2016**  
**Cow Pen Creek and Dark Head Cove**  
**Lockheed Martin Middle River Complex, Middle River, Maryland**  
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LOCATION	MRC-SW6A		MRC-SW6B	MRC-SW7A
SAMPLE ID	MRC-SW6A-061316-AVG	MRC-SW6A-061316-D	MRC-SW6B-061316	MRC-SW7A-061316
SAMPLE DATE	20160613	20160613	20160613	20160613
<b>VOLATILES (UG/L)</b>				
1,1,1-TRICHLOROETHANE	0.44 U	0.44 U	0.44 U	0.44 U
1,1,2,2-TETRACHLOROETHANE	0.22 U	0.22 U	0.22 U	0.22 U
1,1,2-TRICHLOROETHANE	0.24 U	0.24 U	0.24 U	0.24 U
1,1,2-TRICHLOROTRIFLUOROETHANE	0.45 U	0.45 U	0.45 U	0.45 U
1,1-DICHLOROETHANE	0.3 U	0.3 U	0.3 U	0.3 U
1,1-DICHLOROETHENE	0.45 U	0.45 U	0.45 U	0.45 U
1,2,4-TRICHLOROBENZENE	0.32 U	0.32 U	0.32 U	0.32 U
1,2-DIBROMO-3-CHLOROPROPANE	0.82 U	0.82 UJ	0.82 UJ	0.82 UJ
1,2-DIBROMOETHANE	0.32 U	0.32 U	0.32 U	0.32 U
1,2-DICHLOROBENZENE	0.25 U	0.25 U	0.25 U	0.25 U
1,2-DICHLOROETHANE	0.23 U	0.23 U	0.23 U	0.23 U
1,2-DICHLOROPROPANE	0.25 U	0.25 U	0.25 U	0.25 U
1,3-DICHLOROBENZENE	0.19 U	0.19 U	0.19 U	0.19 U
1,4-DICHLOROBENZENE	0.27 U	0.27 U	0.27 U	0.27 U
2-BUTANONE	0.53 U	0.53 U	0.53 U	0.53 U
2-HEXANONE	0.48 U	0.48 U	0.48 U	0.48 U
4-METHYL-2-PENTANONE	0.99 U	0.99 U	0.99 U	0.99 U
ACETONE	0.94 U	0.94 U	0.94 U	0.94 U
BENZENE	0.35 U	0.35 U	0.35 U	0.35 U
BROMODICHLOROMETHANE	0.29 U	0.29 U	0.29 U	0.29 U
BROMOFORM	0.56 U	0.56 U	0.56 U	0.56 U
BROMOMETHANE	0.44 U	0.44 U	0.44 UJ	0.44 UJ
CARBON DISULFIDE	0.38 U	0.38 U	0.38 U	0.38 U
CARBON TETRACHLORIDE	0.43 U	0.43 U	0.43 U	0.43 U
CHLOROBENZENE	0.25 U	0.25 U	0.25 U	0.25 U
CHLORODIBROMOMETHANE	0.43 U	0.43 U	0.43 U	0.43 U
CHLOROETHANE	0.32 U	0.32 U	0.32 U	0.32 U
CHLOROFORM	0.25 U	0.25 U	0.25 U	0.25 U
CHLOROMETHANE	0.44 U	0.44 UJ	0.44 UJ	0.44 UJ
CIS-1,2-DICHLOROETHENE	0.26 U	0.26 U	0.26 U	0.26 U
CIS-1,3-DICHLOROPROPENE	0.46 U	0.46 U	0.46 U	0.46 U
CYCLOHEXANE	0.45 U	0.45 U	0.45 U	0.45 U
DICHLORODIFLUOROMETHANE	0.32 U	0.32 UJ	0.32 UJ	0.32 UJ
ETHYLBENZENE	0.25 U	0.25 U	0.25 U	0.25 U
ISOPROPYLBENZENE	0.35 U	0.35 U	0.35 U	0.35 U
METHYL ACETATE	2.3 U	2.3 U	2.3 U	2.3 U
METHYL CYCLOHEXANE	0.43 U	0.43 U	0.43 U	0.43 U

Table C-2

**Chemical Results for Surface Water Samples - June 2016**  
**Cow Pen Creek and Dark Head Cove**  
**Lockheed Martin Middle River Complex, Middle River, Maryland**  
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LOCATION SAMPLE ID SAMPLE DATE	MRC-SW6A		MRC-SW6B	MRC-SW7A
	MRC-SW6A-061316-AVG 20160613	MRC-SW6A-061316-D 20160613	MRC-SW6B-061316 20160613	MRC-SW7A-061316 20160613
METHYL TERT-BUTYL ETHER	0.2 U	0.2 U	0.2 U	0.2 U
METHYLENE CHLORIDE	0.33 U	0.33 U	0.33 U	0.33 U
STYRENE	0.45 U	0.45 U	0.45 U	0.45 U
TETRACHLOROETHENE	0.31 U	0.31 U	0.31 U	0.31 U
TOLUENE	0.23 U	0.23 U	0.23 U	0.23 U
TOTAL XYLENES	0.52 U	0.52 U	0.52 U	0.52 U
TRANS-1,2-DICHLOROETHENE	0.3 U	0.3 U	0.3 U	0.3 U
TRANS-1,3-DICHLOROPROPENE	0.56 U	0.56 U	0.56 U	0.56 U
TRICHLOROETHENE	0.255	0.25 J	0.49 J	0.22 U
TRICHLOROFLUOROMETHANE	0.49 U	0.49 UJ	0.49 UJ	0.49 UJ
VINYL CHLORIDE	0.29 U	0.29 U	0.29 U	0.29 U
<b>SEMIVOLATILES (UG/L)</b>				
1,4-DIOXANE	NA	NA	NA	NA
<b>PCBS (UG/L)</b>				
DECACHLOROBIPHENYL	0.0675 U	0.068 U	0.067 U	0.07 U
DICHLOROBIPHENYLS	0.0052 U	0.0052 U	0.0052 U	0.0054 U
HEPTACHLOROBIPHENYLS	0.029 U	0.029 U	0.029 U	0.03 U
HEXACHLOROBIPHENYLS	0.014 U	0.014 U	0.014 U	0.015 U
MONOCHLOROBIPHENYLS	0.0054 U	0.0054 U	0.0054 U	0.0056 U
NONACHLOROBIPHENYLS	0.047 U	0.047 U	0.047 U	0.049 U
OCTACHLOROBIPHENYLS	0.037 U	0.037 U	0.036 U	0.038 U
PENTACHLOROBIPHENYLS	0.0135 U	0.014 U	0.036 J	0.014 U
TETRACHLOROBIPHENYLS	0.013 U	0.013 U	0.012 U	0.013 U
TRICHLOROBIPHENYLS	0.0063 U	0.0063 U	0.0062 U	0.0065 U

Table C-2

**Chemical Results for Surface Water Samples - June 2016**  
**Cow Pen Creek and Dark Head Cove**  
**Lockheed Martin Middle River Complex, Middle River, Maryland**  
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LOCATION	MRC-SW7B	MRC-SW8A	MRC-SW8B	MRC-SW9A	MRC-SW9B
SAMPLE ID	MRC-SW7B-061316	MRC-SW8A-061316	MRC-SW8B-061316	MRC-SW9A-061316	MRC-SW9B-061316
SAMPLE DATE	20160613	20160613	20160613	20160613	20160613
<b>VOLATILES (UG/L)</b>					
1,1,1-TRICHLOROETHANE	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
1,1,2,2-TETRACHLOROETHANE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,1,2-TRICHLOROETHANE	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
1,1,2-TRICHLOROTRIFLUOROETHANE	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U
1,1-DICHLOROETHANE	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,1-DICHLOROETHENE	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U
1,2,4-TRICHLOROBENZENE	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
1,2-DIBROMO-3-CHLOROPROPANE	0.82 UJ	0.82 UJ	0.82 UJ	0.82 UJ	0.82 UJ
1,2-DIBROMOETHANE	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
1,2-DICHLOROBENZENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-DICHLOROETHANE	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,2-DICHLOROPROPANE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-DICHLOROBENZENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
1,4-DICHLOROBENZENE	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
2-BUTANONE	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U
2-HEXANONE	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
4-METHYL-2-PENTANONE	0.99 U	0.99 U	0.99 U	0.99 U	0.99 U
ACETONE	2.2 J	0.94 U	0.94 U	0.94 U	0.94 U
BENZENE	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
BROMODICHLOROMETHANE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
BROMOFORM	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U
BROMOMETHANE	0.44 UJ	0.44 UJ	0.44 UJ	0.44 UJ	0.44 UJ
CARBON DISULFIDE	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
CARBON TETRACHLORIDE	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
CHLOROBENZENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
CHLORODIBROMOMETHANE	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
CHLOROETHANE	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
CHLOROFORM	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
CHLOROMETHANE	1.1	0.44 UJ	0.44 UJ	0.44 UJ	0.44 UJ
CIS-1,2-DICHLOROETHENE	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
CIS-1,3-DICHLOROPROPENE	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
CYCLOHEXANE	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U
DICHLORODIFLUOROMETHANE	0.32 UJ	0.32 UJ	0.32 UJ	0.32 UJ	0.32 UJ
ETHYLBENZENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
ISOPROPYLBENZENE	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
METHYL ACETATE	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U
METHYL CYCLOHEXANE	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U

Table C-2

**Chemical Results for Surface Water Samples - June 2016**  
**Cow Pen Creek and Dark Head Cove**  
**Lockheed Martin Middle River Complex, Middle River, Maryland**  
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LOCATION	MRC-SW7B	MRC-SW8A	MRC-SW8B	MRC-SW9A	MRC-SW9B
SAMPLE ID	MRC-SW7B-061316	MRC-SW8A-061316	MRC-SW8B-061316	MRC-SW9A-061316	MRC-SW9B-061316
SAMPLE DATE	20160613	20160613	20160613	20160613	20160613
METHYL TERT-BUTYL ETHER	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
METHYLENE CHLORIDE	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
STYRENE	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U
TETRACHLOROETHENE	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
TOLUENE	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
TOTAL XYLENES	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
TRANS-1,2-DICHLOROETHENE	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
TRANS-1,3-DICHLOROPROPENE	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U
TRICHLOROETHENE	0.22 U	0.48 J	0.42 J	0.22 U	0.22 U
TRICHLOROFUOROMETHANE	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.49 UJ
VINYL CHLORIDE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
<b>SEMIVOLATILES (UG/L)</b>					
1,4-DIOXANE	NA	NA	NA	NA	NA
<b>PCBS (UG/L)</b>					
DECACHLOROBIPHENYL	0.069 U	0.067 U	0.069 U	0.067 U	0.067 U
DICHLOROBIPHENYLS	0.0053 U	0.0052 U	0.0054 U	0.0052 U	0.0052 U
HEPTACHLOROBIPHENYLS	0.03 U	0.029 U	0.03 U	0.029 U	0.029 U
HEXACHLOROBIPHENYLS	0.015 U	0.014 U	0.015 U	0.014 U	0.014 U
MONOCHLOROBIPHENYLS	0.0055 U	0.0054 U	0.0056 U	0.0054 U	0.0054 U
NONACHLOROBIPHENYLS	0.048 U	0.047 U	0.049 U	0.047 U	0.047 U
OCTACHLOROBIPHENYLS	0.038 U	0.037 U	0.038 U	0.037 U	0.037 U
PENTACHLOROBIPHENYLS	0.014 U	0.013 U	0.014 U	0.013 U	0.013 U
TETRACHLOROBIPHENYLS	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
TRICHLOROBIPHENYLS	0.0064 U	0.0063 U	0.0064 U	0.0063 U	0.0063 U

"-D" - duplicate sample

J - chemical detected, concentration is estimated above the method detection limit but below the practical quantitation limit.

MRC - Middle River Complex

NA - not analyzed

SW - surface water

U - not detected at the concentration left of the letter

UG/L - micrograms per liter

UJ - analyte not detected. Quantitation limit or detection limit may be inaccurate or imprecise.





Table C-3

**Chemical Results for Surface Water Samples - September 2016**  
**Cow Pen Creek and Dark Head Cove**  
**Lockheed Martin Middle River Complex, Middle River, Maryland**  
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LOCATION	MRC-SW5B-092716-D	MRC-SW6A	MRC-SW6B	MRC-SW7A	MRC-SW7B	MRC-SW8A
SAMPLE ID	20160927	MRC-SW6A-092716	MRC-SW6B-092716	MRC-SW7A-092716	MRC-SW7B-092716	MRC-SW8A-092716
SAMPLE DATE	20160927	20160927	20160927	20160927	20160927	20160927
<b>VOLATILES (UG/L)</b>						
1,1,1,2-TETRACHLOROETHANE	0.28 UJ	0.28 UJ	0.28 UJ	0.28 UJ	0.28 UJ	0.28 UJ
1,1,1-TRICHLOROETHANE	0.44 UJ	0.44 UJ	0.44 UJ	0.44 UJ	0.44 UJ	0.44 UJ
1,1,2,2-TETRACHLOROETHANE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,1,2-TRICHLOROTRIFLUOROETHANE	0.45 UJ	0.45 UJ	0.45 UJ	0.45 UJ	0.45 UJ	0.45 UJ
1,1-DICHLOROETHANE	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,1-DICHLOROETHENE	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U
1,1-DICHLOROPROPENE	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
1,2,3-TRICHLOROBENZENE	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
1,2,3-TRICHLOROPROPANE	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
1,2,3-TRIMETHYLBENZENE	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U
1,2,4-TRICHLOROBENZENE	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
1,2,4-TRIMETHYLBENZENE	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
1,2-DIBROMO-3-CHLOROPROPANE	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U
1,2-DIBROMOETHANE	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
1,2-DICHLOROBENZENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-DICHLOROETHANE	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,2-DICHLOROPROPANE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-DICHLOROBENZENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
1,3-DICHLOROPROPANE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
1,4-DICHLOROBENZENE	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
2,2-DICHLOROPROPANE	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ
2-BUTANONE	0.53 UJ	0.53 UJ	0.53 UJ	0.53 UJ	0.53 UJ	0.53 UJ
2-CHLOROETHYL VINYL ETHER	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U
2-CHLOROTOLUENE	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
2-HEXANONE	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
4-CHLOROTOLUENE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
4-ISOPROPYLTOLUENE	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
4-METHYL-2-PENTANONE	0.99 U	0.99 U	0.99 U	0.99 U	0.99 U	0.99 U
ACETONE	0.94 UJ	0.94 UJ	0.94 UJ	0.94 UJ	0.94 UJ	0.94 UJ
BENZENE	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
BROMOBENZENE	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
BROMOCHLOROMETHANE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
BROMODICHLOROMETHANE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
BROMOFORM	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U
BROMOMETHANE	0.44 UJ	0.44 UJ	0.44 UJ	0.44 UJ	0.44 UJ	0.44 UJ
CARBON DISULFIDE	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
CARBON TETRACHLORIDE	0.43 UJ	0.43 UJ	0.43 UJ	0.43 UJ	0.43 UJ	0.43 UJ
CHLOROBENZENE	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
CHLORODIBROMOMETHANE	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
CHLOROETHANE	0.32 UJ	0.32 UJ	0.32 UJ	0.32 UJ	0.32 UJ	0.32 UJ
CHLOROFORM	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
CHLOROMETHANE	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
CIS-1,2-DICHLOROETHENE	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
CIS-1,3-DICHLOROPROPENE	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
DIBROMOMETHANE	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
DICHLORODIFLUOROMETHANE	0.32 UJ	0.32 UJ	0.32 UJ	0.32 UJ	0.32 UJ	0.32 UJ
DIISOPROPYL ETHER	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U





Table C-3

**Chemical Results for Surface Water Samples - September 2016**  
**Cow Pen Creek and Dark Head Cove**  
**Lockheed Martin Middle River Complex, Middle River, Maryland**  
**Page 5 of 6**

LOCATION	MRC-SW8B	MRC-SW9A	MRC-SW9B
SAMPLE ID	MRC-SW8B-092716	MRC-SW9A-092716	MRC-SW9B-092716
SAMPLE DATE	20160927	20160927	20160927
<b>VOLATILES (UG/L)</b>			
1,1,1,2-TETRACHLOROETHANE	0.28 UJ	0.28 UJ	0.28 UJ
1,1,1-TRICHLOROETHANE	0.44 UJ	0.44 UJ	0.44 UJ
1,1,2,2-TETRACHLOROETHANE	0.22 U	0.22 U	0.22 U
1,1,2-TRICHLOROTRIFLUOROETHANE	0.45 UJ	0.45 UJ	0.45 UJ
1,1-DICHLOROETHANE	0.3 U	0.3 U	0.3 U
1,1-DICHLOROETHENE	0.45 U	0.45 U	0.45 U
1,1-DICHLOROPROPENE	0.42 U	0.42 U	0.42 U
1,2,3-TRICHLOROBENZENE	0.37 U	0.37 U	0.37 U
1,2,3-TRICHLOROPROPANE	0.44 U	0.44 U	0.44 U
1,2,3-TRIMETHYLBENZENE	0.47 U	0.47 U	0.47 U
1,2,4-TRICHLOROBENZENE	0.32 U	0.32 U	0.32 U
1,2,4-TRIMETHYLBENZENE	0.41 U	0.41 U	0.41 U
1,2-DIBROMO-3-CHLOROPROPANE	0.82 U	0.82 U	0.82 U
1,2-DIBROMOETHANE	0.32 U	0.32 U	0.32 U
1,2-DICHLOROBENZENE	0.25 U	0.25 U	0.25 U
1,2-DICHLOROETHANE	0.23 U	0.23 U	0.23 U
1,2-DICHLOROPROPANE	0.25 U	0.25 U	0.25 U
1,3-DICHLOROBENZENE	0.19 U	0.19 U	0.19 U
1,3-DICHLOROPROPANE	0.19 U	0.19 U	0.19 U
1,4-DICHLOROBENZENE	0.27 U	0.27 U	0.27 U
2,2-DICHLOROPROPANE	0.26 UJ	0.26 UJ	0.26 UJ
2-BUTANONE	0.53 UJ	0.53 UJ	0.53 UJ
2-CHLOROETHYL VINYL ETHER	0.59 U	0.59 U	0.59 U
2-CHLOROTOLUENE	0.4 U	0.4 U	0.4 U
2-HEXANONE	0.48 U	0.48 U	0.48 U
4-CHLOROTOLUENE	0.29 U	0.29 U	0.29 U
4-ISOPROPYLTOLUENE	0.43 U	0.43 U	0.43 U
4-METHYL-2-PENTANONE	0.99 U	0.99 U	0.99 U
ACETONE	0.94 UJ	0.94 UJ	0.94 UJ
BENZENE	0.35 U	0.35 U	0.35 U
BROMOBENZENE	0.35 U	0.35 U	0.35 U
BROMOCHLOROMETHANE	0.5 U	0.5 U	0.5 U
BROMODICHLOROMETHANE	0.29 U	0.29 U	0.29 U
BROMOFORM	0.56 U	0.56 U	0.56 U
BROMOMETHANE	0.44 UJ	0.44 UJ	0.44 UJ
CARBON DISULFIDE	0.38 U	0.38 U	0.38 U
CARBON TETRACHLORIDE	0.43 UJ	0.43 UJ	0.43 UJ
CHLOROBENZENE	0.25 U	0.25 U	0.25 U
CHLORODIBROMOMETHANE	0.43 U	0.43 U	0.43 U
CHLOROETHANE	0.32 UJ	0.32 UJ	0.32 UJ
CHLOROFORM	0.25 U	0.25 U	0.25 U
CHLOROMETHANE	0.44 U	0.44 U	0.44 U
CIS-1,2-DICHLOROETHENE	0.26 U	0.26 U	0.26 U
CIS-1,3-DICHLOROPROPENE	0.46 U	0.46 U	0.46 U
DIBROMOMETHANE	0.42 U	0.42 U	0.42 U
DICHLORODIFLUOROMETHANE	0.32 UJ	0.32 UJ	0.32 UJ
DIISOPROPYL ETHER	0.5 U	0.5 U	0.5 U

**Table C-3**

**Chemical Results for Surface Water Samples - September 2016  
Cow Pen Creek and Dark Head Cove  
Lockheed Martin Middle River Complex, Middle River, Maryland  
Page 6 of 6**

LOCATION	MRC-SW8B	MRC-SW9A	MRC-SW9B
SAMPLE ID	MRC-SW8B-092716	MRC-SW9A-092716	MRC-SW9B-092716
SAMPLE DATE	20160927	20160927	20160927
ETHYL TERT-BUTYL ETHER	0.23 U	0.23 U	0.23 U
ETHYLBENZENE	0.25 U	0.25 U	0.25 U
HEXACHLOROBUTADIENE	0.35 U	0.35 U	0.35 U
ISOPROPYLBENZENE	0.35 U	0.35 U	0.35 U
METHYL TERT-BUTYL ETHER	0.2 U	0.2 U	0.2 U
METHYLENE CHLORIDE	0.33 U	0.33 U	0.33 U
NAPHTHALENE	0.45 UJ	0.45 UJ	0.45 UJ
N-BUTYLBENZENE	0.31 U	0.31 U	0.31 U
N-PROPYLBENZENE	0.4 U	0.4 U	0.4 U
SEC-BUTYLBENZENE	0.48 U	0.48 U	0.48 U
STYRENE	0.45 U	0.45 U	0.45 U
TERT-AMYL METHYL ETHER	0.3 U	0.3 U	0.3 U
TERT-BUTYLBENZENE	0.41 U	0.41 U	0.41 U
TERTIARY-BUTYL ALCOHOL	4.9 U	4.9 U	4.9 U
TETRACHLOROETHENE	0.31 U	0.31 U	0.31 U
TOLUENE	0.23 U	0.23 U	0.23 U
TOTAL XYLENES	0.52 U	0.52 U	0.52 U
TRANS-1,2-DICHLOROETHENE	0.3 U	0.3 U	0.3 U
TRANS-1,3-DICHLOROPROPENE	0.56 U	0.56 U	0.56 U
TRICHLOROETHENE	0.62 J	0.52 J	0.62 J
TRICHLOROFUOROMETHANE	0.49 UJ	0.49 UJ	0.49 UJ
VINYL ACETATE	0.41 U	0.41 U	0.41 U
VINYL CHLORIDE	0.29 U	0.29 U	0.29 U

"-D" - duplicate sample

J - chemical detected, concentration is estimated above the method detection limit but below the practical quantitation limit.

MRC - Middle River Complex

NA - not analyzed

SW - surface water

U - not detected at the concentration left of the letter

UG/L - micrograms per liter

UJ - analyte not detected. Quantitation limit or detection limit may be inaccurate or imprecise.





Table C-4

**Chemical Results for Surface Water Samples - December 2016**  
**Cow Pen Creek and Dark Head Cove**  
**Lockheed Martin Middle River Complex, Middle River, Maryland**  
Page 3 of 4

LOCATION SAMPLE ID SAMPLE DATE	SW-12A		SW-12B	
	MRC-SW12A-D-121316 20161213	MRC-SW12A-S-121316 20161213	MRC-SW12B-D-121316 20161213	MRC-SW12B-S-121316 20161213
<b>VOLATILES (UG/L)</b>				
1,1,1,2-TETRACHLOROETHANE	0.46 UJ	0.46 UJ	0.46 UJ	0.46 UJ
1,1,1-TRICHLOROETHANE	0.23 UJ	0.23 UJ	0.23 UJ	0.23 UJ
1,1,2,2-TETRACHLOROETHANE	0.32 U	0.32 U	0.32 U	0.32 U
1,1,2-TRICHLOROTRIFLUOROETHANE	0.41 UJ	0.41 UJ	0.41 UJ	0.41 UJ
1,1-DICHLOROETHANE	0.25 U	0.25 U	0.25 U	0.25 U
1,1-DICHLOROETHENE	0.27 U	0.27 U	0.27 U	0.27 U
1,1-DICHLOROPROPENE	0.28 U	0.28 U	0.28 U	0.28 U
1,2,3-TRICHLOROBENZENE	0.35 UJ	0.35 UJ	0.35 UJ	0.35 UJ
1,2,3-TRICHLOROPROPANE	0.54 U	0.54 U	0.54 U	0.54 U
1,2,3-TRIMETHYLBENZENE	0.22 U	0.22 U	0.22 U	0.22 U
1,2,4-TRICHLOROBENZENE	0.27 UJ	0.27 UJ	0.27 UJ	0.27 UJ
1,2,4-TRIMETHYLBENZENE	0.24 U	0.24 U	0.24 U	0.24 J
1,2-DIBROMO-3-CHLOROPROPANE	0.47 U	0.47 U	0.47 U	0.47 U
1,2-DIBROMOETHANE	0.23 U	0.23 U	0.23 U	0.23 U
1,2-DICHLOROBENZENE	0.26 U	0.26 U	0.26 U	0.26 U
1,2-DICHLOROETHANE	0.3 U	0.3 U	0.3 U	0.3 U
1,2-DICHLOROPROPANE	0.3 U	0.3 U	0.3 U	0.3 U
1,3-DICHLOROBENZENE	0.32 U	0.32 U	0.32 U	0.32 U
1,3-DICHLOROPROPANE	0.29 U	0.29 U	0.29 U	0.29 U
1,4-DICHLOROBENZENE	0.23 U	0.23 U	0.23 U	0.23 U
2,2-DICHLOROPROPANE	0.34 UJ	0.34 UJ	0.34 UJ	0.34 UJ
2-BUTANONE	1 U	1 U	1 U	1 U
2-CHLOROETHYL VINYL ETHER	0.65 UR	0.65 UR	0.65 UR	0.65 UR
2-CHLOROTOLUENE	0.28 U	0.28 U	0.28 U	0.28 U
2-HEXANONE	1.2 U	1.2 U	1.2 U	1.2 U
4-CHLOROTOLUENE	0.23 U	0.23 U	0.23 U	0.23 U
4-ISOPROPYLTOLUENE	0.29 U	0.29 U	0.29 U	0.29 U
4-METHYL-2-PENTANONE	0.71 UJ	0.71 UJ	0.71 UJ	0.71 UJ
ACETONE	1.8 U	2.2 J	1.8 U	1.8 U
BENZENE	0.28 U	0.28 U	0.28 U	0.28 U
BROMOBENZENE	0.31 U	0.31 U	0.31 U	0.31 U
BROMOCHLOROMETHANE	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ
BROMODICHLOROMETHANE	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
BROMOFORM	0.43 U	0.43 U	0.43 U	0.43 U
BROMOMETHANE	0.42 UJ	0.42 UJ	0.42 UJ	0.42 UJ
CARBON DISULFIDE	0.34 U	0.34 U	0.34 U	0.34 U
CARBON TETRACHLORIDE	0.35 UJ	0.35 UJ	0.35 UJ	0.35 UJ
CHLOROBENZENE	0.32 U	0.32 U	0.32 U	0.32 U
CHLORODIBROMOMETHANE	0.25 U	0.25 U	0.25 U	0.25 U
CHLOROETHANE	0.41 UJ	0.41 UJ	0.41 UJ	0.41 UJ
CHLOROFORM	0.31 U	0.31 U	0.31 U	0.31 U
CHLOROMETHANE	0.43 U	0.43 U	0.43 U	0.43 U
CIS-1,2-DICHLOROETHENE	0.45 J	0.3 U	5.5	0.3 U
CIS-1,3-DICHLOROPROPENE	0.26 U	0.26 U	0.26 U	0.26 U
DIBROMOMETHANE	0.46 U	0.46 U	0.46 U	0.46 U
DICHLORODIFLUOROMETHANE	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ
DIISOPROPYL ETHER	0.44 U	0.44 U	0.44 U	0.44 U
ETHYL TERT-BUTYL ETHER	0.35 U	0.35 U	0.35 U	0.35 U
ETHYLBENZENE	0.26 U	0.26 U	0.26 U	0.26 U
HEXACHLOROBUTADIENE	0.36 UJ	0.36 UJ	0.36 UJ	0.36 UJ
ISOPROPYLBENZENE	0.21 UJ	0.21 UJ	0.21 UJ	0.21 UJ

Table C-4

Chemical Results for Surface Water Samples - December 2016  
 Cow Pen Creek and Dark Head Cove  
 Lockheed Martin Middle River Complex, Middle River, Maryland  
 Page 4 of 4

LOCATION SAMPLE ID SAMPLE DATE	SW-12A		SW-12B	
	MRC-SW12A-D-121316 20161213	MRC-SW12A-S-121316 20161213	MRC-SW12B-D-121316 20161213	MRC-SW12B-S-121316 20161213
METHYL TERT-BUTYL ETHER	0.27 UJ	0.27 UJ	0.27 UJ	0.27 UJ
METHYLENE CHLORIDE	0.53 UJ	0.53 UJ	0.53 UJ	0.53 UJ
NAPHTHALENE	0.25 U	0.25 U	0.25 U	0.25 U
N-BUTYLBENZENE	0.21 U	0.21 U	0.21 U	0.21 U
N-PROPYLBENZENE	0.45 U	0.45 U	0.45 U	0.45 U
SEC-BUTYLBENZENE	0.27 U	0.27 U	0.27 U	0.27 U
STYRENE	0.23 U	0.23 U	0.23 U	0.23 U
TERT-AMYL METHYL ETHER	0.29 UJ	0.29 UJ	0.29 UJ	0.29 UJ
TERT-BUTYLBENZENE	0.26 U	0.26 U	0.26 U	0.26 U
TERTIARY-BUTYL ALCOHOL	4.6 UJ	4.6 UJ	4.6 UJ	4.6 UJ
TETRACHLOROETHENE	0.3 U	0.3 U	0.3 U	0.3 U
TOLUENE	0.23 U	0.29 J	0.23 U	0.79 J
TOTAL XYLENES	0.24 U	0.28 J	0.24 U	0.9 J
TRANS-1,2-DICHLOROETHENE	0.29 U	0.29 U	0.29 U	0.29 U
TRANS-1,3-DICHLOROPROPENE	0.31 U	0.31 U	0.31 U	0.31 U
TRICHLOROETHENE	2.4 J	4.1 J	7.8 J	1.4 J
TRICHLOROFLUOROMETHANE	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ
VINYL ACETATE	0.28 UJ	0.28 UJ	0.28 UJ	0.28 UJ
VINYL CHLORIDE	0.45 U	0.45 U	0.45 U	0.45 U

"-D" - duplicate sample

J - chemical detected, concentration is estimated above the method detection limit but below the practical quant

MRC - Middle River Complex

NA - not analyzed

SW - surface water

U - not detected at the concentration left of the letter

UG/L - micrograms per liter

UJ - analyte not detected. Quantitation limit or detection limit may be inaccurate or imprecise.

UR - non-detect result is considered to be qualitatively or quantitatively unreliable.

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**APPENDIX D—RISK ESTIMATES FOR  
RECREATIONAL SWIMMING IN DARK HEAD COVE**



## Memorandum

To: Michael Martin, P.G. Tetra Tech

From: *Edmund Crouch*  
Edmund Crouch

Date: November 18, 2014

Subject: Risk estimates for recreational swimming in Dark Head Cove

As requested, we have evaluated risk estimates for recreational contact with water containing dissolved PCBs in the water column at Dark Head Cove. These risk estimates are conservative, in that they address the activity associated with the greatest level of exposure — that is, swimming — and make very conservative exposure assumptions for exposure time, duration and contact rates in the absence of site-specific measurements. In particular, we assume:

- The measurements represent dissolved PCBs in the water column (*i.e.*, the samples include no contaminated sediment). The samples were not filtered and the total PCB values reported may include some component of suspended sediment that would result in an overestimation of dissolved PCB concentrations.
- The measurements are representative of the water in Dark Head Cove where recreational swimming might occur. The samples were collected off the Middle River Complex outfalls where the concentrations would be expected to be the highest in the cove.
- The recreational swimmer is in the water for 4 hours/day, 70 days/year, for 6 years as a child and 20 years as an adult.
- The tetrachlorobiphenyls and pentachlorobiphenyls detected have an ingestion carcinogenic potency equal to the highest current estimate for the most carcinogenic tested PCB mixture. Other cancer potency values are available which would result in lower estimated potential risk.
- The tetrachlorobiphenyls and pentachlorobiphenyls detected have an ingestion reference dose (RfD) equal to that of Aroclor 1254, the lowest among PCB mixtures that have assigned RfDs.
- Cancer potency and RfD are the same for dermal exposure as for ingestion exposure.

The recreational activity exposure assumptions of 4 hours/day and 70 days/year were initially introduced in the January 2006 *Revised Human Risk Assessment for Martin State Airport* prepared for Lockheed Martin by Tetra Tech. In the subsequent April 2006 report *Surface Water and Sediment Sampling Report Lockheed Martin Middle River Complex* prepared by Tetra Tech, the 70



day/year exposure frequency assumption was used for swimming exposures, but with a 2 hours/day exposure time. It is important to note for a recreational swimming exposure scenario, adjusting the exposure time from four hours to two hours does not reduce the cancer or noncancer risk by a factor of two. For ingestion of surface water, the risk estimate scales linearly with the daily exposure time; while for dermal contact with surface water, the risk estimate is a sub-linear function of the daily exposure time. In other words, for dermal exposure absorption continues even after the exposure time in the water has ended.

With the stated site-specific exposure assumptions, and using other default exposure assumptions from the Regional Screening Level (RSL) table (EPA 2014a), together with the dermal exposure methodology described in the Risk Assessment Guidance for Superfund, Volume 1E, and the estimated 95 percent upper confidence limit (95% UCL) of the mean of the measurements as exposure point concentrations, the lifetime risk estimates are:

Incidental water ingestion	$1.7 \times 10^{-8}$
Dermal absorption	$4.9 \times 10^{-6}$

with highest hazard quotients (for children)

Incidental water ingestion	0.003
Dermal absorption	0.47

The calculations documenting these estimates are included in the accompanying workbook *Dark Head Cove Swimming PCBs.xlsx*, which also contains references for the values of all parameters used.

Modifying the daily exposure period to 2 hours/day halves the incidental water ingestion lifetime risk estimate and reduces the dermal absorption estimate to  $3.2 \times 10^{-6}$ , with similar effects on the hazard quotients (0.0014 and 0.30).

There are considerable uncertainties in these estimates that have been resolved in a conservative direction. As noted, the samples were not filtered, allowing potential incorporation of contaminated sediment, which would not contribute to dermal absorption — the dermal absorption calculation assumes dissolved PCBs. Two observations support the likelihood of sediment incorporation in the samples — the lack of detection of the more soluble (lower chlorinated) homologs, and the analysis of sample MRC-SW8B. This sample as originally tested contained a higher total PCB content than any other sample; but those results were rejected because of low recovery of the spike surrogates. Re-extraction and re-analysis of the sample produced non-detect results, suggesting that the first extraction included contaminated sediment (that may also have contributed to the low surrogate recovery) that was missing from the second.

The default ingestion rate of 50 ml/hour assumed for both children and adults as presented in EPA's RSL Risk-Based Concentration Table Equations for a recreational user exposed to surface water may be a conservative assumption for this evaluation. The Exposure Factors Handbook (EPA 2011) recommends a swimming water ingestion rate of 50 ml/hour for children under 18, but a

value of 21 ml/hour for adults which likely contributes to an overestimation of risk for the adult population swimming in Dark Head Cove. Further, the 50 ml/hour value is based on mean ingestion rates derived from swimming pool studies, while results from seawater ingestion studies indicate lower mean values for children (31 ml/hour), men (27 ml/hour) and women (18 ml/hour) (EPA 2011). Dark Head Cove averages approximately 2% salt content, closer to seawater than the fresh water of swimming pools. Therefore, the use of the EPA default surface water ingestion rate likely overestimates ingestion risk.

There are additional uncertainties related to dermal risk estimates. In general, chemical specific permeability coefficients ( $K_p$ ) are used to estimate dermal absorption of a chemical from water. A  $K_p$  is a predicted value obtained from a regression equation using a chemical-specific octanol-water coefficient ( $K_{ow}$ ) and molecular weight (MW). However, for some chemicals, the  $K_{ow}$  value or the MW may be too high or too low (outside the effective prediction domain) and the estimated  $K_p$  using the regression is uncertain. For PCBs, both the  $K_{ow}$  and MW values are high outside of effective prediction domain resulting in an uncertain predicted  $K_p$  value that is combined with a theoretical correction factor (EPA 2004).

The assignment of the highest (most conservative) carcinogenic and noncarcinogenic toxicity values measured for any PCB mixtures for the combinations of PCB homologs measured here (where only tetrachlorobiphenyls and pentachlorobiphenyls were detected) likely overestimates risk calculations

Even with the use of conservative assumptions, the resultant risk estimates lie below the MDE threshold of  $1 \times 10^{-5}$  lifetime increased cancer risk and hazard quotient of 1.0, and within the EPA's range  $1 \times 10^{-6}$  to  $1 \times 10^{-4}$  and hazard quotient of 1.0, indicating no significant risk from exposures due to swimming in Dark Head Cove.

## References

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