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April 8, 2019

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 Block F Groundwater Chlorobenzene Characterization 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 report documents the investigation conducted to characterize the nature and extent of chlorobenzenes in groundwater in Blocks E and F, at the Lockheed Martin Middle River Complex in Middle River Maryland. If possible, we respectfully request to receive MDE's document review comments by May 29, 2019.

Please let me know if you have any questions. My office phone is (301) 548-2209.

Sincerely,

Thomas D. Blackman
Project Lead, Environmental Remediation

cc: (via email without enclosure)
Gary Schold, MDE
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BLOCK F GROUNDWATER CHLOROBENZENE CHARACTERIZATION REPORT
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
2323 EASTERN BOULEVARD
MIDDLE RIVER, MARYLAND

Prepared for:
Lockheed Martin Corporation

Prepared by:
Tetra Tech, Inc.

April 2019

Approved by:
Lockheed Martin, Inc.

Revision: 0



Michael Martin, P.G.
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ACRONYMS

bgs	below ground surface
CSM	conceptual site model
DHC	*dehalococcoides*
DO	dissolved oxygen
DPT	direct-push technology
EGIS	environmental geographic information system
ESH	environment, safety and health
GC	gas chromatograph
GPR	ground penetrating radar
Ground Zero	Ground Zero Environmental Field Services
HASP	health and safety plan
HPT	hydraulic profiling tool
IDW	investigation-derived waste
LMCPI	LMC Properties, Inc.
Lockheed Martin	Lockheed Martin Corporation
MCL	maximum contaminant level
µg/kg	microgram(s) per kilogram
µg/L	microgram(s) per liter
MRAS	MRA Systems, Inc.
MRC	Middle River Complex
ORP	oxidation reduction potential
PCB	polychlorinated biphenyl
PID	photoionization detector
ppb	parts per billion

PPE	personal protective equipment
PVC	polyvinyl chloride
QA	quality assurance
QC	quality control
RTO	Remediation Technical Operations
SVOC	semi-volatile organic compounds
1,2,4-TCB	1,2,4-trichlorobenzene
TCLP	target characteristic leaching procedure
Tetra Tech	Tetra Tech, Inc.
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
VOC(s)	volatile organic compounds
WMP	waste management plan

SECTION 1
INTRODUCTION

On behalf of Lockheed Martin Corporation (Lockheed Martin), Tetra Tech Inc. (Tetra Tech) has prepared this report to document the investigation conducted to characterize the nature and extent of chlorobenzenes in groundwater in Blocks E and F at the Middle River Complex (MRC) in Middle River, Maryland (Figure 1-1). This work was conducted in accordance with the approved work plan (*Block F Groundwater Chlorobenzene Investigation Work Plan* [Tetra Tech, 2018a]).

In the past, chlorobenzenes (in this case, primarily chlorobenzene and 1,2,4-trichlorobenzene [1,2,4-TCB]) typically were comingled with polychlorinated biphenyls (PCB) for use in transformers. The recent remedial investigation for Block E soil (Tetra Tech, 2018d) reported that chlorobenzenes, likely released from within former transformer rooms, were measured in site groundwater. Available data did not fully delineate the vertical and horizontal extent of the chlorobenzene groundwater plume(s) within Block E, and the nature or extent of the chlorobenzenes in downgradient Block F had not been investigated.

The objectives of this investigation are to:

- delineate the vertical and horizontal (downgradient) extent of groundwater impacted by chlorobenzenes within Block F
- integrate the additional hydrogeologic and chemical information obtained from this investigation into an updated conceptual site model (CSM) by including the locations of the chlorobenzene sources and resultant groundwater plumes, and identifying the primary migration pathways within and between Blocks E and F

SECTION 2
BACKGROUND AND PREVIOUS INVESTIGATIONS

This section includes general background information for chlorobenzenes and a summary of previous investigations, focusing on chlorobenzene and 1,2,4-trichlorobenzene (1,2,4-TCB) in Blocks E and F. 1,2,4-TCB and related chlorobenzene compounds typically were comingled with polychlorinated biphenyls (PCBs) for use in transformers. Elevated 1,2,4-TCB concentrations were detected in Block E groundwater and soil during previous volatile organic compound (VOC) sampling and are thought to be associated with the release of PCBs from former transformers. Several geological cross-sections have been generated for Block E at areas downgradient of the former transformer rooms. Cross-sections, groundwater monitoring well locations, and chemical data compiled for Block E are detailed in the *Remedial Investigation for Block E Soils* (Tetra Tech, 2018d).

A recent groundwater investigation conducted downgradient of the former Block E transformer rooms in Fall 2017 (Tetra Tech, 2018d) investigated whether PCBs have migrated in groundwater. This investigation was performed in two phases. First, groundwater obtained via direct-push technology (DPT) was sampled in the field using a Frog 4000^{TM} field gas chromatograph (GC) calibrated to screen for 1,2,4-TCB. Positive screening results were used to locate and install new groundwater monitoring wells downgradient of the transformer rooms. This "real-time" mapping used the 1,2,4-TCB detections as a tracer to identify potential preferential groundwater flow pathways for PCBs. PCBs are not readily soluble in groundwater and therefore have limited migration, but this screening sought to determine the flow path of possible PCB migration and thus determine if PCBs were mobile. In October 2017, 15 new groundwater monitoring wells (MRC-MW-123 through MRC-MW-130-A/B) were installed along transects perpendicular to the direction of groundwater flow. Figure 2-1 shows the locations of the Block E DPT field screening sampling and monitoring wells installed in 2017.

The analytical results from the initial sampling of the newly-installed wells revealed that chlorobenzene compounds were present in groundwater at the southern perimeter of Block E. Specifically, chlorobenzene was detected at MW-126A (located downgradient of transformer room #4) at a concentration of 37 micrograms per liter (µg/L), while 1,2,4-trichlorobenzene was detected at MW-130A (south of transformer room #3) at a concentration of 150 µg/L. The groundwater flow path and chemical results presented in the Block E remedial investigation report were subsequently used to determine the proposed locations for additional downgradient soil borings and monitoring wells that were installed for this current Block F chlorobenzene investigation.

SECTION 3
FIELD INVESTIGATION

Section 3 presents the technical approach that was used for all field activities and describes the field methodology. Tetra Tech, Inc. (Tetra Tech) field operations leader coordinated mobilization and demobilization, procured the required subcontractors, and mobilized personnel and materials to the field. Investigation results obtained from the comprehensive field program are in Section 4 of this report.

3.1 SITE ACCESS, NOTIFICATIONS, AND PERMITS

Before starting any field work, the assigned Tetra Tech field personnel became familiar with the site-specific health and safety plan (HASP) and the respective "Safe Work" permits and emergency response plan included in the HASP. Tetra Tech conducted mandatory health and safety tailgate meetings before each day's fieldwork. The Tetra Tech site health and safety officer documented the topics covered and personnel in attendance. Safety requirements are addressed in detail in the site-specific Tetra Tech HASP (Tetra Tech, 2018c). Tetra Tech also followed the *Investigation-Derived Waste Management Plan* (WMP) (Tetra Tech, 2018b) that conforms to the Lockheed Martin *Energy, Environment, Safety, and Health (EESH) Remediation Waste Management Procedure No. EROP 03, Revision 4 (effective April 17, 2009).*

Tetra Tech provided notification and coordinated access arrangements through Lockheed Martin Security and EMCOR (site maintenance) to gain access to Block F. Middle River Complex (MRC) tenants were informed and updated about the proposed investigation activities at the LMC Properties, Inc, (LMCPI) bi-weekly meeting. LMCPI was notified of the proposed tasks and schedule, and approved the work and schedule before mobilization to the field. Tetra Tech submitted the standard digging authorization form and risk handling checklist through EMCOR. Site access, utility clearance, notifications/approvals, and documentation conformed to the provisions of *Lockheed Martin's Remediation Contractor's Environment, Safety and Health (ESH) Handbook, Revision 2, May 1, 2016.*

3.2 UTILITY CLEARANCE

Before starting any intrusive field activities, each soil boring and monitoring well location was screened for the presence of subsurface utilities. In addition to calling in a Miss Utility ticket, Tetra Tech obtained the available MRC facility engineering and utility maps and contracted with a private utility locating service (RETTEW [formerly Enviroscan, Inc.]) to locate and mark underground utilities. One boring location, hydraulic profiling tool (HPT)/direct-push technology (DPT) location 1D, was offset in the field based on the subsurface utility mark out.

Tetra Tech complied with all federal, state, and local laws, regulations, and ordinances relating to the performance of this work. Any required permit, certification, and license applications were made in advance and the sought-after documentation was obtained before field operation. No site operations were affected due to the location of the work. Boring and monitoring well locations were concentrated in Block F near Dark Head Cove, away from Lockheed Martin personnel. During field work, pedestrian and vehicle traffic was not present as the work area was enclosed by perimeter fencing.

Tetra Tech followed the Lockheed Martin Corporation procedures for intrusive work (i.e., E*nterprise Operations* (EO)-28 *and Lockheed Martin Minimum Requirements for Intrusive Fieldwork Work Plans* [Lockheed Martin, 2008]). On July 31, 2018, RETTEW walked the area, noting presence of valves, manholes, and visible outfall piping, and completed utility clearance using a Fisher TW-6 electromagnetic pipe and cable locator/tracer, a Cable Detection, Cable Location, and Cable Avoidance Passive Locator, and a ground penetrating radar (GPR) system. Located utilities were marked on the ground with the appropriate paint color corresponding to each unique utility. Copies of permits, Miss Utility tickets, and the report prepared by the utility locating company are included as Appendix A.

3.3 FIELD ACTIVITIES

3.3.1 Hydraulic Profiling Tool and Groundwater Screening

Hydraulic Profiling Tool

A Maryland-licensed driller (Ground Zero Environmental Field Services [Ground Zero]) used a DPT drill rig equipped with an HPT to advance 16 vertical profiling borings. The HPT tool was

used to collect continuous hydraulic conductivity and electrical conductivity data during boring installation. The transects were located downgradient of the chlorobenzene detections within Block E and were oriented perpendicular to the interpreted flow direction of the groundwater plumes (Figure 3-1). Transect 1 is comprised of five borings (A-E) approximately 10 feet south of the fence line in Block F, parallel to Chesapeake Park Plaza and downgradient of well MW-126A, which previously yielded a 1,2,4-trichlorobenzene (1,2,4-TCB) concentration of 6.7 micrograms per liter (µg/L). Transects 2 and 3 are also parallel to Chesapeake Park Plaza in Block F, but are downgradient of MW-130A and MW-130B, which previously yielded respective 1,2,4-TCB concentrations of 150 µg/L and 41 µg/L. Transect 2 is comprised of six borings (A-E, with the addition of A1) and is approximately 10 feet south of the fence line, while transect 3, also comprised of five borings (A-E), is approximately 100 feet south of the fence line. Boring A1 in transect 2 is approximately 20 feet west of location 2A and was added to the field program to determine if permeable intervals existed in that area. Three HPT/DPT borings in transect 1 required concrete coring prior to borehole advancement.

The lithology data collected from each HPT boring was transmitted to the project team and used to determine discrete depths for obtaining groundwater grab samples. The use of HPT eliminated the typical "trial and error" method of collecting groundwater samples at five-foot increments and maximized sampling efficiency. The field report detailing the HPT findings from Ground Zero and their HPT contractor Dakota Technologies is in Appendix B.

Frog 4000^{TM} Groundwater Screening

Following coordination with the project team, and after discussing the lithology data obtained from the HPT borings, discrete depths were defined for vertical groundwater screening. Vertical groundwater profiling was conducted using a reusable, three-foot-long stainless-steel probe fitted with a one-foot screen. Two boring locations, 1F and 3F, were added to the sampling program to determine if the contaminant plumes had advanced closer to Dark Head Cove. Boring 1F, located 75 feet south of transect 1 and towards Dark Head Cove, was added to investigate the chlorobenzene concentrations observed at boring 1B, including a concentration of 328 µg/L at 4-9 feet below ground surface (bgs) and 23.7 µg/L at 9-13 feet bgs. Boring 1F would be the eventual location of MW-134A/B due to the presence of chlorobenzene concentrations measured

in the field. The placement of monitoring wells MW-135A/B were located downgradient of transect 2, specifically boring 2B, which yielded 1,2,4-TCB concentrations of 447 µg/L at 14-18 feet bgs and 1,058 µg/L at 18-22 feet bgs. Boring 3F, located 75 feet south of transect 3 near Dark Head Cove, was added to investigate the 1,2,4-TCB concentrations detected at boring 3C, which yielded a concentration of 225.5 µg/L at 14-18 feet bgs and 756 µg/L at 18-22 feet bgs. The placement of monitoring well MW-136B was located equidistant of borings 3C and 3F.

Groundwater was collected using a peristaltic pump and disposable polyethylene tubing, at a pumping rate of 100-300 milliliters per minute, and was field analyzed for chlorobenzene, 1,2,4-TCB, 1,2-dichlorobenzene, and 1,3-dichlorobenzene by experienced Tetra Tech personnel using a Frog 4000™ field gas chromatograph calibrated to detect these chemicals of concern. Twenty percent (five samples) of the groundwater intervals screened by the Frog 4000™ were also submitted to an offsite laboratory (TestAmerica Canton, Ohio) for volatile organic compounds (VOCs) analysis of chlorobenzene, 1,2,4-TCB, 1,2-dichlorobenzene, and 1,3-dichlorobenzene (only) on a standard turnaround time.

After screening/sampling was concluded at each targeted interval, all down-hole equipment was decontaminated using a mild detergent (Alconox) solution wash and a potable water rinse. The above procedure was then repeated for each successive interval. Each borehole was abandoned with bentonite upon completion.

3.3.2 Monitoring Well Installation, Development, and Sampling

Tetra Tech installed, developed, and sampled two two-well clusters and one single well, for a total of five wells (MW-134A, MW-134B, MW-135A, MW-135B, and MW-136B). MW-136A was not installed because no upper permeable zone was present in the boring to install a screen.

Exploratory DPT Coring

Before the wells were installed via roto-sonic drilling, a Maryland-licensed driller used a direct-push technology (DPT) drill rig to collect a continuous core at each well cluster to determine the site-specific (Block F) geological conditions (typically referred to as the “A”- and “B”-zones), and to assist with placement of the well screens. A soil sample was be collected at each of the three boring locations where impacted soil (i.e., staining, discolorations, odor, etc.) was observed. Soil

samples were screened for VOCs using a portable photoionization detector (PID) and a consistent headspace-screening methodology (i.e., sealable plastic bag technique). Headspace sampling in the field consisted of cutting the soil core along its long axis, instantly placing one side of the core sample into a sealable plastic bag, and immediately closing the top of the bag. Six soil samples, two from each exploratory boring, plus one duplicate, were sent to the lab for VOC analysis due to elevated field PID readings. A qualified Tetra Tech field geologist performed lithologic logging and all pertinent information, including boring location, soil/lithology descriptions, and PID readings were recorded electronically into *gINT professional* boring log software. These electronic records were distributed to the project team and were used to determine well screen intervals for each well.

Borehole Drilling and Soil Sampling

Five new groundwater monitoring wells were installed in the Block F area downgradient of Block E. Per the work plan, the estimated bottom depth of each A-zone well is 25 feet below ground surface (bgs) while the estimated bottom depth for each B-zone well is 40 feet bgs. However, the HPT and DPT exploratory work indicated that the A-B zone boundary varied over the three proposed monitoring well locations, as the confining clay layer at the A-B boundary was not consistent at certain depths. Therefore, well screens for A-zone wells were screened in upper permeable layers above the confining clay layer, while B-zone wells were screened below the clay (lower permeable layer) at each boring location. Two clusters of nested A- and B-wells and one single B-well were installed. Wells were installed to targeted depths using a roto-sonic drill rig under the supervision and direction of a Maryland-licensed driller, with a four-inch by six-inch drill-rod/override-casing configuration (with temporary casing). Soil was continuously screened by a qualified Tetra Tech field geologist while drilling; the field geologist performed lithologic logging using the four-inch-diameter, 10-foot-long cores obtained from the borehole. All pertinent information, including boring location, soil/lithology descriptions, and PID readings were recorded on a soil boring log form electronically using *gINT professional* software; these forms are in Appendix C. Log sheets for soil samples collected from borehole drillings are in Appendix D.

Well Construction

Groundwater monitoring wells were constructed of two-inch diameter, flush-threaded Schedule-40 polyvinyl chloride (PVC) well casing with a manufactured PVC well-screen. Wells MW-134A, MW-134B, and MW-136B were installed with five-foot-long screens, while MW-135A was installed with a three-foot-long screen, the remaining well (MW-135B) was installed with a 10-foot-long screen; all screens had 0.010-inch wire-wrapped openings. Well screens are typically 10 feet long, but screen length was adjusted in the field to address the depth to groundwater and/or thickness of the permeable formation material. A sand filter-pack of washed #1 filter sand was placed around each well screen and up to at least two feet above the top of the screen. Following placement of the sand pack, the wells were pre-developed using the drill rig and a combination of surging and air lifting to settle the sand pack around the well screens.

A two-foot thick bentonite seal was installed above the sand pack using bentonite pellets and was allowed to hydrate during installation. Project-approved water was used to hydrate the bentonite when it was necessary to do so. The bentonite was vibrated in place using the sonic drill stem to promote pellet hydration and settlement. Grout, consisting of Type II Portland cement and powdered bentonite, was placed above the bentonite seal to approximately two feet below grade. Grout was made by mixing a 94-pound bag of Type II Portland cement, nine pounds of powdered sodium bentonite, and no more than eight gallons of water per bag of cement. The relative thicknesses of the bentonite seal, surface seal, and grout were adjusted to accommodate the well depth relative to ground surface.

A protective, locking, flush-mounted well cover was secured over each well casing to protect the wells. The PVC well casing was cut below grade and made watertight by installing a locking, expandable, sanitary seal in the well casing top. Concrete was installed above the grout in the annular space between the well borehole and outer well casing, and up to approximately six-inches below grade, to provide a surface seal for the well, and to provide support for the flush-mounted cover. The flush-mount covers were set in a two-square-foot concrete pad.

The highest point on the top of the PVC well casing were marked using a file (i.e., filing a small groove in the casing) or an indelible marker. Precision Survey, LLC surveyed the marked location of the wells; this information will be used to measure the depth to groundwater at the well. Well

construction details were recorded in the field logbook and electronically using *gINT professional* software. Completed well construction logs are included with the boring logs in Appendix C.

Well Development

The five newly installed wells were developed to remove fines from the well filter pack and casing, and to ensure a hydraulic connection between the well and the geologic formation. Well development was scheduled as soon as possible following installation, and once a minimum of 24 hours has elapsed following well construction, to allow the grout to fully set. The well was developed by hand bailing to remove heavy sediments, then by gentle surging and purging with a submersible pump and/or air lifting to remove fines and sediment from the sand pack and well screen.

Development began at the bottom of the well screen, worked up incrementally to the top of the screened interval, and then back down to the bottom of the well. During well development, water level drawdown measurements and groundwater parameters (including pH, temperature, specific conductance, dissolved oxygen [DO], oxidation reduction potential [ORP], and turbidity) were collected every five minutes until pumping was complete. These data were recorded in the appropriate site-specific logbook and on a well development record (see Appendix D). Water quality parameters were measured using a Horiba U-52 water quality meter. Turbidity readings were collected using a separate LaMotte 2020e turbidity meter (due to the instability of turbidity meters on multi-meters) and recorded in the field logbook and on a well development record. Development continued until groundwater ran clear and was free of suspended solids, or for a maximum of three hours, whichever occurred first. All development water was collected in United States Department of Transportation (USDOT)-approved, properly labeled, 55-gallon steel drums in a facility-approved location.

Well Sampling

Before sampling, and after each well was allowed to equilibrate (following development) with the aquifer (i.e., after approximately one week), water levels in the new monitoring wells were measured (on November 12, 2018). The static water level was determined by lowering an electronic water level meter probe into the well until the liquid level indicator emitted an audible tone, indicating the air/water interface. The water level was read from the probe cable and recorded

to the nearest 0.01 foot as the depth to water from the top of the PVC well casing. Water level and total well depth measurements were recorded in the appropriate site-specific field logbook and on a groundwater level measurement field form.

One round of groundwater samples was collected from each newly installed well after water level measurements were taken. Further discussion of analytical requirements and data are in Section 3.7.

The wells were sampled using the United States Environmental Protection Agency (USEPA) low flow purging/sampling method (USEPA, 1996; updated 2017), whereby water is pumped from the well at a low flow rate and water quality parameters are monitored and recorded during the purging. Wells were purged via a peristaltic pump using disposable polyethylene tubing, at a pumping rate of 100-300 milliliters per minute. The final adjustment of the purge rate depended on water stabilization, and how fast the well recharged (without drawdown below the initial static water level occurring).

During groundwater purging, water level drawdown measurements and groundwater parameters, including pH, temperature, specific conductance, DO, ORP, and turbidity were collected every five minutes, or after each purge volume (whichever was quicker), until purging was complete. These parameters were recorded in the appropriate site-specific logbook, as well as on "Low Flow Purge Data Sheets." Water quality parameters were measured using an in-line water quality meter (Horiba U-52). Turbidity readings were collected using a separate turbidity meter (LaMotte 2020e) and were recorded in the field logbook and on low flow purge data sheets.

Purging was considered complete when the monitored water quality parameters stabilized, the well was purged dry, or the well had been purged for two hours. Stabilization was considered achieved when three consecutive readings, taken at five-minute intervals were within ±0.1 standard units for pH, ±3% for specific conductance, and ±10% for ORP and turbidity, or after a maximum of 90 minutes had elapsed. If the monitoring well was purged dry, the water level in the well was allowed to recover to 80% minimum of its initial static water level before groundwater sampling began.

Groundwater samples for VOCs and metals were collected first, followed by samples to be analyzed for the remaining analyses. Samples for each analytical parameter were placed in a cooler containing ice immediately upon collection and shipped to the appropriate laboratory for analysis at the end of each day. All pertinent field logs including static water level data, low flow purge data sheets, sample log sheets, and calibration records are in Appendix D.

3.4 SURVEYING

A professional field surveyor from a qualified, state-licensed, land-surveying firm (Precision Survey and Mapping, LLC) surveyed the horizontal and vertical coordinates of each new well in November 2018. All measurements were surveyed from the top of each well casing. Surveyed locations are accurate to the nearest 0.01 foot for vertical elevations in the North American Vertical Datum 1988, and to the nearest 0.1 foot horizontal coordinates in the North American Datum 1983. Ground elevations at the wells were also surveyed within a vertical accuracy of 0.1 foot. This information was also used to update the MRC environmental geographic information system (EGIS). The full survey report from Precision Survey and Mapping, LLC is included as Appendix E.

3.5 INVESTIGATION-DERIVED WASTE

Investigation-derived waste (IDW) consisting of all drill cuttings and soil cuttings, decontamination rinse water, purge water, tubing, and personal protective equipment (PPE) was generated during this investigation. PPE and tubing IDW were placed in trash bags which were placed in a facility trash receptacle to be disposed of as general refuse. Soil cuttings and water were collected and stored in USDOT-approved 55-gallon drums. All drums were appropriately labeled and logged on a drum inventory form. Wastes were characterized for disposal in accordance with applicable state and federal regulations, the Consent Order, and the 2018 *Investigation-Derived Waste Management Plan* (Tetra Tech, 2018b). After generation, the drums were relocated to a drum staging area (located in Block E/Lot D) as identified by Lockheed Martin personnel. Samples of IDW were collected on November 7, 2018 and submitted for analysis of VOCs, polychlorinated biphenyls (PCBs), toxicity characteristic leaching procedure (TCLP) metals, and ignitability. All waste was classified as nonhazardous waste. On February 1, 2019, Tetra Tech and the authorized waste removal representative from Lockheed Martin oversaw drum

removal by Clean Harbors to the designated disposal facility. Signed waste manifests are included as Appendix F.

3.6 SAMPLE NOMENCLATURE

Each groundwater screening sample collected from DPT borings during this investigation was identified with a unique sample identification tag consisting of the site designation (i.e., Block F), sample-type designation (i.e., GWS for groundwater screening), followed by the transect number (1, 2, or 3) and letter (A, B, C…) for the transect location, followed by the depth of the sample. For example, a groundwater screening sample collected at location A in transect 2, at a depth of 21 to 25 feet bgs, was identified as "F-GWS-2A-21-25."

Each groundwater sample collected during this investigation was identified with a unique sample identification tag consisting of the site designation (i.e., MRC for Middle River Complex), followed by the sample-type designation (i.e., MW for monitoring well) and well location number (i.e., 134A), followed by the date of the sample. For example, a groundwater sample collected at well location 134A on November 13, 2018 was identified as "MRC-MW-134A-111318."

Each soil sample collected during the investigation was identified with a unique sample identification tag consisting of the sample-type designation (i.e., SB for soil boring), followed by the DPT or well boring number, followed by the depth of the sample. For example, a soil sample collected at well location MW-134A at a depth of 15 to 20 feet below ground surface was identified as "SB-MW-134-15-20."

Duplicate groundwater screening, groundwater, and soil samples collected were identified with a unique sample identification tag consisting of the sample-type designation (i.e., GWS, MW, or SB), followed by DUP (for duplicate), followed by the duplicate number. For example, the first duplicate collected for groundwater screening was identified as "F-GWS-DUP-01." Trip blanks for groundwater samples sent to the laboratory were identified as "TB-mm/dd/yyyy" and were sent with each cooler containing samples to be analyzed for VOCs.

3.7 LABORATORY ANALYSIS AND DATA VALIDATION

Tetra Tech arranged groundwater sample collection and for the quality control samples collected for laboratory analysis. This included preparation of all chain-of-custody forms and required paperwork relating to transport the samples. Tetra Tech used laboratories accredited in the State of Maryland (TestAmerica Canton, Ohio) for chemical analyses, as well as Microbial Insights, (in Knoxville, Tennessee) for *dehalococcoides* (DHC) analysis.

Groundwater samples collected from the five newly installed wells were analyzed for the following parameters:

- VOCs by SW846 Method 8260C
- PCBs by SW846 Method 680
- total metals by SW846 Method 6020A
- sulfate by SW846 Method 9056A
- nitrates by SM 4500-NO3E
- total dissolved solids by SM 2540C
- bromide by USEPA 300.0
- iron and manganese by SW846 Method 6010C
- alkalinity by SM 2320B
- salinity by SM 2520B
- hardness (ions) by SM 2340C
- dissolved gasses (methane, ethane, ethene) by RSK-175
- DHC bacterial species and functional genes (Microbial Insights)
- ferrous iron by Hach field kit

As stated earlier, groundwater VOC and metal samples were collected first, followed by samples to be analyzed for the remaining analyses. All samples were placed in a cooler containing ice immediately upon collection (for example, VOC containers were placed in a cooler containing ice

immediately after the VOC containers were filled and closed). Aqueous trip blanks were placed in cooler(s) used to store and ship VOC samples at the beginning of each sampling day; this trip blank accompanied the VOC samples throughout the day and were sent along with the samples to the laboratory. The trip blank(s) were analyzed for VOCs by SW846 Method 8260C. Duplicate samples to be used for matrix spikes were collected and analyzed on a 1:20 basis, and one duplicate sample was collected from each media. Samples were analyzed on a standard turnaround of 21 calendar days. Full data packages from TestAmerica (covering soil, water screening, and monitoring well data) from Microbial Insights (monitoring well data) are in Appendix G.

All data provided by the laboratory was validated for all quality assurance (QA)/quality control (QC) parameters, including accuracy, precision, completeness, and comparability, in accordance with USEPA national functional guidelines for inorganic and organic data (USEPA, 2017a and 2017b, respectively), and in accordance with the USEPA *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (USEPA, 2009). Oversight of laboratory QA/QC was as proactive as possible to ensure valid data are produced during the sampling event. An evaluation of laboratory methodology, method compliance, and any corrective actions was also performed. Data validation reports are in Appendix H.

SECTION 4
INVESTIGATION RESULTS

4.1 HYDRAULIC PROFILING TOOL AND SOIL BORINGS

The hydraulic profiling tool (HPT) collected continuous hydraulic conductivity and electrical conductivity data from borings located along three transects and from several follow-up borings within Block F. The transects were located downgradient of the chlorobenzene detections within Block E and were oriented perpendicular to the interpreted flow direction of the groundwater plumes. The locations of the borings are illustrated on Figure 3-1.

The conductivity logs generated for each borehole are included in the subcontractor's report (see Appendix B). The results indicate that the conductivity within the aquifer is heterogeneously distributed, as distinct zones of both high and low conductivity were successfully delineated. In addition to analytical samples, continuous lithologic logs obtained as well as the historical data collected from this area and the existing CSM lend confidence to the interpretation that the zones of higher conductivity are within the more permeable sandy intervals, and that the zones of low conductivity are within the less permeable clayey intervals.

The zones of higher conductivity were targeted for discrete groundwater sampling and field screening of chlorobenzenes to develop a high-resolution vertical profile of the chemical stratigraphy at each boring location.

4.2 GROUNDWATER SCREENING

Discrete samples for vertical groundwater profiling were obtained from the HPT borings, and from borings 1F and 3F, by low-flow pumping through a stainless-steel probe fitted with a one-foot screen. These aqueous samples were analyzed in the field by Tetra Tech using a calibrated Frog 4000™ field gas chromatograph. For quality control, a subset of the field samples were submitted to an offsite laboratory (TestAmerica Canton, Ohio) for volatile organic compounds (VOCs) analysis.

Chlorobenzene and 1,2,4-trichlorobenzene (1,2,4-TCB) concentrations detected in the field and analysed in the laboratory are summarized in Table 4-1 and Table 4-2 and are illustrated on a tag map (Figure 4-1). The individual gas chromatograms generated for each Frog 4000^{TM} sample are included in Appendix I. Groundwater samples were successfully obtained from most intervals identified as zones of higher hydraulic conductivity. Samples could not be obtained from some zones of marginal hydraulic conductivity or depths where the hydraulic conductivity could not be estimated, but the results of the HPT borings indicate that at least some minimal groundwater flow was possible.

As shown in Table 4-1, the highest chlorobenzene concentrations from the HPT locations analysed with the Frog 4000^{TM} (i.e., samples beginning with "HPT") were observed in transect 1 at borings HPT-1B-5-9 (328 micrograms per liter [µg/L]), HPT-1F-7-11 (305 µg/L), HPT-1C-10-14 (33 µg/L) and HPT-1D-14-18 (12 µg/L) . One quality control (QC) duplicate sample was collected from location 1D at a depth of 14-18 feet below ground surface (bgs) and yielded a chlorobenzene concentration of 5.4 µg/L. MW-134A/B was placed near boring 1F due to the high chlorobenzene concentration observed in the field and its proximity to Dark Head Cove.

The highest 1,2,4-trichlorobenzene concentration (1,058 µg/L) was measured in transect 2 at boring HPT-2B-18-22. This high detection prompted the installation of monitoring well cluster MW-135A/B downgradient of this boring location (Figure 3-1). Monitoring well MW-136B was placed downgradient of boring location 3C (see Figure 4-1) due to its high 1,2,4-TCB concentration (756 µg/L) at HPT-3C-18-22, as well as a concentration of 460 µg/L in laboratory analysed sample F-GWS-3B-18-22.

Three groundwater screening samples ("GWS") were sent to the laboratory from transect 2, while one sample each were sent from transects 1 and 3. As shown on Tables 4-1 and 4-2, 1,2,4-TCB was detected in laboratory-analysed samples F-GWS-2A-21-25 (17 µg/L) and F-GWS-2B-14-18 (270 µg/L), but it was not detected in the sample collected from 2C (F-GWS-2C-3-7), even though it was detected there at 13-17 feet bgs during field screening (485 µg/L).

Also shown on Table 4-2, all groundwater detections were compared to federal maximum contaminant levels for drinking water, noting that these samples are from groundwater and not

drinking water sources. 1,2,4-TCB concentrations in two groundwater screening samples, F-GWS-2B-14-18 (270 µg/L) and F-GWS-3B-18-22 (460 µg/L), exceeded the drinking water maximum concentration level (MCL) of 70 µg/L.

Groundwater screening indicated that the concentrations of the chlorobenzenes are discretely distributed and vary markedly both vertically within a single boring and laterally between adjacent borings.

4.3 GROUNDWATER ELEVATION MEASUREMENTS

A near-synoptic round of groundwater elevation measurements was conducted for monitoring wells within Blocks E and F on January 9, 2019. Wells within Block F and wells within the western and central portions of Block E were measured. Only a representative subset of wells was gauged in the eastern portion of Block E due to the number and density of wells within this area.

The static water level measurements and their conversions to groundwater elevation are tabulated in Table 4-3. Groundwater elevation contour maps were constructed for the upper surficial aquifer (Figure 4-2) and the lower surficial aquifer (Figure 4-3) zones. The contour maps are generally consistent with previous interpretations for Blocks E and F in that they reflect an overall northwest-to-southeast groundwater flow direction towards Dark Head Cove, including the western and central portions of the blocks where the chlorobenzene investigation was performed.

4.4 BOREHOLE DRILLING AND SOIL SAMPLING

Continuous cores were obtained from the ground surface to the total depth of the borings at new monitoring well locations MRC-MW-134, MW-135, and MW-136. The locations of the borings are illustrated on Figure 3-1. The completed boring logs as well as well construction details are in Appendix C.

As summarized on Table 4-4 and Figure 4-4, six soil samples, and one duplicate sample, were collected and analysed for VOCs from the exploratory borings (SB-MW-134, -135, and -136) to further characterize contamination in the area. Detections of chlorobenzene were observed from the exploratory core at MW-134, including concentrations of 4.5*J* micrograms per kilogram (µg/kg) at 15-20 feet bgs and a concentration of 2.1*J* µg/kg at 9-10 bgs. A duplicate sample was

collected at the 9-10 foot sample interval which yielded a concentration of 3.9*J* µg/kg. Detections of 1,2,4-TCB were observed from the exploratory core at MW-135, including concentrations of 14 µg/kg at 10-15 feet bgs and 31 µg/kg at 15-20 feet bgs. Neither chlorobenzene nor 1,2,4-TCB were detected at the exploratory core from MW-136.

Soil samples were subsequently collected and analysed for VOCs during the installation of all five monitoring wells. Two samples were collected from each well installation boring. The soil sample for MW-134A from 8-12.5 feet bgs yielded a 1,4-dichlorobenzene result of 2.3*J* µg/kg and a chlorobenzene result of 6.6 µg/kg. The soil sample collected from location MW-135B from 12.5-18 feet bgs yielded a 1,2,4-TCB concentration of 17*J* µg/kg. Non-detect results were observed from all other soil samples collected during well installation. A soil sample was collected from the boring at MW-136A. However, a sufficiently developed aquifer within the shallow "A" interval was not present and therefore a shallow "A" well was not installed at MW-136 and only the deeper "B" well was installed.

The lithologies described in the borings are consistent with those detected at other locations through Blocks E and F. Distinct sedimentary intervals of sand, silt, or clay were encountered, as were intervals containing various mixtures of these grain-size end members.

4.5 GROUNDWATER SAMPLING

The five newly-installed monitoring wells in Block F were sampled for multiple parameters (see Section 3.7). The analytical data are tabulated and reported in Table 4-2 and illustrated in the tag map included as Figure 4-5. The complete laboratory data packages are in Appendix G and the data validation reports are in Appendix H. Data validation procedures were completed for all available data packages. No major data quality issues were identified. The non-detection of 2-chloroethyl vinyl ether in trip blanks from three data packages were qualified as rejected due to the laboratory narrative indicating the sample (trip blank) was acid preserved.

4.5.1 Volatile Organic Compound Results

Fourteen volatile organic compounds were detected in the newly installed monitoring wells in Block F, with the most notable detections at MW135B, which yielded a 1,2,4-TCB concentration of 280 µg/L, and MW134A, which yielded a chlorobenzene concentration of 160*J* µg/L. However,

no VOCs were detected in groundwater samples collected from MW134B and MW135A. Each well installed was also sampled for volatile gases and sampled via method RSK-175; methane was detected in the two wells with high chlorobenzene and 1,2,4-TCB results, at concentrations of 5,900 µg/L (MW134A) and 88 µg/L (MW135B). Presence of methane is not necessarily indicative of a degradation of specific compounds such as TCE or chlorobenzene. Degradation of any organic matter often leads to methane generation. The elevated methane detections observed are an indication of bioactivity at these two well locations. 1,3-dichlorobenzene and 1,4-dichlorobenzene are also degradation products of chlorobenzene and were detected in water samples collected during this investigation. Specifically, 1,3-dichlorobezene was detected at wells MW134A (6.5*J* µg/L) and MW136B and its duplicate (0.28*J* and 0.29*J* µg/L, respectively). 1,4-dichlorobenzene was detected at wells MW134A (6.4 µg/L), MW135B (5.8 µg/L), and MW136B and its duplicate (0.17*J* and 0.18*J* µg/L, respectively).

VOCs samples collected during this investigation were compared to the federal maximum concentration levels (MCLs) for drinking water, noting that these samples are from groundwater and not a drinking water source. Three concentrations exceeded their respective federal drinking water MCLs. The 1,2,4-TCB MCL of 70 µg/L was exceeded at MW-135B with a concentration of 280 µg/L. The trichloroethene MCL of 5 µg/L was also exceeded at the single detection of trichloroethene at MW-135B, with a concentration of 9.8 µg/L. MW-135B also yielded detections of cis-1,2-dichloroethene (23 µg/L) and trans-1,2-dichloroethene (4.2*J* µg/L), which were not detected at any other location. The chlorobenzene MCL of 100 µg/L was exceeded at MW-134A with a concentration of 160*J* µg/L.

4.5.2 Polychlorinated Biphenyl Results

Each newly installed monitoring well in Block F was sampled for PCBs via USEPA Method 680. One sample from well MW135B had a PCB detection (0.015*J* µg/L) for monochlorobiphenyls (see Table 4-2). This detection is well below the MCL criteria of 0.5 µg/L. Additionally, four monitoring wells directly upgradient of MW135B did not have detectable PCB concentrations. Recent and historical detections of PCBs in Block E groundwater are shown on Figure 4-6.

4.5.3 Metals Results

Seventeen total metals were detected from the newly installed monitoring wells and are summarized in Table 4-2. Detected metals include aluminium, arsenic, barium, beryllium, calcium, cobalt, copper, iron, lead, magnesium, manganese, nickel, potassium, selenium, sodium, vanadium, and zinc. These detections were compared to federal drinking water maximum contaminant levels (MCLs), noting that these samples are from groundwater and not from drinking water sources. All detections were lower than their respective drinking water MCLs, except for beryllium, which exceeded its MCL of 4 µg/L at MW-135B and MW-136B with concentrations of 9.5 µg/L and 10.5 µg/L, respectively. Beryllium was detected at three monitoring wells during the 2017 annual groundwater sampling round conducted near Blocks E and F. Specifically, MW-73B, which is in the southeastern portion of Block E, yielded a beryllium concentration of 2.2 µg/L. Additionally, SEMW-7I and SEMW-8S located downgradient of MW-73B, also yielded beryllium detections of 4*J* µg/L and 15*J* µg/L, respectively.

4.5.4 Microbial DHC Results

Each newly installed monitoring well in Block F was also sampled for microbial DHC and functional genes. *Dehalococcoides* (DHC) gene sampling detects bacterial species that are capable of a complete degradation of chlorinated ethenes (PCE, TCE, DCE, and VC) to ethene. DHC genes were either not detected, or where detected, were present only at low concentrations not likely to be effective at breaking down chlorinated ethenes.

SECTION 5
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FIGURES

Figure 1-1 Site Location Map, Blocks E/F, Middle River Complex

Figure 2-1 Groundwater Monitoring Wells and Direct Push Groundwater Sample Locations, Block E

Figure 3-1 Monitoring Well and HPT Locations, Blocks E and F

Figure 4-1 Field Results for Chlorobenzene and 1,2,4-Trichlorobenzene, June 2018, Block F

Figure 4-2 Upper Surficial Groundwater Contour Map, January 2019, Blocks E and F

Figure 4-3 Lower Surficial Groundwater Contour Map, January 2019, Blocks E and F

Figure 4-4 Soil Sample Results for Chlorobenzene and 1,2,4-Trichlorobenzene, November 2018, Block F

Figure 4-5 Laboratory Detections for Volatile Organic Compounds, Block F

Figure 4-6 PCB and PCB Homolog Detections in Groundwater, Blocks E and F



2014 aerial photograph provided by U.S. Geological Survey.

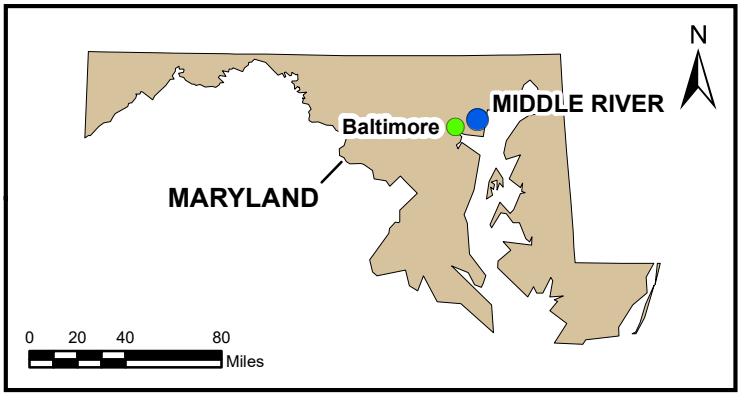

FIGURE 1-1

SITE LOCATION MAP, BLOCKS E/F
MIDDLE RIVER COMPLEX

Lockheed Martin Middle River Complex
Middle River, Maryland

DATE MODIFIED:	CREATED BY:
03/20/19	JEE

TETRA TECH

Map Document: (P:\GIS\Middle_River\MapDocs\MXD\mrc_sitemap_blocks_ef_mar2018.mxd)
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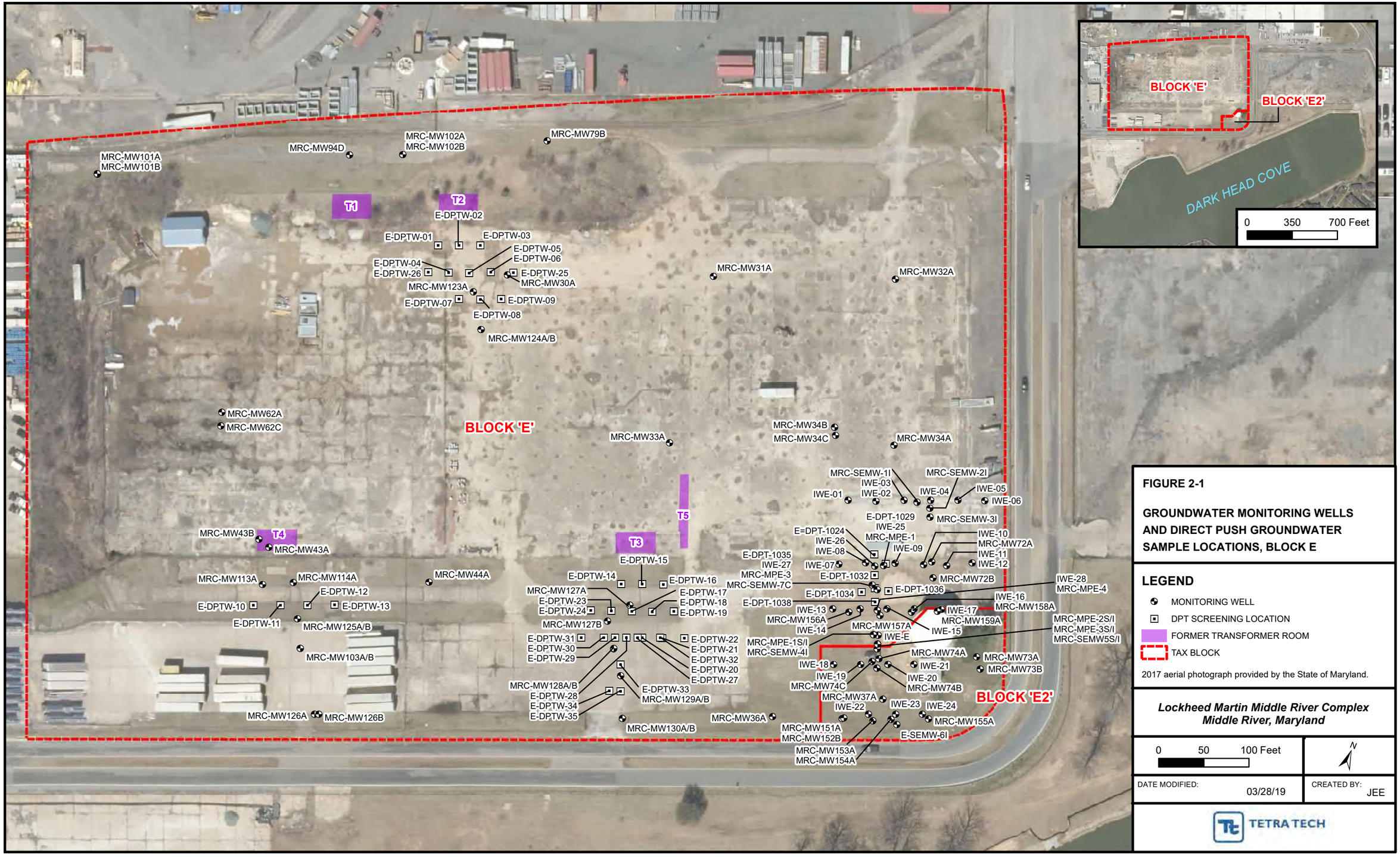

FIGURE 2-1

GROUNDWATER MONITORING WELLS AND DIRECT PUSH GROUNDWATER SAMPLE LOCATIONS, BLOCK E

LEGEND

- MONITORING WELL
- DPT SCREENING LOCATION
- FORMER TRANSFORMER ROOM
- TAX BLOCK

2017 aerial photograph provided by the State of Maryland.

Lockheed Martin Middle River Complex
Middle River, Maryland

0 50 100 Feet

N

DATE MODIFIED: 03/28/19

CREATED BY: JEE

TETRA TECH

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FIGURE 3-1

MONITORING WELL AND HPT LOCATIONS BLOCKS E AND F

LEGEND

- GROUNDWATER MONITORING WELL
- WELL INSTALLED DURING THIS INVESTIGATION
- HPT/DPT SAMPLE LOCATION, JUNE 2018
- FORMER TRANSFORMER ROOM
- TAX BLOCK

2017 aerial photograph provided by the State of Maryland.

Lockheed Martin Middle River Complex
Middle River, Maryland

0 60 120 Feet

N

DATE MODIFIED: 03/29/19

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TETRA TECH

Map Document: (P:\GIS\Middle_River\MapDocs\MXD\block_f_mw_hpt_locs_nov2018.mxd)
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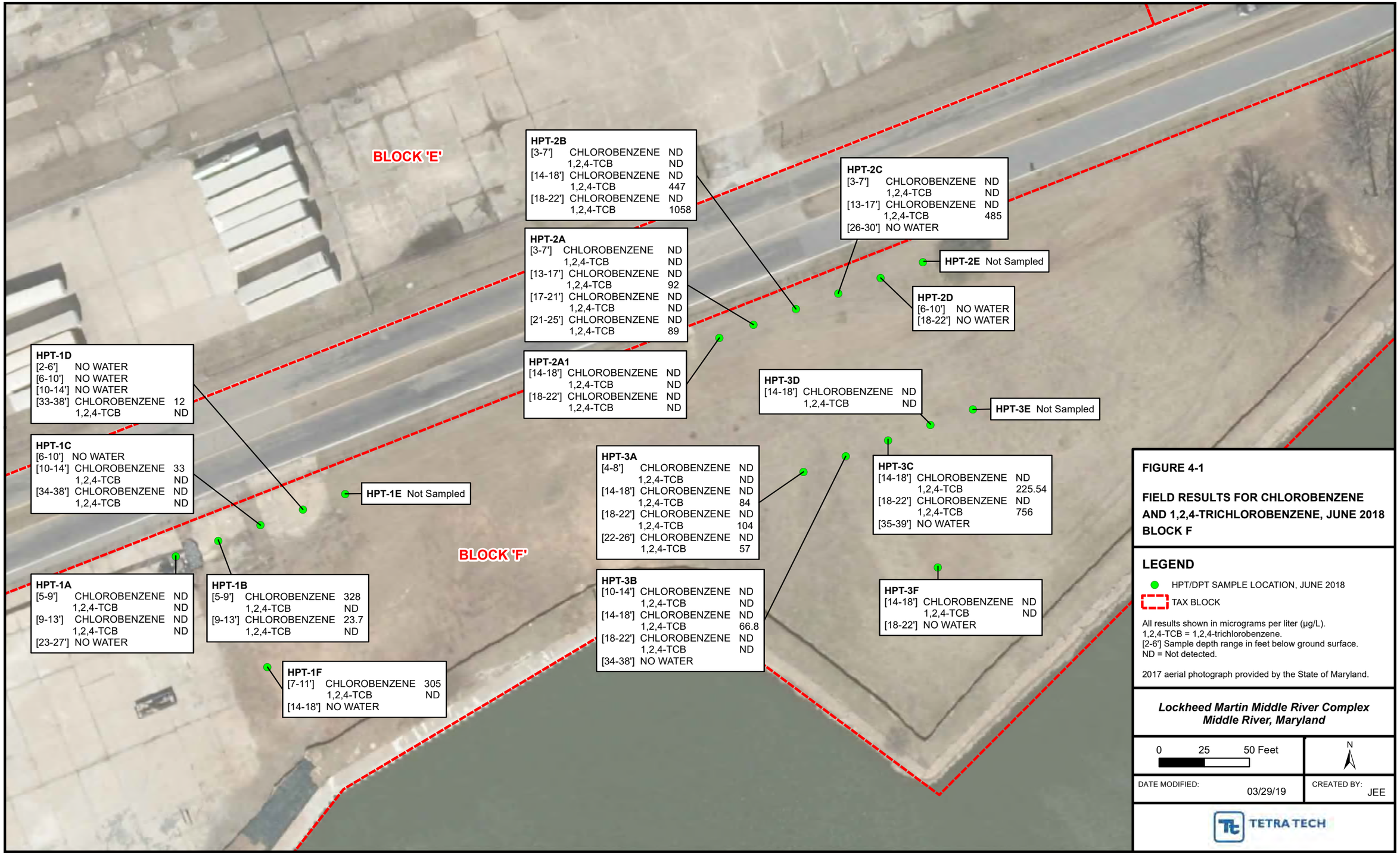

FIGURE 4-1

FIELD RESULTS FOR CHLOROBENZENE AND 1,2,4-TRICHLOROBENZENE, JUNE 2018 BLOCK F

LEGEND

- HPT/DPT SAMPLE LOCATION, JUNE 2018
- TAX BLOCK

All results shown in micrograms per liter (µg/L).
1,2,4-TCB = 1,2,4-trichlorobenzene.
[2-6'] Sample depth range in feet below ground surface.
ND = Not detected.

2017 aerial photograph provided by the State of Maryland.

Lockheed Martin Middle River Complex
Middle River, Maryland

0 25 50 Feet

N

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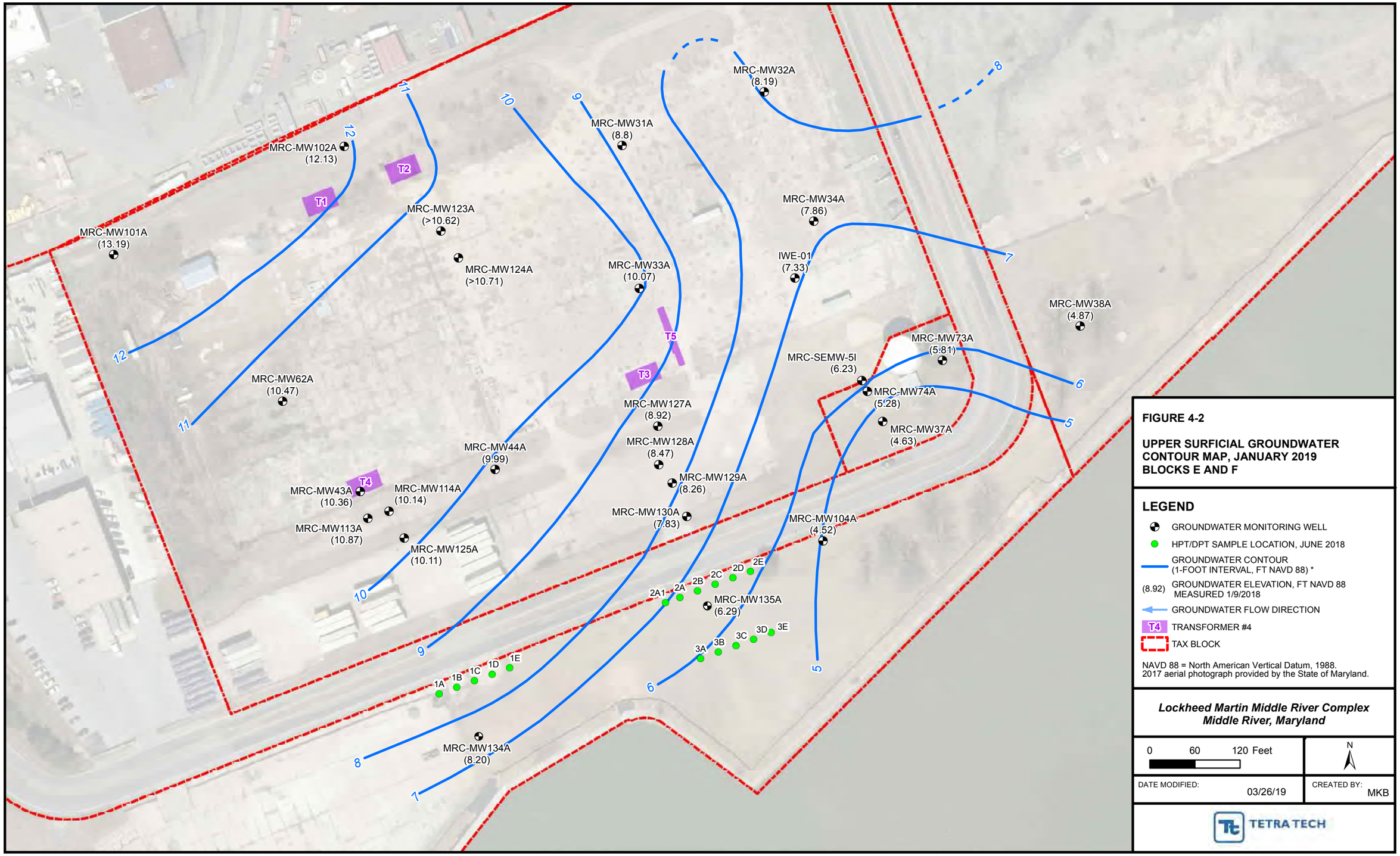

FIGURE 4-2

UPPER SURFICIAL GROUNDWATER CONTOUR MAP, JANUARY 2019 BLOCKS E AND F

LEGEND

- GROUNDWATER MONITORING WELL
- HPT/DPT SAMPLE LOCATION, JUNE 2018
- GROUNDWATER CONTOUR (1-FOOT INTERVAL, FT NAVD 88) *
- (8.92) GROUNDWATER ELEVATION, FT NAVD 88 MEASURED 1/9/2018
- GROUNDWATER FLOW DIRECTION
- T4 TRANSFORMER #4
- TAX BLOCK

NAVD 88 = North American Vertical Datum, 1988.
2017 aerial photograph provided by the State of Maryland.

Lockheed Martin Middle River Complex
Middle River, Maryland

0 60 120 Feet

N

DATE MODIFIED: 03/26/19

CREATED BY: MKB

TETRA TECH

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03/26/19 JEE

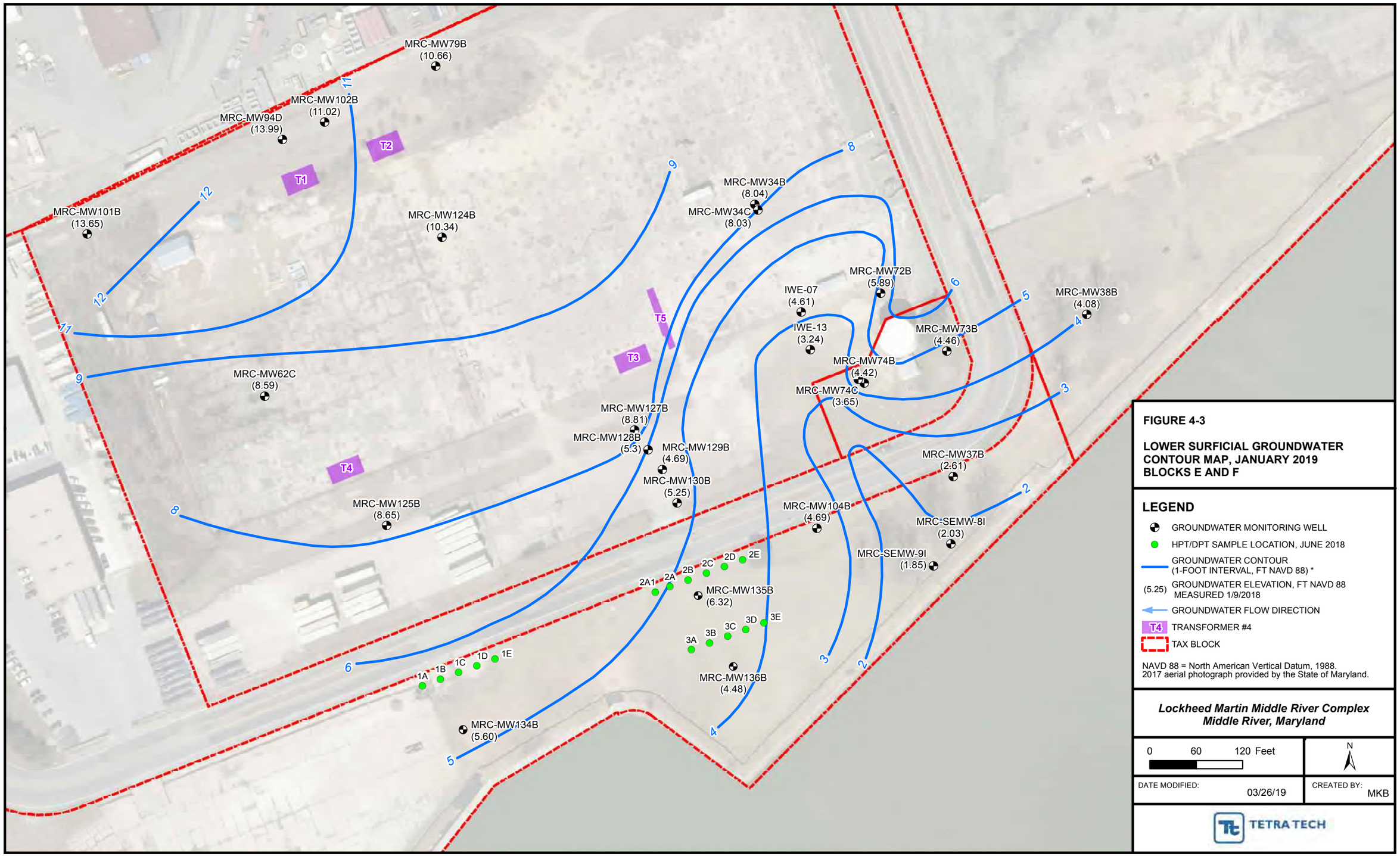

FIGURE 4-3

LOWER SURFICIAL GROUNDWATER CONTOUR MAP, JANUARY 2019 BLOCKS E AND F

LEGEND

- GROUNDWATER MONITORING WELL
- HPT/DPT SAMPLE LOCATION, JUNE 2018
- GROUNDWATER CONTOUR (1-FOOT INTERVAL, FT NAVD 88) *
- (5.25) GROUNDWATER ELEVATION, FT NAVD 88 MEASURED 1/9/2018
- GROUNDWATER FLOW DIRECTION
- T4 TRANSFORMER #4
- TAX BLOCK

NAVD 88 = North American Vertical Datum, 1988.
2017 aerial photograph provided by the State of Maryland.

Lockheed Martin Middle River Complex
Middle River, Maryland

0 60 120 Feet

N

DATE MODIFIED: 03/26/19

CREATED BY: MKB

TETRA TECH

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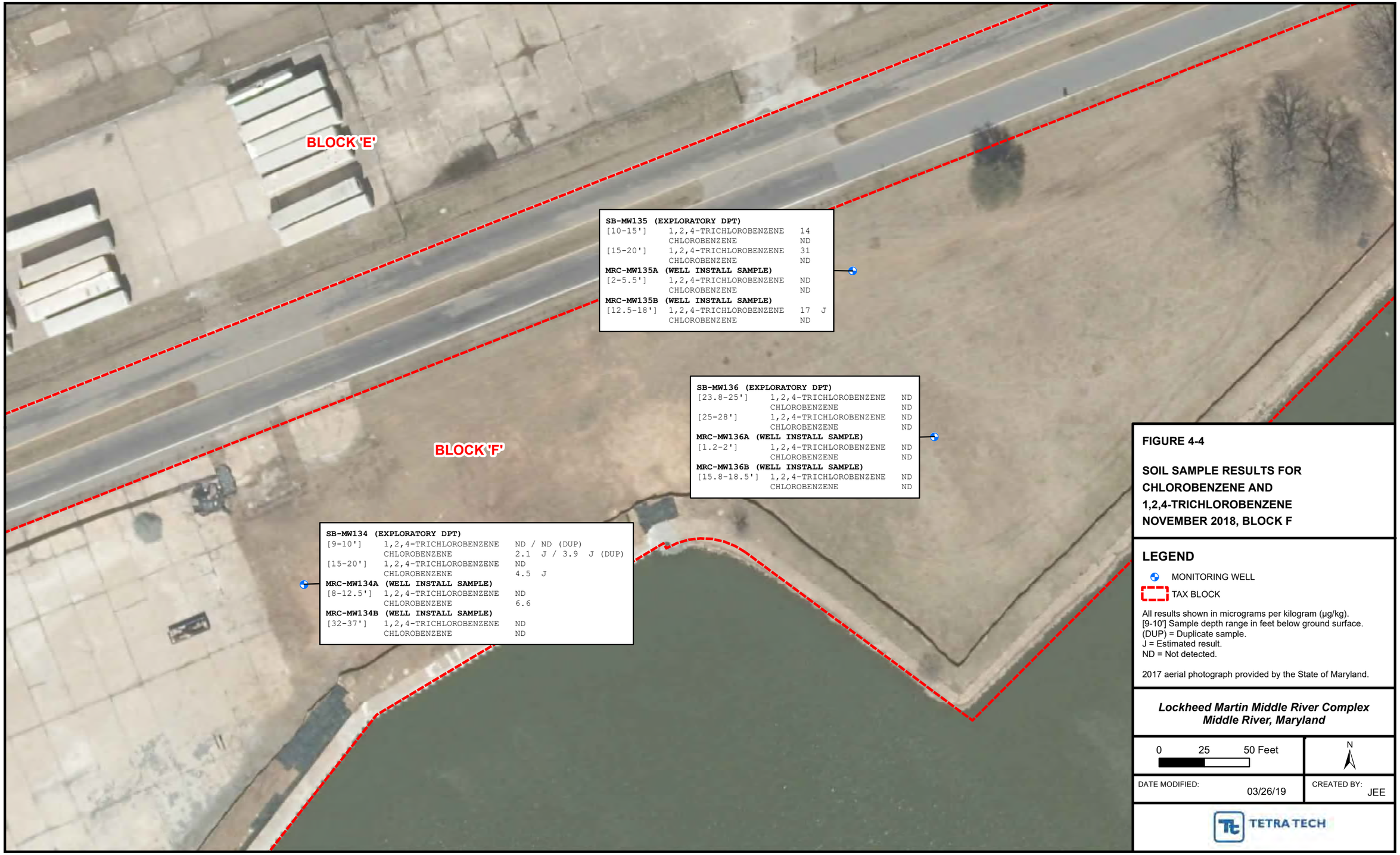

FIGURE 4-4

SOIL SAMPLE RESULTS FOR CHLOROBENZENE AND 1,2,4-TRICHLOROBENZENE NOVEMBER 2018, BLOCK F

LEGEND

- MONITORING WELL
- TAX BLOCK

All results shown in micrograms per kilogram (µg/kg).
[9-10'] Sample depth range in feet below ground surface.
(DUP) = Duplicate sample.
J = Estimated result.
ND = Not detected.

2017 aerial photograph provided by the State of Maryland.

Lockheed Martin Middle River Complex
Middle River, Maryland

0 25 50 Feet

N

DATE MODIFIED: 03/26/19

CREATED BY: JEE

TETRA TECH

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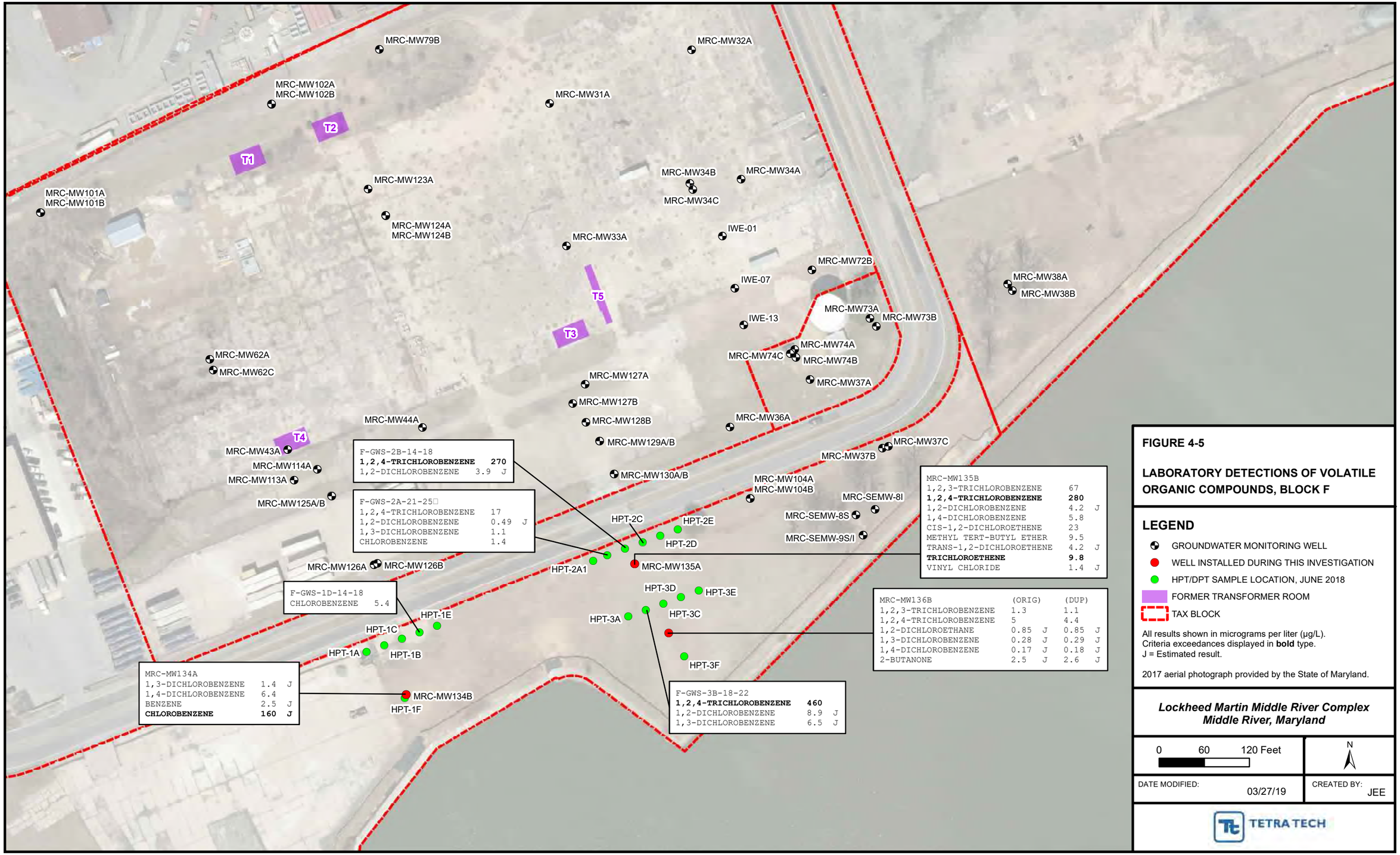

FIGURE 4-5

LABORATORY DETECTIONS OF VOLATILE ORGANIC COMPOUNDS, BLOCK F

LEGEND

- GROUNDWATER MONITORING WELL
- WELL INSTALLED DURING THIS INVESTIGATION
- HPT/DPT SAMPLE LOCATION, JUNE 2018
- FORMER TRANSFORMER ROOM
- TAX BLOCK

All results shown in micrograms per liter (µg/L).
Criteria exceedances displayed in **bold** type.
J = Estimated result.

2017 aerial photograph provided by the State of Maryland.

Lockheed Martin Middle River Complex
Middle River, Maryland

0 60 120 Feet

N

DATE MODIFIED: 03/27/19

CREATED BY: JEE

TETRA TECH

Map Document: (P:\GIS\Middle_River\MapDocs\MXD\block_f_voc_tags_nov2018.mxd)
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FIGURE 4-6

PCB AND PCB HOMOLOG DETECTIONS IN GROUNDWATER, BLOCKS E AND F

LEGEND

- MONITORING WELL
- TAX BLOCK

```
Sample ID
Parameter   Result in µg/L
```

J = Estimated result.
All results shown in micrograms per liter (µg/L).
2017 aerial photograph provided by the State of Maryland.

Lockheed Martin Middle River Complex
Middle River, Maryland

0 50 100 Feet

N

DATE MODIFIED: 03/26/19

CREATED BY: JEE

TETRA TECH

Map Document: (P:\GIS\Middle_River\MapDocs\MXD\block_e_gw_exc_apr2018_pcb.mxd)
03/26/19 -- JEE

TABLES

Table 4-1 Frog 4000 Field Screening Results, Block F

Table 4–2 Comprehensive Groundwater Results, Block F

Table 4–3 Groundwater Level Measurement Sheet

Table 4–4 Comprehensive Soil Screening Results, Block F

Table 4-1

Frog 4000 Field Screening Results
Block F, Middle River Complex

Boring	Depth (feet bgs)	Field results (µg/L)		Laboratory results (µg/L)	
		Chlorobenzene	1,2,4-TCB	Chlorobenzene	1,2,4-TCB
1A	5–9	ND	ND	NS	NS
	9–13	ND	ND	NS	NS
	23–27	No water		No water	
1B	5–9	328	ND	NS	NS
	9–13	23.7	ND	NS	NS
1C	6–10	No water		No water	
	10–14	33	ND	NS	NS
	34–38	ND	ND	NS	NS
1D	2–6	No water		No water	
	6–10	No water		No water	
	10–14	No water		No water	
	14–18	12	ND	5.4	ND
1E	6–10	Boring not sampled		Boring not sampled	
	10–14				
	14–18				
	18–22				
	25–29				
1F	7–11	305	ND	NS	NS
	14–18	No water		No water	
2A	3–7	ND	ND	NS	NS
	13–17	ND	92	NS	NS
	17–21	ND	ND	NS	NS
	21–25	ND	89	1.4	17
2A1	14–18	ND	ND	NS	NS
	18–22	ND	ND	NS	NS
2B	3–7	ND	ND	NS	NS
	14–18	ND	447	ND	270
	18–22	ND	1,058	NS	NS
2C	3–7	ND	ND	ND	ND
	13–17	ND	485	NS	NS
	26–30	No water		No water	
2D	6–10	No water		No water	
	18–22	No water		No water	
3A	4–8	ND	ND	NS	NS
	14–18	ND	84	NS	NS
	18–22	ND	104	NS	NS
	22–26	ND	57	NS	NS
3B	10–14	ND	ND	NS	NS
	14–18	ND	66.8	NS	NS
	18–22	ND	ND	ND	460
	34–38	No water		No water	

Table 4-1

Frog 4000 Field Screening Results
Block F, Middle River Complex

Boring	Depth (feet bgs)	Field results (µg/L)		Laboratory Results (µg/L)	
		Chlorobenzene	1,2,4-TCB	Chlorobenzene	1,2,4-TCB
3C	14–18	ND	225.54	NS	NS
	18–22	ND	756	NS	NS
	35–39	No water		No water	
3D	14–18	ND	ND	NS	NS
3E	14– 18	Boring not sampled		NS	NS
3F	14– 18	ND	ND	NS	NS
	18– 22	No water		No water	

bgs– below ground surface
µg/L– micrograms per liter
ND– not detected
NS—not sampled, interval was not selected for laboratory analysis
1,2,4-TCB– 1,2,4-trichlorobenzene
Laboratory samples were analyzed by TestAmerica Inc, North Canton, Ohio

Table 4-2

Comprehensive Groundwater Results, Block F
Middle River Complx
Page 1 of 2

LOCATION	FEDMC L Values	F-GWS-1D	F-GWS-2A	F-GWS-2B	F-GWS-2C	F-GWS-3B	MRC-MW134A	MRC-MW134B	MRC-MW135A	MRC-MW135B	MRC-MW136B	MRC-MW136B	MRC-MW136B
SAMPLE ID		F-GWS-1D-14-18	F-GWS-2A-21-25	F-GWS-2B-14-18	F-GWS-2C-3-7	F-GWS-3B-18-22	MRC-MW-134A-111318	MRC-MW-134B-111318	MRC-MW-135A-111218	MRC-MW-135B-111318	MRC-MW-136B-111318	MRC-MW-136B-111318-	MRC-MW-136B-111318-
SAMPLE DATE		20180913	20180912	20180912	20180912	20180913	20181113	20181113	20181112	20181113	20181113	20181113	20181113
TOP DEPTH		14	21	14	3	18	7.5	32.5	3	12.5	14	14	14
BOTTOM DEPTH		18	25	18	7	22	12.5	37.5	6	22.5	19	19	19
VOLATILES (UG/L)													
1,1,1,2-TETRACHLOROETHANE	NC	--	--	--	--	--	0.7 U	0.14 U	0.14 U	0.7 U	0.14 U	0.14 U	0.14 U
1,1,1-TRICHLOROETHANE	200	--	--	--	--	--	1.2 U	0.24 U	0.24 U	1.2 U	0.24 U	0.24 U	0.24 U
1,1,2,2-TETRACHLOROETHANE	NC	--	--	--	--	--	0.65 U	0.13 U	0.13 U	0.65 U	0.13 U	0.13 U	0.13 U
1,1,2-TRICHLOROTRIFLUOROETHANE	NC	--	--	--	--	--	2.1 U	0.41 U	0.41 U	2.1 U	0.41 U	0.41 U	0.41 U
1,1-DICHLOROETHANE	NC	--	--	--	--	--	0.85 U	0.17 U	0.17 U	0.85 U	0.17 U	0.17 U	0.17 U
1,1-DICHLOROETHENE	7	--	--	--	--	--	0.95 U	0.19 U	0.19 U	0.95 U	0.19 U	0.19 U	0.19 U
1,1-DICHLOROPROPENE	NC	--	--	--	--	--	0.7 U	0.14 U	0.14 U	0.7 U	0.14 U	0.14 U	0.14 U
1,2,3-TRICHLOROBENZENE	NC	--	--	--	--	--	2.7 U	0.54 U	0.54 U	**67**	**1.3**	**1.2**	**1.1**
1,2,3-TRICHLOROPROPANE	NC	--	--	--	--	--	1.2 U	0.24 U	0.24 U	1.2 U	0.24 U	0.24 U	0.24 U
1,2,3-TRIMETHYLBENZENE	NC	--	--	--	--	--	0.7 U	0.14 U	0.14 U	0.7 U	0.14 U	0.14 U	0.14 U
1,2,4-TRICHLOROBENZENE	70	0.26 U	**17**	270	0.26 U	460	1.3 U	0.26 U	0.26 U	280	**5**	**4.7**	**4.4**
1,2,4-TRIMETHYLBENZENE	NC	--	--	--	--	--	0.35 U	0.07 U	0.07 U	0.35 U	0.07 U	0.07 U	0.07 U
1,2-DIBROMO-3-CHLOROPROPANE	0.2	--	--	--	--	--	4.6 UJ	0.91 UJ	0.91 U	4.6 U	0.91 U	0.91 U	0.91 U
1,2-DIBROMOETHANE	0.05	--	--	--	--	--	0.6 U	0.12 U	0.12 U	0.6 U	0.12 U	0.12 U	0.12 U
1,2-DICHLOROBENZENE	600	0.15 U	**0.49 J**	**3.9 J**	0.15 U	**8.9 J**	0.75 U	0.15 U	0.15 U	**4.2 J**	0.15 U	0.15 U	0.15 U
1,2-DICHLOROETHANE	5	--	--	--	--	--	1.1 U	0.21 U	0.21 U	1.1 U	**0.85 J**	**0.85**	**0.85 J**
1,2-DICHLOROPROPANE	5	--	--	--	--	--	0.75 U	0.15 U	0.15 U	0.75 U	0.15 U	0.15 U	0.15 U
1,3-DICHLOROBENZENE	NC	0.15 U	**1.1**	2.5 U	0.15 U	**6.5 J**	**1.4 J**	0.15 U	0.15 U	0.75 U	**0.28 J**	**0.285**	**0.29 J**
1,3-DICHLOROPROPANE	NC	--	--	--	--	--	1.1 U	0.21 U	0.21 U	1.1 U	0.21 U	0.21 U	0.21 U
1,4-DICHLOROBENZENE	75	--	--	--	--	--	**6.4**	0.16 U	0.16 U	**5.8**	**0.17 J**	**0.175**	**0.18 J**
2,2-DICHLOROPROPANE	NC	--	--	--	--	--	1.6 U	0.31 U	0.31 UJ	1.6 UJ	0.31 UJ	0.31 U	0.31 UJ
2-BUTANONE	NC	--	--	--	--	--	5.8 U	1.2 U	1.2 U	5.8 U	**2.5 J**	**2.55**	**2.6 J**
2-CHLOROETHYL VINYL ETHER	NC	--	--	--	--	--	1.3 UR	0.26 UR	0.26 UR	1.3 UR	0.26 UR	0.26 R	0.26 UR
2-CHLOROTOLUENE	NC	--	--	--	--	--	0.75 U	0.15 U	0.15 U	0.75 U	0.15 U	0.15 U	0.15 U
2-HEXANONE	NC	--	--	--	--	--	2.7 U	0.54 U	0.54 U	2.7 U	0.54 U	0.54 U	0.54 U
4-CHLOROTOLUENE	NC	--	--	--	--	--	0.45 U	0.09 U	0.09 U	0.45 U	0.09 U	0.09 U	0.09 U
4-ISOPROPYLTOLUENE	NC	--	--	--	--	--	0.65 U	0.13 U	0.13 U	0.65 U	0.13 U	0.13 U	0.13 U
4-METHYL-2-PENTANONE	NC	--	--	--	--	--	2.1 U	0.42 U	0.42 U	2.1 U	0.42 U	0.42 U	0.42 U
ACETONE	NC	--	--	--	--	--	27 U	5.4 U	5.4 U	27 UJ	5.4 UJ	5.4 U	5.4 UJ
BENZENE	5	--	--	--	--	--	**2.5 J**	0.13 U	0.13 U	0.65 U	0.13 U	0.13 U	0.13 U
BROMOBENZENE	NC	--	--	--	--	--	0.6 U	0.12 U	0.12 U	0.6 U	0.12 U	0.12 U	0.12 U
BROMOCHLOROMETHANE	NC	--	--	--	--	--	0.7 U	0.14 U	0.14 U	0.7 U	0.14 U	0.14 U	0.14 U
BROMODICHLOROMETHANE	80	--	--	--	--	--	0.85 U	0.17 U	0.17 U	0.85 U	0.17 U	0.17 U	0.17 U
BROMOFORM	80	--	--	--	--	--	3.8 U	0.76 U	0.76 U	3.8 U	0.76 U	0.76 U	0.76 U
BROMOMETHANE	NC	--	--	--	--	--	2.1 U	0.42 U	0.42 U	2.1 U	0.42 U	0.42 U	0.42 U
CARBON DISULFIDE	NC	--	--	--	--	--	1.4 U	0.28 U	0.28 UJ	1.4 UJ	0.28 UJ	0.28 U	0.28 UJ
CARBON TETRACHLORIDE	5	--	--	--	--	--	1.3 U	0.26 U	0.26 U	1.3 U	0.26 U	0.26 U	0.26 U
CHLOROBENZENE	100	**5.4**	**1.4**	2.3 U	0.14 U	2.8 U	**160 J**	0.14 U	0.14 U	0.7 U	0.14 U	0.14 U	0.14 U
CHLORODIBROMOMETHANE	80	--	--	--	--	--	2 U	0.39 U	0.39 U	2 U	0.39 U	0.39 U	0.39 U
CHLOROETHANE	NC	--	--	--	--	--	4.2 U	0.83 U	0.83 U	4.2 U	0.83 U	0.83 U	0.83 U
CHLOROFORM	80	--	--	--	--	--	0.65 U	0.13 U	0.13 U	0.65 U	0.13 U	0.13 U	0.13 U
CHLOROMETHANE	NC	--	--	--	--	--	1 U	0.2 U	0.2 U	1 U	0.2 U	0.2 U	0.2 U
CIS-1,2-DICHLOROETHENE	70	--	--	--	--	--	0.8 U	0.16 U	0.16 U	**23**	0.16 U	0.16 U	0.16 U
CIS-1,3-DICHLOROPROPENE	NC	--	--	--	--	--	3.1 U	0.61 U	0.61 U	3.1 U	0.61 U	0.61 U	0.61 U
DIBROMOMETHANE	NC	--	--	--	--	--	0.45 U	0.09 U	0.09 U	0.45 U	0.09 U	0.09 U	0.09 U
DICHLORODIFLUOROMETHANE	NC	--	--	--	--	--	1.8 UJ	0.35 UJ	0.35 UJ	1.8 UJ	0.35 UJ	0.35 U	0.35 UJ
DIISOPROPYL ETHER	NC	--	--	--	--	--	0.85 U	0.17 U	0.17 U	0.85 U	0.17 U	0.17 U	0.17 U
ETHYL TERT-BUTYL ETHER	NC	--	--	--	--	--	0.75 U	0.15 U	0.15 UJ	0.75 UJ	0.15 U	0.15 U	0.15 UJ
ETHYLBENZENE	700	--	--	--	--	--	0.55 U	0.11 U	0.11 U	0.55 U	0.11 U	0.11 U	0.11 U
HEXACHLOROBUTADIENE	NC	--	--	--	--	--	4.2 U	0.83 U	0.83 U	4.2 U	0.83 U	0.83 U	0.83 U
ISOPROPYLBENZENE	NC	--	--	--	--	--	0.45 U	0.09 U	0.09 U	0.45 U	0.09 U	0.09 U	0.09 U
METHYL TERT-BUTYL ETHER	NC	--	--	--	--	--	0.35 U	0.07 U	0.07 U	**9.5**	0.07 U	0.07 U	0.07 U
METHYLENE CHLORIDE	5	--	--	--	--	--	13 U	2.6 U	2.6 U	13 U	2.6 U	2.6 U	2.6 U
NAPHTHALENE	NC	--	--	--	--	--	1.6 U	0.32 U	0.32 U	1.6 U	0.32 U	0.32 U	0.32 U
N-BUTYLBENZENE	NC	--	--	--	--	--	0.7 U	0.14 U	0.14 U	0.7 U	0.14 U	0.14 U	0.14 U
N-PROPYLBENZENE	NC	--	--	--	--	--	0.75 U	0.15 U	0.15 U	0.75 U	0.15 U	0.15 U	0.15 U
SEC-BUTYLBENZENE	NC	--	--	--	--	--	0.65 U	0.13 U	0.13 U	0.65 U	0.13 U	0.13 U	0.13 U
STYRENE	100	--	--	--	--	--	0.5 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
TERT-AMYL METHYL ETHER	NC	--	--	--	--	--	0.55 U	0.11 U	0.11 UJ	0.55 UJ	0.11 UJ	0.11 U	0.11 UJ
TERT-BUTYLBENZENE	NC	--	--	--	--	--	0.7 U	0.14 U	0.14 U	0.7 U	0.14 U	0.14 U	0.14 U
TERTIARY-BUTYL ALCOHOL	NC	--	--	--	--	--	8.5 U	1.7 U	1.7 U	9 U	1.7 U	1.7 U	1.7 U
TETRACHLOROETHENE	5	--	--	--	--	--	0.75 U	0.15 U	0.15 U	0.75 U	0.15 U	0.15 U	0.15 U
TOLUENE	1000	--	--	--	--	--	0.7 U	0.14 U	0.14 U	0.7 U	0.14 U	0.14 U	0.14 U
TOTAL XYLENES	10000	--	--	--	--	--	0.75 U	0.15 U	0.15 U	0.75 U	0.15 U	0.15 U	0.15 U
TRANS-1,2-DICHLOROETHENE	100	--	--	--	--	--	0.95 U	0.19 U	0.19 U	**4.2 J**	0.19 U	0.19 U	0.19 U
TRANS-1,3-DICHLOROPROPENE	NC	--	--	--	--	--	3.4 U	0.67 U	0.67 U	3.4 U	0.67 U	0.67 U	0.67 U
TRICHLOROETHENE	5	--	--	--	--	--	0.5 U	0.1 U	0.1 U	**9.8**	0.1 U	0.1 U	0.1 U
TRICHLOROFLUOROMETHANE	NC	--	--	--	--	--	2.3 U	0.45 U	0.45 U	2.3 U	0.45 U	0.45 U	0.45 U
VINYL ACETATE	NC	--	--	--	--	--	0.95 U	0.19 U	0.19 U	0.95 U	0.19 U	0.19 U	0.19 U
VINYL CHLORIDE	2	--	--	--	--	--	1 U	0.2 U	0.2 U	**1.4 J**	0.2 U	0.2 U	0.2 U
VOLATILE GASES (UG/L)													
ETHANE	NC	--	--	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
ETHENE	NC	--	--	--	--	--	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
METHANE	NC	--	--	--	--	--	**5900**	0.17 U	0.17 U	**88**	0.17 U	0.17 U	0.17 U
PCBS (UG/L)													
DICHLOROBIPHENYLS	0.5	--	--	--	--	--	0.0052 UJ	0.0053 UJ	0.0052 UJ	0.0058 UJ	0.0058 UJ	0.0058 U	0.0058 UJ
HEPTACHLOROBIPHENYLS	0.5	--	--	--	--	--	0.029 UJ	0.03 UJ	0.029 UJ	0.032 UJ	0.032 UJ	0.032 U	0.032 UJ
HEXACHLOROBIPHENYLS	0.5	--	--	--	--	--	0.015 U	0.015 U	0.014 U	0.016 U	0.016 U	0.016 U	0.016 U
MONOCHLOROBIPHENYLS	0.5	--	--	--	--	--	0.0054 UJ	0.0055 UJ	0.0054 UJ	**0.015 J**	0.006 UJ	0.006 U	0.006 UJ
NONACHLOROBIPHENYLS	0.5	--	--	--	--	--	0.047 U	0.048 U	0.047 U	0.053 U	0.053 U	0.0525 U	0.052 U
OCTACHLOROBIPHENYLS	0.5	--	--	--	--	--	0.037 U	0.037 U	0.037 U	0.041 U	0.041 U	0.041 U	0.041 U
PENTACHLOROBIPHENYLS	0.5	--	--	--	--	--	0.014 U	0.014 U	0.014 U	0.015 U	0.015 U	0.015 U	0.015 U
TETRACHLOROBIPHENYLS	0.5	--	--	--	--	--	0.013 U	0.013 U	0.013 U	0.014 U	0.014 U	0.014 U	0.014 U
TRICHLOROBIPHENYLS	0.5	--	--	--	--	--	0.0063 U	0.0064 U	0.0063 U	0.007 U	0.007 U	0.00695 U	0.0069 U
METALS (UG/L)													
ALUMINUM	NC	--	--	--	--	--	34 U	**82**	34 U	**79**	**400**	**375**	**350**
ANTIMONY	6	--	--	--	--	--	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U
ARSENIC	10	--	--	--	--	--	**5.5**	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
BARIUM	2000	--	--	--	--	--	**130**	**57**	**80**	**110**	**83**	**83.5**	**84**
BERYLLIUM	4	--	--	--	--	--	0.31 U	0.31 U	0.31 U	**9.5**	**10**	**10.5**	**11**
CADMIUM	5	--	--	--	--	--	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
CALCIUM	NC	--	--	--	--	--	**75000**	**5000**	**120000**	**7800**	**10000**	**9700**	**9400**
CHROMIUM	100	--	--	--	--	--	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U
COBALT	NC	--	--	--	--	--	**0.48 J**	**37**	**4.5**	**38**	**56**	**55.5**	**55**
COPPER	1300	--	--	--	--	--	1.7 U	1.7 U	1.7 U	1.7 U	**5.1**	**5.05**	**5**
IRON	NC	--	--	--	--	--	**17000**	**7600**	**420**	**80 J**	**150**	**150**	**150**

Table 4-2

Comprehensive Groundwater Results, Block F
Middle River Complx
Page 2 of 2

LOCATION	FEDMCL Values	F-GWS-1D	F-GWS-2A	F-GWS-2B	F-GWS-2C	F-GWS-3B	MRC-MW134A	MRC-MW134B	MRC-MW135A	MRC-MW135B	MRC-MW136B	MRC-MW136B	MRC-MW136B
SAMPLE ID		F-GWS-1D-14-18	F-GWS-2A-21-25	F-GWS-2B-14-18	F-GWS-2C-3-7	F-GWS-3B-18-22	MRC-MW-134A-111318	MRC-MW-134B-111318	MRC-MW-135A-111218	MRC-MW-135B-111318	MRC-MW-136B-111318	MRC-MW-136B-111318-	MRC-MW-136B-111318-
SAMPLE DATE		20180913	20180912	20180912	20180912	20180913	20181113	20181113	20181112	20181113	20181113	20181113	20181113
TOP DEPTH		14	21	14	3	18	7.5	32.5	3	12.5	14	14	14
BOTTOM DEPTH		18	25	18	7	22	12.5	37.5	6	22.5	19	19	19
LEAD	15	--	--	--	--	--	0.45 U	0.45 U	0.45 U	0.45 U	**0.51 J**	**0.3675**	0.45 U
MAGNESIUM	NC	--	--	--	--	--	**11000**	**3700**	**26000**	**5700**	**10000**	**9900**	**9800**
MANGANESE	NC	--	--	--	--	--	**510**	**840**	**160**	**220**	**140**	**140**	**140**
NICKEL	NC	--	--	--	--	--	1.5 U	**60**	**1.8 J**	**92**	**130**	**125**	**120**
POTASSIUM	NC	--	--	--	--	--	**8200**	**2900**	**3700**	**3200**	**4500**	**4200**	**3900**
SELENIUM	50	--	--	--	--	--	0.89 U	0.89 U	**5.9**	0.89 U	0.89 U	0.89 U	0.89 U
SILVER	NC	--	--	--	--	--	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
SODIUM	NC	--	--	--	--	--	**120000**	**6000**	**240000**	**20000**	**48000**	**47500**	**47000**
THALLIUM	2	--	--	--	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VANADIUM	NC	--	--	--	--	--	0.82 U	0.82 U	0.82 U	0.82 U	**0.91 J**	**0.66**	0.82 U
ZINC	NC	--	--	--	--	--	15 U	**49**	15 U	**130**	**190**	**190**	**190**
MISCELLANEOUS PARAMETERS (MG/L)													
ALKALINITY	NC	--	--	--	--	--	**280**	**32**	**370**	**5.9**	**21**	**23.5**	**26**
BROMIDE	NC	--	--	--	--	--	**0.079 J**	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U
HARDNESS AS CACO3	NC	--	--	--	--	--	**250**	**44**	**400**	**48**	**72**	**70**	**68**
NITRITE/NITRATE-N	NC	--	--	--	--	--	0.031 UJ	0.031 UJ	**0.35 J**	0.042 U	**0.19 J**	**0.18**	**0.17 J**
SULFATE	NC	--	--	--	--	--	**4**	**4.4**	**30**	**6.6**	**49**	**48.5**	**48**
TOTAL DISSOLVED SOLIDS	NC	--	--	--	--	--	**580**	**74**	**950**	**130**	**230**	**225**	**220**
SALINITY (unitless)	NC	--	--	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U
MICROBIOLOGICAL (CELLS/ML)													
BAV1 VC R-DASE	NC	--	--	--	--	--	--	--	0.5 U	--	1 U	1 U	1 U
DEHALOCOCCOIDES	NC	--	--	--	--	--	--	--	0.5 U	--	1 U	1 U	1 U
TCE R-DASE	NC	--	--	--	--	--	--	--	0.5 U	--	1 U	1 U	1 U
VC R-DASE	NC	--	--	--	--	--	--	--	0.5 U	--	1 U	1 U	1 U

Positive value bolded.

Exceedance Shaded

FEDMCL = federal maximum concentration limit criterion for drinking water. Drinking water criterion used, note these samples are groundwater and not from drinking water sources

NC = no criteria for listed analyte

-- = not analyzed or undetected

U = The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted detection limit.

J = the result is an estimated quantity

UJ = The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise

UR = 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.

Tetra Tech

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: Block E/F Static WL extensive
Project No.: 112IC08784
Location: Middle River, MD
Personnel: W. Pryor
Weather Conditions: overcast, 40 deg F
Measuring Device: Solinst WLM
Tidally Influenced: Yes ____ No __X__
Remarks:

Well or Piezometer Number	Date	Time	Elevation of Reference Point (feet)*	Historical Total Well Depth (feet)*	Water Level Indicator Reading (feet)*	Groundwater Elevation (feet)*	Comments
EW-1	1/9/2018	1250	7.05	30	4.45	2.60	
EW-2	1/9/2018	1251	6.01	30	3.85	2.16	
IWE-01	1/9/2018	1006	10.68	16.00	3.35	7.33	
IWE-07	1/9/2018	1008	10.13	30.00	5.52	4.61	
IWE-13	1/9/2018	1022	11.04	35.00	7.80	3.24	
MW-31A	1/9/2018	846	11	14	2.2	8.80	
MW-32A	1/9/2018	947	11.01	14	2.82	8.19	
MW-33A	1/9/2018	948	11.08	14	1.01	10.07	
MW-34A	1/9/2018	950	10.88	14	3.02	7.86	
MW-34B	1/9/2018	952	10.84	14	2.8	8.04	
MW-34C	1/9/2018	953	10.8	55	2.77	8.03	
MW-37A	1/9/2018	1032	10.5	17	5.87	4.63	
MW-37B	1/9/2018	1318	7.36	34	4.75	2.61	
MW-37C	1/9/2018	1319	7.45	70	4.37	3.08	
MW-38A	1/9/2018	1322	8.07	14	3.2	4.87	
MW-38B	1/9/2018	1323	8.18	37	4.1	4.08	
MW-43A	1/9/2018	906	11.01	13.5	0.65	10.36	
MW-44A	1/9/2018	916	10.64	13	0.65	9.99	
MW-62A	1/9/2018	901	10.62	13	0.15	10.47	
MW-62C	1/9/2018	902	10.89	65	2.3	8.59	
MW-65A	1/9/2018	1240	14.76	18	4.3	10.46	
MW-72B	1/9/2018	1026	10.79	35	4.9	5.89	
MW-73A	1/9/2018	1028	10.46	17	4.65	5.81	
MW-73B	1/9/2018	1029	10.28	34	5.82	4.46	
MW-74A	1/9/2018	1031	11.18	18	5.9	5.28	
MW-74B	1/9/2018	1032	10.88	32	6.46	4.42	
MW-74C	1/9/2018	1033	11.05	55	7.4	3.65	
MW-79B	1/9/2018	835	19.18	37	8.52	10.66	
MW-94D	1/9/2018	829	23.01	196	9.02	13.99	
MW-101A	1/9/2018	824	27.29	18	14.1	13.19	
MW-101B	1/9/2018	825	27.25	35	13.6	13.65	
MW-102A	1/9/2018	831	21.63	16	9.5	12.13	
MW-102B	1/9/2018	832	21.58	36	10.56	11.02	
MW-104A	1/9/2018	1247	8.19	15	3.67	4.52	
MW-104B	1/9/2018	1248	8.23	25	4.42	3.81	
MW-113A	1/9/2018	921	12.19	16	1.32	10.87	
MW-114A	1/9/2018	920	12.03	16	1.89	10.14	
MW-123A	1/9/2018	849	10.62	21	TOP PVC	N/A	artesian well, water above PVC
MW-124A	1/9/2018	847	10.71	18	TOP PVC	N/A	artesian well, water above PVC
MW-124B	1/9/2018	848	10.74	30	0.4	10.34	
MW-125A	1/9/2018	923	11.91	15	1.8	10.11	

Tetra Tech

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: Block E/F Static WL extensive

Project No.: 112IC08784

Location: Middle River, MD

Personnel: W. Pryor

Weather Conditions: overcast, 40 deg F

Measuring Device: Solinst WLM

Tidally Influenced: Yes ____ No __X__

Remarks:

Well or Piezometer Number	Date	Time	Elevation of Reference Point (feet)*	Historical Total Well Depth (feet)*	Water Level Indicator Reading (feet)*	Groundwater Elevation (feet)*	Comments
MW-125B	1/9/2018	924	11.97	35	3.32	8.65	
MW-127A	1/9/2018	930	11.45	15	2.53	8.92	
MW-127B	1/9/2018	931	11.34	22.8	2.53	8.81	
MW-128A	1/9/2018	933	10.92	20	2.45	8.47	
MW-128B	1/9/2018	934	10.9	29.5	5.6	5.30	
MW-129A	1/9/2018	936	10.46	19	2.2	8.26	
MW-129B	1/9/2018	937	10.5	30	5.81	4.69	
MW-130A	1/9/2018	940	10.08	14	2.25	7.83	
MW-130B	1/9/2018	941	10.08	30	4.83	5.25	
MW-134A	1/9/2018	1055	9.71	12.5	1.51	8.20	
MW-134B	1/9/2018	1056	9.7	37.5	4.1	5.60	
MW-135A	1/9/2018	1243	8.62	6	2.33	6.29	
MW-135B	1/9/2018	1244	8.62	22.5	2.3	6.32	
MW-136B	1/9/2018	1246	6.83	19	2.35	4.48	
SEMW-1I	1/9/2018	1050	10.63	30.00	7.80	2.83	
SEMW-5I	1/9/2018	1046	11.49	35	7.08	4.41	
SEMW-5S	1/9/2018	1045	11.51	22.50	6.82	4.69	
SEMW-8I	1/9/2018	1254	5.73	28	3.7	2.03	
SEMW-8S	1/9/2018	1253	6.06	18	4	2.06	
SEMW-9I	1/9/2018	1256	5.72	30	3.87	1.85	
SEMW-9S	1/9/2018	1255	5.77	16	3.85	1.92	

Table 4-4

Comprehensive Soil Screening Results, Block F
Middle River Complex
Page 1 of 1

LOCATION	SB-MW134				SB-MW135		SB-MW136		MRC-MW134A	MRC-MW134B	MRC-MW135A	MRC-MW135B	MRC-MW136	MRC-MW136B
SAMPLE ID	SB-MW134-15-20	SB-MW134-9-10	SB-MW134-9-10-	SB-MW134-9-10-D	SB-MW135-10-15	SB-MW135-15-20	SB-MW136-23.8-25	SB-MW136-25-28	SB-MW134A-8-12.5 20181031	SB-MW134B-32-	SB-MW135A-2-5.5	SB-MW135B-12.5-18	SB-MW136-1.2-2	SB-MW136B-15.8-
SAMPLE DATE	20180920	20180920	20180920	20180920	20180920	20180920	20180920	20180920	20181031	20181031	20181030	20181030	20181031	20181031
BORING TYPE	EXPLORATORY	EXPLORATORY	EXPLORATORY	EXPLORATORY	EXPLORATORY	EXPLORATORY	EXPLORATORY	EXPLORATORY	WELL INSTALL SAMPLE	WELL INSTALL SAMPLE	WELL INSTALL	WELL INSTALL	WELL INSTALL	WELL INSTALL
SAMPLE CODE	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
TOP DEPTH	15	9	9	9	10	15	23.8	25	8	32	2	12.5	1.2	15.8
BOTTOM DEPTH	20	10	10	10	15	20	25	28	12.5	37	5.5	18	2	18.5
VOLATILES (UG/KG)														
1,2,3-TRICHLOROBENZENE	--	--	--	--	2.7 J	7.5	--	--	--	--	--	--	--	--
1,2,4-TRICHLOROBENZENE	--	--	--	--	14	31	--	--	--	--	--	17 J	--	--
1,2-DICHLOROETHANE	1.8 J	--	--	--	--	--	--	1.1 J	--	--	--	--	--	--
1,3-DICHLOROBENZENE	--	--	--	--	1 J	--	--	--	--	--	--	--	--	--
1,4-DICHLOROBENZENE	--	--	0.7875	1.1 J	--	--	--	--	2.3 J	--	--	--	--	--
2-BUTANONE	--	4.9 J	3.4	--	--	--	--	--	--	--	--	--	--	--
ACETONE	--	24 J	27	30	--	--	--	--	--	--	--	--	--	--
CARBON DISULFIDE	--	1.3 J	1.35	1.4 J	--	--	--	--	--	--	--	--	--	--
CHLOROBENZENE	4.5 J	2.1 J	3	3.9 J	--	--	--	--	6.6	--	--	--	--	--
TENTATIVELY IDENTIFIED COMPOUNDS-VOLATILES (UG/KG)														
UNKNOWN [3.32]	NA	NA	NA	NA	NA	NA	NA	NA	16 NJ	NA	16 NJ	NA	NA	NA
UNKNOWN [3.33]	NA	NA	NA	NA	NA	NA	NA	NA	NA	17 NJ	NA	18 NJ	18 NJ	18 NJ
UNKNOWN [4.23]	NA	NA	NA	NA	NA	NA	NA	NA	17 NJ	NA	NA	NA	NA	17 NJ
UNKNOWN [4.24]	NA	NA	NA	NA	NA	NA	NA	NA	NA	17 NJ	17 NJ	18 NJ	17 NJ	NA

J - estimated value
µg/kg - micrograms per kilogram
NJ - estimated value; unknown compound
U - not detected

APPENDICES

Appendix A—Dig Permit, Utility Clearance

Appendix B—Final HPT Report, Ground Zero

Appendix C—Boring Logs; Exploratory Boring Well Installation

Appendix D—Log Sheets; Soil, Groundwater, Development, Static Water Level, Calibration

Appendix E—Precision Survey Report

Appendix F—Signed Waste Manifests

Appendix G—Full Laboratory Data Reports, Including Microbial Insights

Appendix H—Validated Data Reports

Appendix I—Frog 4000 ™ Field Graphs

APPENDIX A—DIG PERMIT, UTILITY CLEARANCE

LOCKHEED MARTIN

Dig Permit

See Enterprise Operations Procedure EO-28, Digging Projects, for instructions

Date	Project Manager
August 23, 2018	Tom Blackman (Lockheed Martin EESH) Mike Martin (Tetra Tech)

Building/Location

Block F – grassy areas south of Block E

Purpose of work:

1. Complete hydraulic profiling and soil borings to maximum depths of 40 feet in the grassy portions of Block F, south of Block E, via direct-push technology drilling.
2. Drill and install 6 monitoring wells to maximum depths of 40 feet in the same grassy area of Block F via rotosonic technology.
3. Drill and install one monitoring well to maximum depth of 75 feet in eastern Block F via rotosonic technology.
4. Work associated with additional delineation of 1,2,4-trichlorobenzene in soils.

Company/LM organization performing dig

Tetra Tech overseeing Ground Zero (direct push technology contractor) and Cascade (rotosonic technology contractor)

Planned dig date	Duration	Start time
September 6, 2018	Three Weeks	0700
Expected depth	**Width**	**Length**
Approximately 40 feet below grade maximum	2-inch diameter boreholes for DPT, 6-8-inch diameter boreholes for rotosonic	NA

Underground utilities identified?	Overhead utilities?	Electrical lines?	Gas lines?
☒ Yes ☐ No	☐ Yes ☒ No ☐ N/A	☒ Yes ☐ No	☐ Yes ☒ No
Sewer?	**Water?**	**Telecommunications?**	**Other? Specify Storm Drain**
☒ Yes ☐ No	☐ Yes ☒ No	☐ Yes ☒ No ☐ N/A	☒ Yes ☐ No

Site-specific or customer utility locating requirements completed?

☒ Yes ☐ No ☐ N/A

Sketch of dig project (or attach drawing)

See Attached

A private utility locating contractor (Rettew) was used to mark subsurface utilities. Confirmation letter is attached.

Miss Utility Ticket will be called one week prior to work and documentation will be provided when available.

The locations of the proposed work are presented in the enclosed maps, Figure 2-3 for the deep monitoring well and Figure 3-1 for the HPT, DPT, and remaining rotosonic wells.

Project Manager	Date	Customer (SECURITY)	Date
Michael Martin Michael Martin	August 23, 2018	Mark Long	8/31/18
Telecommunications (JOHN WALSH)	**Date**	**Customer (RMS)**	**Date**
John Walsh	8/31/18	N/A	—
ESH (LMC)	**Date**	**Customer (MRAS)**	**Date**
Scott Heinlein	8/30/18	N/A	—
Building/Facility Manager (CPR)			**Date**
[signature]	8/30/18	[signature]	8/30/18

LOCKHEED MARTIN

Risk Handling Checklist

Project Manager: Use this checklist to develop risk handling plans before the dig starts. You must also review Enterprise Operations Procedure EO-28, Digging Projects

General Questions	☒	What Lockheed Martin processes could be affected by the dig? **No Lockheed Martin processes or operations are expected to be impacted as all work will be conducted inside the secured area within F (east of old sea plane ramp). Tetra Tech will work with Lockheed Martin and their tenants to minimize potential impacts.**
	☒	What are the safety hazards? **Utilities, slips/trips/falls, vehicle traffic, drill rig safety, pinch points**
	☒	What could fail? **Direct-Push and rotosonic drill rig components**
	☒	How could it fail? **A component of the mechanical equipment could potentially fail. An inspection of the equipment will be conducted daily to ensure proper working condition.**
	☒	Does the area need to be returned to its normal state when the work is complete? **Yes, boreholes will be backfilled with bentonite upon completion.**
	☐	How could the dig affect operations/test/production? **No operations will be affected**
	☐	Have potential risks been addressed with area management? **No risks identified**
	☒	Am I comfortable with any risk handling plans, understanding the potential impact? **Yes**
Traffic Control	☒	Ensure proper signage and communication. **Proper signage, safety cones, and lines of communication will be utilized during work**
	☒	Coordinate road or access closures through Industrial Security before starting the dig. **LMCPI, Security, EMCOR and the site tenant leads will be notified of the field schedule.**
	☒	Ensure the work area is isolated from foot traffic by placing barriers and warning lights as required by EO-28.
	☒	Ensure that vehicle traffic will be safe. **Use of traffic cones, barriers and/or caution tape**
	☐	Ensure that product transport will be safe. **N/A**
Excavation	☒	Review facility drawings to identify utilities. Research old drawings as necessary. **Available site engineering and utility maps were reviewed**
	☐	Discuss the project with Facility Engineering/Maintenance staff that may have unique knowledge about the construction area not documented in facility drawings.
	☒	Process form EO-28-1, Dig Permit. Use this opportunity to explain the process and relate expectations to the contractor/LM organization that will perform the dig.
	☒	Have LM Telecommunications and the local utility identification service locate and mark utilities/underground obstacles.
	☒	Coordinate with other ongoing projects in the affected area. **Will coordinate with any utility work in the area if present.**
	☐	Make every effort not to excavate around live utilities in service. Schedule an outage in advance or have Maintenance temporarily shut down and isolate the utilities while excavating. **Underground utilities marked by Miss Utility and private utility locating service, storm drain line runs near one boring, location has been re-located.**
	☐	If live utilities cannot be shut down while excavating, know where to isolate or shut them down if they are damaged while excavating. **N/A**
	☐	Have a spotter(s) work with the equipment operator. Hand dig when necessary. **N/A**
	☐	Excavate along the side of the utility; not on top. **N/A**
	☐	Weather may affect the dig. Ensure water pipes are protected during freezing weather, especially if the trench will be left open over night. Rain may cause the side of the trench to slough, which can undermine and break pipes/conduit. **N/A**
	☐	Ensure care when moving trench boxes in and out of trenches so pipes/conduit aren't damaged by the boxes. **N/A**
	☒	Ensure surface drainage is controlled so that water doesn't get into the excavation and undermine soil supporting utilities.
	☒	Ensure stocked material is kept far enough back (minimum 2 feet) so that material and rocks don't fall on utilities in the open hole. **Soil removed from boreholes will be put in drums for characterization and disposal.**
	☒	Ensure backfilling is done carefully. Re-bed utilities with proper material, filling all voids below. Keep inappropriate material from falling on or being placed in the trench. Be careful when compacting backfill in the two feet directly above the utility. **Boreholes will backfilled with bentonite clay pellets**
	☒	Keeps the as-built utility drawing in the field while the excavation site is open. Take pictures if possible (horizontal alignment and elevations), if known utilities deviate from facility drawings or if utilities are found that are not on facility drawings. Give the modified as-built drawings to the Building/Facility Manager, who will update the drawing database. **Field geologist will maintain site maps onsite and photographs will be taken to document all phases of the project**
	☒	Ensure that the equipment operator digs slowly and remains in control. **Drill rig will be operated by and experienced person.**
Excavation	☐	Ensure that trenching and shoring methods comply with the applicable OSHA regulations and are overseen by a "Competent Person," as defined in those regulations. **N/A**

☒	Regularly inspect methods to prevent violations.
☐	Ensure LM employees do not dig or enter any excavation that is more than four feet deep. **N/A**

Project Manager signature indicating completion of checklist review	Date
Michael Martin 	August 23, 2018

GEOPHYSICS
JOB COMPLETION REPORT

TO: Mike Martin – Tetra Tech

FROM: Max Griffiths, RETTEW Associates, Inc. (RAI)

CC: Felicia Bechtel (RAI)

DATE: 08/06/2018

CLIENT: Tetra Tech	PROJECT LOCATION: Blocks E & F Middle River, MD.
PROJECT NO: 019872007	
PROJECT NAME: Middle River	
TECHNICIAN: Max Griffiths	

UTILITIES LOCATED:	**EQUIPMENT:**
• **Electric Lines** • **Storm Lines** • **Water Lines** • **Unknown Utilities**	☐ EM Locator (RD8000/Metrotech) ☒ Ground Penetrating Radar (GPR) ☒ Fisher TW-6 (metal detector) ☒ C.A.T. Passive Locator ☐ Acoustic Leak Detector ☐ Magnetometer ☐ Integrity Assessment Camera ☐ Traceable Rodder ☐ Concrete GPR

SCOPE OF WORK

RETTEW completed a subsurface utility survey to mark-out utilities, underground storage tanks, and other structures within two client-designated areas located in Blocks E and F of the Middle River Complex (**Figure 1**).

METHODOLOGIES

RETTEW first performed a visual scan of each area to identify existing utilities and USTs and associated piping (vent and fill pipes). RETTEW then scanned each survey area with a GSSI ground penetrating radar (GPR) system and dual-frequency 300/800 megaHertz scanning antenna, a Fisher TW-6 metal detector, and a C.A.T. passive utility locator to detect such targets.

RESULTS/CONCLUSIONS

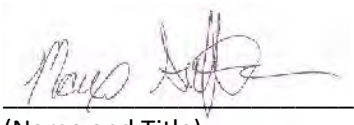
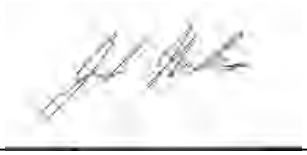
On July 31, 2018, Max Griffiths arrived on-site, was shown the two survey locations, and performed a visual scan for surface features possibly related to utilities or USTs. The proposed boring locations were then marked with semi-permanent paint and pin flags where necessary.

Water (storm and fire) and electric lines were located with the C.A.T. passive utility locator and confirmed with the GPR. GPR scanning also detected an unknown utility near Boring CPP-SB-1864. RETTEW then scanned each area with a TW-6 metal detector in a rough grid pattern to detect anomalous responses indicative of buried metallic objects; however, none were detected.

RESULTS/CONCLUSIONS CONT.
The work was completed on July 31, 2018 and RETTEW photo-documented the survey locations and findings before demobilizing from the site.
ATTACHMENTS: **Figure 1** – Boring Location Survey Results, Blocks E and F

RETTEW, strives to provide quality and accurate locating services to all of its customers, but due to the nature of underground facilities, RETTEW will not be held liable for any damaged facilities. All customers are advised that they are required to follow their state's One-Call-Law before beginning excavation. The marks placed during this investigation are temporary markings for utility mapping purposes. The marks are not intended, nor should they be used for construction; legal and/or recommended construction tolerance zones associated with the identified utilities were not marked by RETTEW. Prior to construction activities, RETTEW should be contacted for remarking of the utilities and construction tolerance zones.

RETTEW, will not guarantee the longevity of utility markings, due to activities on site that may destroy, or otherwise alter, the markings that were placed on the ground by RETTEW, if the marks have been altered or destroyed, the customer is advised to contact RETTEW for remarkings. Any electronically determined depths provided to the client are estimates only and due to limitations equipment cannot be guaranteed. Client acknowledges that due to the limitations of the equipment used, safe exposure and measurements are the only methods which can precisely determine location and depth of structures marked.

PREPARED BY:	RECEIVED BY:
Maxwell (Max) Griffiths – Geophysicist III	
	
(Name and Title)	(Name and Title)

FIGURES



Notes: The information depicted in this drawing represents survey results from the date surveyed and can only be considered indicative of of the general conditions existing on that survey date

Scale (ft)

0 75 150 225 300

Coordinates in Maryland State Plane (feet) NAD-83 Datum.

- Electric Line
- Fire Water Line
- Storm Water Line
- Unknown Utility
- Boring Location

Title: **Boring Location Survey Results Blocks E & F**	Location: Middle River Complex Middle River, MD
RETTEW SM / ENVIROSCAN, INC.	Project Number: 019872007
	Scale: 1' = 150' / Revision Date: 08/06/2018

Miss Utility

Ticket No: 18684788
STANDARD Update
Update of: 18572981
Update Counter: 1
Original Call Date: 10/10/18 01:13 pm
Op / Rev Op: IVR / IVR
Response Due By: 10/12/18 11:59 pm
Release Time: 10/10/18 01:13 pm
Expiration Date: 10/26/18 23:59 pm

CALLER INFORMATION

Company Name: TETRA TECH, INC
Fax Phone:
Contact Name: JOSHUA MULLIS
Phone: 410-279-2700
Caller Address: 20251 CENTURY BLVD SUITE 200 GERMANTOWN,MD 20874
Email Address: josh.mullis@tetratech.com
Job Site Contact: JOSH MULLIS
Phone: 410-279-2700

DIG SITE INFORMATION

Type of Work: SOIL BORINGS TO DEPTH OF 40 FEET IN GRASSY AREA INSIDE FENCE
Work Being Done For: LOCKHEED MARTIN
Explosives: N
Permit:
MDOT Permit:
Job Number:

DIG SITE LOCATION

State: MD
County: BALTIMORE
Place: MIDDLE RIVER
Subdivision:
Address: 501

Street: MARTIN BLVD
Intersecting Street: CHESAPEAKE PARK PLAZA
Extent of Work: LOCATE/MARK: AREA INSIDE FENCE ON WATER SIDE OF MARTIN BLVD. ONLY ONE SANITARY LINE IS PRESENT IN THIS AREA. SEE POLYGON AND ATTACHED FIGURE. CALL 410-279-2700 FOR MORE QUESTIONS. SOIL BORINGS WILL BE COMPLETED IN GRASS TO 40 FEET IN VARIOUS AREAS IN POLYGON.
Remarks: REFERENCE LOCATION 474 MARTIN BLVD. SITE IS ON LOCKHEED MARTIN PROPERTY NEAR WATER
Map Coord NW Lat: 39.3276927
Lon: -76.4296488
SE Lat: 39.3259333
Lon: -76.4264301

MEMBERS NOTIFIED

District	Company Name	Marking Concerns	Damage	Customer Service	Status
BGEBA	BGE ELECTRIC-USIC	800-778-9140	800-685-0123	800-685-0123	Clear/No conflict
BGEBAG	BGE GAS-USIC	800-778-9140	800-685-0123	800-685-0123	Clear/No conflict
CBW04	BALTIMORE CITY DPW - Pro Comm	443-456-6686			Clear/No conflict
CWMD2	COMCAST/UTILIQUEST	410-536-0070	877-359-1821	888-739-1379	Clear/No conflict (Response by Utiliquest)
MAA02	MD AVIATION ADMIN/OCCLS	410-712-0202			Clear/No conflict
TDEX01	TERRADEX	650-227-3254	650-227-3254	650-227-3254	Clear/No conflict

Legend: Locate Polygon

Lat/Lon

39.326987 -76.427434


Chesapeake Park Plaza
Chesapeake Park Plaza
Chesapeake Park Plaza
Martin Lagoon
Google
20 m
Map data
Report a map error

APPENDIX B—FINAL HPT REPORT, GROUND ZERO

High Resolution Site Characterization Report – HPT Investigation

Client: Ground Zero

Project Name: Rosedale Site

Location: Middle River, MD

Prepared by:

Dakota Technologies Company, LLC

5001 Boone Avenue N.

New Hope, Minnesota 55428

763.424.4803

September 26, 2018

Project Number: 303.18

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5.0 REFERENCES..... 5

APPENDICES

Appendix A HPT Field Summary Log
Appendix B HPT Logs with QC
Appendix C HPT Reference Log

1.0 HYDRAULIC PROFILING TOOL (HPT) SYSTEM DESCRIPTION

The Hydraulic Profiling Tool (HPT) is a logging tool that measures the pressure required to inject a flow of water into the soil as the probe is advanced into the subsurface. The injection pressure log is an excellent indicator of formation permeability. In addition to measurement of injection pressure, the HPT can also be used to measure hydrostatic pressure under the zero-flow condition. This allows the development of a hydrostatic pressure graph for the log and prediction of the position of the water table.

The probe is advanced into the ground at a rate of approximately 2 cm/sec. The pump in the HPT flow module draws water from the supply tank and pumps water down the trunk line at a constant flow rate (250-mL/min). An inline flow meter measures the flow rate. The downhole pressure sensor monitors the pressure generated by injecting water into the formation matrix. The HPT probe also includes a Wenner type array for measurement of soil electrical conductivity (EC) as the probe is advanced to depth. The HPT log provides graphs of the electrical conductance, HPT pressure and flow rate versus depth.

Prior to running an HPT log, quality assurance (QA) tests are run on the Wenner array and pressure sensor. The results of the QA tests are saved in an information file for later review and reporting. The Wenner array electrodes are placed on a test jig and the test load is used to verify the electrical continuity and isolation of the EC system. Next, a reference test is performed on the pressure sensor. This is accomplished by submerging the HPT probe a specified depth below the water level in a reference tube. A two-step test enables the operator to verify that the pressure sensor is providing the correct measurement for a defined length of water column. If the result is more than +/-10% out of range, the transducer fails the QA test. At completion of the field boring, another QA test is performed to verify proper probe performance during the logging event.

The HPT pressure log reveals observed pressure depending on the characteristics of the soil or sediment penetrated. It is apparent that higher pressure resulting from the injection of water into a sediment at a given flow rate indicates lower permeability and conversely, that lower pressure from injection of water at a given flow rate indicates higher permeability. This simple relationship allows you to evaluate changes in relative permeability of soils and sediments in an HPT log by reviewing the pressure versus depth log. High EC readings in general correlate with high pressure readings and conversely low EC readings usually correlate with low pressure readings. However, pressure plots frequently reveal hydraulic behavior of the soil not observed by the EC, and the EC may display responses associated with minerology and chemical conductance not observed by the pressure plot. Another important feature of the HPT pressure log is the increase in hydrostatic pressure as the probe is advanced below the water table. The increase in hydrostatic pressure results in a “rising baseline” on the pressure log. To obtain a quantitative determination of the local static water level a pressure dissipation test must be performed during the

logging operation. To perform the dissipation test, the advancement of the probe is stopped, and the operator starts a time log. Water flow is turned off to observe and record the dissipation of the HPT pressure versus time, until pressure stabilizes. The stabilized pressure is the absolute hydrostatic pressure at the depth of the test. Knowing the depth of the test, the absolute hydrostatic pressure and the atmospheric pressure the static water level may be calculated. Multiple dissipation tests may be performed at different depths during a single log to evaluate variations in piezometric head with depth and local vertical gradients in the aquifer.

Dissipation test data can be used in conjunction with the pressure and flow logs to estimate hydraulic conductivity (K) for the entire log after logging is completed. From Darcy's Law, K is proportional to the flow rate (Q) divided by the pressure (P) required to induce that flow rate in the given sediment or soil. The raw HPT pressure provided by the HPT log is the total pressure observed at the depth where the water is injected. This total pressure includes the ambient atmospheric pressure at the time of the log, the local hydrostatic pressure and the pressure required to inject the fluid into the formation:

$$P(total) = P(atm) + P(hydro) + P(inj)$$

As discussed above, the atmospheric pressure is determined from the pre and post log response tests and the hydrostatic pressure is defined by one or more dissipation tests obtained as the log is produced. The actual injection pressure [Pinj = Ptotal – (Phydro + Patm)] that was required to inject the water into the formation is calculated for each depth increment of the log. The actual injection pressure (Pinj) and the measured flow rate (Q) are then used to model an estimated K value for each depth increment of the HPT log (Geoprobe 2010b).

2.0 ELECTRICAL CONDUCTIVITY (EC) DESCRIPTION

Electrical Conductivity (EC) is a measure of the soil's ability to conduct an electrical current using the Wenner array of the HPT/EC probe. Conductivity is the reciprocal of electrical resistivity and has the units (in our application) of millisiemens per meter (mS/m). Since soil is in the pathway of the charge flow, the grain size can be determined by comparing the EC log to a soil boring. Conductivity readings in the 100s indicate smaller grain (such as clay). Larger grain size (sand and gravels) are typically in the 10s of mS/m range. Prior to every log, the Wenner array of the HPT probe is checked for proper operation by performing a conductivity test with a Wenner array test jig. The probe is put through a check of isolation and continuity.

3.0 DISCUSSION AND COMMENTS

Dakota Technologies pushed a total of 15 HPT logs to depths ranging from 40-42 feet below ground surface.

Dissipation tests were attempted at 10 of the 15 HPT locations for the purpose of calculating static water levels and hydraulic conductivity (estimated K) plots. The calculated estimated K values assume dissipation tests reached equilibrium (see HPT Field Summary Log in Appendix A for additional information)

The transducer passed all QA testing for each log. The HPT system utilizes a transducer that produces pressure readings between 0 and 110 psi. The pressure data graph is set at 120 psi to capture all HPT readings, with a flat line at 110 psi resulting when the transducer maximum is reached (representing soil of small grain size, such as clay).

Electrical conductivity (EC) data was collected simultaneously at each HPT location. The EC was tested before and after each HPT log was performed and passed all QA checks in the normal manner. The HPT pressure plots did reveal several zones (see summary) that are less permeable to water. These high-pressure zones, recorded on the field summary log, were not distinguishable by the electrical conductivity.

4.0 LIMITATIONS

The HPT tool is limited to a working depth (max) of 120 feet below ground water and the pressure transducer operating range is 0-101 psi. Coarse (sandy), saturated soils are required for dissipation tests to be performed. Successful (fully stabilized) dissipations are required for water table and hydraulic conductivity (Est. K) calculations. The lower K boundary for Geoprobe's empirical calculation model is about 0.1 ft./day and the upper boundary is near 75 ft./day.

The analysis and opinions expressed in this report are based upon data obtained from the specific test locations and from other information discussed in this report. Exceptions, if any, are discussed in the accompanying comments section of this report. This report is prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted practices. Reported results shall not be reproduced, except in full, without written approval of Dakota. No warranties, expressed or implied are intended or made.

5.0 REFERENCES

Geoprobe 2006a. Hydrostratigraphic Characterization Using the Hydraulic Profiling Tool (HPT), Tech Bul. No. MK3099, Kejr Inc., Salina, KS; April 2006.

Geoprobe, 2007. Geoprobe Hydraulic Profiling Tool (HPT) System, Standard Operating System Procedure, Tech. Bul. No. MK3137, Kejr Inc., Salina, KS; March 2007.

Geoprobe, 2010b. Tech Guide for Calculation of Estimated Hydraulic Conductivity (Est. K) Log from HPT Data, Kejr Inc. Salina, KS; November 2010.

McCall, Wesley and Thomas Christy, 2010. Development of a Hydraulic Conductivity Estimate for the Hydraulic Profiling Tool (HPT): Abstract and Presentation; The 2010 North American Environmental Field Conference & Exposition, The Nielsen Environmental Field School, Las Cruces, NM; January 2010.

APPENDIX A
HPT FIELD SUMMARY LOG

HPT Field Summary Log

Rosedale Site

Middle River, Maryland

File Log ID	Date	Total Depth *(ft)*	Preprobed Depth *(ft)*	QA/QC (*pass / fail*) EC Results Pre-Log pass / fail	QA/QC (*pass / fail*) EC Results Post-Log pass / fail	QA/QC (*pass / fail*) Transducer Results Pre-Log pass / fail	QA/QC (*pass / fail*) Transducer Results Post-Log pass / fail	Static Water Level *based on dissipation (ft)*	Dissipation Test Depth *(ft)*	Dissipation Test Stable? *yes / no*	Comments
Transect 1A	09/06/18	41.10	0	pass	pass	pass	pass	NA	NA	N	No dissipation test conducted
Transect 1B	09/10/18	41.15	0	pass	pass	pass	pass	NA	NA	N	Unstable Diss. test, no K values or water table elevations
Transect 1C	09/06/18	41.60	0	pass	pass	pass	pass	NA	NA	N	Unstable Diss. test, no K values or water table elevations
Transect 1D	09/10/18	40.90	0	pass	pass	pass	pass	2.5	9	Y	no comments
Transect 1E	09/06/18	41.10	0	pass	pass	pass	pass	NA	NA	N	No dissipation test conducted
Transect 2A	09/10/18	41.70	0	pass	pass	pass	pass	13.1	19	Y	no comments
Transect 2B	09/10/18	41.55	0	pass	pass	pass	pass	2.0	14.05,21.65	Y	no comments
Transect 2C	09/07/18	41.30	0	pass	pass	pass	pass	4.2	15	Y	no comments
Transect 2D	09/07/18	41.80	0	pass	pass	pass	pass	NA	NA	N	Unstable Diss. test, no K values or water table elevations
Transect 2E	09/10/18	40.90	0	pass	pass	pass	pass	NA	NA	N	No dissipation test conducted
Transect 3A	09/06/18	41.50	0	pass	pass	pass	pass	4.8	15	Y	no comments
Transect 3B	09/06/18	41.80	0	pass	pass	pass	pass	NA	NA	N	No dissipation test conducted
Transect 3C	09/06/18	40.90	0	pass	pass	pass	pass	4.4	18	Y	no comments
Transect 3D	09/07/18	41.35	0	pass	pass	pass	pass	NA	NA	N	No dissipation test conducted
Transect 3E	09/07/18	40.85	0	pass	pass	pass	pass	3.6	16	Y	no comments
	Total Depth	619.50									

(1) Reported static water level data below typical level of certainty where footnoted

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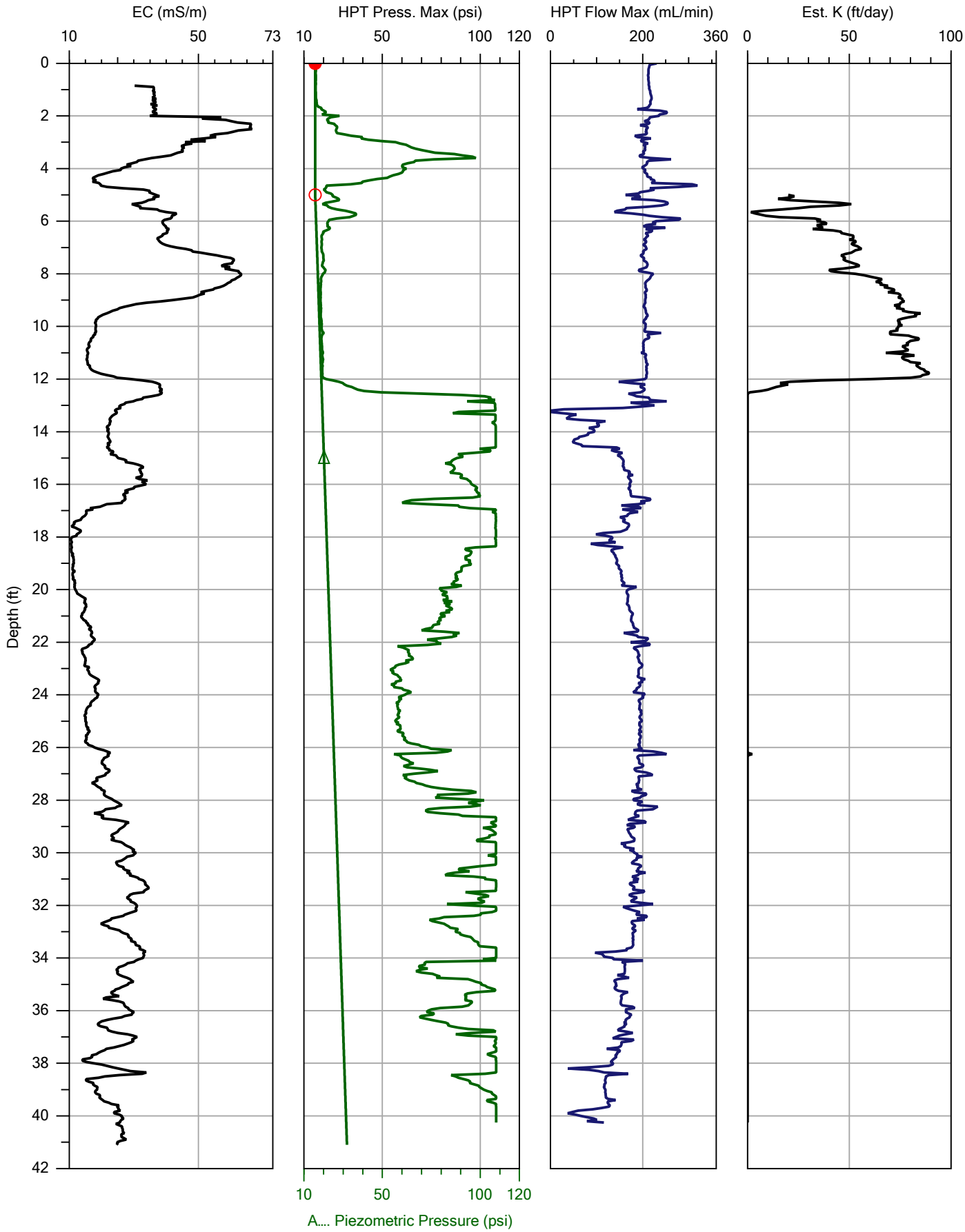
APPENDIX B
HPT LOGS WITH QC



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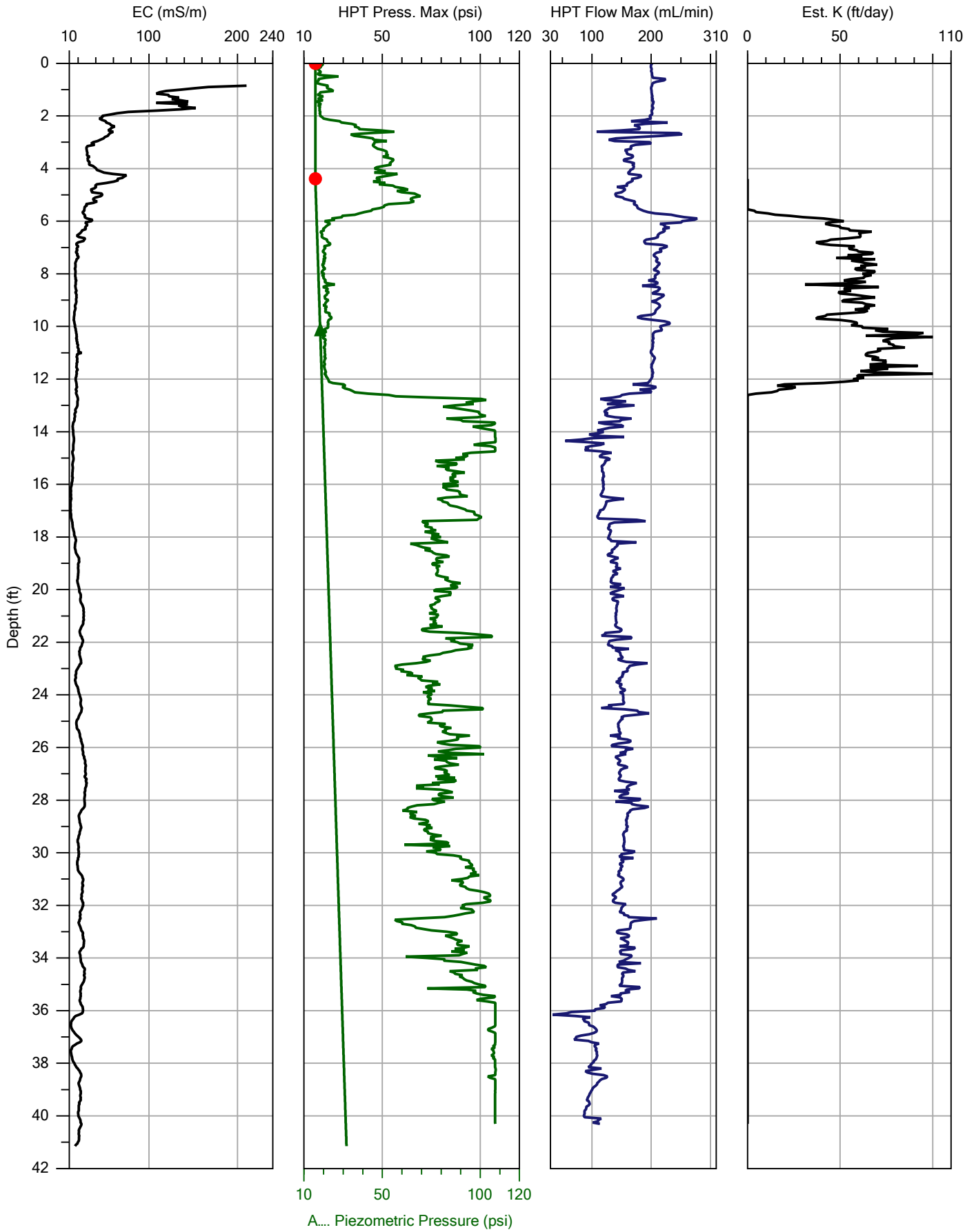
Project ID: 303.18	Client: Ground Zero	Location: Rosedale, MD



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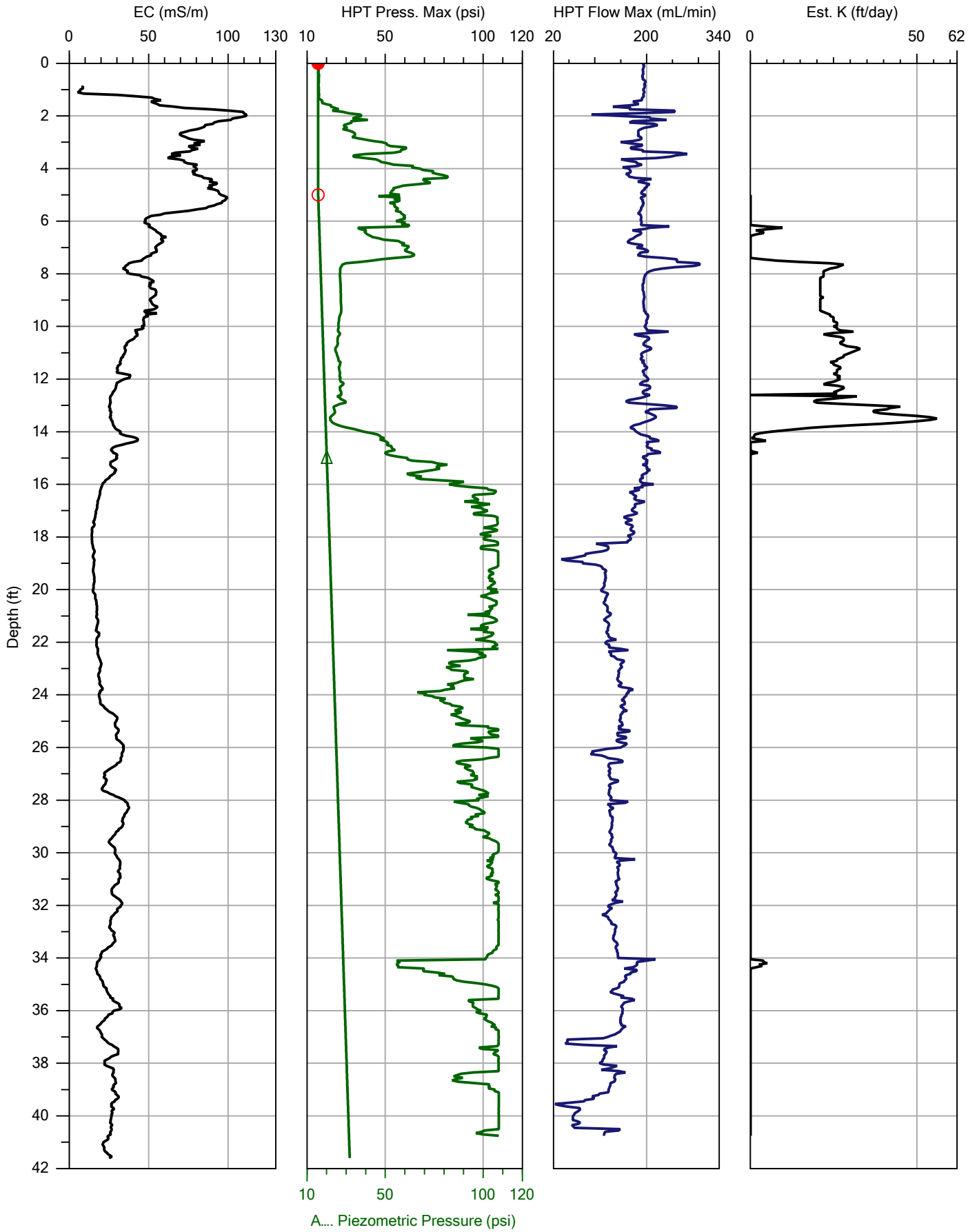

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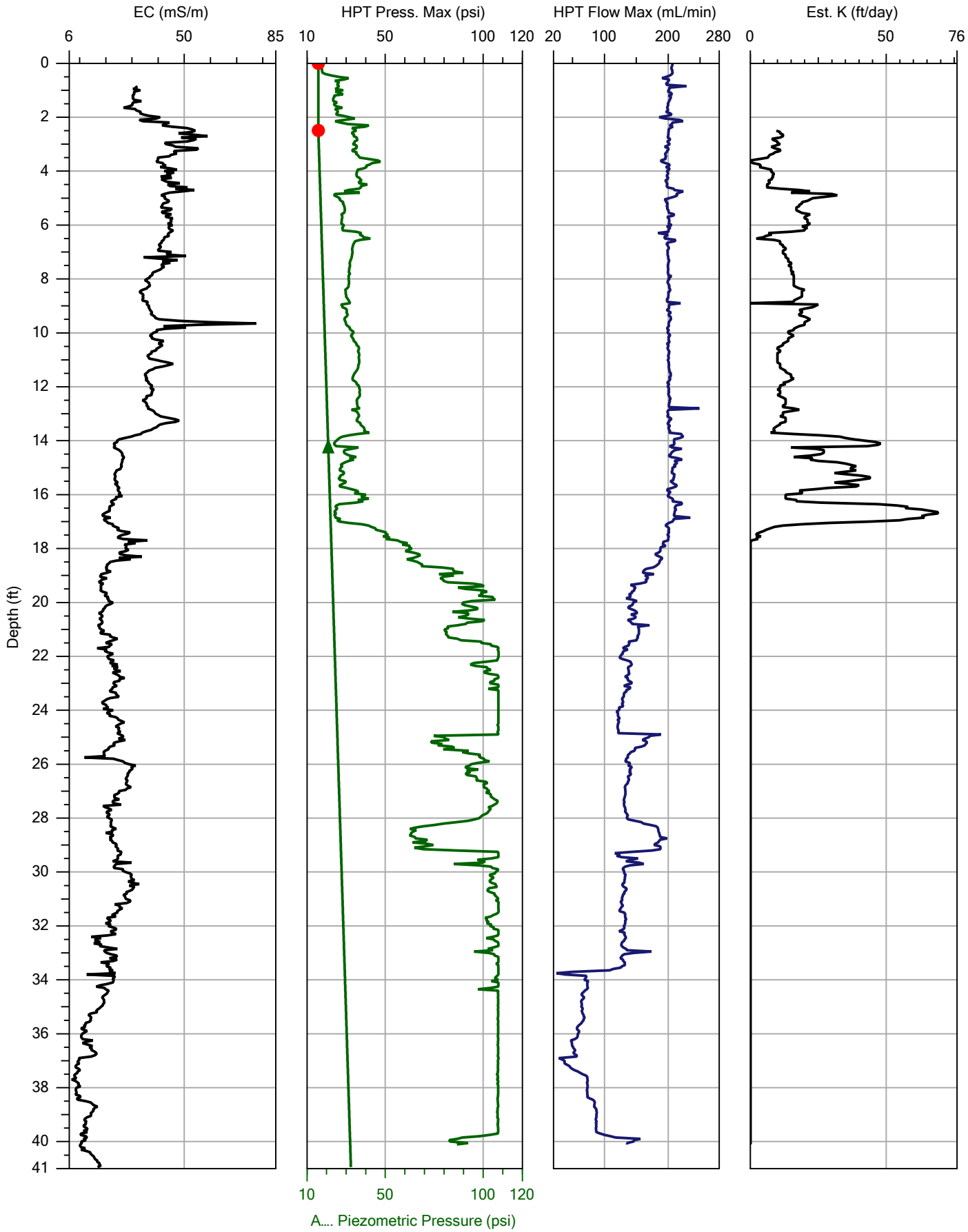

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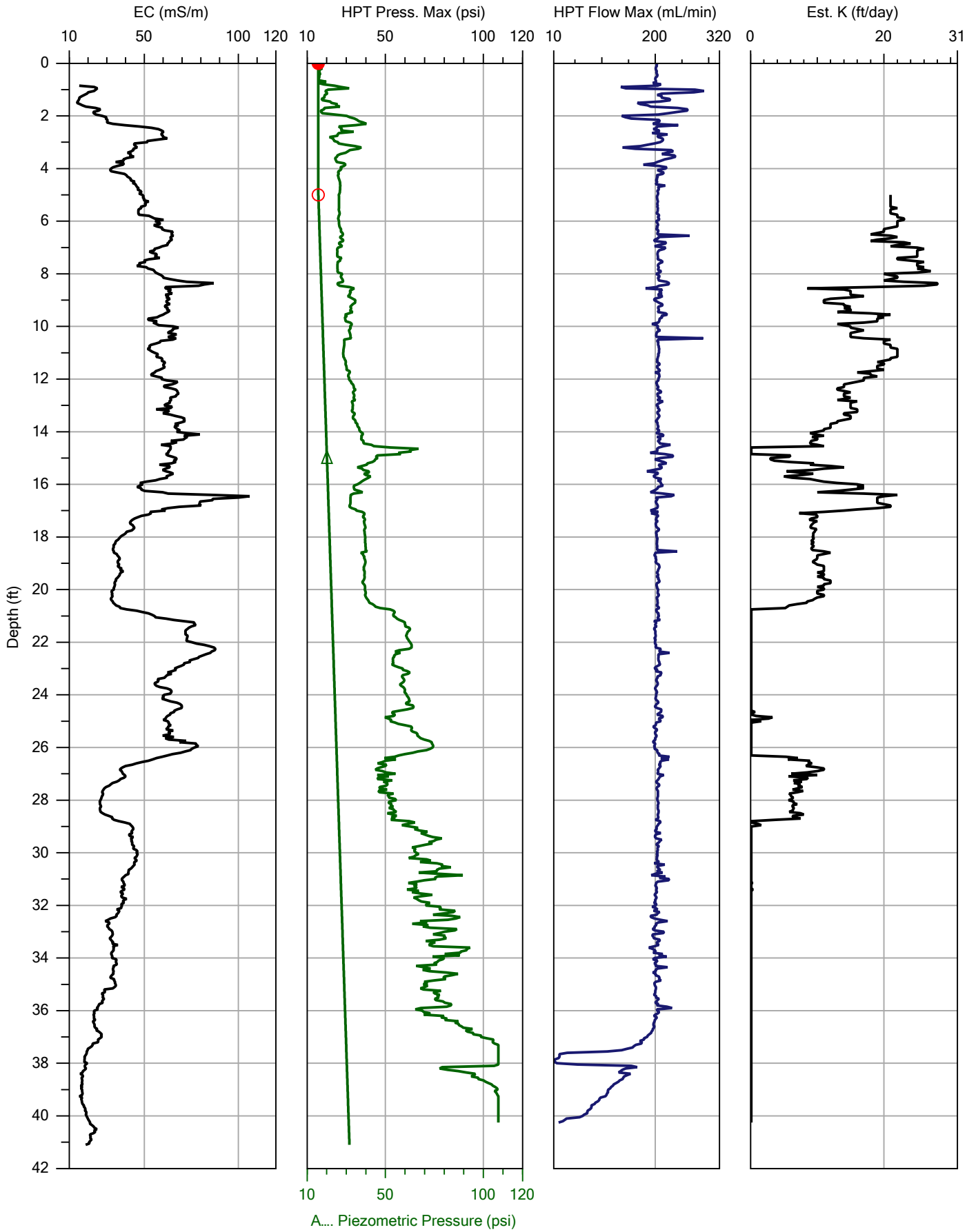

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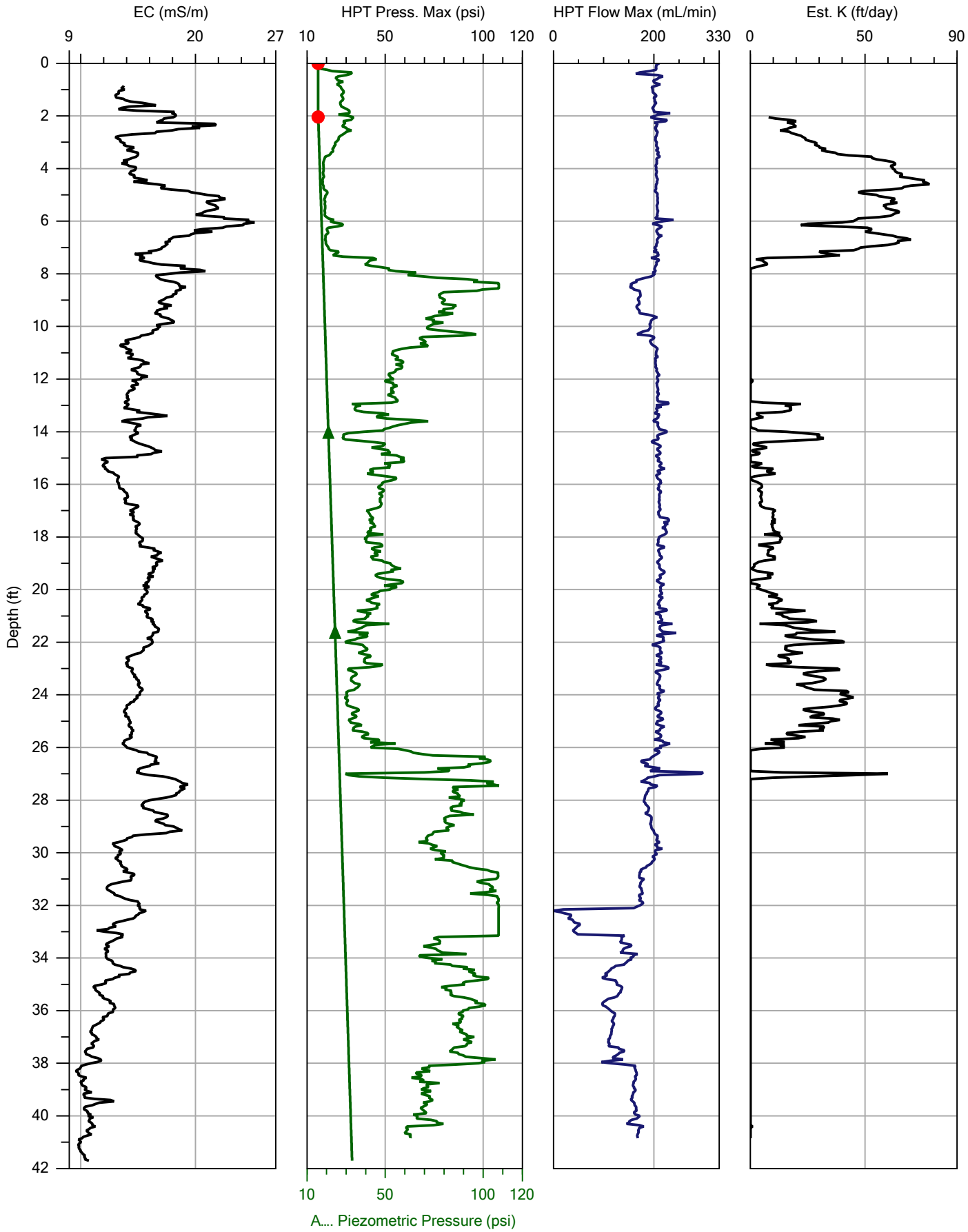

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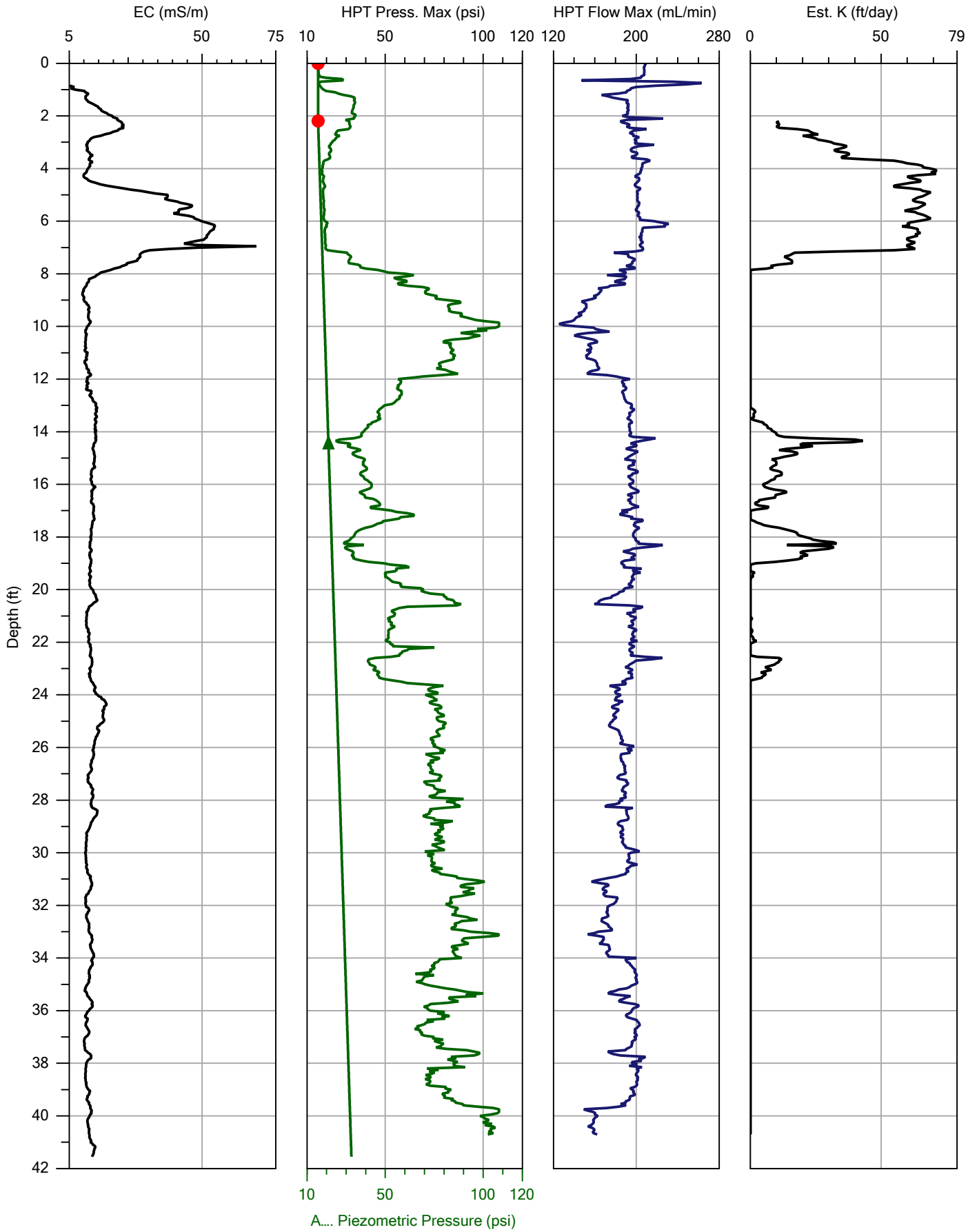

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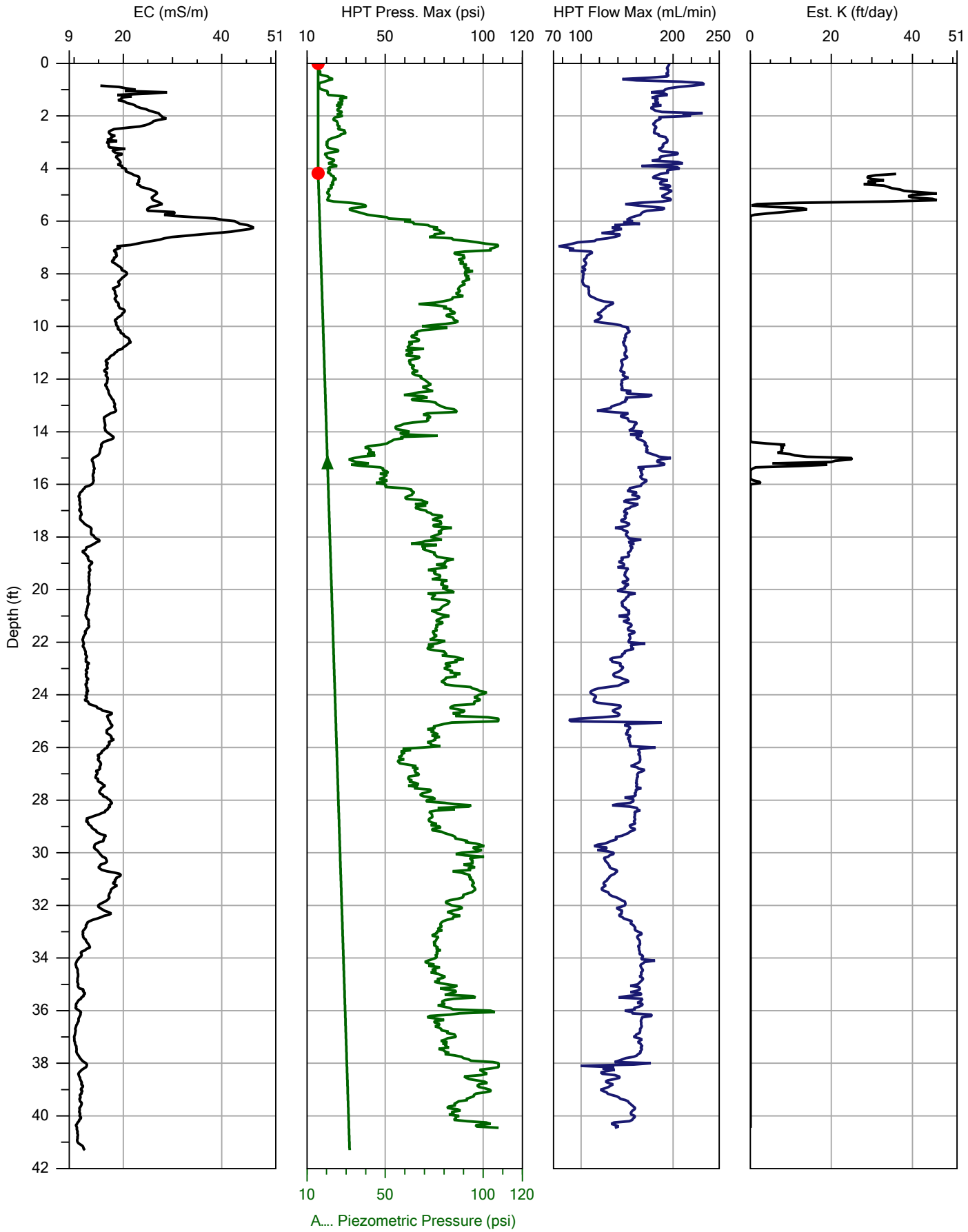

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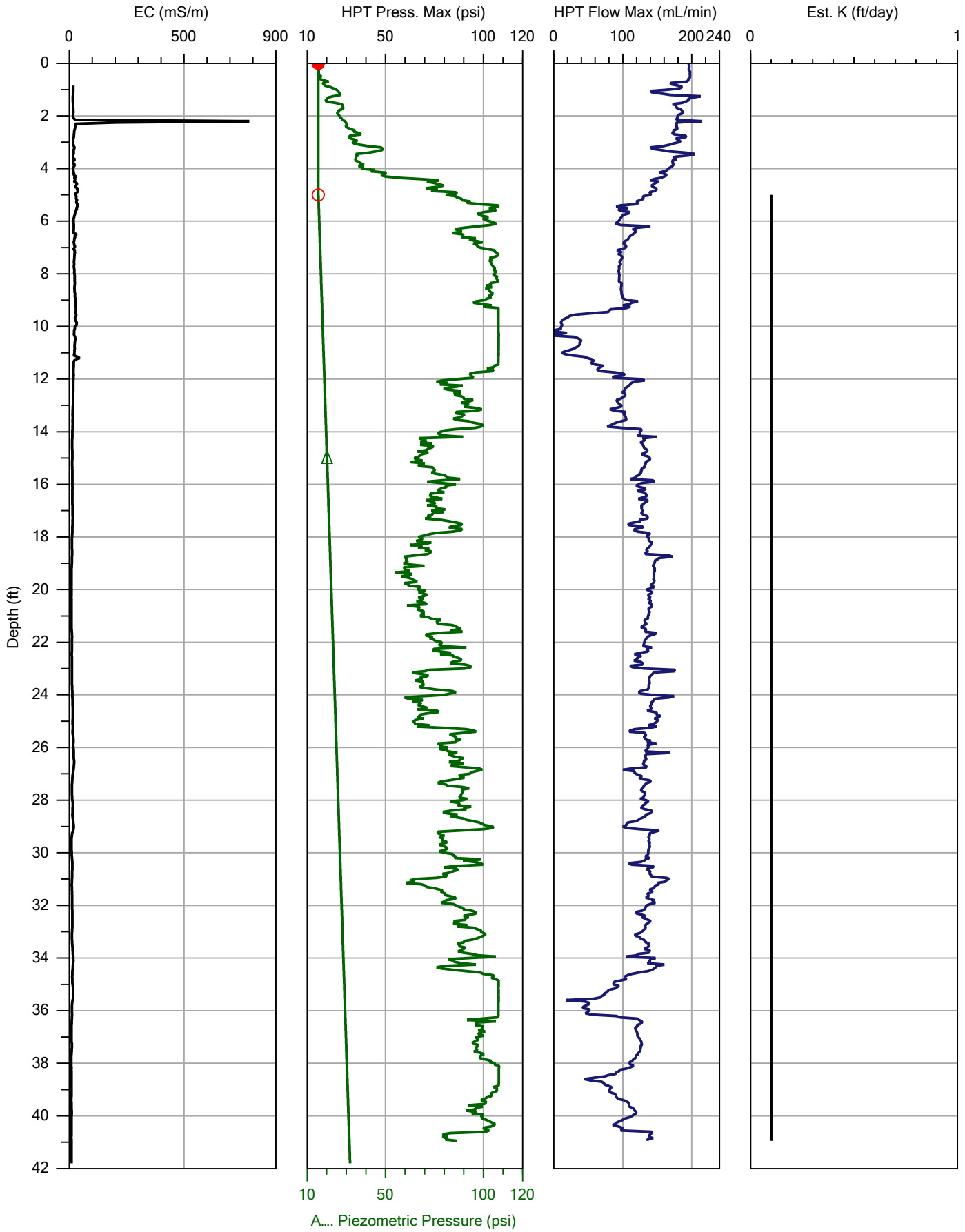

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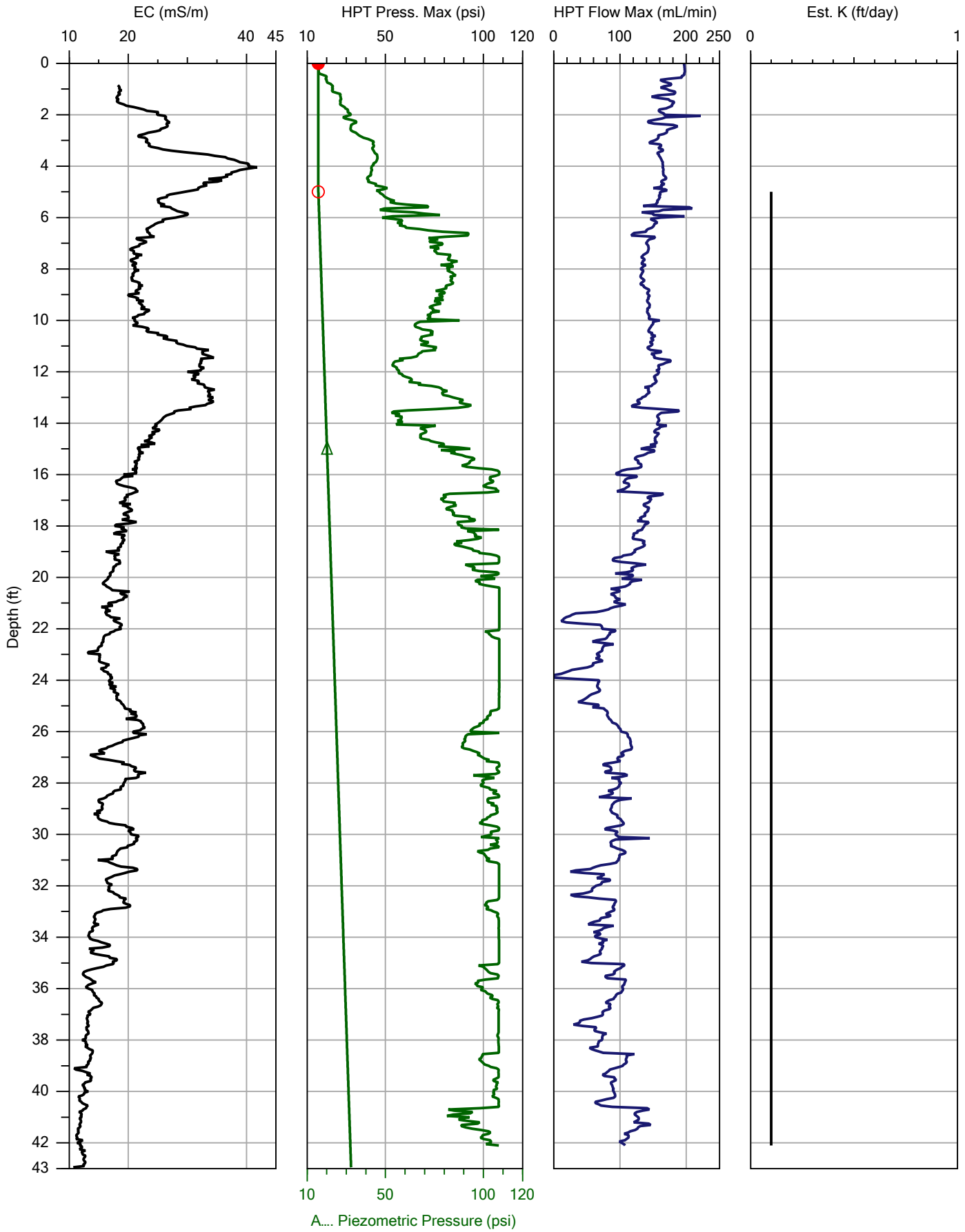

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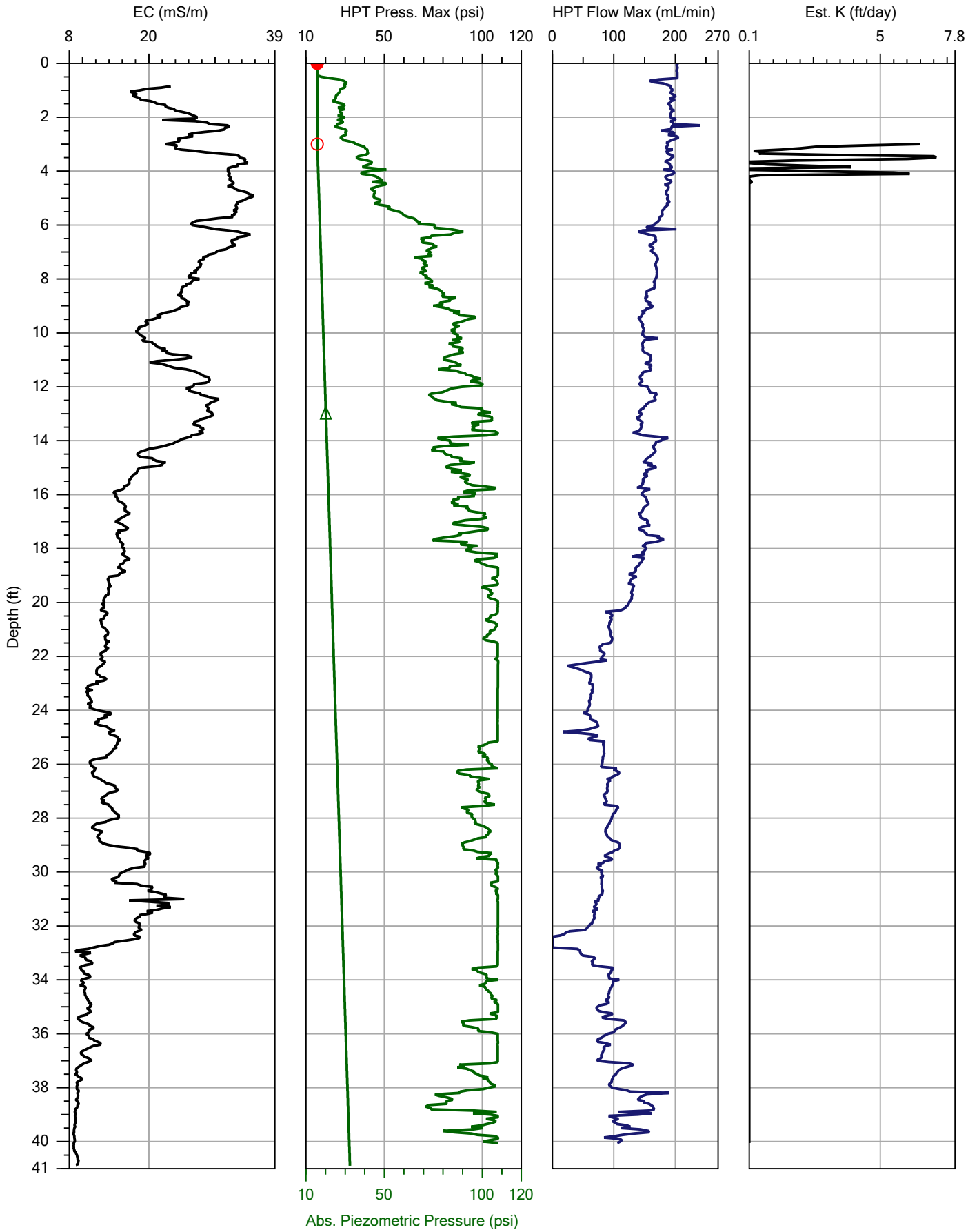

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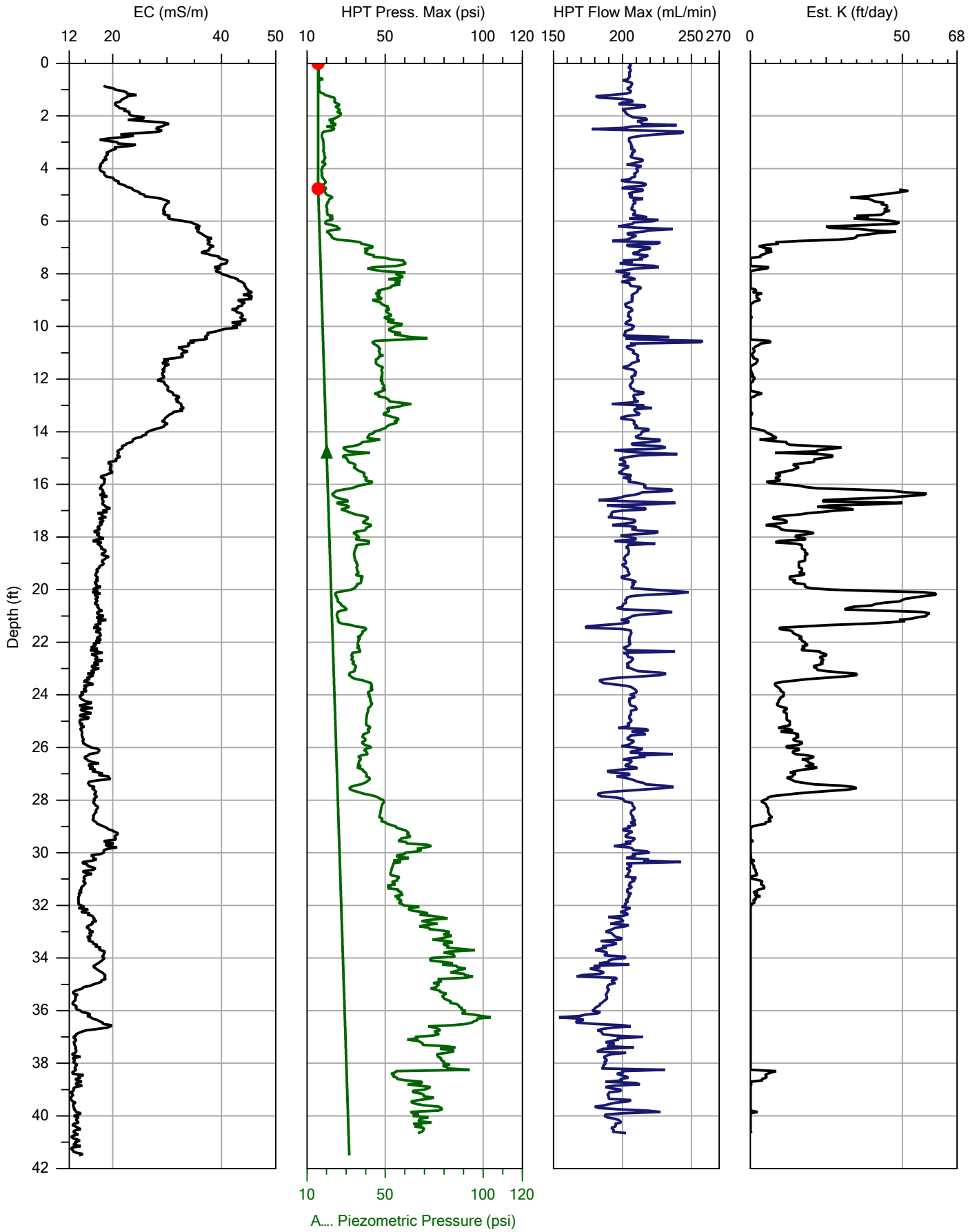

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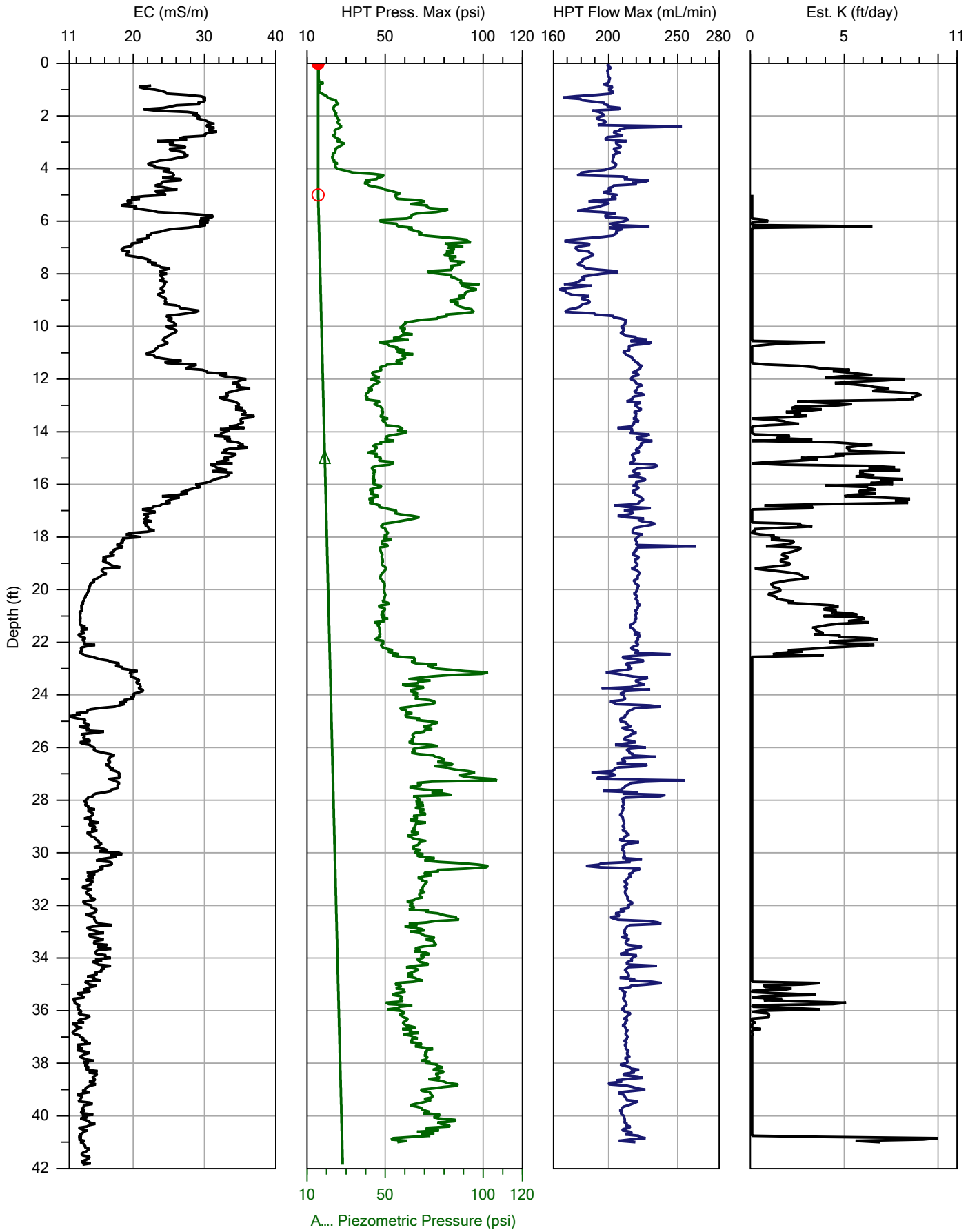

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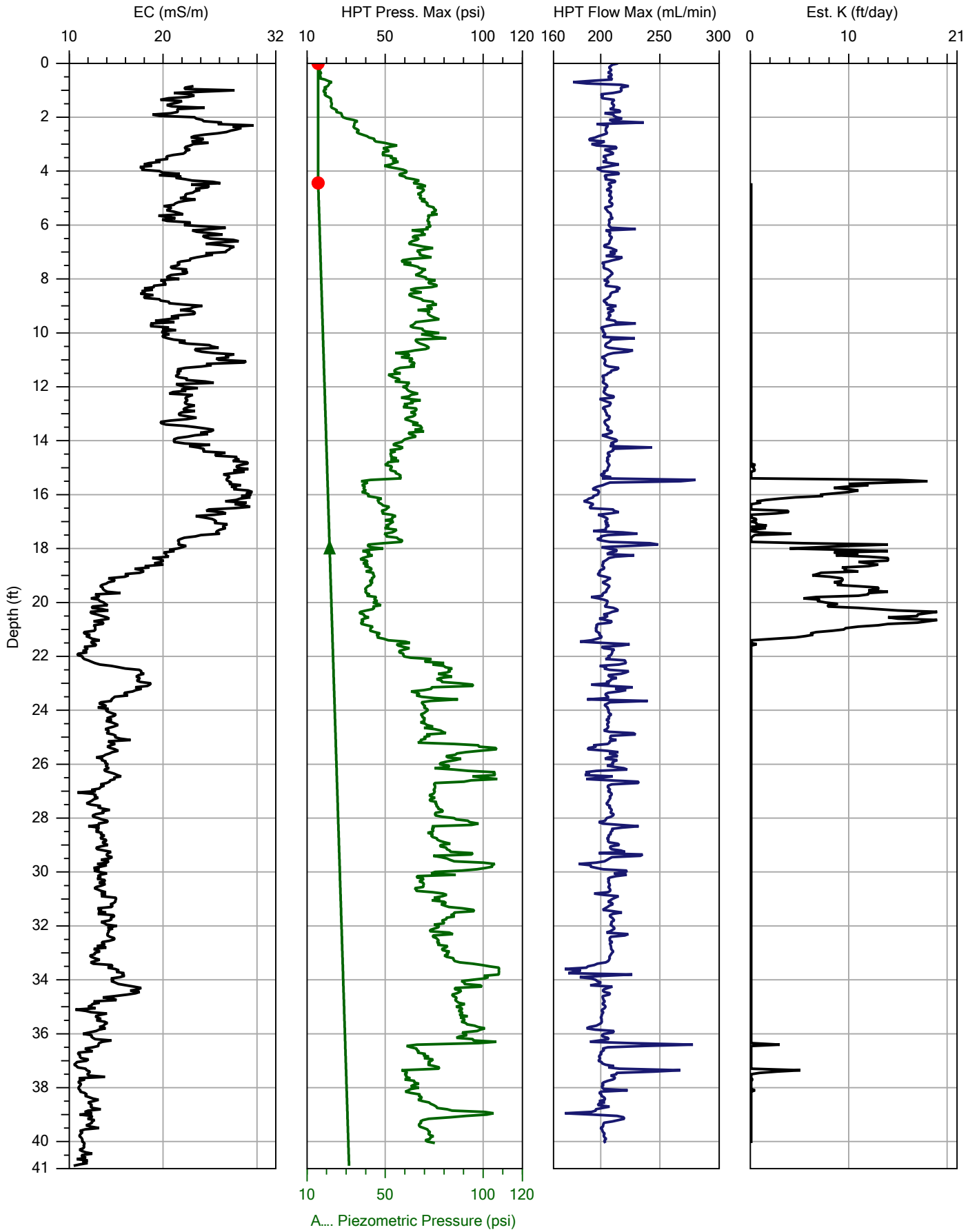

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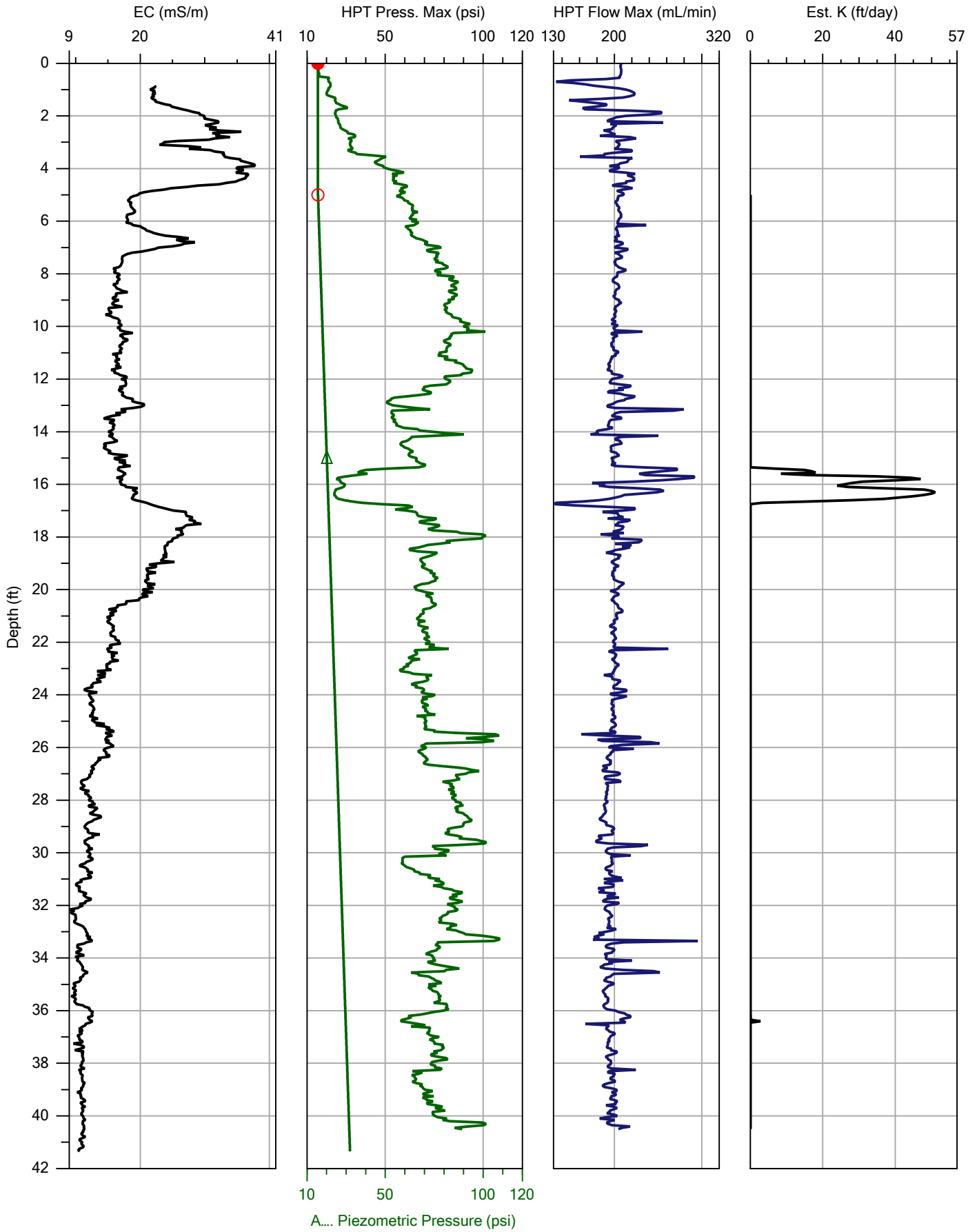

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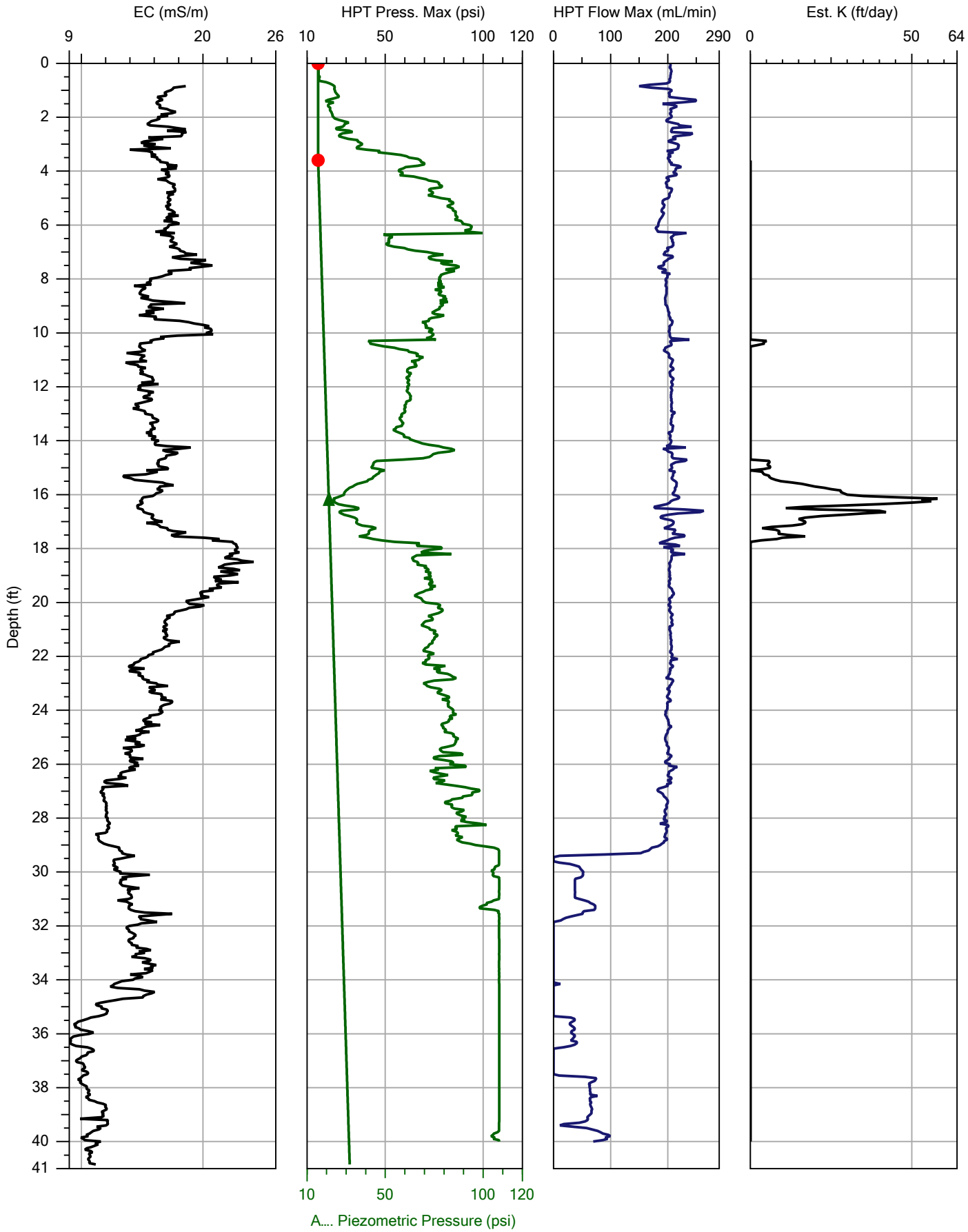

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		File: TRANSECT 3E.HPT
Company: Dakota Technologies	Operator: J Miller	Date: 9/7/2018
Project ID: 303.18	Client: Ground Zero	Location: Rosedale, MD

APPENDIX C
HPT REFERENCE LOG

Dakota Technologies HPT Reference Log

Conductivity Plot:

The Electrical Conductivity **(EC)** of the soil is logged simultaneously with the HPT data utilizing an integrated Wenner array. EC often provides insight into the stratigraphy and correlates with the HPT pressure plot in many instances. Typically an increase in EC (and increase in pressure) is indicative of finer, tighter soil types.

HPT Pressure Plot:

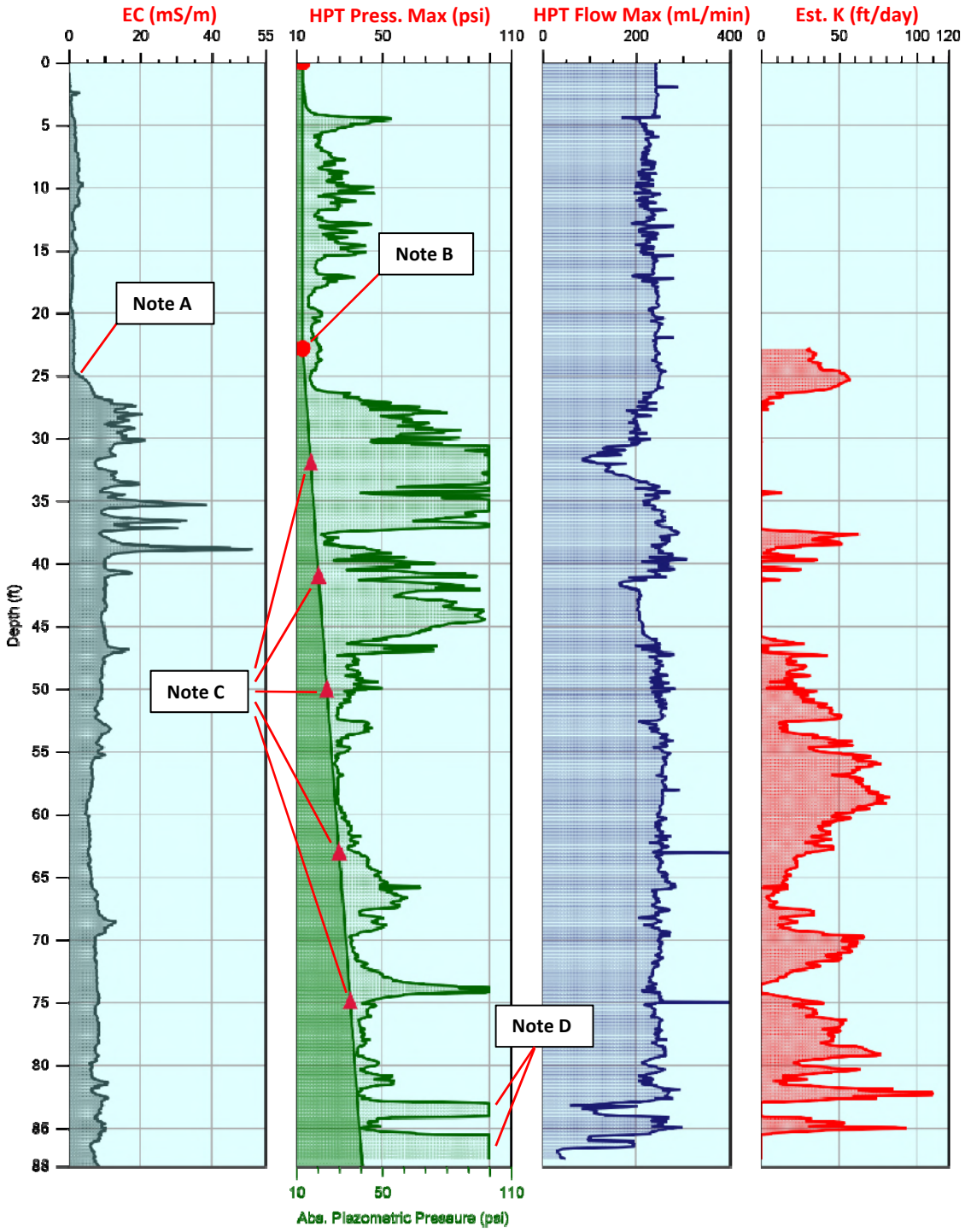
The HPT pressure gives insight into hydraulic properties of the soil as water is pumped into the formation at a constant rate. The pressure (unlike EC) is independent of certain factors such as pore water chemistry or mineralogy (contaminants, brines) and so further aids in defining soil/hydraulic properties of the area of investigation.

HPT Flow Plot:

Water is pumped out of the HPT probe and into the formation at a constant rate of typically 250 ml/min. A change in flow (usually accompanied by an inverse pressure change) is an indicator of the hydraulic properties of the soil

Estimated K Plot:

The estimated hydraulic conductivity (K) is internally calculated by utilizing pressure and flow data in conjunction with dissipation tests performed at each location. This data is useful for directing sampling, remediation and slug testing protocols.



Note A:

Increasing EC readings starting at 25 feet indicate a transition to finer grain silt with clay stringers at 35 to 39 feet.

Note B:

The hydrostatic water level has been indicated with a round marker at 22.5 feet.

Note C:

The Absolute Piezometric pressure has been calculated and graphed with the individual dissipation test points indicated by triangular markers. The pressure increases relative to the head pressure as soon as the water table is encountered. Since these points form a straight line (no inflections) it can be inferred that the water table is hydraulically connected from the first to the last dissipation test.

Note D:

The significant pressure increase (transducer maxed out, 100 psi) and drop in flow at 83 to 88 feet is due to tight formation conditions discovered by HPT parameters (and not observed by EC measurements).

APPENDIX C—BORING LOGS; EXPLORATORY BORING WELL INSTALLATION

BORING NUMBER SB-MW134

Tetra Tech Inc

CLIENT Lockheed Martin Corporation
PROJECT NAME BLOCK F TCB INV
PROJECT NUMBER 112IC08667
PROJECT LOCATION MIDDLE RIVER, MARYLAND
DATE STARTED 9/20/18 **COMPLETED** 9/20/18
GROUND ELEVATION _____ **HOLE SIZE** 3 inches
DRILLING CONTRACTOR Ground Zero
DRILLING METHOD DPT
NOTES _____
LOGGED BY J. Mullis
NORTHING 604831.8576 ft **EASTING** 1473682.7211 ft **DATUM:** MD STATE NAD 1983

DEPTH (ft)	LABORATORY SAMPLE INTERVAL	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0		OL		0.3 dark brown soft organic SILT w/rootlets, sl moist	
		SC		red w/orange/tan/yellow mottled low plastic sandy CLAY, sl moist to moist, dark gray @ 8-9'	PID = 65.3
5					
				9.0	
10	9-10(ft)	SW		10.0 gray loose coarse SAND w/fine gravel, moist	PID = 140
		SW		11.5 gray loose coarse SAND, moist	
		CL		dark red stiff silty CLAY, v sl moist	PID = 85.2
				14.0	
15		SC		15.0 red w/purple/yellow/white low plastic sandy CLAY, fine sand, sl moist	PID = 30.1
	15-20(ft)	SC		red w/purple/yellow/white w/black mottling @18' low plastic sandy CLAY, sl moist	PID = 40.5
20				20.0	
		SW		orange/tan loose well graded coarse SAND, wet	PID = 28.2
25					
				26.0	
		CL		red w/white/yellow/purple mottled stiff CLAY, v sl moist. Refusal at 30'	PID = 28.4
30				30.0	

Refusal at 30.0 feet.
Bottom of borehole at 30.0 feet.

TT SOIL BORING E - GINT STD US LAB.GDT - 9/21/18 10:20 - C:\USERS\JOSH.MULLIS\DESKTOP\PRACTICE 022618.GPJ

BORING NUMBER SB-MW135

Tetra Tech Inc

CLIENT Lockheed Martin Corporation **PROJECT NAME** BLOCK F TCB INV

PROJECT NUMBER 112IC08667 **PROJECT LOCATION** MIDDLE RIVER, MARYLAND

DATE STARTED 9/20/18 **COMPLETED** 9/20/18 **GROUND ELEVATION** _____ **HOLE SIZE** 3 inches

DRILLING CONTRACTOR Ground Zero **DRILLING METHOD** DPT

NOTES _____ **LOGGED BY** J. Mullis

NORTHING 605021.4409 ft **EASTING** 1473986.8878 ft **DATUM:** MD STATE NAD 1983

DEPTH (ft)	LABORATORY SAMPLE INTERVAL	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0		OL		0.3 dark brown soft organic SILT w/rootlets, sl moist	PID = 58.7
		ML		1.9 brown/tan friable clayey SILT, v sl moist	
		SP		orange/tan loose poorly graded medium SAND, sl moist	PID = 109
5				6.0	
		CL		red to brown w/white mottled stiff silty CLAY, sl moist	PID = 187
				9.0	
10		CL		10.0 dark red/purple stiff silty CLAY, sl moist	PID = 670
	10-15(ft)	SC		dark red/purple low plastic sandy CLAY, sl moist, medium sand	PID = 932
15				15.0	
	15-20(ft)	SW		red to reddish brown loose well graded medium SAND w/some clay, wet	PID = 755
20					PID = 284
				22.0	
		SC-CL2		red to purple w/white/yellow mottled stiff sandy CLAY to CLAY, medium to fine sand, sl moist	PID = 273
25				25.0	
		CL		yellow w/red/purple mottled stiff silty CLAY, v sl moist	PID = 330
30				30.0	

Refusal at 30.0 feet.
Bottom of borehole at 30.0 feet.

TT SOIL BORING E - GINT STD US LAB.GDT - 9/21/18 10:20 - C:\USERS\JOSH.MULLIS\DESKTOP\PRACTICE 022618.GPJ

BORING NUMBER SB-MW136

Tetra Tech Inc

CLIENT Lockheed Martin Corporation **PROJECT NAME** BLOCK F TCB INV

PROJECT NUMBER 112IC08667 **PROJECT LOCATION** MIDDLE RIVER, MARYLAND

DATE STARTED 9/20/18 **COMPLETED** 9/20/18 **GROUND ELEVATION** _____ **HOLE SIZE** 3 inches

DRILLING CONTRACTOR Ground Zero **DRILLING METHOD** DPT

NOTES _____ **LOGGED BY** J. Mullis

NORTHING 604932.8992 ft **EASTING** 1474040.0128 ft **DATUM:** MD STATE NAD 1983

DEPTH (ft)	LABORATORY SAMPLE INTERVAL	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0		OL		0.3 dark brown soft organic SILT w/rootlets, sl moist	PID = 20.5
		SC		2.0 orange poorly graded v low plastic clayey SAND, v fine sand, moist	
5		SC		reddish brown v low plastic clayey SAND, v fine sand, moist 5.4	
		SC		reddish brown to dark red w/white mottled soft sandy CLAY, sl moist	PID = 46.8
10		SC		10.0	
		SC		iron red soft sandy CLAY, sl moist 12.5	PID = 18.2
		CL		13.5 red w/white mottled stiff CLAY w/some silt, sl moist	PID = 26.7
15		SP		iron red loose fine to medium poorly graded SAND w/some clay, very moist 15.0	
		SP		red @15-16', white @16-17', orange @17-18' poorly graded loose fine SAND, wet 18.0	PID = 24.1
20		CL		red w/white/yellow mottled stiff CLAY, v sl moist	PID = 63.2 PID = 114
				23.5	
	23.8-25(ft)	SC		23.8 white to grayish blue low plastic sandy CLAY, sl moist	PID = 109
25		CL		25.0 iron red stiff CLAY, v sl moist	PID = 303
	25-28(ft)	CL		red w/white/tan mottled soft CLAY w/some sand, sl moist 28.0	PID = 293
30		SC-CL2		pink/white/tan/red low plastic sandy CLAY to clayey SAND, fine sand, sl moist 30.0	
		SC-CL2		pink/white/tan/red low plastic sandy CLAY to clayey SAND, fine sand, v sl moist	PID = 83
35		CL		35.0 pink/white/tan/red stiff CLAY w/some sand, v sl moist	PID = 54.8
		CL		38.0 purple/red stiff CLAY w/some sand, v sl moist	PID = 52.8
40				40.0	

Refusal at 40.0 feet.
Bottom of borehole at 40.0 feet.

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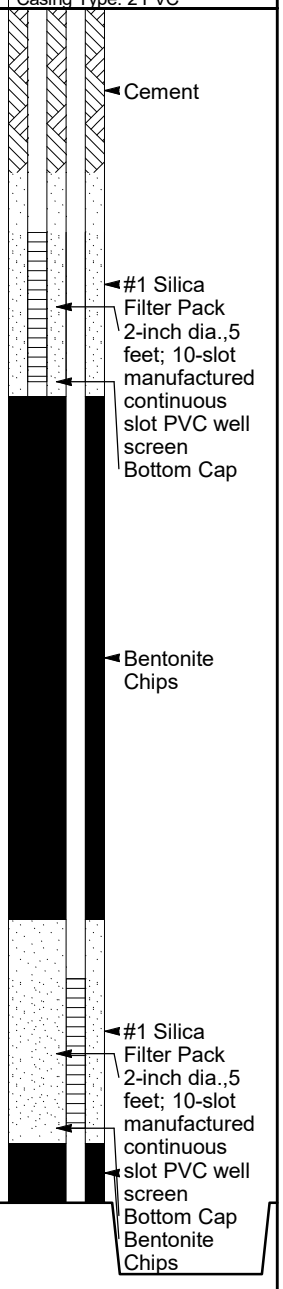
WELL NUMBER MRC-MW-134A/B

Tetra Tech Inc

CLIENT Lockheed Martin Corporation
PROJECT NAME BLOCK F TRICHLOROBENZENE INVESTIGATION
PROJECT NUMBER 112IC08667
PROJECT LOCATION MIDDLE RIVER, MARYLAND
DATE STARTED 10/31/18 **COMPLETED** 11/1/18
GROUND ELEVATION 9.97 ft **HOLE SIZE** 8 inches
DRILLING CONTRACTOR Cascade
DRILLING METHOD Rotosonic
NOTES 134A screened 7.5-12.5', 134B screened 32.5-37.5' bgs
LOGGED BY J. Mullis
NORTHING 604848.767 ft **EASTING** 1473685.892 ft **DATUM:** MD STATE NAD 1983

DEPTH (ft)	VOC Soil Sample Collected	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0		OL		0.8 brown soft silty OM, rootlets, moist 9.2	PID = 0.7
		CLG		orange/brown w/white mottled stiff sandy gravelly CLAY, pebbles, sl moist	PID = 0.6
5				6.0 4.0	
		SC		dark gray low plastic sandy CLAY, moist, wood pieces, no odor	PID = 1
				8.0 2.0	
		SW		gray to light gray loose medium SAND, well sorted, very moist	PID = 0.7
10	8-12.5(ft)				PID = 1.1
				12.5 -2.5	
		CL		red w/white mottled very stiff silty CLAY, v sl moist	PID = 0.6
15					PID = 0
20				20.0 -10.0	
				red w/white mottled very stiff silty CLAY to CLAY, v sl moist	PID = 0
25		CL			
30				32.0 -22.0	
		CLS		32.8 tan stiff sandy CLAY w/gravel (pebbles), well sorted, v sl moist -22.8	
		SC		34.0 white v low plastic clayey SAND, fine PG, moist -24.0	PID = 0.7
35	32-37(ft)	SC		35.0 white w/purple/tan mottled stiff sandy CLAY, v sl moist -25.0	
		SC		36.0 tan w/white mottled soft sandy CLAY, sl moist -26.0	
		SC		37.0 white w/brown/purple v low plastic clayey SAND, fine PG, moist -27.0	PID = 0.7
		CL		red w/white mottled very stiff silty CLAY to CLAY, dry	
40				40.0 -30.0	

Bottom of borehole at 40.0 feet.



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WELL NUMBER MRC-MW-135A/B

Tetra Tech Inc

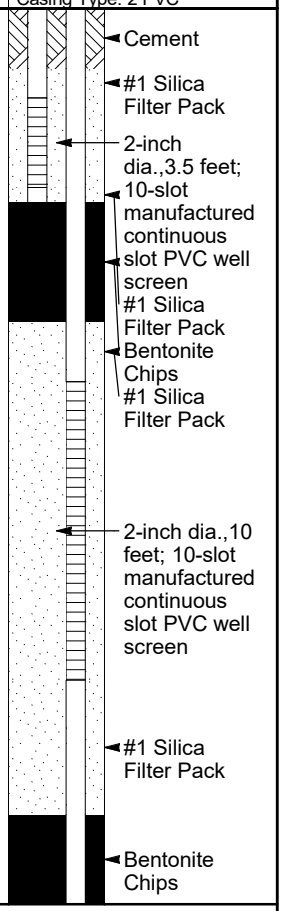
CLIENT Lockheed Martin Corporation
PROJECT NAME BLOCK F TRICHLOROBENZENE INVESTIGATION
PROJECT NUMBER 112IC08667
PROJECT LOCATION MIDDLE RIVER, MARYLAND
DATE STARTED 10/30/18 **COMPLETED** 10/31/18
GROUND ELEVATION 8.89 ft **HOLE SIZE** 8 inches
DRILLING CONTRACTOR Cascade
DRILLING METHOD Rotosonic
NOTES 135A screened 3-6', 135B screened 12.5-22.5' bgs
LOGGED BY J. Mullis
NORTHING 605021.946 ft **EASTING** 1473989.742 ft **DATUM:** MD STATE NAD 1983

DEPTH (ft)	VOC Soil Sample Collected	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION		ENVIRONMENTAL DATA
0		OL		1.0 tan to brown low plastic silty OM, rootlets, moist	7.9	PID = 0.2
		SC		1.8 tan to brown low plastic sandy CLAY, sl moist, fine sand	7.1	
		SPG		2.0 tan/orange loose gravelly SAND, pebbles, moist	6.9	PID = 0.3
	2-5.5(ft)	SP		orange/brown loose medium SAND, moist, poorly graded		
5				5.5	3.4	
		SC		6.8 red/brown w/white mottled stiff sandy CLAY, fine sand, sl moist	2.1	PID = 0.1
		CL		red w/white mottled very stiff silty CLAY, v sl moist		
10				10.0	-1.1	
		SM		brown to light purple loose silty SAND, medium sand, moist, poorly graded		PID = 0
		CL		12.0	-3.1	
				12.5 red stiff silty CLAY, v sl moist	-3.6	PID = 0.4
				brown to light purple loose silty SAND, medium sand, very moist		
15	12.5-18(ft)	SM				
				18.0	-9.1	
		CL		19.0 red stiff silty CLAY, v sl moist	-10.1	PID = 0.3
20				red/brown loose medium to coarse SAND, very moist, well graded		PID = 0.5
		SW		22.0	-13.1	
				tan/yellow/red/purple/brown mottled very stiff silty CLAY, v. sl moist to dry		PID = 0.2
25						
		CL				
30				30.0	-21.1	

Bottom of borehole at 30.0 feet.

WELL DIAGRAM

Casing Top Elev: 8.62 (ft)
Casing Type: 2 PVC



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WELL NUMBER MRC-MW-136B

Tetra Tech Inc

CLIENT Lockheed Martin Corporation
PROJECT NAME BLOCK F TRICHLOROBENZENE INVESTIGATION
PROJECT NUMBER 112IC08667
PROJECT LOCATION MIDDLE RIVER, MARYLAND
DATE STARTED 10/31/18 **COMPLETED** 10/31/18
GROUND ELEVATION 7.06 ft **HOLE SIZE** 8 inches
DRILLING CONTRACTOR Cascade
DRILLING METHOD Rotosonic
NOTES NO A well, B well screened 14-19' bgs
LOGGED BY J. Mullis
NORTHING 604930.213 ft **EASTING** 1474035.02 ft **DATUM:** MD STATE NAD 1983

DEPTH (ft)	VOC Soil Sample Collected	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION		ENVIRONMENTAL DATA	WELL DIAGRAM
0							Casing Top Elev: 6.83 (ft) Casing Type: 2 PVC
		OL		0.8 brown soft silty OM, rootlets, moist	6.3	PID = 0.3	Cement
	1.2-2(ft)	CLG		1.2 orange/brown soft gravelly sandy CLAY, pebbles, moist	5.9	PID = 0.3	
		SP		2.0 orange/brown loose medium SAND w/trace clay, sl moist	5.1	PID = 0.2	
		CL		reddish brown stiff silty CLAY, v sl moist			
5				5.0	2.1		
				red stiff silty CLAY, v sl moist			Bentonite Chips
10		CL				PID = 0	
				14.5	-7.4		
15		SC		15.8 red stiff sandy CLAY, v fine sand, sl moist	-8.7		
	15.8-18.5(ft)	SW		16.8 red/brown loose SAND, fine, moist	-9.7	PID = 0.3	#1 Silica Filter Pack 2-inch dia.,5 feet; 10-slot manufactured continuous slot PVC well screen
		SW		17.8 white loose SAND, medium, moist	-10.7		
		SW		18.5 orange w/gray loose SAND, fine, moist	-11.4	PID = 0.1	
20				yellow w/red/purple mottled very stiff silty CLAY, v sl moist		PID = 0.2	Bottom Cap
25		CL					Bentonite Chips
30				30.0	-22.9		

Bottom of borehole at 30.0 feet.

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APPENDIX D—LOG SHEETS: SOIL, GROUNDWATER, DEVELOPMENT, STATIC WATER LEVEL, CALIBRATION

Tetra Tech

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: BLOCK F TCB Well Install
Project No.: 112IC08667

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: SB-MW134A/B
Sample Location: MRC
Sampled By: J. MULLIS
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

Date: 10/31/2018	**Depth Interval**	**Color**	**Description (Sand, Silt, Clay, Moisture, etc.)**
Time: 1410 / 1630	**SB-MW134A-8-12.5**	**gray to light gray**	**loose medium SAND, moist, well graded**
Method: ROTOSONIC GRAB	**SB-MW134B-32-37**	**white w/purple/tan**	**v low plastic clayey SAND, moist, fine**
Monitor Reading (ppm): 1.1 / 0.7			

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirem	Collected	Other
VOCs 8260	none	4 oz glass jar	YES	

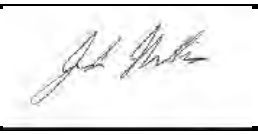
OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):



Tetra Tech

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: BLOCK F TCB Well Install
Project No.: 112IC08667

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: SB-MW135A/B
Sample Location: MRC
Sampled By: J. MULLIS
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

Date: 10/30/2018	**Depth Interval**	**Color**	**Description (Sand, Silt, Clay, Moisture, etc.)**
Time: 1530 / 1600	**SB-MW135A-2-5.5**	**orange/brown**	**loose medium SAND, PG**
Method: ROTOSONIC GRAB	**SB-MW135B-12.5-18**	**brn/light purple**	**loose silty SAND, medium, PG**
Monitor Reading (ppm): 0.3 / 0.4			

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected	Other
VOCs 8260	none	4 oz glass jar	YES	

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

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

Signature(s):



Tetra Tech

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: BLOCK F TCB Well Install
Project No.: 112IC08667

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: SB-MW136A/B
Sample Location: MRC
Sampled By: J. MULLIS
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:			
Date: 10/31/2018	**Depth Interval**	**Color**	**Description (Sand, Silt, Clay, Moisture, etc.)**
Time: 1020 / 1040	**SB-MW136A-1.2-2.0**	**orange/brown**	**gravelly sandy CLAY, pebbles, soft, sl moist**
Method: ROTOSONIC GRAB	**SB-MW136B-15.8-18.5**	**brn/light purple**	**fine to medium SAND, loose, moist, WG**
Monitor Reading (ppm): 0.3 / 0.3			

SAMPLE COLLECTION INFORMATION:				
Analysis	**Preservative**	**Container Requirem**	**Collected**	**Other**
VOCs 8260	none	4 oz glass jar	YES	

OBSERVATIONS / NOTES:	MAP:

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

MONITORING WELL DEVELOPMENT RECORD

Well ID: MRC-MW-134A
Site: MRC Block F
Date Installed: 11/1/2018
Date Developed: 11/2/2018
Dev. Method: SURGE + MACRO
Pump Type: MACRO MONSOON

Depth to Bottom (ft.): 12.08
Static WL Before (ft): 2.15
Static Water Level After (ft.): 6.68
Screen Length (ft.) 5
Specific Capacity:
Casing ID (in.) 2" PVC

Responsible Personnel: Josh Mullis (Tetra Tech), Larry Hunsberger (Cascade)
Drilling Co.: Cascade
Project Name: MRC Block F TCB Inv Well Install
Project Number: 112IC08667

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units mS/cm)	Turbidity (NTU)	Remarks (odor, color, etc.)
1600	<0.1"	START	2.08	-	-	-	-	-
1620	<0.1"	48 gal	6.68	20.04	7.05	0.531	109.9	cloudy
1630	<0.1"	62	6.68	20.01	7.15	0.557	24.4	very slightly cloudy
1640	0	76	6.68	20.01	7.15	0.563	21.5	very slightly cloudy
1645	0	85	6.68	20.02	7.14	0.562	14.1	clear
1650	0	93	6.68	20	7.17	0.561	12.9	clear
1655	0	100	6.68	20.01	7.18	0.561	9.87	clear
Well runs clear and paramaters stabilized, well considered developed.								

MONITORING WELL DEVELOPMENT RECORD

Well ID: MRC-MW-134B
Site: MRC Block F
Date Installed: 11/1/2018
Date Developed: 11/3, 11/12
Dev. Method: SURGE + MACRO
Pump Type: MACRO MONSOON

Depth to Bottom (ft.): 35.2
Static WL Before (ft): 11/3 (4.85), 11/12 (13.67)
Static Water Level After (ft.): DRY
Screen Length (ft.) 5
Specific Capacity:
Casing ID (in.) 2" PVC

Responsible Personnel: Josh Mullis (Tetra Tech), Larry Hunsberger (Cascade)
Drilling Co.: Cascade
Project Name: MRC Block F TCB Inv Well Install
Project Number: 112IC08667

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units mS/cm)	Turbidity (NTU)	Remarks (odor, color, etc.)
WELL MW-134B WAS DEVELOPED ON TWO SEPARATE OCCASIONS DUE TO VERY SLOW RECHARGE RATE								
11/3/2018 INITIAL DEVELOPMENT								
0725	<0.1"	START	2.75	--	--	--	--	BROWN/TURBID
0731	<0.1"	12	DRY	--	--	--	--	BROWN/TURBID
0816	<0.1"	12	7.00	--	--	--	--	BROWN/TURBID
0828	<0.1"	15	DRY	--	--	--	--	BROWN/TURBID
0928	<0.1"	15	26.7	--	--	--	--	BROWN/TURBID
0940	<0.1"	20	32.8	15.56	6.10	0.090	625	BROWN/TURBID
1025	<0.1"	23	DRY	15.94	6.20	0.099	700	BROWN/TURBID
THREE HOUR PURGE LIMIT W/DRILLERS REACHED, RETURN 11/12/2018 TO REDEVELOP								
11/12/2018 SECOND DEVELOPMENT								
1205	<0.1"	START	13.67	--	--	--	--	
1215	<0.1"	5	DRY	13.89	5.52	0.149	725	BROWN/TURBID
1235	<0.1"	START	30.3	--	--	--	--	BROWN/TURBID
1238	<0.1"	8	DRY	14.01	5.84	0.152	700	BROWN/TURBID
1305	<0.1"	START	30.25	--	--	--	--	BROWN/TURBID
1307	<0.1"	11	DRY	14.25	5.92	0.154	650	BROWN/TURBID
1352	<0.1"	START	30.4	--	--	--	--	BROWN/TURBID
1359	<0.1"	14	DRY	14.88	6.01	0.13	600	LIGHT BROWN/CLOUDY
1430	<0.1"	START	30.55	--	--	--	--	LIGHT BROWN/CLOUDY
1435	<0.1"	16	DRY	15.02	6.05	0.125	550	LIGHT BROWN/CLOUDY
1535	<0.1"	START	30.25	--	--	--	--	LIGHT BROWN/CLOUDY
1538	<0.1"	20	DRY	15.15	6.12	0.115	492	LIGHT BROWN/CLOUDY
STOP DEVELOPMENT. WELL RECHARGES TOO SLOW BUT WELL SCREEN HAS BEEN SURGED MULTIPLE TIMES. ATTEMPT TO COLLECT WATER SAMPLES								

MONITORING WELL DEVELOPMENT RECORD

Well ID: MRC-MW-135A
Site: MRC Block F
Date Installed: 10/31/2018
Date Developed: 11/2/2018
Dev. Method: SURGE + MACRO
Pump Type: MACRO MONSOON

Depth to Bottom (ft.): 6.22
Static WL Before (ft): 3.31
Static Water Level After (ft.): 4.25
Screen Length (ft.) 3
Specific Capacity:
Casing ID (in.) 2" PVC

Responsible Personnel: Josh Mullis (Tetra Tech), Larry Hunsberger (Cascade)
Drilling Co.: Cascade
Project Name: MRC Block F TCB Inv Well Install
Project Number: 112IC08667

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units mS/cm)	Turbidity (NTU)	Remarks (odor, color, etc.)
1030	<0.1"	START	3.34	--	--	--	--	
1031	<0.1"	1	SURGE + PURGE WELL DRY INITIALLY TO UNCLOG SCREEN					BROWN/TURBID
1055	0.0	START	4.25	19.1	6.75	1.77	>1000	BROWN/TURBID
1105	0.0	10	4.25	18.92	6.81	1.84	95.4	cloudy
1120	0.0	20	4.25	18.79	6.77	1.81	28.2	very slightly cloudy
1130	0.0	35	4.25	18.77	6.79	1.79	23.3	very slightly cloudy
1135	0.0	45	4.25	18.76	6.77	1.77	14.9	clear
1140	0	50	4.25	18.75	6.78	1.76	8.25	clear
END DEVELOPMENT, WATER RUNS CLEAR AND PARAMETERS STABILIZED								

MONITORING WELL DEVELOPMENT RECORD

Well ID: MRC-MW-135B
Site: MRC Block F
Date Installed: 10/30/2018
Date Developed: 11/2, 11/3
Dev. Method: SURGE + MACRO
Pump Type: MACRO MONSOON

Depth to Bottom (ft.): 22.4
Static WL Before (ft): 11/2 (3.08), 11/3 (9.10)
Static Water Level After (ft.): 11/2 (14.05), 11/3 (17.30)
Screen Length (ft.) 10
Specific Capacity:
Casing ID (in.) 2" PVC

Responsible Personnel: Josh Mullis (Tetra Tech), Larry Hunsberger (Cascade)
Drilling Co.: Cascade
Project Name: MRC Block F TCB Inv Well Install
Project Number: 112IC08667

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units mS/cm)	Turbidity (NTU)	Remarks (odor, color, etc.)
WELL MW-135B WAS DEVELOPED ON TWO SEPARATE OCCASIONS DUE TO VERY SLOW RECHARGE RATE								
11/2/18 DEVELOPMENT								BROWN/TURBID
1240	<0.1"	START	2.2	--	--	--	--	BROWN/TURBID
1245	<0.1"	7	DRY	--	--	--	--	BROWN/TURBID
1255	<0.1"	START	14.3	--	--	--	--	BROWN/TURBID
1315	<0.1"	20	DRY	--	--	--	--	BROWN/TURBID
1342	<0.1"	START	14.25	--	--	--	--	BROWN/TURBID
1425	<0.1"	30	DRY	21.28	5.99	0.272	>1000	BROWN/TURBID
1452	<0.1"	START	14.22	--	--	--	--	BROWN/TURBID
1457	<0.1"	40	DRY	--	--	--	--	BROWN/TURBID
1524	<0.1"	START	14.05	20.3	5.38	0.168	>1000	Turn down pump to 0.5 gal/min to attempt to clear up well without going dry
1529	<0.1"	45	14.05	19.36	5.38	0.172	>1000	LIGHT BROWN/CLOUDY
1534	<0.1"	47	14.05	19.39	5.28	0.182	>1000	LIGHT BROWN/CLOUDY
1540	<0.1"	50	14.05	19.34	5.36	0.194	213	LIGHT BROWN/CLOUDY
1541	<0.1"	51	14.05	19.23	5.28	0.181	165	VERY LIGHT BROWN
THREE HOUR DEVELOPMENT LIMIT W/DRILLERS REACHED, TETRA TECH RETURN 11/3 TO FINISH DEVELOPMENT								
11/3/2018 FINAL DEVELOPMENT								
0758	<0.1"	START	9.1	--	--	--	--	BROWN/TURBID
0812	<0.1"	10	14.32	18.75	5.34	0.171	>1000	LIGHT BROWN/CLOUDY
0814	<0.1"	11	17.05	18.45	5.23	0.198	>1000	LIGHT BROWN/CLOUDY
0820	<0.1"	12	DRY	--	--	--	--	LIGHT BROWN/CLOUDY
0840	<0.1"	START	15.3	--	--	--	--	LIGHT BROWN/CLOUDY
0842	<0.1"	13	15.3	17.05	5.08	0.15	96	CLOUDY
0844	0.0	14	17.3	17.39	5.12	0.175	81.8	Turn down pump to 0.5 gal/min to attempt to clear up well without going dry
0847	0.0	16	17.3	17.42	5.17	0.175	76.2	CLOUDY
0851	0.0	18	17.3	17.35	5.14	0.162	30.5	SLIGHTLY CLOUDY
0855	0.0	20	17.3	17.26	5.12	0.16	20.3	CLEAR
0859	0.0	22	17.3	17.24	5.12	0.152	14.2	CLEAR
0903	0.0	24	17.3	17.25	5.09	0.151	6.32	CLEAR
WELL RUNS CLEAR AND PARAMETERS STABILIZED. WELL CONSIDERED DEVELOPED.								

MONITORING WELL DEVELOPMENT RECORD

Well ID: MRC-MW-136B
Site: MRC Block F
Date Installed: 10/31/2018
Date Developed: 11/2/2018
Dev. Method: SURGE + MACRO
Pump Type: MACRO MONSOON

Depth to Bottom (ft.): 18.65
Static WL Before (ft): 3.1
Static Water Level After (ft.): 16.75
Screen Length (ft.) 5
Specific Capacity:
Casing ID (in.) 2" PVC

Responsible Personnel: Josh Mullis (Tetra Tech), Larry Hunsberger (Cascade)
Drilling Co.: Cascade
Project Name: MRC Block F TCB Inv Well Install
Project Number: 112IC08667

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units mS/cm)	Turbidity (NTU)	Remarks (odor, color, etc.)
0740	<1"	START	2.85	--	--	--	--	BROWN/TURBID
0743	<1"	6	DRY (18.65)	--	--	--	--	BROWN/TURBID
0801	<1"	START	3.8	--	--	--	--	BROWN/TURBID
0804	<1"	9	DRY (18.65)	--	--	--	--	BROWN/TURBID
0813	<0.1"	12	6.35	19.43	4.77	0.482	>1000	BROWN/TURBID
0822	<0.1"	14	6.5	18.45	4.67	0.389	>1000	BROWN/TURBID
0900	<0.1"	50	DRY (18.65)	--	--	--	--	BROWN/TURBID
0915	<0.1"	START	4.3	--	--	--	--	BROWN/TURBID
0930	<0.1"	60	15.25	18.58	4.54	0.439	>1000	BROWN/TURBID
0940	<0.1"	70	16.75	18.54	4.88	0.473	850	BROWN/TURBID
0950	<0.1"	80	16.75	18.61	4.57	0.447	419	BROWN/TURBID
0955	0.0	85	16.75	18.58	4.54	0.447	66	LIGHT RED/CLOUDY
1000	0.0	90	16.75	18.58	4.54	0.444	46.7	LIGHT RED/CLOUDY
1005	0.0	95	16.75	18.63	4.53	0.443	31.2	LIGHT RED/CLOUDY
1010	0.0	100	16.75	18.64	4.53	0.442	20	CLEAR
1015	0.0	105	16.75	18.64	4.54	0.441	17.2	CLEAR
1025	0.0	115	16.75	18.63	4.54	0.45	8.58	CLEAR
	WELL RUNS CLEAR AND PARAMETERS STABILIZED. WELL CONSIDERED DEVELOPED.							

Tetra Tech

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name:	Block F TCB Well Install	**Project No.:**	112IC08667
Location:	Middle River, MD	**Personnel:**	J. Mullis / W. Pryor
Weather Conditions:	overcast, 50 deg F	**Measuring Device:**	Solinst WLM
Tidally Influenced:	**Yes** ____ **No** _X_	**Remarks:**	

Well or Piezometer Number	Date	Time	Elevation of Reference Point (feet)*	Total Well Depth (feet)*	Water Level Indicator Reading (feet)*	Thickness of Fines (inches)*	Groundwater Elevation (feet)*	Comments
MRC-MW-134A	11/12/2018	1150	TOP PVC	12.13	2.12	0	n/a	HARD BOTTOM
MRC-MW-134B	11/12/2018	1152	TOP PVC	35.20	16.55	1"	n/a	PRESSURE, SOFT BOTTOM
MRC-MW-135A	11/12/2018	1141	TOP PVC	6.20	2.55	0	n/a	HARD BOTTOM
MRC-MW-135B	11/12/2018	1144	TOP PVC	22.45	2.60	0	n/a	HARD BOTTOM
MRC-MW-136B	11/12/2018	1135	TOP PVC	18.73	2.40	0	n/a	HARD BOTTOM

GROUNDWATER SAMPLE LOG SHEET

Tetra Tech, Inc.

Event:	MRC BLOCK F TCB WELL INSTALL
Project Site Name:	MRC BLOCK F
Project No.:	112IC08667

Sample ID:	MRC-MW-134A-111318	**Sampled By:**	Walt Pryor
QA/QC Duplicate ID:	none	**Sample Date:**	11/13/18
MS/MSD Collected:	none	**Sample Time:**	1415

WELL INFORMATION:

Well ID :	MRC-MW134A	**Purge Date:**	11/13/18
Well Diameter (in):	2" PVC	**Static Water Level (ft-BTOR):**	1.75
Top of Screen (ft-BTOR):		**PID Monitor Reading:**	0.0
Bottom of Screen (ft-BTOR):		**Purge Method:**	GEOPUMP PERI PUMP
Total Well Depth (ft-BTOR):	12.13	**Sample Method:**	DIRECT FILL LOW FLOW
		MSL,Ft.=	1 Volume (Gal.) = 300%=

MONITORING WELL INSPECTION

Condition of Seal:
( ) None (X) Good ( ) Cracked

Condition of Protective Casing:
(X) Good ( ) Damaged ( ) Loose ( ) None Present

Inner Casing: (X) PVC ( ) Steel ( ) None
Condition: (X) Good ( ) Cracked/Broken

EQUIPMENT INFORMATION:

Water Quality Instrument:	Horiba U-52	**Pump Controller:**	GEOPUMP PERI PUMP
Turbidity Meter:	LaMotte 2020e		

PURGE DATA:

Time (Hrs)	Purge Volume (gallons)	Flow mL / min.	Color	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTU)	Temp. (C°)	ORP (mV)	Water Level (Ft. below TOC)	Sal (ppt)
1324	--	300	CLEAR	--	--	--	--	--	--	1.75	--
1325	--	300	CLEAR	6.37	0.653	2.20	5.90	15.82	-51	1.90	0.3
1330	--	300	CLEAR	6.74	0.661	0.00	2.99	16.56	-93	1.90	0.3
1335	--	300	CLEAR	7.02	0.656	0.53	2.00	16.87	-111	1.90	0.3
1345	--	300	CLEAR	7.01	0.655	0.60	1.49	17.02	-112	1.90	0.3
1355	--	300	CLEAR	6.97	0.649	0.90	1.15	17.09	-112	1.90	0.3
1400	--	300	CLEAR	6.97	0.648	0.89	1.18	17.00	-112	1.90	0.3
1405	--	300	CLEAR	6.96	0.647	0.88	1.16	17.03	-112	1.90	0.3
1410	2.5	300	CLEAR	6.96	0.646	0.88	1.19	17.06	-112	1.90	0.3

FINAL PURGE / SAMPLE DATA:

Start Purge	End Purge	Total (min.)	Total Vol. (gal.)	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTU)	Temp. (C°)	ORP (mV)	Sal (ppt)	
1324	1410	46	2.5	6.56	0.646	0.88	1.19	17.06	-112	0.3	

ANALYSIS, PRESERVATION AND BOTTLE REQUIRMENTS

Analysis	Method	Preservative	Number	Vol.	Bottle Type	Collected
VOCs	8260C	HCl	3	40 mL	glass vials	yes
PCBs	680	None	2	1 L	amber glass	yes
Total Metals, Iron and Manganese	6020A, 6010C	HNO3	1	500 mL	poly	yes
Dissolved Gases (MEE)	RSK-175	HCl	3	40 mL	glass vials	yes
Total Hardness	2340C	HNO3	1	250 mL	poly	yes
Alkalinity	2320B	None	1	250 mL	poly	yes
Sulfate, Bromide, TDS, Nitrates	9056A, 4500, 300, 2540C	None	1	500 mL	poly	yes
Salinity	2520B	None	1	250 mL	poly	yes
DHC Bacterial Species + functional genes	pass 1L through filter	None	1	1L through filter	filter	yes

OBSERVATIONS / NOTES:

DHC Bacterial Species and Functional Genes to Microbial Insights, everything else to TestAmerica
Ferrous Iron Kit: 2.5 mg/L

Duplicate information:	Signature(s):
	WALT PRYOR

GROUNDWATER SAMPLE LOG SHEET

Tetra Tech, Inc.

Event: MRC BLOCK F TCB WELL INSTALL
Project Site Name: MRC BLOCK F
Project No.: 112IC08667

Sample ID:	MRC-MW-134B-111318	**Sampled By:**	Walt Pryor
QA/QC Duplicate ID:	none	**Sample Date:**	11/13/18
MS/MSD Collected:	none	**Sample Time:**	1612

WELL INFORMATION:

Well ID :	MRC-MW134B	**Purge Date:**	11/13/18
Well Diameter (in):	2" PVC	**Static Water Level (ft-BTOR):**	5.30
Top of Screen (ft-BTOR):		**PID Monitor Reading:**	0.0
Bottom of Screen (ft-BTOR):		**Purge Method:**	GEOPUMP PERI PUMP
Total Well Depth (ft-BTOR):	35.20	**Sample Method:**	DIRECT FILL LOW FLOW
		MSL,Ft.=	1 Volume (Gal.) = 300%=

MONITORING WELL INSPECTION

Condition of Seal:
( ) None (X) Good ( ) Cracked

Condition of Protective Casing:
(X) Good ( ) Damaged ( ) Loose ( ) None Present

Inner Casing: (X) PVC ( ) Steel ( ) None
Condition: (X) Good ( ) Cracked/Broken

EQUIPMENT INFORMATION:

Water Quality Instrument:	Horiba U-52	**Pump Controller:**	GEOPUMP PERI PUMP
Turbidity Meter:	LaMotte 2020e		

PURGE DATA:

Time (Hrs)	Purge Volume (gallons)	Flow mL / min.	Color	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTU)	Temp. (C°)	ORP (mV)	Water Level (Ft. below TOC)	Sal (ppt)
1435	--	300	CLEAR	--	--	--	--	--	--	5.3	--
1437	--	300	CLEAR	6.63	0.103	4.32	11.20	16.03	34	5.92	0.0
1442	--	200	CLEAR	6.19	0.087	2.83	10.50	16.04	77	6.72	0.0
1447	--	150	CLEAR	6.11	0.085	2.17	10.70	15.89	83	7.17	0.0
1457	--	100	CLEAR	6.03	0.079	1.70	9.93	15.84	84	8.80	0.0
1507	--	100	CLEAR	5.87	0.078	1.19	9.72	15.34	97	9.50	0.0
1512	--	100	CLEAR	5.94	0.077	1.17	9.51	15.44	92	9.93	0.0
1517	--	100	CLEAR	5.83	0.076	1.11	9.00	15.46	98	10.25	0.0
1522	--	100	CLEAR	5.84	0.076	0.94	8.51	15.56	97	10.70	0.0
1527	--	100	CLEAR	5.90	0.076	0.96	8.01	15.39	95	11.10	0.0
1537	--	100	CLEAR	5.85	0.076	0.92	7.85	15.30	96	11.40	0.0
1547	--	100	CLEAR	5.82	0.076	0.84	7.90	15.30	98	11.70	0.0
1557	--	100	CLEAR	5.80	0.076	0.82	8.00	15.28	99	12.50	0.0
1602	--	100	CLEAR	5.80	0.076	0.80	8.35	15.30	101	13.15	0.0
1607	2.5	100	CLEAR	5.79	0.076	0.82	8.50	15.26	102	14.30	0.0
	WELL PARAMETERS DID NOT STABILIZE (WL), 90 MINUTE PURGE LIMIT REACHED.										

FINAL PURGE / SAMPLE DATA:

Start Purge	End Purge	Total (min.)	Total Vol. (gal.)	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTU)	Temp. (C°)	ORP (mV)	Sal (ppt)	
1435	1607	92	2.5	5.79	0.076	0.82	8.50	15.26	102	0.0	

ANALYSIS, PRESERVATION AND BOTTLE REQUIRMENTS

Analysis	Method	Preservative	Number	Vol.	Bottle Type	Collected
VOCs	8260C	HCl	3	40 mL	glass vials	yes
PCBs	680	None	2	1 L	amber glass	yes
Total Metals, Iron and Manganese	6020A, 6010C	HNO3	1	500 mL	poly	yes
Dissolved Gases (MEE)	RSK-175	HCl	3	40 mL	glass vials	yes
Total Hardness	2340C	HNO3	1	250 mL	poly	yes
Alkalinity	2320B	None	1	250 mL	poly	yes
Sulfate, Bromide, TDS, Nitrates	9056A, 4500, 300, 2540C	None	1	500 mL	poly	yes
Salinity	2520B	None	1	250 mL	poly	yes
DHC Bacterial Species + functional genes	pass 1L through filter	None	1	1L through filter	filter	yes

OBSERVATIONS / NOTES:

DHC Bacterial Species and Functional Genes to Microbial Insights, everything else to TestAmerica
Ferrous Iron Kit: 3.30 mg/L

Duplicate information:	Signature(s):
	WALT PRYOR

GROUNDWATER SAMPLE LOG SHEET

Tetra Tech, Inc.

Event:	MRC BLOCK F TCB WELL INSTALL
Project Site Name:	MRC BLOCK F
Project No.:	112IC08667

Sample ID:	MRC-MW-135A-111218	**Sampled By:**	Walt Pryor
QA/QC Duplicate ID:	none	**Sample Date:**	11/12/18
MS/MSD Collected:	YES	**Sample Time:**	1435

WELL INFORMATION:

Well ID :	MRC-MW135A	**Purge Date:**	11/12/18
Well Diameter (in):	2" PVC	**Static Water Level (ft-BTOR):**	2.56
Top of Screen (ft-BTOR):		**PID Monitor Reading:**	0.0
Bottom of Screen (ft-BTOR):		**Purge Method:**	GEOPUMP PERI PUMP
Total Well Depth (ft-BTOR):	6.20	**Sample Method:**	DIRECT FILL LOW FLOW
		MSL,Ft.=	1 Volume (Gal.) = 300%=

MONITORING WELL INSPECTION

Condition of Seal:
( ) None (X) Good ( ) Cracked

Condition of Protective Casing:
(X) Good ( ) Damaged ( ) Loose ( ) None Present

Inner Casing: (X) PVC ( ) Steel ( ) None
Condition: (X) Good ( ) Cracked/Broken

EQUIPMENT INFORMATION:

Water Quality Instrument:	Horiba U-52	**Pump Controller:**	GEOPUMP PERI PUMP
Turbidity Meter:	LaMotte 2020e		

PURGE DATA:

Time (Hrs)	Purge Volume (gallons)	Flow mL / min.	Color	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTU)	Temp. (C°)	ORP (mV)	Water Level (Ft. below TOC)	Sal (ppt)
1345	--	300	sl cloudy	--	--	--	--	--	--	2.56	--
1350	--	300	sl cloudy	6.58	2.18	0.00	24.40	15.56	83	2.64	1.1
1355	--	300	sl cloudy	6.63	2.17	0.00	16.80	15.58	77	2.64	1.1
1400	--	300	CLEAR	6.67	2.13	0.00	7.40	15.52	70	2.64	1.1
1405	--	300	CLEAR	6.69	2.09	0.00	5.20	15.56	67	2.64	1.0
1410	--	300	CLEAR	6.70	2.06	0.00	3.61	15.60	64	2.64	1.0
1415	--	300	CLEAR	6.71	2.00	0.00	2.00	15.55	63	2.64	1.0
1420	--	300	CLEAR	6.72	1.92	0.00	1.52	15.52	63	2.64	1.0
1425	--	300	CLEAR	6.74	1.90	0.00	1.50	15.52	61	2.64	1.0
1430	2.5	300	CLEAR	6.76	1.88	0.00	1.48	15.57	60	2.64	1.0

FINAL PURGE / SAMPLE DATA:

Start Purge	End Purge	Total (min.)	Total Vol. (gal.)	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTU)	Temp. (C°)	ORP (mV)	Sal (ppt)	
1345	1430	45	2.5	6.76	1.88	0.00	1.48	15.57	60	1.0	

ANALYSIS, PRESERVATION AND BOTTLE REQUIRMENTS

Analysis	Method	Preservative	Number	Vol.	Bottle Type	Collected
VOCs	8260C	HCl	3	40 mL	glass vials	yes
PCBs	680	None	2	1 L	amber glass	yes
Total Metals, Iron and Manganese	6020A, 6010C	HNO3	1	500 mL	poly	yes
Dissolved Gases (MEE)	RSK-175	HCl	3	40 mL	glass vials	yes
Total Hardness	2340C	HNO3	1	250 mL	poly	yes
Alkalinity	2320B	None	1	250 mL	poly	yes
Sulfate, Bromide, TDS, Nitrates	9056A, 4500, 300, 2540C	None	1	500 mL	poly	yes
Salinity	2520B	None	1	250 mL	poly	yes
DHC Bacterial Species + functional genes	pass 1L through filter	None	1	1L through filter	filter	yes

OBSERVATIONS / NOTES:

DHC Bacterial Species and Functional Genes to Microbial Insights, everything else to TestAmerica
Ferrous Iron Kit: 1.0 mg/L

Duplicate information:	Signature(s):
	WALT PRYOR

GROUNDWATER SAMPLE LOG SHEET

Tetra Tech, Inc.

Event:	MRC BLOCK F TCB WELL INSTALL
Project Site Name:	MRC BLOCK F
Project No.:	112IC08667

Sample ID:	MRC-MW-135B-111318	**Sampled By:**	Walt Pryor
QA/QC Duplicate ID:	none	**Sample Date:**	11/13/18
MS/MSD Collected:	none	**Sample Time:**	0939

WELL INFORMATION:

Well ID :	MRC-MW135B	**Purge Date:**	11/13/18
Well Diameter (in):	2" PVC	**Static Water Level (ft-BTOR):**	2.05
Top of Screen (ft-BTOR):		**PID Monitor Reading:**	0.0
Bottom of Screen (ft-BTOR):		**Purge Method:**	GEOPUMP PERI PUMP
Total Well Depth (ft-BTOR):	22.45	**Sample Method:**	DIRECT FILL LOW FLOW
		MSL,Ft.=	1 Volume (Gal.) = 300%=

MONITORING WELL INSPECTION

Condition of Seal:
( ) None (X) Good ( ) Cracked

Condition of Protective Casing:
(X) Good ( ) Damaged ( ) Loose ( ) None Present

Inner Casing: (X) PVC ( ) Steel ( ) None
Condition: (X) Good ( ) Cracked/Broken

EQUIPMENT INFORMATION:

Water Quality Instrument:	Horiba U-52	**Pump Controller:**	GEOPUMP PERI PUMP
Turbidity Meter:	LaMotte 2020e		

PURGE DATA:

Time (Hrs)	Purge Volume (gallons)	Flow mL / min.	Color	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTU)	Temp. (C°)	ORP (mV)	Water Level (Ft. below TOC)	Sal (ppt)
0842	--	300	CLEAR	--	--	--	--	--	--	2.05	--
0844	--	300	CLEAR	4.66	0.173	4.44	5.30	16.95	263	2.50	0.1
0849	--	300	CLEAR	4.98	0.153	0.00	2.75	16.64	265	3.10	0.1
0854	--	200	CLEAR	4.84	0.147	0.00	2.20	16.39	296	3.17	0.1
0904	--	150	CLEAR	4.86	0.147	0.00	1.89	16.19	303	3.25	0.1
0914	--	100	CLEAR	4.77	0.138	0.00	1.23	16.21	310	3.30	0.1
0924	--	100	CLEAR	4.83	0.136	0.00	0.98	16.18	312	3.35	0.1
0929	--	100	CLEAR	4.74	0.135	0.00	0.98	16.12	319	3.35	0.1
0934	2	100	CLEAR	4.73	0.135	0.00	0.97	16.09	320	3.35	0.1

FINAL PURGE / SAMPLE DATA:

Start Purge	End Purge	Total (min.)	Total Vol. (gal.)	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTU)	Temp. (C°)	ORP (mV)	Sal (ppt)	
0842	0934	52	2	4.73	0.135	0.00	0.97	16.09	320	0.1	

ANALYSIS, PRESERVATION AND BOTTLE REQUIRMENTS

Analysis	Method	Preservative	Number	Vol.	Bottle Type	Collected
VOCs	8260C	HCl	3	40 mL	glass vials	yes
PCBs	680	None	2	1 L	amber glass	yes
Total Metals, Iron and Manganese	6020A, 6010C	HNO3	1	500 mL	poly	yes
Dissolved Gases (MEE)	RSK-175	HCl	3	40 mL	glass vials	yes
Total Hardness	2340C	HNO3	1	250 mL	poly	yes
Alkalinity	2320B	None	1	250 mL	poly	yes
Sulfate, Bromide, TDS, Nitrates	9056A, 4500, 300, 2540C	None	1	500 mL	poly	yes
Salinity	2520B	None	1	250 mL	poly	yes
DHC Bacterial Species + functional genes	pass 1L through filter	None	1	1L through filter	filter	yes

OBSERVATIONS / NOTES:

DHC Bacterial Species and Functional Genes to Microbial Insights, everything else to TestAmerica
Ferrous Iron Kit: 1.0 mg/L

Duplicate information:	Signature(s):
	WALT PRYOR

GROUNDWATER SAMPLE LOG SHEET

Tetra Tech, Inc.

Event: MRC BLOCK F TCB WELL INSTALL
Project Site Name: MRC BLOCK F
Project No.: 112IC08667

Sample ID:	MRC-MW-136B-111318	**Sampled By:**	Walt Pryor
QA/QC Duplicate ID:	MRC-MW-DUP-111318	**Sample Date:**	11/13/18
MS/MSD Collected:	none	**Sample Time:**	1122

WELL INFORMATION:

Well ID :	MRC-MW136B	**Purge Date:**	11/13/18		
Well Diameter (in):	2" PVC	**Static Water Level (ft-BTOR):**	1.90		
Top of Screen (ft-BTOR):		**PID Monitor Reading:**	0.0		
Bottom of Screen (ft-BTOR):		**Purge Method:**	GEOPUMP PERI PUMP		
Total Well Depth (ft-BTOR):	18.73	**Sample Method:**	DIRECT FILL LOW FLOW		
		MSL,Ft.=	1 Volume (Gal.) =	300%=	

MONITORING WELL INSPECTION

Condition of Seal:
( ) None (X) Good ( ) Cracked

Condition of Protective Casing:
(X) Good ( ) Damaged ( ) Loose ( ) None Present

Inner Casing: (X) PVC ( ) Steel ( ) None
Condition: (X) Good ( ) Cracked/Broken

EQUIPMENT INFORMATION:

Water Quality Instrument:	Horiba U-52	**Pump Controller:**	GEOPUMP PERI PUMP
Turbidity Meter:	LaMotte 2020e		

PURGE DATA:

Time (Hrs)	Purge Volume (gallons)	Flow mL / min.	Color	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTU)	Temp. (C°)	ORP (mV)	Water Level (Ft. below TOC)	Sal (ppt)
1025	--	300	sl cloudy	--	--	--	--	--	--	1.9	--
1027	--	300	sl cloudy	5.31	0.467	2.44	32.30	15.36	230	2.15	0.2
1032	--	250	sl cloudy	5.41	0.472	0.39	13.80	15.51	212	2.20	0.2
1037	--	200	CLEAR	5.52	0.358	0.28	9.98	15.53	214	2.20	0.2
1047	--	200	CLEAR	5.44	0.266	0.66	7.03	15.62	242	2.20	0.2
1057	--	200	CLEAR	5.36	0.247	0.09	5.00	15.75	251	2.20	0.1
1102	--	200	CLEAR	5.34	0.241	0.00	3.91	15.87	254	2.20	0.1
1107	--	200	CLEAR	5.26	0.228	0.00	2.42	15.99	264	2.20	0.1
1112	--	200	CLEAR	5.23	0.226	0.00	2.35	15.99	269	2.20	0.1
1117	2.5	200	CLEAR	5.21	0.225	0.00	2.29	15.97	272	2.20	0.1

FINAL PURGE / SAMPLE DATA:

Start Purge	End Purge	Total (min.)	Total Vol. (gal.)	pH (S.U.)	S.C. (mS/cm)	DO (mg/L)	Turbidity (NTU)	Temp. (C°)	ORP (mV)	Sal (ppt)	
1025	1117	52	2.5	5.21	0.225	0.00	2.29	15.97	272	0.1	

ANALYSIS, PRESERVATION AND BOTTLE REQUIRMENTS

Analysis	Method	Preservative	Number	Vol.	Bottle Type	Collected
VOCs	8260C	HCl	3	40 mL	glass vials	yes
PCBs	680	None	2	1 L	amber glass	yes
Total Metals, Iron and Manganese	6020A, 6010C	HNO3	1	500 mL	poly	yes
Dissolved Gases (MEE)	RSK-175	HCl	3	40 mL	glass vials	yes
Total Hardness	2340C	HNO3	1	250 mL	poly	yes
Alkalinity	2320B	None	1	250 mL	poly	yes
Sulfate, Bromide, TDS, Nitrates	9056A, 4500, 300, 2540C	None	1	500 mL	poly	yes
Salinity	2520B	None	1	250 mL	poly	yes
DHC Bacterial Species + functional genes	pass 1L through filter	None	1	1L through filter	filter	yes

OBSERVATIONS / NOTES:

DHC Bacterial Species and Functional Genes to Microbial Insights, everything else to TestAmerica
Ferrous Iron Kit: 0.0 mg/L

Duplicate information:	Signature(s):
MRC-MW-DUP-111318	WALT PRYOR

Tetra Tech

EQUIPMENT CALIBRATION LOG

PROJECT NAME : Block F Drilling Nov 2018

SITE NAME: MRC Block F TCB Well Install

MANUFACTURER: MiniRae 3000

PROJECT No.: 112IC08667

SERIAL NUMBER: 592-923334

Date of Calibration	Instrument I.D. Number	Person Performing Calibration	Instrument Settings		Instrument Readings		Calibration Standard (Lot No.)	Remarks and Comments
			Parameter	Post-Cal	Pre- calibration	Post-calibration		
10/29/2018	41682	Mullis	isobutylene	100.0 ppm	n/a	100.0 ppm	BBI-248-100-7	
10/29/2018	41682	Mullis	fresh air	0.0 ppm	0.1 ppm	0.0 ppm	ambient air	
10/30/2018	41682	Mullis	isobutylene	100.0 ppm	n/a	100.0 ppm	BBI-248-100-7	
10/30/2018	41682	Mullis	fresh air	0.0 ppm	0.4 ppm	0.0 ppm	ambient air	
10/31/2018	41682	Mullis	isobutylene	100.0 ppm	n/a	100.0 ppm	BBI-248-100-7	
10/31/2018	41682	Mullis	fresh air	0.0 ppm	0.2 ppm	0.0 ppm	ambient air	
11/1/2018	41682	Mullis	isobutylene	100.0 ppm	n/a	100.0 ppm	BBI-248-100-7	
11/1/2018	41682	Mullis	fresh air	0.0 ppm	0.1 ppm	0.0 ppm	ambient air	
11/2/2018	41682	Mullis	isobutylene	100.0 ppm	n/a	100.0 ppm	BBI-248-100-7	
11/2/2018	41682	Mullis	fresh air	0.0 ppm	0.2 ppm	0.0 ppm	ambient air	
11/3/2018	41682	Mullis	isobutylene	100.0 ppm	n/a	100.0 ppm	BBI-248-100-7	
11/3/2018	41682	Mullis	fresh air	0.0 ppm	0.2 ppm	0.0 ppm	ambient air	

Tetra Tech

EQUIPMENT CALIBRATION LOG

PROJECT NAME : Block F Drilling Nov 2018

SITE NAME: MRC Block F TCB Well Install

MANUFACTURER: Horiba / LaMotte

PROJECT No.: 112IC08667

SERIAL NUMBER: 14412 (horiba) / 30500 (Lamotte)

Date of Calibration	Instrument I.D. Number	Person Performing Calibration	Instrument Settings		Instrument Readings		Calibration Standard (Lot No.)	Remarks and Comments
			Parameter	Post-Cal	Pre-calibration	Post-calibration		
11/2/2018	14412	Mullis	pH	4.00	n/a	3.99	7GL776 exp 12/2018	
11/2/2018	14412	Mullis	scond	4.48	n/a	4.48	7GL776 exp 12/2018	
11/2/2018	14412	Mullis	DO	N/A	n/a	9.25	7GL776 exp 12/2018	
11/2/2018	30500	Mullis	turb	0.0 / 10.0	0.0 / 9.56	0.0 / 10.0	n/a	
11/3/2018	14412	Mullis	pH	4.00	n/a	4.02	7GL776 exp 12/2018	
11/3/2018	14412	Mullis	scond	4.48	n/a	4.48	7GL776 exp 12/2018	
11/3/2018	14412	Mullis	DO	N/A	n/a	8.76	7GL776 exp 12/2018	
11/3/2018	30500	Mullis	turb	0.0 / 10.0	0.0 / 10.15	0.0 / 10.0	n/a	
11/12/2018	14412	Mullis	pH	4.00	n/a	3.98	7GL776 exp 12/2018	
11/12/2018	14412	Mullis	scond	4.48	n/a	4.5	7GL776 exp 12/2018	
11/12/2018	14412	Mullis	DO	N/A	n/a	9.05	7GL776 exp 12/2018	
11/12/2018	30500	Mullis	turb	0.0 / 10.0	0.0 / 10.32	0.0 / 10.0	n/a	
11/13/2018	14412	Pryor	pH	4.00	n/a	4.01	7GL776 exp 12/2018	
11/13/2018	14412	Pryor	scond	4.48	n/a	4.49	7GL776 exp 12/2018	
11/13/2018	14412	Pryor	DO	N/A	n/a	9.25	7GL776 exp 12/2018	
11/13/2018	30500	Pryor	turb	0.0 / 10.0	0.0 / 10.25	0.0 / 10.0	n/a	

APPENDIX E—PRECISION SURVEY REPORT

PRECISION
SURVEY AND MAPPING LLC
Using Modern Technology to Map America

Date: December 21, 2018

Tetra Tech
20251 Century Boulevard, Suite 200,
Germantown, MD 20874-7114

Re: MRC Well Monitoring Report

Attn: Mr. Michael Martin

Dear Mr. Martin,

In accordance with your request, I am providing this letter and attachment which represents the measurements associated with the MRC Monitoring Well Locations performed in November 2018.

The datum used for the measurements are based on the Maryland Coordinate System NAD83/2011 epoch 2011 for horizontal position and NAVD88 for vertical position.

Feel free to give me a call if you have any questions or require additional information regarding the effort.

Thank you,





Charles S. Ruzicka, L.S., President
Professional Land Surveyor MD/DE/DC
Office: 410-459-2124
Cell: 410-925-0080
chuck@precisionsurveys.us

MRC Well Locations Nov 2018						
Point	Northing	Easting	Elev.	Monitor Well Designation	Measurement to:	Code
100	605065.1070	1474305.8000	5.59	SB-SEMW-10D		DHF
101	604930.0730	1474035.1200	7.06	MRC-MW136B	Top of Casing	MW
102	604930.2130	1474035.0200	6.83	MRC-MW136B	Top of PVC	MW
103	605021.9770	1473989.8430	8.89	MRC-MW135A	Top of Casing	MW
104	605021.9460	1473989.7420	8.62	MRC-MW135A	Top of PVC	MW
105	605022.1490	1473989.8320	8.62	MRC-MW135B	Top of PVC	MW
106	604848.5570	1473685.9680	9.97	MRC-MW134A	Top of Casing	MW
107	604848.4450	1473685.8960	9.70	MRC-MW134A	Top of PVC	MW
108	604848.7670	1473685.8920	9.71	MRC-MW134A	Top of PVC	MW
109	605758.8970	1471431.7750	8.92	MRC-MW133B	Top of Casing	MW
110	605816.6630	1471406.1820	9.40	MRC-MW132C	Top of Casing	MW
111	605816.6800	1471406.3050	9.18	MRC-MW132C	Top of PVCCAP	MW
112	605758.8980	1471431.7940	8.64	MRC-MW133B	Top of PVC	MW
113	605012.4440	1472354.2980	12.34	MRC-MW11A	Top of Casing	MW
114	605012.5230	1472354.3200	12.11	MRC-MW11A	Top of PVC	MW
115	605136.5760	1472605.9800	16.77	MRC-SWMW-1I	Top of Casing	MW
116	605136.6810	1472606.0720	16.49	MRC-SWMW-1I	Top of PVC	MW
117	605121.4390	1472588.5280	15.78	MRC-SWMW-2I	Top of Casing	MW
118	605121.4730	1472588.5970	15.46	MRC-SWMW-2I	Top of PVC	MW
119	605077.3620	1472536.7000	13.99	MRC-SWMW-3I	Top of Casing	MW
120	605077.2190	1472536.6770	13.66	MRC-SWMW-3I	Top of PVC CAP	MW
121	604923.4130	1472453.1620	10.74	MRC-MW-107BC	Top of CasingCAP	MW
122	604923.4710	1472453.2420	10.49	MRC-MW-107BC	Top of PVC	MW
123	605457.8410	1474106.2540	11.10	IWE-1	Top of Casing	MW
124	605457.8860	1474106.2900	10.68	IWE-1	Top of PVC	MW
125	605468.1510	1474135.5520	10.35	IWE-2	Top of Bolt	MW
126	605468.5180	1474136.2380	11.00	IWE-2	Top of Casing	MW
127	605481.0730	1474164.6300	11.05	IWE-3	Top of Casing	MW
128	605480.5750	1474163.9630	10.24	IWE-3	Top of Bolt	MW
129	605484.1220	1474178.1010	10.89	MRC-SEMW 1I	Top of Casing	MW
130	605484.1680	1474178.0660	10.63	MRC-SEMW 1I	Top of PVC	MW
131	605482.9510	1474194.0010	10.96	MRC-SEMW 2I	Top of Casing	MW
132	605483.0530	1474193.8800	10.64	MRC-SEMW 2I	Top of PVC	MW
133	605473.6880	1474197.6770	10.99	MRC-SEMW 3I	Top of Casing	MW
134	605473.8190	1474197.6100	10.66	MRC-SEMW 3I	Top of PVC	MW
135	605490.6870	1474191.8080	10.97	IWE 4	Top of Casing	MW
136	605491.2450	1474191.4910	10.57	IWE 4	Top of Bolt	MW
137	605502.5740	1474219.5270	10.18	IWE 5	Top of Bolt	MW
138	605501.8450	1474219.8140	10.99	IWE 5	Top of Casing	MW
139	605512.1940	1474247.6240	11.22	IWE 6	Top of Casing	MW
140	605512.9990	1474247.2350	10.83	IWE 6	Top of Bolt	MW
141	605443.6040	1474260.1140	10.69	IWE 12	Top of Casing	MW
142	605444.0670	1474259.6130	9.93	IWE 12	Top of Bolt	MW
143	605430.7890	1474234.3190	10.34	IWE 11	Top of Bolt	MW
144	605430.1190	1474234.5510	10.89	IWE 11	Top of Casing	MW
145	605421.6200	1474210.2220	11.05	IWE 10	Top of Casing	MW
146	605422.3750	1474210.1710	10.44	IWE 10	Top of Bolt	MW
147	605412.2710	1474180.3150	10.48	IWE 9	Top of Bolt	MW
148	605411.5750	1474180.6190	11.04	IWE 9	Top of Casing	MW
149	605399.8980	1474150.1360	11.37	IWE 8	Top of Casing	MW
150	605400.6220	1474149.8180	10.66	IWE 8	Top of Bolt	MW

151	605388.3820	1474122.9830	11.09	IWE 7	Top of Casing	MW
152	605388.3860	1474122.8130	10.13	IWE 7	Top of Bolt	MW
153	605404.1880	1474169.8600	11.16	IWE 25	Top of Casing	MW
154	605404.8020	1474169.5970	10.51	IWE 25	Top of Bolt	MW
155	605400.9890	1474160.4880	10.47	IWE 26	Top of Bolt	MW
156	605400.2040	1474160.9180	11.18	IWE 26	Top of Casing	MW
157	605378.5410	1474172.3200	11.76	IWE 27	Top of Casing	MW
158	605377.9370	1474172.5980	11.09	IWE 27	Top of Bolt	MW
159	605356.3410	1474181.2570	10.97	IWE 28	Top of PVC	MW
160	605357.2530	1474180.9790	11.96	IWE 28	Top of Casing	MW
161	605380.6010	1474165.5340	11.51	MRC-SEMW 7C	Top of Casing	MW
162	605380.7050	1474165.5450	11.27	MRC-SEMW 7C	Top of PVC	MW
163	605340.2120	1474134.2530	11.76	IWE 13	Top of Casing	MW
164	605339.6190	1474134.7060	11.04	IWE 13	Top of Bolt	MW
165	605350.6260	1474162.8240	11.62	IWE 14	Top of Bolt	MW
166	605349.8890	1474162.9040	11.93	IWE 14	Top of Casing	MW
167	605360.8940	1474190.7620	11.96	IWE 15	Top of Casing	MW
168	605361.5180	1474190.5620	11.54	IWE 15	Top of Bolt	MW
169	605372.5770	1474218.6880	11.76	IWE 16	Top of Bolt	MW
170	605373.3350	1474218.3980	11.90	IWE 16	Top of Casing	MW
171	605384.2770	1474246.6420	11.71	IWE 17	Top of Casing	MW
172	605383.4750	1474246.6940	11.60	IWE 17	Top of Bolt	MW
173	605315.4190	1474240.9170	12.29	IWE 21	Top of Bolt	MW
174	605315.4870	1474240.2670	12.04	IWE 21	Top of Casing	MW
175	605304.4220	1474214.3970	11.77	IWE 20	Top of Casing	MW
176	605305.1620	1474213.9240	11.42	IWE 20	Top of Bolt	MW
177	605294.1740	1474185.7490	11.28	IWE 19	Top of Bolt	MW
178	605294.5640	1474185.6960	11.72	IWE 19	Top of Casing	MW
179	605283.8560	1474157.7940	11.58	IWE 18	Top of Casing	MW
180	605283.1550	1474157.9300	11.26	IWE 18	Top of Bolt	MW
181	605245.7940	1474214.1810	9.86	IWE 22	Top of Bolt	MW
182	605246.6160	1474214.0050	10.04	IWE 22	Top of Casing	MW
183	605257.4910	1474241.9320	9.58	IWE 23	Top of Casing	MW
184	605256.8990	1474242.3040	9.18	IWE 23	Top of Bolt	MW
185	605267.7340	1474269.7420	8.84	IWE 24	Top of Bolt	MW
186	605268.4520	1474269.5470	9.44	IWE 24	Top of Casing	MW
187	605246.3580	1474247.5730	8.45	MRC-SEMW 6I	Top of Casing	MW
188	605246.4810	1474247.5760	8.13	MRC-SEMW 6I	Top of PVC	MW
189	605923.6810	1473298.1040	27.19	MRC-NMW 1I	Top of Casing	MW
190	605923.7130	1473298.1280	26.87	MRC-NMW 1I	Top of PVC CAP	MW
191	605915.5810	1473275.3540	27.19	MRC-NMW 2S/I	Top of Casing	MW
192	605915.4430	1473274.7630	26.94	MRC-NMW 2S	Top of PVC CAP	MW
193	605915.4640	1473274.7560	26.94	MRC-NMW 2I	Top of PVC CAP	MW
194	605879.1720	1473305.5220	24.49	MRC-NMW 3I	Top of Casing	MW
195	605879.1670	1473305.5620	24.21	MRC-NMW 3I	Top of PVC	MW
196	605373.5510	1478653.2990	13.18	MSA-MW 35S	Top of Casing	MW
197	605373.6800	1478653.2510	12.86	MSA-MW 35S	Top of PVC	MW
198	605339.8360	1478894.4080	8.67	MSA-MW 34S/I	Top of Casing	MW
199	605339.7740	1478894.4790	8.33	MSA-MW 34S	Top of PVC	MW
200	605339.8690	1478894.1820	8.36	MSA-MW 34I	Top of PVC	MW

APPENDIX F—SIGNED WASTE MANIFESTS

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	2		011975460 FLE

GENERATOR

5. Generator's Name and Mailing Address

Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address

U.S. EPA ID Number

Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1.					
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name | Signature | Month | Day | Year

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name | Signature | Month | Day | Year

Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month | Day | Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name | Signature | Month | Day | Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
		1		011975459 FLE

GENERATOR

5. Generator's Name and Mailing Address

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name — U.S. EPA ID Number

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address — U.S. EPA ID Number

Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1.					
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name — Signature — Month — Day — Year

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name — Signature — Month — Day — Year

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month — Day — Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H010			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name — Signature — Month — Day — Year

APPENDIX G—FULL LABORATORY DATA REPORTS, INCLUDING MICROBIAL INSIGHTS

Sample Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Rh	103	He	3350787.37	0.4	3500399.1	95.73	59.5	120.4	
In	115	H2	4417606.67	1.2	4426211.83	99.81	59.5	120.4	
In	115	He	2484809.40	0.6	2476135.65	100.35	59.5	120.4	
Tb	159	He	4856318.28	1.2	4793247.59	101.32	59.5	120.4	
Ho	165	He	4797043.84	0.8	4748991.62	101.01	59.5	120.4	
Bi	209	He	3015204.81	0.9	3075366.48	98.04	59.5	120.4	

Sample Report

Sample Name	240-104461-h-14-a
File Name	226SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\I14112018A.b
Acq Time	2018-11-20 18:13:43
Sample Type	Sample
Total Dilution	1.0000
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	63.934	ug/l	1.9	297702.85	10000	
Be	9	6	No Gas	0.212	ug/l	7.3	396.68	2000	
B	11	45	No Gas	97.379	ug/l	1.5	83048.92	300	
Na	23	45	He	13092.623	ug/l	1.1	7995453.85	500000	
Mg	24	45	He	63955.793	ug/l	0.8	21359050.82	500000	
Al	27	45	He	-2.901	ug/l	N/A	1028.94	200000	
K	39	45	He	3251.139	ug/l	2.7	1559829.76	500000	
Ca	44	45	He	173513.175	ug/l	1.2	1838015.63	500000	
Ti	47	45	He	0.063	ug/l	64.9	27.78	2500	
V	51	45	He	-0.352	ug/l	N/A	-1854.72	10000	
Cr	52	45	He	0.250	ug/l	10.2	2611.38	10000	
Mn	55	45	He	1.055	ug/l	12.0	5296.60	10000	
Fe	56	115	He	5.599	ug/l	5.3	38498.88	200000	
Co	59	103	He	0.049	ug/l	14.2	386.68	5000	
Ni	60	103	He	0.040	ug/l	81.1	890.04	10000	
Cu	63	103	He	-0.009	ug/l	N/A	1294.52	10000	
Zn	66	115	He	-0.314	ug/l	N/A	1702.35	10000	
As	75	103	He	1.023	ug/l	19.0	822.49	10000	
Se	78	103	H2	0.140	ug/l	7.4	54.00	10000	
Sr	88	103	He	2234.903	ug/l	3.3	10828109.57	10000	
Mo	95	103	He	1.957	ug/l	4.9	4308.50	2000	
Ag	107	115	He	0.002	ug/l	188.8	84.44	100	
Cd	111	115	He	-0.007	ug/l	N/A	23.03	4000	
Sn	118	115	He	-5.340	ug/l	N/A	2049.07	2000	
Sb	123	115	He	0.020	ug/l	17.8	111.11	200	
Ba	137	115	He	29.592	ug/l	1.6	49923.59	10000	
W	182	159	He	-0.045	ug/l	N/A	432.23	2500	
Tl	205	165	He	-0.001	ug/l	N/A	210.01	2000	
Pb	208	165	He	-0.051	ug/l	N/A	2539.02	4000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li6	6	No Gas	1017551.51	1.4	1103076.39	92.25	59.5	120.4	
Sc	45	No Gas	5521390.89	1.2	5384253.53	102.55	59.5	120.4	
Sc	45	H2	4470592.00	0.9	4578025.83	97.65	59.5	120.4	
Sc	45	He	1036276.87	0.8	1046657.67	99.01	59.5	120.4	
Rh	103	H2	1004582.58	2.3	1046534.06	95.99	59.5	120.4	

Sample Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Rh	103	He	3319156.53	2.0	3500399.1	94.82	59.5	120.4	
In	115	H2	4322622.50	2.6	4426211.83	97.66	59.5	120.4	
In	115	He	2426457.50	1.7	2476135.65	97.99	59.5	120.4	
Tb	159	He	4784522.87	0.6	4793247.59	99.82	59.5	120.4	
Ho	165	He	4795208.70	1.0	4748991.62	100.97	59.5	120.4	
Bi	209	He	2998435.92	0.3	3075366.48	97.5	59.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV-3892523
File Name	227_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\I14112018A.b
Acq Time	2018-11-20 18:15:58
Sample Type	CCV
Total Dilution	1.0000
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	55.150	ug/l	3.0	261829.85	50	110.3	89.5	110.5	
Be	9	6	No Gas	51.998	ug/l	2.9	67345.31	50	104	89.5	110.5	
B	11	45	No Gas	65.640	ug/l	1.7	56885.92	50	131.28	89.5	110.5	CCV Failed
Na	23	45	He	25591.780	ug/l	1.4	15343436.61	25000	102.37	89.5	110.5	
Mg	24	45	He	25571.038	ug/l	1.1	8428986.61	25000	102.28	89.5	110.5	
Al	27	45	He	251.667	ug/l	2.7	43612.51	250	100.67	89.5	110.5	
K	39	45	He	26298.029	ug/l	1.8	11410837.33	25000	105.19	89.5	110.5	
Ca	44	45	He	25943.976	ug/l	1.7	271664.17	25000	103.78	89.5	110.5	
Ti	47	45	He	51.630	ug/l	6.2	6475.98	50	103.26	89.5	110.5	
V	51	45	He	51.048	ug/l	1.9	177382.31	50	102.1	89.5	110.5	
Cr	52	45	He	50.641	ug/l	2.1	202189.96	50	101.28	89.5	110.5	
Mn	55	45	He	252.272	ug/l	3.1	737294.80	250	100.91	89.5	110.5	
Fe	56	115	He	12292.768	ug/l	2.6	45575433.75	12500	98.34	89.5	110.5	
Co	59	103	He	49.622	ug/l	1.5	298376.32	50	99.24	89.5	110.5	
Ni	60	103	He	48.789	ug/l	1.0	76031.96	50	97.58	89.5	110.5	
Cu	63	103	He	49.461	ug/l	2.4	203578.28	50	98.92	89.5	110.5	
Zn	66	115	He	48.602	ug/l	0.5	44713.00	50	97.2	89.5	110.5	
As	75	103	He	48.913	ug/l	2.1	36529.40	50	97.83	89.5	110.5	
Se	78	103	H2	48.866	ug/l	2.6	13328.35	50	97.73	89.5	110.5	
Sr	88	103	He	50.623	ug/l	1.1	250103.41	50	101.25	89.5	110.5	
Mo	95	103	He	53.034	ug/l	2.2	118212.78	50	106.07	89.5	110.5	
Ag	107	115	He	49.598	ug/l	0.7	362971.44	50	99.2	89.5	110.5	
Cd	111	115	He	49.682	ug/l	1.2	66981.64	50	99.36	89.5	110.5	
Sn	118	115	He	50.999	ug/l	1.3	170101.54	50	102	89.5	110.5	
Sb	123	115	He	53.039	ug/l	2.1	191575.75	50	106.08	89.5	110.5	
Ba	137	115	He	49.538	ug/l	0.9	84987.46	50	99.08	89.5	110.5	
W	182	159	He	52.199	ug/l	2.9	258057.77	50	104.4	89.5	110.5	
Tl	205	165	He	49.890	ug/l	1.5	619622.20	50	99.78	89.5	110.5	
Pb	208	165	He	50.438	ug/l	1.2	835331.34	50	100.88	89.5	110.5	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li6	6	No Gas	1008887.05	1.1	1103076.39	91.46	59.5	120.4	
Sc	45	No Gas	5442601.17	0.7	5384253.53	101.08	59.5	120.4	
Sc	45	H2	4543374.67	1.4	4578025.83	99.24	59.5	120.4	
Sc	45	He	1022697.70	1.2	1046657.67	97.71	59.5	120.4	

Continuing Calibration Verification (CCV) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Rh	103	H2	1050044.88	4.6	1046534.06	100.34	59.5	120.4	
Rh	103	He	3381283.41	1.2	3500399.1	96.6	59.5	120.4	
In	115	H2	4388416.17	1.6	4426211.83	99.15	59.5	120.4	
In	115	He	2468335.67	1.0	2476135.65	99.68	59.5	120.4	
Tb	159	He	4801717.59	1.5	4793247.59	100.18	59.5	120.4	
Ho	165	He	4795999.95	0.6	4748991.62	100.99	59.5	120.4	
Bi	209	He	2988605.30	1.2	3075366.48	97.18	59.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	228_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\I14112018A.b
Acq Time	2018-11-20 18:18:13
Sample Type	CCB
Total Dilution	1.0000
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.106	ug/l	101.7	54582.50	8	
Be	9	6	No Gas	0.175	ug/l	3.3	356.68	1	
B	11	45	No Gas	8.565	ug/l	3.6	12000.58	20	
Na	23	45	He	62.979	ug/l	3.9	120304.08	1000	
Mg	24	45	He	6.015	ug/l	18.1	4015.05	1000	
Al	27	45	He	-3.260	ug/l	N/A	952.26	50	
K	39	45	He	-9.562	ug/l	N/A	142236.00	1000	
Ca	44	45	He	3.810	ug/l	118.2	581.98	1000	
Ti	47	45	He	-0.040	ug/l	N/A	14.44	20	
V	51	45	He	-0.412	ug/l	N/A	-2035.25	2	
Cr	52	45	He	-0.074	ug/l	N/A	1288.96	2	
Mn	55	45	He	-0.006	ug/l	N/A	2126.85	2	
Fe	56	115	He	1.997	ug/l	28.5	26038.57	50	
Co	59	103	He	0.011	ug/l	22.5	167.78	1	
Ni	60	103	He	-0.461	ug/l	N/A	136.67	2	
Cu	63	103	He	-0.065	ug/l	N/A	1114.50	2	
Zn	66	115	He	-0.189	ug/l	N/A	1856.81	20	
As	75	103	He	0.103	ug/l	229.4	152.37	2	
Se	78	103	H2	0.018	ug/l	59.6	24.00	2	
Sr	88	103	He	0.130	ug/l	9.3	832.26	10	
Mo	95	103	He	0.005	ug/l	88.5	40.00	10	
Ag	107	115	He	0.012	ug/l	33.4	157.78	0.2	
Cd	111	115	He	0.005	ug/l	240.2	40.00	1	
Sn	118	115	He	-5.558	ug/l	N/A	1445.65	100	
Sb	123	115	He	0.021	ug/l	28.4	120.00	1	
Ba	137	115	He	0.003	ug/l	27.6	65.56	5	
W	182	159	He	0.016	ug/l	25.6	735.58	10	
Tl	205	165	He	0.017	ug/l	39.9	425.57	0.5	
Pb	208	165	He	-0.060	ug/l	N/A	2376.79	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li6	6	No Gas	1041320.98	1.5	1103076.39	94.4	59.5	120.4	
Sc	45	No Gas	5464225.76	0.6	5384253.53	101.49	59.5	120.4	
Sc	45	H2	4498142.83	1.9	4578025.83	98.26	59.5	120.4	
Sc	45	He	1018909.58	0.2	1046657.67	97.35	59.5	120.4	

Continuing Calibration Blank (CCB) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Rh	103	H2	1084411.83	1.6	1046534.06	103.62	59.5	120.4	
Rh	103	He	3453572.22	0.9	3500399.1	98.66	59.5	120.4	
In	115	H2	4466578.50	1.9	4426211.83	100.91	59.5	120.4	
In	115	He	2487544.61	1.1	2476135.65	100.46	59.5	120.4	
Tb	159	He	4810547.45	0.3	4793247.59	100.36	59.5	120.4	
Ho	165	He	4762571.75	0.7	4748991.62	100.29	59.5	120.4	
Bi	209	He	3065932.52	1.3	3075366.48	99.69	59.5	120.4	

Sample Report

Sample Name	240-104461-h-15-a
File Name	229SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\I14112018A.b
Acq Time	2018-11-20 18:20:33
Sample Type	Sample
Total Dilution	1.0000
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	-0.042	ug/l	N/A	54898.00	10000	
Be	9	6	No Gas	0.119	ug/l	39.9	287.79	2000	
B	11	45	No Gas	5.910	ug/l	3.4	10175.84	300	
Na	23	45	He	103.933	ug/l	1.3	148656.14	500000	
Mg	24	45	He	8.603	ug/l	4.7	5000.91	500000	
Al	27	45	He	6.223	ug/l	8.7	2603.60	200000	
K	39	45	He	-23.518	ug/l	N/A	140071.07	500000	
Ca	44	45	He	45.535	ug/l	11.4	1044.86	500000	
Ti	47	45	He	0.251	ug/l	123.4	52.23	2500	
V	51	45	He	-0.180	ug/l	N/A	-1263.78	10000	
Cr	52	45	He	0.254	ug/l	1.9	2653.61	10000	
Mn	55	45	He	0.555	ug/l	6.2	3862.79	10000	
Fe	56	115	He	9.741	ug/l	1.8	56069.25	200000	
Co	59	103	He	0.019	ug/l	6.5	224.45	5000	
Ni	60	103	He	-0.286	ug/l	N/A	420.01	10000	
Cu	63	103	He	-0.063	ug/l	N/A	1142.28	10000	
Zn	66	115	He	-0.043	ug/l	N/A	2026.84	10000	
As	75	103	He	0.252	ug/l	17.1	271.91	10000	
Se	78	103	H2	0.004	ug/l	283.8	21.00	10000	
Sr	88	103	He	0.795	ug/l	4.5	4268.48	10000	
Mo	95	103	He	0.056	ug/l	2.4	160.00	2000	
Ag	107	115	He	0.002	ug/l	32.9	87.78	100	
Cd	111	115	He	-0.002	ug/l	N/A	32.21	4000	
Sn	118	115	He	-5.276	ug/l	N/A	2340.23	2000	
Sb	123	115	He	0.009	ug/l	36.6	75.56	200	
Ba	137	115	He	0.212	ug/l	12.8	435.57	10000	
W	182	159	He	-0.039	ug/l	N/A	465.57	2500	
Tl	205	165	He	0.003	ug/l	109.1	265.56	2000	
Pb	208	165	He	-0.060	ug/l	N/A	2401.23	4000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li6	6	No Gas	1058497.93	1.3	1103076.39	95.96	59.5	120.4	
Sc	45	No Gas	5614606.72	0.7	5384253.53	104.28	59.5	120.4	
Sc	45	H2	4596859.67	1.7	4578025.83	100.41	59.5	120.4	
Sc	45	He	1047237.49	0.8	1046657.67	100.06	59.5	120.4	
Rh	103	H2	1127349.79	0.8	1046534.06	107.72	59.5	120.4	

Sample Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Rh	103	He	3521222.57	1.0	3500399.1	100.59	59.5	120.4	
In	115	H2	4497054.67	1.9	4426211.83	101.6	59.5	120.4	
In	115	He	2538335.66	1.0	2476135.65	102.51	59.5	120.4	
Tb	159	He	4836903.84	0.5	4793247.59	100.91	59.5	120.4	
Ho	165	He	4821313.97	1.3	4748991.62	101.52	59.5	120.4	
Bi	209	He	3163756.96	0.3	3075366.48	102.87	59.5	120.4	

Sample Report

Sample Name	240-104461-h-16-a
File Name	230SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\I14112018A.b
Acq Time	2018-11-20 18:22:51
Sample Type	Sample
Total Dilution	1.0000
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	32.573	ug/l	2.0	180875.10	10000	
Be	9	6	No Gas	0.086	ug/l	9.2	236.67	2000	
B	11	45	No Gas	171.852	ug/l	1.8	139623.64	300	
Na	23	45	He	37845.477	ug/l	1.5	22459674.66	500000	
Mg	24	45	He	44214.788	ug/l	2.4	14448793.87	500000	
Al	27	45	He	129.119	ug/l	1.3	22912.82	200000	
K	39	45	He	3235.256	ug/l	2.9	1519600.32	500000	
Ca	44	45	He	130748.313	ug/l	2.1	1355297.55	500000	
Ti	47	45	He	2.782	ug/l	10.8	364.45	2500	
V	51	45	He	0.269	ug/l	63.9	330.54	10000	
Cr	52	45	He	0.673	ug/l	5.8	4216.22	10000	
Mn	55	45	He	178.376	ug/l	1.8	517634.41	10000	
Fe	56	115	He	12651.575	ug/l	2.8	45961810.40	200000	
Co	59	103	He	0.283	ug/l	5.3	1714.57	5000	
Ni	60	103	He	6.251	ug/l	4.2	9991.40	10000	
Cu	63	103	He	84.890	ug/l	1.0	332316.63	10000	
Zn	66	115	He	245.363	ug/l	0.3	213158.97	10000	
As	75	103	He	5.424	ug/l	1.9	3925.52	10000	
Se	78	103	H2	0.123	ug/l	32.5	50.33	10000	
Sr	88	103	He	1986.848	ug/l	1.4	9354783.80	10000	
Mo	95	103	He	4.308	ug/l	3.2	9184.24	2000	
Ag	107	115	He	0.004	ug/l	43.6	102.22	100	
Cd	111	115	He	0.224	ug/l	5.5	328.25	4000	
Sn	118	115	He	-5.442	ug/l	N/A	1744.58	2000	
Sb	123	115	He	0.076	ug/l	12.2	310.01	200	
Ba	137	115	He	38.794	ug/l	0.6	65217.28	10000	
W	182	159	He	0.028	ug/l	39.0	774.48	2500	
Tl	205	165	He	0.003	ug/l	128.8	246.67	2000	
Pb	208	165	He	1.575	ug/l	1.3	28482.58	4000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li6	6	No Gas	1036060.68	1.2	1103076.39	93.92	59.5	120.4	
Sc	45	No Gas	5409358.12	1.0	5384253.53	100.47	59.5	120.4	
Sc	45	H2	4488915.17	1.6	4578025.83	98.05	59.5	120.4	
Sc	45	He	1013962.81	1.1	1046657.67	96.88	59.5	120.4	
Rh	103	H2	1021125.91	2.6	1046534.06	97.57	59.5	120.4	

Sample Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Rh	103	He	3224383.55	0.3	3500399.1	92.11	59.5	120.4	
In	115	H2	4283601.33	1.3	4426211.83	96.78	59.5	120.4	
In	115	He	2418037.38	1.2	2476135.65	97.65	59.5	120.4	
Tb	159	He	4689548.70	0.7	4793247.59	97.84	59.5	120.4	
Ho	165	He	4652287.18	1.0	4748991.62	97.96	59.5	120.4	
Bi	209	He	2928852.45	0.3	3075366.48	95.24	59.5	120.4	

Sample Report

Sample Name	240-104559-c-3-a@10
File Name	231SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\I14112018A.b
Acq Time	2018-11-20 18:25:05
Sample Type	Sample
Total Dilution	1.0000
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	1.729	ug/l	7.2	55975.35	10000	
Be	9	6	No Gas	0.516	ug/l	7.2	745.58	2000	
B	11	45	No Gas	65.384	ug/l	1.3	56211.02	300	
Na	23	45	He	379523.678	ug/l	1.4	225514799.93	500000	
Mg	24	45	He	20314.334	ug/l	2.0	6670066.26	500000	
Al	27	45	He	43.784	ug/l	5.5	8792.75	200000	
K	39	45	He	3852.006	ug/l	2.9	1789637.50	500000	
Ca	44	45	He	58910.966	ug/l	1.5	613799.49	500000	
Ti	47	45	He	0.575	ug/l	33.6	91.11	2500	
V	51	45	He	0.134	ug/l	111.8	-136.26	10000	
Cr	52	45	He	1.890	ug/l	5.4	9035.17	10000	
Mn	55	45	He	1163.769	ug/l	1.0	3380891.47	10000	
Fe	56	115	He	1621.078	ug/l	2.1	5859777.27	200000	
Co	59	103	He	0.741	ug/l	2.1	4284.02	5000	
Ni	60	103	He	1.106	ug/l	2.2	2399.12	10000	
Cu	63	103	He	0.442	ug/l	5.2	2977.01	10000	
Zn	66	115	He	4.960	ug/l	4.5	6190.32	10000	
As	75	103	He	2.941	ug/l	7.1	2133.71	10000	
Se	78	103	H2	0.452	ug/l	5.0	131.00	10000	
Sr	88	103	He	875.418	ug/l	1.4	4068538.31	10000	
Mo	95	103	He	1.162	ug/l	3.5	2465.81	2000	
Ag	107	115	He	0.057	ug/l	2.7	478.90	100	
Cd	111	115	He	0.340	ug/l	1.8	477.62	4000	
Sn	118	115	He	-5.241	ug/l	N/A	2313.56	2000	
Sb	123	115	He	0.053	ug/l	18.5	225.56	200	
Ba	137	115	He	110.554	ug/l	1.6	184380.03	10000	
W	182	159	He	0.003	ug/l	456.0	628.91	2500	
Tl	205	165	He	0.055	ug/l	9.7	847.81	2000	
Pb	208	165	He	0.836	ug/l	3.8	16085.19	4000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li6	6	No Gas	956482.19	1.7	1103076.39	86.71	59.5	120.4	
Sc	45	No Gas	5396995.20	0.4	5384253.53	100.24	59.5	120.4	
Sc	45	H2	4387782.00	2.3	4578025.83	95.84	59.5	120.4	
Sc	45	He	1018757.22	1.4	1046657.67	97.33	59.5	120.4	
Rh	103	H2	971589.31	2.3	1046534.06	92.84	59.5	120.4	

Sample Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Rh	103	He	3182741.75	1.0	3500399.1	90.93	59.5	120.4	
In	115	H2	4183660.83	2.7	4426211.83	94.52	59.5	120.4	
In	115	He	2400589.04	1.5	2476135.65	96.95	59.5	120.4	
Tb	159	He	4522424.82	1.5	4793247.59	94.35	59.5	120.4	
Ho	165	He	4494662.88	0.6	4748991.62	94.64	59.5	120.4	
Bi	209	He	2758661.90	1.8	3075366.48	89.7	59.5	120.4	

Sample Report

Sample Name	240-104559-d-3-a@10
File Name	232SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\I14112018A.b
Acq Time	2018-11-20 18:27:24
Sample Type	Sample
Total Dilution	1.0000
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	1.597	ug/l	17.1	57669.58	10000	
Be	9	6	No Gas	0.173	ug/l	10.4	337.78	2000	
B	11	45	No Gas	68.319	ug/l	2.2	60563.75	300	
Na	23	45	He	392805.079	ug/l	0.4	241785634.84	500000	
Mg	24	45	He	21248.188	ug/l	2.1	7226832.21	500000	
Al	27	45	He	-6.267	ug/l	N/A	466.68	200000	
K	39	45	He	3982.871	ug/l	2.6	1911748.12	500000	
Ca	44	45	He	61554.470	ug/l	2.8	664269.21	500000	
Ti	47	45	He	-0.001	ug/l	N/A	20.00	2500	
V	51	45	He	-0.271	ug/l	N/A	-1596.94	10000	
Cr	52	45	He	-0.070	ug/l	N/A	1350.08	10000	
Mn	55	45	He	1215.142	ug/l	2.3	3656311.80	10000	
Fe	56	115	He	1747.363	ug/l	1.9	6167954.89	200000	
Co	59	103	He	0.348	ug/l	4.2	2074.62	5000	
Ni	60	103	He	-0.127	ug/l	N/A	612.24	10000	
Cu	63	103	He	0.031	ug/l	93.1	1402.31	10000	
Zn	66	115	He	-1.016	ug/l	N/A	1060.06	10000	
As	75	103	He	2.448	ug/l	8.0	1797.78	10000	
Se	78	103	H2	0.088	ug/l	17.6	40.33	10000	
Sr	88	103	He	931.913	ug/l	3.1	4354478.71	10000	
Mo	95	103	He	0.935	ug/l	2.7	2001.28	2000	
Ag	107	115	He	0.000	ug/l	N/A	67.78	100	
Cd	111	115	He	-0.007	ug/l	N/A	23.20	4000	
Sn	118	115	He	-5.534	ug/l	N/A	1430.09	2000	
Sb	123	115	He	0.013	ug/l	67.5	84.45	200	
Ba	137	115	He	121.653	ug/l	0.5	198144.88	10000	
W	182	159	He	-0.055	ug/l	N/A	368.90	2500	
Tl	205	165	He	-0.006	ug/l	N/A	137.78	2000	
Pb	208	165	He	-0.099	ug/l	N/A	1651.18	4000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li6	6	No Gas	993980.49	2.1	1103076.39	90.11	59.5	120.4	
Sc	45	No Gas	5589012.97	2.3	5384253.53	103.8	59.5	120.4	
Sc	45	H2	4589997.33	0.4	4578025.83	100.26	59.5	120.4	
Sc	45	He	1055228.95	0.8	1046657.67	100.82	59.5	120.4	
Rh	103	H2	1000956.54	0.6	1046534.06	95.64	59.5	120.4	

Sample Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Rh	103	He	3201498.55	2.7	3500399.1	91.46	59.5	120.4	
In	115	H2	4217452.25	1.2	4426211.83	95.28	59.5	120.4	
In	115	He	2344305.27	0.4	2476135.65	94.68	59.5	120.4	
Tb	159	He	4610783.57	1.7	4793247.59	96.19	59.5	120.4	
Ho	165	He	4525167.60	0.6	4748991.62	95.29	59.5	120.4	
Bi	209	He	2767027.95	1.1	3075366.48	89.97	59.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV-3907392
File Name	233_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\I14112018A.b
Acq Time	2018-11-20 18:29:42
Sample Type	CCV
Total Dilution	1.0000
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	53.875	ug/l	0.8	266105.63	50	107.75	89.5	110.5	
Be	9	6	No Gas	50.760	ug/l	0.8	68073.14	50	101.52	89.5	110.5	
B	11	45	No Gas	58.444	ug/l	0.5	52976.90	50	116.89	89.5	110.5	CCV Failed
Na	23	45	He	26359.055	ug/l	1.8	15858337.71	25000	105.44	89.5	110.5	
Mg	24	45	He	25789.148	ug/l	1.5	8531372.72	25000	103.16	89.5	110.5	
Al	27	45	He	257.166	ug/l	2.7	44697.77	250	102.87	89.5	110.5	
K	39	45	He	26975.266	ug/l	1.7	11744226.20	25000	107.9	89.5	110.5	
Ca	44	45	He	26462.164	ug/l	1.2	278095.87	25000	105.85	89.5	110.5	
Ti	47	45	He	54.001	ug/l	1.6	6799.48	50	108	89.5	110.5	
V	51	45	He	51.331	ug/l	2.1	179019.17	50	102.66	89.5	110.5	
Cr	52	45	He	50.643	ug/l	2.3	202939.60	50	101.29	89.5	110.5	
Mn	55	45	He	250.022	ug/l	1.9	733473.84	250	100.01	89.5	110.5	
Fe	56	115	He	12683.251	ug/l	2.7	45205052.65	12500	101.47	89.5	110.5	
Co	59	103	He	50.289	ug/l	2.7	296784.50	50	100.58	89.5	110.5	
Ni	60	103	He	49.718	ug/l	3.2	76024.40	50	99.44	89.5	110.5	
Cu	63	103	He	51.066	ug/l	2.9	206278.84	50	102.13	89.5	110.5	
Zn	66	115	He	51.508	ug/l	1.8	45439.91	50	103.02	89.5	110.5	
As	75	103	He	51.699	ug/l	2.8	37895.43	50	103.4	89.5	110.5	
Se	78	103	H2	47.847	ug/l	2.5	13417.11	50	95.69	89.5	110.5	
Sr	88	103	He	51.184	ug/l	2.2	248222.44	50	102.37	89.5	110.5	
Mo	95	103	He	53.568	ug/l	2.2	117215.33	50	107.14	89.5	110.5	
Ag	107	115	He	50.864	ug/l	1.3	357876.75	50	101.73	89.5	110.5	
Cd	111	115	He	50.397	ug/l	1.7	65321.64	50	100.79	89.5	110.5	
Sn	118	115	He	52.357	ug/l	2.6	167422.20	50	104.71	89.5	110.5	
Sb	123	115	He	54.417	ug/l	2.0	188974.40	50	108.83	89.5	110.5	
Ba	137	115	He	50.491	ug/l	1.5	83277.98	50	100.98	89.5	110.5	
W	182	159	He	52.492	ug/l	1.5	250306.51	50	104.98	89.5	110.5	
Tl	205	165	He	50.769	ug/l	1.4	604138.65	50	101.54	89.5	110.5	
Pb	208	165	He	50.998	ug/l	0.6	809249.24	50	102	89.5	110.5	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li6	6	No Gas	1044533.32	0.1	1103076.39	94.69	59.5	120.4	
Sc	45	No Gas	5629309.64	0.8	5384253.53	104.55	59.5	120.4	
Sc	45	H2	4536269.83	1.8	4578025.83	99.09	59.5	120.4	
Sc	45	He	1026337.56	0.4	1046657.67	98.06	59.5	120.4	

Continuing Calibration Verification (CCV) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Rh	103	H2	1079055.75	1.7	1046534.06	103.11	59.5	120.4	
Rh	103	He	3319630.28	1.8	3500399.1	94.84	59.5	120.4	
In	115	H2	4314378.50	1.7	4426211.83	97.47	59.5	120.4	
In	115	He	2373374.90	1.7	2476135.65	95.85	59.5	120.4	
Tb	159	He	4631211.07	0.7	4793247.59	96.62	59.5	120.4	
Ho	165	He	4595284.40	0.2	4748991.62	96.76	59.5	120.4	
Bi	209	He	2868019.54	2.2	3075366.48	93.26	59.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	234_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\I14112018A.b
Acq Time	2018-11-20 18:31:56
Sample Type	CCB
Total Dilution	1.0000
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.027	ug/l	435.8	52670.00	8	
Be	9	6	No Gas	0.191	ug/l	8.1	366.68	1	
B	11	45	No Gas	7.399	ug/l	2.9	11094.28	20	
Na	23	45	He	111.076	ug/l	7.2	150509.64	1000	
Mg	24	45	He	5.239	ug/l	26.1	3802.77	1000	
Al	27	45	He	-3.671	ug/l	N/A	893.37	50	
K	39	45	He	52.514	ug/l	18.2	170578.65	1000	
Ca	44	45	He	-2.676	ug/l	N/A	520.26	1000	
Ti	47	45	He	-0.094	ug/l	N/A	7.78	20	
V	51	45	He	-0.276	ug/l	N/A	-1579.03	2	
Cr	52	45	He	-0.066	ug/l	N/A	1333.41	2	
Mn	55	45	He	-0.050	ug/l	N/A	2020.16	2	
Fe	56	115	He	2.527	ug/l	30.1	27543.72	50	
Co	59	103	He	0.009	ug/l	95.4	152.22	1	
Ni	60	103	He	-0.453	ug/l	N/A	145.56	2	
Cu	63	103	He	-0.043	ug/l	N/A	1180.06	2	
Zn	66	115	He	-0.155	ug/l	N/A	1856.82	20	
As	75	103	He	0.419	ug/l	16.9	386.00	2	
Se	78	103	H2	0.024	ug/l	106.9	26.33	2	
Sr	88	103	He	0.090	ug/l	22.2	620.02	10	
Mo	95	103	He	0.007	ug/l	120.5	45.56	10	
Ag	107	115	He	0.009	ug/l	19.6	134.45	0.2	
Cd	111	115	He	0.017	ug/l	36.1	55.56	1	
Sn	118	115	He	-5.605	ug/l	N/A	1282.30	100	
Sb	123	115	He	0.030	ug/l	18.2	150.01	1	
Ba	137	115	He	0.019	ug/l	51.0	91.11	5	
W	182	159	He	0.014	ug/l	64.8	708.92	10	
Tl	205	165	He	0.017	ug/l	27.9	421.12	0.5	
Pb	208	165	He	-0.073	ug/l	N/A	2096.76	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li6	6	No Gas	1010606.57	1.6	1103076.39	91.62	59.5	120.4	
Sc	45	No Gas	5471594.37	1.0	5384253.53	101.62	59.5	120.4	
Sc	45	H2	4469724.17	1.4	4578025.83	97.63	59.5	120.4	
Sc	45	He	1030048.57	0.8	1046657.67	98.41	59.5	120.4	

Continuing Calibration Blank (CCB) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Rh	103	H2	1099615.71	2.9	1046534.06	105.07	59.5	120.4	
Rh	103	He	3384297.57	0.5	3500399.1	96.68	59.5	120.4	
In	115	H2	4347113.83	0.2	4426211.83	98.21	59.5	120.4	
In	115	He	2447366.21	0.9	2476135.65	98.84	59.5	120.4	
Tb	159	He	4704766.90	1.5	4793247.59	98.15	59.5	120.4	
Ho	165	He	4626714.95	0.4	4748991.62	97.43	59.5	120.4	
Bi	209	He	2988940.85	1.2	3075366.48	97.19	59.5	120.4	

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG No.:

Project: MRC Block F TCB Wells

Client Sample ID	Lab Sample ID
MRC-MW-134A-111318	240-104369-2
MRC-MW-134B-111318	240-104369-3
MRC-MW-135B-111318	240-104369-4
MRC-MW-136B-111318	240-104369-5
MRC-MW-DUP-111318	240-104369-6

Comments:

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 240-104369-1

SDG No.:

Project: MRC Block F TCB Wells

Client Sample ID	Lab Sample ID
MRC-MW-134A-111318	240-104369-2
MRC-MW-134B-111318	240-104369-3
MRC-MW-135B-111318	240-104369-4
MRC-MW-136B-111318	240-104369-5
MRC-MW-DUP-111318	240-104369-6

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-134A-111318 Lab Sample ID: 240-104369-2

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 14:15

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Nitrate Nitrite as N	0.031	0.050	0.031	mg/L	U	F1	1	353.2
	Hardness as calcium carbonate	250	5.0	2.4	mg/L			1	2340C-2011
	Alkalinity	280	5.0	2.6	mg/L			1	2320B-2011
	Total Dissolved Solids	580	10	7.8	mg/L			1	2540 C-2011
24959-67-9	Bromide	0.079	0.50	0.044	mg/L	J		1	300.0
14808-79-8	Sulfate	4.0	1.0	0.35	mg/L			1	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-134B-111318 Lab Sample ID: 240-104369-3

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 16:12

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Nitrate Nitrite as N	0.031	0.050	0.031	mg/L	U		1	353.2
	Hardness as calcium carbonate	44	5.0	2.4	mg/L			1	2340C-2011
	Alkalinity	32	5.0	2.6	mg/L			1	2320B-2011
	Total Dissolved Solids	74	10	7.8	mg/L			1	2540 C-2011
24959-67-9	Bromide	0.044	0.50	0.044	mg/L	U		1	300.0
14808-79-8	Sulfate	4.4	1.0	0.35	mg/L			1	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-135B-111318 Lab Sample ID: 240-104369-4

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 09:39

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Nitrate Nitrite as N	0.042	0.050	0.031	mg/L	J		1	353.2
	Hardness as calcium carbonate	48	5.0	2.4	mg/L			1	2340C-2011
	Alkalinity	5.9	5.0	2.6	mg/L			1	2320B-2011
	Total Dissolved Solids	130	10	7.8	mg/L			1	2540 C-2011
24959-67-9	Bromide	0.044	0.50	0.044	mg/L	U		1	300.0
14808-79-8	Sulfate	6.6	1.0	0.35	mg/L			1	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-136B-111318 Lab Sample ID: 240-104369-5

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 11:22

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Nitrate Nitrite as N	0.19	0.050	0.031	mg/L			1	353.2
	Hardness as calcium carbonate	72	5.0	2.4	mg/L			1	2340C-2011
	Alkalinity	21	5.0	2.6	mg/L			1	2320B-2011
	Total Dissolved Solids	230	10	7.8	mg/L			1	2540 C-2011
24959-67-9	Bromide	0.044	0.50	0.044	mg/L	U		1	300.0
14808-79-8	Sulfate	49	1.0	0.35	mg/L			1	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-DUP-111318 Lab Sample ID: 240-104369-6

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 00:00

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Nitrate Nitrite as N	0.17	0.050	0.031	mg/L			1	353.2
	Hardness as calcium carbonate	68	5.0	2.4	mg/L			1	2340C-2011
	Alkalinity	26	5.0	2.6	mg/L			1	2320B-2011
	Total Dissolved Solids	220	10	7.8	mg/L			1	2540 C-2011
24959-67-9	Bromide	0.044	0.50	0.044	mg/L	U		1	300.0
14808-79-8	Sulfate	48	1.0	0.35	mg/L			1	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-134A-111318 Lab Sample ID: 240-104369-2

Lab Name: TestAmerica Pittsburgh Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 14:15

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Salinity	2.0	2.0	2.0	No Unit	U		1	SM 2520B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-134B-111318 Lab Sample ID: 240-104369-3

Lab Name: TestAmerica Pittsburgh Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 16:12

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Salinity	2.0	2.0	2.0	No Unit	U		1	SM 2520B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-135B-111318 Lab Sample ID: 240-104369-4

Lab Name: TestAmerica Pittsburgh Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 09:39

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Salinity	2.0	2.0	2.0	No Unit	U		1	SM 2520B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-136B-111318 Lab Sample ID: 240-104369-5

Lab Name: TestAmerica Pittsburgh Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 11:22

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Salinity	2.0	2.0	2.0	No Unit	U		1	SM 2520B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-DUP-111318 Lab Sample ID: 240-104369-6

Lab Name: TestAmerica Pittsburgh Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 00:00

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Salinity	2.0	2.0	2.0	No Unit	U		1	SM 2520B

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Analyst: JWW Batch Start Date: 11/27/2018

Reporting Units: mg/L Analytical Batch No.: 357271

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
2	CCV	18:05	Nitrate Nitrite as N	2.43	2.50	97	90-110		WCNO2NO3-5PPM_00008
3	CCB	18:06	Nitrate Nitrite as N	0.031				U	
14	CCV	18:18	Nitrate Nitrite as N	2.60	2.50	104	90-110		WCNO2NO3-5PPM_00008
15	CCB	18:19	Nitrate Nitrite as N	0.031				U	
26	CCV	18:32	Nitrate Nitrite as N	2.52	2.50	101	90-110		WCNO2NO3-5PPM_00008
27	CCB	18:33	Nitrate Nitrite as N	0.0328				J	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Analyst: LKG Batch Start Date: 08/07/2018

Reporting Units: mg/L Analytical Batch No.: 339523

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
10	ICV	15:20	Sulfate	52.9	50.0	106	90-110		WCICLCS_00669
11	ICB	15:41	Sulfate	0.35				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Analyst: JWW Batch Start Date: 11/28/2018

Reporting Units: mg/L Analytical Batch No.: 357269

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	02:33	Sulfate	51.3	50.0	103	90-110		WCICCCV_00849
2	CCB	02:54	Sulfate	0.35				U	
13	CCV	06:42	Sulfate	51.5	50.0	103	90-110		WCICCCV_00849
14	CCB	07:02	Sulfate	0.35				U	
25	CCV	10:50	Sulfate	52.1	50.0	104	90-110		WCICCCV_00849
26	CCB	11:11	Sulfate	0.35				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 356952 Date: 11/23/2018 11:36							
2320B-2011	MB 240-356952/4	Alkalinity	2.6	U	mg/L	5.0	1
Batch ID: 356952 Date: 11/23/2018 13:35							
2320B-2011	MB 240-356952/30	Alkalinity	2.6	U	mg/L	5.0	1
Batch ID: 357370 Date: 11/28/2018 08:53							
2340C-2011	MB 240-357370/1	Hardness as calcium carbonate	2.4	U	mg/L	5.0	1
Batch ID: 356174 Date: 11/19/2018 14:11							
2540 C-2011	MB 240-356174/1	Total Dissolved Solids	7.8	U	mg/L	10	1
Batch ID: 357271 Date: 11/27/2018 18:07							
353.2	MB 240-357271/4	Nitrate Nitrite as N	0.031	U	mg/L	0.050	1
Batch ID: 357269 Date: 11/28/2018 03:14							
9056A	MB 240-357269/3	Bromide	0.044	U	mg/L	0.50	1
9056A	MB 240-357269/3	Sulfate	0.35	U	mg/L	1.0	1

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 240-104369-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 263285 Date: 11/19/2018 12:48							
SM 2520B	MB 180-263285/1	Salinity	2.0	U	No Unit	2.0	1

FORM III-IN

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 357370 Date: 11/28/2018 09:31											
2340C-2011	240-104451-A-1	Hardness as calcium carbonate	52		mg/L						
2340C-2011	240-104451-A-1 MS	Hardness as calcium carbonate	250		mg/L	200	99	80-120			
Batch ID: 357269 Date: 11/28/2018 08:04											
300.0	240-104369-4	Bromide	0.044	U	mg/L						
300.0	240-104369-4 MS	Bromide	10.7		mg/L	10.0	107	80-120			
Batch ID: 357271 Date: 11/27/2018 18:16											
353.2	240-104369-2	Nitrate Nitrite as N	0.031	U	mg/L						F1
353.2	240-104369-2 MS	Nitrate Nitrite as N	0.413		mg/L	0.500	83	90-110			F1
Batch ID: 357269 Date: 11/28/2018 08:04											
9056A	240-104369-4	Sulfate	6.6		mg/L						
9056A	240-104369-4 MS	Sulfate	58.6		mg/L	50.0	104	80-120			

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

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 357370 Date: 11/28/2018 09:34											
2340C-2011	240-104451-A-1 MSD	Hardness as calcium carbonate	252		mg/L	200	100	80-120	1	10	
Batch ID: 357269 Date: 11/28/2018 08:25											
300.0	240-104369-4 MSD	Bromide	10.7		mg/L	10.0	107	80-120	0	15	
Batch ID: 357271 Date: 11/27/2018 18:17											
353.2	240-104369-2 MSD	Nitrate Nitrite as N	0.454		mg/L	0.500	91	90-110	10	20	
Batch ID: 357269 Date: 11/28/2018 08:25											
9056A	240-104369-4 MSD	Sulfate	58.8		mg/L	50.0	104	80-120	0	15	

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

FORM V-IN

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 356952 Date: 11/23/2018 13:43								
2320B-2011	MRC-MW-134B-111318	240-104369-3	Alkalinity	32	mg/L			
2320B-2011	MRC-MW-134B-111318	240-104369-3 DU	Alkalinity	32.1	mg/L	0.2	20	
Batch ID: 357370 Date: 11/28/2018 09:04								
2340C-2011	MRC-MW-134A-111318	240-104369-2	Hardness as calcium carbonate	250	mg/L			
2340C-2011	MRC-MW-134A-111318	240-104369-2 DU	Hardness as calcium carbonate	252	mg/L	0.8	20	
Batch ID: 356174 Date: 11/19/2018 14:11								
2540 C-2011		240-104363-B-4	Total Dissolved Solids	780	mg/L			
2540 C-2011		240-104363-B-4 DU	Total Dissolved Solids	780	mg/L	0.5	20	

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

FORM VI-IN

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 240-104369-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 263285 Date: 11/19/2018 12:48								
SM 2520B		240-104312-W-2	Salinity	2.0	No Unit			U
SM 2520B		240-104312-W-2 DU	Salinity	2.0	No Unit	NC	20	U

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

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 356952	Date: 11/23/2018 11:32										
						LCS Source: WCPHENOMINER_00024					
2320B-2011	LCS 240-356952/3	Alkalinity	363		mg/L	384	95	86-123			
Batch ID: 356952	Date: 11/23/2018 13:31										
						LCS Source: WCPHENOMINER_00024					
2320B-2011	LCS 240-356952/29	Alkalinity	371		mg/L	384	97	86-123			
Batch ID: 357370	Date: 11/28/2018 08:56										
						LCS Source: WCHARDNESS_00030					
2340C-2011	LCS 240-357370/2	Hardness as calcium carbonate	272		mg/L	271	100	90-110			
Batch ID: 356174	Date: 11/19/2018 14:11										
						LCS Source: WCPHENOVSOLID_00037					
2540 C-2011	LCS 240-356174/2	Total Dissolved Solids	261		mg/L	259	101	80-120			
Batch ID: 357271	Date: 11/27/2018 18:08										
						LCS Source: WCWIBBYNUTRIE_00114					
353.2	LCS 240-357271/5	Nitrate Nitrite as N	3.86		mg/L	3.75	103	90-110			
Batch ID: 357269	Date: 11/28/2018 03:35										
						LCS Source: WCICLCS_00684					
9056A	LCS 240-357269/4	Sulfate	51.9		mg/L	50.0	104	90-110			

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

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: Maggie

Method: 353.2 MDL Date: 04/25/2017 11:29

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Nitrate Nitrite as N		0.05	0.031

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: Maggie

Method: 353.2 XMDL Date: 04/25/2017 11:30

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Nitrate Nitrite as N		0.05	0.031

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 2340C-2011 MDL Date: 04/25/2017 11:12

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Hardness as calcium carbonate		5	2.389

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 2340C-2011 XMDL Date: 04/25/2017 11:12

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Hardness as calcium carbonate		5	2.389

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: Severus

Method: 2320B-2011 MDL Date: 08/21/2018 15:58

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Alkalinity		5	2.6

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: Severus

Method: 2320B-2011 XMDL Date: 04/25/2017 09:53

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Alkalinity		5	2.6

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 2540 C-2011 MDL Date: 04/25/2017 14:47

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Dissolved Solids		10	7.795

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 2540 C-2011 XMDL Date: 04/25/2017 14:48

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Dissolved Solids		10	7.795

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: THOR

Method: 300.0 MDL Date: 05/02/2017 14:42

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Bromide		0.5	0.044

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: THOR

Method: 300.0 XMDL Date: 05/02/2017 14:43

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Bromide		0.5	0.044

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: THOR

Method: 9056A MDL Date: 05/02/2017 14:42

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Sulfate		1	0.348

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: THOR

Method: 9056A XMDL Date: 05/02/2017 14:43

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Sulfate		1	0.348

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2520B RL Date: 01/25/2011 12:16

Analyte	Wavelength/ Mass	RL (No Unit)	
Salinity		2	

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2520B XRL Date: 01/25/2011 12:16

Analyte	Wavelength/ Mass	XRL (No Unit)	
Salinity		2	

FORM IX - IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: Maggie Analysis Method: 353.2

Start Date: 11/27/2018 18:03 End Date: 11/27/2018 18:42

Lab Sample Id	D/F	Type	Time	Analytes
				NNO32
ZZZZZZ			18:03	
CCV 240-357271/2	1		18:05	X
CCB 240-357271/3	1		18:06	X
MB 240-357271/4	1	T	18:07	X
LCS 240-357271/5	1	T	18:08	X
ZZZZZZ			18:09	
ZZZZZZ			18:10	
240-104369-5	1	T	18:11	X
240-104369-4	1	T	18:13	X
240-104369-3	1	T	18:14	X
240-104369-2	1	T	18:15	X
240-104369-2 MS	1	T	18:16	X
240-104369-2 MSD	1	T	18:17	X
CCV 240-357271/14	1		18:18	X
CCB 240-357271/15	1		18:19	X
ZZZZZZ			18:20	
240-104369-6	1	T	18:22	X
ZZZZZZ			18:23	
ZZZZZZ			18:24	
ZZZZZZ			18:25	
ZZZZZZ			18:26	
ZZZZZZ			18:27	
ZZZZZZ			18:28	
ZZZZZZ			18:29	
ZZZZZZ			18:31	
CCV 240-357271/26	1		18:32	X
CCB 240-357271/27	1		18:33	X
ZZZZZZ			18:34	
ZZZZZZ			18:35	
ZZZZZZ			18:36	
ZZZZZZ			18:37	
ZZZZZZ			18:38	
ZZZZZZ			18:40	
CCV 240-357271/34			18:41	
CCB 240-357271/35			18:42	

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: 2340C-2011

Start Date: 11/28/2018 08:53 End Date: 11/28/2018 10:55

Lab Sample Id	D/F	Type	Time	Analytes																								
				HardCC																								
MB 240-357370/1	1	T	08:53	X																								
LCS 240-357370/2	1	T	08:56	X																								
240-104369-2	1	T	09:00	X																								
240-104369-2 DU	1	T	09:04	X																								
240-104369-3	1	T	09:08	X																								
240-104369-4	1	T	09:12	X																								
240-104369-5	1	T	09:15	X																								
240-104369-6	1	T	09:19	X																								
ZZZZZZ			09:23																									
ZZZZZZ			09:27																									
240-104451-A-1 MS	1	T	09:31	X																								
240-104451-A-1 MSD	1	T	09:34	X																								
ZZZZZZ			09:38																									
ZZZZZZ			09:42																									
ZZZZZZ			09:46																									
ZZZZZZ			09:50																									
ZZZZZZ			09:54																									
ZZZZZZ			09:57																									
ZZZZZZ			10:01																									
ZZZZZZ			10:05																									
ZZZZZZ			10:09																									
ZZZZZZ			10:13																									
ZZZZZZ			10:16																									
ZZZZZZ			10:20																									
ZZZZZZ			10:24																									
ZZZZZZ			10:28																									
ZZZZZZ			10:32																									
ZZZZZZ			10:36																									
ZZZZZZ			10:39																									
ZZZZZZ			10:43																									
ZZZZZZ			10:47																									
ZZZZZZ			10:51																									
ZZZZZZ			10:55																									

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: Severus Analysis Method: 2320B-2011

Start Date: 11/23/2018 11:16 End Date: 11/23/2018 15:22

Lab Sample Id	D/F	Type	Time	Analytes																								
				Alk																								
ZZZZZZ			11:16																									
ZZZZZZ			11:27																									
LCS 240-356952/3	1	T	11:32	X																								
MB 240-356952/4	1	T	11:36	X																								
ZZZZZZ			11:40																									
ZZZZZZ			11:45																									
ZZZZZZ			11:50																									
ZZZZZZ			11:55																									
ZZZZZZ			12:00																									
ZZZZZZ			12:04																									
ZZZZZZ			12:09																									
ZZZZZZ			12:14																									
ZZZZZZ			12:17																									
ZZZZZZ			12:21																									
ZZZZZZ			12:26																									
ZZZZZZ			12:31																									
ZZZZZZ			12:36																									
ZZZZZZ			12:41																									
ZZZZZZ			12:46																									
ZZZZZZ			12:51																									
ZZZZZZ			12:56																									
ZZZZZZ			13:01																									
ZZZZZZ			13:06																									
ZZZZZZ			13:07																									
ZZZZZZ			13:12																									
ZZZZZZ			13:17																									
ZZZZZZ			13:21																									
240-104369-2	1	T	13:26	X																								
LCS 240-356952/29	1	T	13:31	X																								
MB 240-356952/30	1	T	13:35	X																								
240-104369-3	1	T	13:39	X																								
240-104369-3 DU	1	T	13:43	X																								
240-104369-4	1	T	13:47	X																								
240-104369-5	1	T	13:52	X																								
ZZZZZZ			13:53																									
240-104369-6	1	T	13:57	X																								
ZZZZZZ			14:02																									
ZZZZZZ			14:07																									
ZZZZZZ			14:11																									
ZZZZZZ			14:16																									
ZZZZZZ			14:21																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: Severus Analysis Method: 2320B-2011

Start Date: 11/23/2018 11:16 End Date: 11/23/2018 15:22

Lab Sample Id	D/F	Type	Time	Analytes																								
				Alk																								
ZZZZZZ			14:26																									
ZZZZZZ			14:31																									
ZZZZZZ			14:36																									
ZZZZZZ			14:40																									
ZZZZZZ			14:42																									
ZZZZZZ			14:47																									
ZZZZZZ			14:52																									
ZZZZZZ			14:57																									
ZZZZZZ			15:01																									
ZZZZZZ			15:07																									
ZZZZZZ			15:11																									
ZZZZZZ			15:16																									
ZZZZZZ			15:21																									
ZZZZZZ			15:22																									

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: 2540 C-2011

Start Date: 11/19/2018 14:11 End Date: 11/19/2018 14:11

Lab Sample Id	D/F	Type	Time	Analytes																								
				TDS																								
MB 240-356174/1	1	T	14:11	X																								
LCS 240-356174/2	1	T	14:11	X																								
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
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ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
240-104363-B-4 DU	1	T	14:11	X																								
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
240-104369-2	1	T	14:11	X																								
240-104369-3	1	T	14:11	X																								
240-104369-4	1	T	14:11	X																								
240-104369-5	1	T	14:11	X																								
240-104369-6	1	T	14:11	X																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: THOR Analysis Method: 9056A

Start Date: 08/07/2018 12:13 End Date: 08/07/2018 15:41

Lab Sample Id	D/F	Type	Time	Analytes																								
				SO4																								
STD1 240-339523/1 IC	1		12:13	X																								
STD2 240-339523/2 IC	1		12:34	X																								
STD3 240-339523/3 IC	1		12:55	X																								
STD4 240-339523/4 IC	1		13:16	X																								
STD5 240-339523/5 ICRT	1		13:36	X																								
STD6 240-339523/6 IC	1		13:57	X																								
STD7 240-339523/7 IC	1		14:18	X																								
STD8 240-339523/8 IC	1		14:39	X																								
STD9 240-339523/9 IC	1		14:59	X																								
ICV 240-339523/10	1		15:20	X																								
ICB 240-339523/11	1		15:41	X																								

Prep Types:
=

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: THOR Analysis Method: 9056A

Start Date: 11/28/2018 02:33 End Date: 11/28/2018 22:34

Lab Sample Id	D/F	Type	Time	Analytes																									
				Br	SO4																								
CCV 240-357269/1	1		02:33		X																								
CCB 240-357269/2	1		02:54		X																								
MB 240-357269/3	1	T	03:14		X																								
LCS 240-357269/4	1	T	03:35		X																								
ZZZZZZ			03:56																										
ZZZZZZ			04:17																										
ZZZZZZ			04:37																										
ZZZZZZ			04:58																										
ZZZZZZ			05:19																										
ZZZZZZ			05:39																										
240-104369-2	1	T	06:00	X	X																								
ZZZZZZ			06:21																										
CCV 240-357269/13	1		06:42		X																								
CCB 240-357269/14	1		07:02		X																								
240-104369-3	1	T	07:23	X	X																								
240-104369-4	1	T	07:44	X	X																								
240-104369-4 MS	1	T	08:04	X	X																								
240-104369-4 MSD	1	T	08:25	X	X																								
240-104369-5	1	T	08:46	X	X																								
240-104369-6	1	T	09:06	X	X																								
ZZZZZZ			09:27																										
ZZZZZZ			09:48																										
ZZZZZZ			10:09																										
ZZZZZZ			10:30																										
CCV 240-357269/25	1		10:50		X																								
CCB 240-357269/26	1		11:11		X																								
ZZZZZZ			11:32																										
ZZZZZZ			11:52																										
ZZZZZZ			12:13																										
ZZZZZZ			12:34																										
ZZZZZZ			12:55																										
ZZZZZZ			13:15																										
ZZZZZZ			13:36																										
ZZZZZZ			13:57																										
ZZZZZZ			14:17																										
ZZZZZZ			14:38																										
CCV 240-357269/37			14:59																										
CCB 240-357269/38			15:20																										
ZZZZZZ			15:40																										
ZZZZZZ			16:01																										
ZZZZZZ			16:22																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: THOR Analysis Method: 9056A

Start Date: 11/28/2018 02:33 End Date: 11/28/2018 22:34

Lab Sample Id	D/F	Type	Time	Analytes																								
				Br	SO4																							
ZZZZZZ			16:42																									
ZZZZZZ			17:03																									
ZZZZZZ			17:24																									
ZZZZZZ			17:44																									
ZZZZZZ			18:05																									
ZZZZZZ			18:26																									
ZZZZZZ			18:47																									
CCV 240-357269/49			19:07																									
CCB 240-357269/50			19:28																									
ZZZZZZ			19:49																									
ZZZZZZ			20:09																									
ZZZZZZ			20:30																									
ZZZZZZ			20:51																									
ZZZZZZ			21:12																									
ZZZZZZ			21:32																									
ZZZZZZ			21:53																									
CCV 240-357269/58			22:14																									
CCB 240-357269/59			22:34																									

Prep Types:
T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 240-104369-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: SM 2520B

Start Date: 11/19/2018 12:48 End Date: 11/19/2018 12:48

Lab Sample Id	D/F	Type	Time	Analytes																								
				Salin																								
MB 180-263285/1	1	T	12:48	X																								
ZZZZZZ			12:48																									
240-104312-W-2 DU	1	T	12:48	X																								
240-104369-2	1	T	12:48	X																								
240-104369-3	1	T	12:48	X																								
240-104369-4	1	T	12:48	X																								
240-104369-5	1	T	12:48	X																								
240-104369-6	1	T	12:48	X																								

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 357271 Batch Start Date: 11/27/18 18:03 Batch Analyst: Weimer, Joshua W

Batch Method: 353.2 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	WCNO2NO3-5PPM 00008	WCWIBBYNUTRIE 00114		
CCV 240-357271/2		353.2		2.0 mL	2.0 mL	1 mL			
CCB 240-357271/3		353.2		2.0 mL	2.0 mL				
MB 240-357271/4		353.2		2.0 mL	2.0 mL				
LCS 240-357271/5		353.2		2.0 mL	2.0 mL		2 mL		
240-104369-N-5	MRC-MW-136B-111318	353.2	T	2.0 mL	2.0 mL				
240-104369-N-4	MRC-MW-135B-111318	353.2	T	2.0 mL	2.0 mL				
240-104369-N-3	MRC-MW-134B-111318	353.2	T	2.0 mL	2.0 mL				
240-104369-N-2	MRC-MW-134A-111318	353.2	T	2.0 mL	2.0 mL				
240-104369-N-2 MS	MRC-MW-134A-111318	353.2	T	2.0 mL	2.0 mL	0.2 mL			
240-104369-N-2 MSD	MRC-MW-134A-111318	353.2	T	2.0 mL	2.0 mL	0.2 mL			
CCV 240-357271/14		353.2		2.0 mL	2.0 mL	1 mL			
CCB 240-357271/15		353.2		2.0 mL	2.0 mL				
240-104369-N-6	MRC-MW-DUP-111318	353.2	T	2.0 mL	2.0 mL				
CCV 240-357271/26		353.2		2.0 mL	2.0 mL	1 mL			
CCB 240-357271/27		353.2		2.0 mL	2.0 mL				

Batch Notes	
Color Reagent ID	3820762
Residual Chlorine Indicator ID	1289657

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 357370 Batch Start Date: 11/28/18 08:53 Batch Analyst: Burns, Jill

Batch Method: 2340C-2011 Batch End Date: 11/28/18 10:59

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	TitrantVolume1	WCCALCIUMCARB 00018	WCHARDNESS 00030	
MB 240-357370/1		2340C-2011		25 mL	25 mL	0 mL			
LCS 240-357370/2		2340C-2011		25 mL	25 mL	6.80 mL		25 mL	
240-104369-I-2	MRC-MW-134A-111318	2340C-2011	T	25 mL	25 mL	6.25 mL			
240-104369-I-2 DU	MRC-MW-134A-111318	2340C-2011	T	25 mL	25 mL	6.30 mL			
240-104369-I-3	MRC-MW-134B-111318	2340C-2011	T	25 mL	25 mL	1.10 mL			
240-104369-I-4	MRC-MW-135B-111318	2340C-2011	T	25 mL	25 mL	1.20 mL			
240-104369-I-5	MRC-MW-136B-111318	2340C-2011	T	25 mL	25 mL	1.80 mL			
240-104369-I-6	MRC-MW-DUP-111318	2340C-2011	T	25 mL	25 mL	1.70 mL			
240-104451-A-1 MS		2340C-2011	T	25 mL	25 mL	6.25 mL	5 mL		
240-104451-A-1 MSD		2340C-2011	T	25 mL	25 mL	6.30 mL	5 mL		

Batch Notes	
Batch Comment	BEAKERS--3686802
Buffer Reagent ID	3741292
Indicator Reagent ID	3645370
Nominal Amount Used	25 mL
Pipette/Syringe/Dispenser ID	C11, E7
Normality of First Titrant	0.02 N
Titrant ID	3725312

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 356952 Batch Start Date: 11/23/18 11:16 Batch Analyst: Carson, Monica

Batch Method: 2320B-2011 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	CalcMsg	WCPHENOMINER 00024				
LCS 240-356952/3		2320B-2011		InitialAmount is blank	10 mL				
MB 240-356952/4		2320B-2011		InitialAmount is blank					
240-104369-J-2	MRC-MW-134A-111318	2320B-2011	T	InitialAmount is blank					
LCS 240-356952/29		2320B-2011		InitialAmount is blank	10 mL				
MB 240-356952/30		2320B-2011		InitialAmount is blank					
240-104369-J-3	MRC-MW-134B-111318	2320B-2011	T	InitialAmount is blank					
240-104369-J-3 DU	MRC-MW-134B-111318	2320B-2011	T	InitialAmount is blank					
240-104369-J-4	MRC-MW-135B-111318	2320B-2011	T	InitialAmount is blank					
240-104369-J-5	MRC-MW-136B-111318	2320B-2011	T	InitialAmount is blank					
240-104369-J-6	MRC-MW-DUP-111318	2320B-2011	T	InitialAmount is blank					

Batch Notes	
Acid ID	3725314
pH Buffer 1 ID	4- 3907122
pH Buffer 2 ID	7- 3892887
pH Buffer 3 ID	10- 3862127
pH Buffer 4 ID	12- 3907147
Nominal Amount Used	10 mL
pH Meter ID	severus
Probe ID	WCP 137
Normality of First Titrant	0.02 N

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 356174 Batch Start Date: 11/19/18 14:11 Batch Analyst: Carson, Monica

Batch Method: 2540 C-2011 Batch End Date: 11/20/18 17:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	Conductivity	TareWeight	InitialAmount	Weight1	Weight2	Weight3
MB 240-356174/1		2540 C-2011			3.8055 g	100 mL	3.8056 g	3.8055 g	0 g
LCS 240-356174/2		2540 C-2011			3.8254 g	100 mL	3.8517 g	3.8515 g	0 g
240-104363-B-4 DU		2540 C-2011	T	1022 umhos/cm	3.7994 g	100 mL	3.8775 g	3.8774 g	0 g
240-104369-J-2	MRC-MW-134A-111318	2540 C-2011	T	1074 umhos/cm	3.7225 g	100 mL	3.7805 g	3.7806 g	0 g
240-104369-J-3	MRC-MW-134B-111318	2540 C-2011	T	124 umhos/cm	3.6541 g	100 mL	3.6618 g	3.6615 g	0 g
240-104369-J-4	MRC-MW-135B-111318	2540 C-2011	T	217 umhos/cm	3.7647 g	100 mL	3.7782 g	3.7779 g	0 g
240-104369-J-5	MRC-MW-136B-111318	2540 C-2011	T	885 umhos/cm	3.7943 g	100 mL	3.8171 g	3.8176 g	0 g
240-104369-J-6	MRC-MW-DUP-111318	2540 C-2011	T	383 umhos/cm	3.8068 g	100 mL	3.8282 g	3.8286 g	0 g

Lab Sample ID	Client Sample ID	Method Chain	Basis	WeightOne%Diff	WeightTwo%Diff	Weight4OK	Residue	Residue2	Residue3
MB 240-356174/1		2540 C-2011		Pass No Unit	N/A No Unit	N/A	0.0001 g	0 g	N/A g
LCS 240-356174/2		2540 C-2011		Pass No Unit	N/A No Unit	N/A	0.0263 g	0.0261 g	N/A g
240-104363-B-4 DU		2540 C-2011	T	Pass No Unit	N/A No Unit	N/A	0.0781 g	0.078 g	N/A g
240-104369-J-2	MRC-MW-134A-111318	2540 C-2011	T	Pass No Unit	N/A No Unit	N/A	0.058 g	0.0581 g	N/A g
240-104369-J-3	MRC-MW-134B-111318	2540 C-2011	T	Pass No Unit	N/A No Unit	N/A	0.0077 g	0.0074 g	N/A g
240-104369-J-4	MRC-MW-135B-111318	2540 C-2011	T	Pass No Unit	N/A No Unit	N/A	0.0135 g	0.0132 g	N/A g
240-104369-J-5	MRC-MW-136B-111318	2540 C-2011	T	Pass No Unit	N/A No Unit	N/A	0.0228 g	0.0233 g	N/A g
240-104369-J-6	MRC-MW-DUP-111318	2540 C-2011	T	Pass No Unit	N/A No Unit	N/A	0.0214 g	0.0218 g	N/A g

Lab Sample ID	Client Sample ID	Method Chain	Basis	Residue4	FinalAmount	CalcMsg	WCPHENOVSOLID00037		
MB 240-356174/1		2540 C-2011		N/A g	100 mL	OK			
LCS 240-356174/2		2540 C-2011		N/A g	100 mL	OK	100 mL		
240-104363-B-4 DU		2540 C-2011	T	N/A g	100 mL	OK			

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 356174 Batch Start Date: 11/19/18 14:11 Batch Analyst: Carson, Monica

Batch Method: 2540 C-2011 Batch End Date: 11/20/18 17:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	Residue4	FinalAmount	CalcMsg	WCPHENOVSOLID 00037		
240-104369-J-2	MRC-MW-134A-111318	2540 C-2011	T	N/A g	100 mL	OK			
240-104369-J-3	MRC-MW-134B-111318	2540 C-2011	T	N/A g	100 mL	OK			
240-104369-J-4	MRC-MW-135B-111318	2540 C-2011	T	N/A g	100 mL	OK			
240-104369-J-5	MRC-MW-136B-111318	2540 C-2011	T	N/A g	100 mL	OK			
240-104369-J-6	MRC-MW-DUP-111318	2540 C-2011	T	N/A g	100 mL	OK			

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 356174 Batch Start Date: 11/19/18 14:11 Batch Analyst: Carson, Monica

Batch Method: 2540 C-2011 Batch End Date: 11/20/18 17:30

Batch Notes	
Balance ID	O048
Conductivity Meter ID	MYRON
Date/Time - In - CW (WT2)	11/20/2018 15:47
Date/Time - Out - CW (WT2)	11/20/2018 16:53
Temperature - Start - CW (WT2) - Correct	181 Celsius
Temperature - End - CW (WT2) - Correct	181 Celsius
Temperature - Start-CW(WT2) -Uncorrected	183 Celsius
Temperature - End-CW(WT2) -Uncorrected	183 Celsius
Temperature - Start - Corrected	104 Celsius
Temperature - End - Corrected	104 Celsius
Date/Time - In	11/19/2018 15:17
Date/Time - Out	11/20/2018 08:23
Filter ID	12210045
Nominal Amount Used	100 mL
Oven ID	O01
Oven ID - Low Temperature	O06
Thermometer ID - Low Temperature	84922
Thermometer ID	18417084
Temperature - Start - Uncorrected	105 Celsius
Temperature - End - Uncorrected	105 Celsius
Vessel Lot ID	04969963ING-8155-ZB
Weight(WT1) Start Date/Time	11/20/2018 08:23 No Unit
Weight(WT1) Date/Time Out	11/20/2018 11:46
Weight(WT1) Start Temp	181 Celsius
Weight(WT1) Temp Out	181 Celsius
Uncorrected Weight(WT1) Start Temp	183 Celsius
Uncorrected Weight(WT1) Temp Out	183 Celsius

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 339523 Batch Start Date: 08/07/18 12:13 Batch Analyst: Grossman, Lucas

Batch Method: 300.0 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	WCICCALSOLN 00292				
STD1 240-339523/1 IC		300.0		5 mL	0.025 mL				
STD2 240-339523/2 IC		300.0		5 mL	0.125 mL				
STD3 240-339523/3 IC		300.0		5 mL	0.25 mL				
STD4 240-339523/4 IC		300.0		5 mL	0.5 mL				
STD5 240-339523/5 ICRT		300.0		5 mL	1.25 mL				
STD6 240-339523/6 IC		300.0		5 mL	2 mL				
STD7 240-339523/7 IC		300.0		5 mL	2.5 mL				
STD8 240-339523/8 IC		300.0		5 mL	3.75 mL				
STD9 240-339523/9 IC		300.0		5 mL	5 mL				

Batch Notes	

Basis	Basis Description

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 357269 Batch Start Date: 11/28/18 02:33 Batch Analyst: Weimer, Joshua W

Batch Method: 300.0 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	WCICSOLNA1 00018	WCICSOLNB1 00018			
240-104369-J-2	MRC-MW-134A-111318	300.0 & 9056A	T	5 mL					
240-104369-J-2	MRC-MW-134A-111318	300.0 & 9056A	T	5 mL					
240-104369-J-3	MRC-MW-134B-111318	300.0 & 9056A	T	5 mL					
240-104369-J-4	MRC-MW-135B-111318	300.0 & 9056A	T	5 mL					
240-104369-J-4 MS	MRC-MW-135B-111318	300.0 & 9056A	T	5 mL	0.1 mL	0.1 mL			
240-104369-J-4 MSD	MRC-MW-135B-111318	300.0 & 9056A	T	5 mL	0.1 mL	0.1 mL			
240-104369-J-5	MRC-MW-136A-111318	300.0 & 9056A	T	5 mL					
240-104369-J-6	MRC-MW-DUP-111318	300.0 & 9056A	T	5 mL					

Batch Notes	
Eluent 1 ID	Water

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 339523 Batch Start Date: 08/07/18 12:13 Batch Analyst: Grossman, Lucas

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	WCICLCS 00669			
ICV 240-339523/10		9056A		5 mL	1.0 mL	5 mL			
ICB 240-339523/11		9056A		5 mL					

Batch Notes	

Basis	Basis Description

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 357269 Batch Start Date: 11/28/18 02:33 Batch Analyst: Weimer, Joshua W

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	WCICSOLNA1 00018	WCICSOLNB1 00018			
240-104369-J-2	MRC-MW-134A-111318	300.0 & 9056A	T	5 mL					
240-104369-J-2	MRC-MW-134A-111318	300.0 & 9056A	T	5 mL					
240-104369-J-3	MRC-MW-134B-111318	300.0 & 9056A	T	5 mL					
240-104369-J-4	MRC-MW-135B-111318	300.0 & 9056A	T	5 mL					
240-104369-J-4 MS	MRC-MW-135B-111318	300.0 & 9056A	T	5 mL	0.1 mL	0.1 mL			
240-104369-J-4 MSD	MRC-MW-135B-111318	300.0 & 9056A	T	5 mL	0.1 mL	0.1 mL			
240-104369-J-5	MRC-MW-136A-111318	300.0 & 9056A	T	5 mL					
240-104369-J-6	MRC-MW-DUP-111318	300.0 & 9056A	T	5 mL					

Batch Notes	
Eluent 1 ID	Water

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 357269 Batch Start Date: 11/28/18 02:33 Batch Analyst: Weimer, Joshua W

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	WCICCCV 00849	WCICLCS 00684			
CCV 240-357269/1		9056A		5 mL	5 mL				
CCB 240-357269/2		9056A		5 mL					
MB 240-357269/3		9056A		5 mL					
LCS 240-357269/4		9056A		5 mL		5 mL			
CCV 240-357269/13		9056A		5 mL	5 mL				
CCB 240-357269/14		9056A		5 mL					
CCV 240-357269/25		9056A		5 mL	5 mL				
CCB 240-357269/26		9056A		5 mL					

Batch Notes	
Eluent 1 ID	Water

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.

TestAmerica Canton

Maggie 353.2

Time start: 11-27-2018 17:43
Time end: 11-27-2018 18:43

1-Reagent Nitrate

		ppm	Flags	OD
1	<BLANK>	0.0171		0.0646
2	CCV	2.4280		0.4027
3	CCB	0.0207		0.0651
4	MB	0.0157		0.0644
5	LCS	3.8577		0.6032
6	240-104355-E-16	0.0235		0.0655
7	240-104355-E-17	0.0306		0.0665
8	240-104369-N-5	0.1947		0.0895
9	240-104369-N-4	0.0421		0.0681
10	240-104369-N-3	0.0171		0.0646
11	240-104369-N-2	0.0164		0.0645
12	MS 240-104369-N-2	0.4129		0.1201
13	MSD 240-104369-N-2	0.4542		0.1259
14	CCV	2.6034		0.4273
15	CCB	0.0242		0.0656
16	240-104355-E-9^10	0.7551		0.1681
17	240-104369-N-6	0.1718		0.0863
18	240-104407-O-1	0.1533		0.0837
19	240-104409-O-1	0.6182		0.1489
20	240-104697-N-2	0.0192		0.0649
21	MS 240-104697-N-2	0.4884		0.1307
22	MSD 240-104697-N-2	0.4920		0.1312
23	240-104697-N-3	0.0207		0.0651
24	240-104697-N-4	0.0271		0.0660
25	240-104697-N-5	0.3986		0.1181
26	CCV	2.5235		0.4161
27	CCB	0.0328		0.0668
28	240-104697-N-6	1.3006		0.2446
29	240-104425-T-1	0.0314		0.0666
30	240-104418-E-1	4.4174		0.6817

		1-Reagent Nitrate		
		ppm	Flags	OD
31	**240-104418-E-2**	0.4314		0.1227
32	**240-104418-E-3**	0.4236		0.1216
33	**240-104418-E-4**	0.0927		0.0752
34	**CCV**	2.6184		0.4294
35	**CCB**	0.0299		0.0664

1-Reagent Nitrate (NO3R1) - Endpoint

General setup

Measuring unit	**ppm**
Number of decimals	4
Stabilization time (sec)	31
Measurement time (sec)	3
Sample volume (µl)	50
Filter	546
Reagent prime	No
CD Reduction	No

Limits and dilution

Low level	**-1**
High level	10.5
Max linearity	10.5
Blank min	-0.1
Blank max	0.05
Postdilution factor %	10
Factor Calculations	No

Washes

Number of final washes	1
Wash every	R1

O.D.Corrections

Carry Over	**No**
Carry Over value	0.0000
Blank	No
Gain	No

Reagents

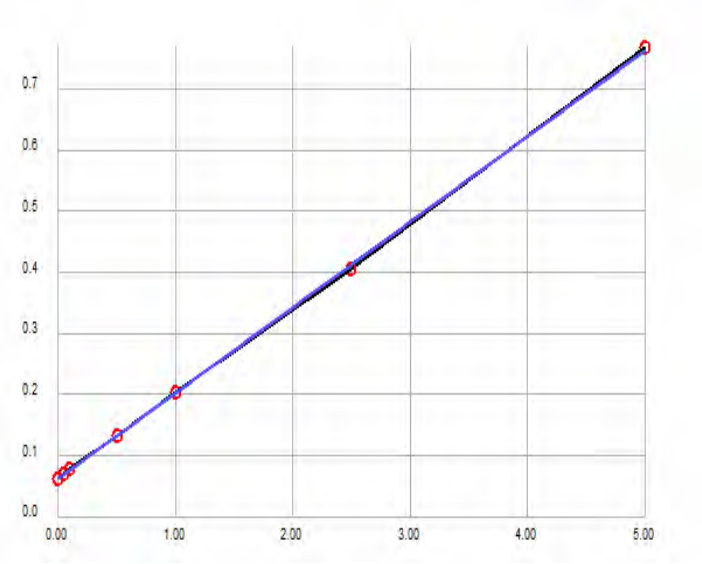
N.	Volume (µl)	Incubation time (sec)
1	700	1122
2	0	0
3	0	0

QC

N.	Value	Tolerance
1	2.5	0.25

Calibration

Curve type	Linear (Calibrants)
Curve forced to zero	No
Blank inclusion	No



Formula	y = 0.1402x + 0.0622
Correlation	.999893[P]

Calibrant	Energy	Set	Conc
1	0.0630	0.0000	
2	0.0702	0.0500	
3	0.0776	0.1000	
4	0.1330	0.5000	
5	0.2029	1.0000	
6	0.4046	2.5000	
7	0.7673	5.0000	

Notes:

TestAmerica Canton

Maggie 353.2

Time start: 11-14-2018 19:10
Time end: 11-14-2018 20:18

1-Reagent Nitrate

		ppm	Flags	OD
1	**<BLANK>**	0.0128		0.0640
2	**<CAL1>**	0.0057	[0]	0.0630
3	**<CAL2>**	0.0570	[0.05]	0.0702
4	**<CAL3>**	0.1098	[0.1]	0.0776
5	**<CAL4>**	0.5048	[0.5]	0.1330
6	**<CAL5>**	1.0033	[1]	0.2029
7	**<CAL6>**	2.4415	[2.5]	0.4046
8	**<CAL7>**	5.0278	[5]	0.7673
9	**ICV**	3.9247		0.6126
10	**ICB**	0.0150		0.0643
11	**MB**	0.0085		0.0634
12	**LCS**	3.9076		0.6102
13	**240-103758-a-1**	0.0378		0.0675
14	**MS 240-103758-a-1**	0.5455		0.1387
15	**MSD 240-103758-a-1**	0.5412		0.1381
16	**240-103774-i-1**	0.2931		0.1033
17	**190-18045-d-1**	0.3301		0.1085
18	**480-144640-a-1**	1.7898		0.3132
19	**480-144640-a-2**	0.4542		0.1259
20	**480-144640-a-3**	1.3263		0.2482
21	**CCV**	2.4715		0.4088
22	**CCB**	0.0050		0.0629
23	**190-17997-f-1^10**	5.1084		0.7786
24	**240-104105-i-1**	0.0613		0.0708
25	**240-104105-z-2**	0.0299		0.0664
26	**MS 240-104105-z-2**	0.5305		0.1366
27	**MSD 240-104105-z-2**	0.5433		0.1384
28	**240-104105-i-3**	0.0064		0.0631
29	**240-104105-i-4**	0.0114		0.0638
30	**240-104105-i-5**	0.0064		0.0631

		1-Reagent Nitrate		
		ppm	Flags	OD
31	240-104105-i-6	0.0228		0.0654
32	240-104105-i-7	0.2745		0.1007
33	CCV	2.4216		0.4018
34	CCB	0.0028		0.0626
35	240-104105-i-8	0.0071		0.0632
36	240-104105-i-9	0.0677		0.0717
37	240-104105-i-10	0.0021		0.0625
38	240-104105-i-11	0.0506		0.0693
39	240-104105-i-12	0.0663		0.0715
40	240-103873-a-1	0.2439		0.0964
41	CCV	2.5328		0.4174
42	CCB	0.0014		0.0624

1-Reagent Nitrate (NO3R1) - Endpoint

General setup

Measuring unit	**ppm**
Number of decimals	4
Stabilization time (sec)	31
Measurement time (sec)	3
Sample volume (µl)	50
Filter	546
Reagent prime	No
CD Reduction	No

Limits and dilution

Low level	**-1**
High level	10.5
Max linearity	10.5
Blank min	-0.1
Blank max	0.05
Postdilution factor %	10
Factor Calculations	No

Washes

Number of final washes	1
Wash every	R1

O.D.Corrections

Carry Over	**No**
Carry Over value	0.0000
Blank	No
Gain	No

Reagents

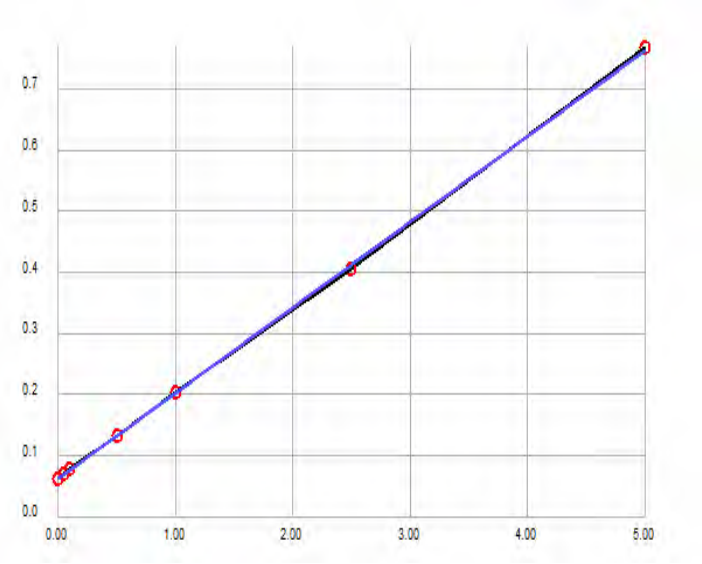
N.	Volume (µl)	Incubation time (sec)
1	700	1122
2	0	0
3	0	0

QC

N.	Value	Tolerance
1	2.5	0.25

Calibration

Curve type	Linear (Calibrants)
Curve forced to zero	No
Blank inclusion	No



Formula	y = 0.1402x + 0.0622
Correlation	.999893[P]

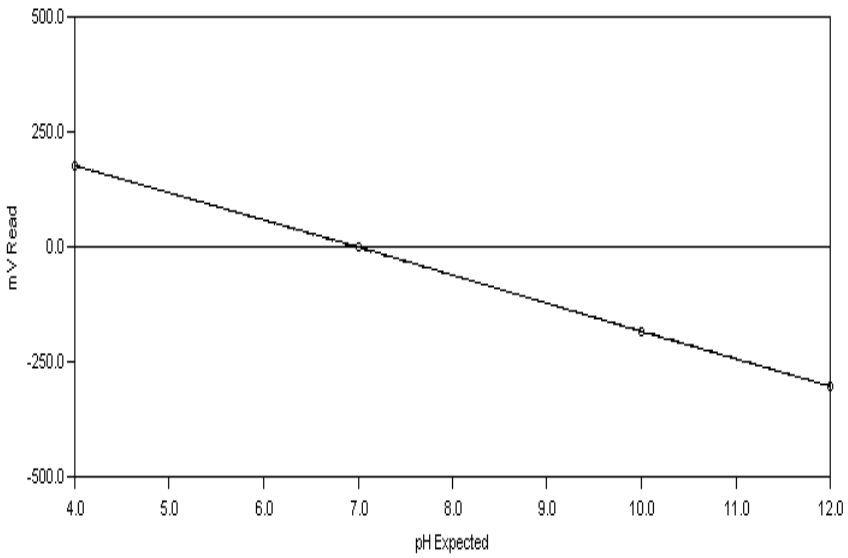
Calibrant	Energy	Set	Conc
1	0.0630	0.0000	0.0057
2	0.0702	0.0500	0.0570
3	0.0776	0.1000	0.1098
4	0.1330	0.5000	0.5048
5	0.2029	1.0000	1.0033
6	0.4046	2.5000	2.4415
7	0.7673	5.0000	5.0278

Notes:

Test America-Canton

Calibration Report

Calibration Record # 159



Calibration Settings

Calibration ID	PH	Date	11/23/2018
Channel	1	Time	11:24 AM
Probe Type	pH	Temperature	300.33 K 27.18 C
Probe ID	PH ELECTRODE	Analysis Type	Single Line Fit

Calibration Results

Slope	-60.040	CorrCoeff	1.0000
Intercept	-3.102	Equation:	Y = (-60.040) X + (-3.102)

Calibration Validity **True** Operator

	Result	Minimum	Maximum
Slope	-60.040	-65.00	-54.00
Intercept	-3.102	-100.00	100.00
Correlation Coefficient	1.0000	0.99	1.00

Note: "True" means the calibration was within the specified ranges
"False" means the calibration was NOT within the specified ranges

Calibration Data	Standard	Reading
	4.00	176.39
	7.00	-1.46
	10.00	-184.81
	12.00	-302.73

Severus

TestAmerica Canton
Alkalinity 2320B

Run Number 410 **Order Number** 20181123-1

SampleID	Schedule Name	RunDate	RunTime	Temp	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm
Tap Water	PH-ALK	11/23/2018	11:16 AM	27.62	9.22	11.81	52.35	28.74	23.61	.00
pH 7	PH	11/23/2018	11:27 AM	27.31	6.94	-1.00	-1.00	-1.00	-1.00	-1.00
LCS	PH-ALK	11/23/2018	11:32 AM	27.31	8.72	18.66	363.43	326.12	37.32	.00
MB	PH-ALK	11/23/2018	11:36 AM	27.51	5.64	.00	.34	.34	.00	.00
240-104196-K-1	PH-ALK	11/23/2018	11:40 AM	27.49	6.62	.00	308.87	308.87	.00	.00
du	PH-ALK	11/23/2018	11:45 AM	27.56	6.64	.00	315.86	315.86	.00	.00
240-104355-C-13	PH-ALK	11/23/2018	11:50 AM	27.58	7.49	.00	544.39	544.39	.00	.00
240-104379-G-5	PH-ALK	11/23/2018	11:55 AM	27.45	8.04	.00	193.23	193.23	.00	.00
240-104379-G-6	PH-ALK	11/23/2018	12:00 PM	27.27	8.03	.00	152.22	152.22	.00	.00
240-104379-G-7	PH-ALK	11/23/2018	12:04 PM	27.16	7.99	.00	133.17	133.17	.00	.00
240-104379-G-8	PH-ALK	11/23/2018	12:09 PM	27.12	8.09	.00	202.11	202.11	.00	.00
19[illegible]-18109-C-1	PH-ALK	11/23/2018	12:14 PM	27.27	7.81	.00	85.97	85.97	.00	.00
pH 7-2	PH	11/23/2018	12:17 PM	27.25	6.93	-1.00	-1.00	-1.00	-1.00	-1.00
240-104314-D-1	PH-ALK	11/23/2018	12:21 PM	27.14	7.88	.00	229.04	229.04	.00	.00
240-104314-D-2	PH-ALK	11/23/2018	12:26 PM	27.62	7.83	.00	107.97	107.97	.00	.00
240-104314-E-3	PH-ALK	11/23/2018	12:31 PM	28.03	8.14	.00	318.40	318.40	.00	.00
240-104314-E-4	PH-ALK	11/23/2018	12:36 PM	27.86	7.81	.00	108.47	108.47	.00	.00
du	PH-ALK	11/23/2018	12:41 PM	27.68	7.82	.00	111.07	111.07	.00	.00
240-104314-E-5	PH-ALK	11/23/2018	12:46 PM	27.56	7.96	.00	159.93	159.93	.00	.00
240-104314-C-6	PH-ALK	11/23/2018	12:51 PM	27.53	7.23	.00	637.22	637.22	.00	.00
240-104314-D-9	PH-ALK	11/23/2018	12:56 PM	27.51	7.54	.00	45.72	45.72	.00	.00
240-104314-D-10	PH-ALK	11/23/2018	1:01 PM	27.80	7.62	.00	51.48	51.48	.00	.00
240-104355-F-14	PH-ALK	11/23/2018	1:06 PM	27.86	7.71	.00	340.96	340.96	.00	.00
pH 7-3	PH	11/23/2018	1:07 PM	27.93	6.98	-1.00	-1.00	-1.00	-1.00	-1.00
240-104355-F-15	PH-ALK	11/23/2018	1:12 PM	27.78	7.73	.00	348.61	348.61	.00	.00
240-104355-F-16	PH-ALK	11/23/2018	1:17 PM	28.30	7.66	.00	396.28	396.28	.00	.00
240-104355-F-17	PH-ALK	11/23/2018	1:21 PM	28.38	7.66	.00	395.90	395.90	.00	.00

Page 2940 of 3065

Run Number 410 **Order Number** 20181123-1

SampleID	Schedule Name	RunDate	RunTime	Temp	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm
240-104369-J-2	PH-ALK	11/23/2018	1:26 PM	28.15	7.52	.00	277.01	277.01	.00	.00
LCS	PH-ALK	11/23/2018	1:31 PM	28.01	8.74	18.10	370.92	334.72	36.20	.00
MB	PH-ALK	11/23/2018	1:35 PM	27.93	5.66	.00	.43	.43	.00	.00
240-104369-j-3	PH-ALK	11/23/2018	1:39 PM	27.99	6.74	.00	31.98	31.98	.00	.00
DU	PH-ALK	11/23/2018	1:43 PM	28.09	6.75	.00	32.05	32.05	.00	.00
240-104369-j-4	PH-ALK	11/23/2018	1:47 PM	27.95	5.82	.00	5.87	5.87	.00	.00
240-104369-j-5	PH-ALK	11/23/2018	1:52 PM	28.21	6.08	.00	20.99	20.99	.00	.00
pH 7-4	PH	11/23/2018	1:53 PM	28.11	6.98	-1.00	-1.00	-1.00	-1.00	-1.00
240-104369-j-6	PH-ALK	11/23/2018	1:57 PM	28.11	6.25	.00	26.17	26.17	.00	.00
240-104379-g-13	PH-ALK	11/23/2018	2:02 PM	28.64	7.77	.00	216.84	216.84	.00	.00
240-104418-c-1	PH-ALK	11/23/2018	2:07 PM	28.52	7.73	.00	276.79	276.79	.00	.00
240-104418-c-2	PH-ALK	11/23/2018	2:11 PM	28.54	7.80	.00	406.55	406.55	.00	.00
240-104418-c-3	PH-ALK	11/23/2018	2:16 PM	28.52	7.80	.00	402.87	402.87	.00	.00
240-104418-c-4	PH-ALK	11/23/2018	2:21 PM	28.50	7.66	.00	329.49	329.49	.00	.00
240-104461-f-1	PH-ALK	11/23/2018	2:26 PM	28.48	7.67	.00	370.55	370.55	.00	.00
240-104461-f-2	PH-ALK	11/23/2018	2:31 PM	28.50	7.61	.00	404.00	404.00	.00	.00
DU	PH-ALK	11/23/2018	2:36 PM	28.60	7.61	.00	405.90	405.90	.00	.00
240-104461-f-3	PH-ALK	11/23/2018	2:40 PM	28.70	7.43	.00	263.98	263.98	.00	.00
pH 7-5	PH	11/23/2018	2:42 PM	28.60	6.98	-1.00	-1.00	-1.00	-1.00	-1.00
240-104340-e-1	PH-ALK	11/23/2018	2:47 PM	28.46	7.98	.00	156.33	156.33	.00	.00
240-104407-p-1	PH-ALK	11/23/2018	2:52 PM	29.01	7.90	.00	76.88	76.88	.00	.00
240-104408-n-1	PH-ALK	11/23/2018	2:57 PM	29.01	8.09	.00	320.93	320.93	.00	.00
240-104409-m-1	PH-ALK	11/23/2018	3:01 PM	29.05	7.98	.00	248.43	248.43	.00	.00
240-104416-d-1	PH-ALK	11/23/2018	3:07 PM	29.13	7.56	.00	421.24	421.24	.00	.00
240-104416-d-3	PH-ALK	11/23/2018	3:11 PM	28.99	7.44	.00	426.14	426.14	.00	.00
240-104416-d-2	PH-ALK	11/23/2018	3:16 PM	28.90	7.60	.00	392.53	392.53	.00	.00
240-104416-e-5	PH-ALK	11/23/2018	3:21 PM	29.09	7.77	.00	324.26	324.26	.00	.00
pH 7-5	PH	11/23/2018	3:22 PM	29.01	6.98	-1.00	-1.00	-1.00	-1.00	-1.00

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-001_02_CD.d
Lims ID: STD1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 07-Aug-2018 12:13:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0078648-001
Misc. Info.: STD1
Operator ID: Instrument ID: THOR
Sublist: chrom-300_Thor*sub2

Method: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 09-Aug-2018 08:21:27 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: XAWRK036

First Level Reviewer: grossmanl Date: 09-Aug-2018 08:19:42

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.747	3.760	-0.013	2367573	0.0500	0.0434	M
2	Chloride	5.870	5.873	-0.003	34976555	1.00	1.01	
3	Nitrite as N	7.230	7.233	-0.003	3752413	0.0500	0.0470	
4	Bromide	9.007	8.990	0.017	2559715	0.2000	0.1739	
5	Nitrate as N	10.307	10.260	0.047	4075605	0.0500	0.0483	
6	Sulfate	12.657	12.397	0.260	22693088	1.00	0.9010	
S 7	Nitrate Nitrite as N						0.0953	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

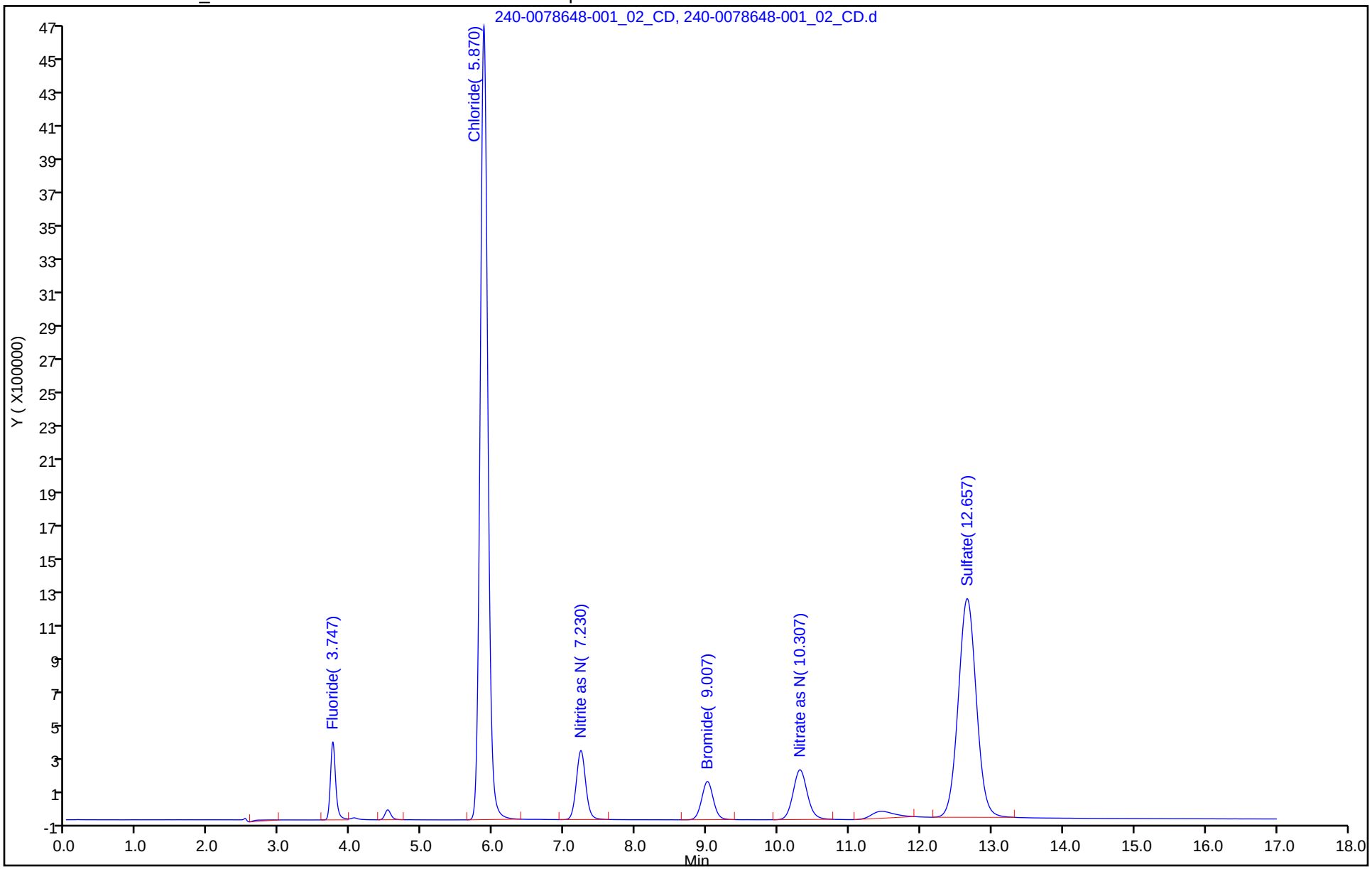
WCICCALSOLN_00292 Amount Added: 0.03 Units: mL

Report Date: 09-Aug-2018 08:21:27 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-001_02_CD.d

Injection Date:	07-Aug-2018 12:13:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	STD1			Worklist Smp#:	1
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



Manual Integration/User Assign Peak Report

TestAmerica Canton

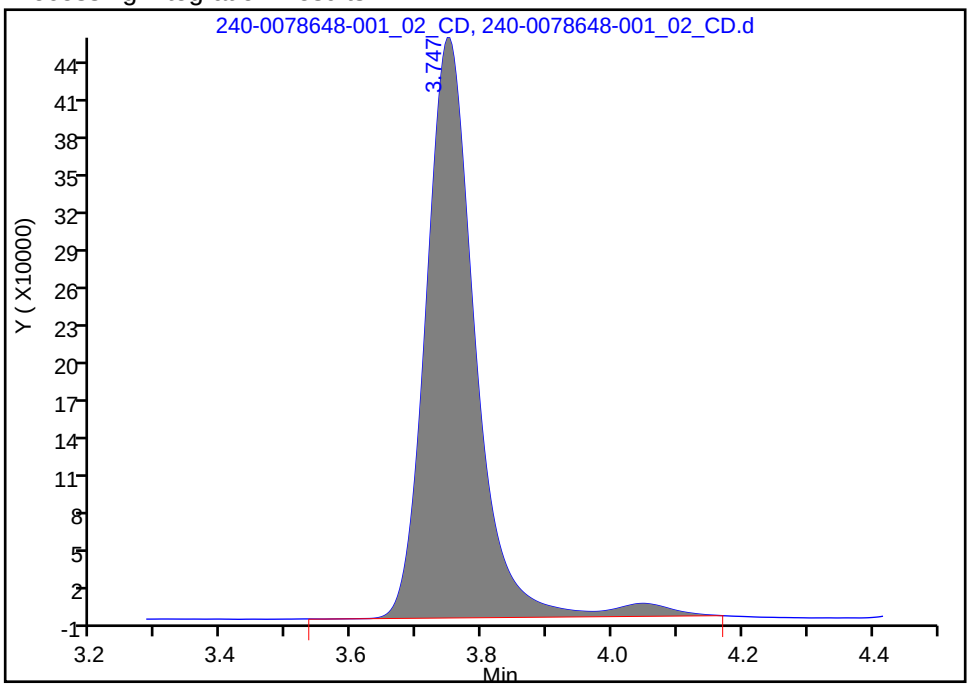
Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-001_02_CD.d
Injection Date: 07-Aug-2018 12:13:00 Instrument ID: THOR
Lims ID: STD1
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Method: 300_Thor Limit Group: WET IC ICAL
Column: Detector IC 0001

1 Fluoride, CAS: 16984-48-8

Signal: 1

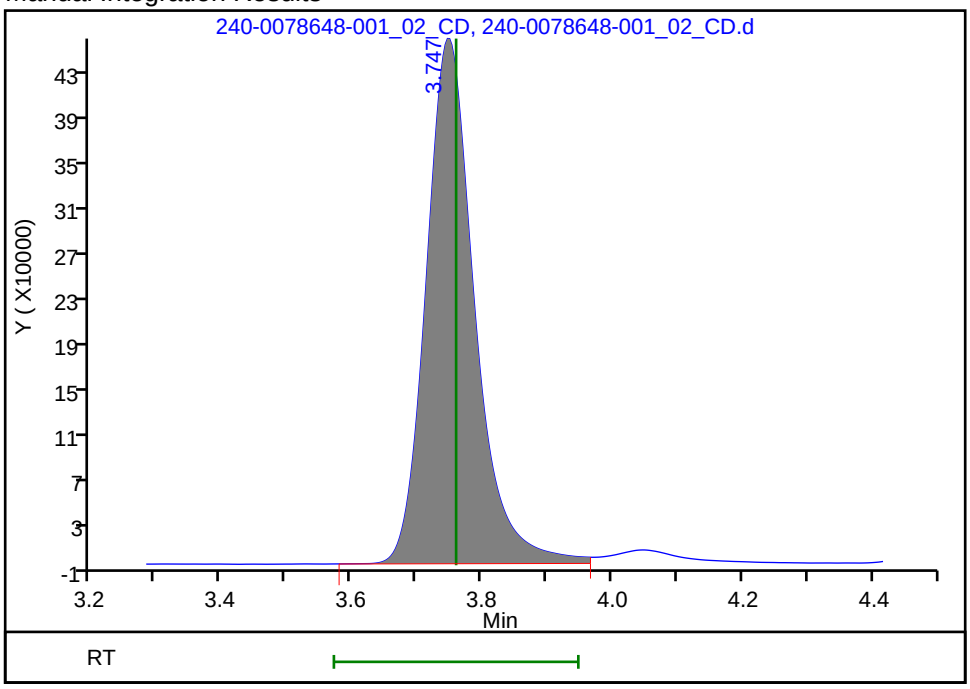
Processing Integration Results

RT: 3.75
Area: 2417029
Amount: 0.044143
Amount Units: ug/ml



Manual Integration Results

RT: 3.75
Area: 2367573
Amount: 0.043412
Amount Units: ug/ml



Reviewer: grossmanl, 09-Aug-2018 08:19:41
Audit Action: Manually Integrated Audit Reason: Peak not integrated

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-002_03_CD.d
Lims ID: STD2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 07-Aug-2018 12:34:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0078648-002
Misc. Info.: STD2
Operator ID: Instrument ID: THOR
Sublist: chrom-300_Thor*sub2

Method: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 09-Aug-2018 08:21:28 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: XAWRK036

First Level Reviewer: grossmanl Date: 09-Aug-2018 08:19:55

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.750	3.760	-0.010	13706127	0.2500	0.2513	M
2	Chloride	5.870	5.873	-0.003	175718277	5.00	5.08	
3	Nitrite as N	7.233	7.233	0.000	20662470	0.2500	0.2586	
4	Bromide	9.007	8.990	0.017	14355529	1.00	0.9753	
5	Nitrate as N	10.303	10.260	0.043	20800448	0.2500	0.2467	
6	Sulfate	12.630	12.397	0.233	125756659	5.00	4.99	
S 7	Nitrate Nitrite as N						0.5053	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

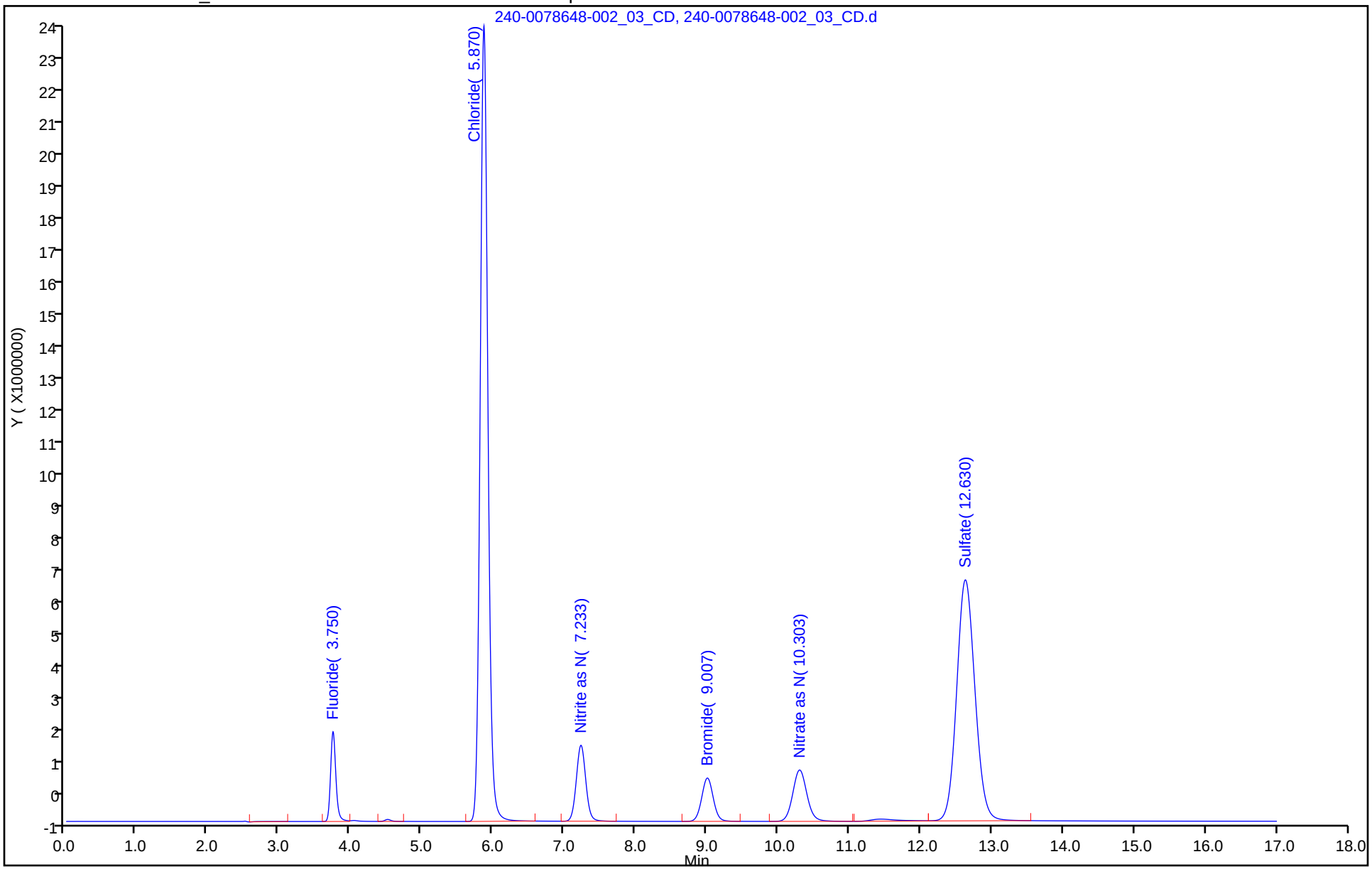
WCICCALSOLN_00292 Amount Added: 0.13 Units: mL

Report Date: 09-Aug-2018 08:21:28 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-002_03_CD.d

Injection Date:	07-Aug-2018 12:34:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	STD2			Worklist Smp#:	2
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



Manual Integration/User Assign Peak Report

TestAmerica Canton

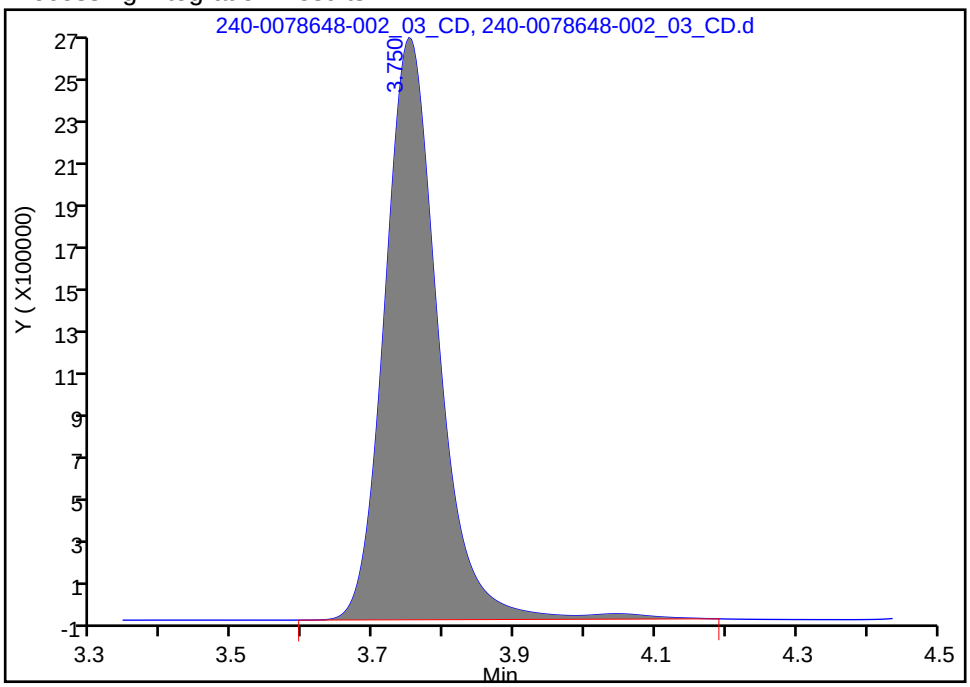
Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-002_03_CD.d
Injection Date: 07-Aug-2018 12:34:00 Instrument ID: THOR
Lims ID: STD2
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Method: 300_Thor Limit Group: WET IC ICAL
Column: Detector IC 0001

1 Fluoride, CAS: 16984-48-8

Signal: 1

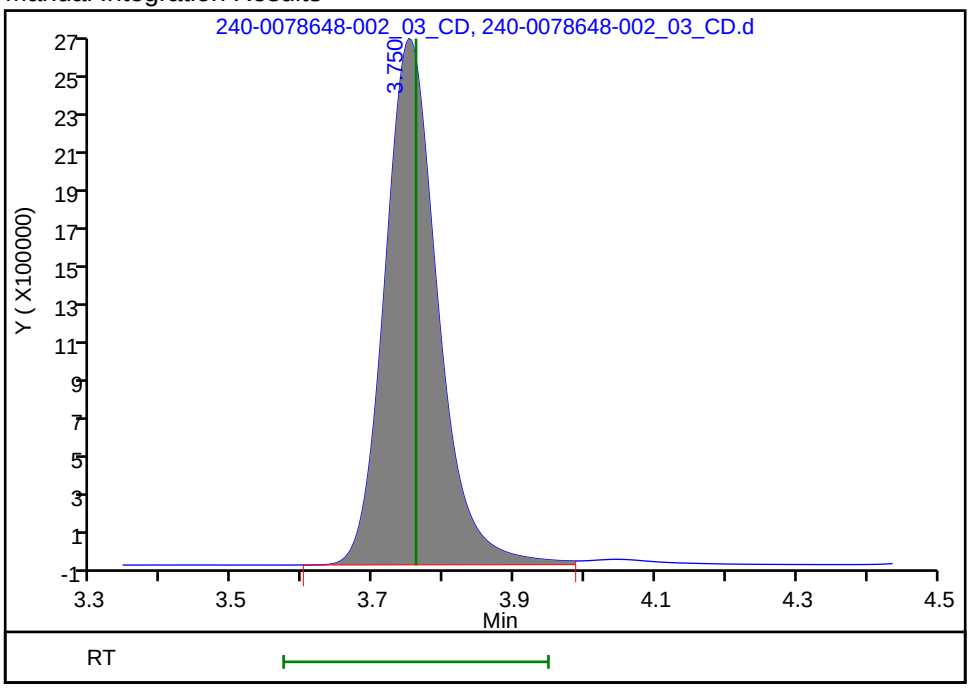
Processing Integration Results

RT: 3.75
Area: 13838621
Amount: 0.253245
Amount Units: ug/ml



Manual Integration Results

RT: 3.75
Area: 13706127
Amount: 0.251315
Amount Units: ug/ml



Reviewer: grossmanl, 09-Aug-2018 08:19:53
Audit Action: Manually Integrated Audit Reason: Peak not integrated

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-003_04_CD.d
Lims ID: STD3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 07-Aug-2018 12:55:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0078648-003
Misc. Info.: STD3
Operator ID: Instrument ID: THOR
Sublist: chrom-300_Thor*sub2

Method: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 09-Aug-2018 08:21:28 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: XAWRK036

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.753	3.760	-0.007	27937694	0.5000	0.5123	
2	Chloride	5.870	5.873	-0.003	346880918	10.0	10.0	
3	Nitrite as N	7.233	7.233	0.000	41474615	0.5000	0.5190	
4	Bromide	9.003	8.990	0.013	29163316	2.00	1.98	
5	Nitrate as N	10.297	10.260	0.037	41624010	0.5000	0.4936	
6	Sulfate	12.593	12.397	0.196	253245917	10.0	10.1	
S 7	Nitrate Nitrite as N						1.01	

Reagents:

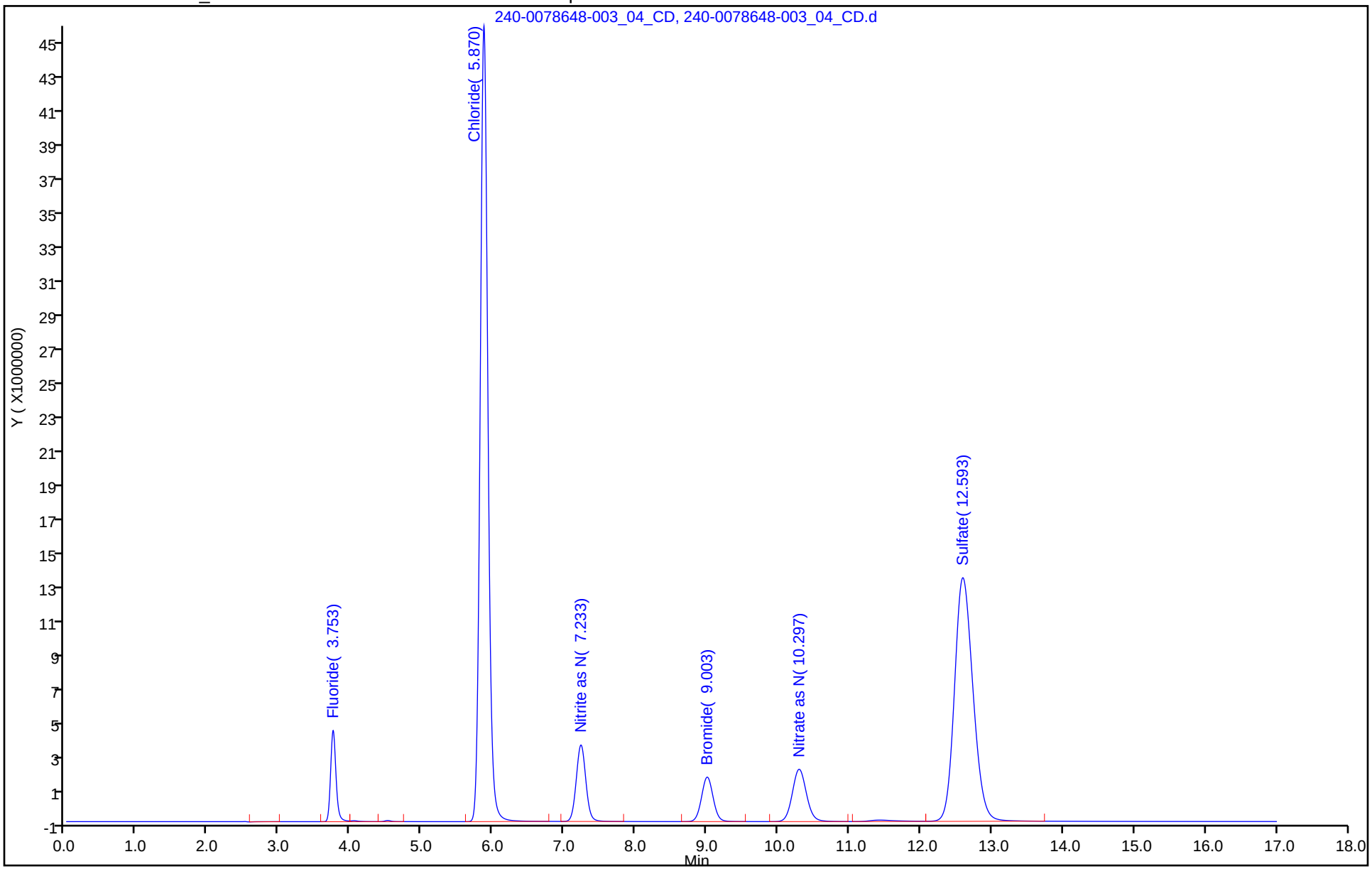
WCICCALSOLN_00292 Amount Added: 0.25 Units: mL

Report Date: 09-Aug-2018 08:21:29 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-003_04_CD.d

Injection Date:	07-Aug-2018 12:55:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	STD3			Worklist Smp#:	3
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-004_05_CD.d
Lims ID: STD4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 07-Aug-2018 13:16:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0078648-004
Misc. Info.: STD4
Operator ID: Instrument ID: THOR
Sublist: chrom-300_Thor*sub2

Method: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 09-Aug-2018 08:21:29 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: XAWRK036

First Level Reviewer: grossmanl Date: 09-Aug-2018 08:20:24

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.753	3.760	-0.007	56595459	1.00	1.04	M
2	Chloride	5.870	5.873	-0.003	692664421	20.0	20.0	
3	Nitrite as N	7.233	7.233	0.000	83034222	1.00	1.04	
4	Bromide	9.000	8.990	0.010	59396089	4.00	4.04	
5	Nitrate as N	10.287	10.260	0.027	85500384	1.00	1.01	
6	Sulfate	12.533	12.397	0.136	511603473	20.0	20.3	
S 7	Nitrate Nitrite as N						2.05	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

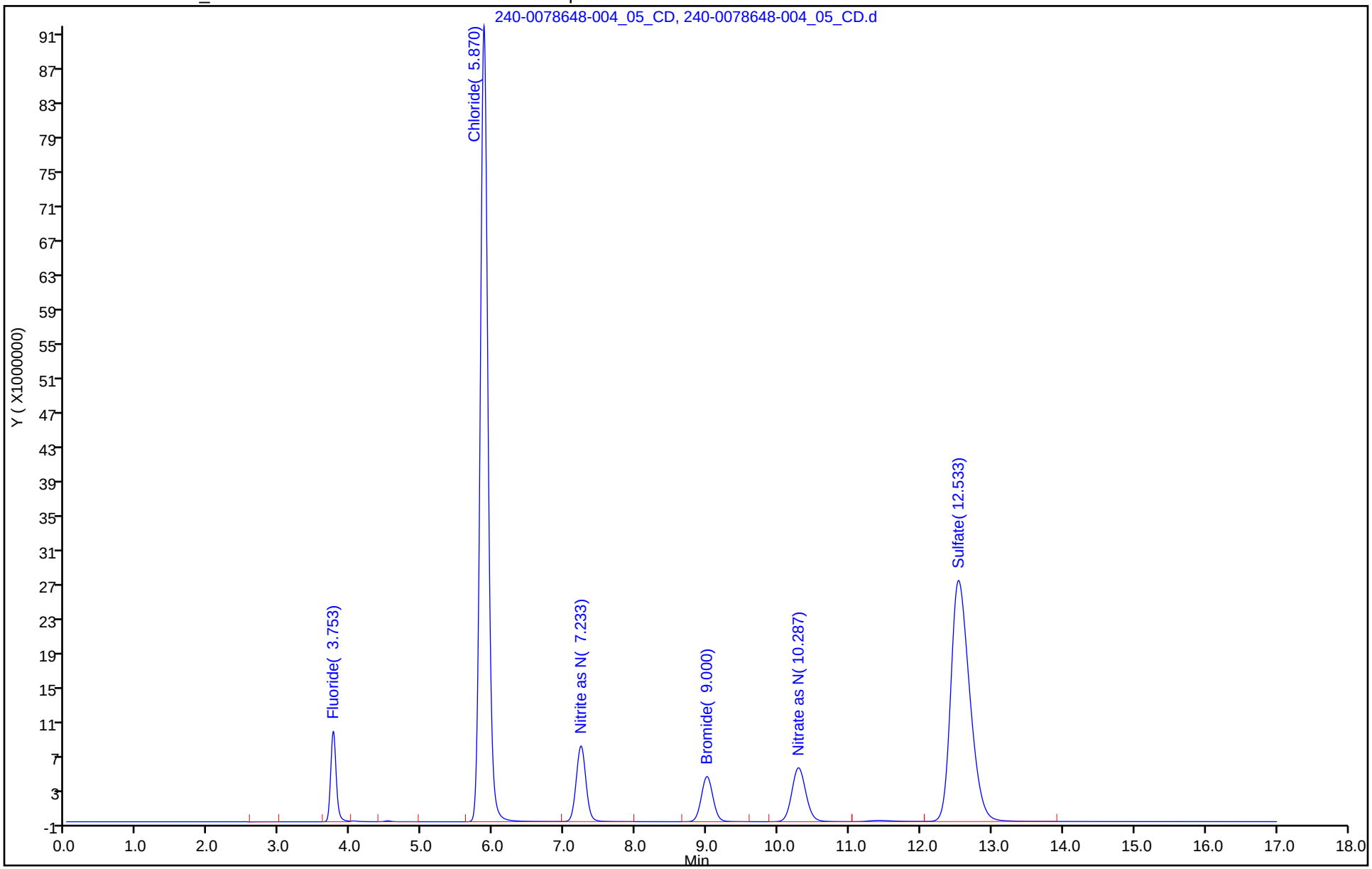
WCICCALSOLN_00292 Amount Added: 0.50 Units: mL

Report Date: 09-Aug-2018 08:21:30 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-004_05_CD.d

Injection Date:	07-Aug-2018 13:16:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	STD4			Worklist Smp#:	4
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



Manual Integration/User Assign Peak Report

TestAmerica Canton

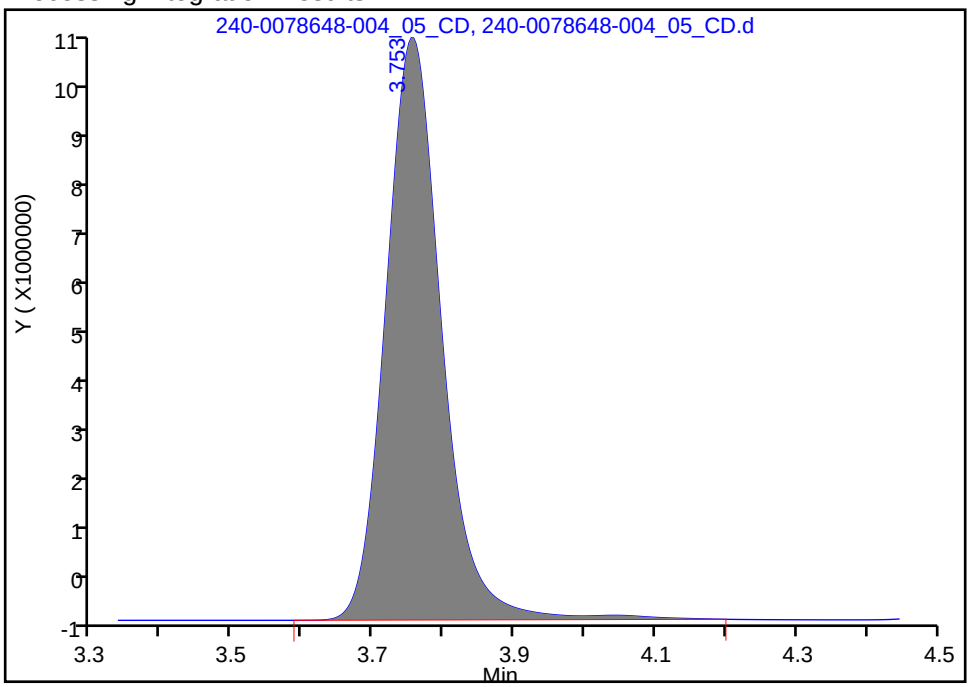
Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-004_05_CD.d
Injection Date: 07-Aug-2018 13:16:00 Instrument ID: THOR
Lims ID: STD4
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Method: 300_Thor Limit Group: WET IC ICAL
Column: Detector IC 0001

1 Fluoride, CAS: 16984-48-8

Signal: 1

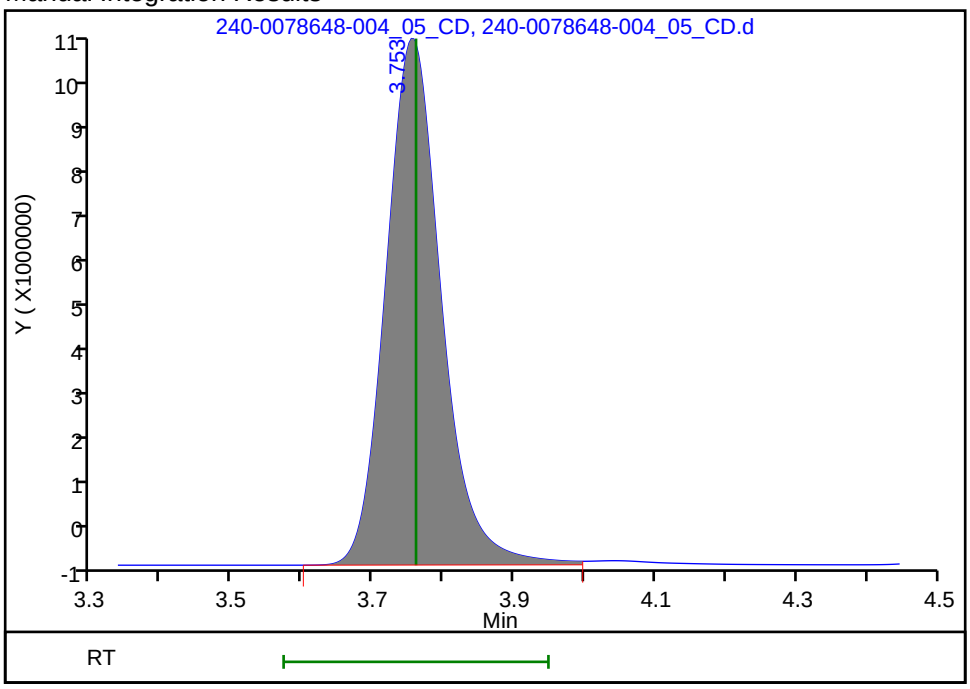
Processing Integration Results

RT: 3.75
Area: 57032707
Amount: 1.044817
Amount Units: ug/ml



Manual Integration Results

RT: 3.75
Area: 56595459
Amount: 1.037731
Amount Units: ug/ml



Reviewer: grossmanl, 09-Aug-2018 08:20:22
Audit Action: Manually Integrated Audit Reason: Peak not integrated

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-005_06_CD.d
Lims ID: STD5
Client ID:
Sample Type: ICRT Calib Level: 5
Inject. Date: 07-Aug-2018 13:36:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0078648-005
Misc. Info.: STD5
Operator ID: Instrument ID: THOR
Sublist: chrom-300_Thor*sub2

Method: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 09-Aug-2018 08:21:30 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: XAWRK036

First Level Reviewer: grossmanl Date: 09-Aug-2018 08:20:11

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.760	3.760	0.000	142333453	2.50	2.61	
2 Chloride	5.873	5.873	0.000	1719190254	50.0	49.7	
3 Nitrite as N	7.233	7.233	0.000	204105102	2.50	2.55	
4 Bromide	8.990	8.990	0.000	150559028	10.0	10.2	
5 Nitrate as N	10.260	10.260	0.000	211402516	2.50	2.51	
6 Sulfate	12.397	12.397	0.000	1279230787	50.0	50.8	

Reagents:

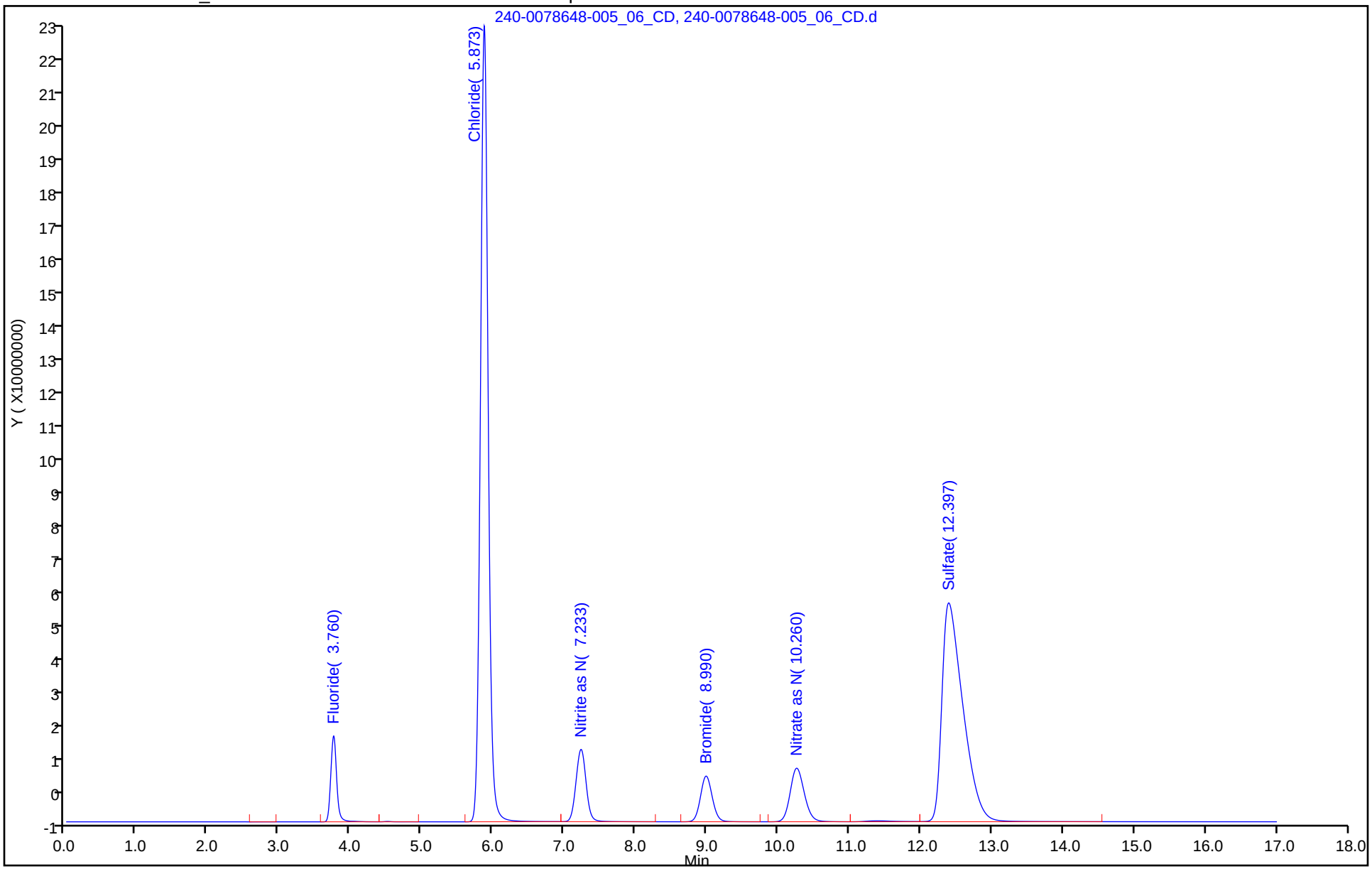
WCICCALSOLN_00292 Amount Added: 1.25 Units: mL

Report Date: 09-Aug-2018 08:21:30 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-005_06_CD.d

Injection Date:	07-Aug-2018 13:36:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	STD5			Worklist Smp#:	5
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-006_07_CD.d
Lims ID: STD6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 07-Aug-2018 13:57:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0078648-006
Misc. Info.: STD6
Operator ID: Instrument ID: THOR
Sublist: chrom-300_Thor*sub2

Method: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 09-Aug-2018 08:21:31 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: XAWRK036

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.763	3.760	0.003	224293341	4.00	4.11	
2	Chloride	5.877	5.873	0.004	2744120723	80.0	79.4	
3	Nitrite as N	7.233	7.233	0.000	321037934	4.00	4.02	
4	Bromide	8.980	8.990	-0.010	241981281	16.0	16.4	
5	Nitrate as N	10.237	10.260	-0.023	339128187	4.00	4.02	
6	Sulfate	12.287	12.397	-0.110	2044104332	80.0	81.2	
S 7	Nitrate Nitrite as N						8.04	

Reagents:

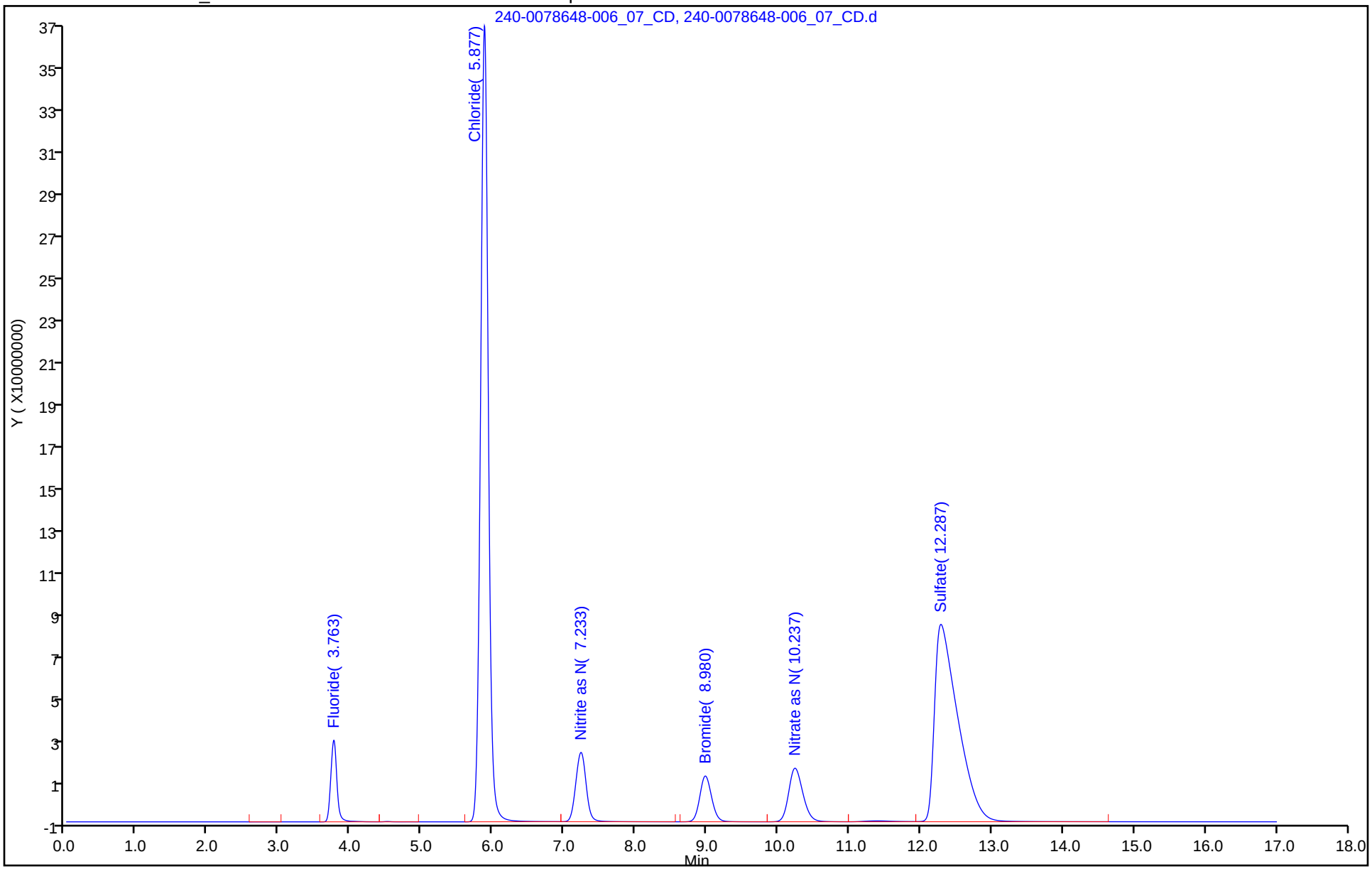
WCICCALSOLN_00292 Amount Added: 2.00 Units: mL

Report Date: 09-Aug-2018 08:21:31 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-006_07_CD.d

Injection Date:	07-Aug-2018 13:57:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	STD6			Worklist Smp#:	6
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-007_08_CD.d
Lims ID: STD7
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 07-Aug-2018 14:18:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0078648-007
Misc. Info.: STD7
Operator ID: Instrument ID: THOR
Sublist: chrom-300_Thor*sub2

Method: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 09-Aug-2018 08:21:32 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: XAWRK036

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.763	3.760	0.003	278265365	5.00	5.10	
2 Chloride	5.880	5.873	0.007	3439073201	100.0	99.5	
3 Nitrite as N	7.233	7.233	0.000	398011528	5.00	4.98	
4 Bromide	8.970	8.990	-0.020	303958447	20.0	20.7	
5 Nitrate as N	10.223	10.260	-0.037	425737485	5.00	5.05	
6 Sulfate	12.227	12.397	-0.170	2562400189	100.0	101.7	
S 7 Nitrate Nitrite as N						10.0	

Reagents:

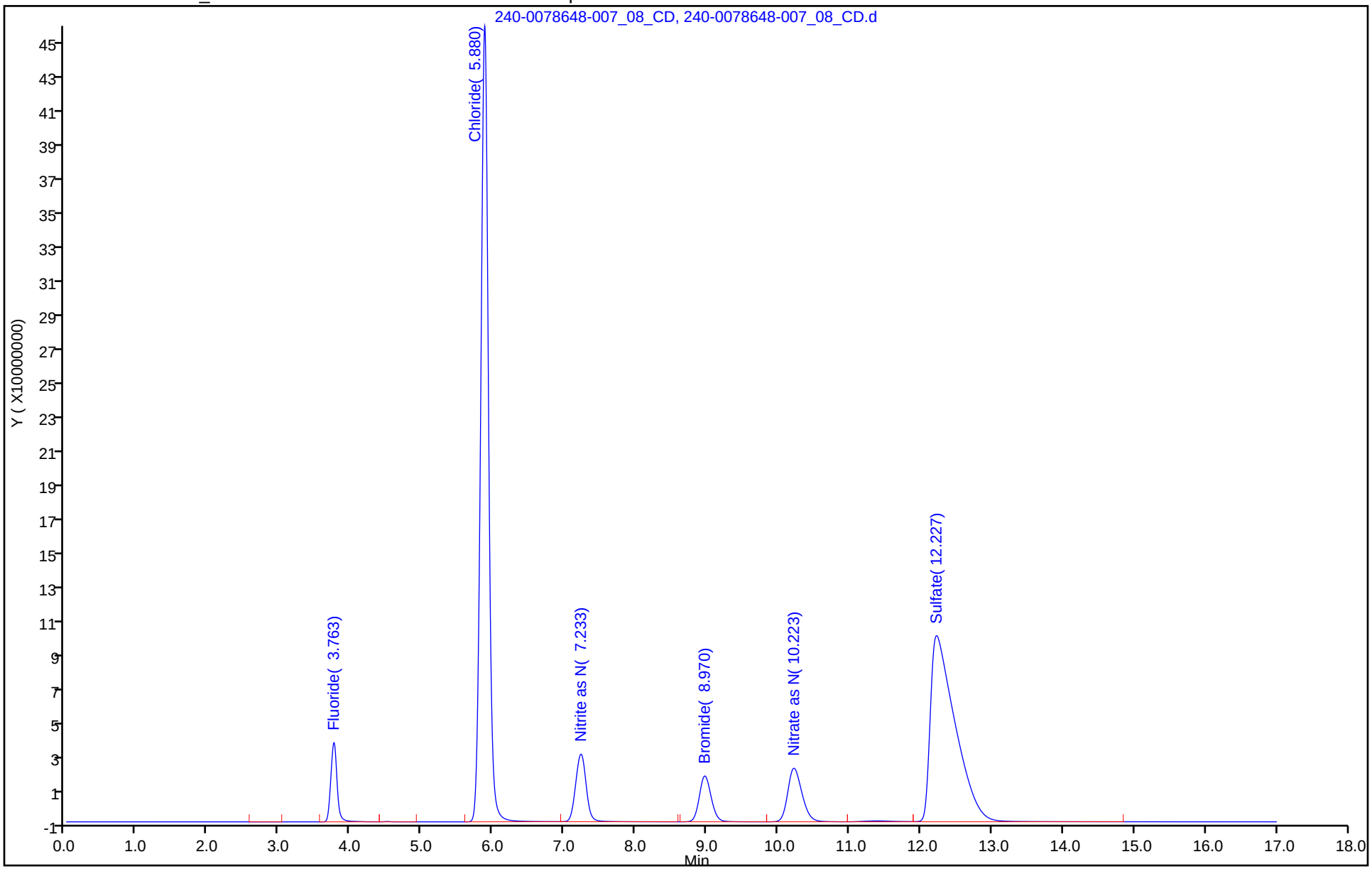
WCICCALSOLN_00292 Amount Added: 2.50 Units: mL

Report Date: 09-Aug-2018 08:21:32 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-007_08_CD.d

Injection Date:	07-Aug-2018 14:18:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	STD7			Worklist Smp#:	7
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-008_09_CD.d
Lims ID: STD8
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 07-Aug-2018 14:39:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0078648-008
Misc. Info.: STD8
Operator ID: Instrument ID: THOR
Sublist: chrom-300_Thor*sub2

Method: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 09-Aug-2018 08:21:33 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: XAWRK036

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.767	3.760	0.007	407859748	7.50	7.48	
2	Chloride	5.890	5.873	0.017	5150605252	150.0	149.0	
3	Nitrite as N	7.230	7.233	-0.003	583927168	7.50	7.31	
4	Bromide	8.953	8.990	-0.037	457314579	30.0	31.1	
5	Nitrate as N	10.187	10.260	-0.073	640669148	7.50	7.60	
6	Sulfate	12.097	12.397	-0.300	3841100743	150.0	152.5	
S 7	Nitrate Nitrite as N						14.9	

Reagents:

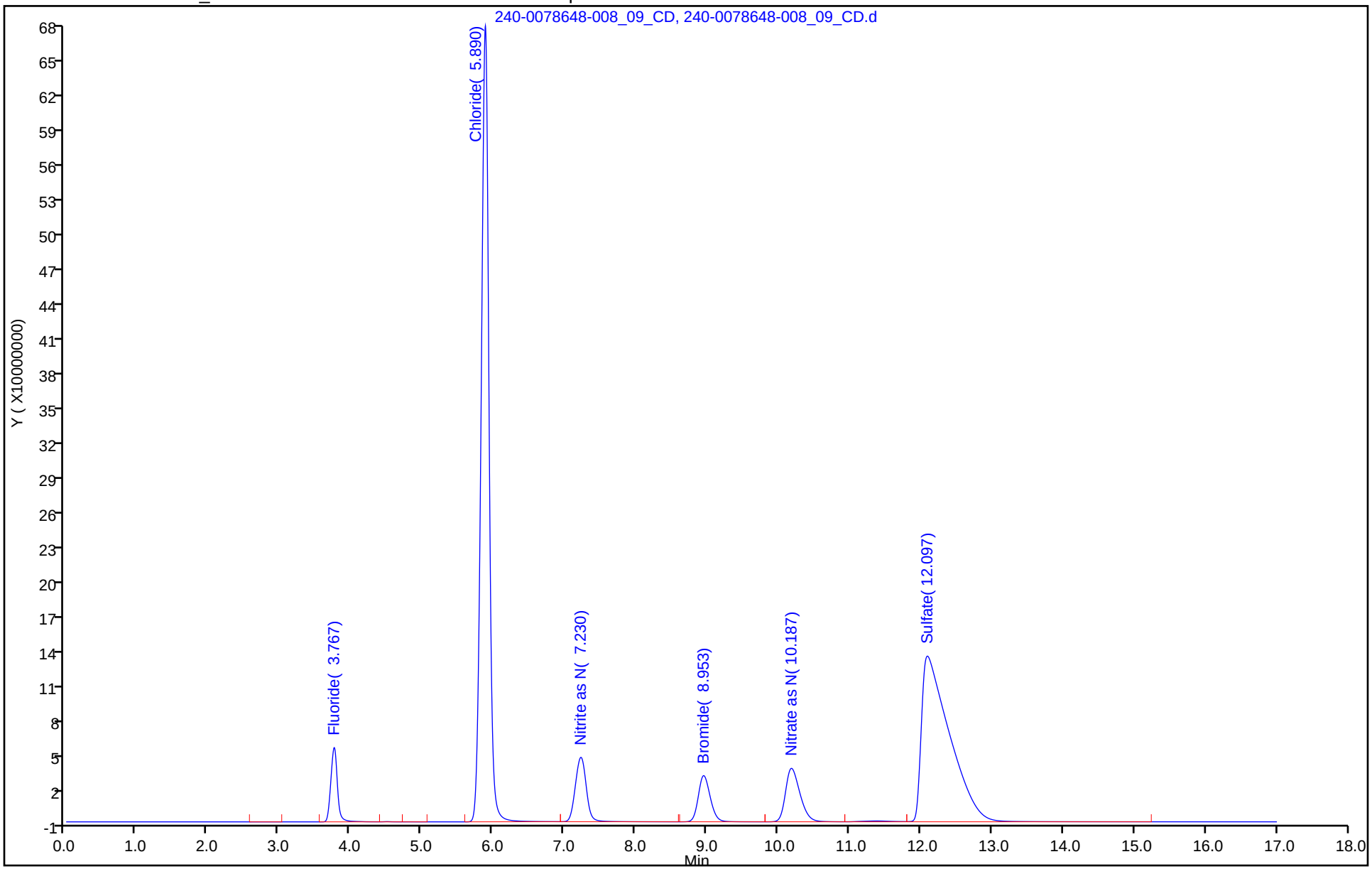
WCICCALSOLN_00292 Amount Added: 3.75 Units: mL

Report Date: 09-Aug-2018 08:21:33 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-008_09_CD.d

Injection Date:	07-Aug-2018 14:39:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	STD8			Worklist Smp#:	8
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d
Lims ID: STD9
Client ID:
Sample Type: IC Calib Level: 9
Inject. Date: 07-Aug-2018 14:59:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0078648-009
Misc. Info.: STD9
Operator ID: Instrument ID: THOR
Sublist: chrom-300_Thor*sub2

Method: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 09-Aug-2018 08:21:34 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: XAWRK036

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.770	3.760	0.010	531515466	10.0	9.75	
2 Chloride	5.900	5.873	0.027	6864109687	200.0	198.5	
3 Nitrite as N	7.230	7.233	-0.003	761262435	10.0	9.53	
4 Bromide	8.940	8.990	-0.050	610636830	40.0	41.5	
5 Nitrate as N	10.153	10.260	-0.107	855145791	10.0	10.1	
6 Sulfate	11.990	12.397	-0.407	5111707239	200.0	203.0	
S 7 Nitrate Nitrite as N						19.7	

Reagents:

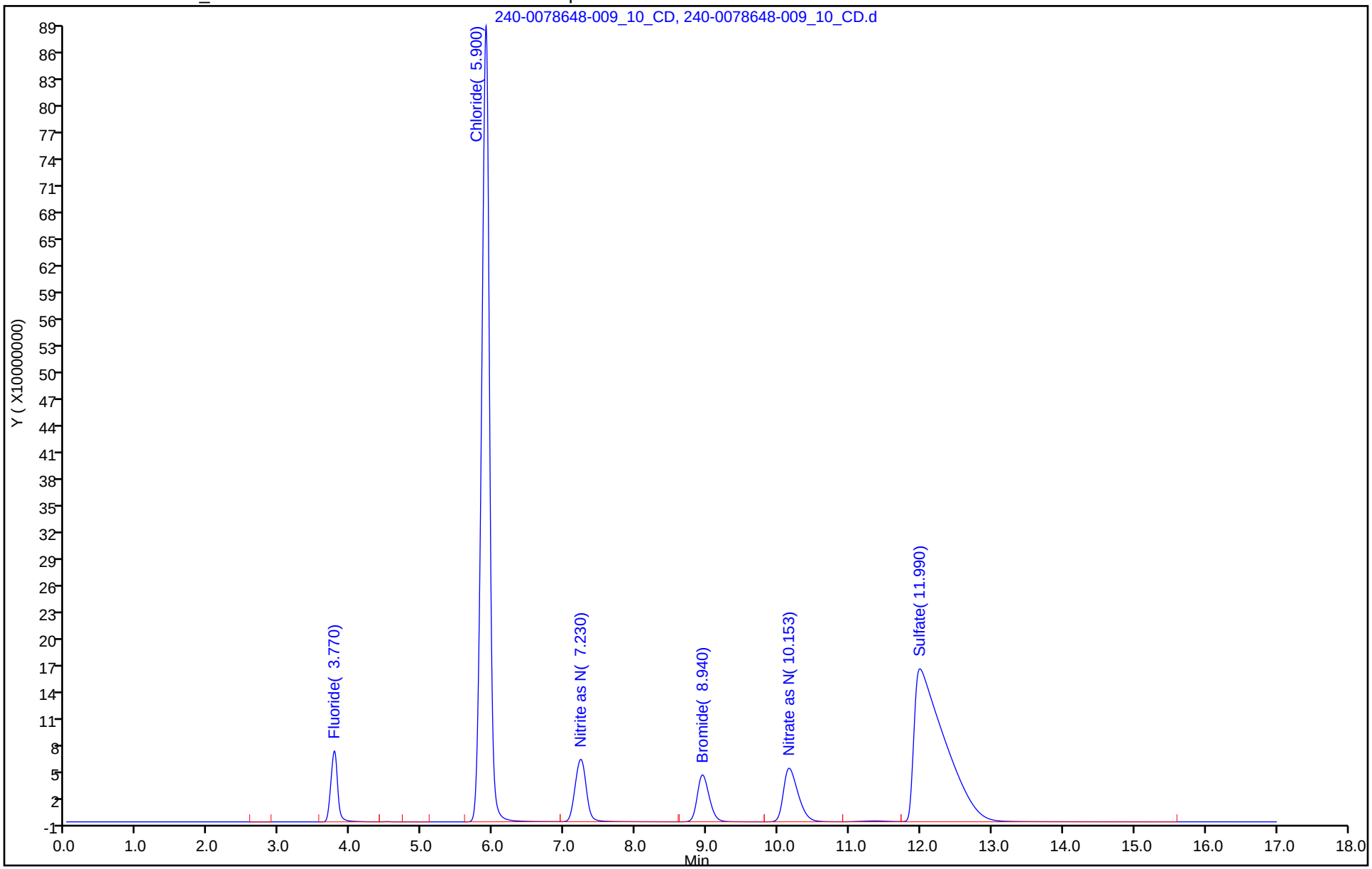
WCICCALSOLN_00292 Amount Added: 5.00 Units: mL

Report Date: 09-Aug-2018 08:21:34 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Injection Date:	07-Aug-2018 14:59:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	STD9			Worklist Smp#:	9
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Canton
Target Compound Quantitation Report

Data File:	\\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-011_11_CD.d				
Lims ID:	240-104369-J-2				
Client ID:	MRC-MW-134A-111318				
Sample Type:	Client				
Inject. Date:	28-Nov-2018 06:00:00	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	25.0 ul	Dil. Factor:	1.0000		
Sample Info:	240-0082330-011				
Misc. Info.:	240-104369-J-2				
Operator ID:		Instrument ID:	THOR		
Method:	\\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\300_Thor.m				
Limit Group:	WET IC ICAL				
Last Update:	29-Nov-2018 12:12:58	Calib Date:	07-Aug-2018 14:59:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d				
Column 1 :			Det: IC 0001		
Process Host:	CTX0316				
First Level Reviewer: weimerj		Date:	29-Nov-2018 09:02:34		

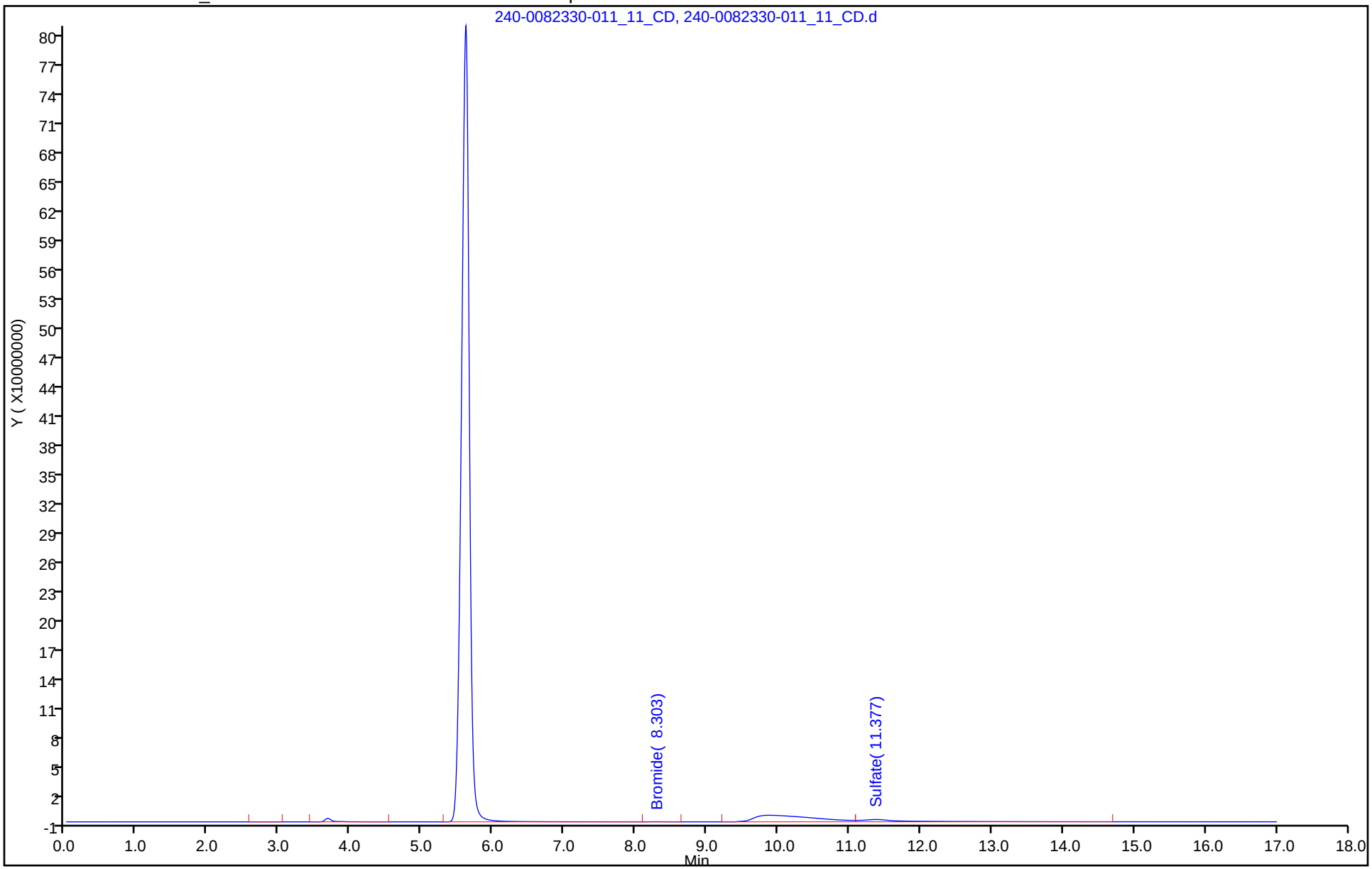
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
4 Bromide	8.303	8.333	-0.030	1160906	0.0789	
6 Sulfate	11.377	11.283	0.094	101897229	4.05	

Report Date: 29-Nov-2018 12:13:05 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Canton

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-011_11_CD.d

Injection Date:	28-Nov-2018 06:00:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	240-104369-J-2	Lab Sample ID:	240-104369-2	Worklist Smp#:	11
Client ID:	MRC-MW-134A-111318				
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Canton
Target Compound Quantitation Report

Data File:	\\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-015_15_CD.d				
Lims ID:	240-104369-J-3				
Client ID:	MRC-MW-134B-111318				
Sample Type:	Client				
Inject. Date:	28-Nov-2018 07:23:00	ALS Bottle#:	0	Worklist Smp#:	15
Injection Vol:	25.0 ul	Dil. Factor:	1.0000		
Sample Info:	240-0082330-015				
Misc. Info.:	240-104369-J-3				
Operator ID:		Instrument ID:	THOR		
Method:	\\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\300_Thor.m				
Limit Group:	WET IC ICAL				
Last Update:	29-Nov-2018 12:13:06	Calib Date:	07-Aug-2018 14:59:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d				
Column 1 :			Det: IC 0001		
Process Host:	CTX0316				

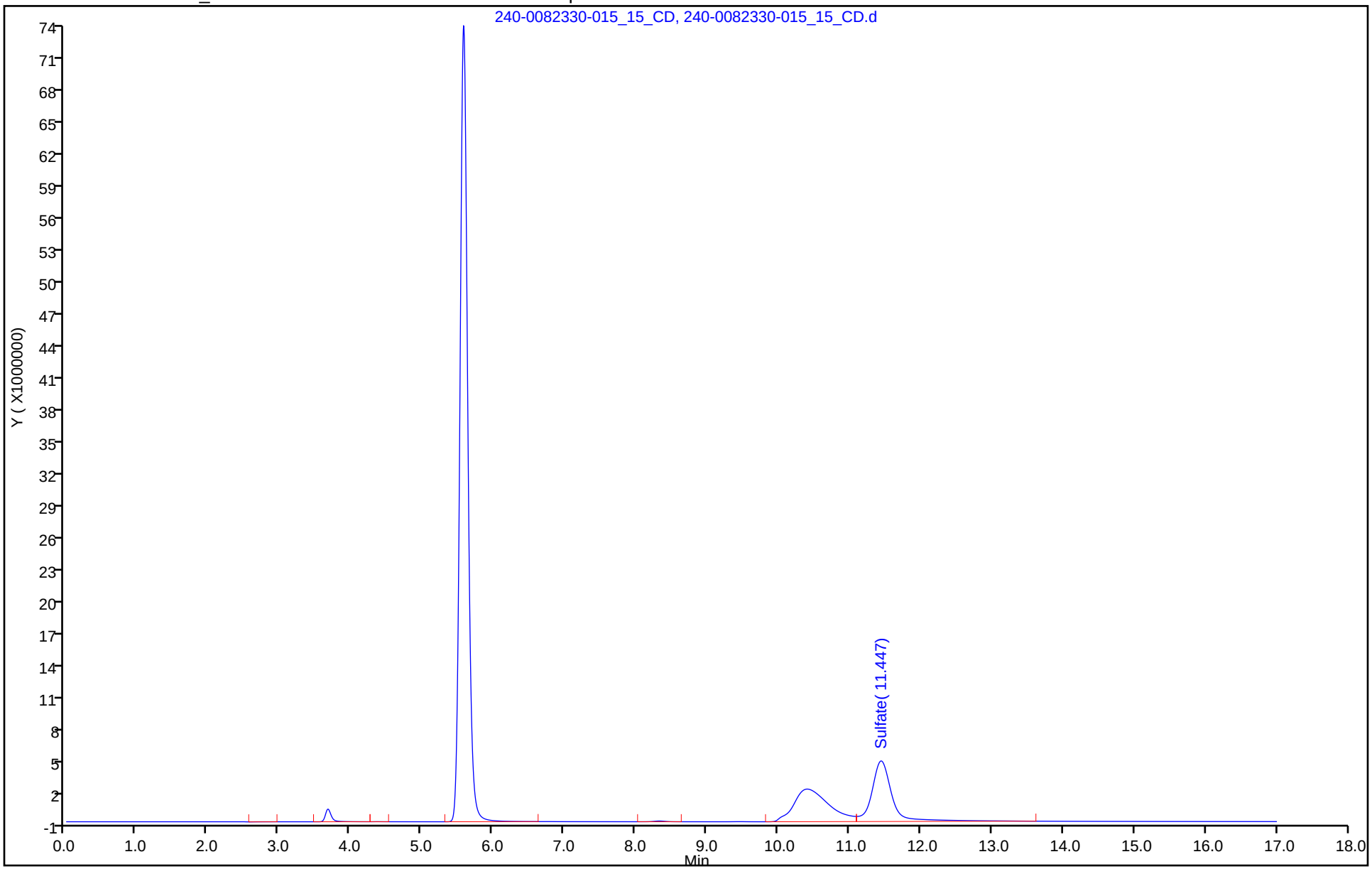
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
4 Bromide		8.333			ND	
6 Sulfate	11.447	11.283	0.164	109890369	4.36	

Report Date: 29-Nov-2018 12:13:07 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Canton

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-015_15_CD.d

Injection Date:	28-Nov-2018 07:23:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	240-104369-J-3	Lab Sample ID:	240-104369-3	Worklist Smp#:	15
Client ID:	MRC-MW-134B-111318				
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-016_16_CD.d
Lims ID: 240-104369-J-4
Client ID: MRC-MW-135B-111318
Sample Type: Client
Inject. Date: 28-Nov-2018 07:44:00 ALS Bottle#: 0 Worklist Smp#: 16
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0082330-016
Misc. Info.: 240-104369-J-4
Operator ID: Instrument ID: THOR

Method: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 29-Nov-2018 12:13:06 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: CTX0316

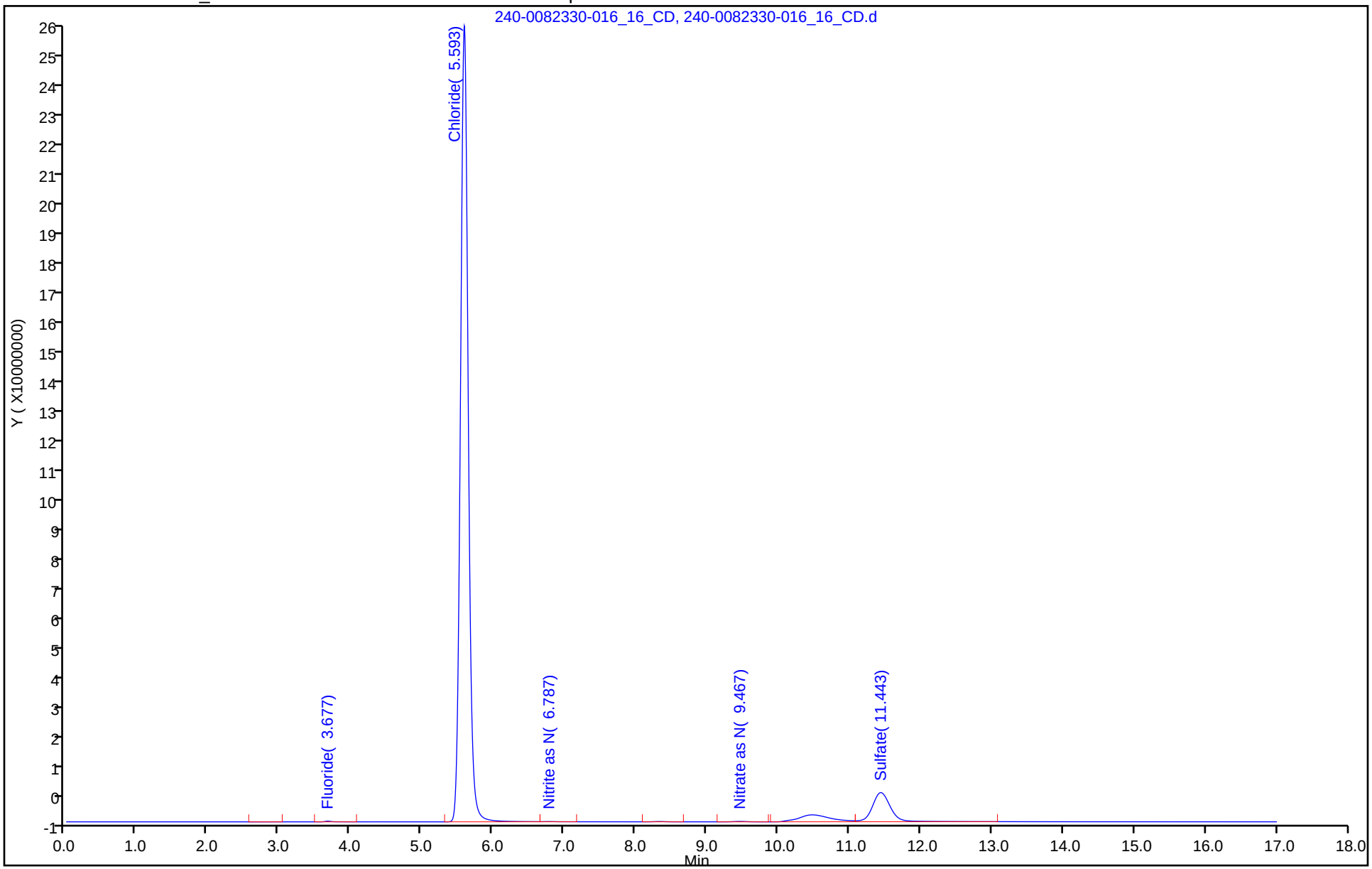
	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1	Fluoride	3.677	3.697	-0.020	1453738	0.0265	
2	Chloride	5.593	5.593	0.000	1973512739	57.1	
3	Nitrite as N	6.787	6.807	-0.020	819644	0.0103	
4	Bromide		8.333			ND	
5	Nitrate as N	9.467	9.453	0.014	1534073	0.0182	
6	Sulfate	11.443	11.283	0.160	167029005	6.63	
11	Nitrate as NO3		0.000			ND	
10	Nitrite as NO2		0.000			ND	
S 7	Nitrate Nitrite as N					0.0285	

Report Date: 29-Nov-2018 12:13:08 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Canton

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-016_16_CD.d

Injection Date:	28-Nov-2018 07:44:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	240-104369-J-4	Lab Sample ID:	240-104369-4	Worklist Smp#:	16
Client ID:	MRC-MW-135B-111318				
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-017_17_CD.d
Lims ID: 240-104369-J-4 MS
Client ID:
Sample Type: MS
Inject. Date: 28-Nov-2018 08:04:00 ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0082330-017
Misc. Info.: 240-104369-J-4 MS
Operator ID: Instrument ID: THOR

Method: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 29-Nov-2018 12:13:06 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: CTX0316

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.693	3.697	-0.004	142060533	2.50	2.59	
2	Chloride	5.600	5.593	0.007	3631099550	50.0	105.0	
3	Nitrite as N	6.803	6.807	-0.004	208483610	2.50	2.61	
4	Bromide	8.330	8.333	-0.003	157021085	10.0	10.7	
5	Nitrate as N	9.440	9.453	-0.013	219910604	2.50	2.61	
6	Sulfate	11.240	11.283	-0.043	1477130090	50.0	58.6	
11	Nitrate as NO3		0.000				ND	
10	Nitrite as NO2		0.000				ND	
S 7	Nitrate Nitrite as N						5.22	

Reagents:

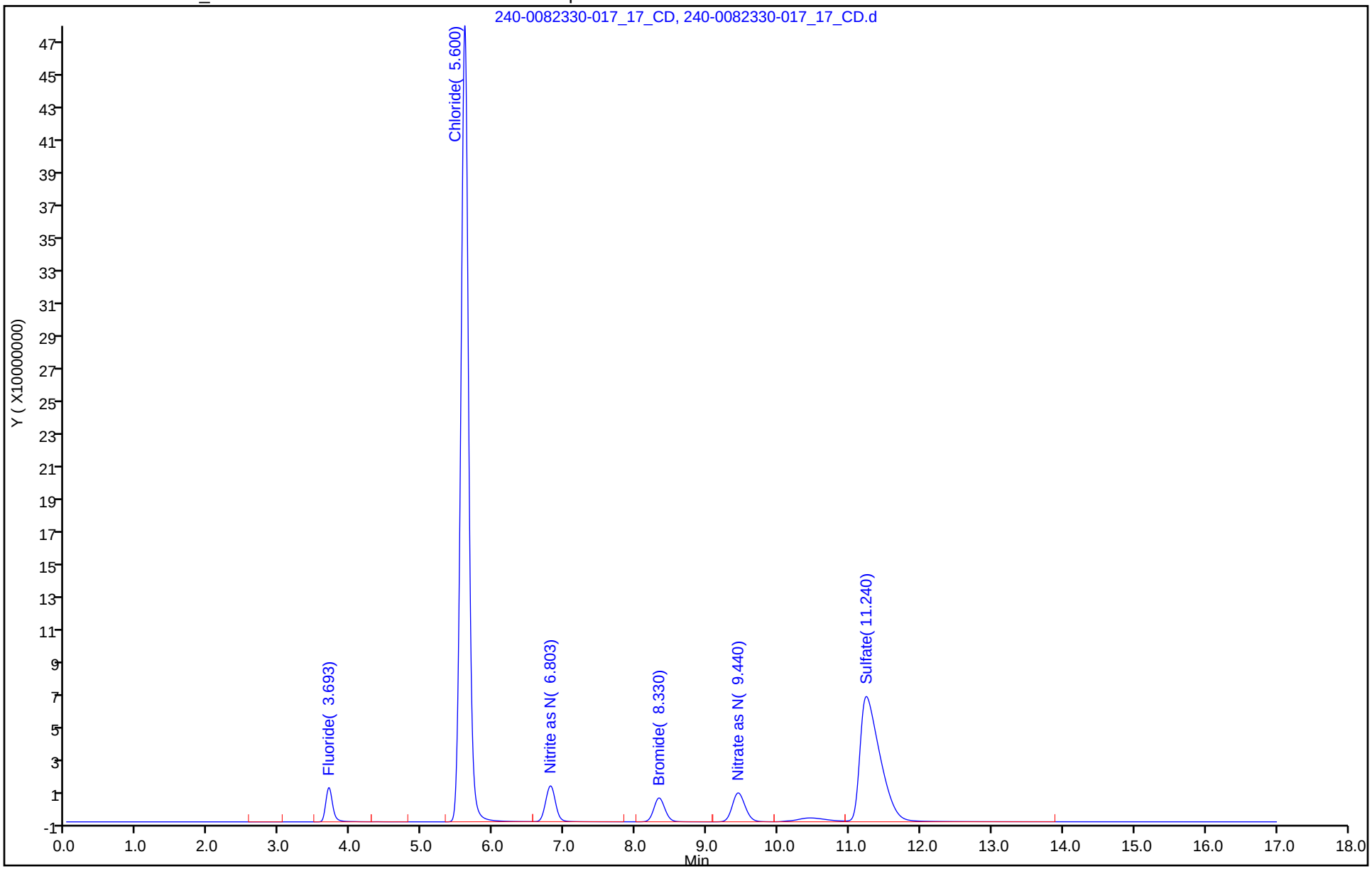
WCICSOLNB1_00018 Amount Added: 0.10 Units: mL
WCICSOLNA1_00018 Amount Added: 0.10 Units: mL

Report Date: 29-Nov-2018 12:13:08 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Canton

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-017_17_CD.d

Injection Date:	28-Nov-2018 08:04:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	240-104369-J-4 MS			Worklist Smp#:	17
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-018_18_CD.d
Lims ID: 240-104369-J-4 MSD
Client ID:
Sample Type: MSD
Inject. Date: 28-Nov-2018 08:25:00 ALS Bottle#: 0 Worklist Smp#: 18
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0082330-018
Misc. Info.: 240-104369-J-4 MSD
Operator ID: Instrument ID: THOR

Method: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 29-Nov-2018 12:13:06 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: CTX0316

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.693	3.697	-0.004	142913298	2.50	2.61	
2 Chloride	5.600	5.593	0.007	3633646849	50.0	105.1	
3 Nitrite as N	6.803	6.807	-0.004	209559718	2.50	2.62	
4 Bromide	8.327	8.333	-0.006	157348106	10.0	10.7	
5 Nitrate as N	9.440	9.453	-0.013	220256458	2.50	2.61	
6 Sulfate	11.237	11.283	-0.046	1479845539	50.0	58.8	
11 Nitrate as NO3		0.000				ND	
10 Nitrite as NO2		0.000				ND	
S 7 Nitrate Nitrite as N						5.23	

Reagents:

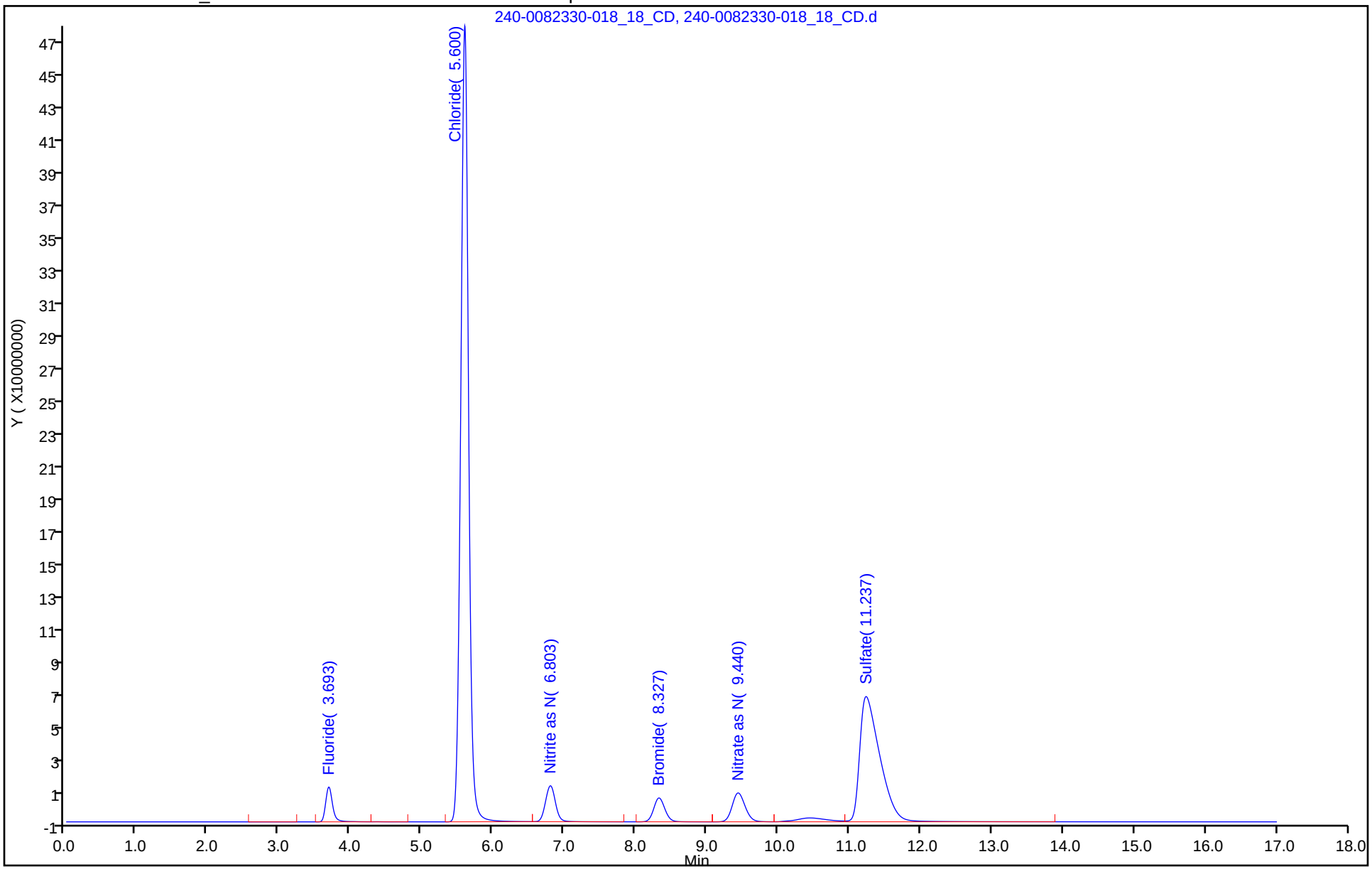
WCICSOLNB1_00018 Amount Added: 0.10 Units: mL
WCICSOLNA1_00018 Amount Added: 0.10 Units: mL

Report Date: 29-Nov-2018 12:13:09 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Canton

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-018_18_CD.d

Injection Date:	28-Nov-2018 08:25:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	240-104369-J-4 MSD			Worklist Smp#:	18
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-019_19_CD.d
Lims ID: 240-104369-J-5
Client ID: MRC-MW-136A-111318
Sample Type: Client
Inject. Date: 28-Nov-2018 08:46:00 ALS Bottle#: 0 Worklist Smp#: 19
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0082330-019
Misc. Info.: 240-104369-J-5
Operator ID: Instrument ID: THOR

Method: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 29-Nov-2018 12:13:06 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: CTX0316

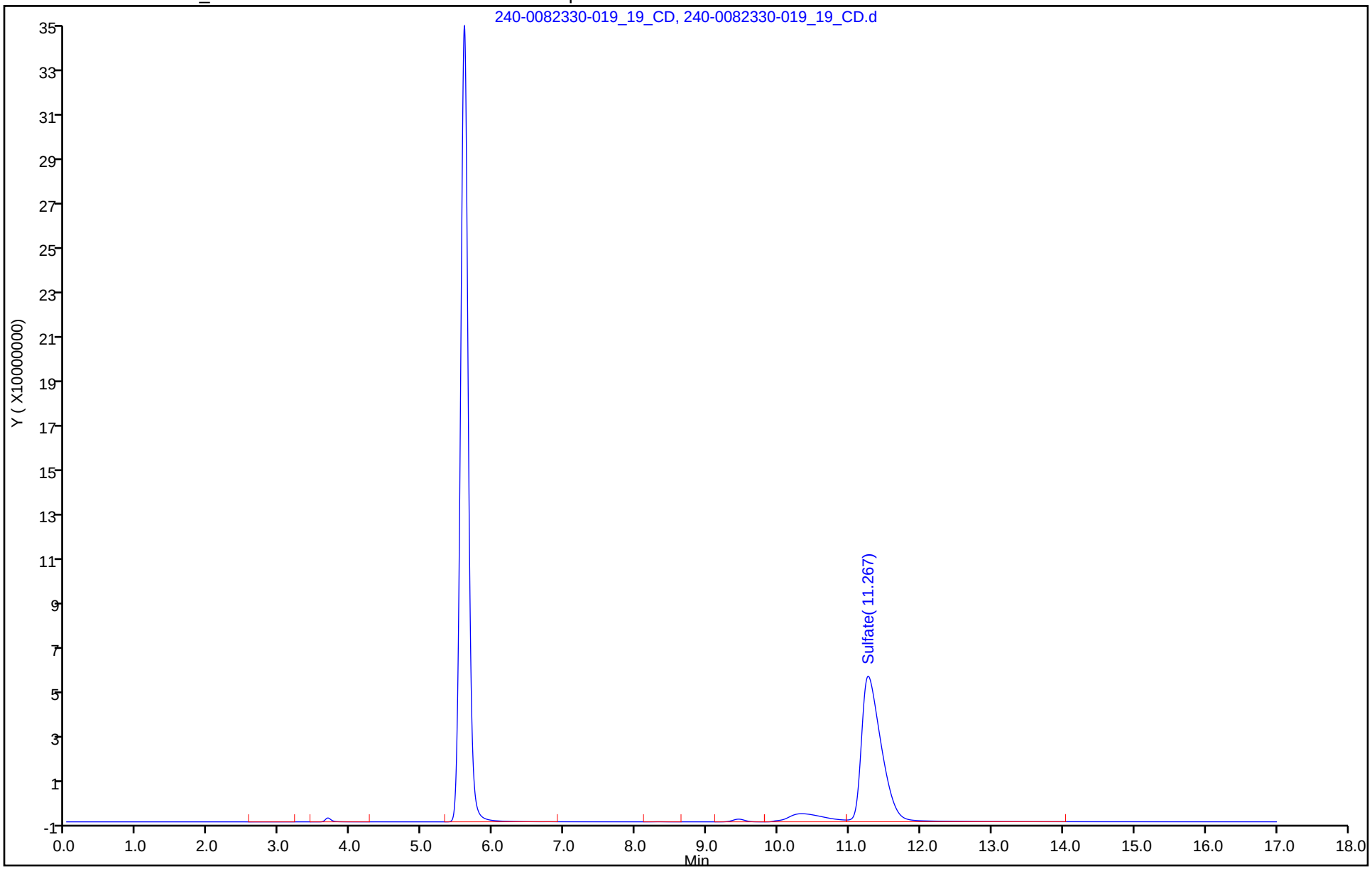
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
4 Bromide		8.333			ND	
6 Sulfate	11.267	11.283	-0.016	1233273637	49.0	

Report Date: 29-Nov-2018 12:13:09 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Canton

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-019_19_CD.d

Injection Date:	28-Nov-2018 08:46:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	240-104369-J-5	Lab Sample ID:	240-104369-5	Worklist Smp#:	19
Client ID:	MRC-MW-136A-111318				
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-020_20_CD.d
Lims ID: 240-104369-J-6
Client ID: MRC-MW-DUP-111318
Sample Type: Client
Inject. Date: 28-Nov-2018 09:06:00 ALS Bottle#: 0 Worklist Smp#: 20
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0082330-020
Misc. Info.: 240-104369-J-6
Operator ID: Instrument ID: THOR

Method: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 29-Nov-2018 12:13:06 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: CTX0316

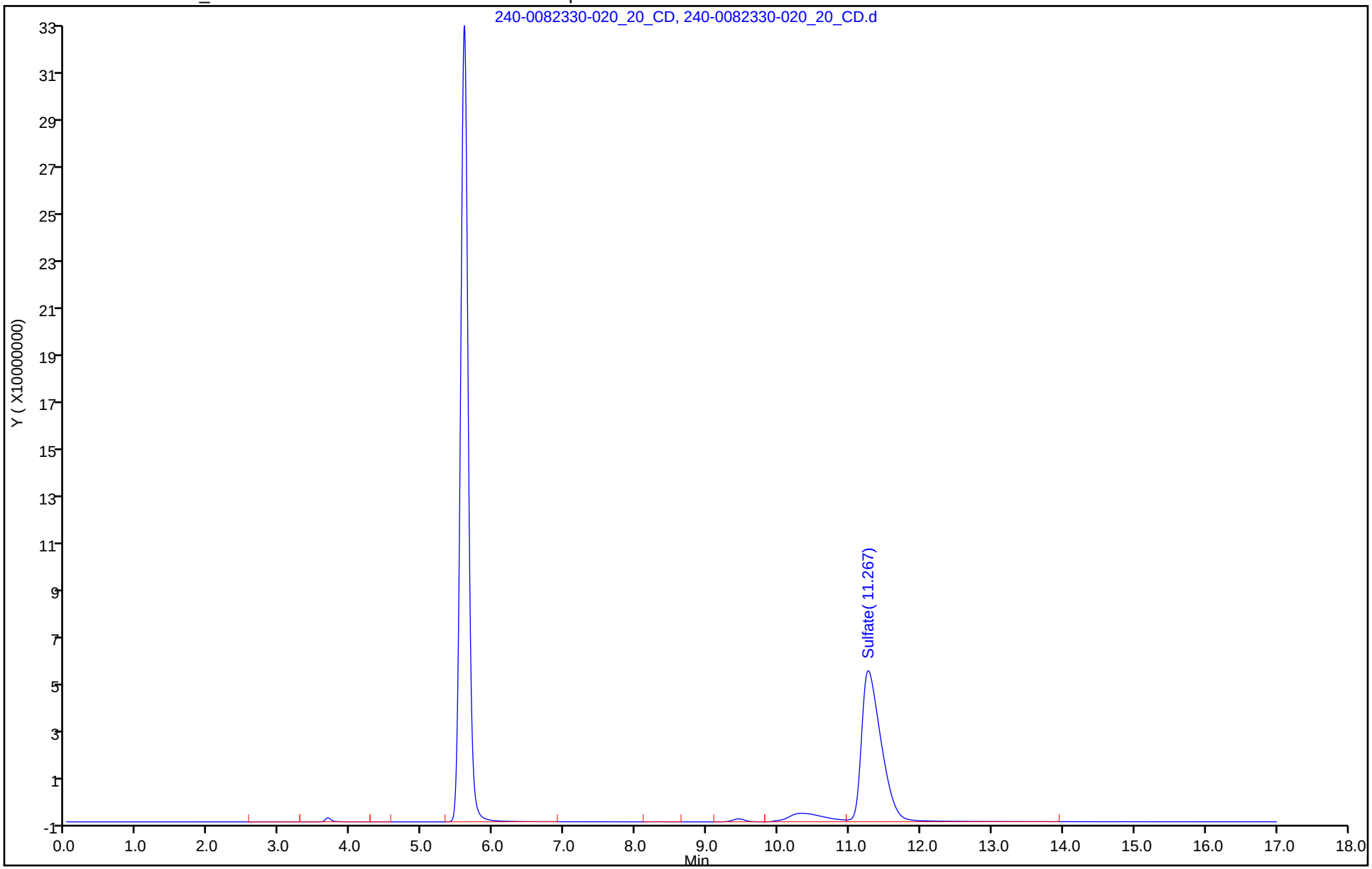
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
4 Bromide		8.333			ND	
6 Sulfate	11.267	11.283	-0.016	1200706883	47.7	

Report Date: 29-Nov-2018 12:13:09 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Canton

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-020_20_CD.d

Injection Date:	28-Nov-2018 09:06:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	240-104369-J-6	Lab Sample ID:	240-104369-6	Worklist Smp#:	20
Client ID:	MRC-MW-DUP-111318				
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Laboratories
Initial Calibration RF Report

Method: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\300_Thor.m
Instrument: THOR
Lock State: Unlocked
Integrator: Falcon
No.Compounds:9
Lims Location: 240
Cpnd Order: Retention Time
Last Modified: 09-Aug-2018 08:20:24

Initial Calibration Batches

Ical Batch: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b
Inj Date : 07-Aug-2018 12:13:00, Sublist: chrom-300_Thor*sub2

Limit Group: WET IC ICAL

Column 1 : Det: IC 0001

Compound	Level 1 RF/%Drift	Level 2 RF/%Drift	Level 3 RF/%Drift	Level 4 RF/%Drift	Level 5 RF/%Drift	Level 6 RF/%Drift	Level 7 RF/%Drift	Level 8 RF/%Drift	Level 9 RF/%Drift	Avg RF	Curve	Rse/ Rsd	R^2/ COD	Flags
1 Fluoride	47351460	54824508	55875388	56595459	56933381	56073335	55653073	54381300	53151547	54537717	WAvg	5.4		
	-13.2	0.5	2.5	3.8	4.4	2.8	2.0	-0.3	-2.5					
2 Chloride	34976555	35143655	34688092	34633221	34383805	34301509	34390732	34337368	34320548	34575054	WAvg	0.9		
	1.2	1.6	0.3	0.2	-0.6	-0.8	-0.5	-0.7	-0.7					
3 Nitrite as N	75048260	82649880	82949230	83034222	81642041	80259484	79602306	77856956	76126244	79907625	WAvg	3.8		
	-6.1	3.4	3.8	3.9	2.2	0.4	-0.4	-2.6	-4.7					
4 Bromide	12798575	14355529	14581658	14849022	15055903	15123830	15197922	15243819	15265921	14719131	WAvg	5.3		
	-13.0	-2.5	-0.9	0.9	2.3	2.7	3.3	3.6	3.7					
5 Nitrate as N	81512100	83201792	83248020	85500384	84561006	84782047	85147497	85422553	85514579	84321109	WAvg	1.6		
	-3.3	-1.3	-1.3	1.4	0.3	0.5	1.0	1.3	1.4					
6 Sulfate	22693088	25151332	25324592	25580174	25584616	25551304	25624002	25607338	25558536	25186109	WAvg	3.8		
	-9.9	-0.1	0.5	1.6	1.6	1.4	1.7	1.7	1.5					

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-010_11_CD.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 07-Aug-2018 15:20:00 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0078648-010
Misc. Info.: ICV
Operator ID: Instrument ID: THOR
Sublist:

Method: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 09-Aug-2018 08:21:34 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: XAWRK036

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.760	3.760	0.000	148487371	2.50	2.72	
2 Chloride	5.873	5.873	0.000	1798335176	50.0	52.0	
3 Nitrite as N	7.233	7.233	0.000	190227574	2.50	2.38	
4 Bromide	8.990	8.990	0.000	156818238	10.0	10.7	
5 Nitrate as N	10.260	10.260	0.000	216933145	2.50	2.57	
6 Sulfate	12.387	12.397	-0.010	1333062081	50.0	52.9	

Reagents:

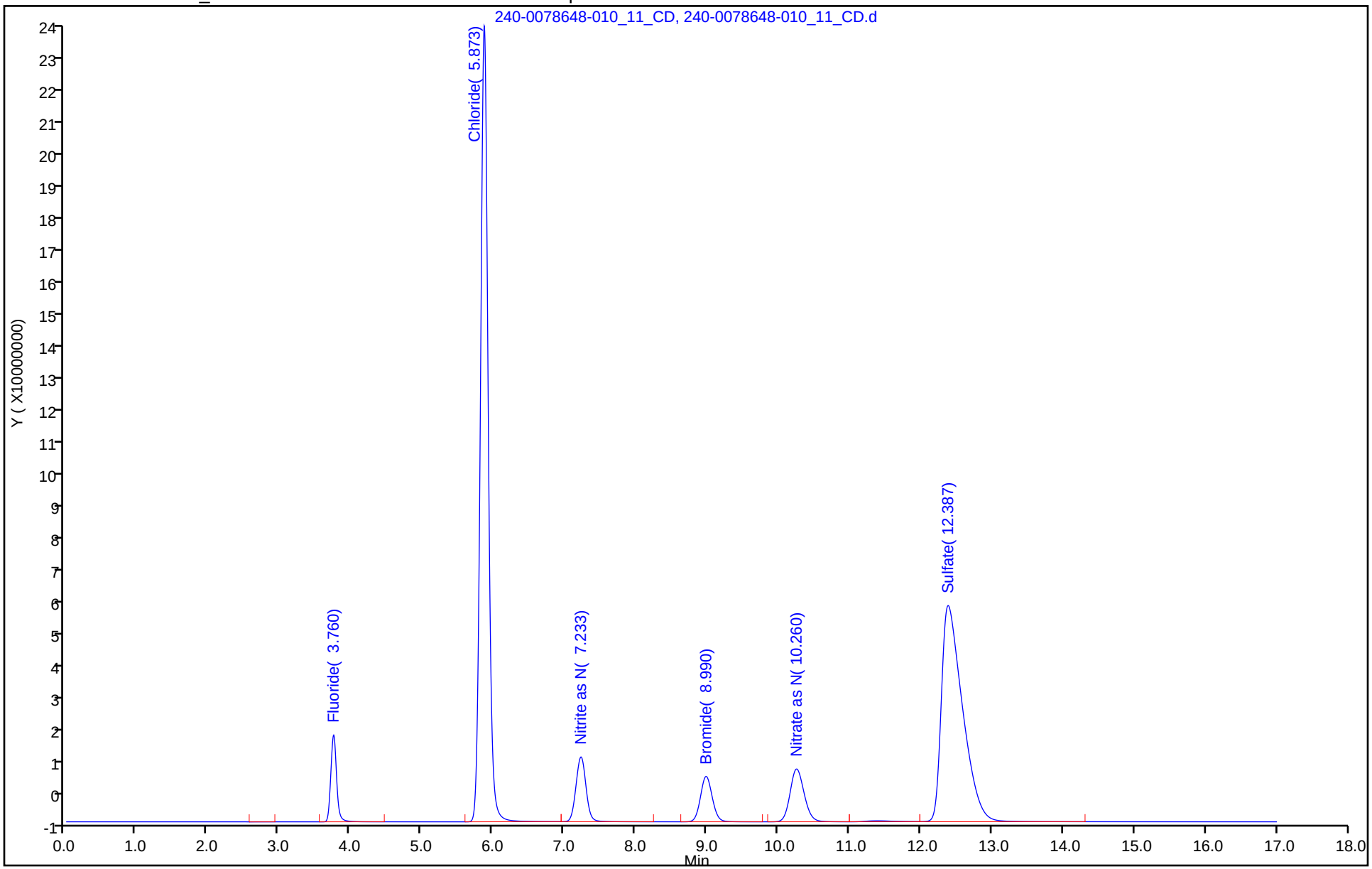
WCICLCS_00669 Amount Added: 5.00 Units: mL

Report Date: 09-Aug-2018 11:27:19 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-010_11_CD.d

Injection Date:	07-Aug-2018 15:20:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	ICV			Worklist Smp#:	10
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Canton
Target Compound Quantitation Report

Data File:	\\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-011_12_CD.d				
Lims ID:	ICB				
Client ID:					
Sample Type:	ICB				
Inject. Date:	07-Aug-2018 15:41:00	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	25.0 ul	Dil. Factor:	1.0000		
Sample Info:	240-0078648-011				
Misc. Info.:	ICB				
Operator ID:		Instrument ID:	THOR		
Method:	\\ChromNA\Canton\ChromData\THOR\20180806-78648.b\300_Thor.m				
Limit Group:	WET IC ICAL				
Last Update:	09-Aug-2018 08:21:34	Calib Date:	07-Aug-2018 14:59:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d				
Column 1 :			Det: IC 0001		
Process Host:	XAWRK036				

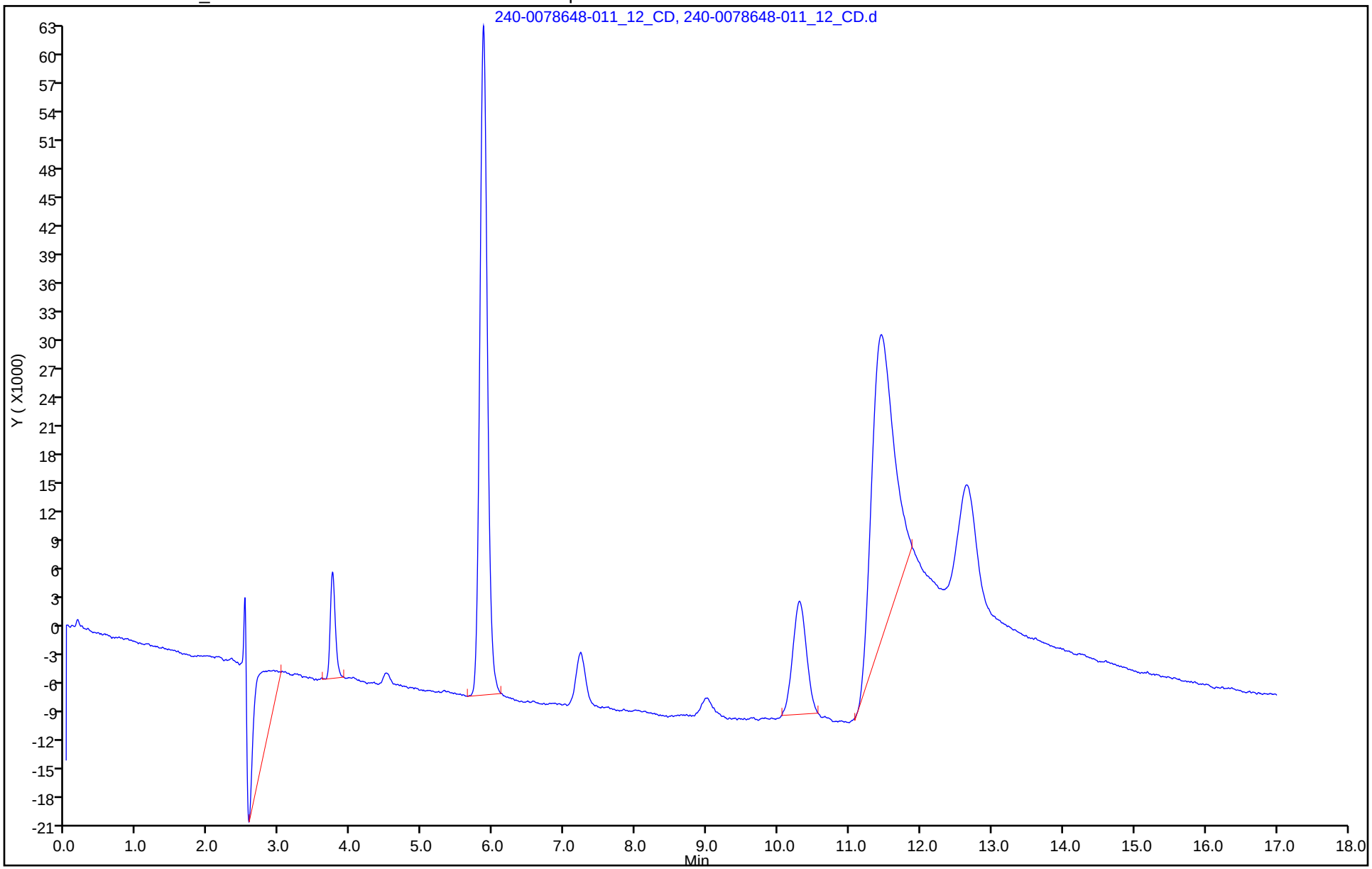
	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride		3.760				ND	
	2 Chloride		5.873				ND	
	3 Nitrite as N		7.233				ND	
	4 Bromide		8.990				ND	
	5 Nitrate as N		10.260				ND	
	6 Sulfate		12.397				ND	
	11 Nitrate as NO3		0.000				ND	
	10 Nitrite as NO2		0.000				ND	
S	7 Nitrate Nitrite as N		0.000				ND	

Report Date: 09-Aug-2018 08:21:36 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-011_12_CD.d

Injection Date:	07-Aug-2018 15:41:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	ICB			Worklist Smp#:	11
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-001_01_CD.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 28-Nov-2018 02:33:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0082330-001
Misc. Info.: CCV
Operator ID: Instrument ID: THOR
Sublist: chrom-300_Thor*sub2

Method: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 29-Nov-2018 12:12:58 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: CTX0316

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.697	3.697	0.000	140605852	2.50	2.57	
2 Chloride	5.593	5.593	0.000	1735590174	50.0	50.2	
3 Nitrite as N	6.807	6.807	0.000	205124713	2.50	2.57	
4 Bromide	8.333	8.333	0.000	151899364	10.0	10.3	
5 Nitrate as N	9.453	9.453	0.000	213449812	2.50	2.53	
6 Sulfate	11.283	11.283	0.000	1292681197	50.0	51.3	

Reagents:

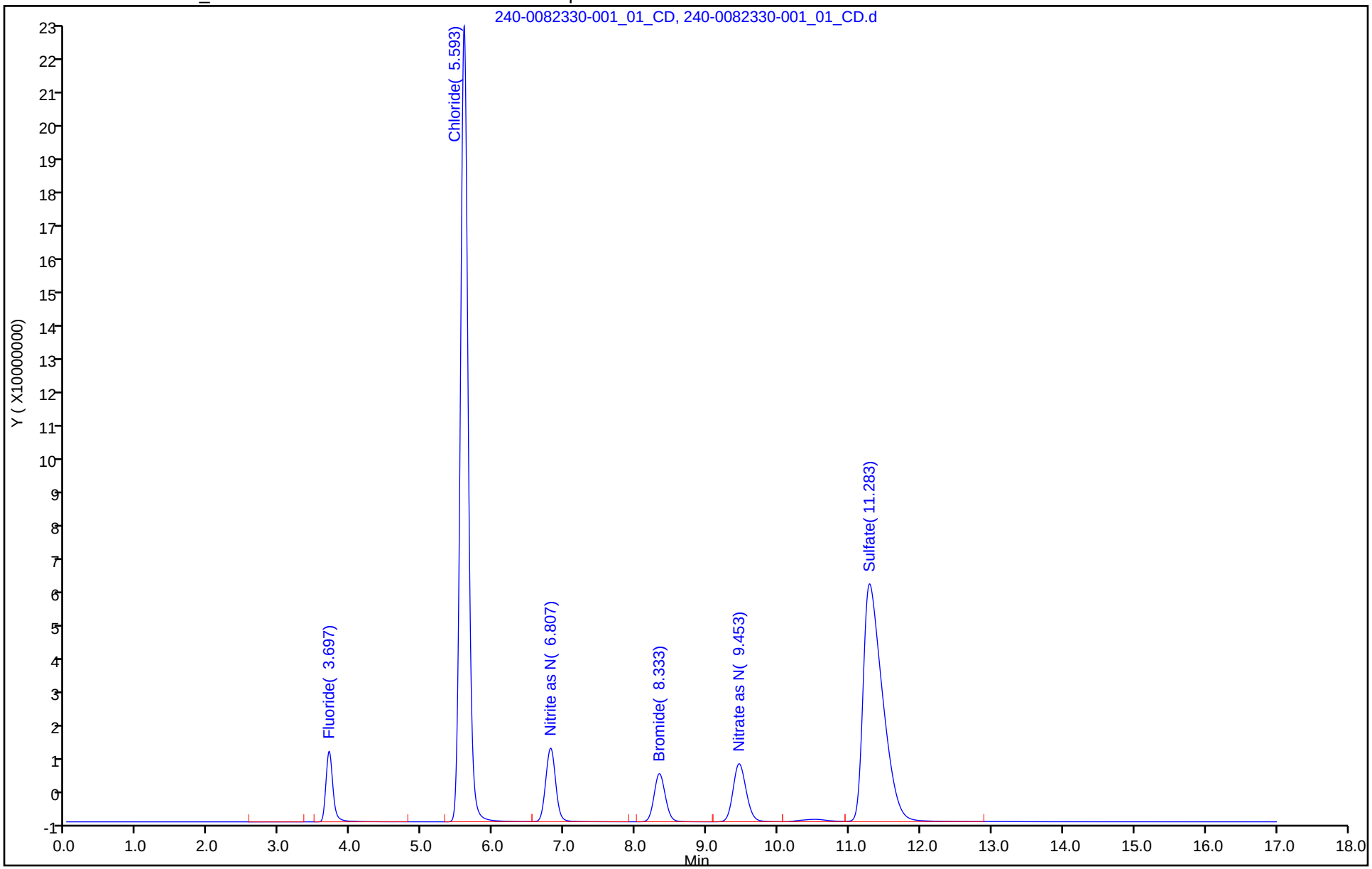
WCICCCV_00849 Amount Added: 5.00 Units: mL

Report Date: 29-Nov-2018 12:12:58 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Canton

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-001_01_CD.d

Injection Date:	28-Nov-2018 02:33:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	1
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-002_02_CD.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 28-Nov-2018 02:54:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0082330-002
Misc. Info.: CCB
Operator ID: Instrument ID: THOR

Method: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 29-Nov-2018 12:12:58 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: CTX0316

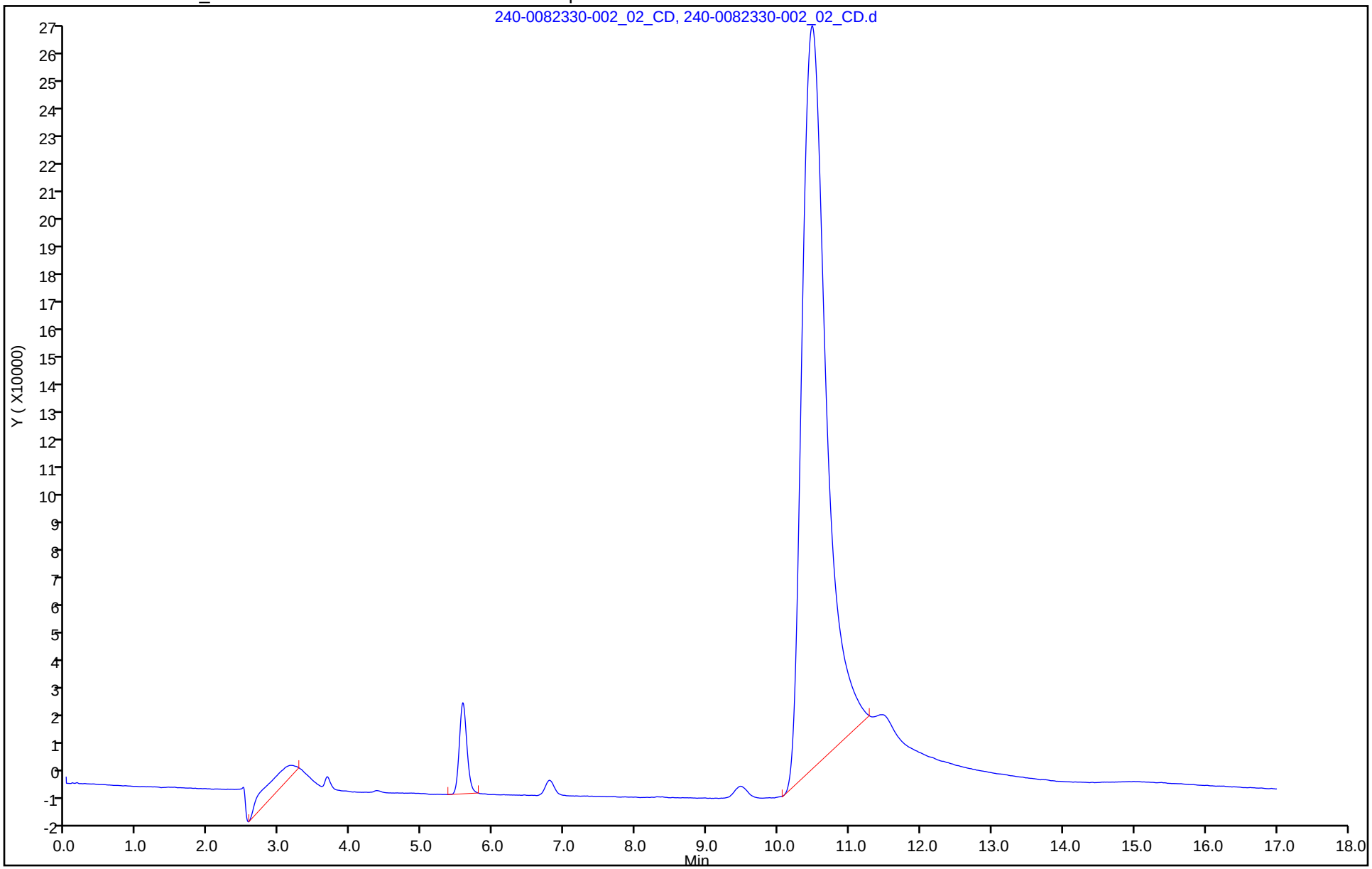
	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride		3.697				ND	
	2 Chloride		5.593				ND	
	3 Nitrite as N		6.807				ND	
	4 Bromide		8.333				ND	
	5 Nitrate as N		9.453				ND	
	6 Sulfate		11.283				ND	
	11 Nitrate as NO3		0.000				ND	
	10 Nitrite as NO2		0.000				ND	
S	7 Nitrate Nitrite as N		0.000				ND	

Report Date: 29-Nov-2018 12:12:59 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Canton

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-002_02_CD.d

Injection Date:	28-Nov-2018 02:54:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	2
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-003_03_CD.d
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 28-Nov-2018 03:14:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0082330-003
Misc. Info.: MB
Operator ID: Instrument ID: THOR

Method: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 29-Nov-2018 12:12:58 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: CTX0316

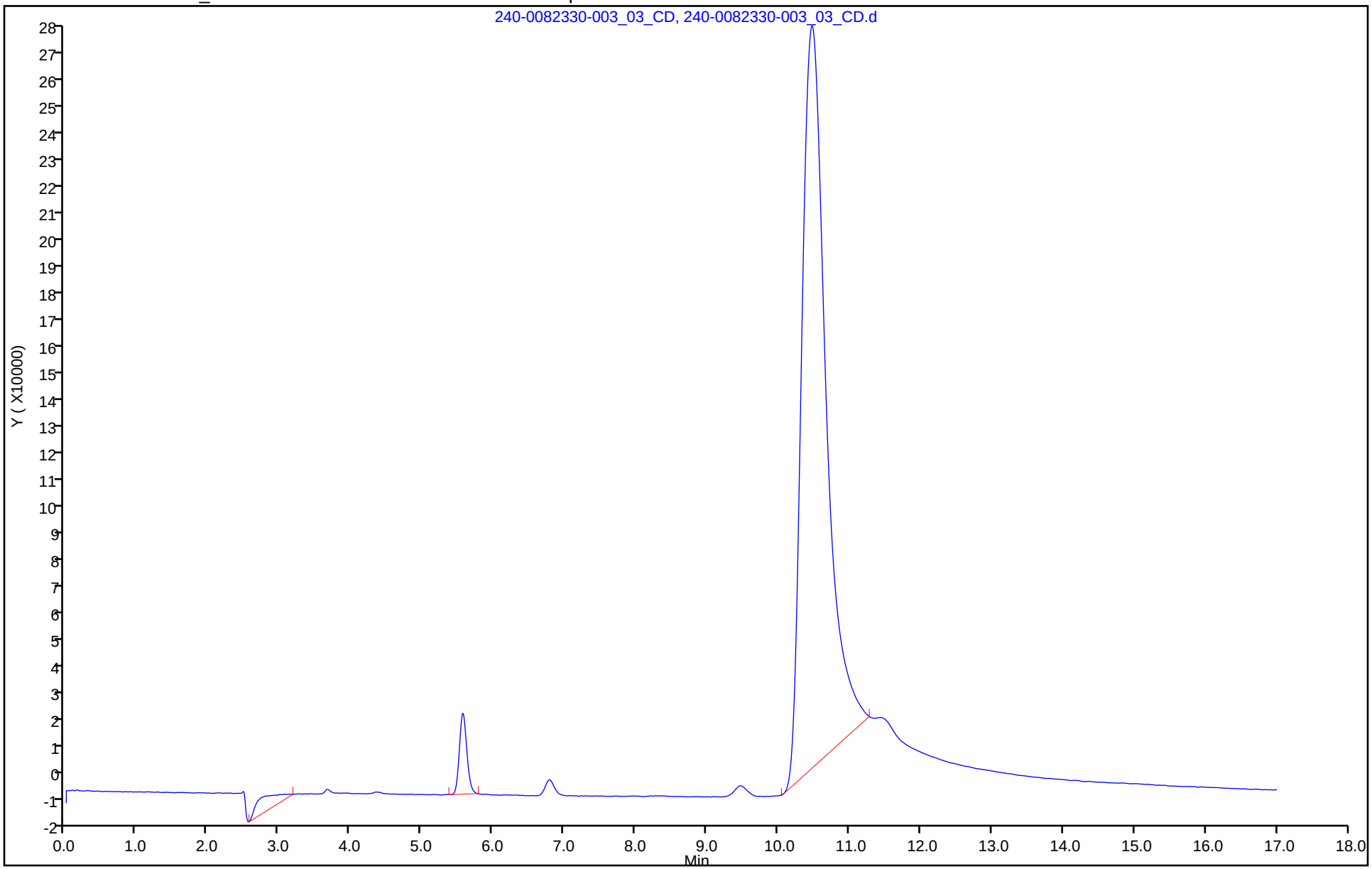
	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride		3.697				ND	
	2 Chloride		5.593				ND	
	3 Nitrite as N		6.807				ND	
	4 Bromide		8.333				ND	
	5 Nitrate as N		9.453				ND	
	6 Sulfate		11.283				ND	
	11 Nitrate as NO3		0.000				ND	
	10 Nitrite as NO2		0.000				ND	
S	7 Nitrate Nitrite as N		0.000				ND	

Report Date: 29-Nov-2018 12:12:59 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Canton

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-003_03_CD.d

Injection Date:	28-Nov-2018 03:14:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	MB			Worklist Smp#:	3
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-004_04_CD.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 28-Nov-2018 03:35:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0082330-004
Misc. Info.: LCS
Operator ID: Instrument ID: THOR

Method: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 29-Nov-2018 12:12:58 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: CTX0316

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.697	3.697	0.000	140304168	2.50	2.56	
2 Chloride	5.590	5.593	-0.003	1785509109	50.0	51.6	
3 Nitrite as N	6.807	6.807	0.000	200483654	2.50	2.51	
4 Bromide	8.333	8.333	0.000	153952460	10.0	10.5	
5 Nitrate as N	9.453	9.453	0.000	218248502	2.50	2.59	
6 Sulfate	11.283	11.283	0.000	1307335679	50.0	51.9	

Reagents:

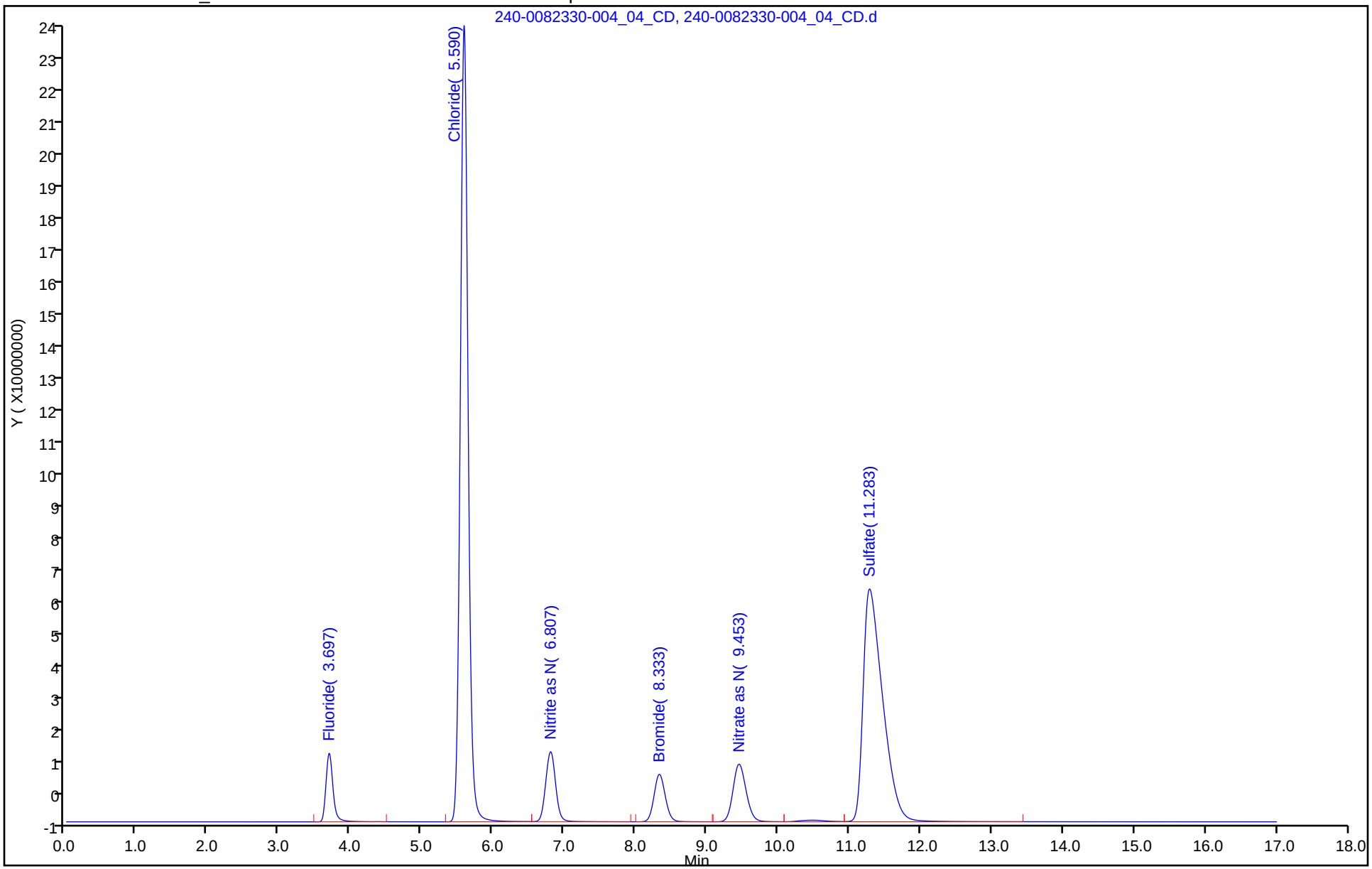
WCICLCS_00684 Amount Added: 5.00 Units: mL

Report Date: 29-Nov-2018 12:13:00 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Canton

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-004_04_CD.d

Injection Date:	28-Nov-2018 03:35:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	LCS			Worklist Smp#:	4
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-013_13_CD.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 28-Nov-2018 06:42:00 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0082330-013
Misc. Info.: CCV
Operator ID: Instrument ID: THOR
Sublist: chrom-300_Thor*sub2

Method: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 29-Nov-2018 12:13:06 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: CTX0316

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.693	3.697	-0.004	141678486	2.50	2.59	
2 Chloride	5.590	5.593	-0.003	1737050846	50.0	50.2	
3 Nitrite as N	6.803	6.807	-0.004	205508624	2.50	2.57	
4 Bromide	8.330	8.333	-0.003	151821637	10.0	10.3	
5 Nitrate as N	9.450	9.453	-0.003	213544466	2.50	2.53	
6 Sulfate	11.267	11.283	-0.016	1296148226	50.0	51.5	
S 7 Nitrate Nitrite as N						5.10	

Reagents:

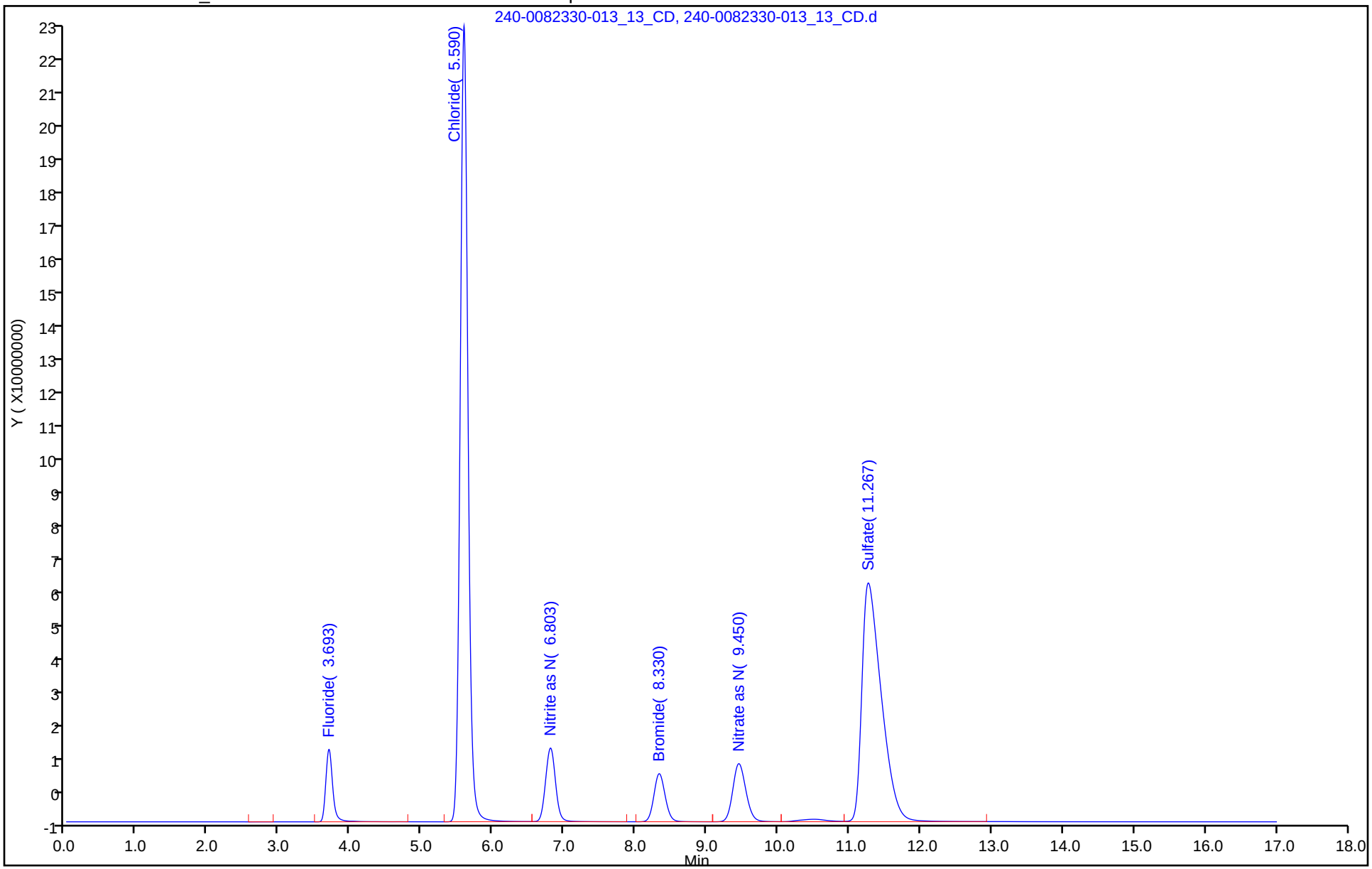
WCICCCV_00849 Amount Added: 5.00 Units: mL

Report Date: 29-Nov-2018 12:13:06 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Canton

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-013_13_CD.d

Injection Date:	28-Nov-2018 06:42:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	13
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Canton
Target Compound Quantitation Report

Data File:	\\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-014_14_CD.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	28-Nov-2018 07:02:00	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	25.0 ul	Dil. Factor:	1.0000		
Sample Info:	240-0082330-014				
Misc. Info.:	CCB				
Operator ID:		Instrument ID:	THOR		
Method:	\\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\300_Thor.m				
Limit Group:	WET IC ICAL				
Last Update:	29-Nov-2018 12:13:06	Calib Date:	07-Aug-2018 14:59:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d				
Column 1 :			Det: IC 0001		
Process Host:	CTX0316				

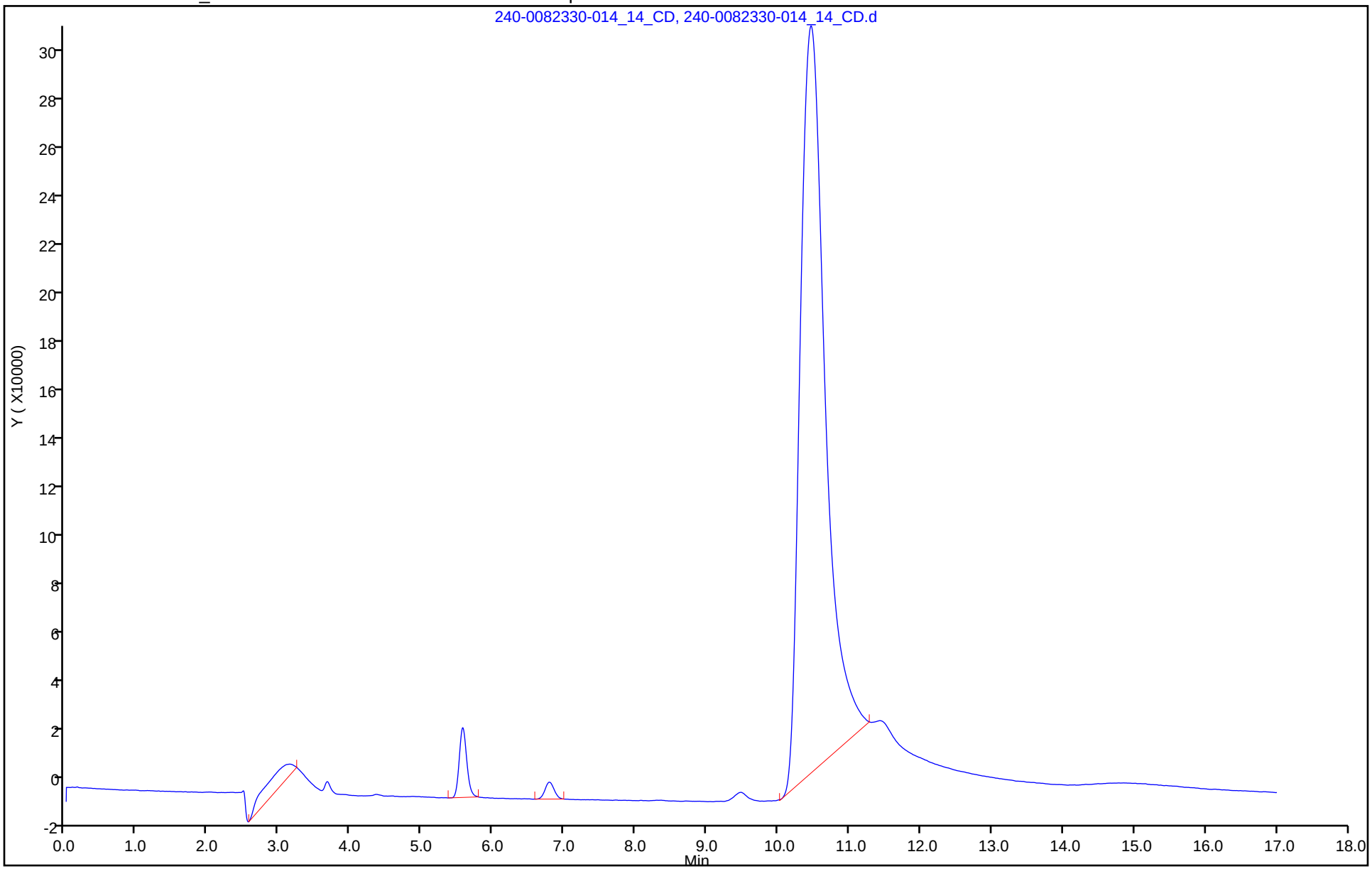
	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride		3.697				ND	
	2 Chloride		5.593				ND	
	3 Nitrite as N		6.807				ND	
	4 Bromide		8.333				ND	
	5 Nitrate as N		9.453				ND	
	6 Sulfate		11.283				ND	
	11 Nitrate as NO3		0.000				ND	
	10 Nitrite as NO2		0.000				ND	
S	7 Nitrate Nitrite as N		0.000				ND	

Report Date: 29-Nov-2018 12:13:06 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Canton

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-014_14_CD.d

Injection Date:	28-Nov-2018 07:02:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	14
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-025_25_CD.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 28-Nov-2018 10:50:00 ALS Bottle#: 0 Worklist Smp#: 25
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0082330-025
Misc. Info.: CCV
Operator ID: Instrument ID: THOR
Sublist: chrom-300_Thor*sub2

Method: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 29-Nov-2018 12:13:12 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: CTX0316

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.693	3.697	-0.004	142101043	2.50	2.60	
2 Chloride	5.590	5.593	-0.003	1760984491	50.0	50.9	
3 Nitrite as N	6.803	6.807	-0.004	208372367	2.50	2.61	
4 Bromide	8.330	8.333	-0.003	154067625	10.0	10.5	
5 Nitrate as N	9.447	9.453	-0.006	216593853	2.50	2.57	
6 Sulfate	11.263	11.283	-0.020	1312046291	50.0	52.1	
S 7 Nitrate Nitrite as N						5.18	

Reagents:

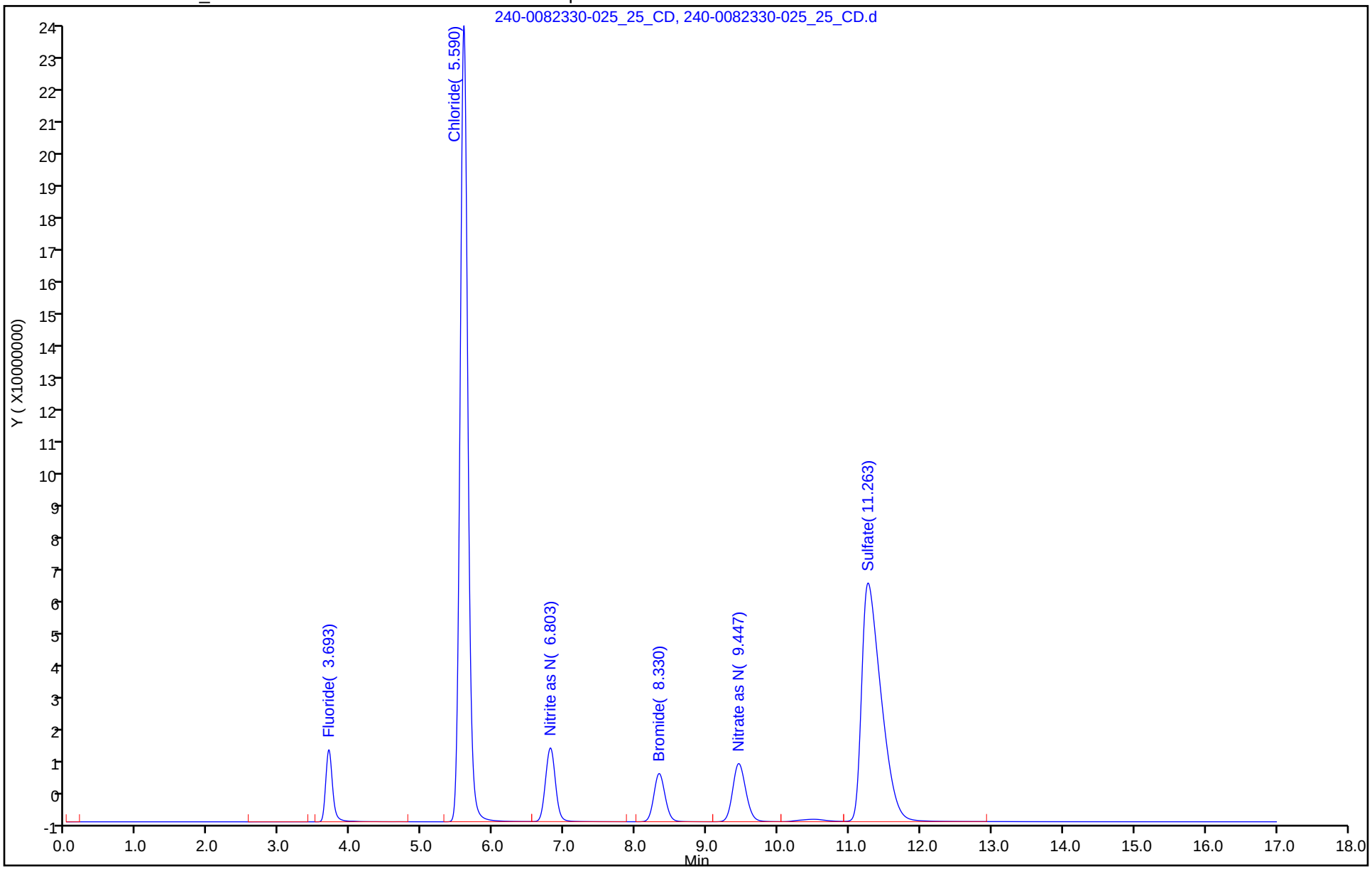
WCICCCV_00849 Amount Added: 5.00 Units: mL

Report Date: 29-Nov-2018 12:13:12 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Canton

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-025_25_CD.d

Injection Date:	28-Nov-2018 10:50:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	25
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-026_26_CD.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 28-Nov-2018 11:11:00 ALS Bottle#: 0 Worklist Smp#: 26
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 240-0082330-026
Misc. Info.: CCB
Operator ID: Instrument ID: THOR

Method: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\300_Thor.m
Limit Group: WET IC ICAL
Last Update: 29-Nov-2018 12:13:12 Calib Date: 07-Aug-2018 14:59:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\THOR\20180806-78648.b\240-0078648-009_10_CD.d

Column 1 : Det: IC 0001
Process Host: CTX0316

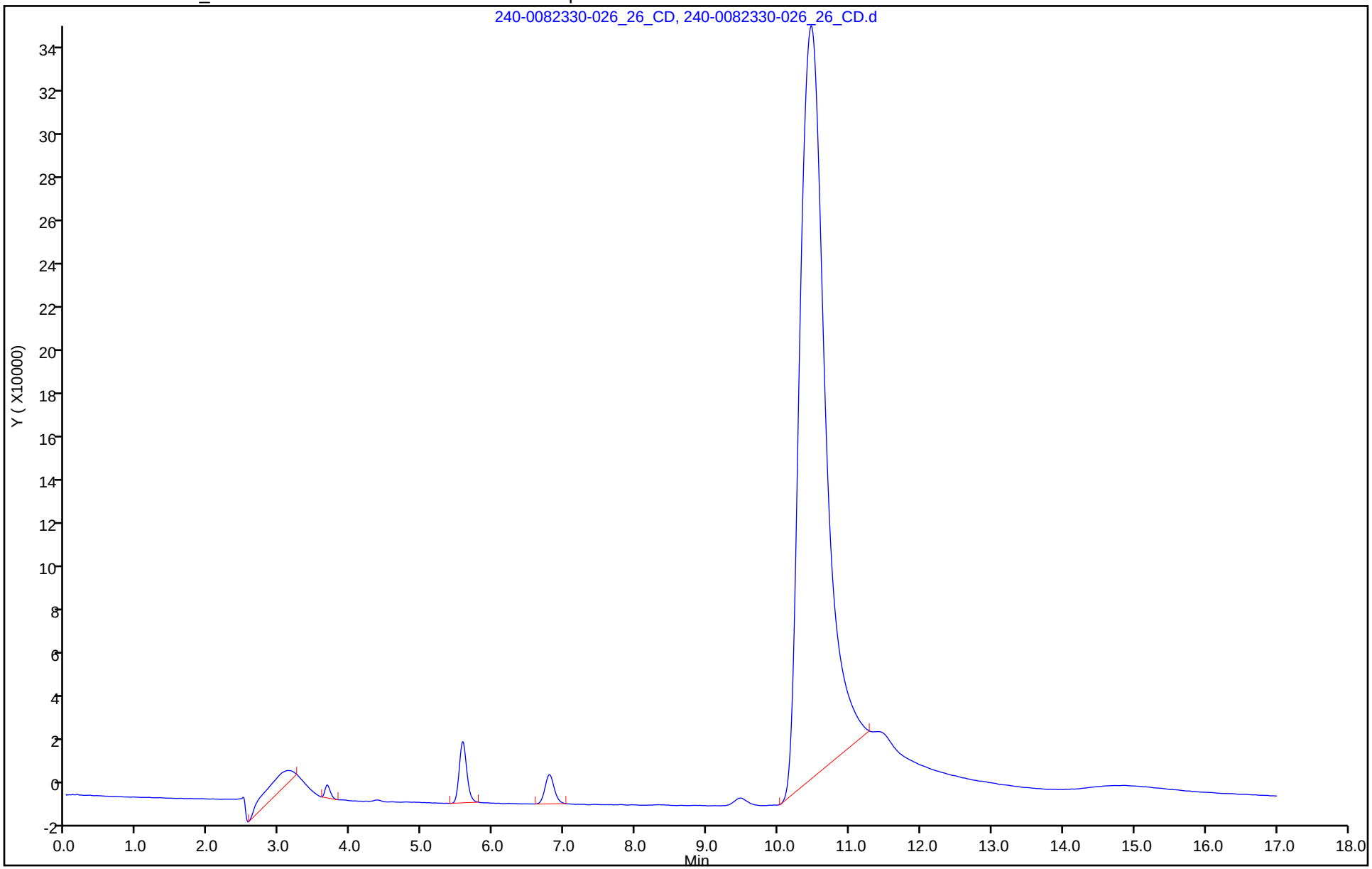
	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride		3.697				ND	
2	Chloride		5.593				ND	
3	Nitrite as N		6.807				ND	
4	Bromide		8.333				ND	
5	Nitrate as N		9.453				ND	
6	Sulfate		11.283				ND	
11	Nitrate as NO3		0.000				ND	
10	Nitrite as NO2		0.000				ND	
S 7	Nitrate Nitrite as N		0.000				ND	

Report Date: 29-Nov-2018 12:13:13 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Canton

Data File: \\chromdocs2018\q3\Canton\ChromData\THOR\20181127-82330.b\240-0082330-026_26_CD.d

Injection Date:	28-Nov-2018 11:11:00	Instrument ID:	THOR	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	26
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_Thor	Limit Group:	WET IC ICAL		



B# 263285
Fld# 111918SAL

Analysis Date: 11/19/2018
Analysis Start Time: 11:00

Analyst: CLL

$R_t = [C(S,T,P)/C(35,15,0$ where $r_t = c_0 + c_1T + c_2T^2 + c_3T^3 + c_4T^4$

Salinity = $a_o + a_1R_t^{1/2} + a_2R_t + a_3R_t^{3/2} + a_4R_t^2 + a_5R_t^{5/2}$ + temperature correction

Temperature correction = $[((t-15)/(1+(0.0162*(t-15))))] * [b_o + b_1R_t^{1/2} + b_2R_t + b_3R_t^{3/2} + b_4R_t^2 + b_5R_t^{5/2}]$

a_o =	0.0080
a_1 =	-0.1692
a_2 =	25.3851
a_3 =	14.0941
a_4 =	-7.0261
a_5 =	2.7081

b_o =	0.0005
b_1 =	-0.0056
b_2 =	-0.0066
b_3 =	-0.0375
b_4 =	0.0636
b_5 =	-0.0144

c_o =	6.766097E-01
c_1 =	2.005640E-02
c_2 =	1.104258E-04
c_3 =	-6.969800E-07
c_4 =	1.003100E-09
at T=25°C, r_t = 1.23654	

Constants: Temp. = 25.0° C C(35,15,0) = 42.914 mS/cm

Laboratory ID	Dilution Factor	Conductivity (umhos/cm)	Rt	$Rt^{1/2}$	Rt^2	$Rt^{3/2}$	$Rt^{5/2}$	Temp. Corr.	Salinity
MB	1	0.27	5.088E-06	2.256E-03	2.589E-11	1.148E-08	5.840E-14	4.194E-03	<2
240-104312-2	1	1906	3.592E-02	1.895E-01	1.290E-03	6.807E-03	2.445E-04	-8.392E-03	<2
104312-2DU	1	1895	3.571E-02	1.890E-01	1.275E-03	6.748E-03	2.410E-04	-8.342E-03	<2
104369-2	1	1106	2.084E-02	1.444E-01	4.344E-04	3.009E-03	6.271E-05	-4.580E-03	<2
104369-3	1	126	2.374E-03	4.873E-02	5.638E-06	1.157E-04	2.747E-07	1.785E-03	<2
104369-4	1	227	4.278E-03	6.540E-02	1.830E-05	2.798E-04	1.197E-06	8.275E-04	<2
104369-5	1	396	7.463E-03	8.639E-02	5.569E-05	6.447E-04	4.811E-06	-4.623E-04	<2
104369-6	1	400	7.538E-03	8.682E-02	5.682E-05	6.545E-04	4.933E-06	-4.901E-04	<2
	1								
	1								
	1								
	1								
	1								
	1								
	1								
	1								
	1								
	1								
	1								
	1								
	1								
	1								
	1								
	1								
	1								

This calculation only valid for Salinities of 2 to 42

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Pittsburgh
SPECIFIC CONDUCTANCE LOGSHEET
Methods 120.1/9050A/SM2510B
NB-2018-019

B# 263283 Wet# 111918COND

LCS True Value: 84
LCS TALS Reagent ID: 2731736
CCV True Value: 500
CCV TALS Reagent ID: 2676003

100 mS Standard
TALS Reagent ID: 2948716
100 mS STD Reading: 100.0uS

Meter ID: Ultrameter II Psi SN 6205309
Reporting Limit Acceptance: < 1 µmho/cm
Analyst: CMcIntyre
Analysis Date: 11-9-18

CALCULATIONS:

Cell Correction Factor:

100 mS / 100 mS Reading

SPECIFIC CONDUCTANCE:

Sample Reading x Cell Correction Factor

Conductivity Meter performs automatic temperature compensation.

Sample ID	Conductivity Reading (µmhos/cm)	Temperature °C
LCS	86.2 103%	22.3
MB	0.27	21.2
240-104312-2	1906 RPD	22.7
-2X	1895 .6%	22.7
104309-2	1106	22.4
3	126	22.5
4	227	22.6
5	396	22.4
6	400	22.4
CCV	496 99%	22.0
CCB	0.39	21.4

Reviewed By: _____ Date: _____

Subcontract Data

Shipping and Receiving Documents

2.6|C3.5
6.6|C1.5

North Canton
4101 Shuffel Street, N. W.
North Canton, OH 44720
phone 330.497.9396 fax 330.497.0772

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Mike Martin	Site Contact: Mullis/Pryor	Date: 11/13/2018	COC No:
Tetra Tech	Tel: (301) 528-3021	Lab Contact: John McFadden	Carrier: Fedex	1 of 1 COCs
20251 Century Blvd, Suite 200	**Analysis Turnaround Time**			Job No.
Germantown, MD 20874	Calendar (C) or Work Days (W) _____			
(301) 528-3021 Phone	TAT if different from Below **10 DAY TAT**			SDG No.
(301) 528-3000 FAX	☐ 2 weeks			
Project Name: MRC BLOCK F TCB WELLS	☐ 1 week			Sampler: Pryor/Mullis
Site: MRC BLOCK F	☐ 2 days			
PO # 112IC08667	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs (8260)	PCBs (680)	Total Metals (6020A)	Sulfate (9056A)	Nitrates (SM 4500-NO3E)	Total Dissolved Solids (SM 2540C)	Bromide (EPA 300.0)	Iron and Manganese (6010C)	Alkalinity (SM 2320B)	Salinity (SM 2520B)	Hardness (ions) SM 2340C	Dissolved gasses (MEE) RSK-175	Sample Specific Notes:
TB-111318	11/13/2018	0000	GRAB	Water	2		x												
MRC-MW-134A-111318	11/13/2018	1415	GRAB	Water	13		x	x	x	x	x	x	x	x	x	x	x	x	
MRC-MW-134B-111318	11/13/2018	1612	GRAB	Water	13		x	x	x	x	x	x	x	x	x	x	x	x	
MRC-MW-135B-111318	11/13/2018	0939	GRAB	Water	13		x	x	x	x	x	x	x	x	x	x	x	x	
MRC-MW-136A-111318	11/13/2018	1122	GRAB	Water	13		x	x	x	x	x	x	x	x	x	x	x	x	
MRC-MW-DUP-111318	11/13/2018	0000	GRAB	Water	13		x	x	x	x	x	x	x	x	x	x	x	x	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____							2	1	4	1	1	1	1	4	1	1	4	2	



Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For _____ Months*

Special Instructions/QC Requirements & Comments: Block F TCB Wells

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	TT NS	11-13-18 / 1930	[signature] POF	TAL	11-14-18 955
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 2, dated 03/06/2012

TestAmerica Canton Sample Receipt Form/Narrative **Login # :** 104369
Canton Facility

Client TETRA TECH. Site Name —

Cooler unpacked by: BOP

Cooler Received on 11-14-18 Opened on 11-14-18

FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other

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

TestAmerica Cooler # TA 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 ~~(N/A)~~ See Multiple Cooler Form
   IR GUN# IR-8 (CF +0.9 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
   IR GUN #36 (CF +0.6°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 (Yes) No
   -Were the seals on the outside of the cooler(s) signed & dated? (Yes) No NA
   -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes (No)
   -Were tamper/custody seals intact and uncompromised? (Yes) No NA
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 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? (Yes) No NA pH Strip Lot# **HC850248**
13. Were VOAs on the COC? (Yes) No
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this. Yes (No) NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # COVERED (Yes) No
16. Was a LL Hg or Me Hg trip blank present? _____ Yes (No)

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: PVF

18. 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)

19. SAMPLE PRESERVATION

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

TestAmerica Multiple Cooler Receipt Form/Narrative **Login # :** 104364
Canton Facility

Cooler #	IR Gun #	Observed Temp °C	Corrected Temp °C	Coolant
TA	8	2.6	3.5	Ice
1	1	0.6	1.5	1

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Preservative Added (mls)	Lot #
MRC-MW-134A-111318	240-104369-I-2	Plastic 250ml - with Nitric Acid	<2	_____	_____
MRC-MW-134A-111318	240-104369-K-2	Plastic 500ml - with Nitric Acid	<2	_____	_____
MRC-MW-134B-111318	240-104369-I-3	Plastic 250ml - with Nitric Acid	<2	_____	_____
MRC-MW-134B-111318	240-104369-K-3	Plastic 500ml - with Nitric Acid	<2	_____	_____
MRC-MW-135B-111318	240-104369-I-4	Plastic 250ml - with Nitric Acid	<2	_____	_____
MRC-MW-135B-111318	240-104369-K-4	Plastic 500ml - with Nitric Acid	<2	_____	_____
MRC-MW-136A-111318	240-104369-I-5	Plastic 250ml - with Nitric Acid	<2	_____	_____
MRC-MW-136A-111318	240-104369-K-5	Plastic 500ml - with Nitric Acid	<2	_____	_____
MRC-MW-DUP-111318	240-104369-I-6	Plastic 250ml - with Nitric Acid	<2	_____	_____
MRC-MW-DUP-111318	240-104369-K-6	Plastic 500ml - with Nitric Acid	<2	_____	_____

APPENDIX H—VALIDATED DATA REPORTS

TETRA TECH

INTERNAL CORRESPONDENCE

TO: **S. BRENNER** **DATE:** **JANUARY 10, 2019**

FROM: **J. KALINYAK** **COPIES:** **DV FILE**

SUBJECT: **DATA VALIDATION – VOC**
MRC BLOCK F TCB WELLS
SAMPLE DELIVERY GROUP (SDG) 240-103828-1

SAMPLES: **1 / Aqueous – VOC**

TB-103118

2 / Soil – VOC

SB-MW134A-8-12.5 SB-MW134B-32-37

Overview

The sample set for MRC Block F, SDG 240-103828-1, consisted of one (1) aqueous trip blank sample and two (2) soil samples. All samples were analyzed for volatile organic compounds (VOCs) as listed above. No field duplicate sample pairs were included in the sample delivery group (SDG).

The samples were collected by Tetra Tech on October 31, 2018 and analyzed by TestAmerica Laboratories Inc., North Canton, for all analyses. All analyses were conducted in accordance with EPA SW-846 Methods 8260B for VOCs, 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, blank results, blank spike/blank spike duplicate results, matrix spike/matrix spike duplicate results, surrogate spike recoveries, internal standard recoveries, chromatographic resolution, analyte identification, analyte quantitation, and detection limits. Areas of concern are listed below.

Major Problems

- The laboratory narrative indicated that the sample TB-113118 was acid preserved. The VOC analyte 2-chlororethyl vinyl ether is known to rapidly deteriorate under acidic conditions. The sample non-detected result for 2-chloroethyl vinyl ether was qualified rejected, (UR), due to the laboratory narrative indicating that the sample was acid preserved.

Minor Problems

- Detected results reported below the quantitation limit but above the method detection limit (MDL) were qualified as estimated, (J).

- The VOC initial calibration verification (ICV) percent differences (%Ds) were greater than the 20% quality control (QC) limit for hexachlorobutadiene and 1,2,3-trichlorobenzene for instrument A3UX10 on 10/02/18 @ 18:21 affecting VOC sample TB-103118. The sample had non-detected results for the aforementioned analytes which were qualified estimated, (UJ).

- The VOC continuing calibration verification (CCV) %Ds were greater than the 20% QC limit for dichlorodifluoromethane, chloromethane, bromomethane, chloroethane, and 2-chloroethyl vinyl ether for instrument A3UX10 on 11/13/18 @ 11:20 affecting VOC sample TB-103118. The sample had non-detected results for the aforementioned analytes which were qualified estimated, (UJ), with the exception of the 2-chloroethyl vinyl ether non-detected result which was rejected due to an acid preservation issue.

- The VOC CCV %D was greater than the 20% QC limit for tert-butyl alcohol for instrument A3UX15 on 11/14/18 @ 11:15 affecting VOC sample TB-103118. The sample had a non-detected result for the tert-butyl alcohol which was qualified estimated, (UJ).

- The VOC CCV %Ds were greater than the 20% QC limit for ethyl tert-butyl ether, chloromethane, dichlorodifluoromethane, chloromethane, 1,2-dibromo-3-chloropropane, and naphthalene for instrument A3UX8 on 11/13/18 @ 22:52 and @ 23:15 affecting VOC samples SB-MW134A-8-12.5 and SB-MW134B-32-37. The samples had non-detected results for the aforementioned analytes which were qualified estimated, (UJ).

- Tentatively identified compounds reported as unknown compounds were detected in both samples SB-MW134A-8-12.5 and SB-MW134B-32-37 at approximately the same time on the sample chromatograms. The results for unknown compounds were qualified as presumptively present estimated, (NJ).

Notes

The VOCs acetone and tertiary-butyl alcohol were detected in the trip blank sample TB-103118. The associated SDG samples had non-detected results for acetone and tertiary-butyl alcohol and no action was taken.

The VOCs 1,2,3-trichlorobenzene and 1,2,4-trichlorobenzene were detected in the method blank sample MB 240-35527/8. The associated SDG samples had non-detected results for 1,2,3-trichlorobenzene and 1,2,4-trichlorobenzene and no action was taken.

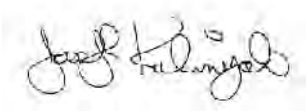
Sample analyte results were reported to the Method Detection Limit.

EXECUTIVE SUMMARY

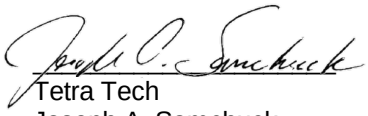
Laboratory Performance Issues: VOC results were qualified for ICV and CCV %D QC limit exceedances.

Other Factors Affecting Data Quality: Detected results reported below the quantitation limit but above the method detection limit were qualified as estimated, (J). The trip blank sample non-detected 2-chlororethyl vinyl ether result was rejected due to sample acidification as noted in the laboratory narrative. Sample unidentified analyte peaks were qualified estimated.

The data for these analyses were reviewed with reference to the USEPA National Functional Guidelines for Superfund Organic Methods Data Review (January 2017).



Tetra Tech
Joseph Kalinyak
Data Validator/Environmental Scientist



Tetra Tech
Joseph A. Samchuck
Data Validation Manager

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.

U	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted detection limit.
J	The result is an estimated quantity. 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).
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
NJ	The analyte has been “tentatively identified” or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.
R	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.
UR	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.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team, but exclusion of the data is recommended.

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 x 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

PROJ_NO: 08667	NSAMPLE	TB-103118		
SDG: 240-103828-1	LAB_ID	240-103828-1		
FRACTION: OV	SAMP_DATE	10/31/2018		
MEDIA: WATER	QC_TYPE	TB		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		0.14	U	
1,1,1-TRICHLOROETHANE		0.24	U	
1,1,2,2-TETRACHLOROETHANE		0.13	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		0.41	U	
1,1-DICHLOROETHANE		0.17	U	
1,1-DICHLOROETHENE		0.19	U	
1,1-DICHLOROPROPENE		0.14	U	
1,2,3-TRICHLOROBENZENE		0.54	UJ	C
1,2,3-TRICHLOROPROPANE		0.24	U	
1,2,3-TRIMETHYLBENZENE		0.14	U	
1,2,4-TRICHLOROBENZENE		0.26	U	
1,2,4-TRIMETHYLBENZENE		0.07	U	
1,2-DIBROMO-3-CHLOROPROPANE		0.91	U	
1,2-DIBROMOETHANE		0.12	U	
1,2-DICHLOROBENZENE		0.15	U	
1,2-DICHLOROETHANE		0.21	U	
1,2-DICHLOROPROPANE		0.15	U	
1,3-DICHLOROBENZENE		0.15	U	
1,3-DICHLOROPROPANE		0.21	U	
1,4-DICHLOROBENZENE		0.16	U	
2,2-DICHLOROPROPANE		0.31	U	
2-BUTANONE		1.2	U	
2-CHLOROETHYL VINYL ETHER		0.26	UR	M
2-CHLOROTOLUENE		0.15	U	
2-HEXANONE		0.54	U	
4-CHLOROTOLUENE		0.09	U	
4-ISOPROPYLTOLUENE		0.13	U	
4-METHYL-2-PENTANONE		0.42	U	
ACETONE		5.8	J	P
BENZENE		0.13	U	
BROMOBENZENE		0.12	U	
BROMOCHLOROMETHANE		0.14	U	
BROMODICHLOROMETHANE		0.17	U	
BROMOFORM		0.76	U	
BROMOMETHANE		0.42	UJ	C

PROJ_NO: 08667	NSAMPLE	TB-103118		
SDG: 240-103828-1	LAB_ID	240-103828-1		
FRACTION: OV	SAMP_DATE	10/31/2018		
MEDIA: WATER	QC_TYPE	TB		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
CARBON DISULFIDE		0.28	U	
CARBON TETRACHLORIDE		0.26	U	
CHLOROBENZENE		0.14	U	
CHLORODIBROMOMETHANE		0.39	U	
CHLOROETHANE		0.83	UJ	C
CHLOROFORM		0.13	U	
CHLOROMETHANE		0.2	UJ	C
CIS-1,2-DICHLOROETHENE		0.16	U	
CIS-1,3-DICHLOROPROPENE		0.61	U	
DIBROMOMETHANE		0.09	U	
DICHLORODIFLUOROMETHANE		0.35	UJ	C
DIISOPROPYL ETHER		0.17	U	
ETHYL TERT-BUTYL ETHER		0.15	U	
ETHYLBENZENE		0.11	U	
HEXACHLOROBUTADIENE		0.83	UJ	C
ISOPROPYLBENZENE		0.09	U	
METHYL TERT-BUTYL ETHER		0.07	U	
METHYLENE CHLORIDE		2.6	U	
NAPHTHALENE		0.32	U	
N-BUTYLBENZENE		0.14	U	
N-PROPYLBENZENE		0.15	U	
SEC-BUTYLBENZENE		0.13	U	
STYRENE		0.1	U	
TERT-AMYL METHYL ETHER		0.11	U	
TERT-BUTYLBENZENE		0.14	U	
TERTIARY-BUTYL ALCOHOL		6.8	J	P
TETRACHLOROETHENE		0.15	U	
TOLUENE		0.14	U	
TOTAL XYLENES		0.15	U	
TRANS-1,2-DICHLOROETHENE		0.19	U	
TRANS-1,3-DICHLOROPROPENE		0.67	U	
TRICHLOROETHENE		0.1	U	
TRICHLOROFLUOROMETHANE		0.45	U	
VINYL ACETATE		0.19	U	
VINYL CHLORIDE		0.2	U	

PROJ_NO: 08667	NSAMPLE	SB-MW134A-8-12.5			SB-MW134B-32-37		
SDG: 240-103828-1	LAB_ID	240-103828-2			240-103828-3		
FRACTION: OV	SAMP_DATE	10/31/2018			10/31/2018		
MEDIA: SOIL	QC_TYPE	NM			NM		
	UNITS	UG/KG			UG/KG		
	PCT_SOLIDS	80.4			83.2		
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		3.5	U		3.3	U	
1,1,1-TRICHLOROETHANE		0.95	U		0.91	U	
1,1,2,2-TETRACHLOROETHANE		1.7	U		1.6	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		1.5	U		1.4	U	
1,1-DICHLOROETHANE		0.81	U		0.77	U	
1,1-DICHLOROETHENE		1	U		1	U	
1,1-DICHLOROPROPENE		1.1	U		1.1	U	
1,2,3-TRICHLOROBENZENE		0.67	U		0.64	U	
1,2,3-TRICHLOROPROPANE		1.8	U		1.7	U	
1,2,3-TRIMETHYLBENZENE		2.1	U		2	U	
1,2,4-TRICHLOROBENZENE		0.66	U		0.64	U	
1,2,4-TRIMETHYLBENZENE		1.2	U		1.1	U	
1,2-DIBROMO-3-CHLOROPROPANE		4.2	UJ	C	4	UJ	C
1,2-DIBROMOETHANE		0.89	U		0.86	U	
1,2-DICHLOROBENZENE		1.3	U		1.2	U	
1,2-DICHLOROETHANE		0.9	U		0.86	U	
1,2-DICHLOROPROPANE		0.99	U		0.95	U	
1,3-DICHLOROBENZENE		0.95	U		0.91	U	
1,3-DICHLOROPROPANE		1.1	U		1.1	U	
1,4-DICHLOROBENZENE		2.3	J	P	0.98	U	
2,2-DICHLOROPROPANE		1.4	U		1.3	U	
2-BUTANONE		4.1	U		4	U	
2-CHLOROETHYL VINYL ETHER		10	U		9.9	U	
2-CHLOROTOLUENE		1.1	U		1.1	U	
2-HEXANONE		4.7	U		4.6	U	
4-CHLOROTOLUENE		1	U		0.96	U	
4-ISOPROPYLTOLUENE		3.4	U		3.3	U	
4-METHYL-2-PENTANONE		4.3	U		4.1	U	
ACETONE		24	U		23	U	
BENZENE		0.81	U		0.78	U	
BROMOBENZENE		1.4	U		1.3	U	
BROMOCHLOROMETHANE		0.69	U		0.66	U	
BROMODICHLOROMETHANE		0.79	U		0.76	U	
BROMOFORM		2.8	U		2.7	U	
BROMOMETHANE		1.1	U		1.1	U	

PROJ_NO: 08667	NSAMPLE	SB-MW134A-8-12.5			SB-MW134B-32-37		
SDG: 240-103828-1	LAB_ID	240-103828-2			240-103828-3		
FRACTION: OV	SAMP_DATE	10/31/2018			10/31/2018		
MEDIA: SOIL	QC_TYPE	NM			NM		
	UNITS	UG/KG			UG/KG		
	PCT_SOLIDS	80.4			83.2		
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON DISULFIDE		1.4	U		1.3	U	
CARBON TETRACHLORIDE		3.8	U		3.6	U	
CHLOROBENZENE		6.6			1	U	
CHLORODIBROMOMETHANE		3.2	U		3.1	U	
CHLOROETHANE		1.4	U		1.4	U	
CHLOROFORM		0.92	U		0.88	U	
CHLOROMETHANE		1.2	UJ	C	1.2	UJ	C
CIS-1,2-DICHLOROETHENE		0.76	U		0.73	U	
CIS-1,3-DICHLOROPROPENE		1.7	U		1.6	U	
DIBROMOMETHANE		0.78	U		0.75	U	
DICHLORODIFLUOROMETHANE		1.1	UJ	C	1.1	UJ	C
DIISOPROPYL ETHER		0.88	U		0.84	U	
ETHYL TERT-BUTYL ETHER		2.6	UJ	C	2.5	UJ	C
ETHYLBENZENE		1.2	U		1.2	U	
HEXACHLOROBUTADIENE		4.3	U		4.2	U	
ISOPROPYLBENZENE		0.97	U		0.93	U	
M+P-XYLENES		0.91	U		0.87	U	
METHYL TERT-BUTYL ETHER		0.95	U		0.91	U	
METHYLENE CHLORIDE		14	U		13	U	
NAPHTHALENE		3.1	UJ	C	3	UJ	C
N-BUTYLBENZENE		4	U		3.9	U	
N-PROPYLBENZENE		0.85	U		0.82	U	
O-XYLENE		1	U		0.96	U	
SEC-BUTYLBENZENE		1	U		0.96	U	
STYRENE		1.3	U		1.3	U	
TERT-AMYL METHYL ETHER		2.6	U		2.5	U	
TERT-BUTYLBENZENE		1.1	U		1	U	
TERTIARY-BUTYL ALCOHOL		19	U		18	U	
TETRACHLOROETHENE		0.85	U		0.81	U	
TOLUENE		0.9	U		0.86	U	
TOTAL XYLENES		1.8	U		1.8	U	
TRANS-1,2-DICHLOROETHENE		0.54	U		0.52	U	
TRANS-1,3-DICHLOROPROPENE		1.2	U		1.2	U	
TRICHLOROETHENE		0.74	U		0.71	U	
TRICHLOROFLUOROMETHANE		1.3	U		1.2	U	

PROJ_NO: 08667	NSAMPLE	SB-MW134A-8-12.5			SB-MW134B-32-37		
SDG: 240-103828-1	LAB_ID	240-103828-2			240-103828-3		
FRACTION: OV	SAMP_DATE	10/31/2018			10/31/2018		
MEDIA: SOIL	QC_TYPE	NM			NM		
	UNITS	UG/KG			UG/KG		
	PCT_SOLIDS	80.4			83.2		
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
UNKNOWN [3.32]		16	NJ	Z1			
UNKNOWN [3.33]					17	NJ	Z1
UNKNOWN [4.23]		17	NJ	Z1			
UNKNOWN [4.24]					17	NJ	Z1
VINYL ACETATE		2.5	U		2.4	U	
VINYL CHLORIDE		0.97	U		0.93	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: TB-103118 | Lab Sample ID: 240-103828-1

Matrix: Water | Lab File ID: UXX7899.D

Analysis Method: 8260B | Date Collected: 10/31/2018 00:00

Sample wt/vol: 5(mL) | Date Analyzed: 11/13/2018 21:26

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.: 355135 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	5.8	J	10	5.4
630-20-6	1,1,1,2-Tetrachloroethane	0.14	U	1.0	0.14
71-43-2	Benzene	0.13	U	1.0	0.13
75-27-4	Bromodichloromethane	0.17	U	1.0	0.17
75-25-2	Bromoform	0.76	U	1.0	0.76
74-83-9	Bromomethane	0.42	U	1.0	0.42
78-93-3	2-Butanone (MEK)	1.2	U	10	1.2
75-15-0	Carbon disulfide	0.28	U	1.0	0.28
56-23-5	Carbon tetrachloride	0.26	U	1.0	0.26
108-90-7	Chlorobenzene	0.14	U	1.0	0.14
75-00-3	Chloroethane	0.83	U	1.0	0.83
67-66-3	Chloroform	0.13	U	1.0	0.13
563-58-6	1,1-Dichloropropene	0.14	U	1.0	0.14
74-87-3	Chloromethane	0.20	U	1.0	0.20
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17
87-61-6	1,2,3-Trichlorobenzene	0.54	U	1.0	0.54
96-18-4	1,2,3-Trichloropropane	0.24	U	1.0	0.24
107-06-2	1,2-Dichloroethane	0.21	U	1.0	0.21
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19
526-73-8	1,2,3-Trimethylbenzene	0.14	U	5.0	0.14
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15
95-63-6	1,2,4-Trimethylbenzene	0.070	U	1.0	0.070
10061-01-5	cis-1,3-Dichloropropene	0.61	U	1.0	0.61
10061-02-6	trans-1,3-Dichloropropene	0.67	U	1.0	0.67
100-41-4	Ethylbenzene	0.11	U	1.0	0.11
591-78-6	2-Hexanone	0.54	U	10	0.54
75-09-2	Methylene Chloride	2.6	U	5.0	2.6
108-10-1	4-Methyl-2-pentanone (MIBK)	0.42	U	10	0.42
100-42-5	Styrene	0.10	U	1.0	0.10
79-34-5	1,1,2,2-Tetrachloroethane	0.13	U	1.0	0.13
127-18-4	Tetrachloroethene	0.15	U	1.0	0.15
108-88-3	Toluene	0.14	U	1.0	0.14
79-01-6	Trichloroethene	0.10	U	1.0	0.10
75-01-4	Vinyl chloride	0.20	U	1.0	0.20
1330-20-7	Xylenes, Total	0.15	U	2.0	0.15
71-55-6	1,1,1-Trichloroethane	0.24	U	1.0	0.24

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: TB-103118 | Lab Sample ID: 240-103828-1

Matrix: Water | Lab File ID: UXX7899.D

Analysis Method: 8260B | Date Collected: 10/31/2018 00:00

Sample wt/vol: 5(mL) | Date Analyzed: 11/13/2018 21:26

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.: 355135 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.21	U	1.0	0.21
96-12-8	1,2-Dibromo-3-Chloropropane	0.91	U	2.0	0.91
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12
75-71-8	Dichlorodifluoromethane	0.35	U	1.0	0.35
156-59-2	cis-1,2-Dichloroethene	0.16	U	1.0	0.16
156-60-5	trans-1,2-Dichloroethene	0.19	U	1.0	0.19
98-82-8	Isopropylbenzene	0.090	U	1.0	0.090
1634-04-4	Methyl tert-butyl ether	0.070	U	1.0	0.070
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
120-82-1	1,2,4-Trichlorobenzene	0.26	U	1.0	0.26
594-20-7	2,2-Dichloropropane	0.31	U	1.0	0.31
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.15	U	1.0	0.15
106-46-7	1,4-Dichlorobenzene	0.16	U	1.0	0.16
110-75-8	2-Chloroethyl vinyl ether	0.26	U	10	0.26
75-69-4	Trichlorofluoromethane	0.45	U	1.0	0.45
95-49-8	2-Chlorotoluene	0.15	U	1.0	0.15
124-48-1	Chlorodibromomethane	0.39	U	1.0	0.39
108-86-1	Bromobenzene	0.12	U	1.0	0.12
74-97-5	Bromochloromethane	0.14	U	1.0	0.14
106-43-4	4-Chlorotoluene	0.090	U	1.0	0.090
99-87-6	4-Isopropyltoluene	0.13	U	1.0	0.13
87-68-3	Hexachlorobutadiene	0.83	U	1.0	0.83
74-95-3	Dibromomethane	0.090	U	1.0	0.090
108-20-3	Diisopropyl ether	0.17	U	10	0.17
91-20-3	Naphthalene	0.32	U	1.0	0.32
104-51-8	n-Butylbenzene	0.14	U	1.0	0.14
103-65-1	N-Propylbenzene	0.15	U	1.0	0.15
135-98-8	sec-Butylbenzene	0.13	U	1.0	0.13
994-05-8	Tert-amyl methyl ether	0.11	U	5.0	0.11
637-92-3	Ethyl tert-butyl ether	0.15	U	5.0	0.15
98-06-6	tert-Butylbenzene	0.14	U	1.0	0.14
108-05-4	Vinyl acetate	0.19	U	2.0	0.19

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: TB-103118 | Lab Sample ID: 240-103828-1

Matrix: Water | Lab File ID: UXX7899.D

Analysis Method: 8260B | Date Collected: 10/31/2018 00:00

Sample wt/vol: 5(mL) | Date Analyzed: 11/13/2018 21:26

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.: 355135 | Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	94		70-121
460-00-4	4-Bromofluorobenzene (Surr)	93		59-120
2037-26-5	Toluene-d8 (Surr)	98		70-123
1868-53-7	Dibromofluoromethane (Surr)	99		75-128

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: TB-103118 | Lab Sample ID: 240-103828-1

Matrix: Water | Lab File ID: UXC7102.D

Analysis Method: 8260B | Date Collected: 10/31/2018 00:00

Sample wt/vol: 5(mL) | Date Analyzed: 11/14/2018 17:27

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.: 355371 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q		RL	MDL
75-65-0	tert-Butyl alcohol	6.8	J		50	1.7

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	106		70-121
460-00-4	4-Bromofluorobenzene (Surr)	74		59-120
2037-26-5	Toluene-d8 (Surr)	89		70-123
1868-53-7	Dibromofluoromethane (Surr)	121		75-128

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: SB-MW134A-8-12.5 | Lab Sample ID: 240-103828-2

Matrix: Solid | Lab File ID: UX80907.D

Analysis Method: 8260B | Date Collected: 10/31/2018 14:10

Sample wt/vol: 5.35(g) | Date Analyzed: 11/14/2018 02:20

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 19.6 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	3.5	U	5.8	3.5
71-55-6	1,1,1-Trichloroethane	0.95	U	5.8	0.95
79-34-5	1,1,2,2-Tetrachloroethane	1.7	U	5.8	1.7
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.5	U	5.8	1.5
75-34-3	1,1-Dichloroethane	0.81	U	5.8	0.81
75-35-4	1,1-Dichloroethene	1.0	U	5.8	1.0
563-58-6	1,1-Dichloropropene	1.1	U	5.8	1.1
87-61-6	1,2,3-Trichlorobenzene	0.67	U	5.8	0.67
96-18-4	1,2,3-Trichloropropane	1.8	U	5.8	1.8
526-73-8	1,2,3-Trimethylbenzene	2.1	U	5.8	2.1
120-82-1	1,2,4-Trichlorobenzene	0.66	U	5.8	0.66
95-63-6	1,2,4-Trimethylbenzene	1.2	U	5.8	1.2
96-12-8	1,2-Dibromo-3-Chloropropane	4.2	U	12	4.2
95-50-1	1,2-Dichlorobenzene	1.3	U	5.8	1.3
107-06-2	1,2-Dichloroethane	0.90	U	5.8	0.90
78-87-5	1,2-Dichloropropane	0.99	U	5.8	0.99
541-73-1	1,3-Dichlorobenzene	0.95	U	5.8	0.95
142-28-9	1,3-Dichloropropane	1.1	U	5.8	1.1
106-46-7	1,4-Dichlorobenzene	2.3	J	5.8	1.0
594-20-7	2,2-Dichloropropane	1.4	U	5.8	1.4
110-75-8	2-Chloroethyl vinyl ether	10	U	58	10
95-49-8	2-Chlorotoluene	1.1	U	5.8	1.1
591-78-6	2-Hexanone	4.7	U	23	4.7
108-86-1	Bromobenzene	1.4	U	5.8	1.4
74-97-5	Bromochloromethane	0.69	U	5.8	0.69
106-43-4	4-Chlorotoluene	1.0	U	5.8	1.0
99-87-6	p-Isopropyltoluene	3.4	U	5.8	3.4
67-64-1	Acetone	24	U	29	24
71-43-2	Benzene	0.81	U	5.8	0.81
75-25-2	Bromoform	2.8	U	5.8	2.8
74-83-9	Bromomethane	1.1	U	5.8	1.1
75-15-0	Carbon disulfide	1.4	U	5.8	1.4
56-23-5	Carbon tetrachloride	3.8	U	5.8	3.8
108-90-7	Chlorobenzene	6.6		5.8	1.1
75-00-3	Chloroethane	1.4	U	5.8	1.4

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: SB-MW134A-8-12.5 | Lab Sample ID: 240-103828-2

Matrix: Solid | Lab File ID: UX80907.D

Analysis Method: 8260B | Date Collected: 10/31/2018 14:10

Sample wt/vol: 5.35(g) | Date Analyzed: 11/14/2018 02:20

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 19.6 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-66-3	Chloroform	0.92	U	5.8	0.92
74-87-3	Chloromethane	1.2	U	5.8	1.2
156-59-2	cis-1,2-Dichloroethene	0.76	U	5.8	0.76
10061-01-5	cis-1,3-Dichloropropene	1.7	U	5.8	1.7
87-68-3	Hexachlorobutadiene	4.3	U	5.8	4.3
74-95-3	Dibromomethane	0.78	U	5.8	0.78
75-27-4	Bromodichloromethane	0.79	U	5.8	0.79
75-71-8	Dichlorodifluoromethane	1.1	U	5.8	1.1
100-41-4	Ethylbenzene	1.2	U	5.8	1.2
106-93-4	1,2-Dibromoethane	0.89	U	5.8	0.89
108-20-3	Diisopropyl ether	0.88	U	12	0.88
91-20-3	Naphthalene	3.1	U	5.8	3.1
179601-23-1	m-Xylene & p-Xylene	0.91	U	12	0.91
104-51-8	n-Butylbenzene	4.0	U	5.8	4.0
98-82-8	Isopropylbenzene	0.97	U	5.8	0.97
103-65-1	N-Propylbenzene	0.85	U	5.8	0.85
78-93-3	2-Butanone (MEK)	4.1	U	23	4.1
108-10-1	4-Methyl-2-pentanone (MIBK)	4.3	U	23	4.3
135-98-8	sec-Butylbenzene	1.0	U	5.8	1.0
1634-04-4	Methyl tert-butyl ether	0.95	U	5.8	0.95
994-05-8	Tert-amyl methyl ether	2.6	U	5.8	2.6
75-09-2	Methylene Chloride	14	U	29	14
95-47-6	o-Xylene	1.0	U	5.8	1.0
100-42-5	Styrene	1.3	U	5.8	1.3
637-92-3	Ethyl tert-butyl ether	2.6	U	5.8	2.6
98-06-6	tert-Butylbenzene	1.1	U	5.8	1.1
127-18-4	Tetrachloroethene	0.85	U	5.8	0.85
108-88-3	Toluene	0.90	U	5.8	0.90
156-60-5	trans-1,2-Dichloroethene	0.54	U	5.8	0.54
10061-02-6	trans-1,3-Dichloropropene	1.2	U	5.8	1.2
79-01-6	Trichloroethene	0.74	U	5.8	0.74
75-69-4	Trichlorofluoromethane	1.3	U	5.8	1.3
108-05-4	Vinyl acetate	2.5	U	12	2.5
75-01-4	Vinyl chloride	0.97	U	5.8	0.97
75-65-0	tert-Butyl alcohol	19	U	230	19
1330-20-7	Xylenes, Total	1.8	U	12	1.8

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: SB-MW134A-8-12.5 | Lab Sample ID: 240-103828-2

Matrix: Solid | Lab File ID: UX80907.D

Analysis Method: 8260B | Date Collected: 10/31/2018 14:10

Sample wt/vol: 5.35(g) | Date Analyzed: 11/14/2018 02:20

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 19.6 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	3.2	U	5.8	3.2

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	88		48-123
460-00-4	4-Bromofluorobenzene (Surr)	82		49-141
2037-26-5	Toluene-d8 (Surr)	89		62-135
1868-53-7	Dibromofluoromethane (Surr)	86		49-132

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

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: SB-MW134A-8-12.5 | Lab Sample ID: 240-103828-2

Matrix: Solid | Lab File ID: UX80907.D

Analysis Method: 8260B | Date Collected: 10/31/2018 14:10

Sample wt/vol: 5.35(g) | Date Analyzed: 11/14/2018 02:20

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 19.6 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

Number TICs Found: 2 | TIC Result Total: 33

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Unknown	3.32	16	T J	
	Unknown	4.23	17	T J	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: SB-MW134B-32-37 | Lab Sample ID: 240-103828-3

Matrix: Solid | Lab File ID: UX80908.D

Analysis Method: 8260B | Date Collected: 10/31/2018 16:30

Sample wt/vol: 5.39(g) | Date Analyzed: 11/14/2018 02:43

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 16.8 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	3.3	U	5.6	3.3
71-55-6	1,1,1-Trichloroethane	0.91	U	5.6	0.91
79-34-5	1,1,2,2-Tetrachloroethane	1.6	U	5.6	1.6
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.4	U	5.6	1.4
75-34-3	1,1-Dichloroethane	0.77	U	5.6	0.77
75-35-4	1,1-Dichloroethene	1.0	U	5.6	1.0
563-58-6	1,1-Dichloropropene	1.1	U	5.6	1.1
87-61-6	1,2,3-Trichlorobenzene	0.64	U	5.6	0.64
96-18-4	1,2,3-Trichloropropane	1.7	U	5.6	1.7
526-73-8	1,2,3-Trimethylbenzene	2.0	U	5.6	2.0
120-82-1	1,2,4-Trichlorobenzene	0.64	U	5.6	0.64
95-63-6	1,2,4-Trimethylbenzene	1.1	U	5.6	1.1
96-12-8	1,2-Dibromo-3-Chloropropane	4.0	U	11	4.0
95-50-1	1,2-Dichlorobenzene	1.2	U	5.6	1.2
107-06-2	1,2-Dichloroethane	0.86	U	5.6	0.86
78-87-5	1,2-Dichloropropane	0.95	U	5.6	0.95
541-73-1	1,3-Dichlorobenzene	0.91	U	5.6	0.91
142-28-9	1,3-Dichloropropane	1.1	U	5.6	1.1
106-46-7	1,4-Dichlorobenzene	0.98	U	5.6	0.98
594-20-7	2,2-Dichloropropane	1.3	U	5.6	1.3
110-75-8	2-Chloroethyl vinyl ether	9.9	U	56	9.9
95-49-8	2-Chlorotoluene	1.1	U	5.6	1.1
591-78-6	2-Hexanone	4.6	U	22	4.6
108-86-1	Bromobenzene	1.3	U	5.6	1.3
74-97-5	Bromochloromethane	0.66	U	5.6	0.66
106-43-4	4-Chlorotoluene	0.96	U	5.6	0.96
99-87-6	p-Isopropyltoluene	3.3	U	5.6	3.3
67-64-1	Acetone	23	U	28	23
71-43-2	Benzene	0.78	U	5.6	0.78
75-25-2	Bromoform	2.7	U	5.6	2.7
74-83-9	Bromomethane	1.1	U	5.6	1.1
75-15-0	Carbon disulfide	1.3	U	5.6	1.3
56-23-5	Carbon tetrachloride	3.6	U	5.6	3.6
108-90-7	Chlorobenzene	1.0	U	5.6	1.0
75-00-3	Chloroethane	1.4	U	5.6	1.4

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: SB-MW134B-32-37 | Lab Sample ID: 240-103828-3

Matrix: Solid | Lab File ID: UX80908.D

Analysis Method: 8260B | Date Collected: 10/31/2018 16:30

Sample wt/vol: 5.39(g) | Date Analyzed: 11/14/2018 02:43

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 16.8 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-66-3	Chloroform	0.88	U	5.6	0.88
74-87-3	Chloromethane	1.2	U	5.6	1.2
156-59-2	cis-1,2-Dichloroethene	0.73	U	5.6	0.73
10061-01-5	cis-1,3-Dichloropropene	1.6	U	5.6	1.6
87-68-3	Hexachlorobutadiene	4.2	U	5.6	4.2
74-95-3	Dibromomethane	0.75	U	5.6	0.75
75-27-4	Bromodichloromethane	0.76	U	5.6	0.76
75-71-8	Dichlorodifluoromethane	1.1	U	5.6	1.1
100-41-4	Ethylbenzene	1.2	U	5.6	1.2
106-93-4	1,2-Dibromoethane	0.86	U	5.6	0.86
108-20-3	Diisopropyl ether	0.84	U	11	0.84
91-20-3	Naphthalene	3.0	U	5.6	3.0
179601-23-1	m-Xylene & p-Xylene	0.87	U	11	0.87
104-51-8	n-Butylbenzene	3.9	U	5.6	3.9
98-82-8	Isopropylbenzene	0.93	U	5.6	0.93
103-65-1	N-Propylbenzene	0.82	U	5.6	0.82
78-93-3	2-Butanone (MEK)	4.0	U	22	4.0
108-10-1	4-Methyl-2-pentanone (MIBK)	4.1	U	22	4.1
135-98-8	sec-Butylbenzene	0.96	U	5.6	0.96
1634-04-4	Methyl tert-butyl ether	0.91	U	5.6	0.91
994-05-8	Tert-amyl methyl ether	2.5	U	5.6	2.5
75-09-2	Methylene Chloride	13	U	28	13
95-47-6	o-Xylene	0.96	U	5.6	0.96
100-42-5	Styrene	1.3	U	5.6	1.3
637-92-3	Ethyl tert-butyl ether	2.5	U	5.6	2.5
98-06-6	tert-Butylbenzene	1.0	U	5.6	1.0
127-18-4	Tetrachloroethene	0.81	U	5.6	0.81
108-88-3	Toluene	0.86	U	5.6	0.86
156-60-5	trans-1,2-Dichloroethene	0.52	U	5.6	0.52
10061-02-6	trans-1,3-Dichloropropene	1.2	U	5.6	1.2
79-01-6	Trichloroethene	0.71	U	5.6	0.71
75-69-4	Trichlorofluoromethane	1.2	U	5.6	1.2
108-05-4	Vinyl acetate	2.4	U	11	2.4
75-01-4	Vinyl chloride	0.93	U	5.6	0.93
75-65-0	tert-Butyl alcohol	18	U	220	18
1330-20-7	Xylenes, Total	1.8	U	11	1.8

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: SB-MW134B-32-37 | Lab Sample ID: 240-103828-3

Matrix: Solid | Lab File ID: UX80908.D

Analysis Method: 8260B | Date Collected: 10/31/2018 16:30

Sample wt/vol: 5.39(g) | Date Analyzed: 11/14/2018 02:43

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 16.8 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	3.1	U	5.6	3.1

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	88		48-123
460-00-4	4-Bromofluorobenzene (Surr)	79		49-141
2037-26-5	Toluene-d8 (Surr)	85		62-135
1868-53-7	Dibromofluoromethane (Surr)	85		49-132

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

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: SB-MW134B-32-37 | Lab Sample ID: 240-103828-3

Matrix: Solid | Lab File ID: UX80908.D

Analysis Method: 8260B | Date Collected: 10/31/2018 16:30

Sample wt/vol: 5.39(g) | Date Analyzed: 11/14/2018 02:43

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 16.8 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

Number TICs Found: 2 | TIC Result Total: 34

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Unknown	3.33	17	T J	
	Unknown	4.24	17	T J	

APPENDIX C

SUPPORT DOCUMENTATION

1.4/2.3

North Canton
4101 Shuffel Street, N. W.

North Canton, OH 44720
phone 330.497.9396 fax 330.497.0772

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Mike Martin	Site Contact: Mullis	Date: 10/31/2018	COC No:
Tetra Tech	Tel: 301-528-3021	Lab Contact: John McFadden	Carrier: Fedex	1 of 1 COCs
20251 Century Blvd, Suite 200	Analysis Turnaround Time			Job No.
Germantown, MD 20874	Calendar (C) or Work Days (W)			
(301) 528-3021 Phone	TAT if different from Below STANDARD			
(301) 528-3000 FAX	☐ 2 weeks			
Project Name: MRC Block F TCB Wells	☐ 1 week			
Site: MRC Block F	☐ 2 days			
PO # 112IC08667	☐ 1 day			

240-103828 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs (8260)	Sample Specific Notes:
TB-103118	10/31/2018	0000	GRAB	Water	2		x	
SB-MW134A-8-12.5	10/31/2018	1410	GRAB	SOIL	1		x	
SB-MW134B-32-37	10/31/2018	1630	GRAB	SOIL	1		x	

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Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments: Soil Samples from Block F TCB monitoring well install

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	Tetra Tech Inc	11/1/18 1300		11/1/18	1520
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
		11/1/18		TT	11-2-18 935
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 2, dated 03/06/2012

TestAmerica Canton Sample Receipt Form/Narrative **Login # : 103828**
Canton Facility

Client TetraTech Site Name _____ Cooler unpacked by:

Cooler Received on 11-2-18 Opened on 11-2-18

FedEx: 1st Grd Exp UPS FAS Clipper 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 ☐ See Multiple Cooler Form
   IR GUN# IR-8 (CF +0.9 °C) Observed Cooler Temp. 1.4 °C Corrected Cooler Temp. 2.3 °C
   IR GUN #36 (CF +0.6°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
   -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
   -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
   -Were tamper/custody seals intact and uncompromised? Yes No NA
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 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# **HC849161**
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this. Yes No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
16. Was a LL Hg or Me Hg trip blank present? _____ Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by: POF

18. 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)

19. SAMPLE PRESERVATION

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

CASE NARRATIVE

Client: Tetra Tech, Inc.

Project: MRC Block F TCB Wells

Report Number: 240-103828-1

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.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

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

RECEIPT
The samples were received on 11/2/2018 9:35 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.3º C.

VOLATILE ORGANIC COMPOUNDS (GCMS)
Samples SB-MW134A-8-12.5 (240-103828-2) and SB-MW134B-32-37 (240-103828-3) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were prepared and analyzed on 11/14/2018.

1,2,3-Trichlorobenzene and 1,2,4-Trichlorobenzene were detected in method blank MB 240-355270/8 at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

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

VOLATILE ORGANIC COMPOUNDS (GCMS)
Sample TB-103118 (240-103828-1) was analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The sample was analyzed on 11/13/2018 and 11/14/2018.

2-Chloroethyl vinyl ether cannot be reliably recovered in an acid preserved sample.The following sample was received in hydrochloric acid preserved vials: TB-103118 (240-103828-1)

The laboratory control sample (LCS) for 355371 recovered outside control limits for the following analyte(s): 2-Chloroethyl Vinyl Ether. This analyte has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. TB-103118 (240-103828-1)

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

PERCENT SOLIDS
Samples SB-MW134A-8-12.5 (240-103828-2) and SB-MW134B-32-37 (240-103828-3) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 11/05/2018.

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

GC/MS VOA

Analysis Batch: 355135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-103828-1	TB-103118	Total/NA	Water	8260B	
MB 240-355135/6	Method Blank	Total/NA	Water	8260B	
LCS 240-355135/4	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 355270

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-103828-2	SB-MW134A-8-12.5	Total/NA	Solid	8260B	355273
240-103828-3	SB-MW134B-32-37	Total/NA	Solid	8260B	355273
MB 240-355270/8	Method Blank	Total/NA	Solid	8260B	
LCS 240-355270/7	Lab Control Sample	Total/NA	Solid	8260B	
240-103828-3 MS	SB-MW134B-32-37	Total/NA	Solid	8260B	355273
240-103828-3 MSD	SB-MW134B-32-37	Total/NA	Solid	8260B	355273

Prep Batch: 355273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-103828-2	SB-MW134A-8-12.5	Total/NA	Solid	5030A	
240-103828-3	SB-MW134B-32-37	Total/NA	Solid	5030A	
240-103828-3 MS	SB-MW134B-32-37	Total/NA	Solid	5030A	
240-103828-3 MSD	SB-MW134B-32-37	Total/NA	Solid	5030A	

Analysis Batch: 355371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-103828-1	TB-103118	Total/NA	Water	8260B	
MB 240-355371/6	Method Blank	Total/NA	Water	8260B	
LCS 240-355371/4	Lab Control Sample	Total/NA	Water	8260B	

General Chemistry

Analysis Batch: 353626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-103828-2	SB-MW134A-8-12.5	Total/NA	Solid	Moisture	
240-103828-3	SB-MW134B-32-37	Total/NA	Solid	Moisture	
240-103828-3 DU	SB-MW134B-32-37	Total/NA	Solid	Moisture	

Client Sample ID: TB-103118
Lab Sample ID: 240-103828-1
Date Collected: 10/31/18 00:00
Matrix: Water
Date Received: 11/02/18 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	355135	11/13/18 21:26	LRW	TAL CAN
Total/NA	Analysis	8260B		1	355371	11/14/18 17:27	LEE	TAL CAN

Client Sample ID: SB-MW134A-8-12.5
Lab Sample ID: 240-103828-2
Date Collected: 10/31/18 14:10
Matrix: Solid
Date Received: 11/02/18 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	353626	11/05/18 18:55	MES	TAL CAN

Client Sample ID: SB-MW134A-8-12.5
Lab Sample ID: 240-103828-2
Date Collected: 10/31/18 14:10
Matrix: Solid
Date Received: 11/02/18 09:35
Percent Solids: 80.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030A			355273	11/14/18 00:12	TJL2	TAL CAN
Total/NA	Analysis	8260B		1	355270	11/14/18 02:20	TJL2	TAL CAN

Client Sample ID: SB-MW134B-32-37
Lab Sample ID: 240-103828-3
Date Collected: 10/31/18 16:30
Matrix: Solid
Date Received: 11/02/18 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	353626	11/05/18 18:55	MES	TAL CAN

Client Sample ID: SB-MW134B-32-37
Lab Sample ID: 240-103828-3
Date Collected: 10/31/18 16:30
Matrix: Solid
Date Received: 11/02/18 09:35
Percent Solids: 83.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030A			355273	11/14/18 00:12	TJL2	TAL CAN
Total/NA	Analysis	8260B		1	355270	11/14/18 02:43	TJL2	TAL CAN

Laboratory References:

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

Method Summary

Client: Tetra Tech, Inc.
Project/Site: MRC Block F TCB Wells

TestAmerica Job ID: 240-103828-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030A	Purge and Trap	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

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

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: MRC Block F TCB Wells

TestAmerica Job ID: 240-103828-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-103828-1	TB-103118	Water	10/31/18 00:00	11/02/18 09:35
240-103828-2	SB-MW134A-8-12.5	Solid	10/31/18 14:10	11/02/18 09:35
240-103828-3	SB-MW134B-32-37	Solid	10/31/18 16:30	11/02/18 09:35

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

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab File ID: BFB1940.D BFB Injection Date: 10/02/2018

Instrument ID: A3UX10 BFB Injection Time: 14:58

Analysis Batch No.: 348190

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	22.4	
75	30.0 - 60.0 % of mass 95	52.0	
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	1.5	(2.0) 1
174	50.0 - 120.00 % of mass 95	73.9	
175	5.0 - 9.0 % of mass 174	5.6	(7.5) 1
176	95.0 - 101.0 % of mass 174	74.0	(100.0) 1
177	5.0 - 9.0 % of mass 176	6.7	(9.0) 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
	STD8260 240-348190/2	UXX5939.D	10/02/2018	15:27
	STD8260 240-348190/3	UXX5940.D	10/02/2018	15:52
	STD8260 240-348190/4	UXX5941.D	10/02/2018	16:17
	STD8260 240-348190/5	UXX5942.D	10/02/2018	16:42
	STD8260 240-348190/6	UXX5943.D	10/02/2018	17:06
	STD8260 240-348190/7	UXX5944.D	10/02/2018	17:31
	STD8260 240-348190/8	UXX5945.D	10/02/2018	17:56
	ICV 240-348190/9	UXX5946.D	10/02/2018	18:21
	STDA9 240-348190/10	UXX5947.D	10/02/2018	18:46
	STDA9 240-348190/11	UXX5948.D	10/02/2018	19:11
	STDA9 240-348190/12	UXX5949.D	10/02/2018	19:36
	STDA9 240-348190/13	UXX5950.D	10/02/2018	20:01
	STDA9 240-348190/14	UXX5951.D	10/02/2018	20:25
	STDA9 240-348190/15	UXX5952.D	10/02/2018	20:50
	STDA9 240-348190/16	UXX5953.D	10/02/2018	21:14
	ICV 240-348190/17	UXX5954.D	10/02/2018	21:39

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

Lab Name: TestAmerica Canton Job No.: 240-103828-1 Analy Batch No.: 348190

SDG No.:

Instrument ID: A3UX10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/02/2018 15:27 Calibration End Date: 10/02/2018 17:56 Calibration ID: 47198

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-348190/8	UXX5945.D
Level 2	STD8260 240-348190/7	UXX5944.D
Level 3	STD8260 240-348190/6	UXX5943.D
Level 4	STD8260 240-348190/5	UXX5942.D
Level 5	STD8260 240-348190/4	UXX5941.D
Level 6	STD8260 240-348190/3	UXX5940.D
Level 7	STD8260 240-348190/2	UXX5939.D

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.3986 0.3382	0.3469 0.3117	0.3262	0.3301	0.3565	Ave		0.3440				8.2		15.0			
Chloromethane	0.4771 0.3669	0.4153 0.3611	0.3616	0.4096	0.4292	Ave		0.4030			0.1000	10.7		15.0			
Butadiene	0.3883 0.3725	0.3775 0.3703	0.3527	0.3739	0.4108	Ave		0.3780				4.7		15.0			
Vinyl chloride	0.4026 0.3470	0.3452 0.3521	0.3372	0.3489	0.3811	Ave		0.3591				6.6		15.0			
Bromomethane	0.2403 0.1972	0.1914 0.2205	0.2119	0.2029	0.2209	Ave		0.2122				7.9		15.0			
Chloroethane	0.1117 0.2143	0.2186 0.2313	0.2159	0.2153	0.2303	Lin1	-0.083	0.2307							0.9980		0.9900
Dichlorofluoromethane	0.5501 0.5074	0.4617 0.5209	0.5054	0.5164	0.5386	Ave		0.5143				5.5		15.0			
Trichlorofluoromethane	0.4682 0.3899	0.3776 0.4011	0.3751	0.3751	0.4149	Ave		0.4003				8.4		15.0			
Ethyl ether	0.2561 0.2177	0.2417 0.2142	0.2353	0.2411	0.2397	Ave		0.2351				6.2		15.0			
Acrolein	0.0403 0.0375	0.0410 0.0339	0.0386	0.0353	0.0397	Ave		0.0380				7.0		15.0			
1,1-Dichloroethene	0.3446 0.2740	0.2791 0.2715	0.2796	0.2787	0.2876	Ave		0.2879				8.9		15.0			
1,1,2-Trichlorotrifluoroethane	0.1322 0.2035	0.2059 0.2056	0.2050	0.2313	0.2165	Lin1	-0.032	0.2098							0.9970		0.9900
Acetone	0.1463 0.0675	0.0965 0.0644	0.0885	0.0777	0.0810	Lin1	0.1639	0.0640							0.9950		0.9900
Iodomethane	0.5427 0.5017	0.5096 0.5092	0.5234	0.5285	0.5479	Ave		0.5233				3.4		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.: 240-103828-1 Analy Batch No.: 348190

SDG No.:

Instrument ID: A3UX10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/02/2018 15:27 Calibration End Date: 10/02/2018 17:56 Calibration ID: 47198

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon disulfide	1.0127 0.9201	0.9409 0.9562	0.9557	0.9958	0.9910	Ave		0.9675				3.4		15.0			
3-Chloro-1-propene	0.2357 0.2033	0.2057 0.2087	0.2074	0.2014	0.2273	Ave		0.2128				6.2		15.0			
Methyl acetate	0.1949 0.1408	0.1585 0.1440	0.1606	0.1661	0.1583	Ave		0.1605				11.0		15.0			
Methylene Chloride	0.4013 0.3119	0.3665 0.3223	0.3560	0.3559	0.3536	Ave		0.3525				8.3		15.0			
2-Methyl-2-propanol	0.0301 0.0258	0.0299 0.0249	0.0307	0.0239	0.0295	Ave		0.0278				10.3		15.0			
Acrylonitrile	0.0977 0.0917	0.0937 0.0925	0.0997	0.0941	0.1011	Ave		0.0958				3.9		15.0			
trans-1,2-Dichloroethene	0.3348 0.3058	0.3029 0.3147	0.3236	0.3237	0.3275	Ave		0.3190				3.7		15.0			
Methyl tert-butyl ether	0.8966 0.8291	0.8616 0.8787	0.9302	0.8910	0.9034	Ave		0.8844				3.7		15.0			
Hexane	0.0638 0.0462	0.0514 0.0518	0.0557	0.0504	0.0584	Ave		0.0540				10.8		15.0			
1,1-Dichloroethane	0.6013 0.5343	0.5352 0.5612	0.5907	0.5768	0.5836	Ave		0.5690			0.1000	4.6		15.0			
Vinyl acetate	0.4651 0.4165	0.4611 0.4455	0.4553	0.4524	0.4613	Ave		0.4510				3.7		15.0			
cis-1,2-Dichloroethene	0.3394 0.3093	0.3313 0.3253	0.3471	0.3356	0.3565	Ave		0.3349				4.5		15.0			
2,2-Dichloropropane	0.1122 0.0904	0.0933 0.0944	0.0896	0.0949	0.0920	Ave		0.0953				8.1		15.0			
2-Butanone (MEK)	0.0989 0.0762	0.1048 0.0805	0.0993	0.0843	0.1037	Ave		0.0926				12.8		15.0			
Bromochloromethane	0.1660 0.1357	0.1344 0.1470	0.1502	0.1576	0.1564	Ave		0.1496				7.8		15.0			
Tetrahydrofuran	0.0829 0.0579	0.0682 0.0560	0.0714	0.0638	0.0664	Ave		0.0667				13.5		15.0			
Chloroform	0.5292 0.4519	0.4814 0.4740	0.4981	0.5143	0.5073	Ave		0.4937				5.3		15.0			
1,1,1-Trichloroethane	0.5311 0.4378	0.4701 0.4721	0.4782	0.4982	0.4838	Ave		0.4816				5.9		15.0			
Cyclohexane	0.5437 0.5052	0.5073 0.5448	0.5405	0.5590	0.5488	Ave		0.5356				3.9		15.0			
1,1-Dichloropropene	0.3852 0.3109	0.3326 0.3420	0.3441	0.3617	0.3598	Ave		0.3480				6.8		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.: 240-103828-1 Analy Batch No.: 348190

SDG No.:

Instrument ID: A3UX10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/02/2018 15:27 Calibration End Date: 10/02/2018 17:56 Calibration ID: 47198

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon tetrachloride	0.4279 0.3710	0.3569 0.3965	0.3801	0.3987	0.4092	Ave		0.3915				6.1		15.0			
Isobutyl alcohol	0.0108 0.0076	0.0096 0.0079	0.0104	0.0082	0.0095	Ave		0.0091				13.5		15.0			
Benzene	1.2600 1.0302	1.1482 1.1226	1.1302	1.1667	1.1698	Ave		1.1468				6.0		15.0			
1,2-Dichloroethane	0.4897 0.3706	0.4209 0.3931	0.4112	0.4346	0.4186	Ave		0.4198				8.9		15.0			
n-Heptane	0.0494 0.0413	0.0394 0.0413	0.0433	0.0511	0.0432	Ave		0.0441				9.9		15.0			
Trichloroethene	0.3156 0.2617	0.2659 0.2787	0.2980	0.2867	0.2938	Ave		0.2858				6.6		15.0			
Methylcyclohexane	0.4067 0.3851	0.3951 0.3940	0.3993	0.4239	0.4117	Ave		0.4023				3.2		15.0			
1,2-Dichloropropane	0.3159 0.2729	0.2918 0.2858	0.2942	0.3131	0.3103	Ave		0.2977				5.4		15.0			
Dibromomethane	0.1949 0.1463	0.1721 0.1554	0.1696	0.1743	0.1697	Ave		0.1689				9.1		15.0			
1,4-Dioxane	0.0027 0.0025	0.0034 0.0021	0.0025	0.0023	0.0032	Qua	-0.018	0.0032	-0.000001						0.9940		0.9900
Bromodichloromethane	0.3945 0.3317	0.3718 0.3664	0.3726	0.3885	0.3911	Ave		0.3738				5.8		15.0			
2-Chloroethyl vinyl ether	0.1630 0.1498	0.1513 0.1529	0.1583	0.1630	0.1603	Ave		0.1569				3.5		15.0			
cis-1,3-Dichloropropene	0.4299 0.3874	0.3932 0.4199	0.4217	0.4239	0.4223	Ave		0.4140				4.0		15.0			
4-Methyl-2-pentanone (MIBK)	0.2462 0.2049	0.2263 0.2115	0.2414	0.2454	0.2341	Ave		0.2300				7.2		15.0			
Toluene	1.6334 1.3415	1.5205 1.5700	1.5373	1.5169	1.5509	Ave		1.5244				5.9		15.0			
trans-1,3-Dichloropropene	0.4811 0.4083	0.4262 0.4652	0.4474	0.4658	0.4662	Ave		0.4515				5.7		15.0			
Ethyl methacrylate	0.3847 0.3241	0.3570 0.3716	0.3779	0.3963	0.3796	Ave		0.3702				6.4		15.0			
1,1,2-Trichloroethane	0.3190 0.2429	0.2893 0.2789	0.2791	0.2838	0.2918	Ave		0.2836				8.0		15.0			
Tetrachloroethene	0.2711 0.2317	0.2798 0.2653	0.2578	0.2769	0.2759	Ave		0.2655				6.3		15.0			
1,3-Dichloropropane	0.5727 0.4146	0.4670 0.4596	0.4848	0.5094	0.4964	Ave		0.4864				10.0		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.: 240-103828-1 Analy Batch No.: 348190

SDG No.:

Instrument ID: A3UX10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/02/2018 15:27 Calibration End Date: 10/02/2018 17:56 Calibration ID: 47198

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
2-Hexanone	0.2005 0.1601	0.1931 0.1646	0.2046	0.1909	0.1907	Ave		0.1864				9.2		15.0			
Chlorodibromomethane	0.3016 0.2988	0.2926 0.3369	0.3271	0.3245	0.3319	Ave		0.3162				5.7		15.0			
1,2-Dibromoethane	0.3003 0.2550	0.2684 0.2802	0.2701	0.2818	0.2992	Ave		0.2793				5.9		15.0			
Chlorobenzene	1.0444 0.8960	1.0188 1.0039	0.9937	0.9947	1.0128	Ave		0.9949			0.3000	4.7		15.0			
1,1,1,2-Tetrachloroethane	0.3982 0.3308	0.3718 0.3876	0.3847	0.3675	0.3862	Ave		0.3753				5.9		15.0			
Ethylbenzene	0.6089 0.5076	0.5249 0.5575	0.5496	0.5604	0.5762	Ave		0.5550				6.0		15.0			
m-Xylene & p-Xylene	0.7544 0.6259	0.6871 0.7113	0.6580	0.6907	0.6851	Ave		0.6875				5.9		15.0			
o-Xylene	0.7596 0.6453	0.7221 0.7473	0.6952	0.7106	0.7318	Ave		0.7160				5.3		15.0			
Styrene	1.1786 1.0718	1.1098 1.2402	1.0656	1.1379	1.1730	Ave		1.1396				5.5		15.0			
Bromoform	0.1792 0.1903	0.1888 0.2289	0.1821	0.1866	0.2026	Ave		0.1941			0.1000	8.8		15.0			
Isopropylbenzene	1.8296 1.5815	1.6753 1.9166	1.7107	1.7237	1.7825	Ave		1.7457				6.2		15.0			
1,1,2,2-Tetrachloroethane	0.7123 0.5621	0.6782 0.5883	0.7162	0.7613	0.7109	Ave		0.6756			0.3000	10.8		15.0			
Bromobenzene	0.7588 0.6600	0.7936 0.7327	0.7832	0.8349	0.8102	Ave		0.7676				7.5		15.0			
1,2,3-Trichloropropane	0.2209 0.1826	0.2336 0.1825	0.2254	0.2224	0.2166	Ave		0.2120				9.8		15.0			
trans-1,4-Dichloro-2-butene	0.0971 0.1237	0.1507 0.1392	0.1591	0.1362	0.1485	Lin1	-0.003	0.1374							0.9920		0.9900
N-Propylbenzene	0.7888 0.7117	0.7971 0.7749	0.8072	0.8562	0.8507	Ave		0.7981				6.1		15.0			
2-Chlorotoluene	0.8519 0.6536	0.6781 0.7034	0.7591	0.7984	0.7975	Ave		0.7489				9.7		15.0			
1,3,5-Trimethylbenzene	2.4725 2.2872	2.4258 2.5026	2.5932	2.6801	2.6778	Ave		2.5199				5.6		15.0			
4-Chlorotoluene	0.7474 0.6827	0.7494 0.7252	0.7413	0.8080	0.7621	Ave		0.7451				5.1		15.0			
tert-Butylbenzene	2.1833 1.7620	2.1298 1.9882	1.9822	2.1193	2.1556	Ave		2.0458				7.2		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.: 240-103828-1 Analy Batch No.: 348190

SDG No.:

Instrument ID: A3UX10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/02/2018 15:27 Calibration End Date: 10/02/2018 17:56 Calibration ID: 47198

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,2,4-Trimethylbenzene	3.0184 2.4470	2.7364 2.6608	2.8336	2.7881	2.8564	Ave		2.7630				6.5		15.0			
sec-Butylbenzene	2.8650 2.4842	2.7533 2.7550	2.7314	2.8090	2.9317	Ave		2.7614				5.1		15.0			
1,3-Dichlorobenzene	1.6396 1.3415	1.5060 1.4575	1.5179	1.5621	1.5464	Ave		1.5102				6.2		15.0			
4-Isopropyltoluene	2.4637 2.1908	2.2931 2.4151	2.4682	2.4741	2.5061	Ave		2.4016				4.8		15.0			
1,4-Dichlorobenzene	1.5988 1.3676	1.5405 1.5084	1.5328	1.6208	1.5998	Ave		1.5384				5.6		15.0			
n-Butylbenzene	1.9641 1.7432	1.9760 1.8954	1.9703	2.0006	2.0286	Ave		1.9397				4.9		15.0			
1,2-Dichlorobenzene	1.5565 1.3671	1.5596 1.4796	1.5968	1.5809	1.6164	Ave		1.5367				5.6		15.0			
1,2-Dibromo-3-Chloropropane	0.1680 0.1243	0.1634 0.1389	0.1712	0.1562	0.1559	Ave		0.1540				10.9		15.0			
1,2,4-Trichlorobenzene	1.0593 0.8110	1.0103 0.8100	0.9076	0.9011	1.0217	Ave		0.9316				10.9		15.0			
Hexachlorobutadiene	0.4119 0.2653	0.3002 0.2445	0.2971	0.2897	0.3260	Qua	0.0760	0.2993	-0.001434						0.9980		0.9900
Naphthalene	2.6504 2.1132	2.4882 2.0761	2.5897	2.4549	2.6105	Ave		2.4261				9.8		15.0			
1,2,3-Trichlorobenzene	1.0673 0.7835	0.9878 0.7246	0.9377	0.8773	0.9727	Ave		0.9073				13.3		15.0			
Dibromofluoromethane (Surr)	0.2613 0.2569	0.2591 0.2541	0.2664	0.2702	0.2708	Ave		0.2627				2.5		15.0			
1,2-Dichloroethane-d4 (Surr)	0.3641 0.3199	0.3549 0.3210	0.3402	0.3167	0.3329	Ave		0.3357				5.5		15.0			
Toluene-d8 (Surr)	1.2871 1.1605	1.3529 1.2930	1.2292	1.2496	1.2649	Ave		1.2625				4.7		15.0			
4-Bromofluorobenzene (Surr)	0.4660 0.4795	0.4708 0.5146	0.4769	0.4653	0.4919	Ave		0.4807				3.6		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.: 240-103828-1 Analy Batch No.: 348190

SDG No.:

Instrument ID: A3UX10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/02/2018 18:46 Calibration End Date: 10/02/2018 21:14 Calibration ID: 47200

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDA9 240-348190/16	UXX5953.D
Level 2	STDA9 240-348190/15	UXX5952.D
Level 3	STDA9 240-348190/14	UXX5951.D
Level 4	STDA9 240-348190/13	UXX5950.D
Level 5	STDA9 240-348190/12	UXX5949.D
Level 6	STDA9 240-348190/11	UXX5948.D
Level 7	STDA9 240-348190/10	UXX5947.D

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Acetonitrile	0.0248 0.0296	0.0311 0.0264	0.0282	0.0312	0.0284	Ave		0.0285				8.2		15.0			
Diisopropyl ether	0.2859 0.2638	0.2629 0.2534	0.2649	0.2723	0.2646	Ave		0.2668				3.8		15.0			
2-Chloro-1,3-butadiene	0.4236 0.4837	0.4595 0.4524	0.4515	0.4761	0.4654	Ave		0.4589				4.3		15.0			
Ethyl tert-butyl ether	1.0369 1.0942	0.9995 1.0362	1.0293	1.0578	1.0486	Ave		1.0432				2.8		15.0			
Ethyl acetate	0.2091 0.1720	0.1829 0.1636	0.1787	0.1860	0.1711	Ave		0.1805				8.2		15.0			
Propionitrile	0.0327 0.0321	0.0314 0.0306	0.0317	0.0320	0.0329	Ave		0.0319				2.5		15.0			
Methacrylonitrile	0.1174 0.1215	0.1197 0.1236	0.1186	0.1246	0.1236	Ave		0.1213				2.3		15.0			
Tert-amyl methyl ether	0.8449 0.9108	0.8409 0.9077	0.8518	0.8930	0.8686	Ave		0.8740				3.4		15.0			
n-Butanol	0.0094 0.0094	0.0104 0.0091	0.0094	0.0104	0.0102	Ave		0.0098				5.7		15.0			
Ethyl acrylate	0.2971 0.3127	0.2852 0.2955	0.2858	0.2870	0.3039	Ave		0.2953				3.5		15.0			
Methyl methacrylate	0.1717 0.1995	0.1871 0.1831	0.1835	0.1882	0.1902	Ave		0.1862				4.5		15.0			
2-Nitropropane	0.0593 0.0612	0.0509 0.0587	0.0587	0.0583	0.0573	Ave		0.0577				5.6		15.0			
n-Butyl acetate	0.2208 0.2176	0.2132 0.2092	0.2211	0.2002	0.2094	Ave		0.2130				3.5		15.0			
1-Chlorohexane	0.3743 0.3924	0.3510 0.3842	0.3756	0.3874	0.3754	Ave		0.3772				3.6		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.: 240-103828-1 Analy Batch No.: 348190

SDG No.:

Instrument ID: A3UX10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/02/2018 18:46 Calibration End Date: 10/02/2018 21:14 Calibration ID: 47200

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Cyclohexanone	0.0233 0.0229	0.0243 0.0206	0.0225	0.0241	0.0251	Ave		0.0233				6.3		15.0			
Pentachloroethane	0.1982 0.2161	0.2248 0.2345	0.2157	0.2370	0.1404	Qua	0.1669	0.1658	0.0008435						0.9940		0.9900
1,2,3-Trimethylbenzene	2.9755 2.9408	2.8944 3.1097	2.9076	3.0893	3.0441	Ave		2.9945				2.9		15.0			
Benzyl chloride	0.1638 0.2485	0.2107 0.2719	0.2081	0.2393	0.2290	Lin1	-0.131	0.2642							0.9960		0.9900
1,3,5-Trichlorobenzene	0.9634 0.9263	0.9863 0.9788	0.9363	0.9645	0.9837	Ave		0.9627				2.4		15.0			
2-Methylnaphthalene	1.6895 1.6058	1.6701 1.2588	1.5009	1.8260	1.7931	Ave		1.6206				11.9		15.0			
1-Chloro-1-fluoroethane TIC	0.0942 0.3249	0.0025 0.2953	0.3001	0.3142	0.3074	None											

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.: 240-103828-1

SDG No.:

Lab Sample ID: ICV 240-348190/9 Calibration Date: 10/02/2018 18:21

Instrument ID: A3UX10 Calib Start Date: 10/02/2018 15:27

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/02/2018 17:56

Lab File ID: UXX5946.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	0.3440	0.3451		0.0100	0.0100	0.3	50.0
Chloromethane	Ave	0.4030	0.3613	0.1000	0.00896	0.0100	-10.4	50.0
Butadiene	Ave	0.3780	0.3331		0.00881	0.0100	-11.9	50.0
Vinyl chloride	Ave	0.3591	0.3452		0.00961	0.0100	-3.9	20.0
Bromomethane	Ave	0.2122	0.1913		0.00901	0.0100	-9.9	50.0
Chloroethane	Lin1		0.1940		0.00877	0.0100	-12.3	50.0
Dichlorofluoromethane	Ave	0.5143	0.4937		0.00960	0.0100	-4.0	50.0
Trichlorofluoromethane	Ave	0.4003	0.3666		0.00916	0.0100	-8.4	50.0
Ethyl ether	Ave	0.2351	0.2403		0.0102	0.0100	2.2	50.0
Acrolein	Ave	0.0380	0.0424		0.0557	0.0500	11.4	50.0
1,1-Dichloroethene	Ave	0.2879	0.3055		0.0106	0.0100	6.1	20.0
1,1,2-Trichlorotrifluoroethane	Lin1		0.2166		0.0105	0.0100	4.8	50.0
Acetone	Lin1		0.0612		0.0166	0.0200	-17.2	50.0
Iodomethane	Ave	0.5233	0.5267		0.0101	0.0100	0.7	50.0
Carbon disulfide	Ave	0.9675	0.9637		0.00996	0.0100	-0.4	50.0
3-Chloro-1-propene	Ave	0.2128	0.2096		0.00985	0.0100	-1.5	50.0
Methyl acetate	Ave	0.1605	0.1565		0.0195	0.0200	-2.5	50.0
Methylene Chloride	Ave	0.3525	0.3388		0.00961	0.0100	-3.9	50.0
2-Methyl-2-propanol	Ave	0.0278	0.0215		0.0774	0.100	-22.6	50.0
Acrylonitrile	Ave	0.0958	0.0915		0.0955	0.100	-4.5	50.0
Methyl tert-butyl ether	Ave	0.8844	0.8779		0.00993	0.0100	-0.7	50.0
trans-1,2-Dichloroethene	Ave	0.3190	0.3363		0.0105	0.0100	5.4	50.0
Hexane	Ave	0.0540	0.0562		0.0104	0.0100	4.1	20.0
1,1-Dichloroethane	Ave	0.5690	0.5736	0.1000	0.0101	0.0100	0.8	50.0
Vinyl acetate	Ave	0.4510	0.4649		0.0103	0.0100	3.1	50.0
2,2-Dichloropropane	Ave	0.0953	0.0924		0.00970	0.0100	-3.0	50.0
2-Butanone (MEK)	Ave	0.0926	0.0789		0.0171	0.0200	-14.7	50.0
cis-1,2-Dichloroethene	Ave	0.3349	0.3388		0.0101	0.0100	1.2	50.0
Bromochloromethane	Ave	0.1496	0.1507		0.0101	0.0100	0.7	50.0
Tetrahydrofuran	Ave	0.0667	0.0564		0.0169	0.0200	-15.4	50.0
Chloroform	Ave	0.4937	0.4935		0.0100	0.0100	-0.0	20.0
1,1,1-Trichloroethane	Ave	0.4816	0.4753		0.00987	0.0100	-1.3	50.0
Cyclohexane	Ave	0.5356	0.5471		0.0102	0.0100	2.1	50.0
1,1-Dichloropropene	Ave	0.3480	0.3613		0.0104	0.0100	3.8	50.0
Carbon tetrachloride	Ave	0.3915	0.3928		0.0100	0.0100	0.3	50.0
Isobutyl alcohol	Ave	0.0091	0.0077		0.211	0.250	-15.8	50.0
Benzene	Ave	1.147	1.145		0.00999	0.0100	-0.1	50.0
1,2-Dichloroethane	Ave	0.4198	0.4202		0.0100	0.0100	0.1	50.0
n-Heptane	Ave	0.0441	0.0488		0.0111	0.0100	10.6	50.0
Trichloroethene	Ave	0.2858	0.2864		0.0100	0.0100	0.2	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab Sample ID: ICV 240-348190/9 Calibration Date: 10/02/2018 18:21

Instrument ID: A3UX10 Calib Start Date: 10/02/2018 15:27

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/02/2018 17:56

Lab File ID: UXX5946.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	0.4023	0.3992		0.00992	0.0100	-0.8	50.0
1,2-Dichloropropane	Ave	0.2977	0.3081		0.0103	0.0100	3.5	20.0
1,4-Dioxane	Qua		0.0016		0.111	0.200	-44.5	50.0
Dibromomethane	Ave	0.1689	0.1608		0.00952	0.0100	-4.8	50.0
Bromodichloromethane	Ave	0.3738	0.3860		0.0103	0.0100	3.3	50.0
2-Chloroethyl vinyl ether	Ave	0.1569	0.1547		0.00985	0.0100	-1.5	50.0
cis-1,3-Dichloropropene	Ave	0.4140	0.4330		0.0105	0.0100	4.6	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.2300	0.2246		0.0195	0.0200	-2.3	50.0
Toluene	Ave	1.524	1.527		0.0100	0.0100	0.2	20.0
trans-1,3-Dichloropropene	Ave	0.4515	0.4624		0.0102	0.0100	2.4	50.0
Ethyl methacrylate	Ave	0.3702	0.3874		0.0105	0.0100	4.7	50.0
1,1,2-Trichloroethane	Ave	0.2836	0.2833		0.00999	0.0100	-0.0	50.0
Tetrachloroethene	Ave	0.2655	0.2614		0.00984	0.0100	-1.6	50.0
1,3-Dichloropropane	Ave	0.4864	0.4763		0.00979	0.0100	-2.1	50.0
2-Hexanone	Ave	0.1864	0.1863		0.0200	0.0200	-0.0	50.0
Chlorodibromomethane	Ave	0.3162	0.3326		0.0105	0.0100	5.2	50.0
1,2-Dibromoethane	Ave	0.2793	0.2762		0.00989	0.0100	-1.1	50.0
Chlorobenzene	Ave	0.9949	0.9762	0.3000	0.00981	0.0100	-1.9	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3753	0.3601		0.00960	0.0100	-4.0	50.0
Ethylbenzene	Ave	0.5550	0.5421		0.00977	0.0100	-2.3	20.0
m-Xylene & p-Xylene	Ave	0.6875	0.6797		0.00989	0.0100	-1.1	50.0
o-Xylene	Ave	0.7160	0.6810		0.00951	0.0100	-4.9	50.0
Styrene	Ave	1.140	1.099		0.00965	0.0100	-3.5	50.0
Bromoform	Ave	0.1941	0.1912	0.1000	0.00985	0.0100	-1.5	50.0
Isopropylbenzene	Ave	1.746	1.691		0.00969	0.0100	-3.1	50.0
1,1,2,2-Tetrachloroethane	Ave	0.6756	0.6826	0.3000	0.0101	0.0100	1.0	50.0
Bromobenzene	Ave	0.7676	0.7690		0.0100	0.0100	0.2	50.0
1,2,3-Trichloropropane	Ave	0.2120	0.2116		0.00998	0.0100	-0.2	50.0
trans-1,4-Dichloro-2-butene	Lin1		0.1573		0.0115	0.0100	14.7	50.0
N-Propylbenzene	Ave	0.7981	0.8486		0.0106	0.0100	6.3	50.0
2-Chlorotoluene	Ave	0.7489	0.7353		0.00982	0.0100	-1.8	50.0
1,3,5-Trimethylbenzene	Ave	2.520	2.599		0.0103	0.0100	3.2	50.0
4-Chlorotoluene	Ave	0.7451	0.7947		0.0107	0.0100	6.6	50.0
tert-Butylbenzene	Ave	2.046	2.073		0.0101	0.0100	1.3	50.0
1,2,4-Trimethylbenzene	Ave	2.763	2.787		0.0101	0.0100	0.9	50.0
sec-Butylbenzene	Ave	2.761	2.810		0.0102	0.0100	1.8	50.0
1,3-Dichlorobenzene	Ave	1.510	1.514		0.0100	0.0100	0.3	50.0
4-Isopropyltoluene	Ave	2.402	2.473		0.0103	0.0100	3.0	50.0
1,4-Dichlorobenzene	Ave	1.538	1.522		0.00989	0.0100	-1.1	50.0
n-Butylbenzene	Ave	1.940	1.904		0.00981	0.0100	-1.9	50.0
1,2-Dichlorobenzene	Ave	1.537	1.510		0.00983	0.0100	-1.7	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab Sample ID: ICV 240-348190/9 Calibration Date: 10/02/2018 18:21

Instrument ID: A3UX10 Calib Start Date: 10/02/2018 15:27

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/02/2018 17:56

Lab File ID: UXX5946.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	0.1540	0.1474		0.00957	0.0100	-4.3	50.0
1,2,4-Trichlorobenzene	Ave	0.9316	0.8227		0.00883	0.0100	-11.7	50.0
Hexachlorobutadiene	Qua		0.2234		0.00748	0.0100	-25.2	50.0
Naphthalene	Ave	2.426	2.081		0.00858	0.0100	-14.2	50.0
1,2,3-Trichlorobenzene	Ave	0.9073	0.7077		0.00780	0.0100	-22.0	50.0
Dibromofluoromethane (Surr)	Ave	0.2627	0.2751		0.0105	0.0100	4.7	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3357	0.3486		0.0104	0.0100	3.9	50.0
Toluene-d8 (Surr)	Ave	1.262	1.312		0.0104	0.0100	3.9	50.0
4-Bromofluorobenzene (Surr)	Ave	0.4807	0.4846		0.0101	0.0100	0.8	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab Sample ID: ICV 240-348190/17 Calibration Date: 10/02/2018 21:39

Instrument ID: A3UX10 Calib Start Date: 10/02/2018 18:46

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/02/2018 21:14

Lab File ID: UXX5954.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	0.0285	0.0258		0.0905	0.100	-9.5	50.0
Diisopropyl ether	Ave	0.2668	0.2824		0.0106	0.0100	5.9	50.0
2-Chloro-1,3-butadiene	Ave	0.4589	0.4729		0.0103	0.0100	3.1	50.0
Ethyl tert-butyl ether	Ave	1.043	1.055		0.0101	0.0100	1.2	50.0
Ethyl acetate	Ave	0.1805	0.1894		0.0210	0.0200	4.9	50.0
Propionitrile	Ave	0.0319	0.0345		0.108	0.100	7.9	50.0
Methacrylonitrile	Ave	0.1213	0.1277		0.105	0.100	5.3	50.0
Tert-amyl methyl ether	Ave	0.8740	0.8858		0.0101	0.0100	1.4	50.0
n-Butanol	Ave	0.0098	0.0093		0.238	0.250	-4.7	50.0
Ethyl acrylate	Ave	0.2953	0.3009		0.0102	0.0100	1.9	50.0
Methyl methacrylate	Ave	0.1862	0.1870		0.0201	0.0200	0.4	50.0
2-Nitropropane	Ave	0.0577	0.0602		0.0208	0.0200	4.2	50.0
n-Butyl acetate	Ave	0.2130	0.2141		0.0100	0.0100	0.5	50.0
1-Chlorohexane	Ave	0.3772	0.3855		0.0102	0.0100	2.2	50.0
Cyclohexanone	Ave	0.0233	0.0197		0.0846	0.100	-15.4	50.0
Pentachloroethane	Qua		0.2180		0.0227	0.0200	13.3	50.0
1,2,3-Trimethylbenzene	Ave	2.994	2.955		0.00987	0.0100	-1.3	50.0
Benzyl chloride	Lin1		0.2556		0.0102	0.0100	1.7	50.0
1,3,5-Trichlorobenzene	Ave	0.9627	0.9202		0.00956	0.0100	-4.4	50.0
2-Methylnaphthalene	Ave	1.621	1.137		0.0140	0.0200	-29.9	50.0

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

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab File ID: BFB2017.D BFB Injection Date: 11/13/2018

Instrument ID: A3UX10 BFB Injection Time: 10:55

Analysis Batch No.: 355135

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	25.6	
75	30.0 - 60.0 % of mass 95	52.1	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.9	
173	Less than 2.0 % of mass 174	0.4	(0.5) 1
174	50.0 - 120.00 % of mass 95	80.7	
175	5.0 - 9.0 % of mass 174	6.3	(7.8) 1
176	95.0 - 101.0 % of mass 174	80.1	(99.2) 1
177	5.0 - 9.0 % of mass 176	6.3	(7.9) 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 240-355135/2	UXX7875.D	11/13/2018	11:20
	CCV 240-355135/3	UXX7876.D	11/13/2018	11:45
	LCS 240-355135/4	UXX7877.D	11/13/2018	12:10
	MB 240-355135/6	UXX7879.D	11/13/2018	13:00
TB-103118	240-103828-1	UXX7899.D	11/13/2018	21:26
	240-104164-B-6 MS	UXX7900.D	11/13/2018	21:51
	240-104164-B-6 MSD	UXX7901.D	11/13/2018	22:15

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab Sample ID: CCVIS 240-355135/2 Calibration Date: 11/13/2018 11:20

Instrument ID: A3UX10 Calib Start Date: 10/02/2018 15:27

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/02/2018 17:56

Lab File ID: UXX7875.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	0.3440	0.2079		0.00604	0.0100	-39.6	50.0
Chloromethane	Ave	0.4030	0.3153	0.1000	0.00783	0.0100	-21.7	50.0
Butadiene	Ave	0.3780	0.3217		0.00851	0.0100	-14.9	50.0
Vinyl chloride	Ave	0.3591	0.2904		0.00809	0.0100	-19.1	20.0
Bromomethane	Ave	0.2122	0.1540		0.00726	0.0100	-27.4	50.0
Chloroethane	Lin1		0.1625		0.00741	0.0100	-25.9	50.0
Dichlorofluoromethane	Ave	0.5143	0.4249		0.00826	0.0100	-17.4	50.0
Trichlorofluoromethane	Ave	0.4003	0.3559		0.00889	0.0100	-11.1	50.0
Ethyl ether	Ave	0.2351	0.2469		0.0105	0.0100	5.0	50.0
Acrolein	Ave	0.0380	0.0451		0.0593	0.0500	18.5	50.0
1,1-Dichloroethene	Ave	0.2879	0.2664		0.00925	0.0100	-7.5	20.0
1,1,2-Trichlorotrifluoroethane	Lin1		0.2122		0.0103	0.0100	2.7	50.0
Acetone	Lin1		0.0757		0.0211	0.0200	5.5	50.0
Iodomethane	Ave	0.5233	0.4825		0.00922	0.0100	-7.8	50.0
Carbon disulfide	Ave	0.9675	0.8323		0.00860	0.0100	-14.0	50.0
3-Chloro-1-propene	Ave	0.2128	0.1913		0.00899	0.0100	-10.1	50.0
Methyl acetate	Ave	0.1605	0.1609		0.0201	0.0200	0.3	50.0
Methylene Chloride	Ave	0.3525	0.3294		0.00934	0.0100	-6.6	50.0
2-Methyl-2-propanol	Ave	0.0278	0.0243		0.0872	0.100	-12.8	50.0
Acrylonitrile	Ave	0.0958	0.0970		0.101	0.100	1.3	50.0
Methyl tert-butyl ether	Ave	0.8844	0.7671		0.00867	0.0100	-13.3	50.0
trans-1,2-Dichloroethene	Ave	0.3190	0.3009		0.00943	0.0100	-5.7	50.0
Hexane	Ave	0.0540	0.0518		0.00960	0.0100	-4.0	20.0
1,1-Dichloroethane	Ave	0.5690	0.5521	0.1000	0.00970	0.0100	-3.0	50.0
Vinyl acetate	Ave	0.4510	0.3880		0.00860	0.0100	-14.0	50.0
2,2-Dichloropropane	Ave	0.0953	0.0788		0.00828	0.0100	-17.2	50.0
cis-1,2-Dichloroethene	Ave	0.3349	0.3361		0.0100	0.0100	0.3	50.0
2-Butanone (MEK)	Ave	0.0926	0.0892		0.0193	0.0200	-3.6	50.0
Bromochloromethane	Ave	0.1496	0.1503		0.0100	0.0100	0.4	50.0
Tetrahydrofuran	Ave	0.0667	0.0605		0.0181	0.0200	-9.3	50.0
Chloroform	Ave	0.4937	0.4891		0.00990	0.0100	-1.0	20.0
1,1,1-Trichloroethane	Ave	0.4816	0.4236		0.00879	0.0100	-12.1	50.0
Cyclohexane	Ave	0.5356	0.5185		0.00968	0.0100	-3.2	50.0
1,1-Dichloropropene	Ave	0.3480	0.3403		0.00978	0.0100	-2.2	50.0
Carbon tetrachloride	Ave	0.3915	0.3803		0.00972	0.0100	-2.8	50.0
Isobutyl alcohol	Ave	0.0091	0.0091		0.249	0.250	-0.4	50.0
Benzene	Ave	1.147	1.083		0.00944	0.0100	-5.6	50.0
1,2-Dichloroethane	Ave	0.4198	0.3988		0.00950	0.0100	-5.0	50.0
n-Heptane	Ave	0.0441	0.0426		0.00964	0.0100	-3.6	50.0
Trichloroethene	Ave	0.2858	0.2838		0.00993	0.0100	-0.7	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab Sample ID: CCVIS 240-355135/2 Calibration Date: 11/13/2018 11:20

Instrument ID: A3UX10 Calib Start Date: 10/02/2018 15:27

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/02/2018 17:56

Lab File ID: UXX7875.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	0.4023	0.3642		0.00905	0.0100	-9.5	50.0
1,2-Dichloropropane	Ave	0.2977	0.2909		0.00977	0.0100	-2.3	20.0
1,4-Dioxane	Qua		0.0022		0.150	0.200	-25.1	50.0
Dibromomethane	Ave	0.1689	0.1597		0.00946	0.0100	-5.4	50.0
Bromodichloromethane	Ave	0.3738	0.3501		0.00937	0.0100	-6.3	50.0
2-Chloroethyl vinyl ether	Ave	0.1569	0.1249		0.0159	0.0200	-20.4	50.0
cis-1,3-Dichloropropene	Ave	0.4140	0.3676		0.00888	0.0100	-11.2	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.2300	0.2188		0.0190	0.0200	-4.9	50.0
Toluene	Ave	1.524	1.592		0.0104	0.0100	4.4	20.0
trans-1,3-Dichloropropene	Ave	0.4515	0.4524		0.0100	0.0100	0.2	50.0
Ethyl methacrylate	Ave	0.3702	0.3981		0.0108	0.0100	7.6	50.0
1,1,2-Trichloroethane	Ave	0.2836	0.3034		0.0107	0.0100	7.0	50.0
Tetrachloroethene	Ave	0.2655	0.3007		0.0113	0.0100	13.3	50.0
1,3-Dichloropropane	Ave	0.4864	0.4956		0.0102	0.0100	1.9	50.0
2-Hexanone	Ave	0.1864	0.2088		0.0224	0.0200	12.1	50.0
Chlorodibromomethane	Ave	0.3162	0.3503		0.0111	0.0100	10.8	50.0
1,2-Dibromoethane	Ave	0.2793	0.2963		0.0106	0.0100	6.1	50.0
Chlorobenzene	Ave	0.9949	1.076	0.3000	0.0108	0.0100	8.2	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3753	0.3837		0.0102	0.0100	2.3	50.0
Ethylbenzene	Ave	0.5550	0.5778		0.0104	0.0100	4.1	20.0
m-Xylene & p-Xylene	Ave	0.6875	0.7188		0.0105	0.0100	4.6	50.0
o-Xylene	Ave	0.7160	0.7126		0.00995	0.0100	-0.5	50.0
Styrene	Ave	1.140	1.208		0.0106	0.0100	6.0	50.0
Bromoform	Ave	0.1941	0.2130	0.1000	0.0110	0.0100	9.7	50.0
Isopropylbenzene	Ave	1.746	1.789		0.0102	0.0100	2.5	50.0
1,1,2,2-Tetrachloroethane	Ave	0.6756	0.6846	0.3000	0.0101	0.0100	1.3	50.0
Bromobenzene	Ave	0.7676	0.8219		0.0107	0.0100	7.1	50.0
1,2,3-Trichloropropane	Ave	0.2120	0.2200		0.0104	0.0100	3.8	50.0
trans-1,4-Dichloro-2-butene	Lin1		0.1521		0.0111	0.0100	10.9	50.0
N-Propylbenzene	Ave	0.7981	0.8408		0.0105	0.0100	5.4	50.0
2-Chlorotoluene	Ave	0.7489	0.7593		0.0101	0.0100	1.4	50.0
1,3,5-Trimethylbenzene	Ave	2.520	2.608		0.0104	0.0100	3.5	50.0
4-Chlorotoluene	Ave	0.7451	0.7553		0.0101	0.0100	1.4	50.0
tert-Butylbenzene	Ave	2.046	2.048		0.0100	0.0100	0.0	50.0
1,2,4-Trimethylbenzene	Ave	2.763	2.752		0.00996	0.0100	-0.4	50.0
sec-Butylbenzene	Ave	2.761	2.791		0.0101	0.0100	1.1	50.0
1,3-Dichlorobenzene	Ave	1.510	1.511		0.0100	0.0100	0.0	50.0
4-Isopropyltoluene	Ave	2.402	2.388		0.00994	0.0100	-0.6	50.0
1,4-Dichlorobenzene	Ave	1.538	1.548		0.0101	0.0100	0.7	50.0
n-Butylbenzene	Ave	1.940	1.854		0.00956	0.0100	-4.4	50.0
1,2-Dichlorobenzene	Ave	1.537	1.561		0.0102	0.0100	1.6	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab Sample ID: CCVIS 240-355135/2 Calibration Date: 11/13/2018 11:20

Instrument ID: A3UX10 Calib Start Date: 10/02/2018 15:27

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/02/2018 17:56

Lab File ID: UXX7875.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	0.1540	0.1369		0.00889	0.0100	-11.1	50.0
1,2,4-Trichlorobenzene	Ave	0.9316	0.8776		0.00942	0.0100	-5.8	50.0
Hexachlorobutadiene	Qua		0.2857		0.00975	0.0100	-2.5	50.0
Naphthalene	Ave	2.426	2.165		0.00892	0.0100	-10.8	50.0
1,2,3-Trichlorobenzene	Ave	0.9073	0.8184		0.00902	0.0100	-9.8	50.0
Dibromofluoromethane (Surr)	Ave	0.2627	0.2413		0.00919	0.0100	-8.1	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3357	0.3086		0.00919	0.0100	-8.1	50.0
Toluene-d8 (Surr)	Ave	1.262	1.319		0.0104	0.0100	4.5	50.0
4-Bromofluorobenzene (Surr)	Ave	0.4807	0.4748		0.00988	0.0100	-1.2	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab Sample ID: CCV 240-355135/3 Calibration Date: 11/13/2018 11:45

Instrument ID: A3UX10 Calib Start Date: 10/02/2018 18:46

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/02/2018 21:14

Lab File ID: UXX7876.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	0.0285	0.0263		0.0921	0.100	-7.9	50.0
Diisopropyl ether	Ave	0.2668	0.2504		0.00938	0.0100	-6.2	50.0
2-Chloro-1,3-butadiene	Ave	0.4589	0.5046		0.0110	0.0100	10.0	50.0
Ethyl acetate	Ave	0.1805	0.0534		0.00592	0.0200	-70.4*	50.0
Ethyl tert-butyl ether	Ave	1.043	0.9700		0.00930	0.0100	-7.0	50.0
Propionitrile	Ave	0.0319	0.0325		0.102	0.100	1.6	50.0
Methacrylonitrile	Ave	0.1213	0.1275		0.105	0.100	5.1	50.0
Tert-amyl methyl ether	Ave	0.8740	0.7445		0.00852	0.0100	-14.8	50.0
n-Butanol	Ave	0.0098	0.0091		0.234	0.250	-6.3	50.0
Ethyl acrylate	Ave	0.2953	0.2916		0.00987	0.0100	-1.3	50.0
Methyl methacrylate	Ave	0.1862	0.1822		0.0196	0.0200	-2.1	50.0
2-Nitropropane	Ave	0.0577	0.0522		0.0181	0.0200	-9.7	50.0
n-Butyl acetate	Ave	0.2130	0.2096		0.00984	0.0100	-1.6	50.0
1-Chlorohexane	Ave	0.3772	0.3863		0.0102	0.0100	2.4	50.0
Cyclohexanone	Ave	0.0233	0.0197		0.0847	0.100	-15.3	50.0
Pentachloroethane	Qua		0.2512		0.0259	0.0200	29.4	50.0
1,2,3-Trimethylbenzene	Ave	2.994	2.882		0.00962	0.0100	-3.8	50.0
Benzyl chloride	Lin1		0.2190		0.00878	0.0100	-12.2	50.0
1,3,5-Trichlorobenzene	Ave	0.9627	0.9857		0.0102	0.0100	2.4	50.0
2-Methylnaphthalene	Ave	1.621	1.028		0.0127	0.0200	-36.6	50.0

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab File ID: UXX7879.D Lab Sample ID: MB 240-355135/6

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: A3UX10 Date Analyzed: 11/13/2018 13:00

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 240-355135/4	UXX7877.D	11/13/2018 12:10
TB-103118	240-103828-1	UXX7899.D	11/13/2018 21:26
	240-104164-B-6 MS	UXX7900.D	11/13/2018 21:51
	240-104164-B-6 MSD	UXX7901.D	11/13/2018 22:15

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-355135/6

Matrix: Water | Lab File ID: UXX7879.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 11/13/2018 13:00

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.: 355135 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	0.14	U	1.0	0.14
563-58-6	1,1-Dichloropropene	0.14	U	1.0	0.14
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17
87-61-6	1,2,3-Trichlorobenzene	0.54	U	1.0	0.54
96-18-4	1,2,3-Trichloropropane	0.24	U	1.0	0.24
107-06-2	1,2-Dichloroethane	0.21	U	1.0	0.21
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19
526-73-8	1,2,3-Trimethylbenzene	0.14	U	5.0	0.14
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15
95-63-6	1,2,4-Trimethylbenzene	0.070	U	1.0	0.070
591-78-6	2-Hexanone	0.54	U	10	0.54
79-34-5	1,1,2,2-Tetrachloroethane	0.13	U	1.0	0.13
67-64-1	Acetone	5.4	U	10	5.4
71-43-2	Benzene	0.13	U	1.0	0.13
75-25-2	Bromoform	0.76	U	1.0	0.76
74-83-9	Bromomethane	0.42	U	1.0	0.42
75-15-0	Carbon disulfide	0.28	U	1.0	0.28
56-23-5	Carbon tetrachloride	0.26	U	1.0	0.26
71-55-6	1,1,1-Trichloroethane	0.24	U	1.0	0.24
108-90-7	Chlorobenzene	0.14	U	1.0	0.14
142-28-9	1,3-Dichloropropane	0.21	U	1.0	0.21
75-00-3	Chloroethane	0.83	U	1.0	0.83
96-12-8	1,2-Dibromo-3-Chloropropane	0.91	U	2.0	0.91
67-66-3	Chloroform	0.13	U	1.0	0.13
74-87-3	Chloromethane	0.20	U	1.0	0.20
156-59-2	cis-1,2-Dichloroethene	0.16	U	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	0.61	U	1.0	0.61
75-27-4	Bromodichloromethane	0.17	U	1.0	0.17
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
75-71-8	Dichlorodifluoromethane	0.35	U	1.0	0.35
120-82-1	1,2,4-Trichlorobenzene	0.26	U	1.0	0.26
100-41-4	Ethylbenzene	0.11	U	1.0	0.11
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12
594-20-7	2,2-Dichloropropane	0.31	U	1.0	0.31
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.15	U	1.0	0.15

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-355135/6

Matrix: Water | Lab File ID: UXX7879.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 11/13/2018 13:00

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.: 355135 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
106-46-7	1,4-Dichlorobenzene	0.16	U	1.0	0.16
110-75-8	2-Chloroethyl vinyl ether	0.26	U	10	0.26
98-82-8	Isopropylbenzene	0.090	U	1.0	0.090
95-49-8	2-Chlorotoluene	0.15	U	1.0	0.15
78-93-3	2-Butanone (MEK)	1.2	U	10	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	0.42	U	10	0.42
108-86-1	Bromobenzene	0.12	U	1.0	0.12
1634-04-4	Methyl tert-butyl ether	0.070	U	1.0	0.070
74-97-5	Bromochloromethane	0.14	U	1.0	0.14
75-09-2	Methylene Chloride	2.6	U	5.0	2.6
106-43-4	4-Chlorotoluene	0.090	U	1.0	0.090
99-87-6	4-Isopropyltoluene	0.13	U	1.0	0.13
100-42-5	Styrene	0.10	U	1.0	0.10
179601-23-1	m-Xylene & p-Xylene	0.080	U	2.0	0.080
95-47-6	o-Xylene	0.090	U	1.0	0.090
87-68-3	Hexachlorobutadiene	0.83	U	1.0	0.83
127-18-4	Tetrachloroethene	0.15	U	1.0	0.15
74-95-3	Dibromomethane	0.090	U	1.0	0.090
108-88-3	Toluene	0.14	U	1.0	0.14
108-20-3	Diisopropyl ether	0.17	U	10	0.17
91-20-3	Naphthalene	0.32	U	1.0	0.32
156-60-5	trans-1,2-Dichloroethene	0.19	U	1.0	0.19
104-51-8	n-Butylbenzene	0.14	U	1.0	0.14
10061-02-6	trans-1,3-Dichloropropene	0.67	U	1.0	0.67
103-65-1	N-Propylbenzene	0.15	U	1.0	0.15
79-01-6	Trichloroethene	0.10	U	1.0	0.10
135-98-8	sec-Butylbenzene	0.13	U	1.0	0.13
75-69-4	Trichlorofluoromethane	0.45	U	1.0	0.45
994-05-8	Tert-amyl methyl ether	0.11	U	5.0	0.11
637-92-3	Ethyl tert-butyl ether	0.15	U	5.0	0.15
98-06-6	tert-Butylbenzene	0.14	U	1.0	0.14
75-01-4	Vinyl chloride	0.20	U	1.0	0.20
108-05-4	Vinyl acetate	0.19	U	2.0	0.19
1330-20-7	Xylenes, Total	0.15	U	2.0	0.15
124-48-1	Chlorodibromomethane	0.39	U	1.0	0.39

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-355135/6

Matrix: Water | Lab File ID: UXX7879.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 11/13/2018 13:00

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.: 355135 | Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	91		70-121
460-00-4	4-Bromofluorobenzene (Surr)	94		59-120
2037-26-5	Toluene-d8 (Surr)	99		70-123
1868-53-7	Dibromofluoromethane (Surr)	100		75-128

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Matrix: Water Level: Low Lab File ID: UXX7877.D

Lab ID: LCS 240-355135/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	10.0	10.6	106	80-124	
1,1-Dichloropropene	10.0	9.98	100	78-126	
1,1-Dichloroethane	10.0	10.1	101	75-133	
1,2,3-Trichlorobenzene	10.0	8.89	89	39-138	
1,2,3-Trichloropropane	10.0	10.3	103	66-139	
1,2-Dichloroethane	10.0	9.78	98	71-135	
1,1-Dichloroethene	10.0	9.16	92	65-139	
1,2-Dichloropropane	10.0	10.3	103	78-133	
1,2,4-Trimethylbenzene	10.0	9.34	93	74-120	
2-Hexanone	20.0	22.3	112	43-148	
1,1,2,2-Tetrachloroethane	10.0	9.53	95	65-139	
Acetone	20.0	21.3	107	21-162	
Benzene	10.0	9.74	97	80-123	
Bromoform	10.0	10.5	105	49-141	
Bromomethane	10.0	7.48	75	41-175	
Carbon disulfide	10.0	8.44	84	60-138	
Carbon tetrachloride	10.0	9.53	95	63-140	
1,1,1-Trichloroethane	10.0	9.26	93	69-134	
Chlorobenzene	10.0	10.5	105	80-121	
1,3-Dichloropropane	10.0	10.3	103	72-134	
Chloroethane	10.0	7.78	78	33-173	
1,2-Dibromo-3-Chloropropane	10.0	8.80	88	46-132	
Chloroform	10.0	9.93	99	79-127	
Chloromethane	10.0	10.2	102	54-143	
cis-1,2-Dichloroethene	10.0	10.2	102	76-128	
cis-1,3-Dichloropropene	10.0	9.79	98	64-132	
Bromodichloromethane	10.0	9.33	93	77-125	
1,1,2-Trichlorotrifluoroethane	10.0	10.4	104	50-156	
Dichlorodifluoromethane	10.0	7.75	77	29-148	
1,2,4-Trichlorobenzene	10.0	9.32	93	42-133	
Ethylbenzene	10.0	10.3	103	80-120	
1,2-Dibromoethane	10.0	10.5	105	77-123	
2,2-Dichloropropane	10.0	8.87	89	42-150	
1,2-Dichlorobenzene	10.0	9.93	99	78-120	
1,3-Dichlorobenzene	10.0	9.78	98	78-120	
1,4-Dichlorobenzene	10.0	9.72	97	78-120	
2-Chloroethyl vinyl ether	10.0	7.46 J	75	55-137	
Isopropylbenzene	10.0	9.93	99	74-120	
2-Chlorotoluene	10.0	9.67	97	78-123	
2-Butanone (MEK)	20.0	21.2	106	39-163	
4-Methyl-2-pentanone (MIBK)	20.0	19.2	96	49-143	
Bromobenzene	10.0	10.2	102	74-129	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Matrix: Water Level: Low Lab File ID: UXX7877.D

Lab ID: LCS 240-355135/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Methyl tert-butyl ether	10.0	8.70	87	51-133	
Bromochloromethane	10.0	10.7	107	74-130	
Methylene Chloride	10.0	9.38	94	70-134	
4-Chlorotoluene	10.0	9.93	99	77-125	
4-Isopropyltoluene	10.0	9.87	99	69-122	
Styrene	10.0	9.85	99	79-120	
m-Xylene & p-Xylene	10.0	10.2	102	80-120	
o-Xylene	10.0	10.0	100	80-120	
Hexachlorobutadiene	10.0	9.53	95	38-136	
Tetrachloroethene	10.0	11.2	112	74-130	
Dibromomethane	10.0	9.03	90	74-124	
Toluene	10.0	10.5	105	78-129	
Naphthalene	10.0	8.40	84	28-141	
trans-1,2-Dichloroethene	10.0	9.92	99	78-133	
n-Butylbenzene	10.0	9.24	92	57-126	
trans-1,3-Dichloropropene	10.0	9.58	96	55-128	
N-Propylbenzene	10.0	10.2	102	77-123	
Trichloroethene	10.0	9.99	100	76-125	
sec-Butylbenzene	10.0	9.47	95	68-123	
Trichlorofluoromethane	10.0	9.41	94	51-164	
tert-Butylbenzene	10.0	9.70	97	70-121	
Vinyl chloride	10.0	9.20	92	58-143	
Vinyl acetate	10.0	9.00	90	45-151	
Xylenes, Total	20.0	20.2	101	80-120	

Column to be used to flag recovery and RPD values

FORM III 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab File ID: BFB827.D BFB Injection Date: 08/27/2018

Instrument ID: A3UX15 BFB Injection Time: 10:10

Analysis Batch No.: 342615

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	20.4	
75	30.0 - 60.0 % of mass 95	53.0	
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	0.2	(0.2) 1
174	50.0 - 120.00 % of mass 95	87.1	
175	5.0 - 9.0 % of mass 174	6.0	(6.9) 1
176	95.0 - 101.0 % of mass 174	84.9	(97.6) 1
177	5.0 - 9.0 % of mass 176	5.5	(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
	STD8260 240-342615/2	UXC4603.D	08/27/2018	10:56
	STD8260 240-342615/3	UXC4604.D	08/27/2018	11:18
	STD8260 240-342615/4	UXC4605.D	08/27/2018	11:39
	STD8260 240-342615/5	UXC4606.D	08/27/2018	12:01
	STD8260 240-342615/6	UXC4607.D	08/27/2018	12:23
	STD8260 240-342615/7	UXC4608.D	08/27/2018	12:45
	ICV 240-342615/14	UXC4609.D	08/27/2018	13:07
	STD 240-342615/8	UXC4610.D	08/27/2018	13:28
	STD 240-342615/9	UXC4611.D	08/27/2018	13:50
	STD 240-342615/10	UXC4612.D	08/27/2018	14:12
	STD 240-342615/11	UXC4613.D	08/27/2018	14:34
	STD 240-342615/12	UXC4614.D	08/27/2018	14:56
	STD 240-342615/13	UXC4615.D	08/27/2018	15:17

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

Lab Name: TestAmerica Canton Job No.: 240-103828-1 Analy Batch No.: 342615

SDG No.:

Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 10:56 Calibration End Date: 08/27/2018 12:45 Calibration ID: 46691

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	0.1911 0.1755	0.1873	0.1944	0.1795	0.1820	Ave		0.1850				3.9		15.0			
Methyl acetate	0.2265 0.1963	0.2094	0.2131	0.2124	0.2076	Ave		0.2109				4.6		15.0			
Methylene Chloride	0.3147 0.2588	0.3053	0.2767	0.2900	0.2712	Ave		0.2861				7.4		15.0			
tert-Butyl alcohol	0.0202 0.0186	0.0209	0.0207	0.0183	0.0185	Ave		0.0195				6.1		15.0			
Acrylonitrile	0.1101 0.1017	0.1058	0.1083	0.1061	0.1061	Ave		0.1063				2.6		15.0			
Methyl tert-butyl ether	0.7741 0.7898	0.7888	0.7947	0.7982	0.8070	Ave		0.7921				1.4		15.0			
trans-1,2-Dichloroethene	0.3308 0.2800	0.3096	0.3039	0.2979	0.2927	Ave		0.3025				5.7		15.0			
Hexane	0.0868 0.0709	0.0729	0.0740	0.0708	0.0742	Ave		0.0749				8.0		15.0			
1,1-Dichloroethane	0.5168 0.4610	0.5028	0.4979	0.4940	0.4837	Ave		0.4927			0.1000	3.9		15.0			
Vinyl acetate	0.4592 0.4640	0.4092	0.4349	0.4512	0.4877	Ave		0.4510				5.9		15.0			
2,2-Dichloropropane	0.0563 0.0552	0.0575	0.0558	0.0637	0.0610	Ave		0.0583				5.8		15.0			
cis-1,2-Dichloroethene	0.3678 0.3026	0.3388	0.3360	0.3239	0.3166	Ave		0.3309				6.8		15.0			
2-Butanone (MEK)	0.0359 0.0331	0.0333	0.0368	0.0342	0.0353	Ave		0.0348				4.2		15.0			
Chlorobromomethane	0.1643 0.1462	0.1627	0.1574	0.1552	0.1518	Ave		0.1563				4.3		15.0			
Tetrahydrofuran	0.1686 0.0763	0.1178	0.0987	0.0857	0.0820	Lin1	0.1885	0.0754							0.9990		0.9900
Chloroform	0.5287 0.4702	0.5114	0.5088	0.5006	0.4914	Ave		0.5019				4.0		15.0			
1,1,1-Trichloroethane	0.3891 0.3449	0.3722	0.3666	0.3940	0.3688	Ave		0.3726				4.7		15.0			
Cyclohexane	0.4670 0.4328	0.4709	0.4707	0.4560	0.4491	Ave		0.4577				3.3		15.0			
1,1-Dichloropropene	0.4449 0.3772	0.4247	0.4174	0.4024	0.3935	Ave		0.4100				5.9		15.0			
Carbon tetrachloride	0.3176 0.3270	0.3134	0.3217	0.3365	0.3370	Ave		0.3255				3.0		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.: 240-103828-1

SDG No.:

Lab Sample ID: ICV 240-342615/14 Calibration Date: 08/27/2018 13:07

Instrument ID: A3UX15 Calib Start Date: 08/27/2018 10:56

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 12:45

Lab File ID: UXC4609.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	0.3565	0.3395		0.00952	0.0100	-4.8	50.0
Chloromethane	Ave	0.3390	0.3227	0.1000	0.00952	0.0100	-4.8	50.0
Vinyl chloride	Ave	0.3545	0.3535		0.00997	0.0100	-0.3	20.0
Butadiene	Ave	0.4240	0.3760		0.00887	0.0100	-11.3	50.0
Bromomethane	Ave	0.2784	0.2816		0.0101	0.0100	1.1	50.0
Chloroethane	Ave	0.2391	0.2420		0.0101	0.0100	1.2	50.0
Dichlorofluoromethane	Ave	0.6029	0.6280		0.0104	0.0100	4.2	50.0
Trichlorofluoromethane	Ave	0.5707	0.6009		0.0105	0.0100	5.3	50.0
Ethyl ether	Ave	0.2928	0.3090		0.0106	0.0100	5.6	50.0
Acrolein	Ave	0.0554	0.0476		0.0430	0.0500	-14.1	50.0
1,1-Dichloroethene	Ave	0.3014	0.3365		0.0112	0.0100	11.6	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2261	0.2596		0.0115	0.0100	14.8	50.0
Acetone	Ave	0.0281	0.0260		0.0185	0.0200	-7.3	50.0
Iodomethane	Ave	0.4327	0.4422		0.0102	0.0100	2.2	50.0
Carbon disulfide	Ave	0.8242	0.7705		0.00935	0.0100	-6.5	50.0
3-Chloro-1-propene	Ave	0.1850	0.1795		0.00971	0.0100	-2.9	50.0
Methyl acetate	Ave	0.2109	0.2033		0.0193	0.0200	-3.6	50.0
Methylene Chloride	Ave	0.2861	0.2755		0.00963	0.0100	-3.7	50.0
tert-Butyl alcohol	Ave	0.0195	0.0189		0.0965	0.100	-3.5	50.0
Acrylonitrile	Ave	0.1063	0.1067		0.100	0.100	0.3	50.0
Methyl tert-butyl ether	Ave	0.7921	0.7779		0.00982	0.0100	-1.8	50.0
trans-1,2-Dichloroethene	Ave	0.3025	0.3004		0.00993	0.0100	-0.7	50.0
Hexane	Ave	0.0749	0.0744		0.00992	0.0100	-0.8	20.0
1,1-Dichloroethane	Ave	0.4927	0.4920	0.1000	0.00999	0.0100	-0.1	50.0
Vinyl acetate	Ave	0.4510	0.4762		0.0106	0.0100	5.6	50.0
2,2-Dichloropropane	Ave	0.0583	0.0595		0.0102	0.0100	2.1	50.0
cis-1,2-Dichloroethene	Ave	0.3309	0.3193		0.00965	0.0100	-3.5	50.0
2-Butanone (MEK)	Ave	0.0348	0.0327		0.0188	0.0200	-6.0	50.0
Chlorobromomethane	Ave	0.1563	0.1555		0.00995	0.0100	-0.5	50.0
Tetrahydrofuran	Lin1		0.0839		0.0198	0.0200	-1.2	50.0
Chloroform	Ave	0.5019	0.5013		0.00999	0.0100	-0.1	20.0
1,1,1-Trichloroethane	Ave	0.3726	0.3868		0.0104	0.0100	3.8	50.0
Cyclohexane	Ave	0.4577	0.4687		0.0102	0.0100	2.4	50.0
1,1-Dichloropropene	Ave	0.4100	0.3951		0.00964	0.0100	-3.6	50.0
Carbon tetrachloride	Ave	0.3255	0.3204		0.00984	0.0100	-1.6	50.0
Isobutyl alcohol	Ave	0.0060	0.0061		0.253	0.250	1.2	50.0
Benzene	Ave	1.202	1.181		0.00983	0.0100	-1.7	50.0
1,2-Dichloroethane	Ave	0.4245	0.4184		0.00986	0.0100	-1.4	50.0
n-Heptane	Ave	0.0737	0.0723		0.00981	0.0100	-1.9	50.0
Trichloroethene	Ave	0.3258	0.3174		0.00974	0.0100	-2.6	50.0

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

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab File ID: BFB1114.D BFB Injection Date: 11/14/2018

Instrument ID: A3UX15 BFB Injection Time: 10:05

Analysis Batch No.: 355371

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	18.6	
75	30.0 - 60.0 % of mass 95	49.0	
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	0.5	(0.6) 1
174	50.0 - 120.00 % of mass 95	91.9	
175	5.0 - 9.0 % of mass 174	6.7	(7.3) 1
176	95.0 - 101.0 % of mass 174	89.2	(97.1) 1
177	5.0 - 9.0 % of mass 176	5.8	(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 240-355371/4	UXC7084.D	11/14/2018	10:51
	CCVIS 240-355371/2	UXC7085.D	11/14/2018	11:15
	CCV 240-355371/3	UXC7086.D	11/14/2018	11:36
	MB 240-355371/6	UXC7088.D	11/14/2018	12:21
TB-103118	240-103828-1	UXC7102.D	11/14/2018	17:27
	240-104049-C-15 MS	UXC7112.D	11/14/2018	21:31
	240-104049-C-15 MSD	UXC7113.D	11/14/2018	21:53

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab Sample ID: CCVIS 240-355371/2 Calibration Date: 11/14/2018 11:15

Instrument ID: A3UX15 Calib Start Date: 08/27/2018 10:56

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 12:45

Lab File ID: UXC7085.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	0.3565	0.4161		0.0117	0.0100	16.7	50.0
Chloromethane	Ave	0.3390	0.4195	0.1000	0.0124	0.0100	23.7	50.0
Butadiene	Ave	0.4240	0.4529		0.0107	0.0100	6.8	50.0
Vinyl chloride	Ave	0.3545	0.3855		0.0109	0.0100	8.7	20.0
Bromomethane	Ave	0.2784	0.2694		0.00968	0.0100	-3.2	50.0
Chloroethane	Ave	0.2391	0.2454		0.0103	0.0100	2.6	50.0
Dichlorofluoromethane	Ave	0.6029	0.6652		0.0110	0.0100	10.3	50.0
Trichlorofluoromethane	Ave	0.5707	0.6210		0.0109	0.0100	8.8	50.0
Ethyl ether	Ave	0.2928	0.3054		0.0104	0.0100	4.3	50.0
Acrolein	Ave	0.0554	0.0510		0.0461	0.0500	-7.8	50.0
1,1-Dichloroethene	Ave	0.3014	0.3199		0.0106	0.0100	6.1	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2261	0.2849		0.0126	0.0100	26.0	50.0
Acetone	Ave	0.0281	0.0265		0.0189	0.0200	-5.7	50.0
Iodomethane	Ave	0.4327	0.5372		0.0124	0.0100	24.1	50.0
Carbon disulfide	Ave	0.8242	0.9018		0.0109	0.0100	9.4	50.0
3-Chloro-1-propene	Ave	0.1850	0.1835		0.00992	0.0100	-0.8	50.0
Methyl acetate	Ave	0.2109	0.1633		0.0155	0.0200	-22.6	50.0
Methylene Chloride	Ave	0.2861	0.3447		0.0120	0.0100	20.5	50.0
tert-Butyl alcohol	Ave	0.0195	0.0131		0.0670	0.100	-33.0	50.0
Acrylonitrile	Ave	0.1063	0.0946		0.0889	0.100	-11.1	50.0
Methyl tert-butyl ether	Ave	0.7921	0.6069		0.00766	0.0100	-23.4	50.0
trans-1,2-Dichloroethene	Ave	0.3025	0.3448		0.0114	0.0100	14.0	50.0
Hexane	Ave	0.0749	0.0640		0.00855	0.0100	-14.5	20.0
1,1-Dichloroethane	Ave	0.4927	0.5263	0.1000	0.0107	0.0100	6.8	50.0
Vinyl acetate	Ave	0.4510	0.3477		0.00771	0.0100	-22.9	50.0
2,2-Dichloropropane	Ave	0.0583	0.0657		0.0113	0.0100	12.8	50.0
cis-1,2-Dichloroethene	Ave	0.3309	0.3621		0.0109	0.0100	9.4	50.0
2-Butanone (MEK)	Ave	0.0348	0.0260		0.0150	0.0200	-25.2	50.0
Chlorobromomethane	Ave	0.1563	0.1777		0.0114	0.0100	13.8	50.0
Tetrahydrofuran	Lin1		0.0522		0.0114	0.0200	-43.2	50.0
Chloroform	Ave	0.5019	0.5396		0.0108	0.0100	7.5	20.0
1,1,1-Trichloroethane	Ave	0.3726	0.4126		0.0111	0.0100	10.7	50.0
Cyclohexane	Ave	0.4577	0.4739		0.0104	0.0100	3.5	50.0
1,1-Dichloropropene	Ave	0.4100	0.4086		0.00997	0.0100	-0.3	50.0
Carbon tetrachloride	Ave	0.3255	0.4066		0.0125	0.0100	24.9	50.0
Isobutyl alcohol	Ave	0.0060	0.0064		0.266	0.250	6.2	50.0
Benzene	Ave	1.202	1.225		0.0102	0.0100	2.0	50.0
1,2-Dichloroethane	Ave	0.4245	0.3794		0.00894	0.0100	-10.6	50.0
n-Heptane	Ave	0.0737	0.0450		0.00611	0.0100	-38.9	50.0
Trichloroethene	Ave	0.3258	0.3202		0.00983	0.0100	-1.7	50.0

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab File ID: UXC7088.D Lab Sample ID: MB 240-355371/6

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: A3UX15 Date Analyzed: 11/14/2018 12:21

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 240-355371/4	UXC7084.D	11/14/2018 10:51
TB-103118	240-103828-1	UXC7102.D	11/14/2018 17:27
	240-104049-C-15 MS	UXC7112.D	11/14/2018 21:31
	240-104049-C-15 MSD	UXC7113.D	11/14/2018 21:53

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-355371/6

Matrix: Water | Lab File ID: UXC7088.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 11/14/2018 12:21

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.: 355371 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	0.14	U	1.0	0.14
563-58-6	1,1-Dichloropropene	0.14	U	1.0	0.14
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17
87-61-6	1,2,3-Trichlorobenzene	0.54	U	1.0	0.54
96-18-4	1,2,3-Trichloropropane	0.24	U	1.0	0.24
107-06-2	1,2-Dichloroethane	0.21	U	1.0	0.21
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19
526-73-8	1,2,3-Trimethylbenzene	0.14	U	5.0	0.14
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15
95-63-6	1,2,4-Trimethylbenzene	0.070	U	1.0	0.070
591-78-6	2-Hexanone	0.54	U	10	0.54
79-34-5	1,1,2,2-Tetrachloroethane	0.13	U	1.0	0.13
67-64-1	Acetone	5.4	U	10	5.4
71-43-2	Benzene	0.13	U	1.0	0.13
75-25-2	Bromoform	0.76	U	1.0	0.76
74-83-9	Bromomethane	0.42	U	1.0	0.42
75-15-0	Carbon disulfide	0.28	U	1.0	0.28
56-23-5	Carbon tetrachloride	0.26	U	1.0	0.26
71-55-6	1,1,1-Trichloroethane	0.24	U	1.0	0.24
108-90-7	Chlorobenzene	0.14	U	1.0	0.14
142-28-9	1,3-Dichloropropane	0.21	U	1.0	0.21
75-00-3	Chloroethane	0.83	U	1.0	0.83
96-12-8	1,2-Dibromo-3-Chloropropane	0.91	U	2.0	0.91
67-66-3	Chloroform	0.13	U	1.0	0.13
74-87-3	Chloromethane	0.20	U	1.0	0.20
156-59-2	cis-1,2-Dichloroethene	0.16	U	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	0.61	U	1.0	0.61
75-27-4	Bromodichloromethane	0.17	U	1.0	0.17
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
75-71-8	Dichlorodifluoromethane	0.35	U	1.0	0.35
120-82-1	1,2,4-Trichlorobenzene	0.26	U	1.0	0.26
100-41-4	Ethylbenzene	0.11	U	1.0	0.11
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12
594-20-7	2,2-Dichloropropane	0.31	U	1.0	0.31
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.15	U	1.0	0.15

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-355371/6

Matrix: Water | Lab File ID: UXC7088.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 11/14/2018 12:21

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.: 355371 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
106-46-7	1,4-Dichlorobenzene	0.16	U	1.0	0.16
110-75-8	2-Chloroethyl vinyl ether	0.26	U	10	0.26
98-82-8	Isopropylbenzene	0.090	U	1.0	0.090
95-49-8	2-Chlorotoluene	0.15	U	1.0	0.15
78-93-3	2-Butanone (MEK)	1.2	U	10	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	0.42	U	10	0.42
108-86-1	Bromobenzene	0.12	U	1.0	0.12
1634-04-4	Methyl tert-butyl ether	0.070	U	1.0	0.070
74-97-5	Bromochloromethane	0.14	U	1.0	0.14
75-09-2	Methylene Chloride	2.6	U	5.0	2.6
106-43-4	4-Chlorotoluene	0.090	U	1.0	0.090
99-87-6	4-Isopropyltoluene	0.13	U	1.0	0.13
100-42-5	Styrene	0.10	U	1.0	0.10
179601-23-1	m-Xylene & p-Xylene	0.080	U	2.0	0.080
95-47-6	o-Xylene	0.090	U	1.0	0.090
87-68-3	Hexachlorobutadiene	0.83	U	1.0	0.83
127-18-4	Tetrachloroethene	0.15	U	1.0	0.15
74-95-3	Dibromomethane	0.090	U	1.0	0.090
108-88-3	Toluene	0.14	U	1.0	0.14
108-20-3	Diisopropyl ether	0.17	U	10	0.17
91-20-3	Naphthalene	0.32	U	1.0	0.32
156-60-5	trans-1,2-Dichloroethene	0.19	U	1.0	0.19
104-51-8	n-Butylbenzene	0.14	U	1.0	0.14
10061-02-6	trans-1,3-Dichloropropene	0.67	U	1.0	0.67
103-65-1	N-Propylbenzene	0.15	U	1.0	0.15
79-01-6	Trichloroethene	0.10	U	1.0	0.10
135-98-8	sec-Butylbenzene	0.13	U	1.0	0.13
75-69-4	Trichlorofluoromethane	0.45	U	1.0	0.45
994-05-8	Tert-amyl methyl ether	0.11	U	5.0	0.11
637-92-3	Ethyl tert-butyl ether	0.15	U	5.0	0.15
98-06-6	tert-Butylbenzene	0.14	U	1.0	0.14
75-01-4	Vinyl chloride	0.20	U	1.0	0.20
108-05-4	Vinyl acetate	0.19	U	2.0	0.19
75-65-0	tert-Butyl alcohol	1.7	U	50	1.7
1330-20-7	Xylenes, Total	0.15	U	2.0	0.15
124-48-1	Chlorodibromomethane	0.39	U	1.0	0.39

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-355371/6

Matrix: Water | Lab File ID: UXC7088.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 11/14/2018 12:21

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.: 355371 | Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	86		70-121
460-00-4	4-Bromofluorobenzene (Surr)	65		59-120
2037-26-5	Toluene-d8 (Surr)	77		70-123
1868-53-7	Dibromofluoromethane (Surr)	99		75-128

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Matrix: Water Level: Low Lab File ID: UXC7084.D

Lab ID: LCS 240-355371/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Methyl tert-butyl ether	10.0	6.86	69	51-133	
Bromochloromethane	10.0	10.4	104	74-130	
Methylene Chloride	10.0	10.5	105	70-134	
4-Chlorotoluene	10.0	9.12	91	77-125	
4-Isopropyltoluene	10.0	8.35	84	69-122	
Styrene	10.0	9.68	97	79-120	
m-Xylene & p-Xylene	10.0	9.40	94	80-120	
o-Xylene	10.0	9.55	95	80-120	
Hexachlorobutadiene	10.0	10.8	108	38-136	
Tetrachloroethene	10.0	10.8	108	74-130	
Dibromomethane	10.0	9.06	91	74-124	
Toluene	10.0	10.2	102	78-129	
Naphthalene	10.0	5.81	58	28-141	
trans-1,2-Dichloroethene	10.0	10.5	105	78-133	
n-Butylbenzene	10.0	7.48	75	57-126	
trans-1,3-Dichloropropene	10.0	7.87	79	55-128	
N-Propylbenzene	10.0	9.02	90	77-123	
Trichloroethene	10.0	9.73	97	76-125	
sec-Butylbenzene	10.0	8.17	82	68-123	
Trichlorofluoromethane	10.0	8.34	83	51-164	
tert-Butylbenzene	10.0	7.93	79	70-121	
Vinyl chloride	10.0	8.19	82	58-143	
Vinyl acetate	10.0	7.30	73	45-151	
tert-Butyl alcohol	100	58.6	59	10-161	
Xylenes, Total	20.0	19.0	95	80-120	

Column to be used to flag recovery and RPD values

FORM III 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab File ID: BFB8753.D BFB Injection Date: 10/18/2018

Instrument ID: A3UX8 BFB Injection Time: 01:59

Analysis Batch No.: 350647

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	36.8	
75	30.0 - 60.0 % of mass 95	51.3	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.5	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	65.6	
175	5.0 - 9.0 % of mass 174	4.9	(7.5) 1
176	95.0 - 101.0 % of mass 174	64.5	(98.3) 1
177	5.0 - 9.0 % of mass 176	4.0	(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
	STDA9 240-350647/4	UX80006.D	10/18/2018	02:52
	STDA9 240-350647/5	UX80007.D	10/18/2018	03:14
	STDA9 240-350647/6	UX80008.D	10/18/2018	03:37
	STDA9 240-350647/7	UX80009.D	10/18/2018	04:00
	STDA9 240-350647/8	UX80010.D	10/18/2018	04:21
	STDA9 240-350647/9	UX80011.D	10/18/2018	04:43
	STDA9 240-350647/10	UX80012.D	10/18/2018	05:05
	STDA9 240-350647/11	UX80013.D	10/18/2018	05:27
	STDA9 240-350647/12	UX80014.D	10/18/2018	05:49

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

Lab Name: TestAmerica Canton Job No.: 240-103828-1 Analy Batch No.: 350647

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 10/18/2018 02:52 Calibration End Date: 10/18/2018 05:49 Calibration ID: 47539

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDA9 240-350647/12	UX80014.D
Level 2	STDA9 240-350647/11	UX80013.D
Level 3	STDA9 240-350647/10	UX80012.D
Level 4	STDA9 240-350647/9	UX80011.D
Level 5	STDA9 240-350647/8	UX80010.D
Level 6	STDA9 240-350647/7	UX80009.D
Level 7	STDA9 240-350647/6	UX80008.D
Level 8	STDA9 240-350647/5	UX80007.D
Level 9	STDA9 240-350647/4	UX80006.D

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Acetonitrile	0.0659 0.0524	0.0585 0.0505	0.0667 0.0482	0.0624 0.0472	0.0562	Ave		0.0564				13.1		15.0			
Diisopropyl ether	0.2104 0.2465	0.2128 0.2517	0.2652 0.2429	0.2705 0.2297	0.2674	Ave		0.2441				9.2		15.0			
2-Chloro-1,3-butadiene	0.7281 0.8227	0.6733 0.8636	0.8699 0.8631	0.8586 0.8358	0.8564	Ave		0.8191				8.6		15.0			
Ethyl tert-butyl ether	1.0204 1.1113	1.0102 1.1142	1.2137 1.1062	1.1919 1.0158	1.1443	Ave		1.1031				6.8		15.0			
Ethyl acetate	0.4472 0.3456	0.4509 0.3591	0.4428 0.3481	0.3995 0.3449	0.3828	Ave		0.3912				11.7		15.0			
Propionitrile	0.0522 0.0477	0.0511 0.0478	0.0622 0.0460	0.0559 0.0437	0.0520	Ave		0.0510				11.0		15.0			
Methacrylonitrile	0.2598 0.2485	0.2458 0.2532	0.3002 0.2450	0.2799 0.2373	0.2748	Ave		0.2605				7.9		15.0			
Tert-amyl methyl ether	0.5374 0.6368	0.5318 0.6409	0.6989 0.6260	0.6746 0.5747	0.6512	Ave		0.6191				9.5		15.0			
n-Butanol	+++++ 0.0078	+++++ 0.0083	0.0151 0.0083	0.0091 0.0078	0.0075	Lin1	0.5793	0.0078							0.9960		0.9900
Ethyl acrylate	0.3022 0.3622	0.3199 0.3783	0.4075 0.3636	0.3824 0.3686	0.3911	Ave		0.3640				9.2		15.0			
Methyl methacrylate	0.2925 0.3311	0.3125 0.3447	0.3829 0.3255	0.3644 0.3274	0.3685	Ave		0.3388				8.6		15.0			
2-Nitropropane	0.0299 0.0485	0.0393 0.0596	0.0555 0.0686	0.0522 +++++	0.0479	Qua	-0.036	0.0478	0.0000526						1.0000		0.9900
n-Butyl acetate	+++++ 0.5208	+++++ 0.5380	0.7420 0.5055	0.5741 0.5174	0.5316	Ave		0.5613				14.7		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.: 240-103828-1 Analy Batch No.: 350647

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 10/18/2018 02:52 Calibration End Date: 10/18/2018 05:49 Calibration ID: 47539

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
1-Chlorohexane	0.3943 0.4521	0.3936 0.4872	0.4454 0.4786	0.4530 0.4782	0.4748	Ave		0.4508				7.8		15.0			
Cyclohexanone	+++++ 0.0137	+++++ 0.0151	0.0238 0.0156	0.0149 0.0143	0.0121	Lin1	0.1864	0.0146							0.9930		0.9900
Pentachloroethane	0.2309 0.3683	0.2693 0.4224	0.5213 0.4442	0.3558 0.4051	0.3424	Lin1	-0.423	0.4177							0.9950		0.9900
1,2,3-Trimethylbenzene	3.3780 3.4782	3.1998 3.6509	4.9367 3.4477	3.9795 3.1789	3.6771	Ave		3.6585				14.8		15.0			
Benzyl chloride	+++++ 0.1192	+++++ 0.1625	0.1439 0.1932	0.0968 0.1911	0.0927	Qua	-0.965	0.1570	0.0001663						0.9970		0.9900
1,3,5-Trichlorobenzene	+++++ 1.2467	+++++ 1.3061	2.0755 1.2098	1.4281 1.1029	1.3188	Lin1	4.1420	1.1538							0.9960		0.9900
2-Methylnaphthalene	+++++ 1.4067	+++++ 1.4942	2.2722 1.3322	1.4840 +++++	1.3574	Lin1	6.4375	1.3512							0.9950		0.9900
1-Chloro-1-fluoroethane TIC	0.6254 0.5744	0.5656 0.5624	0.7066 0.5413	0.6740 0.5249	0.6179	None											

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

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

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab File ID: BFB8776.D BFB Injection Date: 11/06/2018

Instrument ID: A3UX8 BFB Injection Time: 06:11

Analysis Batch No.: 353820

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	33.3	
75	30.0 - 60.0 % of mass 95	50.5	
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	74.8	
175	5.0 - 9.0 % of mass 174	5.6	(7.5) 1
176	95.0 - 101.0 % of mass 174	72.6	(97.0) 1
177	5.0 - 9.0 % of mass 176	4.3	(6.0) 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
	STD8260 240-353820/3	UX80595.D	11/06/2018	06:49
	STD8260 240-353820/4	UX80596.D	11/06/2018	07:11
	STD8260 240-353820/5	UX80597.D	11/06/2018	07:34
	STD8260 240-353820/6	UX80598.D	11/06/2018	07:56
	ICIS 240-353820/7	UX80599.D	11/06/2018	08:18
	STD8260 240-353820/8	UX80600.D	11/06/2018	08:40
	STD8260 240-353820/9	UX80601.D	11/06/2018	09:02
	STD8260 240-353820/10	UX80602.D	11/06/2018	09:24
	STD8260 240-353820/11	UX80603.D	11/06/2018	09:45
	ICV 240-353820/13	UX80605.D	11/06/2018	10:30

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

Lab Name: TestAmerica Canton Job No.: 240-103828-1 Analy Batch No.: 353820

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 11/06/2018 06:49 Calibration End Date: 11/06/2018 09:45 Calibration ID: 47798

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-353820/11	UX80603.D
Level 2	STD8260 240-353820/10	UX80602.D
Level 3	STD8260 240-353820/9	UX80601.D
Level 4	STD8260 240-353820/8	UX80600.D
Level 5	ICIS 240-353820/7	UX80599.D
Level 6	STD8260 240-353820/6	UX80598.D
Level 7	STD8260 240-353820/5	UX80597.D
Level 8	STD8260 240-353820/4	UX80596.D
Level 9	STD8260 240-353820/3	UX80595.D

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.3664 0.3475	0.4353 0.3350	0.3768 0.3095	0.4143 0.3233	0.3804	Ave		0.3654				11.4		15.0			
Chloromethane	0.7187 0.6261	0.7217 0.6052	0.7097 0.5775	0.7412 0.5865	0.6995	Ave		0.6651			0.1000	9.8		15.0			
Vinyl chloride	0.4368 0.3685	0.4318 0.3529	0.4007 0.3368	0.4289 0.3492	0.4087	Ave		0.3905				10.0		15.0			
Butadiene	0.6116 0.5367	0.6182 0.5197	0.5808 0.5027	0.6380 0.5183	0.5998	Ave		0.5695				8.9		15.0			
Bromomethane	0.2481 0.1886	0.2297 0.1609	0.2332 +++++	0.2358 +++++	0.2205	Ave		0.2167				14.2		15.0			
Chloroethane	0.2958 0.2482	0.2842 0.2301	0.2788 0.2028	0.2971 +++++	0.2734	Ave		0.2638				12.8		15.0			
Dichlorofluoromethane	0.5733 0.5013	0.6076 0.4816	0.5591 0.4563	0.5942 0.4577	0.5602	Ave		0.5324				11.0		15.0			
Trichlorofluoromethane	0.5051 0.4367	0.4821 0.4296	0.5114 0.4097	0.5241 0.4142	0.4896	Ave		0.4669				9.5		15.0			
Ethyl ether	0.3406 0.3208	0.3449 0.2771	0.3598 0.2745	0.3337 0.2726	0.3282	Ave		0.3169				10.6		15.0			
Acrolein	0.0502 0.0529	0.0586 0.0508	0.0593 0.0481	0.0598 0.0478	0.0606	Ave		0.0542				9.8		15.0			
1,1-Dichloroethene	0.2906 0.3059	0.3201 0.2599	0.3282 0.2539	0.3387 0.2567	0.3086	Ave		0.2958				10.9		15.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.2181 0.2193	0.2522 0.1900	0.2295 0.1859	0.2436 0.1935	0.2325	Ave		0.2183				11.0		15.0			
Acetone	0.3264 0.1190	0.2145 0.1056	0.1620 0.1030	0.1492 0.1047	0.1406	Lin1	0.5104	0.1048							0.9970		0.9900

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.: 240-103828-1 Analy Batch No.: 353820

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 11/06/2018 06:49 Calibration End Date: 11/06/2018 09:45 Calibration ID: 47798

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Iodomethane	0.5119 0.4732	0.5002 0.4074	0.4885 0.4052	0.5363 0.4056	0.4997	Ave		0.4698				10.8		15.0			
Carbon disulfide	0.7553 0.9415	0.8388 0.8249	0.8500 0.8452	0.9296 0.8558	0.9371	Ave		0.8642				7.1		15.0			
3-Chloro-1-propene	0.1464 0.1859	0.1467 0.1690	0.1695 0.1674	0.1826 0.1692	0.1866	Ave		0.1693				8.8		15.0			
Methyl acetate	0.3303 0.2772	0.3251 0.2631	0.3115 0.2587	0.3318 0.2632	0.3247	Ave		0.2984				10.7		15.0			
Methylene Chloride	+++++ 0.3340	0.6410 0.2839	0.4476 0.2758	0.4126 0.2725	0.3693	Lin1	0.9302	0.2762							0.9960		0.9900
tert-Butyl alcohol	0.0244 0.0234	0.0222 0.0213	0.0245 0.0211	0.0257 0.0209	0.0289	Ave		0.0236				11.1		15.0			
Acrylonitrile	0.1478 0.1242	0.1388 0.1124	0.1366 0.1116	0.1452 0.1121	0.1440	Ave		0.1303				11.7		15.0			
Methyl tert-butyl ether	0.7282 0.6666	0.6756 0.6054	0.6994 0.5961	0.7592 0.5682	0.7296	Ave		0.6698				10.0		15.0			
trans-1,2-Dichloroethene	0.3588 0.3349	0.3517 0.2913	0.3669 0.2881	0.3819 0.2850	0.3565	Ave		0.3350				11.1		15.0			
Hexane	0.0720 0.0848	0.0981 0.0845	0.0910 0.0812	0.0994 0.0876	0.0966	Ave		0.0883				10.1		15.0			
1,1-Dichloroethane	0.7962 0.7024	0.7470 0.6320	0.7665 0.6283	0.7903 0.6284	0.7332	Ave		0.7138			0.1000	9.7		15.0			
Vinyl acetate	0.5807 0.6541	0.5605 0.6477	0.6112 0.6581	0.6326 0.6663	0.6453	Ave		0.6285				5.9		15.0			
2-Butanone (MEK)	+++++ 0.1596	+++++ 0.1532	0.2063 0.1514	0.1975 0.1524	0.1967	Ave		0.1739				14.3		15.0			
cis-1,2-Dichloroethene	0.4221 0.3556	0.3743 0.3152	0.3783 0.3083	0.3993 0.3036	0.3753	Ave		0.3591				11.7		15.0			
2,2-Dichloropropane	0.3928 0.3567	0.3817 0.3217	0.3535 0.3231	0.3983 0.3135	0.3644	Ave		0.3562				8.8		15.0			
Bromochloromethane	0.1326 0.1416	0.1083 0.1274	0.1419 0.1246	0.1519 0.1237	0.1464	Ave		0.1331				10.2		15.0			
Tetrahydrofuran	0.3787 0.1081	0.2380 0.1006	0.1476 0.0982	0.1339 0.0991	0.1288	Lin1	0.5794	0.0984							0.9990		0.9900
Chloroform	0.5765 0.5260	0.5489 0.4752	0.5581 0.4770	0.5830 0.4712	0.5527	Ave		0.5298				8.4		15.0			
1,1,1-Trichloroethane	0.3711 0.4733	0.3937 0.4239	0.4495 0.4257	0.5002 0.4231	0.4903	Ave		0.4390				9.9		15.0			
Cyclohexane	0.9909 0.9153	0.8858 0.8154	0.9822 0.8112	1.0097 0.8231	0.9952	Ave		0.9143				9.1		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.: 240-103828-1 Analy Batch No.: 353820

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 11/06/2018 06:49 Calibration End Date: 11/06/2018 09:45 Calibration ID: 47798

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
1,1-Dichloropropene	0.4248 0.4267	0.4194 0.4014	0.4634 0.3974	0.4929 0.3970	0.4328	Ave		0.4284				7.5		15.0			
Carbon tetrachloride	0.3159 0.4041	0.3297 0.3645	0.3768 0.3713	0.4060 0.3722	0.4045	Ave		0.3717				8.6		15.0			
Isobutyl alcohol	0.0135 0.0122	0.0120 0.0109	0.0116 0.0109	0.0135 0.0110	0.0142	Ave		0.0122				10.3		15.0			
1,2-Dichloroethane	0.5365 0.4658	0.4928 0.4272	0.5363 0.4287	0.5080 0.4260	0.4980	Ave		0.4799				9.4		15.0			
Benzene	1.4341 1.2505	1.2912 1.1485	1.4171 1.1341	1.3767 1.1282	1.3052	Ave		1.2762				9.4		15.0			
n-Heptane	0.0701 0.0906	0.0876 0.0879	0.0940 0.0876	0.1011 0.0916	0.0966	Ave		0.0897				9.6		15.0			
Trichloroethene	0.4245 0.3159	0.3310 0.2929	0.3558 0.2904	0.3320 0.2915	0.3175	Ave		0.3280				12.9		15.0			
Methylcyclohexane	0.4948 0.6088	0.5769 0.5367	0.6316 0.5256	0.6586 0.5312	0.6392	Ave		0.5781				10.2		15.0			
1,2-Dichloropropane	0.3855 0.3579	0.3301 0.3330	0.3876 0.3269	0.3863 0.3260	0.3595	Ave		0.3548				7.6		15.0			
Dibromomethane	0.1380 0.1404	0.1280 0.1286	0.1514 0.1283	0.1463 0.1294	0.1457	Ave		0.1373				6.6		15.0			
1,4-Dioxane	+++++ 0.0019	0.0016 0.0018	0.0021 0.0018	0.0021 0.0018	0.0022	Ave		0.0019				11.1		15.0			
Bromodichloromethane	0.2946 0.3328	0.2571 0.3175	0.2909 0.3310	0.3106 0.3295	0.3185	Ave		0.3092				8.0		15.0			
2-Chloroethyl vinyl ether	0.1095 0.1286	0.1072 0.1293	0.1237 0.1288	0.1248 0.1288	0.1349	Ave		0.1240				7.6		15.0			
cis-1,3-Dichloropropene	0.3137 0.3806	0.2334 0.3707	0.3185 0.3801	0.3374 0.3824	0.3598	Ave		0.3419				14.2		15.0			
4-Methyl-2-pentanone (MIBK)	0.2995 0.3348	0.3147 0.3123	0.3354 0.3055	0.3615 0.3087	0.3762	Ave		0.3276				8.1		15.0			
Toluene	1.9927 1.7689	1.7824 1.6272	1.9104 1.6700	1.8497 1.6638	1.8141	Ave		1.7866				6.8		15.0			
trans-1,3-Dichloropropene	0.2772 0.4161	0.2491 0.4172	0.3305 0.4463	0.3716 0.4421	0.3739	Lin1	-0.323	0.4370							0.9990		0.9900
Ethyl methacrylate	0.2774 0.3681	0.2870 0.3646	0.3275 0.3646	0.3550 0.3513	0.3739	Ave		0.3411				10.6		15.0			
1,1,2-Trichloroethane	0.3464 0.2732	0.2692 0.2523	0.2754 0.2507	0.2899 0.2494	0.2849	Ave		0.2768				10.8		15.0			
1,3-Dichloropropane	0.5234 0.4824	0.4909 0.4548	0.5187 0.4553	0.5349 0.4513	0.5174	Ave		0.4921				6.7		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.: 240-103828-1 Analy Batch No.: 353820

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 11/06/2018 06:49 Calibration End Date: 11/06/2018 09:45 Calibration ID: 47798

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Tetrachloroethene	0.4142 0.3280	0.3524 0.3088	0.3458 0.3099	0.3585 0.3096	0.3320	Ave		0.3399				9.9		15.0			
2-Hexanone	0.2337 0.3124	0.2538 0.2980	0.3094 0.2938	0.3441 0.2892	0.3564	Ave		0.2990				13.0		15.0			
Dibromochloromethane	0.1395 0.2687	0.1639 0.2676	0.2164 0.2837	0.2372 0.2827	0.2548	Lin1	-0.214	0.2799							0.9990		0.9900
1,2-Dibromoethane	0.2306 0.2553	0.2189 0.2419	0.2600 0.2420	0.2679 0.2421	0.2551	Ave		0.2460				6.2		15.0			
Chlorobenzene	1.2386 1.0989	1.1532 1.0096	1.2529 1.0203	1.2460 1.0156	1.1408	Ave		1.1306			0.3000	8.9		15.0			
1,1,1,2-Tetrachloroethane	0.2539 0.3665	0.2571 0.3352	0.3481 0.3470	0.3587 0.3417	0.3651	Ave		0.3304				13.2		15.0			
Ethylbenzene	0.6614 0.6132	0.5976 0.5712	0.6552 0.5773	0.6658 0.5711	0.6241	Ave		0.6152				6.3		15.0			
m-Xylene & p-Xylene	0.7759 0.7631	0.7836 0.6995	0.8211 0.7008	0.8099 0.6923	0.7695	Ave		0.7573				6.4		15.0			
o-Xylene	0.7202 0.7486	0.6317 0.6639	0.7862 0.6603	0.8170 0.6421	0.7754	Ave		0.7162				9.6		15.0			
Styrene	0.9270 1.1781	0.8974 1.0966	1.1695 1.1010	1.2244 1.0664	1.1838	Ave		1.0938				10.5		15.0			
Bromoform	+++++ 0.1292	0.0841 0.1333	0.0901 0.1451	0.1060 0.1462	0.1209	Lin1	-0.214	0.1431			0.1000				0.9980		0.9900
Isopropylbenzene	1.6366 2.0169	1.7801 1.8248	2.1084 1.8179	2.1090 1.8059	2.0896	Ave		1.9099				9.1		15.0			
1,1,2,2-Tetrachloroethane	0.5751 0.6495	0.5904 0.6068	0.6468 0.6116	0.7043 0.6088	0.6913	Ave		0.6316			0.3000	7.0		15.0			
Bromobenzene	1.1104 0.8541	0.8439 0.8242	0.9291 0.8221	0.9351 0.8059	0.8810	Ave		0.8895				10.6		15.0			
1,2,3-Trichloropropane	0.2072 0.2040	0.2261 0.1938	0.2571 0.1939	0.2400 0.1892	0.2341	Ave		0.2162				11.1		15.0			
trans-1,4-Dichloro-2-butene	0.1800 0.2825	0.2295 0.2860	0.2758 0.3020	0.2942 0.3030	0.2848	Ave		0.2709				14.9		15.0			
N-Propylbenzene	0.9893 1.1369	0.9999 1.0634	1.1884 1.0810	1.1802 1.0518	1.1888	Ave		1.0977				7.2		15.0			
2-Chlorotoluene	0.9069 0.9373	0.9278 0.9018	1.0143 0.8970	1.0740 0.8828	1.0013	Ave		0.9492				6.9		15.0			
1,3,5-Trimethylbenzene	3.2078 3.5524	2.9287 3.3254	3.7053 3.3220	3.7535 3.2855	3.5808	Ave		3.4068				7.7		15.0			
4-Chlorotoluene	0.9080 0.9484	0.9454 0.9172	1.0556 0.9076	1.0628 0.8846	0.9801	Ave		0.9566				6.7		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.: 240-103828-1 Analy Batch No.: 353820

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 11/06/2018 06:49 Calibration End Date: 11/06/2018 09:45 Calibration ID: 47798

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
tert-Butylbenzene	3.0682 3.1279	2.7070 2.9233	3.2686 2.9225	3.2425 2.8702	3.1766	Ave		3.0341				6.2		15.0			
1,2,4-Trimethylbenzene	3.0198 3.5662	3.0614 3.3391	3.8105 3.3561	3.8620 3.2707	3.7031	Ave		3.4432				9.0		15.0			
sec-Butylbenzene	4.1781 4.6382	4.3421 4.2584	4.9121 4.2401	5.0382 4.1702	4.7060	Ave		4.4982				7.4		15.0			
1,3-Dichlorobenzene	2.0244 1.6962	1.9514 1.5935	1.9356 1.5992	1.9768 1.5596	1.8298	Ave		1.7963				10.3		15.0			
p-Isopropyltoluene	3.2018 3.7311	3.5929 3.5439	3.8787 3.5227	4.0470 3.4539	3.9068	Ave		3.6532				7.2		15.0			
1,4-Dichlorobenzene	2.3535 1.7117	2.0534 1.6170	1.9515 1.6154	1.9964 1.5583	1.8176	Ave		1.8528				14.0		15.0			
n-Butylbenzene	3.0374 3.3593	3.1236 3.1679	3.4494 3.1536	3.5708 3.1245	3.4639	Ave		3.2723				5.8		15.0			
1,2-Dichlorobenzene	2.0627 1.5858	1.7884 1.4342	1.8879 1.4241	1.8575 1.3890	1.6785	Ave		1.6787				14.2		15.0			
1,2-Dibromo-3-Chloropropane	+++++ 0.0821	+++++ 0.0775	0.0512 0.0850	0.0771 0.0883	0.0749	Lin1	-0.171	0.0861							0.9980		0.9900
1,2,4-Trichlorobenzene	1.3241 1.0196	1.1884 0.9362	1.1356 0.9520	1.1047 0.9314	1.0852	Ave		1.0752				12.2		15.0			
Hexachlorobutadiene	+++++ 0.5828	+++++ 0.5231	0.6794 0.5338	0.7315 0.5167	0.6512	Ave		0.6026				14.2		15.0			
Naphthalene	2.2190 2.1136	1.9473 1.9145	1.9824 1.9382	2.2202 1.8484	2.2344	Ave		2.0464				7.4		15.0			
1,2,3-Trichlorobenzene	+++++ 0.9285	+++++ 0.8150	1.0921 0.8370	1.1088 0.8009	1.0355	Ave		0.9454				14.1		15.0			
Dibromofluoromethane (Surr)	0.2333 0.2250	0.2605 0.2364	0.2694 0.2363	0.2595 0.2388	0.2657	Ave		0.2472				6.6		15.0			
1,2-Dichloroethane-d4 (Surr)	0.3962 0.2799	0.3756 0.3024	0.4161 0.3045	0.3566 0.3103	0.3572	Ave		0.3443				13.7		15.0			
Toluene-d8 (Surr)	1.4502 1.3143	1.4983 1.3251	1.5808 1.3784	1.4646 1.3735	1.4755	Ave		1.4290				6.1		15.0			
4-Bromofluorobenzene (Surr)	0.5861 0.4570	0.6093 0.4755	0.6154 0.4838	0.5821 0.4723	0.5667	Ave		0.5387				12.1		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.: 240-103828-1

SDG No.:

Lab Sample ID: ICV 240-353820/13 Calibration Date: 11/06/2018 10:30

Instrument ID: A3UX8 Calib Start Date: 11/06/2018 06:49

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/06/2018 09:45

Lab File ID: UX80605.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3654	0.3269		0.0224	0.0250	-10.5	50.0
Chloromethane	Ave	0.6651	0.5914	0.1000	0.0222	0.0250	-11.1	50.0
Vinyl chloride	Ave	0.3905	0.3639		0.0233	0.0250	-6.8	20.0
Butadiene	Ave	0.5695	0.4600		0.0202	0.0250	-19.2	50.0
Bromomethane	Ave	0.2167	0.1809		0.0209	0.0250	-16.5	50.0
Chloroethane	Ave	0.2638	0.2306		0.0219	0.0250	-12.6	50.0
Dichlorofluoromethane	Ave	0.5324	0.4860		0.0228	0.0250	-8.7	50.0
Trichlorofluoromethane	Ave	0.4669	0.3980		0.0213	0.0250	-14.8	50.0
Ethyl ether	Ave	0.3169	0.2892		0.0228	0.0250	-8.7	50.0
Acrolein	Ave	0.0542	0.0507		0.117	0.125	-6.6	50.0
1,1-Dichloroethene	Ave	0.2958	0.2590		0.0219	0.0250	-12.4	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2183	0.1896		0.0217	0.0250	-13.2	50.0
Acetone	Lin1		0.1046		0.0451	0.0500	-9.9	50.0
Iodomethane	Ave	0.4698	0.4102		0.0218	0.0250	-12.7	50.0
Carbon disulfide	Ave	0.8642	0.7476		0.0216	0.0250	-13.5	50.0
3-Chloro-1-propene	Ave	0.1693	0.1547		0.0228	0.0250	-8.6	50.0
Methyl acetate	Ave	0.2984	0.2402		0.0402	0.0500	-19.5	50.0
Methylene Chloride	Lin1		0.2989		0.0237	0.0250	-5.3	50.0
tert-Butyl alcohol	Ave	0.0236	0.0223		0.236	0.250	-5.5	50.0
Acrylonitrile	Ave	0.1303	0.1143		0.219	0.250	-12.3	50.0
Methyl tert-butyl ether	Ave	0.6698	0.5832		0.0218	0.0250	-12.9	50.0
trans-1,2-Dichloroethene	Ave	0.3350	0.3015		0.0225	0.0250	-10.0	50.0
Hexane	Ave	0.0883	0.0739		0.0209	0.0250	-16.3	20.0
1,1-Dichloroethane	Ave	0.7138	0.6265	0.1000	0.0219	0.0250	-12.2	50.0
Vinyl acetate	Ave	0.6285	0.6863		0.0273	0.0250	9.2	50.0
2-Butanone (MEK)	Ave	0.1739	0.1582		0.0455	0.0500	-9.0	50.0
cis-1,2-Dichloroethene	Ave	0.3591	0.3147		0.0219	0.0250	-12.4	50.0
2,2-Dichloropropane	Ave	0.3562	0.2852		0.0200	0.0250	-19.9	50.0
Bromochloromethane	Ave	0.1331	0.1279		0.0240	0.0250	-4.0	50.0
Chloroform	Ave	0.5298	0.4763		0.0225	0.0250	-10.1	20.0
Tetrahydrofuran	Lin1		0.1072		0.0485	0.0500	-2.9	50.0
1,1,1-Trichloroethane	Ave	0.4390	0.3995		0.0228	0.0250	-9.0	50.0
Cyclohexane	Ave	0.9143	0.7786		0.0213	0.0250	-14.8	50.0
1,1-Dichloropropene	Ave	0.4284	0.3703		0.0216	0.0250	-13.6	50.0
Carbon tetrachloride	Ave	0.3717	0.3304		0.0222	0.0250	-11.1	50.0
Isobutyl alcohol	Ave	0.0122	0.0115		0.587	0.625	-6.0	50.0
1,2-Dichloroethane	Ave	0.4799	0.4323		0.0225	0.0250	-9.9	50.0
Benzene	Ave	1.276	1.109		0.0217	0.0250	-13.1	50.0
n-Heptane	Ave	0.0897	0.0818		0.0228	0.0250	-8.8	50.0
Trichloroethene	Ave	0.3280	0.2825		0.0215	0.0250	-13.9	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab Sample ID: ICV 240-353820/13 Calibration Date: 11/06/2018 10:30

Instrument ID: A3UX8 Calib Start Date: 11/06/2018 06:49

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/06/2018 09:45

Lab File ID: UX80605.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	0.5781	0.4885		0.0211	0.0250	-15.5	50.0
1,2-Dichloropropane	Ave	0.3548	0.3267		0.0230	0.0250	-7.9	20.0
Dibromomethane	Ave	0.1373	0.1237		0.0225	0.0250	-10.0	50.0
1,4-Dioxane	Ave	0.0019	0.0018		0.479	0.500	-4.2	50.0
Bromodichloromethane	Ave	0.3092	0.2752		0.0223	0.0250	-11.0	50.0
2-Chloroethyl vinyl ether	Ave	0.1240	0.1153		0.0233	0.0250	-7.0	50.0
cis-1,3-Dichloropropene	Ave	0.3419	0.3264		0.0239	0.0250	-4.5	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3276	0.3130		0.0478	0.0500	-4.5	50.0
Toluene	Ave	1.787	1.571		0.0220	0.0250	-12.1	20.0
trans-1,3-Dichloropropene	Lin1		0.3367		0.0200	0.0250	-20.0	50.0
Ethyl methacrylate	Ave	0.3411	0.3304		0.0242	0.0250	-3.1	50.0
1,1,2-Trichloroethane	Ave	0.2768	0.2582		0.0233	0.0250	-6.7	50.0
1,3-Dichloropropane	Ave	0.4921	0.4540		0.0231	0.0250	-7.7	50.0
Tetrachloroethene	Ave	0.3399	0.2909		0.0214	0.0250	-14.4	50.0
2-Hexanone	Ave	0.2990	0.2877		0.0481	0.0500	-3.8	50.0
Dibromochloromethane	Lin1		0.2278		0.0211	0.0250	-15.5	50.0
1,2-Dibromoethane	Ave	0.2460	0.2350		0.0239	0.0250	-4.5	50.0
Chlorobenzene	Ave	1.131	0.996	0.3000	0.0220	0.0250	-11.9	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3304	0.3157		0.0239	0.0250	-4.5	50.0
Ethylbenzene	Ave	0.6152	0.5455		0.0222	0.0250	-11.3	20.0
m-Xylene & p-Xylene	Ave	0.7573	0.6701		0.0221	0.0250	-11.5	50.0
o-Xylene	Ave	0.7162	0.6412		0.0224	0.0250	-10.5	50.0
Styrene	Ave	1.094	1.030		0.0235	0.0250	-5.8	50.0
Bromoform	Lin1		0.1077	0.1000	0.0203	0.0250	-18.8	50.0
Isopropylbenzene	Ave	1.910	1.763		0.0231	0.0250	-7.7	50.0
1,1,2,2-Tetrachloroethane	Ave	0.6316	0.6097	0.3000	0.0241	0.0250	-3.5	50.0
Bromobenzene	Ave	0.8895	0.7776		0.0219	0.0250	-12.6	50.0
1,2,3-Trichloropropane	Ave	0.2162	0.1977		0.0229	0.0250	-8.6	50.0
trans-1,4-Dichloro-2-butene	Ave	0.2709	0.2705		0.0250	0.0250	-0.1	50.0
N-Propylbenzene	Ave	1.098	0.9770		0.0222	0.0250	-11.0	50.0
2-Chlorotoluene	Ave	0.9492	0.8543		0.0225	0.0250	-10.0	50.0
1,3,5-Trimethylbenzene	Ave	3.407	3.047		0.0224	0.0250	-10.6	50.0
4-Chlorotoluene	Ave	0.9566	0.8685		0.0227	0.0250	-9.2	50.0
tert-Butylbenzene	Ave	3.034	2.680		0.0221	0.0250	-11.7	50.0
1,2,4-Trimethylbenzene	Ave	3.443	3.122		0.0227	0.0250	-9.3	50.0
sec-Butylbenzene	Ave	4.498	3.970		0.0221	0.0250	-11.7	50.0
1,3-Dichlorobenzene	Ave	1.796	1.523		0.0212	0.0250	-15.2	50.0
p-Isopropyltoluene	Ave	3.653	3.248		0.0222	0.0250	-11.1	50.0
1,4-Dichlorobenzene	Ave	1.853	1.554		0.0210	0.0250	-16.1	50.0
n-Butylbenzene	Ave	3.272	2.676		0.0204	0.0250	-18.2	50.0
1,2-Dichlorobenzene	Ave	1.679	1.430		0.0213	0.0250	-14.8	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab Sample ID: ICV 240-353820/13 Calibration Date: 11/06/2018 10:30

Instrument ID: A3UX8 Calib Start Date: 11/06/2018 06:49

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/06/2018 09:45

Lab File ID: UX80605.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Lin1		0.0632		0.0203	0.0250	-18.6	50.0
1,2,4-Trichlorobenzene	Ave	1.075	0.7711		0.0179	0.0250	-28.3	50.0
Hexachlorobutadiene	Ave	0.6026	0.4807		0.0199	0.0250	-20.2	50.0
Naphthalene	Ave	2.046	1.591		0.0194	0.0250	-22.2	50.0
1,2,3-Trichlorobenzene	Ave	0.9454	0.7476		0.0198	0.0250	-20.9	50.0
Dibromofluoromethane (Surr)	Ave	0.2472	0.2157		0.0436	0.0500	-12.7	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3443	0.2764		0.0401	0.0500	-19.7	50.0
Toluene-d8 (Surr)	Ave	1.429	1.248		0.0437	0.0500	-12.7	50.0
4-Bromofluorobenzene (Surr)	Ave	0.5387	0.4366		0.0405	0.0500	-19.0	50.0

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

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab File ID: BFB8793.D BFB Injection Date: 11/13/2018

Instrument ID: A3UX8 BFB Injection Time: 21:56

Analysis Batch No.: 355270

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	30.4	
75	30.0 - 60.0 % of mass 95	54.4	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.8	
173	Less than 2.0 % of mass 174	0.2	(0.3) 1
174	50.0 - 120.00 % of mass 95	79.6	
175	5.0 - 9.0 % of mass 174	5.8	(7.3) 1
176	95.0 - 101.0 % of mass 174	75.7	(95.1) 1
177	5.0 - 9.0 % of mass 176	4.9	(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
	CCV 240-355270/5	UX80898.D	11/13/2018	22:52
	CCVIS 240-355270/6	UX80899.D	11/13/2018	23:15
	LCS 240-355270/7	UX80900.D	11/13/2018	23:37
	MB 240-355270/8	UX80901.D	11/13/2018	23:59
SB-MW134A-8-12.5	240-103828-2	UX80907.D	11/14/2018	02:20
SB-MW134B-32-37	240-103828-3	UX80908.D	11/14/2018	02:43
SB-MW134B-32-37 MS	240-103828-3 MS	UX80909.D	11/14/2018	03:06
SB-MW134B-32-37 MSD	240-103828-3 MSD	UX80910.D	11/14/2018	03:28

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab Sample ID: CCV 240-355270/5 Calibration Date: 11/13/2018 22:52

Instrument ID: A3UX8 Calib Start Date: 10/18/2018 02:52

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/18/2018 05:49

Lab File ID: UX80898.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acetonitrile	Ave	0.0564	0.0345		0.122	0.200	-38.9	50.0
Diisopropyl ether	Ave	0.2441	0.2327		0.0191	0.0200	-4.7	50.0
2-Chloro-1,3-butadiene	Ave	0.8191	0.6702		0.0164	0.0200	-18.2	50.0
Ethyl tert-butyl ether	Ave	1.103	0.8277		0.0150	0.0200	-25.0	50.0
Ethyl acetate	Ave	0.3912	0.2774		0.0284	0.0400	-29.1	50.0
Propionitrile	Ave	0.0510	0.0319		0.125	0.200	-37.5	50.0
Methacrylonitrile	Ave	0.2605	0.1929		0.148	0.200	-26.0	50.0
Tert-amyl methyl ether	Ave	0.6191	0.5672		0.0183	0.0200	-8.4	50.0
n-Butanol	Lin1		0.0044		0.208	0.500	-58.3*	50.0
Ethyl acrylate	Ave	0.3640	0.2734		0.0150	0.0200	-24.9	50.0
Methyl methacrylate	Ave	0.3388	0.2640		0.0312	0.0400	-22.1	50.0
2-Nitropropane	Qua		0.0381		0.0316	0.0400	-21.1	50.0
n-Butyl acetate	Ave	0.5613	0.3457		0.0123	0.0200	-38.4	50.0
1-Chlorohexane	Ave	0.4508	0.4787		0.0212	0.0200	6.2	50.0
Cyclohexanone	Lin1		0.0073		0.0874	0.200	-56.3*	50.0
Pentachloroethane	Lin1		0.3821		0.0376	0.0400	-6.0	50.0
1,2,3-Trimethylbenzene	Ave	3.659	3.220		0.0176	0.0200	-12.0	50.0
Benzyl chloride	Qua		0.0823		0.0163	0.0200	-18.3	50.0
1,3,5-Trichlorobenzene	Lin1		1.133		0.0161	0.0200	-19.7	50.0
2-Methylnaphthalene	Lin1		0.7973		0.0188	0.0400	-52.9*	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab Sample ID: CCVIS 240-355270/6 Calibration Date: 11/13/2018 23:15

Instrument ID: A3UX8 Calib Start Date: 11/06/2018 06:49

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/06/2018 09:45

Lab File ID: UX80899.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3654	0.4679		0.0256	0.0200	28.1	50.0
Chloromethane	Ave	0.6651	0.5270	0.1000	0.0158	0.0200	-20.8	50.0
Vinyl chloride	Ave	0.3905	0.3588		0.0184	0.0200	-8.1	20.0
Butadiene	Ave	0.5695	0.4911		0.0172	0.0200	-13.8	50.0
Bromomethane	Ave	0.2167	0.1880		0.0173	0.0200	-13.3	50.0
Chloroethane	Ave	0.2638	0.2247		0.0170	0.0200	-14.8	50.0
Dichlorofluoromethane	Ave	0.5324	0.4776		0.0179	0.0200	-10.3	50.0
Trichlorofluoromethane	Ave	0.4669	0.4635		0.0199	0.0200	-0.7	50.0
Ethyl ether	Ave	0.3169	0.2606		0.0164	0.0200	-17.8	50.0
Acrolein	Ave	0.0542	0.0339		0.0625	0.100	-37.5	50.0
1,1-Dichloroethene	Ave	0.2958	0.2887		0.0195	0.0200	-2.4	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2183	0.2319		0.0212	0.0200	6.2	50.0
Acetone	Lin1		0.1084		0.0365	0.0400	-8.7	50.0
Iodomethane	Ave	0.4698	0.4690		0.0200	0.0200	-0.2	50.0
Carbon disulfide	Ave	0.8642	0.8228		0.0190	0.0200	-4.8	50.0
3-Chloro-1-propene	Ave	0.1693	0.1588		0.0188	0.0200	-6.2	50.0
Methyl acetate	Ave	0.2984	0.2108		0.0283	0.0400	-29.3	50.0
Methylene Chloride	Lin1		0.3207		0.0198	0.0200	-0.8	50.0
tert-Butyl alcohol	Ave	0.0236	0.0190		0.161	0.200	-19.4	50.0
Acrylonitrile	Ave	0.1303	0.0928		0.142	0.200	-28.8	50.0
Methyl tert-butyl ether	Ave	0.6698	0.6520		0.0195	0.0200	-2.7	50.0
trans-1,2-Dichloroethene	Ave	0.3350	0.3234		0.0193	0.0200	-3.5	50.0
Hexane	Ave	0.0883	0.0925		0.0209	0.0200	4.7	20.0
1,1-Dichloroethane	Ave	0.7138	0.6290	0.1000	0.0176	0.0200	-11.9	50.0
Vinyl acetate	Ave	0.6285	0.6041		0.0192	0.0200	-3.9	50.0
2-Butanone (MEK)	Ave	0.1739	0.1541		0.0354	0.0400	-11.4	50.0
2,2-Dichloropropane	Ave	0.3562	0.3446		0.0194	0.0200	-3.2	50.0
cis-1,2-Dichloroethene	Ave	0.3591	0.3384		0.0188	0.0200	-5.8	50.0
Bromochloromethane	Ave	0.1331	0.1274		0.0191	0.0200	-4.3	50.0
Chloroform	Ave	0.5298	0.5532		0.0209	0.0200	4.4	20.0
Tetrahydrofuran	Lin1		0.0817		0.0273	0.0400	-31.7	50.0
1,1,1-Trichloroethane	Ave	0.4390	0.4856		0.0221	0.0200	10.6	50.0
Cyclohexane	Ave	0.9143	0.7637		0.0167	0.0200	-16.5	50.0
1,1-Dichloropropene	Ave	0.4284	0.4526		0.0211	0.0200	5.6	50.0
Carbon tetrachloride	Ave	0.3717	0.4049		0.0218	0.0200	8.9	50.0
Isobutyl alcohol	Ave	0.0122	0.0108		0.441	0.500	-11.7	50.0
1,2-Dichloroethane	Ave	0.4799	0.4708		0.0196	0.0200	-1.9	50.0
Benzene	Ave	1.276	1.257		0.0197	0.0200	-1.5	50.0
n-Heptane	Ave	0.0897	0.1013		0.0226	0.0200	13.0	50.0
Trichloroethene	Ave	0.3280	0.3123		0.0190	0.0200	-4.8	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab Sample ID: CCVIS 240-355270/6 Calibration Date: 11/13/2018 23:15

Instrument ID: A3UX8 Calib Start Date: 11/06/2018 06:49

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/06/2018 09:45

Lab File ID: UX80899.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dichloropropane	Ave	0.3548	0.3109		0.0175	0.0200	-12.4	20.0
Methylcyclohexane	Ave	0.5781	0.6064		0.0210	0.0200	4.9	50.0
1,4-Dioxane	Ave	0.0019	0.0022		0.462	0.400	15.4	50.0
Dibromomethane	Ave	0.1373	0.1387		0.0202	0.0200	1.0	50.0
Bromodichloromethane	Ave	0.3092	0.3205		0.0207	0.0200	3.7	50.0
2-Chloroethyl vinyl ether	Ave	0.1240	0.1004		0.0324	0.0400	-19.0	50.0
cis-1,3-Dichloropropene	Ave	0.3419	0.3293		0.0193	0.0200	-3.7	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3276	0.2714		0.0331	0.0400	-17.2	50.0
Toluene	Ave	1.787	1.887		0.0211	0.0200	5.6	20.0
trans-1,3-Dichloropropene	Lin1		0.3814		0.0182	0.0200	-9.0	50.0
Ethyl methacrylate	Ave	0.3411	0.3533		0.0207	0.0200	3.6	50.0
1,1,2-Trichloroethane	Ave	0.2768	0.2777		0.0201	0.0200	0.3	50.0
1,3-Dichloropropane	Ave	0.4921	0.5244		0.0213	0.0200	6.5	50.0
Tetrachloroethene	Ave	0.3399	0.3915		0.0230	0.0200	15.2	50.0
2-Hexanone	Ave	0.2990	0.2674		0.0358	0.0400	-10.6	50.0
Dibromochloromethane	Lin1		0.2418		0.0180	0.0200	-9.8	50.0
1,2-Dibromoethane	Ave	0.2460	0.2489		0.0202	0.0200	1.2	50.0
Chlorobenzene	Ave	1.131	1.133	0.3000	0.0200	0.0200	0.2	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3304	0.3537		0.0214	0.0200	7.1	50.0
Ethylbenzene	Ave	0.6152	0.6383		0.0208	0.0200	3.8	20.0
m-Xylene & p-Xylene	Ave	0.7573	0.8150		0.0215	0.0200	7.6	50.0
o-Xylene	Ave	0.7162	0.7469		0.0209	0.0200	4.3	50.0
Styrene	Ave	1.094	1.181		0.0216	0.0200	8.0	50.0
Bromoform	Lin1		0.1112	0.1000	0.0170	0.0200	-14.8	50.0
Isopropylbenzene	Ave	1.910	2.151		0.0225	0.0200	12.6	50.0
1,1,2,2-Tetrachloroethane	Ave	0.6316	0.5975	0.3000	0.0189	0.0200	-5.4	50.0
Bromobenzene	Ave	0.8895	0.9136		0.0205	0.0200	2.7	50.0
1,2,3-Trichloropropane	Ave	0.2162	0.2143		0.0198	0.0200	-0.9	50.0
trans-1,4-Dichloro-2-butene	Ave	0.2709	0.2060		0.0152	0.0200	-23.9	50.0
N-Propylbenzene	Ave	1.098	1.160		0.0211	0.0200	5.6	50.0
2-Chlorotoluene	Ave	0.9492	0.9513		0.0200	0.0200	0.2	50.0
1,3,5-Trimethylbenzene	Ave	3.407	3.611		0.0212	0.0200	6.0	50.0
4-Chlorotoluene	Ave	0.9566	0.9776		0.0204	0.0200	2.2	50.0
tert-Butylbenzene	Ave	3.034	3.510		0.0231	0.0200	15.7	50.0
1,2,4-Trimethylbenzene	Ave	3.443	3.670		0.0213	0.0200	6.6	50.0
sec-Butylbenzene	Ave	4.498	4.573		0.0203	0.0200	1.7	50.0
1,3-Dichlorobenzene	Ave	1.796	1.860		0.0207	0.0200	3.5	50.0
p-Isopropyltoluene	Ave	3.653	3.925		0.0215	0.0200	7.5	50.0
1,4-Dichlorobenzene	Ave	1.853	1.880		0.0203	0.0200	1.5	50.0
n-Butylbenzene	Ave	3.272	3.481		0.0213	0.0200	6.4	50.0
1,2-Dichlorobenzene	Ave	1.679	1.669		0.0199	0.0200	-0.6	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab Sample ID: CCVIS 240-355270/6 Calibration Date: 11/13/2018 23:15

Instrument ID: A3UX8 Calib Start Date: 11/06/2018 06:49

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/06/2018 09:45

Lab File ID: UX80899.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Lin1		0.0524		0.0142	0.0200	-29.2	50.0
1,2,4-Trichlorobenzene	Ave	1.075	0.9867		0.0184	0.0200	-8.2	50.0
Hexachlorobutadiene	Ave	0.6026	0.5997		0.0199	0.0200	-0.5	50.0
Naphthalene	Ave	2.046	1.576		0.0154	0.0200	-23.0	50.0
1,2,3-Trichlorobenzene	Ave	0.9454	0.8485		0.0179	0.0200	-10.3	50.0
Dibromofluoromethane (Surr)	Ave	0.2472	0.2230		0.0451	0.0500	-9.8	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3443	0.2981		0.0433	0.0500	-13.4	50.0
Toluene-d8 (Surr)	Ave	1.429	1.317		0.0461	0.0500	-7.9	50.0
4-Bromofluorobenzene (Surr)	Ave	0.5387	0.5014		0.0465	0.0500	-6.9	50.0

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Lab File ID: UX80901.D Lab Sample ID: MB 240-355270/8

Matrix: Solid Heated Purge:(Y/N) Y

Instrument ID: A3UX8 Date Analyzed: 11/13/2018 23:59

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 240-355270/7	UX80900.D	11/13/2018 23:37
SB-MW134A-8-12.5	240-103828-2	UX80907.D	11/14/2018 02:20
SB-MW134B-32-37	240-103828-3	UX80908.D	11/14/2018 02:43
SB-MW134B-32-37 MS	240-103828-3 MS	UX80909.D	11/14/2018 03:06
SB-MW134B-32-37 MSD	240-103828-3 MSD	UX80910.D	11/14/2018 03:28

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-355270/8

Matrix: Solid | Lab File ID: UX80901.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(g) | Date Analyzed: 11/13/2018 23:59

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.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	3.0	U	5.0	3.0
563-58-6	1,1-Dichloropropene	0.99	U	5.0	0.99
75-34-3	1,1-Dichloroethane	0.69	U	5.0	0.69
87-61-6	1,2,3-Trichlorobenzene	0.818	J	5.0	0.57
96-18-4	1,2,3-Trichloropropane	1.6	U	5.0	1.6
107-06-2	1,2-Dichloroethane	0.77	U	5.0	0.77
75-35-4	1,1-Dichloroethene	0.90	U	5.0	0.90
526-73-8	1,2,3-Trimethylbenzene	1.8	U	5.0	1.8
78-87-5	1,2-Dichloropropane	0.85	U	5.0	0.85
95-63-6	1,2,4-Trimethylbenzene	1.0	U	5.0	1.0
591-78-6	2-Hexanone	4.1	U	20	4.1
79-34-5	1,1,2,2-Tetrachloroethane	1.4	U	5.0	1.4
67-64-1	Acetone	21	U	25	21
71-43-2	Benzene	0.70	U	5.0	0.70
75-25-2	Bromoform	2.4	U	5.0	2.4
74-83-9	Bromomethane	0.99	U	5.0	0.99
75-15-0	Carbon disulfide	1.2	U	5.0	1.2
56-23-5	Carbon tetrachloride	3.3	U	5.0	3.3
71-55-6	1,1,1-Trichloroethane	0.82	U	5.0	0.82
108-90-7	Chlorobenzene	0.92	U	5.0	0.92
142-28-9	1,3-Dichloropropane	0.99	U	5.0	0.99
75-00-3	Chloroethane	1.2	U	5.0	1.2
96-12-8	1,2-Dibromo-3-Chloropropane	3.6	U	10	3.6
67-66-3	Chloroform	0.79	U	5.0	0.79
74-87-3	Chloromethane	1.0	U	5.0	1.0
156-59-2	cis-1,2-Dichloroethene	0.65	U	5.0	0.65
10061-01-5	cis-1,3-Dichloropropene	1.4	U	5.0	1.4
75-27-4	Bromodichloromethane	0.68	U	5.0	0.68
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.3	U	5.0	1.3
75-71-8	Dichlorodifluoromethane	0.94	U	5.0	0.94
120-82-1	1,2,4-Trichlorobenzene	1.36	J	5.0	0.57
100-41-4	Ethylbenzene	1.0	U	5.0	1.0
106-93-4	1,2-Dibromoethane	0.77	U	5.0	0.77
594-20-7	2,2-Dichloropropane	1.2	U	5.0	1.2
95-50-1	1,2-Dichlorobenzene	1.1	U	5.0	1.1

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-355270/8

Matrix: Solid | Lab File ID: UX80901.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(g) | Date Analyzed: 11/13/2018 23:59

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.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
541-73-1	1,3-Dichlorobenzene	0.82	U	5.0	0.82
106-46-7	1,4-Dichlorobenzene	0.88	U	5.0	0.88
110-75-8	2-Chloroethyl vinyl ether	8.9	U	50	8.9
98-82-8	Isopropylbenzene	0.83	U	5.0	0.83
95-49-8	2-Chlorotoluene	0.95	U	5.0	0.95
78-93-3	2-Butanone (MEK)	3.6	U	20	3.6
108-10-1	4-Methyl-2-pentanone (MIBK)	3.7	U	20	3.7
108-86-1	Bromobenzene	1.2	U	5.0	1.2
1634-04-4	Methyl tert-butyl ether	0.82	U	5.0	0.82
74-97-5	Bromochloromethane	0.59	U	5.0	0.59
75-09-2	Methylene Chloride	12	U	25	12
106-43-4	4-Chlorotoluene	0.86	U	5.0	0.86
99-87-6	p-Isopropyltoluene	2.9	U	5.0	2.9
100-42-5	Styrene	1.2	U	5.0	1.2
179601-23-1	m-Xylene & p-Xylene	0.78	U	10	0.78
95-47-6	o-Xylene	0.86	U	5.0	0.86
87-68-3	Hexachlorobutadiene	3.7	U	5.0	3.7
127-18-4	Tetrachloroethene	0.73	U	5.0	0.73
74-95-3	Dibromomethane	0.67	U	5.0	0.67
108-88-3	Toluene	0.77	U	5.0	0.77
108-20-3	Diisopropyl ether	0.76	U	10	0.76
91-20-3	Naphthalene	2.7	U	5.0	2.7
156-60-5	trans-1,2-Dichloroethene	0.47	U	5.0	0.47
104-51-8	n-Butylbenzene	3.5	U	5.0	3.5
10061-02-6	trans-1,3-Dichloropropene	1.0	U	5.0	1.0
103-65-1	N-Propylbenzene	0.73	U	5.0	0.73
79-01-6	Trichloroethene	0.63	U	5.0	0.63
135-98-8	sec-Butylbenzene	0.86	U	5.0	0.86
75-69-4	Trichlorofluoromethane	1.1	U	5.0	1.1
994-05-8	Tert-amyl methyl ether	2.2	U	5.0	2.2
637-92-3	Ethyl tert-butyl ether	2.3	U	5.0	2.3
98-06-6	tert-Butylbenzene	0.91	U	5.0	0.91
75-01-4	Vinyl chloride	0.84	U	5.0	0.84
108-05-4	Vinyl acetate	2.1	U	10	2.1
75-65-0	tert-Butyl alcohol	17	U	200	17
1330-20-7	Xylenes, Total	1.6	U	10	1.6

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-355270/8

Matrix: Solid | Lab File ID: UX80901.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(g) | Date Analyzed: 11/13/2018 23:59

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.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	2.8	U	5.0	2.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	87		48-123
460-00-4	4-Bromofluorobenzene (Surr)	82		49-141
2037-26-5	Toluene-d8 (Surr)	82		62-135
1868-53-7	Dibromofluoromethane (Surr)	86		49-132

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

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-355270/8

Matrix: Solid | Lab File ID: UX80901.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(g) | Date Analyzed: 11/13/2018 23:59

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.: 355270 | Units: ug/Kg

Number TICs Found: 0 | TIC Result Total: 0

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Tentatively Identified Compound		None		

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: UX80900.D

Lab ID: LCS 240-355270/7 Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	25.0	29.0	116	73-124	
1,1-Dichloropropene	25.0	27.3	109	72-127	
1,1-Dichloroethane	25.0	23.9	96	72-122	
1,2,3-Trichlorobenzene	25.0	25.2	101	59-120	
1,2,3-Trichloropropane	25.0	27.0	108	68-128	
1,2-Dichloroethane	25.0	25.8	103	64-126	
1,1-Dichloroethene	25.0	26.7	107	57-139	
1,2-Dichloropropane	25.0	23.8	95	78-122	
1,2,4-Trimethylbenzene	25.0	27.6	111	75-121	
2-Hexanone	50.0	50.7	101	52-145	
1,1,2,2-Tetrachloroethane	25.0	25.8	103	68-128	
Acetone	50.0	53.0	106	43-159	
Benzene	25.0	26.0	104	74-123	
Bromoform	25.0	24.6	98	46-137	
Bromomethane	25.0	20.1	80	10-152	
Carbon disulfide	25.0	26.9	108	29-153	
Carbon tetrachloride	25.0	31.1	124	56-139	
1,1,1-Trichloroethane	25.0	31.4	125	64-135	
Chlorobenzene	25.0	26.7	107	80-120	
1,3-Dichloropropane	25.0	28.5	114	76-120	
Chloroethane	25.0	19.9	79	15-155	
1,2-Dibromo-3-Chloropropane	25.0	21.5	86	38-135	
Chloroform	25.0	28.4	114	72-124	
Chloromethane	25.0	17.3	69	45-128	
cis-1,2-Dichloroethene	25.0	25.9	104	74-123	
cis-1,3-Dichloropropene	25.0	27.1	108	63-137	
Bromodichloromethane	25.0	28.3	113	63-132	
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	30.9	123	56-138	
Dichlorodifluoromethane	25.0	22.0	88	26-138	
1,2,4-Trichlorobenzene	25.0	23.8	95	54-120	
Ethylbenzene	25.0	27.7	111	76-120	
1,2-Dibromoethane	25.0	28.3	113	76-120	
2,2-Dichloropropane	25.0	28.3	113	42-143	
1,2-Dichlorobenzene	25.0	26.3	105	73-120	
1,3-Dichlorobenzene	25.0	26.8	107	70-120	
1,4-Dichlorobenzene	25.0	25.7	103	71-120	
2-Chloroethyl vinyl ether	25.0	21.9 J	87	58-154	
Isopropylbenzene	25.0	29.2	117	77-124	
2-Chlorotoluene	25.0	26.2	105	75-120	
2-Butanone (MEK)	50.0	44.8	90	45-148	
4-Methyl-2-pentanone (MIBK)	50.0	46.5	93	53-139	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: UX80900.D

Lab ID: LCS 240-355270/7 Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
Bromobenzene	25.0	27.1	109	75-120	
Methyl tert-butyl ether	25.0	28.1	113	66-127	
Bromochloromethane	25.0	27.2	109	72-124	
Methylene Chloride	25.0	27.4	110	62-137	
4-Chlorotoluene	25.0	25.9	103	74-121	
p-Isopropyltoluene	25.0	28.0	112	74-124	
Styrene	25.0	28.3	113	76-121	
m-Xylene & p-Xylene	25.0	26.8	107	77-120	
o-Xylene	25.0	27.9	112	79-120	
Hexachlorobutadiene	25.0	26.4	106	58-122	
Tetrachloroethene	25.0	28.3	113	76-120	
Dibromomethane	25.0	28.0	112	71-122	
Toluene	25.0	27.0	108	76-120	
Naphthalene	25.0	22.8	91	51-120	
trans-1,2-Dichloroethene	25.0	27.5	110	71-133	
n-Butylbenzene	25.0	27.1	108	64-133	
trans-1,3-Dichloropropene	25.0	23.7	95	55-121	
N-Propylbenzene	25.0	27.0	108	73-129	
Trichloroethene	25.0	25.3	101	73-126	
sec-Butylbenzene	25.0	26.8	107	73-126	
Trichlorofluoromethane	25.0	23.4	94	47-146	
tert-Butylbenzene	25.0	26.8	107	73-122	
Vinyl chloride	25.0	21.2	85	52-130	
Vinyl acetate	25.0	21.7	87	43-144	
tert-Butyl alcohol	250	207	83	41-139	
Xylenes, Total	50.0	54.7	109	79-120	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: UX80909.D

Lab ID: 240-103828-3 MS Client ID: SB-MW134B-32-37 MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	29.0	3.3 U	27.4	94	16-137	
1,1-Dichloropropene	29.0	1.1 U	28.2	97	30-138	
1,1-Dichloroethane	29.0	0.77 U	23.6	81	50-133	
1,2,3-Trichlorobenzene	29.0	0.64 U	22.5	78	10-120	
1,2,3-Trichloropropane	29.0	1.7 U	27.6	95	10-178	
1,2-Dichloroethane	29.0	0.86 U	26.1	90	42-127	
1,1-Dichloroethene	29.0	1.0 U	26.7	92	36-150	
1,2-Dichloropropane	29.0	0.95 U	23.0	79	51-128	
1,2,4-Trimethylbenzene	29.0	1.1 U	26.9	93	10-149	
2-Hexanone	58.0	4.6 U	47.7	82	15-147	
1,1,2,2-Tetrachloroethane	29.0	1.6 U	28.0	96	16-178	
Acetone	58.0	23 U	51.4	89	10-160	
Benzene	29.0	0.78 U	25.7	88	39-133	
Bromoform	29.0	2.7 U	22.7	78	18-120	
Bromomethane	29.0	1.1 U	22.8	79	10-159	
Carbon disulfide	29.0	1.3 U	26.0	90	16-145	
Carbon tetrachloride	29.0	3.6 U	29.8	103	22-142	
1,1,1-Trichloroethane	29.0	0.91 U	30.6	106	38-143	
Chlorobenzene	29.0	1.0 U	26.5	91	21-131	
1,3-Dichloropropane	29.0	1.1 U	28.5	98	34-121	
Chloroethane	29.0	1.4 U	23.5	81	17-162	
1,2-Dibromo-3-Chloropropane	29.0	4.0 U	22.1	76	10-141	
Chloroform	29.0	0.88 U	28.2	97	51-130	
Chloromethane	29.0	1.2 U	20.1	69	26-149	
cis-1,2-Dichloroethene	29.0	0.73 U	25.2	87	50-128	
cis-1,3-Dichloropropene	29.0	1.6 U	24.5	84	15-132	
Bromodichloromethane	29.0	0.76 U	27.0	93	32-129	
1,1,2-Trichloro-1,2,2-trifluoroethane	29.0	1.4 U	29.3	101	37-147	
Dichlorodifluoromethane	29.0	1.1 U	25.0	86	15-150	
1,2,4-Trichlorobenzene	29.0	0.64 U	21.8	75	10-120	
Ethylbenzene	29.0	1.2 U	27.7	96	20-135	
1,2-Dibromoethane	29.0	0.86 U	27.5	95	36-125	
2,2-Dichloropropane	29.0	1.3 U	25.9	89	20-141	
1,2-Dichlorobenzene	29.0	1.2 U	25.6	88	10-130	
1,3-Dichlorobenzene	29.0	0.91 U	26.6	92	10-131	
1,4-Dichlorobenzene	29.0	0.98 U	26.6	92	10-130	
2-Chloroethyl vinyl ether	29.0	9.9 U	18.8 J	65	10-134	
Isopropylbenzene	29.0	0.93 U	29.0	100	20-138	
2-Chlorotoluene	29.0	1.1 U	26.1	90	10-179	
2-Butanone (MEK)	58.0	4.0 U	45.2	78	20-148	
4-Methyl-2-pentanone (MIBK)	58.0	4.1 U	46.0	79	29-143	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: UX80909.D

Lab ID: 240-103828-3 MS Client ID: SB-MW134B-32-37 MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
Bromobenzene	29.0	1.3 U	27.1	93	10-164	
Methyl tert-butyl ether	29.0	0.91 U	25.4	88	48-134	
Bromochloromethane	29.0	0.66 U	26.0	90	36-147	
Methylene Chloride	29.0	13 U	27.2 J	94	39-145	
4-Chlorotoluene	29.0	0.96 U	26.4	91	10-158	
p-Isopropyltoluene	29.0	3.3 U	27.7	95	10-142	
Styrene	29.0	1.3 U	28.0	97	10-134	
m-Xylene & p-Xylene	29.0	0.87 U	27.3	94	16-137	
o-Xylene	29.0	0.96 U	27.6	95	21-138	
Hexachlorobutadiene	29.0	4.2 U	25.3	87	10-120	
Tetrachloroethene	29.0	0.81 U	30.3	104	20-151	
Dibromomethane	29.0	0.75 U	26.9	93	37-138	
Toluene	29.0	0.86 U	28.3	98	29-141	
Naphthalene	29.0	3.0 U	19.3	67	10-120	
trans-1,2-Dichloroethene	29.0	0.52 U	26.3	91	44-141	
n-Butylbenzene	29.0	3.9 U	26.6	92	10-149	
trans-1,3-Dichloropropene	29.0	1.2 U	22.5	77	15-120	
N-Propylbenzene	29.0	0.82 U	26.7	92	10-162	
Trichloroethene	29.0	0.71 U	24.6	85	25-148	
sec-Butylbenzene	29.0	0.96 U	26.7	92	10-156	
Trichlorofluoromethane	29.0	1.2 U	25.8	89	38-149	
tert-Butylbenzene	29.0	1.0 U	29.8	103	10-148	
Vinyl chloride	29.0	0.93 U	24.6	85	31-148	
Vinyl acetate	29.0	2.4 U	24.1	83	10-120	
tert-Butyl alcohol	290	18 U	191 J	66	59-128	
Xylenes, Total	58.0	1.8 U	54.9	95	19-137	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: UX80910.D

Lab ID: 240-103828-3 MSD Client ID: SB-MW134B-32-37 MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	28.7	27.7	96	1	40	16-137	
1,1-Dichloropropene	28.7	27.1	94	4	36	30-138	
1,1-Dichloroethane	28.7	23.5	82	0	40	50-133	
1,2,3-Trichlorobenzene	28.7	21.4	74	5	40	10-120	
1,2,3-Trichloropropane	28.7	25.4	89	8	40	10-178	
1,2-Dichloroethane	28.7	25.0	87	4	34	42-127	
1,1-Dichloroethene	28.7	26.7	93	0	40	36-150	
1,2-Dichloropropane	28.7	22.7	79	1	36	51-128	
1,2,4-Trimethylbenzene	28.7	25.0	87	8	40	10-149	
2-Hexanone	57.5	42.9	75	11	40	15-147	
1,1,2,2-Tetrachloroethane	28.7	24.5	85	13	40	16-178	
Acetone	57.5	46.7	81	10	39	10-160	
Benzene	28.7	25.1	87	2	40	39-133	
Bromoform	28.7	22.9	80	1	40	18-120	
Bromomethane	28.7	23.1	80	1	40	10-159	
Carbon disulfide	28.7	26.1	91	0	40	16-145	
Carbon tetrachloride	28.7	29.3	102	2	40	22-142	
1,1,1-Trichloroethane	28.7	29.6	103	3	40	38-143	
Chlorobenzene	28.7	25.4	88	4	40	21-131	
1,3-Dichloropropane	28.7	26.5	92	7	40	34-121	
Chloroethane	28.7	23.3	81	1	40	17-162	
1,2-Dibromo-3-Chloropropane	28.7	20.4	71	8	40	10-141	
Chloroform	28.7	27.4	95	3	32	51-130	
Chloromethane	28.7	20.0	70	1	37	26-149	
cis-1,2-Dichloroethene	28.7	24.8	86	1	40	50-128	
cis-1,3-Dichloropropene	28.7	24.2	84	1	40	15-132	
Bromodichloromethane	28.7	26.3	91	3	39	32-129	
1,1,2-Trichloro-1,2,2-trifluoroethane	28.7	28.7	100	2	37	37-147	
Dichlorodifluoromethane	28.7	25.1	87	0	31	15-150	
1,2,4-Trichlorobenzene	28.7	20.0	69	9	40	10-120	
Ethylbenzene	28.7	26.3	92	5	40	20-135	
1,2-Dibromoethane	28.7	26.3	91	5	40	36-125	
2,2-Dichloropropane	28.7	26.1	91	1	40	20-141	
1,2-Dichlorobenzene	28.7	23.9	83	7	40	10-130	
1,3-Dichlorobenzene	28.7	24.2	84	10	40	10-131	
1,4-Dichlorobenzene	28.7	23.9	83	11	40	10-130	
2-Chloroethyl vinyl ether	28.7	17.0 J	59	10	40	10-134	
Isopropylbenzene	28.7	28.2	98	3	40	20-138	
2-Chlorotoluene	28.7	23.8	83	9	40	10-179	
2-Butanone (MEK)	57.5	40.2	70	12	36	20-148	
4-Methyl-2-pentanone (MIBK)	57.5	42.2	73	9	40	29-143	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: UX80910.D

Lab ID: 240-103828-3 MSD Client ID: SB-MW134B-32-37 MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Bromobenzene	28.7	24.7	86	9	40	10-164	
Methyl tert-butyl ether	28.7	25.3	88	0	34	48-134	
Bromochloromethane	28.7	27.7	96	6	40	36-147	
Methylene Chloride	28.7	26.8 J	93	1	40	39-145	
4-Chlorotoluene	28.7	24.1	84	9	40	10-158	
p-Isopropyltoluene	28.7	25.2	88	9	40	10-142	
Styrene	28.7	26.3	91	7	40	10-134	
m-Xylene & p-Xylene	28.7	25.8	90	5	40	16-137	
o-Xylene	28.7	26.4	92	5	40	21-138	
Hexachlorobutadiene	28.7	24.1	84	5	40	10-120	
Tetrachloroethene	28.7	28.3	99	7	40	20-151	
Dibromomethane	28.7	26.2	91	2	30	37-138	
Toluene	28.7	26.6	93	6	40	29-141	
Naphthalene	28.7	18.5	64	4	40	10-120	
trans-1,2-Dichloroethene	28.7	26.0	91	1	40	44-141	
n-Butylbenzene	28.7	24.3	85	9	40	10-149	
trans-1,3-Dichloropropene	28.7	21.1	74	6	40	15-120	
N-Propylbenzene	28.7	24.2	84	10	40	10-162	
Trichloroethene	28.7	24.0	83	3	40	25-148	
sec-Butylbenzene	28.7	24.7	86	8	40	10-156	
Trichlorofluoromethane	28.7	26.5	92	3	39	38-149	
tert-Butylbenzene	28.7	25.2	88	16	40	10-148	
Vinyl chloride	28.7	25.0	87	2	37	31-148	
Vinyl acetate	28.7	21.9	76	9	40	10-120	
tert-Butyl alcohol	287	185 J	65	3	39	59-128	
Xylenes, Total	57.5	52.2	91	5	40	19-137	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Matrix: Solid Level: Low

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

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
SB-MW134A-8-12.5	240-103828-2	86	88	89	82
SB-MW134B-32-37	240-103828-3	85	88	85	79
	MB 240-355270/8	86	87	82	82
	LCS 240-355270/7	91	84	88	88
SB-MW134B-32-37 MS	240-103828-3 MS	87	86	90	88
SB-MW134B-32-37 MSD	240-103828-3 MSD	87	84	87	86

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	49-132
DCA = 1,2-Dichloroethane-d4 (Surr)	48-123
TOL = Toluene-d8 (Surr)	62-135
BFB = 4-Bromofluorobenzene (Surr)	49-141

Column to be used to flag recovery values

FORM II 8260B

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103828-1

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-103118	240-103828-1	99	94	98	93
TB-103118	240-103828-1	121	106	89	74
	MB 240-355135/6	100	91	99	94
	MB 240-355371/6	99	86	77	65
	LCS 240-355135/4	95	92	101	97
	LCS 240-355371/4	103	90	103	97
	240-104164-B-6 MS	95	89	102	95
	240-104049-C-15 MS	98	81	94	92
	240-104164-B-6 MSD	98	92	99	95
	240-104049-C-15 MSD	99	85	100	96

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	75-128
DCA = 1,2-Dichloroethane-d4 (Surr)	70-121
TOL = Toluene-d8 (Surr)	70-123
BFB = 4-Bromofluorobenzene (Surr)	59-120

Column to be used to flag recovery values

FORM II 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Sample No.: STD8260 240-348190/4 Date Analyzed: 10/02/2018 16:17

Instrument ID: A3UX10 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): UXX5941.D Heated Purge: (Y/N) N

Calibration ID: 47198

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		789818	5.57	636861	8.25	356275	10.49
UPPER LIMIT		1579636	6.07	1273722	8.75	712550	10.99
LOWER LIMIT		394909	5.07	318431	7.75	178138	9.99
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 240-348190/9		756139	5.57	615440	8.25	331268	10.49
ICV 240-348190/17		812172	5.57	634991	8.25	333549	10.49
CCVIS 240-355135/2		961802	5.57	686491	8.25	396569	10.49

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 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Sample No.: CCVIS 240-355135/2 Date Analyzed: 11/13/2018 11:20

Instrument ID: A3UX10 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): UXX7875.D Heated Purge: (Y/N) N

Calibration ID: 47200

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		961802	5.57	686491	8.25	396569	10.49
UPPER LIMIT		1923604	6.07	1372982	8.75	793138	10.99
LOWER LIMIT		480901	5.07	343246	7.75	198285	9.99
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 240-355135/3		906740	5.56	697292	8.25	362990	10.49
LCS 240-355135/4		913505	5.56	684909	8.25	403833	10.49
MB 240-355135/6		850682	5.57	566876	8.25	349814	10.49
240-103828-1	TB-103118	738289	5.57	520146	8.25	297567	10.49
240-104164-B-6 MS		871697	5.57	631703	8.25	355515	10.49
240-104164-B-6 MSD		878461	5.56	663244	8.25	376274	10.49

FB = Fluorobenzene
CBNZd5 = Chlorobenzene-d5
DCBd4 = 1,4-Dichlorobenzene-d4
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 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Sample No.: STD8260 240-342615/4 Date Analyzed: 08/27/2018 11:39

Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): UXC4605.D Heated Purge: (Y/N) N

Calibration ID: 46691

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		1456997	5.26	1129967	7.94	616450	10.18
UPPER LIMIT		2913994	5.76	2259934	8.44	1232900	10.68
LOWER LIMIT		728499	4.76	564984	7.44	308225	9.68
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 240-342615/14		1402023	5.26	1092127	7.94	614205	10.18
CCVIS 240-355371/2		1093029	5.26	665706	7.94	433116	10.18

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 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Sample No.: CCVIS 240-355371/2 Date Analyzed: 11/14/2018 11:15

Instrument ID: A3UX15 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): UXC7085.D Heated Purge: (Y/N) N

Calibration ID: 46695

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		1093029	5.26	665706	7.94	433116	10.18
UPPER LIMIT		2186058	5.76	1331412	8.44	866232	10.68
LOWER LIMIT		546515	4.76	332853	7.44	216558	9.68
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 240-355371/3		1394571	5.26	1042809	7.94	462514	10.18
MB 240-355371/6		1164961	5.26	839171	7.94	423812	10.18
240-103828-1	TB-103118	1054340	5.26	762921	7.94	372864	10.18
240-104049-C-15 MS		1264710	5.26	846099	7.94	542742	10.18
240-104049-C-15 MSD		1262162	5.26	853416	7.94	541815	10.18

FB = Fluorobenzene
CBNZd5 = Chlorobenzene-d5
DCBd4 = 1,4-Dichlorobenzene-d4
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 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Sample No.: ICIS 240-353820/7 Date Analyzed: 11/06/2018 08:18

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): UX80599.D Heated Purge: (Y/N) Y

Calibration ID: 47798

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		897987	5.16	657341	7.69	317330	9.88
UPPER LIMIT		1795974	5.66	1314682	8.19	634660	10.38
LOWER LIMIT		448994	4.66	328671	7.19	158665	9.38
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 240-353820/13		976104	5.16	701529	7.69	328898	9.88
CCVIS 240-355270/6		717882	5.16	489980	7.69	248943	9.88

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 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Sample No.: CCVIS 240-355270/6 Date Analyzed: 11/13/2018 23:15

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): UX80899.D Heated Purge: (Y/N) Y

Calibration ID: 47798

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		717882	5.16	489980	7.69	248943	9.88
UPPER LIMIT		1435764	5.66	979960	8.19	497886	10.38
LOWER LIMIT		358941	4.66	244990	7.19	124472	9.38
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 240-355270/5		750737	5.16	520749	7.69	246524	9.88
LCS 240-355270/7		694543	5.16	480921	7.69	242337	9.88
MB 240-355270/8		665880	5.16	471537	7.69	232592	9.88
240-103828-2	SB-MW134A-8-12.5	655193	5.16	450393	7.69	202699	9.88
240-103828-3	SB-MW134B-32-37	606429	5.16	421310	7.69	201497	9.88
240-103828-3 MS	SB-MW134B-32-37 MS	657614	5.16	445888	7.69	221205	9.88
240-103828-3 MSD	SB-MW134B-32-37 MSD	644799	5.16	445766	7.69	230060	9.88

FB = Fluorobenzene
CBNZd5 = Chlorobenzene-d5
DCBd4 = 1,4-Dichlorobenzene-d4
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 8260B

GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Batch Number: 355135 Batch Start Date: 11/13/18 10:55 Batch Analyst: Williams, Larry

Batch Method: 8260B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	VM50IS 00070	vm50ss_stk 00078	VMAROLISTDW 00272
BFB 240-355135/1		8260B		5 mL	5 mL				
CCVIS 240-355135/2		8260B		5 mL	5 mL		1 uL	1 uL	8 uL
CCV 240-355135/3		8260B		5 mL	5 mL		1 uL		
LCS 240-355135/4		8260B		5 mL	5 mL		1 uL	1 uL	
MB 240-355135/6		8260B		5 mL	5 mL		1 uL	1 uL	
240-103828-A-1	TB-103118	8260B	T	5 mL	5 mL	<2 SU	1 uL	1 uL	
240-104164-B-6 MS		8260B	T	5 mL	5 mL	<2 SU	1 uL	1 uL	
240-104164-B-6 MSD		8260B	T	5 mL	5 mL	<2 SU	1 uL	1 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	VMBFB 00020	VMFASAW 00256	VMFASGW 00282	VMFASPW 00275	VMRA9W 00273	VMRGAS 00269
BFB 240-355135/1		8260B		1 uL					
CCVIS 240-355135/2		8260B							8 uL
CCV 240-355135/3		8260B						8 uL	
LCS 240-355135/4		8260B			8 uL	8 uL	8 uL		
MB 240-355135/6		8260B							
240-103828-A-1	TB-103118	8260B	T						
240-104164-B-6 MS		8260B	T		8 uL	8 uL	8 uL		
240-104164-B-6 MSD		8260B	T		8 uL	8 uL	8 uL		

Lab Sample ID	Client Sample ID	Method Chain	Basis	VMRPRIMW 00308					
BFB 240-355135/1		8260B							
CCVIS 240-355135/2		8260B		8 uL					
CCV 240-355135/3		8260B							

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Batch Number: 355135 Batch Start Date: 11/13/18 10:55 Batch Analyst: Williams, Larry

Batch Method: 8260B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	VMRPRIMW 00308					
LCS 240-355135/4		8260B							
MB 240-355135/6		8260B							
240-103828-A-1	TB-103118	8260B	T						
240-104164-B-6 MS		8260B	T						
240-104164-B-6 MSD		8260B	T						

Batch Notes	
pH Indicator ID	HC746949

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Batch Number: 355270 Batch Start Date: 11/13/18 21:56 Batch Analyst: Lata, Todd

Batch Method: 8260B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	VM568718 00013	VMAROLISTDW 00272	vmbfb 00020	VMFASAW 00256
BFB 240-355270/1		8260B		5 mL	5 mL			1 uL	
CCV 240-355270/5		8260B		5 mL	5 mL	1 uL			
CCVIS 240-355270/6		8260B		5 g	5 mL	1 uL	2 uL		
LCS 240-355270/7		8260B		5 g	5 mL	1 uL			2.5 uL
MB 240-355270/8		8260B		5 g	5 mL	1 uL			
240-103828-B-2-A	SB-MW134A-8-12.5	8260B	T	5 g	5 mL	1 uL			
240-103828-B-3-A	SB-MW134B-32-37	8260B	T	5 g	5 mL	1 uL			
240-103828-B-3-B MS	SB-MW134B-32-37	8260B	T	5 g	5 mL	1 uL			2.5 uL
240-103828-B-3-C MSD	SB-MW134B-32-37	8260B	T	5 g	5 mL	1 uL			2.5 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	VMFASGW 00282	VMFASPW 00275	VMRA9W 00273	VMRGAS 00270	VMRPRIMW 00308	VMUX8SS 00029
BFB 240-355270/1		8260B							
CCV 240-355270/5		8260B				2 uL			
CCVIS 240-355270/6		8260B					2 uL	2 uL	1.1547 uL
LCS 240-355270/7		8260B		2.5 uL	2.5 uL				1.1547 uL
MB 240-355270/8		8260B							1.1547 uL
240-103828-B-2-A	SB-MW134A-8-12.5	8260B	T						1.1547 uL
240-103828-B-3-A	SB-MW134B-32-37	8260B	T						1.1547 uL
240-103828-B-3-B MS	SB-MW134B-32-37	8260B	T	2.5 uL	2.5 uL				1.1547 uL
240-103828-B-3-C MSD	SB-MW134B-32-37	8260B	T	2.5 uL	2.5 uL				1.1547 uL

Batch Notes	

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Batch Number: 355270 Batch Start Date: 11/13/18 21:56 Batch Analyst: Lata, Todd

Batch Method: 8260B Batch End Date:

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Batch Number: 355273 Batch Start Date: 11/14/18 00:12 Batch Analyst: Lata, Todd

Batch Method: 5030A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount				
240-103828-B-2	SB-MW134A-8-12.5	5030A, 8260B	T	5.35 g	5 mL				
240-103828-B-3	SB-MW134B-32-37	5030A, 8260B	T	5.39 g	5 mL				
240-103828-B-3 MS	SB-MW134B-32-37	5030A, 8260B	T	5.18 g	5 mL				
240-103828-B-3 MSD	SB-MW134B-32-37	5030A, 8260B	T	5.23 g	5 mL				

Batch Notes	
Balance ID	B035
Blank Matrix ID	178797

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Batch Number: 355371 Batch Start Date: 11/14/18 10:05 Batch Analyst: Evans, Laura

Batch Method: 8260B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	VM50IS 00072	VM50IS 00073	vm50ss_stk 00079
BFB 240-355371/1		8260B		5 mL	5 mL				
CCVIS 240-355371/2		8260B		5 mL	5 mL			1 uL	0.797 uL
CCV 240-355371/3		8260B		5 mL	5 mL		1 uL		
LCS 240-355371/4		8260B		5 mL	5 mL			1 uL	0.797 uL
MB 240-355371/6		8260B		5 mL	5 mL			1 uL	0.797 uL
240-103828-B-1	TB-103118	8260B	T	5 mL	5 mL	<2 SU		1 uL	0.797 uL
240-104049-C-15 MS		8260B	T	5 mL	5 mL	<2 SU		1 uL	0.797 uL
240-104049-C-15 MSD		8260B	T	5 mL	5 mL	<2 SU		1 uL	0.797 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	VMAROLISTDW 00272	vmbfb 00020	VMFASAW 00256	VMFASGW 00282	VMFASPW 00275	VMRA9W 00273
BFB 240-355371/1		8260B			1 uL				
CCVIS 240-355371/2		8260B		8 uL					
CCV 240-355371/3		8260B							8 uL
LCS 240-355371/4		8260B				8 uL	8 uL	8 uL	
MB 240-355371/6		8260B							
240-103828-B-1	TB-103118	8260B	T						
240-104049-C-15 MS		8260B	T			8 uL	8 uL	8 uL	
240-104049-C-15 MSD		8260B	T			8 uL	8 uL	8 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	VMRGAS 00269	VMRPRIMW 00308				
BFB 240-355371/1		8260B							
CCVIS 240-355371/2		8260B		8 uL	8 uL				
CCV 240-355371/3		8260B							

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Batch Number: 355371 Batch Start Date: 11/14/18 10:05 Batch Analyst: Evans, Laura

Batch Method: 8260B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	VMRGAS 00269	VMRPRIMW 00308				
LCS 240-355371/4		8260B							
MB 240-355371/6		8260B							
240-103828-B-1	TB-103118	8260B	T						
240-104049-C-15 MS		8260B	T						
240-104049-C-15 MSD		8260B	T						

Batch Notes	
pH Indicator ID	HC746949

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.

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-103828-1

SDG No.:

Project: MRC Block F TCB Wells

Client Sample ID	Lab Sample ID
SB-MW134A-8-12.5	240-103828-2
SB-MW134B-32-37	240-103828-3

Comments:

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-103828-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: Moisture RL Date: 01/28/2010 09:24

Analyte	Wavelength/ Mass	RL (%)	
Percent Moisture		0.1	
Percent Solids		0.1	

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-103828-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: Moisture XRL Date: 01/28/2010 09:24

Analyte	Wavelength/ Mass	XRL (mg/L)	
Percent Moisture		10	
Percent Solids		10	

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: Moisture

Start Date: 11/05/2018 08:46 End Date: 11/05/2018 19:27

Lab Sample Id	D/F	Type	Time	Analytes																										
				% Sol	Moist																									
ZZZZZZ			08:46																											
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240-103828-3	1	T	18:55	X	X																									
240-103828-3 DU	1	T	18:55	X	X																									
240-103828-2	1	T	18:55	X	X																									
ZZZZZZ			18:55																											

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-103828-1

SDG No.:

Batch Number: 353626 Batch Start Date: 11/05/18 08:45 Batch Analyst: Skrypka, Meghan

Batch Method: Moisture Batch End Date: 11/05/18 08:47

Lab Sample ID	Client Sample ID	Method Chain	Basis	DishWeight	SampleMassWet	SampleMassDry			
240-103828-A-3	SB-MW134B-32-37	Moisture	T	4.3251 g	11.4963 g	10.2904 g			
240-103828-A-3 DU	SB-MW134B-32-37	Moisture	T	4.3251 g	10.5628 g	9.5350 g			
240-103828-A-2	SB-MW134A-8-12.5	Moisture	T	4.3251 g	20.1094 g	17.0218 g			

Batch Notes	
Balance ID	B047
Date samples were placed in the oven	11/05/2018
Oven Temp In	104.3 Degrees C
Time samples were place in the oven	19:15
Date samples were removed from oven	11/06/2018
Oven Temp Out	104.4 Degrees C
Time Samples were removed from oven	07:15
Oven ID	O02
Thermometer ID	TEMPGUARD BOX C #6

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.

VOC CALCULATION SAMPLE

TARGET ANALYTE	1,4-DICHLOROBENZENE	
ANALYTE RESPONSE	14988	
INTERNAL STANDARD	1,4-dichlorobenzene-d4	
I.S. RESPONSE	202699	
I.S. CONCENTRATION	50	ug/kg
ANALYTE CAL. RF	1.8528	
DILUTION FACTOR (DF)	1	
WEIGHT SAMPLE	5.35	grams
% MOISTURE	19.6	%
SOLIDS (percent /100)	0.804	
FINAL VOLUME	5	ml
	on column result	1.995416415

$$\frac{\text{(ANALYTE RESPONSE) X (I.S. CONCENTRATION) X DF X FINAL VOL.}}{\text{(I.S. RESPONSE) X (CAL. R.F.) X WEIGHT (gms) X SOLIDS}}$$

2.31950 ug/kg

0.002319496 mg/kg

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103828-1

SDG No.:

Client Sample ID: SB-MW134A-8-12.5 | Lab Sample ID: 240-103828-2

Matrix: Solid | Lab File ID: UX80907.D

Analysis Method: 8260B | Date Collected: 10/31/2018 14:10

Sample wt/vol: 5.35(g) | Date Analyzed: 11/14/2018 02:20

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 19.6 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	3.5	U	5.8	3.5
71-55-6	1,1,1-Trichloroethane	0.95	U	5.8	0.95
79-34-5	1,1,2,2-Tetrachloroethane	1.7	U	5.8	1.7
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.5	U	5.8	1.5
75-34-3	1,1-Dichloroethane	0.81	U	5.8	0.81
75-35-4	1,1-Dichloroethene	1.0	U	5.8	1.0
563-58-6	1,1-Dichloropropene	1.1	U	5.8	1.1
87-61-6	1,2,3-Trichlorobenzene	0.67	U	5.8	0.67
96-18-4	1,2,3-Trichloropropane	1.8	U	5.8	1.8
526-73-8	1,2,3-Trimethylbenzene	2.1	U	5.8	2.1
120-82-1	1,2,4-Trichlorobenzene	0.66	U	5.8	0.66
95-63-6	1,2,4-Trimethylbenzene	1.2	U	5.8	1.2
96-12-8	1,2-Dibromo-3-Chloropropane	4.2	U	12	4.2
95-50-1	1,2-Dichlorobenzene	1.3	U	5.8	1.3
107-06-2	1,2-Dichloroethane	0.90	U	5.8	0.90
78-87-5	1,2-Dichloropropane	0.99	U	5.8	0.99
541-73-1	1,3-Dichlorobenzene	0.95	U	5.8	0.95
142-28-9	1,3-Dichloropropane	1.1	U	5.8	1.1
106-46-7	1,4-Dichlorobenzene	2.3	J	5.8	1.0
594-20-7	2,2-Dichloropropane	1.4	U	5.8	1.4
110-75-8	2-Chloroethyl vinyl ether	10	U	58	10
95-49-8	2-Chlorotoluene	1.1	U	5.8	1.1
591-78-6	2-Hexanone	4.7	U	23	4.7
108-86-1	Bromobenzene	1.4	U	5.8	1.4
74-97-5	Bromochloromethane	0.69	U	5.8	0.69
106-43-4	4-Chlorotoluene	1.0	U	5.8	1.0
99-87-6	p-Isopropyltoluene	3.4	U	5.8	3.4
67-64-1	Acetone	24	U	29	24
71-43-2	Benzene	0.81	U	5.8	0.81
75-25-2	Bromoform	2.8	U	5.8	2.8
74-83-9	Bromomethane	1.1	U	5.8	1.1
75-15-0	Carbon disulfide	1.4	U	5.8	1.4
56-23-5	Carbon tetrachloride	3.8	U	5.8	3.8
108-90-7	Chlorobenzene	6.6		5.8	1.1
75-00-3	Chloroethane	1.4	U	5.8	1.4

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A3UX8\20181113-81915.b\UX80907.D
Lims ID: 240-103828-B-2-A
Client ID: SB-MW134A-8-12.5
Sample Type: Client
Inject. Date: 14-Nov-2018 02:20:30 ALS Bottle#: 12 Worklist Smp#: 14
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 240-0081915-014
Operator ID: 402279 Instrument ID: A3UX8

Method: \\ChromNA\Canton\ChromData\A3UX8\20181113-81915.b\8260_8.m
Limit Group: MSV 8260B ICAL
Last Update: 15-Nov-2018 06:51:44 Calib Date: 06-Nov-2018 09:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A3UX8\20181106-81611.b\UX80603.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0304

First Level Reviewer: latat Date: 14-Nov-2018 03:24:41

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.157	5.160	-0.003	98	655193	50.0	
* 2 Chlorobenzene-d5	117	7.689	7.692	-0.003	95	450393	50.0	
* 3 1,4-Dichlorobenzene-d4	152	9.878	9.881	-0.003	94	202699	50.0	
$ 4 Dibromofluoromethane (Surr	113	4.636	4.628	0.008	92	139844	43.2	
$ 5 1,2-Dichloroethane-d4 (Sur	65	4.896	4.900	-0.004	94	198621	44.0	
$ 6 Toluene-d8 (Surr)	98	6.435	6.438	-0.003	96	573442	44.5	
$ 7 4-Bromofluorobenzene (Surr	95	8.766	8.769	-0.003	83	197940	40.8	
9 Dichlorodifluoromethane	85		1.587				ND	
10 Chloromethane	50		1.764				ND	
11 Vinyl chloride	62		1.882				ND	
13 Bromomethane	94		2.190				ND	
14 Chloroethane	64		2.285				ND	
16 Trichlorofluoromethane	101		2.510				ND	
19 1,1-Dichloroethene	96		2.936				ND	
20 1,1,2-Trichloro-1,2,2-trif	151		2.947				ND	
21 Acetone	43	2.968	2.971	-0.003	94	7295	0.4416	
24 Carbon disulfide	76	3.110	3.113	-0.003	94	3079	0.2719	
28 Methylene Chloride	84		3.302				ND	
29 2-Methyl-2-propanol	59		3.385				ND	
31 trans-1,2-Dichloroethene	96		3.527				ND	
32 Methyl tert-butyl ether	73		3.527				ND	
34 1,1-Dichloroethane	63		3.847				ND	
35 Vinyl acetate	43		3.870				ND	
36 Isopropyl ether	87		3.891				ND	
38 Tert-butyl ethyl ether	59		4.163				ND	
40 2-Butanone (MEK)	43		4.273				ND	
39 cis-1,2-Dichloroethene	96		4.285				ND	
41 2,2-Dichloropropane	77		4.285				ND	
45 Chlorobromomethane	128		4.462				ND	
47 Chloroform	83		4.509				ND	
48 1,1,1-Trichloroethane	97		4.675				ND	
50 1,1-Dichloropropene	75		4.793				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
51 Carbon tetrachloride	117		4.805				ND	
53 1,2-Dichloroethane	62		4.959				ND	
54 Benzene	78		4.959				ND	
55 Tert-amyl methyl ether	73		5.027				ND	
58 Trichloroethene	130		5.456				ND	
61 1,2-Dichloropropane	63		5.622				ND	
63 Dibromomethane	93		5.716				ND	
65 Dichlorobromomethane	83		5.835				ND	
67 2-Chloroethyl vinyl ether	63		6.059				ND	
68 cis-1,3-Dichloropropene	75		6.201				ND	
69 4-Methyl-2-pentanone (MIBK	43		6.308				ND	
70 Toluene	91		6.485				ND	
71 trans-1,3-Dichloropropene	75		6.651				ND	
74 1,3-Dichloropropane	76		6.959				ND	
75 Tetrachloroethene	164		6.971				ND	
76 2-Hexanone	43		7.018				ND	
78 Chlorodibromomethane	129		7.172				ND	
80 Ethylene Dibromide	107		7.278				ND	
82 Chlorobenzene	112	7.713	7.716	-0.003	92	58108	5.71	
83 1,1,1,2-Tetrachloroethane	131		7.775				ND	
84 Ethylbenzene	106		7.811				ND	
85 m-Xylene & p-Xylene	106		7.917				ND	
87 Styrene	104		8.284				ND	
86 o-Xylene	106		8.284				ND	
88 Bromoform	173		8.462				ND	
89 Isopropylbenzene	105		8.615				ND	
92 1,1,2,2-Tetrachloroethane	83		8.876				ND	
93 Bromobenzene	156		8.923				ND	
94 1,2,3-Trichloropropane	110		8.935				ND	
96 N-Propylbenzene	120		9.006				ND	
97 2-Chlorotoluene	126		9.100				ND	
99 4-Chlorotoluene	126		9.207				ND	
100 tert-Butylbenzene	119		9.491				ND	
102 1,2,4-Trimethylbenzene	105		9.538				ND	
103 sec-Butylbenzene	105		9.704				ND	
104 1,3-Dichlorobenzene	146	9.819	9.822	-0.003	90	3319	0.4558	
105 4-Isopropyltoluene	119		9.846				ND	
106 1,4-Dichlorobenzene	146	9.902	9.905	-0.003	91	14988	2.00	
107 1,2,3-Trimethylbenzene	105		9.949				ND	
109 n-Butylbenzene	91		10.248				ND	
110 1,2-Dichlorobenzene	146		10.272				ND	
111 1,2-Dibromo-3-Chloropropan	157		11.029				ND	
113 1,2,4-Trichlorobenzene	180	11.866	11.869	-0.003	79	1444	0.3313	
114 Hexachlorobutadiene	225		12.035				ND	
115 Naphthalene	128		12.118				ND	
116 1,2,3-Trichlorobenzene	180		12.366				ND	
S 128 Xylenes, Total	106		16.530				ND	

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

Lab Name: TestAmerica Canton Job No.: 240-103828-1 Analy Batch No.: 353820

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 11/06/2018 06:49 Calibration End Date: 11/06/2018 09:45 Calibration ID: 47798

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
tert-Butylbenzene	3.0682 3.1279	2.7070 2.9233	3.2686 2.9225	3.2425 2.8702	3.1766	Ave		3.0341				6.2		15.0			
1,2,4-Trimethylbenzene	3.0198 3.5662	3.0614 3.3391	3.8105 3.3561	3.8620 3.2707	3.7031	Ave		3.4432				9.0		15.0			
sec-Butylbenzene	4.1781 4.6382	4.3421 4.2584	4.9121 4.2401	5.0382 4.1702	4.7060	Ave		4.4982				7.4		15.0			
1,3-Dichlorobenzene	2.0244 1.6962	1.9514 1.5935	1.9356 1.5992	1.9768 1.5596	1.8298	Ave		1.7963				10.3		15.0			
p-Isopropyltoluene	3.2018 3.7311	3.5929 3.5439	3.8787 3.5227	4.0470 3.4539	3.9068	Ave		3.6532				7.2		15.0			
1,4-Dichlorobenzene	2.3535 1.7117	2.0534 1.6170	1.9515 1.6154	1.9964 1.5583	1.8176	Ave		1.8528				14.0		15.0			
n-Butylbenzene	3.0374 3.3593	3.1236 3.1679	3.4494 3.1536	3.5708 3.1245	3.4639	Ave		3.2723				5.8		15.0			
1,2-Dichlorobenzene	2.0627 1.5858	1.7884 1.4342	1.8879 1.4241	1.8575 1.3890	1.6785	Ave		1.6787				14.2		15.0			
1,2-Dibromo-3-Chloropropane	+++++ 0.0821	+++++ 0.0775	0.0512 0.0850	0.0771 0.0883	0.0749	Lin1	-0.171	0.0861							0.9980		0.9900
1,2,4-Trichlorobenzene	1.3241 1.0196	1.1884 0.9362	1.1356 0.9520	1.1047 0.9314	1.0852	Ave		1.0752				12.2		15.0			
Hexachlorobutadiene	+++++ 0.5828	+++++ 0.5231	0.6794 0.5338	0.7315 0.5167	0.6512	Ave		0.6026				14.2		15.0			
Naphthalene	2.2190 2.1136	1.9473 1.9145	1.9824 1.9382	2.2202 1.8484	2.2344	Ave		2.0464				7.4		15.0			
1,2,3-Trichlorobenzene	+++++ 0.9285	+++++ 0.8150	1.0921 0.8370	1.1088 0.8009	1.0355	Ave		0.9454				14.1		15.0			
Dibromofluoromethane (Surr)	0.2333 0.2250	0.2605 0.2364	0.2694 0.2363	0.2595 0.2388	0.2657	Ave		0.2472				6.6		15.0			
1,2-Dichloroethane-d4 (Surr)	0.3962 0.2799	0.3756 0.3024	0.4161 0.3045	0.3566 0.3103	0.3572	Ave		0.3443				13.7		15.0			
Toluene-d8 (Surr)	1.4502 1.3143	1.4983 1.3251	1.5808 1.3784	1.4646 1.3735	1.4755	Ave		1.4290				6.1		15.0			
4-Bromofluorobenzene (Surr)	0.5861 0.4570	0.6093 0.4755	0.6154 0.4838	0.5821 0.4723	0.5667	Ave		0.5387				12.1		15.0			

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

TETRA TECH

INTERNAL CORRESPONDENCE

TO: **S. BRENNER** **DATE:** **JANUARY 16, 2019**

FROM: **J. KALINYAK** **COPIES:** **DV FILE**

SUBJECT: **DATA VALIDATION – VOC, OVG, PCB, METALS, MISC**
LOCKHEED MRC BLOCK F
SAMPLE DELIVERY GROUP (SDG) 240-104312-1

SAMPLES: **2 / Aqueous – VOC**

MRC-MW-135A-111218 TB-111218

1 / Aqueous – OVG, PCB, METALS, MISC

MRC-MW-135A-111218

Overview

The sample set for Lockheed MRC Block F, SDG 240-104312-1, consisted of one (1) aqueous sample and one (1) aqueous trip blank sample. The one (1) aqueous sample and the one (1) aqueous trip blank sample were analyzed for volatile organic compounds (VOCs) as listed above. The one (1) aqueous sample was also analyzed for organic volatile gases (OVG), polychlorinated biphenyls (PCBs), metals, and the miscellaneous analyses alkalinity, bromide, nitrate/nitrite-N, salinity, sulfate, and total suspended solids (TSS), as listed above. No field duplicate sample pairs were included in the sample delivery group (SDG).

The samples were collected by Tetra Tech on November 12, 2018 and analyzed by TestAmerica Laboratories Inc., North Canton, Savannah, and Pittsburgh, for all analyses. All analyses were conducted in accordance with EPA SW-846 Methods 8260C for VOCs, 6020A (ICP/MS) for metals, 6010C (ICP) for metals, 9056A for anions, Standard Methods (SM) 2320B for total alkalinity, 2340C for total hardness, 2540C for total dissolved solids (TSS), 2520B for salinity (electrical conductivity), Method 300.0 for anions, Method 353.3 for nitrite-nitrate nitrogen, RSK-175 for dissolved gases, and EPA Method 680 for PCBs, 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, blank results, blank spike/blank spike duplicate results, matrix spike/matrix spike duplicate results, surrogate spike recoveries, internal standard recoveries, chromatographic resolution, ICP interference results, ICP serial dilution results, analyte identification, analyte quantitation, and detection limits. Areas of concern are listed below.

Major Problems

- The laboratory narrative indicated that the samples were acid preserved for the VOC analysis. The VOC analyte 2-chlororethyl vinyl ether is known to rapidly deteriorate under acidic conditions. Both sample non-detected results for 2-chloroethyl vinyl ether were qualified rejected, (UR), due to the laboratory narrative indicating that the samples were acid preserved.

Minor Problems

- Detected results reported below the quantitation limit but above the method detection limit (MDL) were qualified as estimated, (J).

- The VOC continuing calibration verification (CCV) %Ds were greater than the 20% QC limit for ethyl tert-butyl ether, tert-amyl methyl ether, dichlorodifluoromethane, carbon disulfide, and 2,2-dichloropropane for instrument A3UX19 on 11/20/18 @ 16:40 affecting both VOC samples. The samples had non-detected results for the aforementioned analytes which were qualified estimated, (UJ).

- The PCB CCV %D was greater than the 20% QC limit for heptachlorobiphenyl for instrument CMSX on 11/21/18 @ 17:31 affecting sample MRC-MW-135A-111218. The sample had a non-detected result for heptachlorobiphenyl which was qualified estimated, (UJ).

- The PCB laboratory control sample percent (LCS) recovery (%R) was below the QC limit for monochlorobiphenyl and dichlorobiphenyl for LCS 680-547809/8-A affecting sample MRC-MW-135A-111218. The sample was re-extracted and re-analyzed with another LCS and LCSD duplicate (LCSD). The re-extracted LCS also contained the same low recoveries and a third homolog, tetrachlorobiphenyl was also below the lower quality control limit. The LCSD contained low recoveries for all homologs except nonachlorobiphenyl. Matrix spike and matrix spike duplicate recoveries satisfied control limits for all homologs. The original sample analysis results were reported and used for validation. Non-detected monochlorobiphenyl and dichlorobiphenyl results were qualified estimated, (UJ).

- The nitrite-nitrate as nitrogen matrix spike (MS) and MS duplicate (MSD) %Rs were less than the QC limit for spiked sample MRC-MW-135A-111218. The sample detected nitrite-nitrate as nitrogen result was qualified estimated, (J).

Notes

The VOC tert-butyl alcohol was detected in the trip blank sample TB-111218. The associated SDG sample had a non-detected result for tert-butyl alcohol and no action was taken.

The VOC matrix spike (MS) and MS duplicate (MSD) percent recoveries (%Rs) for 2-chloroethyl vinyl ether were less than the QC limit at 0% for spiked sample MRC-MW-135A-111218. The poor recoveries are attributed to acid preservation which has already been qualified.

The metal sodium was detected in a continuing calibration blank, CCB 240-355756/35, at the following maximum concentration affecting all samples. The sample MRC-MW-135A-111218 had a detected sodium result which was >10X the CCB concentration, therefore no action was taken.

Analyte	Maximum Conc.	Reporting Limit
Sodium	911 µg/l	<RL

The metals analysis beryllium, copper, and sodium continuing calibration verification low level %Rs were greater than the upper limit. No action was taken for sodium as the sample MRC-MW-135A-111218 sodium concentration was >10X the RL for sodium. No action was taken for the beryllium and copper results as they were non-detected.

Nitrate as listed on the chain of custody was reported as nitrate/nitrite-N. A result for nitrate alone was not analyzed or reported by the laboratory.

The metals iron and manganese were analyzed using methods 6020A and 6010C. The results determined using method 6020A were used for validation. The result comparison between the methods was in agreement. The chain of custody record listed analysis for iron and manganese via 6010C.

The salinity result is expressed without units.

Sample analyte results were reported to the Method Detection Limit.

EXECUTIVE SUMMARY

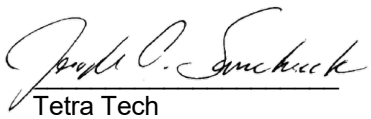
Laboratory Performance Issues: VOC and PCB results were qualified for ICV and CCV %D QC limit exceedances. PCB results were qualified for LCS %R QC limit exceedances.

Other Factors Affecting Data Quality: Detected results reported below the quantitation limit but above the method detection limit were qualified as estimated, (J). The sample and trip blank sample non-detected VOC 2-chlororethyl vinyl ether results were rejected due to sample acidification as noted in the laboratory narrative. The sample nitrite-nitrate as nitrogen result was qualified for MS/MSD QC limit exceedances.

The data for these analyses were reviewed with reference to the USEPA National Functional Guidelines for Superfund Organic Methods Data Review (January 2017) and USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (January 2017).



Tetra Tech
Joseph Kalinyak
Data Validator/Environmental Scientist



Tetra Tech
Joseph A. Samchuck
Data Validation Manager

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.

U	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted detection limit.
J	The result is an estimated quantity. 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).
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
NJ	The analyte has been “tentatively identified” or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.
R	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.
UR	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.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team, but exclusion of the data is recommended.

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 x 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

PROJ_NO: 08667	NSAMPLE	MRC-MW-135A-111218			TB-111218		
SDG: 240-104312-1	LAB_ID	240-104312-2			240-104312-1		
FRACTION: OV	SAMP_DATE	11/12/2018			11/12/2018		
MEDIA: WATER	QC_TYPE	NM			NM		
	UNITS	UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0		
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		0.14	U		0.14	U	
1,1,1-TRICHLOROETHANE		0.24	U		0.24	U	
1,1,2,2-TETRACHLOROETHANE		0.13	U		0.13	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		0.41	U		0.41	U	
1,1-DICHLOROETHANE		0.17	U		0.17	U	
1,1-DICHLOROETHENE		0.19	U		0.19	U	
1,1-DICHLOROPROPENE		0.14	U		0.14	U	
1,2,3-TRICHLOROBENZENE		0.54	U		0.54	U	
1,2,3-TRICHLOROPROPANE		0.24	U		0.24	U	
1,2,3-TRIMETHYLBENZENE		0.14	U		0.14	U	
1,2,4-TRICHLOROBENZENE		0.26	U		0.26	U	
1,2,4-TRIMETHYLBENZENE		0.07	U		0.07	U	
1,2-DIBROMO-3-CHLOROPROPANE		0.91	U		0.91	U	
1,2-DIBROMOETHANE		0.12	U		0.12	U	
1,2-DICHLOROBENZENE		0.15	U		0.15	U	
1,2-DICHLOROETHANE		0.21	U		0.21	U	
1,2-DICHLOROPROPANE		0.15	U		0.15	U	
1,3-DICHLOROBENZENE		0.15	U		0.15	U	
1,3-DICHLOROPROPANE		0.21	U		0.21	U	
1,4-DICHLOROBENZENE		0.16	U		0.16	U	
2,2-DICHLOROPROPANE		0.31	UJ	C	0.31	UJ	C
2-BUTANONE		1.2	U		1.2	U	
2-CHLOROETHYL VINYL ETHER		0.26	UR	M	0.26	UR	M
2-CHLOROTOLUENE		0.15	U		0.15	U	
2-HEXANONE		0.54	U		0.54	U	
4-CHLOROTOLUENE		0.09	U		0.09	U	
4-ISOPROPYLTOLUENE		0.13	U		0.13	U	
4-METHYL-2-PENTANONE		0.42	U		0.42	U	
ACETONE		5.4	U		5.4	U	
BENZENE		0.13	U		0.13	U	
BROMOBENZENE		0.12	U		0.12	U	
BROMOCHLOROMETHANE		0.14	U		0.14	U	
BROMODICHLOROMETHANE		0.17	U		0.17	U	
BROMOFORM		0.76	U		0.76	U	
BROMOMETHANE		0.42	U		0.42	U	

PROJ_NO: 08667	NSAMPLE	MRC-MW-135A-111218			TB-111218		
SDG: 240-104312-1	LAB_ID	240-104312-2			240-104312-1		
FRACTION: OV	SAMP_DATE	11/12/2018			11/12/2018		
MEDIA: WATER	QC_TYPE	NM			NM		
	UNITS	UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0		
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON DISULFIDE		0.28	UJ	C	0.28	UJ	C
CARBON TETRACHLORIDE		0.26	U		0.26	U	
CHLOROBENZENE		0.14	U		0.14	U	
CHLORODIBROMOMETHANE		0.39	U		0.39	U	
CHLOROETHANE		0.83	U		0.83	U	
CHLOROFORM		0.13	U		0.13	U	
CHLOROMETHANE		0.2	U		0.2	U	
CIS-1,2-DICHLOROETHENE		0.16	U		0.16	U	
CIS-1,3-DICHLOROPROPENE		0.61	U		0.61	U	
DIBROMOMETHANE		0.09	U		0.09	U	
DICHLORODIFLUOROMETHANE		0.35	UJ	C	0.35	UJ	C
DIISOPROPYL ETHER		0.17	U		0.17	U	
ETHYL TERT-BUTYL ETHER		0.15	UJ	C	0.15	UJ	C
ETHYLBENZENE		0.11	U		0.11	U	
HEXACHLOROBUTADIENE		0.83	U		0.83	U	
ISOPROPYLBENZENE		0.09	U		0.09	U	
METHYL TERT-BUTYL ETHER		0.07	U		0.07	U	
METHYLENE CHLORIDE		2.6	U		2.6	U	
NAPHTHALENE		0.32	U		0.32	U	
N-BUTYLBENZENE		0.14	U		0.14	U	
N-PROPYLBENZENE		0.15	U		0.15	U	
SEC-BUTYLBENZENE		0.13	U		0.13	U	
STYRENE		0.1	U		0.1	U	
TERT-AMYL METHYL ETHER		0.11	UJ	C	0.11	UJ	C
TERT-BUTYLBENZENE		0.14	U		0.14	U	
TERTIARY-BUTYL ALCOHOL		1.7	U		10	J	P
TETRACHLOROETHENE		0.15	U		0.15	U	
TOLUENE		0.14	U		0.14	U	
TOTAL XYLENES		0.15	U		0.15	U	
TRANS-1,2-DICHLOROETHENE		0.19	U		0.19	U	
TRANS-1,3-DICHLOROPROPENE		0.67	U		0.67	U	
TRICHLOROETHENE		0.1	U		0.1	U	
TRICHLOROFLUOROMETHANE		0.45	U		0.45	U	
VINYL ACETATE		0.19	U		0.19	U	
VINYL CHLORIDE		0.2	U		0.2	U	

PROJ_NO: 08667	NSAMPLE	MRC-MW-135A-111218		
SDG: 240-104312-1	LAB_ID	240-104312-2		
FRACTION: OVG	SAMP_DATE	11/12/2018		
MEDIA: WATER	QC_TYPE	NM		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
ETHANE		0.1	U	
ETHENE		0.11	U	
METHANE		0.17	U	

PROJ_NO: 08667	NSAMPLE	MRC-MW-135A-111218		
SDG: 240-104312-1	LAB_ID	240-104312-2		
FRACTION: PCB	SAMP_DATE	11/12/2018		
MEDIA: WATER	QC_TYPE	NM		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
DICHLOROBIPHENYLS		0.0052	UJ	E
HEPTACHLOROBIPHENYLS		0.029	UJ	C
HEXACHLOROBIPHENYLS		0.014	U	
MONOCHLOROBIPHENYLS		0.0054	UJ	E
NONACHLOROBIPHENYLS		0.047	U	
OCTACHLOROBIPHENYLS		0.037	U	
PENTACHLOROBIPHENYLS		0.014	U	
TETRACHLOROBIPHENYLS		0.013	U	
TRICHLOROBIPHENYLS		0.0063	U	

PROJ_NO: 08667	NSAMPLE	MRC-MW-135A-111218		
SDG: 240-104312-1	LAB_ID	240-104312-2		
FRACTION: M	SAMP_DATE	11/12/2018		
MEDIA: WATER	QC_TYPE	NM		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
ALUMINUM		34	U	
ANTIMONY		0.57	U	
ARSENIC		0.75	U	
BARIUM		80		
BERYLLIUM		0.31	U	
CADMIUM		0.21	U	
CALCIUM		120000		
CHROMIUM		0.98	U	
COBALT		4.5		
COPPER		1.7	U	
IRON		420		
LEAD		0.45	U	
MAGNESIUM		26000		
MANGANESE		160		
NICKEL		1.8	J	P
POTASSIUM		3700		
SELENIUM		5.9		
SILVER		0.053	U	
SODIUM		240000		
THALLIUM		0.2	U	
VANADIUM		0.82	U	
ZINC		15	U	

PROJ_NO: 08667	NSAMPLE	MRC-MW-135A-111218					
SDG: 240-104312-1	LAB_ID	240-104312-2					
FRACTION: MISC	SAMP_DATE	11/12/2018					
MEDIA: WATER	QC_TYPE	NM					
	UNITS	MG/L			UNITLESS		
	PCT_SOLIDS	0.0			0.0		
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
ALKALINITY		370					
BROMIDE		0.044	U				
HARDNESS AS CACO3		400					
NITRITE/NITRATE-N		0.35	J	D			
SALINITY					2	U	
SULFATE		30					
TOTAL DISSOLVED SOLIDS		950					

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104312-1

SDG No.:

Client Sample ID: TB-111218 | Lab Sample ID: 240-104312-1

Matrix: Water | Lab File ID: U1904028.d

Analysis Method: 8260C | Date Collected: 11/12/2018 00:00

Sample wt/vol: 5(mL) | Date Analyzed: 11/20/2018 21:31

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.: 356400 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	0.14	U	1.0	0.14
71-55-6	1,1,1-Trichloroethane	0.24	U	1.0	0.24
79-34-5	1,1,2,2-Tetrachloroethane	0.13	U	1.0	0.13
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19
563-58-6	1,1-Dichloropropene	0.14	U	1.0	0.14
87-61-6	1,2,3-Trichlorobenzene	0.54	U	1.0	0.54
96-18-4	1,2,3-Trichloropropane	0.24	U	1.0	0.24
526-73-8	1,2,3-Trimethylbenzene	0.14	U	5.0	0.14
120-82-1	1,2,4-Trichlorobenzene	0.26	U	1.0	0.26
95-63-6	1,2,4-Trimethylbenzene	0.070	U	1.0	0.070
96-12-8	1,2-Dibromo-3-Chloropropane	0.91	U	2.0	0.91
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
107-06-2	1,2-Dichloroethane	0.21	U	1.0	0.21
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.15	U	1.0	0.15
142-28-9	1,3-Dichloropropane	0.21	U	1.0	0.21
106-46-7	1,4-Dichlorobenzene	0.16	U	1.0	0.16
594-20-7	2,2-Dichloropropane	0.31	U	1.0	0.31
110-75-8	2-Chloroethyl vinyl ether	0.26	U	10	0.26
95-49-8	2-Chlorotoluene	0.15	U	1.0	0.15
591-78-6	2-Hexanone	0.54	U	10	0.54
108-86-1	Bromobenzene	0.12	U	1.0	0.12
74-97-5	Bromochloromethane	0.14	U	1.0	0.14
106-43-4	4-Chlorotoluene	0.090	U	1.0	0.090
99-87-6	4-Isopropyltoluene	0.13	U	1.0	0.13
67-64-1	Acetone	5.4	U	10	5.4
71-43-2	Benzene	0.13	U	1.0	0.13
75-25-2	Bromoform	0.76	U	1.0	0.76
74-83-9	Bromomethane	0.42	U	1.0	0.42
75-15-0	Carbon disulfide	0.28	U	1.0	0.28
56-23-5	Carbon tetrachloride	0.26	U	1.0	0.26
108-90-7	Chlorobenzene	0.14	U	1.0	0.14
75-00-3	Chloroethane	0.83	U	1.0	0.83
67-66-3	Chloroform	0.13	U	1.0	0.13

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104312-1

SDG No.:

Client Sample ID: TB-111218 | Lab Sample ID: 240-104312-1

Matrix: Water | Lab File ID: U1904028.d

Analysis Method: 8260C | Date Collected: 11/12/2018 00:00

Sample wt/vol: 5(mL) | Date Analyzed: 11/20/2018 21:31

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.: 356400 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	0.20	U	1.0	0.20
156-59-2	cis-1,2-Dichloroethene	0.16	U	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	0.61	U	1.0	0.61
87-68-3	Hexachlorobutadiene	0.83	U	1.0	0.83
74-95-3	Dibromomethane	0.090	U	1.0	0.090
75-27-4	Bromodichloromethane	0.17	U	1.0	0.17
75-71-8	Dichlorodifluoromethane	0.35	U	1.0	0.35
100-41-4	Ethylbenzene	0.11	U	1.0	0.11
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12
108-20-3	Diisopropyl ether	0.17	U	10	0.17
91-20-3	Naphthalene	0.32	U	1.0	0.32
104-51-8	n-Butylbenzene	0.14	U	1.0	0.14
98-82-8	Isopropylbenzene	0.090	U	1.0	0.090
103-65-1	N-Propylbenzene	0.15	U	1.0	0.15
78-93-3	2-Butanone (MEK)	1.2	U	10	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	0.42	U	10	0.42
135-98-8	sec-Butylbenzene	0.13	U	1.0	0.13
1634-04-4	Methyl tert-butyl ether	0.070	U	1.0	0.070
994-05-8	Tert-amyl methyl ether	0.11	U	5.0	0.11
75-09-2	Methylene Chloride	2.6	U	5.0	2.6
100-42-5	Styrene	0.10	U	1.0	0.10
637-92-3	Ethyl tert-butyl ether	0.15	U	5.0	0.15
98-06-6	tert-Butylbenzene	0.14	U	1.0	0.14
127-18-4	Tetrachloroethene	0.15	U	1.0	0.15
108-88-3	Toluene	0.14	U	1.0	0.14
156-60-5	trans-1,2-Dichloroethene	0.19	U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	0.67	U	1.0	0.67
79-01-6	Trichloroethene	0.10	U	1.0	0.10
75-69-4	Trichlorofluoromethane	0.45	U	1.0	0.45
108-05-4	Vinyl acetate	0.19	U	2.0	0.19
75-01-4	Vinyl chloride	0.20	U	1.0	0.20
75-65-0	tert-Butyl alcohol	10	J	50	1.7
1330-20-7	Xylenes, Total	0.15	U	2.0	0.15
124-48-1	Chlorodibromomethane	0.39	U	1.0	0.39

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104312-1

SDG No.:

Client Sample ID: TB-111218 | Lab Sample ID: 240-104312-1

Matrix: Water | Lab File ID: U1904028.d

Analysis Method: 8260C | Date Collected: 11/12/2018 00:00

Sample wt/vol: 5(mL) | Date Analyzed: 11/20/2018 21:31

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.: 356400 | Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		70-121
460-00-4	4-Bromofluorobenzene (Surr)	90		59-120
2037-26-5	Toluene-d8 (Surr)	98		70-123
1868-53-7	Dibromofluoromethane (Surr)	97		75-128

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104312-1

SDG No.:

Client Sample ID: MRC-MW-135A-111218 | Lab Sample ID: 240-104312-2

Matrix: Water | Lab File ID: U1904029.d

Analysis Method: 8260C | Date Collected: 11/12/2018 14:35

Sample wt/vol: 5(mL) | Date Analyzed: 11/20/2018 21:53

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.: 356400 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	0.14	U	1.0	0.14
71-55-6	1,1,1-Trichloroethane	0.24	U	1.0	0.24
79-34-5	1,1,2,2-Tetrachloroethane	0.13	U	1.0	0.13
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19
563-58-6	1,1-Dichloropropene	0.14	U	1.0	0.14
87-61-6	1,2,3-Trichlorobenzene	0.54	U	1.0	0.54
96-18-4	1,2,3-Trichloropropane	0.24	U	1.0	0.24
526-73-8	1,2,3-Trimethylbenzene	0.14	U	5.0	0.14
120-82-1	1,2,4-Trichlorobenzene	0.26	U	1.0	0.26
95-63-6	1,2,4-Trimethylbenzene	0.070	U	1.0	0.070
96-12-8	1,2-Dibromo-3-Chloropropane	0.91	U	2.0	0.91
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
107-06-2	1,2-Dichloroethane	0.21	U	1.0	0.21
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.15	U	1.0	0.15
142-28-9	1,3-Dichloropropane	0.21	U	1.0	0.21
106-46-7	1,4-Dichlorobenzene	0.16	U	1.0	0.16
594-20-7	2,2-Dichloropropane	0.31	U	1.0	0.31
110-75-8	2-Chloroethyl vinyl ether	0.26	U F1	10	0.26
95-49-8	2-Chlorotoluene	0.15	U	1.0	0.15
591-78-6	2-Hexanone	0.54	U	10	0.54
108-86-1	Bromobenzene	0.12	U	1.0	0.12
74-97-5	Bromochloromethane	0.14	U	1.0	0.14
106-43-4	4-Chlorotoluene	0.090	U	1.0	0.090
99-87-6	4-Isopropyltoluene	0.13	U	1.0	0.13
67-64-1	Acetone	5.4	U	10	5.4
71-43-2	Benzene	0.13	U	1.0	0.13
75-25-2	Bromoform	0.76	U	1.0	0.76
74-83-9	Bromomethane	0.42	U	1.0	0.42
75-15-0	Carbon disulfide	0.28	U	1.0	0.28
56-23-5	Carbon tetrachloride	0.26	U	1.0	0.26
108-90-7	Chlorobenzene	0.14	U	1.0	0.14
75-00-3	Chloroethane	0.83	U	1.0	0.83
67-66-3	Chloroform	0.13	U	1.0	0.13

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104312-1

SDG No.:

Client Sample ID: MRC-MW-135A-111218 | Lab Sample ID: 240-104312-2

Matrix: Water | Lab File ID: U1904029.d

Analysis Method: 8260C | Date Collected: 11/12/2018 14:35

Sample wt/vol: 5(mL) | Date Analyzed: 11/20/2018 21:53

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.: 356400 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	0.20	U	1.0	0.20
156-59-2	cis-1,2-Dichloroethene	0.16	U	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	0.61	U	1.0	0.61
87-68-3	Hexachlorobutadiene	0.83	U	1.0	0.83
74-95-3	Dibromomethane	0.090	U	1.0	0.090
75-27-4	Bromodichloromethane	0.17	U	1.0	0.17
75-71-8	Dichlorodifluoromethane	0.35	U	1.0	0.35
100-41-4	Ethylbenzene	0.11	U	1.0	0.11
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12
108-20-3	Diisopropyl ether	0.17	U	10	0.17
91-20-3	Naphthalene	0.32	U	1.0	0.32
104-51-8	n-Butylbenzene	0.14	U	1.0	0.14
98-82-8	Isopropylbenzene	0.090	U	1.0	0.090
103-65-1	N-Propylbenzene	0.15	U	1.0	0.15
78-93-3	2-Butanone (MEK)	1.2	U	10	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	0.42	U	10	0.42
135-98-8	sec-Butylbenzene	0.13	U	1.0	0.13
1634-04-4	Methyl tert-butyl ether	0.070	U	1.0	0.070
994-05-8	Tert-amyl methyl ether	0.11	U	5.0	0.11
75-09-2	Methylene Chloride	2.6	U	5.0	2.6
100-42-5	Styrene	0.10	U	1.0	0.10
637-92-3	Ethyl tert-butyl ether	0.15	U	5.0	0.15
98-06-6	tert-Butylbenzene	0.14	U	1.0	0.14
127-18-4	Tetrachloroethene	0.15	U	1.0	0.15
108-88-3	Toluene	0.14	U	1.0	0.14
156-60-5	trans-1,2-Dichloroethene	0.19	U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	0.67	U	1.0	0.67
79-01-6	Trichloroethene	0.10	U	1.0	0.10
75-69-4	Trichlorofluoromethane	0.45	U	1.0	0.45
108-05-4	Vinyl acetate	0.19	U	2.0	0.19
75-01-4	Vinyl chloride	0.20	U	1.0	0.20
75-65-0	tert-Butyl alcohol	1.7	U	50	1.7
1330-20-7	Xylenes, Total	0.15	U	2.0	0.15
124-48-1	Chlorodibromomethane	0.39	U	1.0	0.39

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Client Sample ID: MRC-MW-135A-111218 Lab Sample ID: 240-104312-2

Matrix: Water Lab File ID: U1904029.d

Analysis Method: 8260C Date Collected: 11/12/2018 14:35

Sample wt/vol: 5(mL) Date Analyzed: 11/20/2018 21:53

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.: 356400 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		70-121
460-00-4	4-Bromofluorobenzene (Surr)	89		59-120
2037-26-5	Toluene-d8 (Surr)	95		70-123
1868-53-7	Dibromofluoromethane (Surr)	97		75-128

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 240-104312-1

SDG No.:

Client Sample ID: MRC-MW-135A-111218 | Lab Sample ID: 240-104312-2

Matrix: Water | Lab File ID: xk2109.D

Analysis Method: 680 | Date Collected: 11/12/2018 14:35

Extract. Method: 680 | Date Extracted: 11/16/2018 15:42

Sample wt/vol: 1035.1(mL) | Date Analyzed: 11/21/2018 14:40

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.: 548241 | Units: ug/L

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

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	65		25-113

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 240-104312-1

SDG No.:

Client Sample ID: MRC-MW-135A-111218 RE | Lab Sample ID: 240-104312-2 RE

Matrix: Water | Lab File ID: x10309.D

Analysis Method: 680 | Date Collected: 11/12/2018 14:35

Extract. Method: 680 | Date Extracted: 11/29/2018 10:00

Sample wt/vol: 1029.2(mL) | Date Analyzed: 12/03/2018 12:52

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.: 549800 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	*Heptachlorobiphenyl*	*0.029*	*U **	*0.29*	*0.029*
26601-64-9	*Hexachlorobiphenyl*	*0.015*	*U **	*0.19*	*0.015*
53742-07-7	*Nonachlorobiphenyl*	*0.048*	*U*	*0.49*	*0.048*
55722-26-4	*Octachlorobiphenyl*	*0.037*	*U **	*0.29*	*0.037*
27323-18-8	*Monochlorobiphenyl*	*0.0054*	*U **	*0.097*	*0.0054*
2051-24-3	*DCB Decachlorobiphenyl*	*0.068*	*U **	*0.49*	*0.068*
25512-42-9	*Dichlorobiphenyl*	*0.0052*	*U **	*0.097*	*0.0052*
25429-29-2	*Pentachlorobiphenyl*	*0.014*	*U **	*0.19*	*0.014*
26914-33-0	*Tetrachlorobiphenyl*	*0.013*	*U **	*0.19*	*0.013*
25323-68-6	*Trichlorobiphenyl*	*0.0063*	*U **	*0.097*	*0.0063*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	64		25-113

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104312-1

SDG No.:

Client Sample ID: MRC-MW-135A-111218 | Lab Sample ID: 240-104312-2

Matrix: Water | Lab File ID: Z0111941.D

Analysis Method: RSK-175 | Date Collected: 11/12/2018 14:35

Sample wt/vol: 23(mL) | Date Analyzed: 11/20/2018 00:35

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: HP-PLOT/Q ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 356108 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	0.17	U	1.0	0.17
74-84-0	Ethane	0.10	U	1.0	0.10
74-85-1	Ethene	0.11	U	1.0	0.11

CAS NO.	SURROGATE	%REC	Q	LIMITS
420-46-2	1,1,1-Trifluoroethane	106		60-140

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: MRC-MW-135A-111218 Lab Sample ID: 240-104312-2

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG ID.:

Matrix: Water Date Sampled: 11/12/2018 14:35

Reporting Basis: WET Date Received: 11/13/2018 10:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-89-6	Iron	390	200	26	ug/L			1	6010C
7439-96-5	Manganese	170	15	2.1	ug/L			1	6010C
7440-22-4	Silver	0.053	1.0	0.053	ug/L	U		1	6020A
7429-90-5	Aluminum	34	50	34	ug/L	U		1	6020A
7440-38-2	Arsenic	0.75	5.0	0.75	ug/L	U		1	6020A
7440-39-3	Barium	80	5.0	2.2	ug/L			1	6020A
7440-41-7	Beryllium	0.31	1.0	0.31	ug/L	U	^	1	6020A
7440-43-9	Cadmium	0.21	1.0	0.21	ug/L	U		1	6020A
7440-48-4	Cobalt	4.5	1.0	0.19	ug/L			1	6020A
7440-47-3	Chromium	0.98	2.0	0.98	ug/L	U		1	6020A
7440-50-8	Copper	1.7	2.0	1.7	ug/L	U	^	1	6020A
7439-89-6	Iron	420	100	47	ug/L			1	6020A
7439-96-5	Manganese	160	5.0	2.1	ug/L			1	6020A
7440-02-0	Nickel	1.8	2.0	1.5	ug/L	J		1	6020A
7439-92-1	Lead	0.45	1.0	0.45	ug/L	U		1	6020A
7440-36-0	Antimony	0.57	2.0	0.57	ug/L	U		1	6020A
7782-49-2	Selenium	5.9	5.0	0.89	ug/L			1	6020A
7440-28-0	Thallium	0.20	1.0	0.20	ug/L	U		1	6020A
7440-62-2	Vanadium	0.82	5.0	0.82	ug/L	U		1	6020A
7440-66-6	Zinc	15	20	15	ug/L	U		1	6020A
7440-70-2	Calcium	120000	1000	580	ug/L			1	6020A
7440-09-7	Potassium	3700	1000	220	ug/L			1	6020A
7439-95-4	Magnesium	26000	1000	200	ug/L			1	6020A
7440-23-5	Sodium	240000	1000	330	ug/L		^	1	6020A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-135A-111218 Lab Sample ID: 240-104312-2

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG ID.:

Matrix: Water Date Sampled: 11/12/2018 14:35

Reporting Basis: WET Date Received: 11/13/2018 10:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Nitrate Nitrite as N	0.35	0.050	0.031	mg/L		F1	1	353.2
	Hardness as calcium carbonate	400	5.0	2.4	mg/L			1	2340C-2011
	Alkalinity	370	5.0	2.6	mg/L			1	2320B-2011
	Total Dissolved Solids	950	20	16	mg/L			1	2540 C-2011
24959-67-9	Bromide	0.044	0.50	0.044	mg/L	U		1	300.0
14808-79-8	Sulfate	30	1.0	0.35	mg/L			1	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-135A-111218 Lab Sample ID: 240-104312-2

Lab Name: TestAmerica Pittsburgh Job No.: 240-104312-1

SDG ID.:

Matrix: Water Date Sampled: 11/12/2018 14:35

Reporting Basis: WET Date Received: 11/13/2018 10:35

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Salinity	2.0	2.0	2.0	No Unit	U		1	SM 2520B

APPENDIX C

SUPPORT DOCUMENTATION

180325

1-8/27

BALTIMORE

North Canton
4101 Shuffel Street, N. W.

North Canton, OH 44720
phone 330.497.9396 fax 330.497.0772

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Mike Martin	Site Contact: Mullis/Pryor	Date: 11/12/2018	COC No:
Tetra Tech	Tel: (301) 528-3021	Lab Contact: John McFadden	Carrier: Fedex	1 of 1 COCs
20251 Century Blvd, Suite 200	Analysis Turnaround Time			Job No.
Germantown, MD 20874	Calendar (C) or Work Days (W) _____			
(301) 528-3021 Phone	TAT if different from Below 10 DAY TAT			SDG No.
(301) 528-3000 FAX	☐ 2 weeks			
Project Name: MRC BLOCK F TCB WELLS	☐ 1 week			Sampler: Pryor/Mullis
Site: MRC BLOCK F	☐ 2 days			
PO # 112IC08667	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs (8260)	PCBs (680)	Total Metals (6020A)	Sulfate (9056A)	Nitrates (SM 4500-NO3E)	Total Dissolved Solids (SM 2540C)	Bromide (EPA 300.0)	Iron and Manganese (6010C)	Alkalinity (SM 2320B)	Salinity (SM 2520B)	Hardness (ions) SM 2340C	Dissolved gasses (MEE) RSK-175	Sample Specific Notes:
TB-111218	11/12/2018	0000	GRAB	Water	2		x												
MRC-MW-135A-111218	11/12/2018	1435	GRAB	Water	13		x	x	x	x	x	x	x	x	x	x	x	x	
MRC-MW-MS-111218	11/12/2018	1435	GRAB	Water	13		x	x	x	x	x	x	x	x	x	x	x	x	
MRC-MW-MSD-111218	11/12/2018	1435	GRAB	Water	13		x	x	x	x	x	x	x	x	x	x	x	x	
							2	1	4	1	1	1	1	4	1	1	4	2	

11/12/2018



Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

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

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments: Block F TCB Well Installation Sampling, Labels have date as 11/13/18, correct date is 11/12/18

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	Tetra Tech Inc	11/12/18 1705		TestAmerica	11-12-2018/1705
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	TestAmerica	11-12-2018/1710		TAL	11/13/18 1035
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 2, dated 03/06/2012

CASE NARRATIVE

Client: Tetra Tech, Inc.

Project: MRC Block F TCB Wells

Report Number: 240-104312-1

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 680 Polychlorinated Biphenyls analysis was performed at the TestAmerica Savannah laboratory. The 9050A Specific Conductance and the 2520B Salinity analyses were performed at the TestAmerica Pittsburgh laboratory.

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 11/13/2018 10:35 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TB-111218 (240-104312-1) and MRC-MW-135A-111218 (240-104312-2) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 11/20/2018.

The continuing calibration verification (CCV) analyzed in batch 240-356400 was outside the method criteria for some analytes. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

The following samples were received preserved with hydrochloric acid: TB-111218 (240-104312-1) and MRC-MW-135A-111218 (240-104312-2). The requested target analyte list includes 2-Chloroethyl vinyl ether, an acid-labile compound that degrades in an acidic medium.

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

DISSOLVED GASES

Sample MRC-MW-135A-111218 (240-104312-2) was analyzed for dissolved gases in accordance with RSK_175. The sample was analyzed on 11/20/2018.

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

POLYCHLORINATED BIPHENYLS (PCBS)

Sample MRC-MW-135A-111218 (240-104312-2) was analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA Method 680. The sample was prepared on 11/16/2018 and 11/29/2018 and analyzed on 11/21/2018 and 12/03/2018.

Dichlorobiphenyl and Monochlorobiphenyl failed the recovery criteria low for LCS 680-547809/8-A. Dichlorobiphenyl, Monochlorobiphenyl and Tetrachlorobiphenyl failed the recovery criteria low for LCS 680-549336/8-A. Several analytes failed the recovery criteria low for LCSD 680-549336/9-A.

The SOP for the 680 Method allows that for soils the CCVIS has a limit of <30%D for each analyte and for liquids <20%D for each analyte. It also 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. (CCVC 680-548241/15)

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 680-549336.

The LCS recovered low outside of limits for Monochlorobiphenyl, Dichlorobiphenyl and Tetrachlorobiphenyl. The LCSD recovered low for all analytes except Nonachlorobiphenyl. (LCS 680-549336/8-A) and (LCSD 680-549336/9-A)

The SOP for the 680 Method allows that for soils the CCVIS has a limit of <30%D for each analyte and for liquids <20%D for each analyte . It also 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. (CCVC 680-549800/14)

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

TOTAL RECOVERABLE METALS (ICP)
Sample MRC-MW-135A-111218 (240-104312-2) was analyzed for total recoverable metals (ICP) in accordance with EPA SW-846 Method 6010C. The sample was prepared on 11/14/2018 and analyzed on 11/15/2018.

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

TOTAL RECOVERABLE METALS (ICPMS)
Sample MRC-MW-135A-111218 (240-104312-2) was analyzed for total recoverable metals (ICPMS) in accordance with EPA SW-846 Method 6020A. The sample was prepared on 11/14/2018 and analyzed on 11/15/2018.

The continuing calibration verification low level (CCVL) associated with batch 240-355756 recovered above the upper control limit for beryllium and copper. The sample associated with this CCVL was less than the reporting limit for the affected analytes; therefore, the data have been reported. The following sample is impacted: MRC-MW-135A-111218 (240-104312-2).

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

ALKALINITY
Sample MRC-MW-135A-111218 (240-104312-2) was analyzed for alkalinity in accordance with SM 2320B. The sample was analyzed on 11/21/2018.

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

HARDNESS
Sample MRC-MW-135A-111218 (240-104312-2) was analyzed for hardness in accordance with SM 2340C. The sample was analyzed on 11/15/2018.

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

TOTAL DISSOLVED SOLIDS
Sample MRC-MW-135A-111218 (240-104312-2) was analyzed for total dissolved solids in accordance with SM 2540C. The sample was analyzed on 11/16/2018.

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

ANIONS
Sample MRC-MW-135A-111218 (240-104312-2) was analyzed for anions in accordance with EPA Method 300.0. The sample was analyzed on 11/24/2018.

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

NITRATE-NITRITE AS NITROGEN
Sample MRC-MW-135A-111218 (240-104312-2) was analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The sample was analyzed on 11/20/2018.

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

ANIONS
Sample MRC-MW-135A-111218 (240-104312-2) was analyzed for anions in accordance with EPA SW-846 Method 9056A. The sample was analyzed on 11/24/2018.

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

SALINITY

Sample MRC-MW-135A-111218 (240-104312-2) was analyzed for Salinity in accordance with SM 2520B. The sample was analyzed on 11/19/2018.

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

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	LCS or LCSD is outside acceptance limits.

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC 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.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

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

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)

GC/MS VOA

Analysis Batch: 356400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-104312-1	TB-111218	Total/NA	Water	8260C	
240-104312-2	MRC-MW-135A-111218	Total/NA	Water	8260C	
MB 240-356400/7	Method Blank	Total/NA	Water	8260C	
LCS 240-356400/4	Lab Control Sample	Total/NA	Water	8260C	
240-104312-2 MS	MRC-MW-135A-111218	Total/NA	Water	8260C	
240-104312-2 MSD	MRC-MW-135A-111218	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 547809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-104312-2	MRC-MW-135A-111218	Total/NA	Water	680	
MB 680-547809/7-A	Method Blank	Total/NA	Water	680	
LCS 680-547809/8-A	Lab Control Sample	Total/NA	Water	680	
240-104312-2 MS	MRC-MW-135A-111218	Total/NA	Water	680	
240-104312-2 MSD	MRC-MW-135A-111218	Total/NA	Water	680	

Analysis Batch: 548241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-104312-2	MRC-MW-135A-111218	Total/NA	Water	680	547809
MB 680-547809/7-A	Method Blank	Total/NA	Water	680	547809
LCS 680-547809/8-A	Lab Control Sample	Total/NA	Water	680	547809
240-104312-2 MS	MRC-MW-135A-111218	Total/NA	Water	680	547809
240-104312-2 MSD	MRC-MW-135A-111218	Total/NA	Water	680	547809

Prep Batch: 549336

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-104312-2 - RE	MRC-MW-135A-111218	Total/NA	Water	680	
MB 680-549336/7-A	Method Blank	Total/NA	Water	680	
LCS 680-549336/8-A	Lab Control Sample	Total/NA	Water	680	
LCSD 680-549336/9-A	Lab Control Sample Dup	Total/NA	Water	680	

Analysis Batch: 549800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-104312-2 - RE	MRC-MW-135A-111218	Total/NA	Water	680	549336
MB 680-549336/7-A	Method Blank	Total/NA	Water	680	549336
LCS 680-549336/8-A	Lab Control Sample	Total/NA	Water	680	549336
LCSD 680-549336/9-A	Lab Control Sample Dup	Total/NA	Water	680	549336

GC VOA

Analysis Batch: 356108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-104312-2	MRC-MW-135A-111218	Total/NA	Water	RSK-175	
MB 240-356108/35	Method Blank	Total/NA	Water	RSK-175	
LCS 240-356108/36	Lab Control Sample	Total/NA	Water	RSK-175	
240-104312-2 MS	MRC-MW-135A-111218	Total/NA	Water	RSK-175	
240-104312-2 MSD	MRC-MW-135A-111218	Total/NA	Water	RSK-175	

Metals

Prep Batch: 355373

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-104312-2	MRC-MW-135A-111218	Total Recoverable	Water	3005A	
MB 240-355373/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-355373/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-355373/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
240-104312-2 MS	MRC-MW-135A-111218	Total Recoverable	Water	3005A	
240-104312-2 MS	MRC-MW-135A-111218	Total Recoverable	Water	3005A	
240-104312-2 MSD	MRC-MW-135A-111218	Total Recoverable	Water	3005A	
240-104312-2 MSD	MRC-MW-135A-111218	Total Recoverable	Water	3005A	

Analysis Batch: 355599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-104312-2	MRC-MW-135A-111218	Total Recoverable	Water	6010C	355373
MB 240-355373/1-A	Method Blank	Total Recoverable	Water	6010C	355373
LCS 240-355373/2-A	Lab Control Sample	Total Recoverable	Water	6010C	355373
240-104312-2 MS	MRC-MW-135A-111218	Total Recoverable	Water	6010C	355373
240-104312-2 MSD	MRC-MW-135A-111218	Total Recoverable	Water	6010C	355373

Analysis Batch: 355756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-104312-2	MRC-MW-135A-111218	Total Recoverable	Water	6020A	355373
MB 240-355373/1-A	Method Blank	Total Recoverable	Water	6020A	355373
LCS 240-355373/3-A	Lab Control Sample	Total Recoverable	Water	6020A	355373
240-104312-2 MS	MRC-MW-135A-111218	Total Recoverable	Water	6020A	355373
240-104312-2 MSD	MRC-MW-135A-111218	Total Recoverable	Water	6020A	355373

General Chemistry

Analysis Batch: 263285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-104312-2	MRC-MW-135A-111218	Total/NA	Water	SM 2520B	
MB 180-263285/1	Method Blank	Total/NA	Water	SM 2520B	
240-104312-2 DU	MRC-MW-135A-111218	Total/NA	Water	SM 2520B	

Analysis Batch: 355650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-104312-2	MRC-MW-135A-111218	Total/NA	Water	2340C-2011	
MB 240-355650/1	Method Blank	Total/NA	Water	2340C-2011	
LCS 240-355650/2	Lab Control Sample	Total/NA	Water	2340C-2011	
240-104312-2 MS	MRC-MW-135A-111218	Total/NA	Water	2340C-2011	
240-104312-2 MSD	MRC-MW-135A-111218	Total/NA	Water	2340C-2011	

Analysis Batch: 355855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-104312-2	MRC-MW-135A-111218	Total/NA	Water	2540 C-2011	
MB 240-355855/1	Method Blank	Total/NA	Water	2540 C-2011	
LCS 240-355855/2	Lab Control Sample	Total/NA	Water	2540 C-2011	
240-104312-2 DU	MRC-MW-135A-111218	Total/NA	Water	2540 C-2011	

General Chemistry (Continued)

Analysis Batch: 356443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-104312-2	MRC-MW-135A-111218	Total/NA	Water	353.2	
MB 240-356443/4	Method Blank	Total/NA	Water	353.2	
LCS 240-356443/5	Lab Control Sample	Total/NA	Water	353.2	
240-104312-2 MS	MRC-MW-135A-111218	Total/NA	Water	353.2	
240-104312-2 MSD	MRC-MW-135A-111218	Total/NA	Water	353.2	

Analysis Batch: 356748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-104312-2	MRC-MW-135A-111218	Total/NA	Water	2320B-2011	
MB 240-356748/30	Method Blank	Total/NA	Water	2320B-2011	
LCS 240-356748/29	Lab Control Sample	Total/NA	Water	2320B-2011	
240-104312-2 DU	MRC-MW-135A-111218	Total/NA	Water	2320B-2011	

Analysis Batch: 356794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-104312-2	MRC-MW-135A-111218	Total/NA	Water	300.0	
240-104312-2	MRC-MW-135A-111218	Total/NA	Water	9056A	
MB 240-356794/3	Method Blank	Total/NA	Water	9056A	
LCS 240-356794/4	Lab Control Sample	Total/NA	Water	9056A	
240-104312-2 MS	MRC-MW-135A-111218	Total/NA	Water	300.0	
240-104312-2 MS	MRC-MW-135A-111218	Total/NA	Water	9056A	
240-104312-2 MSD	MRC-MW-135A-111218	Total/NA	Water	300.0	
240-104312-2 MSD	MRC-MW-135A-111218	Total/NA	Water	9056A	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: MRC Block F TCB Wells

TestAmerica Job ID: 240-104312-1

Client Sample ID: TB-111218

Lab Sample ID: 240-104312-1

Date Collected: 11/12/18 00:00

Matrix: Water

Date Received: 11/13/18 10:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	356400	11/20/18 21:31	TJL1	TAL CAN

Client Sample ID: MRC-MW-135A-111218

Lab Sample ID: 240-104312-2

Date Collected: 11/12/18 14:35

Matrix: Water

Date Received: 11/13/18 10:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	356400	11/20/18 21:53	TJL1	TAL CAN
Total/NA	Prep	680			547809	11/16/18 15:42	CEW	TAL SAV
Total/NA	Analysis	680		1	548241	11/21/18 14:40	NED	TAL SAV
Total/NA	Prep	680	RE		549336	11/29/18 10:00	CEW	TAL SAV
Total/NA	Analysis	680	RE	1	549800	12/03/18 12:52	NED	TAL SAV
Total/NA	Analysis	RSK-175		1	356108	11/20/18 00:35	LKG	TAL CAN
Total Recoverable	Prep	3005A			355373	11/14/18 14:00	MBB	TAL CAN
Total Recoverable	Analysis	6010C		1	355599	11/15/18 14:29	WKD	TAL CAN
Total Recoverable	Prep	3005A			355373	11/14/18 14:00	MBB	TAL CAN
Total Recoverable	Analysis	6020A		1	355756	11/15/18 13:59	RKT	TAL CAN
Total/NA	Analysis	2320B-2011		1	356748	11/21/18 14:14	JESW	TAL CAN
Total/NA	Analysis	2340C-2011		1	355650	11/15/18 15:59	JMB	TAL CAN
Total/NA	Analysis	2540 C-2011		1	355855	11/16/18 13:24	MAC	TAL CAN
Total/NA	Analysis	300.0		1	356794	11/24/18 02:09	JWW	TAL CAN
Total/NA	Analysis	353.2		1	356443	11/20/18 17:45	JMB	TAL CAN
Total/NA	Analysis	9056A		1	356794	11/24/18 02:09	JWW	TAL CAN
Total/NA	Analysis	SM 2520B		1	263285	11/19/18 12:48	CLL	TAL PIT

Laboratory References:

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

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

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

Method Summary

Client: Tetra Tech, Inc.
Project/Site: MRC Block F TCB Wells

TestAmerica Job ID: 240-104312-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL CAN
680	Polychlorinated Biphenyls (PCBs) (GC/MS)	EPA	TAL SAV
RSK-175	Dissolved Gases (GC)	RSK	TAL CAN
6010C	Metals (ICP)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
2320B-2011	Alkalinity, Total	SM	TAL CAN
2340C-2011	Hardness, Total	SM	TAL CAN
2540 C-2011	Total Dissolved Solids (Dried at 180 °C)	SM	TAL CAN
300.0	Anions, Ion Chromatography	MCAWW	TAL CAN
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL CAN
9056A	Anions, Ion Chromatography	SW846	TAL CAN
SM 2520B	Salinity, Electrical Conductivity	SM	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
5030C	Purge and Trap	SW846	TAL CAN
680	Liquid-Liquid Extraction (Separatory Funnel)	EPA	TAL SAV

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

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

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: MRC Block F TCB Wells

TestAmerica Job ID: 240-104312-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-104312-1	TB-111218	Water	11/12/18 00:00	11/13/18 10:35
240-104312-2	MRC-MW-135A-111218	Water	11/12/18 14:35	11/13/18 10:35

Method 8260C

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

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

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab File ID: bfb036.d BFB Injection Date: 07/24/2018

Instrument ID: A3UX19 BFB Injection Time: 17:22

Analysis Batch No.: 337766

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	21.1	
75	30.0 - 60.0 % of mass 95	53.5	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.8	
173	Less than 2.0 % of mass 174	1.1	(1.2) 1
174	50.0 - 120.00 % of mass 95	84.3	
175	5.0 - 9.0 % of mass 174	6.2	(7.4) 1
176	95.0 - 101.0 % of mass 174	80.7	(95.7) 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
	STD8260 240-337766/2	U1900783.d	07/24/2018	17:50
	STD8260 240-337766/3	U1900784.d	07/24/2018	18:13
	STD8260 240-337766/9	U1900790.d	07/24/2018	18:35
	ICIS 240-337766/10	U1900791.d	07/24/2018	18:57
	STD8260 240-337766/11	U1900792.d	07/24/2018	19:20
	STD8260 240-337766/12	U1900793.d	07/24/2018	19:42
	STD8260 240-337766/13	U1900794.d	07/24/2018	20:04

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

Lab Name: TestAmerica Canton Job No.: 240-104312-1 Analy Batch No.: 337766

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2018 17:50 Calibration End Date: 07/24/2018 20:04 Calibration ID: 46235

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-337766/13	U1900794.d
Level 2	STD8260 240-337766/12	U1900793.d
Level 3	STD8260 240-337766/11	U1900792.d
Level 4	ICIS 240-337766/10	U1900791.d
Level 5	STD8260 240-337766/9	U1900790.d
Level 6	STD8260 240-337766/3	U1900784.d
Level 7	STD8260 240-337766/2	U1900783.d

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.2985 0.3869	0.3275 0.3899	0.3189	0.3531	0.3613	Ave		0.3480			0.1000	10.0		20.0			
Chloromethane	0.3558 0.3258	0.3705 0.3191	0.3263	0.3392	0.3223	Ave		0.3370			0.1000	5.8		20.0			
Butadiene	0.3408 0.3374	0.3424 0.3377	0.2895	0.3248	0.3219	Ave		0.3278				5.7		20.0			
Vinyl chloride	0.2746 0.3390	0.3544 0.3374	0.3113	0.3366	0.3288	Ave		0.3260			0.1000	8.0		20.0			
Bromomethane	0.2749 0.2254	0.2866 0.2173	0.2405	0.2466	0.2251	Ave		0.2452			0.0500	10.8		20.0			
Chloroethane	0.2109 0.1921	0.2097 0.1854	0.1960	0.2032	0.1901	Ave		0.1982			0.0500	5.0		20.0			
Dichlorofluoromethane	0.5221 0.4475	0.4917 0.4372	0.4526	0.4727	0.4486	Ave		0.4675				6.5		20.0			
Trichlorofluoromethane	0.4494 0.4561	0.4680 0.4427	0.3932	0.4472	0.4396	Ave		0.4423			0.1000	5.3		20.0			
Ethyl ether	0.2193 0.1979	0.2111 0.1891	0.1902	0.1939	0.1890	Ave		0.1987				6.0		20.0			
Acrolein	0.0586 0.0546	0.0507 0.0535	0.0446	0.0490	0.0542	Ave		0.0522				8.7		20.0			
1,1-Dichloroethene	0.3808 0.3850	0.3828 0.3735	0.3902	0.3740	0.3655	Ave		0.3788			0.1000	2.2		20.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.2602 0.2706	0.2860 0.2683	0.2820	0.2661	0.2580	Ave		0.2702			0.0500	3.9		20.0			
Acetone	+++++ 0.0784	0.0790 0.0643	0.0549	0.0580	0.0606	Ave		0.0659			0.0100	15.8		20.0			
Iodomethane	0.4645 0.4649	0.4824 0.4542	0.4796	0.4736	0.4610	Ave		0.4686				2.2		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.: 240-104312-1 Analy Batch No.: 337766

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2018 17:50 Calibration End Date: 07/24/2018 20:04 Calibration ID: 46235

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon disulfide	1.0264 0.7904	0.9769 0.7703	0.8143	0.7839	0.7630	Ave		0.8465			0.1000	12.8		20.0			
3-Chloro-1-propene	0.4236 0.3955	0.4245 0.3845	0.3864	0.3828	0.3812	Ave		0.3969				4.8		20.0			
Methyl acetate	0.2893 0.2388	0.2199 0.2093	0.2069	0.2105	0.2113	Ave		0.2266			0.1000	13.1		20.0			
Methylene Chloride	+++++ 0.2977	0.3380 0.2854	0.3031	0.3009	0.2892	Ave		0.3024			0.1000	6.2		20.0			
2-Methyl-2-propanol	+++++ 0.0272	0.0286 +++++	0.0233	0.0231	0.0210	Ave		0.0246				12.8		20.0			
Acrylonitrile	0.1149 0.1149	0.0936 0.0991	0.0942	0.0985	0.1008	Ave		0.1023				8.8		20.0			
trans-1,2-Dichloroethene	0.4272 0.3621	0.3980 0.3508	0.3681	0.3544	0.3490	Ave		0.3728			0.1000	7.8		20.0			
Methyl tert-butyl ether	0.6889 0.7038	0.7226 0.6502	0.7037	0.7046	0.6888	Ave		0.6946			0.1000	3.3		20.0			
Hexane	0.4016 0.4127	0.4088 0.4136	0.4369	0.3839	0.3905	Ave		0.4069				4.3		20.0			
1,1-Dichloroethane	0.4297 0.4479	0.4309 0.4358	0.4483	0.4451	0.4391	Ave		0.4395			0.2000	1.8		20.0			
Vinyl acetate	0.4180 0.4211	0.3784 0.4083	0.3943	0.3850	0.3928	Ave		0.3997				4.1		20.0			
cis-1,2-Dichloroethene	0.3259 0.3058	0.3308 0.2928	0.3020	0.3030	0.2971	Ave		0.3082			0.1000	4.7		20.0			
2-Butanone (MEK)	+++++ 0.0411	0.0357 0.0381	0.0358	0.0358	0.0391	Ave		0.0376			0.0100	6.0		20.0			
2,2-Dichloropropane	0.2667 0.2404	0.2856 0.2633	0.2822	0.2661	0.2457	Ave		0.2643				6.4		20.0			
Chlorobromomethane	0.2447 0.2004	0.2207 0.1830	0.1878	0.1937	0.1884	Ave		0.2027				11.0		20.0			
Tetrahydrofuran	0.0995 0.1054	0.1040 0.0940	0.0907	0.0913	0.0950	Ave		0.0971				6.1		20.0			
Chloroform	0.4629 0.4616	0.4798 0.4429	0.4485	0.4541	0.4433	Ave		0.4561			0.2000	2.9		20.0			
1,1,1-Trichloroethane	0.3956 0.4177	0.3988 0.4154	0.4324	0.4070	0.4089	Ave		0.4108			0.1000	3.0		20.0			
Cyclohexane	0.4246 0.4364	0.4382 0.4292	0.4507	0.4156	0.4161	Ave		0.4301			0.1000	3.0		20.0			
1,1-Dichloropropene	0.3755 0.3758	0.3903 0.3692	0.3840	0.3595	0.3614	Ave		0.3737				3.0		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.: 240-104312-1 Analy Batch No.: 337766

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2018 17:50 Calibration End Date: 07/24/2018 20:04 Calibration ID: 46235

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon tetrachloride	0.3639 0.3981	0.3846 0.3917	0.3944	0.3722	0.3729	Ave		0.3825			0.1000	3.4		20.0			
Isobutyl alcohol	0.0095 0.0104	0.0071 0.0087	0.0088	0.0079	0.0092	Ave		0.0088				12.2		20.0			
Benzene	0.9890 1.0452	1.0827 1.0051	1.0373	1.0007	1.0215	Ave		1.0259			0.5000	3.1		20.0			
1,2-Dichloroethane	0.3674 0.3257	0.3549 0.3127	0.3205	0.3110	0.3150	Ave		0.3296			0.1000	6.8		20.0			
n-Heptane	+++++ 0.2252	0.7970 0.2266	0.2839	0.2324	0.2217	Lin1	0.5799	0.2147				4.3			0.9990		0.9900
Trichloroethene	0.3122 0.3167	0.3258 0.3140	0.3258	0.3068	0.3105	Ave		0.3160			0.1500	2.3		20.0			
Methylcyclohexane	0.4985 0.5342	0.5073 0.5200	0.5394	0.4970	0.4957	Ave		0.5132			0.1000	3.6		20.0			
1,2-Dichloropropane	0.2050 0.2404	0.2394 0.2326	0.2309	0.2270	0.2376	Ave		0.2304			0.1000	5.3		20.0			
Dibromomethane	0.2379 0.2151	0.2154 0.2010	0.2009	0.2115	0.2105	Ave		0.2132				5.8		20.0			
1,4-Dioxane	+++++ 0.0024	0.0017 0.0024	0.0024	0.0024	0.0023	Ave		0.0023				13.5		20.0			
Dichlorobromomethane	0.3232 0.3408	0.3027 0.3295	0.3203	0.3127	0.3310	Ave		0.3229			0.1500	3.9		20.0			
2-Chloroethyl vinyl ether	0.1601 0.1755	0.1580 0.1783	0.1797	0.1698	0.1774	Ave		0.1713				5.2		20.0			
cis-1,3-Dichloropropene	0.3599 0.3873	0.3811 0.3872	0.3686	0.3735	0.3865	Ave		0.3777			0.1500	2.8		20.0			
4-Methyl-2-pentanone (MIBK)	0.2834 0.3221	0.2998 0.3046	0.3240	0.2983	0.3095	Ave		0.3059			0.0500	4.6		20.0			
Toluene	1.5618 1.4027	1.4672 1.4180	1.4098	1.3276	1.3894	Ave		1.4252			0.4000	5.1		20.0			
trans-1,3-Dichloropropene	0.4760 0.4702	0.4587 0.4631	0.4478	0.4252	0.4649	Ave		0.4580			0.1000	3.7		20.0			
Ethyl methacrylate	0.4185 0.4604	0.4061 0.4531	0.4309	0.4112	0.4583	Ave		0.4341				5.3		20.0			
1,1,2-Trichloroethane	0.2547 0.2895	0.2773 0.2862	0.2834	0.2725	0.2908	Ave		0.2792			0.1000	4.5		20.0			
Tetrachloroethene	0.4086 0.4320	0.4228 0.4317	0.4309	0.4048	0.4173	Ave		0.4212			0.1500	2.7		20.0			
1,3-Dichloropropane	0.4853 0.4890	0.5028 0.4855	0.4893	0.4635	0.4865	Ave		0.4860				2.4		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.: 240-104312-1 Analy Batch No.: 337766

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2018 17:50 Calibration End Date: 07/24/2018 20:04 Calibration ID: 46235

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
2-Hexanone	0.2860 0.3061	0.2740 0.2989	0.3048	0.2770	0.2999	Ave		0.2924			0.0500	4.5		20.0			
Chlorodibromomethane	0.3153 0.3531	0.3347 0.3456	0.3254	0.3197	0.3424	Ave		0.3337				4.2		20.0			
Ethylene Dibromide	0.3316 0.3186	0.3371 0.3125	0.3153	0.3013	0.3163	Ave		0.3190				3.8		20.0			
Chlorobenzene	0.9988 0.9439	1.0195 0.9268	0.9392	0.9052	0.9346	Ave		0.9526			0.3000	4.3		20.0			
1,1,1,2-Tetrachloroethane	0.2852 0.3466	0.3288 0.3341	0.3290	0.3310	0.3341	Ave		0.3270				5.9		20.0			
Ethylbenzene	0.4594 0.5246	0.5226 0.5211	0.5127	0.4996	0.5108	Ave		0.5073				4.5		20.0			
m-Xylene & p-Xylene	0.6169 0.6437	0.6148 0.6359	0.6355	0.6137	0.6232	Ave		0.6262				1.9		20.0			
o-Xylene	0.5941 0.6233	0.5896 0.6029	0.6245	0.6014	0.5968	Ave		0.6047				2.3		20.0			
Styrene	0.9580 1.0545	0.9583 1.0320	1.0135	0.9872	1.0201	Ave		1.0034			0.3000	3.7		20.0			
Bromoform	+++++ 0.2846	0.2440 0.2826	0.2606	0.2566	0.2726	Ave		0.2668			0.1000	6.0		20.0			
Isopropylbenzene	1.5546 1.6483	1.5581 1.6164	1.6482	1.5866	1.5868	Ave		1.5999			0.1000	2.4		20.0			
1,1,2,2-Tetrachloroethane	0.7561 0.8073	0.8321 0.7913	0.8175	0.7659	0.8099	Ave		0.7972			0.3000	3.5		20.0			
Bromobenzene	0.8153 0.7490	0.7267 0.7427	0.7731	0.7237	0.7577	Ave		0.7555				4.2		20.0			
1,2,3-Trichloropropane	0.3160 0.2796	0.2566 0.2769	0.2966	0.2651	0.2852	Ave		0.2823				7.0		20.0			
trans-1,4-Dichloro-2-butene	0.2699 0.2473	0.2213 0.2516	0.2435	0.2261	0.2517	Ave		0.2445				6.7		20.0			
N-Propylbenzene	0.7798 0.8210	0.7523 0.8202	0.8514	0.7731	0.8029	Ave		0.8001				4.2		20.0			
2-Chlorotoluene	0.6509 0.6957	0.7125 0.6833	0.7132	0.6770	0.6858	Ave		0.6883				3.1		20.0			
1,3,5-Trimethylbenzene	2.0585 2.3418	2.1282 2.3386	2.4321	2.2627	2.2905	Ave		2.2646				5.7		20.0			
4-Chlorotoluene	0.7199 0.7173	0.7260 0.7141	0.7528	0.6936	0.7171	Ave		0.7201				2.4		20.0			
tert-Butylbenzene	2.0893 2.2086	2.2305 2.1805	2.3049	2.0958	2.1272	Ave		2.1767				3.6		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.: 240-104312-1 Analy Batch No.: 337766

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2018 17:50 Calibration End Date: 07/24/2018 20:04 Calibration ID: 46235

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,2,4-Trimethylbenzene	2.3016 2.3641	2.3139 2.3974	2.4350	2.3225	2.3165	Ave		2.3501				2.1		20.0			
sec-Butylbenzene	2.8312 3.0965	2.8639 3.1341	3.2011	2.9684	2.9595	Ave		3.0078				4.6		20.0			
1,3-Dichlorobenzene	1.6206 1.4203	1.5501 1.4165	1.4543	1.3821	1.4074	Ave		1.4645			0.6000	6.0		20.0			
4-Isopropyltoluene	2.3868 2.6740	2.3755 2.7456	2.7383	2.5786	2.5586	Ave		2.5796				5.9		20.0			
1,4-Dichlorobenzene	1.7882 1.4335	1.6574 1.4328	1.4853	1.4002	1.4320	Ave		1.5185			0.5000	9.7		20.0			
n-Butylbenzene	2.0220 2.3242	2.1252 2.3914	2.3447	2.2111	2.1782	Ave		2.2281				5.9		20.0			
1,2-Dichlorobenzene	1.3936 1.3079	1.4283 1.3217	1.3446	1.2913	1.2861	Ave		1.3391			0.4000	4.0		20.0			
1,2-Dibromo-3-Chloropropane	0.2394 0.2501	0.2225 0.2556	0.2287	0.2293	0.2369	Ave		0.2375			0.0500	5.0		20.0			
1,2,4-Trichlorobenzene	1.0063 0.8577	1.0084 0.9508	0.8893	0.8765	0.8484	Ave		0.9196			0.2000	7.4		20.0			
Hexachlorobutadiene	0.4988 0.4431	0.5134 0.5128	0.4874	0.4604	0.4444	Ave		0.4800				6.4		20.0			
Naphthalene	2.5280 2.5374	2.6896 2.7560	2.5594	2.5256	2.5586	Ave		2.5935				3.5		20.0			
1,2,3-Trichlorobenzene	0.8270 0.7867	0.8451 0.9084	0.8355	0.8114	0.8072	Ave		0.8316				4.7		20.0			
Dibromofluoromethane (Surr)	0.2924 0.2586	0.2650 0.2453	0.2515	0.2531	0.2466	Ave		0.2589				6.3		20.0			
1,2-Dichloroethane-d4 (Surr)	0.3213 0.2669	0.3001 0.2485	0.2625	0.2659	0.2555	Ave		0.2744				9.6		20.0			
Toluene-d8 (Surr)	1.2522 1.2151	1.2033 1.2031	1.2111	1.1433	1.2004	Ave		1.2041				2.7		20.0			
4-Bromofluorobenzene (Surr)	0.5696 0.4390	0.4918 0.4279	0.4472	0.4315	0.4318	Ave		0.4627				11.2		20.0			

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

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

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab File ID: bfb037.d BFB Injection Date: 07/25/2018

Instrument ID: A3UX19 BFB Injection Time: 11:28

Analysis Batch No.: 337917

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	21.4	
75	30.0 - 60.0 % of mass 95	52.5	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.8	
173	Less than 2.0 % of mass 174	1.1	(1.3) 1
174	50.0 - 120.00 % of mass 95	82.7	
175	5.0 - 9.0 % of mass 174	6.4	(7.8) 1
176	95.0 - 101.0 % of mass 174	80.3	(97.1) 1
177	5.0 - 9.0 % of mass 176	5.2	(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
	STDA9 240-337917/8	U1900802.d	07/25/2018	13:24
	STDA9 240-337917/9	U1900803.d	07/25/2018	13:46
	STDA9 240-337917/10	U1900804.d	07/25/2018	14:08
	STDA9 240-337917/11	U1900805.d	07/25/2018	14:30
	STDA9 240-337917/12	U1900806.d	07/25/2018	14:52
	STDA9 240-337917/13	U1900807.d	07/25/2018	15:15
	ICV 240-337917/14	U1900808.d	07/25/2018	15:37

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

Lab Name: TestAmerica Canton Job No.: 240-104312-1 Analy Batch No.: 337917

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/25/2018 13:24 Calibration End Date: 07/25/2018 15:15 Calibration ID: 46243

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDA9 240-337917/13	U1900807.d
Level 2	STDA9 240-337917/12	U1900806.d
Level 3	STDA9 240-337917/11	U1900805.d
Level 4	STDA9 240-337917/10	U1900804.d
Level 5	STDA9 240-337917/9	U1900803.d
Level 6	STDA9 240-337917/8	U1900802.d

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								
Acetonitrile	0.0267 0.0420	0.0243	0.0339	0.0383	0.0393	Lin1	-0.123	0.0406				15.8			0.9970		0.9900
Diisopropyl ether	0.2480 0.2295	0.2266	0.2186	0.2314	0.2335	Ave		0.2313				4.2		20.0			
2-Chloro-1,3-butadiene	0.4103 0.4183	0.3468	0.3861	0.4073	0.4185	Ave		0.3979				7.0		20.0			
Ethyl tert-butyl ether	0.6986 0.7570	0.7116	0.6979	0.7473	0.7423	Ave		0.7258				3.6		20.0			
Ethyl acetate	0.3112 0.3333	0.2920	0.2787	0.2931	0.2963	Ave		0.3007				6.3		20.0			
Propionitrile	0.0310 0.0489	0.0345	0.0381	0.0469	0.0451	Ave		0.0408				17.8		20.0			
Methacrylonitrile	0.1725 0.1953	0.1825	0.1747	0.1831	0.1889	Ave		0.1828				4.7		20.0			
Tert-amyl methyl ether	0.7358 0.8075	0.7777	0.7365	0.7842	0.7786	Ave		0.7700				3.7		20.0			
n-Butanol	0.0093 0.0103	0.0088	0.0085	0.0096	0.0096	Ave		0.0094				7.2		20.0			
Ethyl acrylate	0.3503 0.4100	0.3368	0.3674	0.3811	0.3761	Ave		0.3703				6.9		20.0			
Methyl methacrylate	0.2597 0.2591	0.2305	0.2383	0.2454	0.2423	Ave		0.2459				4.7		20.0			
2-Nitropropane	0.0701 0.0817	0.0670	0.0681	0.0750	0.0735	Ave		0.0726				7.5		20.0			
n-Butyl acetate	0.5119 0.5820	0.5042	0.5279	0.5447	0.5478	Ave		0.5364				5.3		20.0			
1-Chlorohexane	0.5172 0.4745	0.4432	0.4302	0.4451	0.4558	Ave		0.4610				6.8		20.0			
Cyclohexanone	0.0133 0.0157	0.0130	0.0126	0.0136	0.0138	Ave		0.0137				7.9		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.: 240-104312-1 Analy Batch No.: 337917

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/25/2018 13:24 Calibration End Date: 07/25/2018 15:15 Calibration ID: 46243

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	0.3347 0.3690	0.3068	0.3632	0.3574	0.3461	Ave		0.3462				6.6		20.0			
1,2,3-Trimethylbenzene	2.1501 2.3751	2.2616	2.2092	2.3745	2.2840	Ave		2.2757				3.9		20.0			
Benzyl chloride	1.0405 1.5547	1.1450	1.1839	1.3693	1.4244	Ave		1.2863				15.1		20.0			
1,3,5-Trichlorobenzene	1.0658 1.0430	1.1076	0.9448	1.0009	0.9668	Ave		1.0215				6.1		20.0			
2-Methylnaphthalene	1.2994 1.8015	1.3689	1.2543	1.3185	1.5534	Ave		1.4327				14.6		20.0			
1-Chloro-1-fluoroethane TIC	0.2622 0.2664	0.2640	0.2502	0.2645	0.2646	Ave		0.2620				2.3		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.: 240-104312-1

SDG No.:

Lab Sample ID: ICV 240-337917/14 Calibration Date: 07/25/2018 15:37

Instrument ID: A3UX19 Calib Start Date: 07/24/2018 17:50

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 07/24/2018 20:04

Lab File ID: U1900808.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
Dibromofluoromethane (Surr)	Ave	0.2589	0.2758		0.0213	0.0200	6.5	30.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2744	0.2888		0.0211	0.0200	5.3	30.0
Toluene-d8 (Surr)	Ave	1.204	1.258		0.0209	0.0200	4.5	30.0
4-Bromofluorobenzene (Surr)	Ave	0.4627	0.4749		0.0205	0.0200	2.6	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: ICV 240-337917/14 Calibration Date: 07/25/2018 15:37

Instrument ID: A3UX19 Calib Start Date: 07/25/2018 13:24

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 07/25/2018 15:15

Lab File ID: U1900808.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	Lin1		0.0327		0.164	0.200	-17.8	30.0
Diisopropyl ether	Ave	0.2313	0.2381		0.0206	0.0200	3.0	30.0
2-Chloro-1,3-butadiene	Ave	0.3979	0.4016		0.0202	0.0200	0.9	30.0
Ethyl tert-butyl ether	Ave	0.7258	0.7451		0.0205	0.0200	2.7	30.0
Ethyl acetate	Ave	0.3007	0.2753		0.0366	0.0400	-8.5	50.0
Propionitrile	Ave	0.0408	0.0395		0.194	0.200	-3.0	30.0
Methacrylonitrile	Ave	0.1828	0.1926		0.211	0.200	5.3	30.0
Tert-amyl methyl ether	Ave	0.7700	0.7828		0.0203	0.0200	1.7	30.0
n-Butanol	Ave	0.0094	0.0086		0.457	0.500	-8.6	30.0
Ethyl acrylate	Ave	0.3703	0.3736		0.0202	0.0200	0.9	30.0
Methyl methacrylate	Ave	0.2459	0.2495		0.0406	0.0400	1.5	30.0
2-Nitropropane	Ave	0.0726	0.0727		0.0400	0.0400	0.1	30.0
n-Butyl acetate	Ave	0.5364	0.5464		0.0204	0.0200	1.9	30.0
1-Chlorohexane	Ave	0.4610	0.4451		0.0193	0.0200	-3.4	30.0
Cyclohexanone	Ave	0.0137	0.0138		0.202	0.200	1.0	30.0
Pentachloroethane	Ave	0.3462	0.3376		0.0390	0.0400	-2.5	30.0
1,2,3-Trimethylbenzene	Ave	2.276	2.407		0.0212	0.0200	5.8	30.0
Benzyl chloride	Ave	1.286	1.208		0.0188	0.0200	-6.1	30.0
1,3,5-Trichlorobenzene	Ave	1.021	1.003		0.0196	0.0200	-1.8	30.0
2-Methylnaphthalene	Ave	1.433	1.388		0.0388	0.0400	-3.1	30.0

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

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab File ID: bfb058.d BFB Injection Date: 08/27/2018

Instrument ID: A3UX19 BFB Injection Time: 16:23

Analysis Batch No.: 342719

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	17.5	
75	30.0 - 60.0 % of mass 95	49.5	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.5	
173	Less than 2.0 % of mass 174	0.6	(0.6) 1
174	50.0 - 120.00 % of mass 95	94.9	
175	5.0 - 9.0 % of mass 174	7.3	(7.7) 1
176	95.0 - 101.0 % of mass 174	92.7	(97.7) 1
177	5.0 - 9.0 % of mass 176	5.9	(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
	STD8260 240-342719/7	U1901323.d	08/27/2018	17:09
	STD8260 240-342719/8	U1901324.d	08/27/2018	17:31
	STD8260 240-342719/9	U1901325.d	08/27/2018	17:53
	ICIS 240-342719/10	U1901326.d	08/27/2018	18:16
	STD8260 240-342719/11	U1901327.d	08/27/2018	18:38
	STD8260 240-342719/12	U1901328.d	08/27/2018	19:01
	STD8260 240-342719/13	U1901329.d	08/27/2018	19:23
	ICV 240-342719/14	U1901330.d	08/27/2018	19:45

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

Lab Name: TestAmerica Canton Job No.: 240-104312-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-342719/13	U1901329.d
Level 2	STD8260 240-342719/12	U1901328.d
Level 3	STD8260 240-342719/11	U1901327.d
Level 4	ICIS 240-342719/10	U1901326.d
Level 5	STD8260 240-342719/9	U1901325.d
Level 6	STD8260 240-342719/8	U1901324.d
Level 7	STD8260 240-342719/7	U1901323.d

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.3252 0.4073	0.3858 0.4041	0.3902	0.3772	0.4052	Ave		0.3850			0.1000	7.5		20.0			
Chloromethane	0.3476 0.2860	0.2731 0.2757	0.2817	0.2748	0.2796	Ave		0.2883			0.1000	9.2		20.0			
Butadiene	0.2863 0.2923	0.2971 0.2827	0.2967	0.2831	0.2826	Ave		0.2887				2.3		20.0			
Vinyl chloride	0.2799 0.3039	0.3000 0.2955	0.3102	0.2950	0.3013	Ave		0.2980			0.1000	3.2		20.0			
Bromomethane	0.2530 0.2308	0.2391 0.2251	0.2340	0.2259	0.2264	Ave		0.2335			0.0500	4.3		20.0			
Chloroethane	0.2052 0.1842	0.1766 0.1812	0.1882	0.1779	0.1807	Ave		0.1848			0.0500	5.3		20.0			
Dichlorofluoromethane	0.4944 0.4514	0.4567 0.4411	0.4677	0.4468	0.4490	Ave		0.4581				3.9		20.0			
Trichlorofluoromethane	0.4941 0.5030	0.4893 0.4931	0.5122	0.4967	0.5003	Ave		0.4984			0.1000	1.5		20.0			
Ethyl ether	0.1731 0.1798	0.1898 0.1760	0.1849	0.1771	0.1791	Ave		0.1800				3.1		20.0			
Acrolein	0.0495 0.0430	0.0446 0.0441	0.0420	0.0454	0.0427	Ave		0.0445				5.6		20.0			
1,1-Dichloroethene	0.3476 0.3661	0.3473 0.3597	0.3727	0.3582	0.3610	Ave		0.3589			0.1000	2.6		20.0			
1,1,2-Trichlorotrifluoroethane	0.2493 0.2658	0.2366 0.2616	0.2651	0.2563	0.2622	Ave		0.2567			0.0500	4.1		20.0			
Acetone	+++++ 0.0747	0.0941 0.0735	0.0766	0.0752	0.0764	Ave		0.0784			0.0100	9.9		20.0			
Iodomethane	0.4872 0.4597	0.4730 0.4538	0.4730	0.4575	0.4539	Ave		0.4655				2.7		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.: 240-104312-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon disulfide	0.8746 0.7168	0.8257 0.7023	0.7362	0.7031	0.7015	Ave		0.7515			0.1000	9.3		20.0			
3-Chloro-1-propene	0.3735 0.3489	0.3837 0.3396	0.3586	0.3361	0.3385	Ave		0.3541				5.3		20.0			
Methyl acetate	0.2638 0.2201	0.2366 0.2157	0.2398	0.2267	0.2267	Ave		0.2328			0.1000	6.9		20.0			
Methylene Chloride	+++++ 0.2751	0.3184 0.2694	0.2925	0.2792	0.2733	Ave		0.2846			0.1000	6.5		20.0			
tert-Butyl alcohol	0.0302 0.0245	0.0277 0.0251	0.0284	0.0260	0.0277	Ave		0.0271				7.4		20.0			
Acrylonitrile	0.1006 0.0983	0.1046 0.0951	0.1079	0.0977	0.0997	Ave		0.1006				4.3		20.0			
trans-1,2-Dichloroethene	0.3568 0.3338	0.3540 0.3216	0.3508	0.3269	0.3267	Ave		0.3387			0.1000	4.4		20.0			
Methyl tert-butyl ether	0.6459 0.7174	0.6970 0.7172	0.7178	0.6715	0.6899	Ave		0.6938			0.1000	3.9		20.0			
Hexane	0.3287 0.3643	0.3216 0.3693	0.3652	0.3577	0.3600	Ave		0.3524				5.4		20.0			
1,1-Dichloroethane	0.3877 0.4112	0.4141 0.3990	0.4182	0.3989	0.4043	Ave		0.4048			0.2000	2.6		20.0			
Vinyl acetate	0.4652 0.4557	0.4582 0.4625	0.4853	0.4584	0.4619	Ave		0.4639				2.1		20.0			
cis-1,2-Dichloroethene	0.3057 0.2869	0.2992 0.2782	0.2948	0.2801	0.2786	Ave		0.2891			0.1000	3.8		20.0			
2,2-Dichloropropane	0.2469 0.2502	0.2497 0.2458	0.2443	0.2181	0.2515	Ave		0.2438				4.8		20.0			
2-Butanone (MEK)	0.0487 0.0444	0.0481 0.0466	0.0506	0.0457	0.0465	Ave		0.0472			0.0100	4.3		20.0			
Bromochloromethane	0.2347 0.1831	0.2161 0.1713	0.1973	0.1804	0.1790	Ave		0.1945				11.9		20.0			
Tetrahydrofuran	+++++ 0.0978	0.2111 0.0981	0.1202	0.1027	0.1037	Lin1	0.2460	0.0976				7.4			0.9990		0.9900
Chloroform	0.4336 0.4423	0.4430 0.4326	0.4702	0.4398	0.4415	Ave		0.4433			0.2000	2.8		20.0			
1,1,1-Trichloroethane	0.3739 0.4296	0.4106 0.4262	0.4442	0.4096	0.4275	Ave		0.4174			0.1000	5.4		20.0			
Cyclohexane	0.3499 0.3999	0.3515 0.3986	0.3944	0.3825	0.3967	Ave		0.3819			0.1000	5.8		20.0			
1,1-Dichloropropene	0.3411 0.3565	0.3509 0.3499	0.3664	0.3469	0.3516	Ave		0.3519				2.3		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.: 240-104312-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon tetrachloride	0.3818 0.4136	0.3781 0.4121	0.4219	0.3956	0.4130	Ave		0.4023			0.1000	4.3		20.0			
Isobutyl alcohol	0.0122 0.0101	0.0118 0.0103	0.0107	0.0108	0.0111	Ave		0.0110				7.0		20.0			
Benzene	0.9270 0.9480	0.9546 0.9366	1.0106	0.9431	0.9423	Ave		0.9518			0.5000	2.9		20.0			
1,2-Dichloroethane	0.3794 0.3459	0.3845 0.3369	0.3743	0.3513	0.3479	Ave		0.3600			0.1000	5.2		20.0			
n-Heptane	+++++ 0.1978	0.8214 0.1912	0.2589	0.2169	0.2053	Lin1	0.6437	0.1861				3.4			1.0000		0.9900
Trichloroethene	0.3334 0.3137	0.3081 0.3106	0.3277	0.3076	0.3109	Ave		0.3160			0.1500	3.3		20.0			
Methylcyclohexane	0.4282 0.4825	0.4267 0.4698	0.4724	0.4580	0.4751	Ave		0.4590			0.1000	5.0		20.0			
1,2-Dichloropropane	0.2171 0.2187	0.2141 0.2164	0.2362	0.2209	0.2218	Ave		0.2208			0.1000	3.3		20.0			
Dibromomethane	0.2410 0.2204	0.2408 0.2155	0.2336	0.2191	0.2191	Ave		0.2271				4.9		20.0			
1,4-Dioxane	+++++ 0.0025	0.0016 0.0027	0.0021	0.0026	0.0028	Ave		0.0024				17.9		20.0			
Bromodichloromethane	0.3399 0.3440	0.3630 0.3379	0.3620	0.3462	0.3426	Ave		0.3479			0.1500	3.0		20.0			
2-Chloroethyl vinyl ether	0.1593 0.1741	0.1654 0.1828	0.1943	0.1818	0.1815	Ave		0.1770				6.6		20.0			
cis-1,3-Dichloropropene	0.3743 0.3841	0.3867 0.3870	0.4032	0.3827	0.3872	Ave		0.3865			0.1500	2.2		20.0			
4-Methyl-2-pentanone (MIBK)	0.3150 0.3064	0.3110 0.3144	0.3487	0.3229	0.3240	Ave		0.3203			0.0500	4.4		20.0			
Toluene	1.3762 1.3312	1.3706 1.3223	1.4018	1.3282	1.3309	Ave		1.3516			0.4000	2.3		20.0			
trans-1,3-Dichloropropene	0.4999 0.4712	0.5033 0.4805	0.4835	0.4641	0.4704	Ave		0.4818			0.1000	3.1		20.0			
Ethyl methacrylate	0.3824 0.4408	0.4001 0.4600	0.4577	0.4462	0.4540	Ave		0.4344				7.1		20.0			
1,1,2-Trichloroethane	0.2808 0.2823	0.2821 0.2821	0.2973	0.2798	0.2847	Ave		0.2842			0.1000	2.1		20.0			
Tetrachloroethene	0.4234 0.4375	0.4194 0.4317	0.4508	0.4248	0.4314	Ave		0.4313			0.1500	2.4		20.0			
1,3-Dichloropropane	0.4988 0.4724	0.4733 0.4772	0.5009	0.4686	0.4705	Ave		0.4802				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.: 240-104312-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
2-Hexanone	0.2781 0.3092	0.3020 0.3219	0.3438	0.3247	0.3245	Ave		0.3149			0.0500	6.6		20.0			
Chlorodibromomethane	0.3308 0.3663	0.3497 0.3646	0.3736	0.3604	0.3630	Ave		0.3583				3.9		20.0			
1,2-Dibromoethane	0.3770 0.3214	0.3321 0.3219	0.3422	0.3286	0.3194	Ave		0.3346				6.1		20.0			
Chlorobenzene	0.9370 0.9055	0.9832 0.8914	0.9544	0.9002	0.9056	Ave		0.9253			0.3000	3.7		20.0			
1,1,1,2-Tetrachloroethane	0.3225 0.3380	0.3313 0.3315	0.3490	0.3282	0.3347	Ave		0.3336				2.5		20.0			
Ethylbenzene	0.4566 0.4899	0.4640 0.4838	0.5159	0.4863	0.4886	Ave		0.4836				4.0		20.0			
m-Xylene & p-Xylene	0.5709 0.5980	0.5535 0.5943	0.6142	0.5959	0.5965	Ave		0.5890				3.4		20.0			
o-Xylene	0.5188 0.5706	0.5578 0.5579	0.5806	0.5638	0.5683	Ave		0.5597				3.5		20.0			
Styrene	0.8915 0.9829	0.9056 0.9730	1.0088	0.9699	0.9794	Ave		0.9588			0.3000	4.5		20.0			
Bromoform	0.2892 0.2933	0.2907 0.2979	0.3020	0.2847	0.2951	Ave		0.2933			0.1000	2.0		20.0			
Isopropylbenzene	1.3694 1.5447	1.4922 1.4942	1.5808	1.5060	1.5314	Ave		1.5027			0.1000	4.4		20.0			
1,1,2,2-Tetrachloroethane	0.7123 0.7674	0.7872 0.7661	0.8261	0.7624	0.7730	Ave		0.7706			0.3000	4.4		20.0			
Bromobenzene	0.7562 0.7639	0.7920 0.7473	0.8125	0.7532	0.7575	Ave		0.7690				3.1		20.0			
1,2,3-Trichloropropane	0.2805 0.2866	0.2903 0.2882	0.3178	0.2884	0.2929	Ave		0.2921				4.1		20.0			
trans-1,4-Dichloro-2-butene	+++++ 0.2667	0.2763 0.2751	0.2902	0.2665	0.2675	Ave		0.2737				3.3		20.0			
N-Propylbenzene	0.7009 0.7973	0.7492 0.7772	0.8251	0.7710	0.7894	Ave		0.7729				5.1		20.0			
2-Chlorotoluene	0.6131 0.6732	0.6212 0.6509	0.7079	0.6539	0.6587	Ave		0.6541				4.9		20.0			
1,3,5-Trimethylbenzene	2.1099 2.2883	2.1099 2.2183	2.3988	2.1936	2.2594	Ave		2.2255				4.6		20.0			
4-Chlorotoluene	0.7307 0.7048	0.6944 0.6840	0.7470	0.7010	0.6888	Ave		0.7072				3.3		20.0			
tert-Butylbenzene	1.9093 2.2037	2.0260 2.1009	2.2785	2.0983	2.1715	Ave		2.1126				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.: 240-104312-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,2,4-Trimethylbenzene	2.0996 2.3002	2.2590 2.2368	2.3762	2.2406	2.2826	Ave		2.2564				3.7		20.0			
sec-Butylbenzene	2.5921 3.0046	2.6994 2.8685	2.9965	2.8235	2.9285	Ave		2.8447				5.4		20.0			
1,3-Dichlorobenzene	1.4791 1.3933	1.5035 1.3394	1.4385	1.3676	1.3647	Ave		1.4123			0.6000	4.4		20.0			
4-Isopropyltoluene	2.2955 2.5970	2.3910 2.5362	2.6099	2.4625	2.5496	Ave		2.4917				4.6		20.0			
1,4-Dichlorobenzene	1.6054 1.4113	1.5675 1.3669	1.4816	1.3825	1.3984	Ave		1.4591			0.5000	6.5		20.0			
n-Butylbenzene	1.8944 2.1259	2.0232 2.0712	2.1091	2.0276	2.0953	Ave		2.0495				3.8		20.0			
1,2-Dichlorobenzene	1.3437 1.2534	1.3687 1.2318	1.3105	1.2348	1.2330	Ave		1.2823			0.4000	4.5		20.0			
1,2-Dibromo-3-Chloropropane	0.2630 0.2491	0.2219 0.2547	0.2430	0.2371	0.2465	Ave		0.2450			0.0500	5.4		20.0			
1,2,4-Trichlorobenzene	0.9409 0.8412	0.9494 0.8737	0.8099	0.7792	0.7909	Ave		0.8550			0.2000	8.1		20.0			
Hexachlorobutadiene	0.4751 0.4459	0.4859 0.4196	0.4201	0.4076	0.4202	Ave		0.4392				7.0		20.0			
Naphthalene	+++++ 2.4081	2.5248 2.5673	2.2519	2.1428	2.2829	Ave		2.3630				7.0		20.0			
1,2,3-Trichlorobenzene	0.7893 0.7724	0.8277 0.8517	0.7383	0.6846	0.7103	Ave		0.7677				7.9		20.0			
Dibromofluoromethane (Surr)	0.2950 0.2630	0.2820 0.2531	0.2707	0.2587	0.2619	Ave		0.2692				5.5		20.0			
1,2-Dichloroethane-d4 (Surr)	0.3515 0.2903	0.3408 0.2779	0.3137	0.2940	0.2963	Ave		0.3092				8.9		20.0			
Toluene-d8 (Surr)	1.2799 1.1805	1.2018 1.1653	1.2236	1.1594	1.1844	Ave		1.1993				3.5		20.0			
4-Bromofluorobenzene (Surr)	0.5295 0.4325	0.4716 0.4172	0.4467	0.4309	0.4307	Ave		0.4513				8.5		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.: 240-104312-1

SDG No.:

Lab Sample ID: ICV 240-342719/14 Calibration Date: 08/27/2018 19:45

Instrument ID: A3UX19 Calib Start Date: 08/27/2018 17:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 19:23

Lab File ID: U1901330.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	0.3850	0.2913	0.1000	0.0151	0.0200	-24.3	30.0
Chloromethane	Ave	0.2883	0.2492	0.1000	0.0173	0.0200	-13.6	30.0
Butadiene	Ave	0.2887	0.2477		0.0172	0.0200	-14.2	30.0
Vinyl chloride	Ave	0.2980	0.2874	0.1000	0.0193	0.0200	-3.5	30.0
Bromomethane	Ave	0.2335	0.2187	0.0500	0.0187	0.0200	-6.3	30.0
Chloroethane	Ave	0.1848	0.1799	0.0500	0.0195	0.0200	-2.7	30.0
Dichlorofluoromethane	Ave	0.4581	0.4762		0.0208	0.0200	3.9	30.0
Trichlorofluoromethane	Ave	0.4984	0.5062	0.1000	0.0203	0.0200	1.6	30.0
Ethyl ether	Ave	0.1800	0.1933		0.0215	0.0200	7.4	30.0
Acrolein	Ave	0.0445	0.0361		0.0812	0.100	-18.8	50.0
1,1-Dichloroethene	Ave	0.3589	0.3889	0.1000	0.0217	0.0200	8.3	30.0
1,1,2-Trichlorotrifluoroethane	Ave	0.2567	0.2852	0.0500	0.0222	0.0200	11.1	30.0
Acetone	Ave	0.0784	0.0730	0.0100	0.0372	0.0400	-6.9	50.0
Iodomethane	Ave	0.4655	0.4827		0.0207	0.0200	3.7	30.0
Carbon disulfide	Ave	0.7515	0.7522	0.1000	0.0200	0.0200	0.0	30.0
3-Chloro-1-propene	Ave	0.3541	0.3611		0.0204	0.0200	2.0	30.0
Methyl acetate	Ave	0.2328	0.2202	0.1000	0.0378	0.0400	-5.4	30.0
Methylene Chloride	Ave	0.2846	0.2847	0.1000	0.0200	0.0200	0.0	50.0
tert-Butyl alcohol	Ave	0.0271	0.0283		0.209	0.200	4.3	50.0
Acrylonitrile	Ave	0.1006	0.1020		0.203	0.200	1.4	30.0
Methyl tert-butyl ether	Ave	0.6938	0.7063	0.1000	0.0204	0.0200	1.8	30.0
trans-1,2-Dichloroethene	Ave	0.3387	0.3554	0.1000	0.0210	0.0200	4.9	30.0
Hexane	Ave	0.3524	0.3872		0.0220	0.0200	9.9	30.0
1,1-Dichloroethane	Ave	0.4048	0.4171	0.2000	0.0206	0.0200	3.0	30.0
Vinyl acetate	Ave	0.4639	0.5080		0.0219	0.0200	9.5	50.0
2,2-Dichloropropane	Ave	0.2438	0.2691		0.0221	0.0200	10.4	30.0
2-Butanone (MEK)	Ave	0.0472	0.0464	0.0100	0.0393	0.0400	-1.8	30.0
cis-1,2-Dichloroethene	Ave	0.2891	0.2867	0.1000	0.0198	0.0200	-0.8	30.0
Bromochloromethane	Ave	0.1945	0.1891		0.0194	0.0200	-2.8	30.0
Tetrahydrofuran	Lin1		0.1082		0.0418	0.0400	4.6	30.0
Chloroform	Ave	0.4433	0.4563	0.2000	0.0206	0.0200	2.9	30.0
1,1,1-Trichloroethane	Ave	0.4174	0.4498	0.1000	0.0216	0.0200	7.8	30.0
Cyclohexane	Ave	0.3819	0.4119	0.1000	0.0216	0.0200	7.8	30.0
1,1-Dichloropropene	Ave	0.3519	0.3667		0.0208	0.0200	4.2	30.0
Carbon tetrachloride	Ave	0.4023	0.4240	0.1000	0.0211	0.0200	5.4	30.0
Isobutyl alcohol	Ave	0.0110	0.0112		0.508	0.500	1.6	30.0
1,2-Dichloroethane	Ave	0.3600	0.3604	0.1000	0.0200	0.0200	0.1	30.0
Benzene	Ave	0.9518	0.9713	0.5000	0.0204	0.0200	2.1	30.0
n-Heptane	Lin1		0.2300		0.0213	0.0200	6.3	30.0
Trichloroethene	Ave	0.3160	0.3196	0.1500	0.0202	0.0200	1.1	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: ICV 240-342719/14 Calibration Date: 08/27/2018 19:45

Instrument ID: A3UX19 Calib Start Date: 08/27/2018 17:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 19:23

Lab File ID: U1901330.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	0.4590	0.4761	0.1000	0.0207	0.0200	3.7	30.0
1,2-Dichloropropane	Ave	0.2208	0.2306	0.1000	0.0209	0.0200	4.5	30.0
Dibromomethane	Ave	0.2271	0.2193		0.0193	0.0200	-3.4	30.0
1,4-Dioxane	Ave	0.0024	0.0028		0.474	0.400	18.4	50.0
Bromodichloromethane	Ave	0.3479	0.3495	0.1500	0.0201	0.0200	0.4	30.0
2-Chloroethyl vinyl ether	Ave	0.1770	0.1822		0.0206	0.0200	2.9	30.0
cis-1,3-Dichloropropene	Ave	0.3865	0.4060	0.1500	0.0210	0.0200	5.1	30.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3203	0.3230	0.0500	0.0403	0.0400	0.8	30.0
Toluene	Ave	1.352	1.362	0.4000	0.0201	0.0200	0.7	30.0
trans-1,3-Dichloropropene	Ave	0.4818	0.4613	0.1000	0.0191	0.0200	-4.3	30.0
Ethyl methacrylate	Ave	0.4344	0.4432		0.0204	0.0200	2.0	30.0
1,1,2-Trichloroethane	Ave	0.2842	0.2905	0.1000	0.0204	0.0200	2.2	30.0
Tetrachloroethene	Ave	0.4313	0.4447	0.1500	0.0206	0.0200	3.1	30.0
1,3-Dichloropropane	Ave	0.4802	0.4738		0.0197	0.0200	-1.3	30.0
2-Hexanone	Ave	0.3149	0.3202	0.0500	0.0407	0.0400	1.7	30.0
Chlorodibromomethane	Ave	0.3583	0.3632		0.0203	0.0200	1.3	30.0
1,2-Dibromoethane	Ave	0.3346	0.3230		0.0193	0.0200	-3.5	30.0
Chlorobenzene	Ave	0.9253	0.9231	0.3000	0.0200	0.0200	-0.2	30.0
1,1,1,2-Tetrachloroethane	Ave	0.3336	0.3465		0.0208	0.0200	3.9	30.0
Ethylbenzene	Ave	0.4836	0.4959		0.0205	0.0200	2.5	30.0
m-Xylene & p-Xylene	Ave	0.5890	0.6110		0.0207	0.0200	3.7	30.0
o-Xylene	Ave	0.5597	0.5768		0.0206	0.0200	3.1	30.0
Styrene	Ave	0.9588	0.9701	0.3000	0.0202	0.0200	1.2	30.0
Bromoform	Ave	0.2933	0.2923	0.1000	0.0199	0.0200	-0.3	30.0
Isopropylbenzene	Ave	1.503	1.583	0.1000	0.0211	0.0200	5.3	30.0
1,1,2,2-Tetrachloroethane	Ave	0.7706	0.7768	0.3000	0.0202	0.0200	0.8	30.0
Bromobenzene	Ave	0.7690	0.7545		0.0196	0.0200	-1.9	30.0
1,2,3-Trichloropropane	Ave	0.2921	0.3010		0.0206	0.0200	3.0	30.0
trans-1,4-Dichloro-2-butene	Ave	0.2737	0.2785		0.0203	0.0200	1.7	30.0
N-Propylbenzene	Ave	0.7729	0.7998		0.0207	0.0200	3.5	30.0
2-Chlorotoluene	Ave	0.6541	0.6592		0.0202	0.0200	0.8	30.0
1,3,5-Trimethylbenzene	Ave	2.225	2.303		0.0207	0.0200	3.5	30.0
4-Chlorotoluene	Ave	0.7072	0.7078		0.0200	0.0200	0.0	30.0
tert-Butylbenzene	Ave	2.113	2.203		0.0209	0.0200	4.3	30.0
1,2,4-Trimethylbenzene	Ave	2.256	2.278		0.0202	0.0200	1.0	30.0
sec-Butylbenzene	Ave	2.845	3.009		0.0212	0.0200	5.8	30.0
1,3-Dichlorobenzene	Ave	1.412	1.370	0.6000	0.0194	0.0200	-3.0	30.0
4-Isopropyltoluene	Ave	2.492	2.628		0.0211	0.0200	5.5	30.0
1,4-Dichlorobenzene	Ave	1.459	1.395	0.5000	0.0191	0.0200	-4.4	30.0
n-Butylbenzene	Ave	2.050	2.114		0.0206	0.0200	3.1	30.0
1,2-Dichlorobenzene	Ave	1.282	1.257	0.4000	0.0196	0.0200	-2.0	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: ICV 240-342719/14 Calibration Date: 08/27/2018 19:45

Instrument ID: A3UX19 Calib Start Date: 08/27/2018 17:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 19:23

Lab File ID: U1901330.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	0.2450	0.2412	0.0500	0.0197	0.0200	-1.6	50.0
1,2,4-Trichlorobenzene	Ave	0.8550	0.8004	0.2000	0.0187	0.0200	-6.4	50.0
Hexachlorobutadiene	Ave	0.4392	0.4373		0.0199	0.0200	-0.4	30.0
Naphthalene	Ave	2.363	2.262		0.0191	0.0200	-4.3	50.0
1,2,3-Trichlorobenzene	Ave	0.7677	0.7284		0.0190	0.0200	-5.1	30.0
Dibromofluoromethane (Surr)	Ave	0.2692	0.2770		0.0206	0.0200	2.9	30.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3092	0.3266		0.0211	0.0200	5.6	30.0
Toluene-d8 (Surr)	Ave	1.199	1.238		0.0206	0.0200	3.2	30.0
4-Bromofluorobenzene (Surr)	Ave	0.4513	0.4759		0.0211	0.0200	5.5	30.0

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

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab File ID: bfb139.d BFB Injection Date: 11/20/2018

Instrument ID: A3UX19 BFB Injection Time: 15:55

Analysis Batch No.: 356400

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	16.5	
75	30.0 - 60.0 % of mass 95	47.5	
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	95.5	
175	5.0 - 9.0 % of mass 174	7.3	(7.7) 1
176	95.0 - 101.0 % of mass 174	92.1	(96.5) 1
177	5.0 - 9.0 % of mass 176	6.1	(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
	CCV 240-356400/2	U1904014.d	11/20/2018	16:18
	CCVIS 240-356400/3	U1904015.d	11/20/2018	16:40
	LCS 240-356400/4	U1904016.d	11/20/2018	17:02
	MB 240-356400/7	U1904019.d	11/20/2018	18:10
TB-111218	240-104312-1	U1904028.d	11/20/2018	21:31
MRC-MW-135A-111218	240-104312-2	U1904029.d	11/20/2018	21:53
MRC-MW-135A-111218 MS	240-104312-2 MS	U1904030.d	11/20/2018	22:15
MRC-MW-135A-111218 MSD	240-104312-2 MSD	U1904031.d	11/20/2018	22:37

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: CCV 240-356400/2 Calibration Date: 11/20/2018 16:18

Instrument ID: A3UX19 Calib Start Date: 07/25/2018 13:24

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 07/25/2018 15:15

Lab File ID: U1904014.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	Lin1		0.0353		0.177	0.200	-11.4	20.0
Diisopropyl ether	Ave	0.2313	0.1902		0.0165	0.0200	-17.7	20.0
2-Chloro-1,3-butadiene	Ave	0.3979	0.3450		0.0173	0.0200	-13.3	20.0
Ethyl tert-butyl ether	Ave	0.7258	0.5534		0.0152	0.0200	-23.8*	20.0
Ethyl acetate	Ave	0.3007	0.3194		0.0425	0.0400	6.2	50.0
Propionitrile	Ave	0.0408	0.0567		0.278	0.200	39.1*	20.0
Methacrylonitrile	Ave	0.1828	0.1861		0.204	0.200	1.8	20.0
Tert-amyl methyl ether	Ave	0.7700	0.5611		0.0146	0.0200	-27.1*	20.0
n-Butanol	Ave	0.0094	0.0143		0.766	0.500	53.2*	20.0
Ethyl acrylate	Ave	0.3703	0.3931		0.0212	0.0200	6.2	20.0
Methyl methacrylate	Ave	0.2459	0.2425		0.0394	0.0400	-1.4	20.0
2-Nitropropane	Ave	0.0726	0.0869		0.0479	0.0400	19.8	20.0
n-Butyl acetate	Ave	0.5364	0.5104		0.0190	0.0200	-4.8	20.0
1-Chlorohexane	Ave	0.4610	0.4403		0.0191	0.0200	-4.5	20.0
Cyclohexanone	Ave	0.0137	0.0170		0.248	0.200	24.1*	20.0
Pentachloroethane	Ave	0.3462	0.4308		0.0498	0.0400	24.4*	20.0
1,2,3-Trimethylbenzene	Ave	2.276	2.356		0.0207	0.0200	3.5	20.0
Benzyl chloride	Ave	1.286	1.425		0.0222	0.0200	10.8	20.0
1,3,5-Trichlorobenzene	Ave	1.021	1.103		0.0216	0.0200	8.0	20.0
2-Methylnaphthalene	Ave	1.433	1.094		0.0305	0.0400	-23.6*	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: CCVIS 240-356400/3 Calibration Date: 11/20/2018 16:40

Instrument ID: A3UX19 Calib Start Date: 08/27/2018 17:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 19:23

Lab File ID: U1904015.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	0.3850	0.2657	0.1000	0.0138	0.0200	-31.0*	20.0
Chloromethane	Ave	0.2883	0.2312	0.1000	0.0160	0.0200	-19.8	20.0
Butadiene	Ave	0.2887	0.2541		0.0176	0.0200	-12.0	20.0
Vinyl chloride	Ave	0.2980	0.2497	0.1000	0.0168	0.0200	-16.2	20.0
Bromomethane	Ave	0.2335	0.2021	0.0500	0.0173	0.0200	-13.5	20.0
Chloroethane	Ave	0.1848	0.1666	0.0500	0.0180	0.0200	-9.9	20.0
Dichlorofluoromethane	Ave	0.4581	0.3925		0.0171	0.0200	-14.3	20.0
Trichlorofluoromethane	Ave	0.4984	0.4136	0.1000	0.0166	0.0200	-17.0	20.0
Ethyl ether	Ave	0.1800	0.1556		0.0173	0.0200	-13.5	20.0
Acrolein	Ave	0.0445	0.0340		0.0764	0.100	-23.6	50.0
1,1,2-Trichlorotrifluoroethane	Ave	0.2567	0.2585	0.0500	0.0201	0.0200	0.7	20.0
1,1-Dichloroethene	Ave	0.3589	0.3444	0.1000	0.0192	0.0200	-4.1	20.0
Acetone	Ave	0.0784	0.0945	0.0100	0.0482	0.0400	20.6	50.0
Iodomethane	Ave	0.4655	0.4332		0.0186	0.0200	-6.9	20.0
Carbon disulfide	Ave	0.7515	0.5828	0.1000	0.0155	0.0200	-22.4*	20.0
3-Chloro-1-propene	Ave	0.3541	0.2814		0.0159	0.0200	-20.5*	20.0
Methyl acetate	Ave	0.2328	0.2423	0.1000	0.0416	0.0400	4.1	20.0
Methylene Chloride	Ave	0.2846	0.2607	0.1000	0.0183	0.0200	-8.4	50.0
tert-Butyl alcohol	Ave	0.0271	0.0312		0.230	0.200	15.0	50.0
Acrylonitrile	Ave	0.1006	0.1078		0.214	0.200	7.2	20.0
Methyl tert-butyl ether	Ave	0.6938	0.5749	0.1000	0.0166	0.0200	-17.1	20.0
trans-1,2-Dichloroethene	Ave	0.3387	0.2973	0.1000	0.0176	0.0200	-12.2	20.0
Hexane	Ave	0.3524	0.3255		0.0185	0.0200	-7.6	20.0
1,1-Dichloroethane	Ave	0.4048	0.3862	0.2000	0.0191	0.0200	-4.6	20.0
Vinyl acetate	Ave	0.4639	0.3494		0.0151	0.0200	-24.7	50.0
2,2-Dichloropropane	Ave	0.2438	0.1459		0.0120	0.0200	-40.2*	20.0
2-Butanone (MEK)	Ave	0.0472	0.0502	0.0100	0.0425	0.0400	6.2	20.0
cis-1,2-Dichloroethene	Ave	0.2891	0.2672	0.1000	0.0185	0.0200	-7.6	20.0
Bromochloromethane	Ave	0.1945	0.1603		0.0165	0.0200	-17.6	20.0
Tetrahydrofuran	Lin1		0.1019		0.0392	0.0400	-1.9	20.0
Chloroform	Ave	0.4433	0.4102	0.2000	0.0185	0.0200	-7.5	20.0
1,1,1-Trichloroethane	Ave	0.4174	0.3577	0.1000	0.0171	0.0200	-14.3	20.0
Cyclohexane	Ave	0.3819	0.3637	0.1000	0.0190	0.0200	-4.8	20.0
1,1-Dichloropropene	Ave	0.3519	0.3336		0.0190	0.0200	-5.2	20.0
Carbon tetrachloride	Ave	0.4023	0.3635	0.1000	0.0181	0.0200	-9.6	20.0
Isobutyl alcohol	Ave	0.0110	0.0128		0.583	0.500	16.5	20.0
Benzene	Ave	0.9518	0.9179	0.5000	0.0193	0.0200	-3.6	20.0
1,2-Dichloroethane	Ave	0.3600	0.3187	0.1000	0.0177	0.0200	-11.5	20.0
n-Heptane	Lin1		0.1891		0.0169	0.0200	-15.7	20.0
Trichloroethene	Ave	0.3160	0.2978	0.1500	0.0188	0.0200	-5.8	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: CCVIS 240-356400/3 Calibration Date: 11/20/2018 16:40

Instrument ID: A3UX19 Calib Start Date: 08/27/2018 17:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 19:23

Lab File ID: U1904015.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	0.4590	0.4341	0.1000	0.0189	0.0200	-5.4	20.0
1,2-Dichloropropane	Ave	0.2208	0.2069	0.1000	0.0187	0.0200	-6.3	20.0
1,4-Dioxane	Ave	0.0024	0.0036		0.601	0.400	50.3*	50.0
Dibromomethane	Ave	0.2271	0.2146		0.0189	0.0200	-5.5	20.0
Bromodichloromethane	Ave	0.3479	0.3132	0.1500	0.0180	0.0200	-10.0	20.0
2-Chloroethyl vinyl ether	Ave	0.1770	0.1676		0.0379	0.0400	-5.3	20.0
cis-1,3-Dichloropropene	Ave	0.3865	0.3472	0.1500	0.0180	0.0200	-10.2	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3203	0.3046	0.0500	0.0380	0.0400	-4.9	20.0
Toluene	Ave	1.352	1.311	0.4000	0.0194	0.0200	-3.0	20.0
trans-1,3-Dichloropropene	Ave	0.4818	0.4126	0.1000	0.0171	0.0200	-14.4	20.0
Ethyl methacrylate	Ave	0.4344	0.4110		0.0189	0.0200	-5.4	20.0
1,1,2-Trichloroethane	Ave	0.2842	0.2884	0.1000	0.0203	0.0200	1.5	20.0
Tetrachloroethene	Ave	0.4313	0.4219	0.1500	0.0196	0.0200	-2.2	20.0
1,3-Dichloropropane	Ave	0.4802	0.4771		0.0199	0.0200	-0.6	20.0
2-Hexanone	Ave	0.3149	0.3068	0.0500	0.0390	0.0400	-2.6	20.0
Chlorodibromomethane	Ave	0.3583	0.3267		0.0182	0.0200	-8.8	20.0
1,2-Dibromoethane	Ave	0.3346	0.3196		0.0191	0.0200	-4.5	20.0
Chlorobenzene	Ave	0.9253	0.9120	0.3000	0.0197	0.0200	-1.4	20.0
1,1,1,2-Tetrachloroethane	Ave	0.3336	0.3212		0.0193	0.0200	-3.7	20.0
Ethylbenzene	Ave	0.4836	0.4789		0.0198	0.0200	-1.0	20.0
m-Xylene & p-Xylene	Ave	0.5890	0.5901		0.0200	0.0200	0.2	20.0
o-Xylene	Ave	0.5597	0.5600		0.0200	0.0200	0.0	20.0
Styrene	Ave	0.9588	0.9679	0.3000	0.0202	0.0200	1.0	20.0
Bromoform	Ave	0.2933	0.2626	0.1000	0.0179	0.0200	-10.5	20.0
Isopropylbenzene	Ave	1.503	1.488	0.1000	0.0198	0.0200	-1.0	20.0
1,1,2,2-Tetrachloroethane	Ave	0.7706	0.7827	0.3000	0.0203	0.0200	1.6	20.0
Bromobenzene	Ave	0.7690	0.7630		0.0198	0.0200	-0.8	20.0
1,2,3-Trichloropropane	Ave	0.2921	0.2967		0.0203	0.0200	1.6	20.0
trans-1,4-Dichloro-2-butene	Ave	0.2737	0.1659		0.0121	0.0200	-39.4*	20.0
N-Propylbenzene	Ave	0.7729	0.7762		0.0201	0.0200	0.4	20.0
2-Chlorotoluene	Ave	0.6541	0.6720		0.0205	0.0200	2.7	20.0
1,3,5-Trimethylbenzene	Ave	2.225	2.210		0.0199	0.0200	-0.7	20.0
4-Chlorotoluene	Ave	0.7072	0.7062		0.0200	0.0200	-0.2	20.0
tert-Butylbenzene	Ave	2.113	2.060		0.0195	0.0200	-2.5	20.0
1,2,4-Trimethylbenzene	Ave	2.256	2.287		0.0203	0.0200	1.4	20.0
sec-Butylbenzene	Ave	2.845	2.851		0.0200	0.0200	0.2	20.0
1,3-Dichlorobenzene	Ave	1.412	1.416	0.6000	0.0201	0.0200	0.3	20.0
4-Isopropyltoluene	Ave	2.492	2.510		0.0201	0.0200	0.7	20.0
1,4-Dichlorobenzene	Ave	1.459	1.428	0.5000	0.0196	0.0200	-2.2	20.0
n-Butylbenzene	Ave	2.050	2.064		0.0201	0.0200	0.7	20.0
1,2-Dichlorobenzene	Ave	1.282	1.325	0.4000	0.0207	0.0200	3.3	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: CCVIS 240-356400/3 Calibration Date: 11/20/2018 16:40

Instrument ID: A3UX19 Calib Start Date: 08/27/2018 17:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 19:23

Lab File ID: U1904015.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	0.2450	0.2379	0.0500	0.0194	0.0200	-2.9	50.0
1,2,4-Trichlorobenzene	Ave	0.8550	0.8456	0.2000	0.0198	0.0200	-1.1	50.0
Hexachlorobutadiene	Ave	0.4392	0.4149		0.0189	0.0200	-5.5	20.0
Naphthalene	Ave	2.363	2.346		0.0199	0.0200	-0.7	50.0
1,2,3-Trichlorobenzene	Ave	0.7677	0.7769		0.0202	0.0200	1.2	20.0
Dibromofluoromethane (Surr)	Ave	0.2692	0.2538		0.0189	0.0200	-5.7	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3092	0.2911		0.0188	0.0200	-5.9	20.0
Toluene-d8 (Surr)	Ave	1.199	1.188		0.0198	0.0200	-0.9	20.0
4-Bromofluorobenzene (Surr)	Ave	0.4513	0.4506		0.0200	0.0200	-0.1	20.0

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab File ID: U1904019.d Lab Sample ID: MB 240-356400/7

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: A3UX19 Date Analyzed: 11/20/2018 18:10

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 240-356400/4	U1904016.d	11/20/2018 17:02
TB-111218	240-104312-1	U1904028.d	11/20/2018 21:31
MRC-MW-135A-111218	240-104312-2	U1904029.d	11/20/2018 21:53
MRC-MW-135A-111218 MS	240-104312-2 MS	U1904030.d	11/20/2018 22:15
MRC-MW-135A-111218 MSD	240-104312-2 MSD	U1904031.d	11/20/2018 22:37

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104312-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-356400/7

Matrix: Water | Lab File ID: U1904019.d

Analysis Method: 8260C | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 11/20/2018 18:10

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.: 356400 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	0.14	U	1.0	0.14
71-55-6	1,1,1-Trichloroethane	0.24	U	1.0	0.24
79-34-5	1,1,2,2-Tetrachloroethane	0.13	U	1.0	0.13
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19
563-58-6	1,1-Dichloropropene	0.14	U	1.0	0.14
87-61-6	1,2,3-Trichlorobenzene	0.54	U	1.0	0.54
96-18-4	1,2,3-Trichloropropane	0.24	U	1.0	0.24
526-73-8	1,2,3-Trimethylbenzene	0.14	U	5.0	0.14
120-82-1	1,2,4-Trichlorobenzene	0.26	U	1.0	0.26
95-63-6	1,2,4-Trimethylbenzene	0.070	U	1.0	0.070
96-12-8	1,2-Dibromo-3-Chloropropane	0.91	U	2.0	0.91
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
107-06-2	1,2-Dichloroethane	0.21	U	1.0	0.21
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.15	U	1.0	0.15
142-28-9	1,3-Dichloropropane	0.21	U	1.0	0.21
106-46-7	1,4-Dichlorobenzene	0.16	U	1.0	0.16
594-20-7	2,2-Dichloropropane	0.31	U	1.0	0.31
110-75-8	2-Chloroethyl vinyl ether	0.26	U	10	0.26
95-49-8	2-Chlorotoluene	0.15	U	1.0	0.15
591-78-6	2-Hexanone	0.54	U	10	0.54
108-86-1	Bromobenzene	0.12	U	1.0	0.12
74-97-5	Bromochloromethane	0.14	U	1.0	0.14
106-43-4	4-Chlorotoluene	0.090	U	1.0	0.090
99-87-6	4-Isopropyltoluene	0.13	U	1.0	0.13
67-64-1	Acetone	5.4	U	10	5.4
71-43-2	Benzene	0.13	U	1.0	0.13
75-25-2	Bromoform	0.76	U	1.0	0.76
74-83-9	Bromomethane	0.42	U	1.0	0.42
75-15-0	Carbon disulfide	0.28	U	1.0	0.28
56-23-5	Carbon tetrachloride	0.26	U	1.0	0.26
108-90-7	Chlorobenzene	0.14	U	1.0	0.14
75-00-3	Chloroethane	0.83	U	1.0	0.83
67-66-3	Chloroform	0.13	U	1.0	0.13

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104312-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-356400/7

Matrix: Water | Lab File ID: U1904019.d

Analysis Method: 8260C | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 11/20/2018 18:10

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.: 356400 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	0.20	U	1.0	0.20
156-59-2	cis-1,2-Dichloroethene	0.16	U	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	0.61	U	1.0	0.61
87-68-3	Hexachlorobutadiene	0.83	U	1.0	0.83
74-95-3	Dibromomethane	0.090	U	1.0	0.090
75-27-4	Bromodichloromethane	0.17	U	1.0	0.17
75-71-8	Dichlorodifluoromethane	0.35	U	1.0	0.35
100-41-4	Ethylbenzene	0.11	U	1.0	0.11
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12
108-20-3	Diisopropyl ether	0.17	U	10	0.17
91-20-3	Naphthalene	0.32	U	1.0	0.32
104-51-8	n-Butylbenzene	0.14	U	1.0	0.14
98-82-8	Isopropylbenzene	0.090	U	1.0	0.090
103-65-1	N-Propylbenzene	0.15	U	1.0	0.15
78-93-3	2-Butanone (MEK)	1.2	U	10	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	0.42	U	10	0.42
135-98-8	sec-Butylbenzene	0.13	U	1.0	0.13
1634-04-4	Methyl tert-butyl ether	0.070	U	1.0	0.070
994-05-8	Tert-amyl methyl ether	0.11	U	5.0	0.11
75-09-2	Methylene Chloride	2.6	U	5.0	2.6
100-42-5	Styrene	0.10	U	1.0	0.10
637-92-3	Ethyl tert-butyl ether	0.15	U	5.0	0.15
98-06-6	tert-Butylbenzene	0.14	U	1.0	0.14
127-18-4	Tetrachloroethene	0.15	U	1.0	0.15
108-88-3	Toluene	0.14	U	1.0	0.14
156-60-5	trans-1,2-Dichloroethene	0.19	U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	0.67	U	1.0	0.67
79-01-6	Trichloroethene	0.10	U	1.0	0.10
75-69-4	Trichlorofluoromethane	0.45	U	1.0	0.45
108-05-4	Vinyl acetate	0.19	U	2.0	0.19
75-01-4	Vinyl chloride	0.20	U	1.0	0.20
75-65-0	tert-Butyl alcohol	1.7	U	50	1.7
1330-20-7	Xylenes, Total	0.15	U	2.0	0.15
124-48-1	Chlorodibromomethane	0.39	U	1.0	0.39

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 240-356400/7

Matrix: Water Lab File ID: U1904019.d

Analysis Method: 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 11/20/2018 18:10

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.: 356400 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	94		70-121
460-00-4	4-Bromofluorobenzene (Surr)	89		59-120
2037-26-5	Toluene-d8 (Surr)	94		70-123
1868-53-7	Dibromofluoromethane (Surr)	93		75-128

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Matrix: Water Level: Low Lab File ID: U1904016.d

Lab ID: LCS 240-356400/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	20.0	19.9	100	80-124	
1,1,1-Trichloroethane	20.0	18.6	93	69-134	
1,1,2,2-Tetrachloroethane	20.0	20.9	104	65-139	
1,1,2-Trichlorotrifluoroethane	20.0	20.2	101	50-156	
1,1-Dichloroethane	20.0	19.2	96	75-133	
1,1-Dichloroethene	20.0	19.1	96	65-139	
1,1-Dichloropropene	20.0	19.2	96	78-126	
1,2,3-Trichlorobenzene	20.0	22.6	113	39-138	
1,2,3-Trichloropropane	20.0	21.4	107	66-139	
1,2,4-Trichlorobenzene	20.0	21.3	106	42-133	
1,2,4-Trimethylbenzene	20.0	20.6	103	74-120	
1,2-Dibromo-3-Chloropropane	20.0	20.7	104	46-132	
1,2-Dichlorobenzene	20.0	21.3	106	78-120	
1,2-Dichloroethane	20.0	18.2	91	71-135	
1,2-Dichloropropane	20.0	20.2	101	78-133	
1,3-Dichlorobenzene	20.0	20.5	102	78-120	
1,3-Dichloropropane	20.0	20.1	100	72-134	
1,4-Dichlorobenzene	20.0	20.1	101	78-120	
2,2-Dichloropropane	20.0	13.1	66	42-150	
2-Chloroethyl vinyl ether	20.0	20.1	101	55-137	
2-Chlorotoluene	20.0	21.1	106	78-123	
2-Hexanone	40.0	41.0	102	43-148	
Bromobenzene	20.0	20.3	102	74-129	
Bromochloromethane	20.0	17.9	90	74-130	
4-Chlorotoluene	20.0	20.7	103	77-125	
4-Isopropyltoluene	20.0	21.1	105	69-122	
Acetone	40.0	49.9	125	21-162	
Benzene	20.0	19.9	99	80-123	
Bromoform	20.0	18.6	93	49-141	
Bromomethane	20.0	17.9	89	41-175	
Carbon disulfide	20.0	15.5	77	60-138	
Carbon tetrachloride	20.0	18.5	93	63-140	
Chlorobenzene	20.0	19.9	99	80-121	
Chloroethane	20.0	18.2	91	33-173	
Chloroform	20.0	19.4	97	79-127	
Chloromethane	20.0	17.2	86	54-143	
cis-1,2-Dichloroethene	20.0	19.3	97	76-128	
cis-1,3-Dichloropropene	20.0	19.3	96	64-132	
Hexachlorobutadiene	20.0	20.5	102	38-136	
Dibromomethane	20.0	19.3	97	74-124	
Bromodichloromethane	20.0	18.4	92	77-125	
Dichlorodifluoromethane	20.0	15.6	78	29-148	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Matrix: Water Level: Low Lab File ID: U1904016.d

Lab ID: LCS 240-356400/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Ethylbenzene	20.0	20.2	101	80-120	
1,2-Dibromoethane	20.0	19.3	96	77-123	
Naphthalene	20.0	21.3	107	28-141	
m-Xylene & p-Xylene	20.0	20.4	102	80-120	
n-Butylbenzene	20.0	21.0	105	57-126	
Isopropylbenzene	20.0	20.8	104	74-120	
N-Propylbenzene	20.0	20.9	105	77-123	
2-Butanone (MEK)	40.0	46.5	116	39-163	
4-Methyl-2-pentanone (MIBK)	40.0	40.9	102	49-143	
sec-Butylbenzene	20.0	20.8	104	68-123	
Methyl tert-butyl ether	20.0	17.2	86	51-133	
Methylene Chloride	20.0	18.4	92	70-134	
o-Xylene	20.0	20.9	105	80-120	
Styrene	20.0	20.6	103	79-120	
tert-Butylbenzene	20.0	20.2	101	70-121	
Tetrachloroethene	20.0	19.9	99	74-130	
Toluene	20.0	19.8	99	78-129	
trans-1,2-Dichloroethene	20.0	18.9	95	78-133	
trans-1,3-Dichloropropene	20.0	17.2	86	55-128	
Trichloroethene	20.0	19.4	97	76-125	
Trichlorofluoromethane	20.0	17.0	85	51-164	
Vinyl acetate	20.0	19.6	98	45-151	
Vinyl chloride	20.0	18.1	90	58-143	
tert-Butyl alcohol	200	278	139	10-161	
Xylenes, Total	40.0	41.3	103	80-120	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Matrix: Water Level: Low Lab File ID: U1904030.d

Lab ID: 240-104312-2 MS Client ID: MRC-MW-135A-111218 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	20.0	0.14 U	19.3	97	67-123	
1,1,1-Trichloroethane	20.0	0.24 U	17.0	85	51-138	
1,1,2,2-Tetrachloroethane	20.0	0.13 U	20.3	101	60-137	
1,1,2-Trichlorotrifluoroethane	20.0	0.41 U	18.7	94	31-156	
1,1-Dichloroethane	20.0	0.17 U	18.1	91	63-136	
1,1-Dichloroethene	20.0	0.19 U	17.9	89	53-140	
1,1-Dichloropropene	20.0	0.14 U	17.8	89	62-127	
1,2,3-Trichlorobenzene	20.0	0.54 U	21.3	106	34-123	
1,2,3-Trichloropropane	20.0	0.24 U	20.2	101	61-143	
1,2,4-Trichlorobenzene	20.0	0.26 U	20.0	100	30-126	
1,2,4-Trimethylbenzene	20.0	0.070 U	19.8	99	62-120	
1,2-Dibromo-3-Chloropropane	20.0	0.91 U	19.7	98	38-124	
1,2-Dichlorobenzene	20.0	0.15 U	20.4	102	64-120	
1,2-Dichloroethane	20.0	0.21 U	17.0	85	65-135	
1,2-Dichloropropane	20.0	0.15 U	18.5	93	70-132	
1,3-Dichlorobenzene	20.0	0.15 U	19.4	97	62-120	
1,3-Dichloropropane	20.0	0.21 U	19.0	95	68-135	
1,4-Dichlorobenzene	20.0	0.16 U	19.1	96	63-120	
2,2-Dichloropropane	20.0	0.31 U	11.1	56	27-132	
2-Chloroethyl vinyl ether	20.0	0.26 U	0.26 U	0	10-120	F1
2-Chlorotoluene	20.0	0.15 U	20.3	102	64-123	
2-Hexanone	40.0	0.54 U	37.5	94	42-150	
Bromobenzene	20.0	0.12 U	19.2	96	66-127	
Bromochloromethane	20.0	0.14 U	16.3	82	73-120	
4-Chlorotoluene	20.0	0.090 U	19.7	99	63-126	
4-Isopropyltoluene	20.0	0.13 U	20.0	100	59-120	
Acetone	40.0	5.4 U	44.1	110	10-168	
Benzene	20.0	0.13 U	18.4	92	71-122	
Bromoform	20.0	0.76 U	17.3	87	44-129	
Bromomethane	20.0	0.42 U	17.6	88	19-187	
Carbon disulfide	20.0	0.28 U	15.2	76	43-144	
Carbon tetrachloride	20.0	0.26 U	17.1	85	41-143	
Chlorobenzene	20.0	0.14 U	19.0	95	70-123	
Chloroethane	20.0	0.83 U	18.1	91	11-189	
Chloroform	20.0	0.13 U	18.3	92	68-130	
Chloromethane	20.0	0.20 U	16.4	82	31-154	
cis-1,2-Dichloroethene	20.0	0.16 U	18.1	90	64-130	
cis-1,3-Dichloropropene	20.0	0.61 U	17.0	85	48-127	
Hexachlorobutadiene	20.0	0.83 U	19.9	100	32-128	
Dibromomethane	20.0	0.090 U	17.8	89	71-120	
Bromodichloromethane	20.0	0.17 U	17.2	86	64-125	
Dichlorodifluoromethane	20.0	0.35 U	14.8	74	28-136	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Matrix: Water Level: Low Lab File ID: U1904030.d

Lab ID: 240-104312-2 MS Client ID: MRC-MW-135A-111218 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Ethylbenzene	20.0	0.11 U	18.8	94	66-120	
1,2-Dibromoethane	20.0	0.12 U	18.2	91	71-123	
Naphthalene	20.0	0.32 U	20.2	101	31-142	
m-Xylene & p-Xylene	20.0	0.080 U	19.3	96	63-121	
n-Butylbenzene	20.0	0.14 U	19.8	99	51-120	
Isopropylbenzene	20.0	0.090 U	19.4	97	59-120	
N-Propylbenzene	20.0	0.15 U	19.7	99	61-123	
2-Butanone (MEK)	40.0	1.2 U	40.9	102	37-156	
4-Methyl-2-pentanone (MIBK)	40.0	0.42 U	36.2	90	44-143	
sec-Butylbenzene	20.0	0.13 U	20.0	100	60-120	
Methyl tert-butyl ether	20.0	0.070 U	16.1	81	41-136	
Methylene Chloride	20.0	2.6 U	17.0	85	61-130	
o-Xylene	20.0	0.090 U	19.5	97	69-120	
Styrene	20.0	0.10 U	19.3	96	68-120	
tert-Butylbenzene	20.0	0.14 U	19.4	97	61-120	
Tetrachloroethene	20.0	0.15 U	19.0	95	51-136	
Toluene	20.0	0.14 U	18.9	95	62-132	
trans-1,2-Dichloroethene	20.0	0.19 U	17.6	88	68-133	
trans-1,3-Dichloropropene	20.0	0.67 U	16.1	81	40-125	
Trichloroethene	20.0	0.10 U	17.8	89	55-131	
Trichlorofluoromethane	20.0	0.45 U	16.4	82	37-174	
Vinyl acetate	20.0	0.19 U	17.0	85	37-148	
Vinyl chloride	20.0	0.20 U	17.6	88	43-154	
tert-Butyl alcohol	200	1.7 U	222	111	70-130	
Xylenes, Total	40.0	0.15 U	38.8	97	67-120	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Matrix: Water Level: Low Lab File ID: U1904031.d

Lab ID: 240-104312-2 MSD Client ID: MRC-MW-135A-111218 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	20.0	19.5	97	1	13	67-123	
1,1,1-Trichloroethane	20.0	17.4	87	3	27	51-138	
1,1,2,2-Tetrachloroethane	20.0	20.6	103	1	31	60-137	
1,1,2-Trichlorotrifluoroethane	20.0	19.8	99	6	35	31-156	
1,1-Dichloroethane	20.0	18.8	94	4	23	63-136	
1,1-Dichloroethene	20.0	19.0	95	6	35	53-140	
1,1-Dichloropropene	20.0	18.7	93	5	20	62-127	
1,2,3-Trichlorobenzene	20.0	21.4	107	1	35	34-123	
1,2,3-Trichloropropane	20.0	20.6	103	2	22	61-143	
1,2,4-Trichlorobenzene	20.0	19.9	100	0	35	30-126	
1,2,4-Trimethylbenzene	20.0	19.8	99	0	27	62-120	
1,2-Dibromo-3-Chloropropane	20.0	19.9	100	1	35	38-124	
1,2-Dichlorobenzene	20.0	20.5	102	0	30	64-120	
1,2-Dichloroethane	20.0	17.3	87	2	24	65-135	
1,2-Dichloropropane	20.0	19.2	96	3	26	70-132	
1,3-Dichlorobenzene	20.0	19.8	99	2	31	62-120	
1,3-Dichloropropane	20.0	19.5	98	3	15	68-135	
1,4-Dichlorobenzene	20.0	19.5	97	2	28	63-120	
2,2-Dichloropropane	20.0	11.0	55	2	18	27-132	
2-Chloroethyl vinyl ether	20.0	0.26 U	0	NC	35	10-120	F1
2-Chlorotoluene	20.0	20.6	103	2	20	64-123	
2-Hexanone	40.0	39.0	97	4	35	42-150	
Bromobenzene	20.0	19.5	98	2	19	66-127	
Bromochloromethane	20.0	16.5	83	1	15	73-120	
4-Chlorotoluene	20.0	20.0	100	1	20	63-126	
4-Isopropyltoluene	20.0	20.2	101	1	24	59-120	
Acetone	40.0	41.8	105	5	35	10-168	
Benzene	20.0	19.2	96	4	22	71-122	
Bromoform	20.0	17.9	90	3	28	44-129	
Bromomethane	20.0	17.6	88	0	35	19-187	
Carbon disulfide	20.0	15.1	76	1	33	43-144	
Carbon tetrachloride	20.0	17.3	87	2	30	41-143	
Chlorobenzene	20.0	19.2	96	1	23	70-123	
Chloroethane	20.0	18.3	91	1	35	11-189	
Chloroform	20.0	18.7	94	2	23	68-130	
Chloromethane	20.0	16.8	84	3	35	31-154	
cis-1,2-Dichloroethene	20.0	18.5	93	2	21	64-130	
cis-1,3-Dichloropropene	20.0	17.6	88	4	30	48-127	
Hexachlorobutadiene	20.0	19.8	99	1	35	32-128	
Dibromomethane	20.0	18.2	91	2	16	71-120	
Bromodichloromethane	20.0	17.9	90	4	27	64-125	
Dichlorodifluoromethane	20.0	14.8	74	0	35	28-136	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Matrix: Water Level: Low Lab File ID: U1904031.d

Lab ID: 240-104312-2 MSD Client ID: MRC-MW-135A-111218 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Ethylbenzene	20.0	19.5	97	3	24	66-120	
1,2-Dibromoethane	20.0	18.7	94	3	27	71-123	
Naphthalene	20.0	20.5	103	2	35	31-142	
m-Xylene & p-Xylene	20.0	19.7	98	2	25	63-121	
n-Butylbenzene	20.0	20.1	100	1	27	51-120	
Isopropylbenzene	20.0	19.8	99	2	31	59-120	
N-Propylbenzene	20.0	20.2	101	2	20	61-123	
2-Butanone (MEK)	40.0	40.5	101	1	35	37-156	
4-Methyl-2-pentanone (MIBK)	40.0	38.0	95	5	35	44-143	
sec-Butylbenzene	20.0	20.1	100	0	24	60-120	
Methyl tert-butyl ether	20.0	15.9	79	2	29	41-136	
Methylene Chloride	20.0	17.6	88	3	29	61-130	
o-Xylene	20.0	19.8	99	2	25	69-120	
Styrene	20.0	19.6	98	2	26	68-120	
tert-Butylbenzene	20.0	19.4	97	0	20	61-120	
Tetrachloroethene	20.0	19.4	97	2	23	51-136	
Toluene	20.0	19.4	97	3	23	62-132	
trans-1,2-Dichloroethene	20.0	18.1	90	3	24	68-133	
trans-1,3-Dichloropropene	20.0	16.4	82	2	27	40-125	
Trichloroethene	20.0	18.5	92	4	23	55-131	
Trichlorofluoromethane	20.0	16.3	81	1	35	37-174	
Vinyl acetate	20.0	17.5	88	3	18	37-148	
Vinyl chloride	20.0	17.7	89	1	29	43-154	
tert-Butyl alcohol	200	202	101	9	35	70-130	
Xylenes, Total	40.0	39.5	99	2	25	67-120	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

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-111218	240-104312-1	97	98	98	90
MRC-MW-135A-111218	240-104312-2	97	97	95	89
	MB 240-356400/7	93	94	94	89
	LCS 240-356400/4	93	93	97	96
MRC-MW-135A-111218 MS	240-104312-2 MS	94	93	99	98
MRC-MW-135A-111218 MSD	240-104312-2 MSD	95	93	99	97

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	75-128
DCA = 1,2-Dichloroethane-d4 (Surr)	70-121
TOL = Toluene-d8 (Surr)	70-123
BFB = 4-Bromofluorobenzene (Surr)	59-120

Column to be used to flag recovery values

FORM II 8260C

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

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Sample No.: ICIS 240-342719/10 Date Analyzed: 08/27/2018 18:16

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): U1901326.d Heated Purge: (Y/N) N

Calibration ID: 46687

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		972482	5.65	783101	8.50	430906	10.88
UPPER LIMIT		1944964	6.15	1566202	9.00	861812	11.38
LOWER LIMIT		486241	5.15	391551	8.00	215453	10.38
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 240-342719/14		955207	5.65	765531	8.50	424750	10.88
CCVIS 240-356400/3		838374	5.65	655947	8.50	362201	10.88

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 8260C

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

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Sample No.: CCVIS 240-356400/3 Date Analyzed: 11/20/2018 16:40

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): U1904015.d Heated Purge: (Y/N) N

Calibration ID: 47354

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		838374	5.65	655947	8.50	362201	10.88
UPPER LIMIT		1676748	6.15	1311894	9.00	724402	11.38
LOWER LIMIT		419187	5.15	327974	8.00	181101	10.38
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 240-356400/4		835845	5.65	671241	8.50	373552	10.88
MB 240-356400/7		805944	5.67	638937	8.50	327057	10.88
240-104312-1	TB-111218	791090	5.65	630624	8.50	327577	10.88
240-104312-2	MRC-MW-135A-111218	786729	5.67	621815	8.50	322844	10.88
240-104312-2 MS	MRC-MW-135A-111218 MS	833905	5.65	641620	8.50	352863	10.88
240-104312-2 MSD	MRC-MW-135A-111218 MSD	820237	5.67	644516	8.50	354409	10.88

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 8260C

GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Batch Number: 337917 Batch Start Date: 07/25/18 11:28 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	vm50is_stk_A 00001	vm50ss_stk 00077	vmbfb 00020	VMFASA9W 00194
BFB 240-337917/1		8260C		5 mL	5 mL			1 uL	
STDA9 240-337917/8 IC		8260C		5 mL	5 mL	2 uL			
STDA9 240-337917/9 IC		8260C		5 mL	5 mL	2 uL			
STDA9 240-337917/10 IC		8260C		5 mL	5 mL	2 uL			
STDA9 240-337917/11 IC		8260C		5 mL	5 mL	2 uL			
STDA9 240-337917/12 IC		8260C		5 mL	5 mL	2 uL			
STDA9 240-337917/13 IC		8260C		5 mL	5 mL	2 uL			
ICV 240-337917/14		8260C		5 mL	5 mL	2 uL	2 uL		16 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmra9w 00259					
BFB 240-337917/1		8260C							
STDA9 240-337917/8 IC		8260C		64 uL					
STDA9 240-337917/9 IC		8260C		32 uL					
STDA9 240-337917/10 IC		8260C		16 uL					
STDA9 240-337917/11 IC		8260C		8 uL					
STDA9 240-337917/12 IC		8260C		0.8 uL					
STDA9 240-337917/13 IC		8260C		0.4 uL					

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Batch Number: 337917 Batch Start Date: 07/25/18 11:28 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmra9w 00259					
ICV 240-337917/14		8260C							

Batch Notes	
pH Indicator ID	HC746949

Basis	Basis Description

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Batch Number: 342719 Batch Start Date: 08/27/18 16:23 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	vm50is_stk_A 00001	vm50ss 00333	vm50ss_stk 00077	vmarolistdw 00260
BFB 240-342719/1		8260C		5 mL	5 mL				
STD8260 240-342719/7 IC		8260C		5 mL	5 mL	2 uL	64 uL		64 uL
STD8260 240-342719/8 IC		8260C		5 mL	5 mL	2 uL	48 uL		48 uL
STD8260 240-342719/9 IC		8260C		5 mL	5 mL	2 uL	32 uL		32 uL
ICIS 240-342719/10		8260C		5 mL	5 mL	2 uL	16 uL		16 uL
STD8260 240-342719/11 IC		8260C		5 mL	5 mL	2 uL	8 uL		8 uL
STD8260 240-342719/12 IC		8260C		5 mL	5 mL	2 uL	0.8 uL		0.8 uL
STD8260 240-342719/13 IC		8260C		5 mL	5 mL	2 uL	0.4 uL		0.4 uL
ICV 240-342719/14		8260C		5 mL	5 mL	2 uL		2 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmbfb 00020	vmfasaw 00246	vmfasgw 00271	vmfaspw 00264	vmrgas 00259	vmrprimw 00297
BFB 240-342719/1		8260C		1 uL					
STD8260 240-342719/7 IC		8260C						64 uL	64 uL
STD8260 240-342719/8 IC		8260C						48 uL	48 uL
STD8260 240-342719/9 IC		8260C						32 uL	32 uL
ICIS 240-342719/10		8260C						16 uL	16 uL
STD8260 240-342719/11 IC		8260C						8 uL	8 uL
STD8260 240-342719/12 IC		8260C						0.8 uL	0.8 uL

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Batch Number: 342719 Batch Start Date: 08/27/18 16:23 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmbfb 00020	vmfasaw 00246	vmfasgw 00271	vmfaspw 00264	vmrgas 00259	vmrprimw 00297
STD8260 240-342719/13 IC		8260C						0.4 uL	0.4 uL
ICV 240-342719/14		8260C			16 uL	16 uL	16 uL		

Batch Notes	

Basis	Basis Description

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Batch Number: 356400 Batch Start Date: 11/20/18 15:55 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	vm50is_stk_A 00002	vm50ss_stk 00078	vmarolistdw 00273
BFB 240-356400/1		8260C		5 mL	5 mL				
CCV 240-356400/2		8260C		5 mL	5 mL		2 uL		
CCVIS 240-356400/3		8260C		5 mL	5 mL		2 uL	2 uL	16 uL
LCS 240-356400/4		8260C		5 mL	5 mL		2 uL	2 uL	
MB 240-356400/7		8260C		5 mL	5 mL		2 uL	2 uL	
240-104312-A-1	TB-111218	8260C	T	5 mL	5 mL	<2 SU	2 uL	2 uL	
240-104312-B-2	MRC-MW-135A-111218	8260C	T	5 mL	5 mL	<2 SU	2 uL	2 uL	
240-104312-E-2 MS	MRC-MW-135A-111218	8260C	T	5 mL	5 mL	<2 SU	2 uL	2 uL	
240-104312-H-2 MSD	MRC-MW-135A-111218	8260C	T	5 mL	5 mL	<2 SU	2 uL	2 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmbfb 00020	vmfasaw 00256	vmfasgw 00283	vmfaspw 00276	vmra9w 00273	vmrgas 00270
BFB 240-356400/1		8260C		1 uL					
CCV 240-356400/2		8260C						16 uL	
CCVIS 240-356400/3		8260C							16 uL
LCS 240-356400/4		8260C			16 uL	16 uL	16 uL		
MB 240-356400/7		8260C							
240-104312-A-1	TB-111218	8260C	T						
240-104312-B-2	MRC-MW-135A-111218	8260C	T						
240-104312-E-2 MS	MRC-MW-135A-111218	8260C	T		16 uL	16 uL	16 uL		
240-104312-H-2 MSD	MRC-MW-135A-111218	8260C	T		16 uL	16 uL	16 uL		

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmrprimw 00309					
BFB 240-356400/1		8260C							

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Batch Number: 356400 Batch Start Date: 11/20/18 15:55 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmrprimw 00309					
CCV 240-356400/2		8260C							
CCVIS 240-356400/3		8260C		16 uL					
LCS 240-356400/4		8260C							
MB 240-356400/7		8260C							
240-104312-A-1	TB-111218	8260C	T						
240-104312-B-2	MRC-MW-135A-111218	8260C	T						
240-104312-E-2 MS	MRC-MW-135A-111218	8260C	T						
240-104312-H-2 MSD	MRC-MW-135A-111218	8260C	T						

Batch Notes	
pH Indicator ID	HC746949

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

Polychlorinated Biphenyls (PCBs) (GC/MS) by Method 680

FORM V
PCBS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Lab File ID: xk0701.D DFTPP Injection Date: 11/07/2018

Instrument ID: CMSX DFTPP Injection Time: 12:32

Analysis Batch No.: 546611

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
127	40 - 60 % of mass 198	51.5
197	Less than 1 % of mass 198	0.7
198	Base peak, 100 % Relative abundance	100.0
199	5 - 9 % of mass 198	6.3
275	10 - 30% of mass 198	25.6
365	Greater than 1% of mass 198	4.3
441	Present but less than mass 443	13.6 (77.6) 2
442	Greater than 40% of mass 198	96.3
443	17 - 23% of mass 442	17.5 (18.1) 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 680-546611/3	xk0703.D	11/07/2018	13:33
	IC 680-546611/4	xk0706.D	11/07/2018	15:12
	IC 680-546611/11	xk0707.D	11/07/2018	15:40
	IC 680-546611/12	xk0708.D	11/07/2018	16:09
	IC 680-546611/13	xk0709.D	11/07/2018	16:37
	IC 680-546611/14	xk0710.D	11/07/2018	17:06
	ICV 680-546611/15	xk0711.D	11/07/2018	17:34

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Savannah Job No.: 240-104312-1 Analy Batch No.: 546611

SDG No.:

Instrument ID: CMSX GC Column: HP-5MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/07/2018 13:33 Calibration End Date: 11/07/2018 17:06 Calibration ID: 61546

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-546611/14	xk0710.D
Level 2	IC 680-546611/13	xk0709.D
Level 3	IC 680-546611/12	xk0708.D
Level 4	ICISAV 680-546611/3	xk0703.D
Level 5	IC 680-546611/11	xk0707.D
Level 6	IC 680-546611/4	xk0706.D

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								
Monochlorobiphenyl	0.9108 0.8416	0.9802	0.9313	0.9369	0.7037	Ave		0.8841				11.2		20.0			
Dichlorobiphenyl	0.5964 0.5881	0.6423	0.6270	0.6409	0.5052	Ave		0.6000				8.6		20.0			
Trichlorobiphenyl	0.4212 0.4257	0.4565	0.4288	0.4529	0.3659	Ave		0.4252				7.7		20.0			
PCB-104				0.3985		Ave		0.3985						30.0			
Tetrachlorobiphenyl	0.3004 0.3071	0.3311	0.3291	0.3353	0.2635	Ave		0.3111				8.7		20.0			
Pentachlorobiphenyl	0.2150 0.2427	0.2331	0.2414	0.2570	0.2116	Ave		0.2335				7.5		20.0			
PCB-77				0.4889		Ave		0.4889						30.0			
Hexachlorobiphenyl	0.2279 0.2512	0.2468	0.2550	0.2750	0.2206	Ave		0.2461				8.0		20.0			
Heptachlorobiphenyl	0.2701 0.2213	0.2658	0.2282	0.2397	0.1940	Ave		0.2365				12.1		20.0			
Octachlorobiphenyl	0.1909 0.2059	0.2077	0.2099	0.2148	0.1831	Ave		0.2020				6.1		20.0			
PCB-208				0.0820		Ave		0.0820						30.0			
Nonachlorobiphenyl				0.0658		Ave		0.0444				11.6		20.0			
DCB Decachlorobiphenyl	0.0364 0.0500	0.0411	0.0443	0.0493	0.0451	Ave		0.0444				11.6		20.0			
Decachlorobiphenyl-13C12	0.0412 0.0594	0.0468	0.0585	0.0588	0.0544	Ave		0.0532				14.2		20.0			

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

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Savannah Job No.: 240-104312-1 Analy Batch No.: 546611

SDG No.:

Instrument ID: CMSX GC Column: HP-5MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/07/2018 13:33 Calibration End Date: 11/07/2018 17:06 Calibration ID: 61546

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-546611/14	xk0710.D
Level 2	IC 680-546611/13	xk0709.D
Level 3	IC 680-546611/12	xk0708.D
Level 4	ICISAV 680-546611/3	xk0703.D
Level 5	IC 680-546611/11	xk0707.D
Level 6	IC 680-546611/4	xk0706.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Monochlorobiphenyl	CRY	Ave	8598 1123962	17755	96712	191582	444271	0.0500 5.00	0.100	0.500	1.00	2.00
Dichlorobiphenyl	CRY	Ave	5630 785435	11635	65115	131055	318959	0.0500 5.00	0.100	0.500	1.00	2.00
Trichlorobiphenyl	CRY	Ave	3976 568519	8269	44525	92606	231006	0.0500 5.00	0.100	0.500	1.00	2.00
PCB-104	CRY	Ave				162987					2.00	
Tetrachlorobiphenyl	CRY	Ave	5672 820280	11993	68346	137111	332705	0.100 10.0	0.200	1.00	2.00	4.00
Pentachlorobiphenyl	CRY	Ave	4059 648334	8446	50131	105118	267163	0.100 10.0	0.200	1.00	2.00	4.00
PCB-77	CRY	Ave				199923					2.00	
Hexachlorobiphenyl	CRY	Ave	4303 671022	8939	52953	112466	278590	0.100 10.0	0.200	1.00	2.00	4.00
Heptachlorobiphenyl	CRY	Ave	7650 886590	14441	71084	147067	367439	0.150 15.0	0.300	1.50	3.00	6.00
Octachlorobiphenyl	CRY	Ave	5405 824822	11289	65375	131782	346847	0.150 15.0	0.300	1.50	3.00	6.00
PCB-208	CRY	Ave				67068					4.00	
Nonachlorobiphenyl	CRY	Ave				67282					5.00	
DCB Decachlorobiphenyl	CRY	Ave	1716 333740	3725	23021	50447	142326	0.250 25.0	0.500	2.50	5.00	10.0
Decachlorobiphenyl-13C12	CRY	Ave	1944 317550	4242	30354	60087	171791	0.250 20.0	0.500	2.50	5.00	10.0

Curve Type Legend:
Ave = Average ISTD

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Lab Sample ID: ICV 680-546611/15 Calibration Date: 11/07/2018 17:34

Instrument ID: CMSX Calib Start Date: 11/07/2018 15:12

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 11/07/2018 17:06

Lab File ID: xk0711.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.8841	0.9481		1.07	1.00	7.2	20.0
Total Dichlorobiphenyls	Ave	0.6000	0.6288		1.05	1.00	4.8	20.0
Total Trichlorobiphenyls	Ave	0.4252	0.4765		1.12	1.00	12.1	20.0
Total Tetrachlorobiphenyls	Ave	0.3111	0.3387		2.18	2.00	8.9	20.0
Total Pentachlorobiphenyls	Ave	0.2335	0.2535		2.17	2.00	8.6	20.0
Hexachlorobiphenyl	Ave	0.2461	0.2586		2.10	2.00	5.1	20.0
Heptachlorobiphenyl	Ave	0.2365	0.2312		2.93	3.00	-2.3	20.0
Octachlorobiphenyl	Ave	0.2020	0.2163		3.21	3.00	7.0	20.0
DCB Decachlorobiphenyl	Ave	0.0444	0.0473		5.33	5.00	6.6	20.0
Decachlorobiphenyl-13C12	Ave	0.0532	0.0601		5.65	5.00	13.0	20.0

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Lab Sample ID: ICV 680-546611/15 Calibration Date: 11/07/2018 17:34

Instrument ID: CMSX Calib Start Date: 11/07/2018 13:33

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 11/07/2018 13:33

Lab File ID: xk0711.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nonachlorobiphenyl	Ave	0.0658	0.0850		7.66	4.00	29.1*	20.0

FORM V
PCBS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Lab File ID: xk2101.D DFTPP Injection Date: 11/21/2018

Instrument ID: CMSX DFTPP Injection Time: 10:48

Analysis Batch No.: 548241

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
127	40 - 60 % of mass 198	53.8
197	Less than 1 % of mass 198	0.8
198	Base peak, 100 % Relative abundance	100.0
199	5 - 9 % of mass 198	6.3
275	10 - 30% of mass 198	24.7
365	Greater than 1% of mass 198	3.8
441	Present but less than mass 443	13.0 (82.1) 2
442	Greater than 40% of mass 198	83.4
443	17 - 23% of mass 442	15.9 (19.0) 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 680-548241/2	xk2102.D	11/21/2018	11:18
	CCVIS 680-548241/3	xk2103.D	11/21/2018	11:49
	MB 680-547809/7-A	xk2105.D	11/21/2018	12:46
	LCS 680-547809/8-A	xk2106.D	11/21/2018	13:14
MRC-MW-135A-111218 MS	240-104312-2 MS	xk2107.D	11/21/2018	13:43
MRC-MW-135A-111218 MSD	240-104312-2 MSD	xk2108.D	11/21/2018	14:11
MRC-MW-135A-111218	240-104312-2	xk2109.D	11/21/2018	14:40
	CCVC 680-548241/15	xk2115.D	11/21/2018	17:31

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Lab Sample ID: CCVIS 680-548241/3 Calibration Date: 11/21/2018 11:49

Instrument ID: CMSX Calib Start Date: 11/07/2018 13:33

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 11/07/2018 17:06

Lab File ID: xk2103.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.8841	0.8422		0.953	1.00	-4.7	20.0
Dichlorobiphenyl	Ave	0.6000	0.5817		0.969	1.00	-3.1	20.0
Trichlorobiphenyl	Ave	0.4252	0.4101		0.965	1.00	-3.5	20.0
Tetrachlorobiphenyl	Ave	0.3111	0.3012		1.94	2.00	-3.2	20.0
Pentachlorobiphenyl	Ave	0.2335	0.2371		2.03	2.00	1.6	20.0
Hexachlorobiphenyl	Ave	0.2461	0.2457		2.00	2.00	-0.2	20.0
Heptachlorobiphenyl	Ave	0.2365	0.2134		2.71	3.00	-9.8	20.0
Octachlorobiphenyl	Ave	0.2020	0.1966		2.92	3.00	-2.7	20.0
DCB Decachlorobiphenyl	Ave	0.0444	0.0441		4.97	5.00	-0.7	20.0
Decachlorobiphenyl-13C12	Ave	0.0532	0.0529		4.97	5.00	-0.5	20.0

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Lab Sample ID: CCVC 680-548241/15 Calibration Date: 11/21/2018 17:31

Instrument ID: CMSX Calib Start Date: 11/07/2018 13:33

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 11/07/2018 17:06

Lab File ID: xk2115.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.8841	0.7259		0.821	1.00	-17.9	20.0
Dichlorobiphenyl	Ave	0.6000	0.4999		0.833	1.00	-16.7	20.0
Trichlorobiphenyl	Ave	0.4252	0.3568		0.839	1.00	-16.1	20.0
Tetrachlorobiphenyl	Ave	0.3111	0.2561		1.65	2.00	-17.7	20.0
Pentachlorobiphenyl	Ave	0.2335	0.2102		1.80	2.00	-10.0	20.0
Hexachlorobiphenyl	Ave	0.2461	0.2148		1.75	2.00	-12.7	20.0
Heptachlorobiphenyl	Ave	0.2365	0.1809		2.30	3.00	-23.5*	20.0
Octachlorobiphenyl	Ave	0.2020	0.1737		2.58	3.00	-14.1	20.0
DCB Decachlorobiphenyl	Ave	0.0444	0.0394		4.43	5.00	-11.3	20.0
Decachlorobiphenyl-13C12	Ave	0.0532	0.0462		4.34	5.00	-13.2	20.0

FORM IV
PCBS METHOD BLANK SUMMARY

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Lab File ID: xk2105.D Lab Sample ID: MB 680-547809/7-A

Matrix: Water Date Extracted: 11/16/2018 15:42

Instrument ID: CMSX Date Analyzed: 11/21/2018 12:46

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 680-547809/8-A	xk2106.D	11/21/2018 13:14
MRC-MW-135A-111218 MS	240-104312-2 MS	xk2107.D	11/21/2018 13:43
MRC-MW-135A-111218 MSD	240-104312-2 MSD	xk2108.D	11/21/2018 14:11
MRC-MW-135A-111218	240-104312-2	xk2109.D	11/21/2018 14:40

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 240-104312-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 680-547809/7-A

Matrix: Water | Lab File ID: xk2105.D

Analysis Method: 680 | Date Collected:

Extract. Method: 680 | Date Extracted: 11/16/2018 15:42

Sample wt/vol: 1000(mL) | Date Analyzed: 11/21/2018 12:46

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.: 548241 | Units: ug/L

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

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

FORM III
PCBS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Matrix: Water Level: Low Lab File ID: xk2106.D

Lab ID: LCS 680-547809/8-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Heptachlorobiphenyl	6.00	4.31	72	62-130	
Hexachlorobiphenyl	4.00	3.15	79	62-130	
Nonachlorobiphenyl	10.0	13.6	136	70-195	
Octachlorobiphenyl	6.00	4.77	80	64-130	
Monochlorobiphenyl	2.00	0.602	30	42-130	*
DCB Decachlorobiphenyl	10.0	7.71	77	59-130	
Dichlorobiphenyl	2.00	0.886	44	49-130	*
Pentachlorobiphenyl	4.00	3.23	81	63-130	
Tetrachlorobiphenyl	4.00	2.15	54	54-130	
Trichlorobiphenyl	2.00	1.10	55	51-130	

Column to be used to flag recovery and RPD values

FORM III 680

FORM V
PCBS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Lab File ID: xl0301.D DFTPP Injection Date: 12/03/2018

Instrument ID: CMSX DFTPP Injection Time: 08:58

Analysis Batch No.: 549800

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
127	40 - 60 % of mass 198	53.1
197	Less than 1 % of mass 198	1.0
198	Base peak, 100 % Relative abundance	100.0
199	5 - 9 % of mass 198	7.0
275	10 - 30% of mass 198	25.2
365	Greater than 1% of mass 198	4.0
441	Present but less than mass 443	13.8 (80.2) 2
442	Greater than 40% of mass 198	89.6
443	17 - 23% of mass 442	17.2 (19.2) 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 680-549800/2	xl0303.D	12/03/2018	09:59
	CCVIS 680-549800/3	xl0304.D	12/03/2018	10:30
	MB 680-549336/7-A	xl0306.D	12/03/2018	11:27
	LCS 680-549336/8-A	xl0307.D	12/03/2018	11:55
	LCSD 680-549336/9-A	xl0308.D	12/03/2018	12:24
MRC-MW-135A-111218 RE	240-104312-2 RE	xl0309.D	12/03/2018	12:52
	CCVC 680-549800/14	xl0315.D	12/03/2018	15:44

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Lab Sample ID: CCVIS 680-549800/3 Calibration Date: 12/03/2018 10:30

Instrument ID: CMSX Calib Start Date: 11/07/2018 13:33

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 11/07/2018 17:06

Lab File ID: xl0304.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.8841	0.8021		0.907	1.00	-9.3	20.0
Dichlorobiphenyl	Ave	0.6000	0.5582		0.930	1.00	-7.0	20.0
Trichlorobiphenyl	Ave	0.4252	0.3968		0.933	1.00	-6.7	20.0
Tetrachlorobiphenyl	Ave	0.3111	0.2830		1.82	2.00	-9.0	20.0
Pentachlorobiphenyl	Ave	0.2335	0.2261		1.94	2.00	-3.2	20.0
Hexachlorobiphenyl	Ave	0.2461	0.2307		1.88	2.00	-6.2	20.0
Heptachlorobiphenyl	Ave	0.2365	0.1992		2.53	3.00	-15.8	20.0
Octachlorobiphenyl	Ave	0.2020	0.1841		2.73	3.00	-8.9	20.0
DCB Decachlorobiphenyl	Ave	0.0444	0.0397		4.47	5.00	-10.6	20.0
Decachlorobiphenyl-13C12	Ave	0.0532	0.0489		4.60	5.00	-8.0	20.0

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Lab Sample ID: CCVC 680-549800/14 Calibration Date: 12/03/2018 15:44

Instrument ID: CMSX Calib Start Date: 11/07/2018 13:33

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 11/07/2018 17:06

Lab File ID: xl0315.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.8841	0.7193		0.814	1.00	-18.6	20.0
Dichlorobiphenyl	Ave	0.6000	0.4959		0.827	1.00	-17.3	20.0
Trichlorobiphenyl	Ave	0.4252	0.3565		0.838	1.00	-16.2	20.0
Tetrachlorobiphenyl	Ave	0.3111	0.2535		1.63	2.00	-18.5	20.0
Pentachlorobiphenyl	Ave	0.2335	0.2094		1.79	2.00	-10.3	20.0
Hexachlorobiphenyl	Ave	0.2461	0.2111		1.72	2.00	-14.2	20.0
Heptachlorobiphenyl	Ave	0.2365	0.1856		2.35	3.00	-21.5*	20.0
Octachlorobiphenyl	Ave	0.2020	0.1684		2.50	3.00	-16.7	20.0
DCB Decachlorobiphenyl	Ave	0.0444	0.0380		4.28	5.00	-14.4	20.0
Decachlorobiphenyl-13C12	Ave	0.0532	0.0458		4.31	5.00	-13.9	20.0

FORM IV
PCBS METHOD BLANK SUMMARY

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Lab File ID: xl0306.D Lab Sample ID: MB 680-549336/7-A

Matrix: Water Date Extracted: 11/29/2018 10:00

Instrument ID: CMSX Date Analyzed: 12/03/2018 11:27

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 680-549336/8-A	xl0307.D	12/03/2018 11:55
	LCSD 680-549336/9-A	xl0308.D	12/03/2018 12:24
MRC-MW-135A-111218 RE	240-104312-2 RE	xl0309.D	12/03/2018 12:52

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 240-104312-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 680-549336/7-A

Matrix: Water | Lab File ID: xl0306.D

Analysis Method: 680 | Date Collected:

Extract. Method: 680 | Date Extracted: 11/29/2018 10:00

Sample wt/vol: 1000(mL) | Date Analyzed: 12/03/2018 11:27

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.: 549800 | Units: ug/L

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

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	62		25-113

FORM III
PCBS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Matrix: Water Level: Low Lab File ID: xl0307.D

Lab ID: LCS 680-549336/8-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Heptachlorobiphenyl	6.00	3.97	66	62-130	
Hexachlorobiphenyl	4.00	2.85	71	62-130	
Nonachlorobiphenyl	10.0	12.5	125	70-195	
Octachlorobiphenyl	6.00	4.27	71	64-130	
Monochlorobiphenyl	2.00	0.660	33	42-130	*
DCB Decachlorobiphenyl	10.0	7.13	71	59-130	
Dichlorobiphenyl	2.00	0.917	46	49-130	*
Pentachlorobiphenyl	4.00	2.97	74	63-130	
Tetrachlorobiphenyl	4.00	2.04	51	54-130	*
Trichlorobiphenyl	2.00	1.07	54	51-130	

Column to be used to flag recovery and RPD values

FORM III 680

FORM III
PCBS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Matrix: Water Level: Low Lab File ID: xl0308.D

Lab ID: LCSD 680-549336/9-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Heptachlorobiphenyl	6.00	3.29	55	19	40	62-130	*
Hexachlorobiphenyl	4.00	2.39	60	17	40	62-130	*
Nonachlorobiphenyl	10.0	10.7	107	15	40	70-195	
Octachlorobiphenyl	6.00	3.64	61	16	40	64-130	*
Monochlorobiphenyl	2.00	0.556	28	17	40	42-130	*
DCB Decachlorobiphenyl	10.0	5.75	57	22	40	59-130	*
Dichlorobiphenyl	2.00	0.807	40	13	40	49-130	*
Pentachlorobiphenyl	4.00	2.46	62	19	40	63-130	*
Tetrachlorobiphenyl	4.00	1.82	46	11	40	54-130	*
Trichlorobiphenyl	2.00	0.950	48	12	40	51-130	*

Column to be used to flag recovery and RPD values

FORM III 680

FORM III
PCBS MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Matrix: Water Level: Low Lab File ID: xk2107.D

Lab ID: 240-104312-2 MS Client ID: MRC-MW-135A-111218 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Heptachlorobiphenyl	5.70	0.029 U	3.80	67	62-130	
Hexachlorobiphenyl	3.80	0.014 U	2.82	74	62-130	
Nonachlorobiphenyl	9.49	0.047 U	12.2	128	70-195	
Octachlorobiphenyl	5.70	0.037 U	4.31	76	64-130	
Monochlorobiphenyl	1.90	0.0054 U	0.845	44	42-130	
DCB Decachlorobiphenyl	9.49	0.068 U	6.78	71	59-130	
Dichlorobiphenyl	1.90	0.0052 U	0.987	52	49-130	
Pentachlorobiphenyl	3.80	0.014 U	2.77	73	63-130	
Tetrachlorobiphenyl	3.80	0.013 U	2.19	58	54-130	
Trichlorobiphenyl	1.90	0.0063 U	1.11	59	51-130	

Column to be used to flag recovery and RPD values

FORM III 680

FORM III
PCBS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Matrix: Water Level: Low Lab File ID: xk2108.D

Lab ID: 240-104312-2 MSD Client ID: MRC-MW-135A-111218 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Heptachlorobiphenyl	6.49	4.37	67	14	40	62-130	
Hexachlorobiphenyl	4.33	3.21	74	13	40	62-130	
Nonachlorobiphenyl	10.8	14.3	132	16	40	70-195	
Octachlorobiphenyl	6.49	4.93	76	13	40	64-130	
Monochlorobiphenyl	2.16	1.09	50	25	40	42-130	
DCB Decachlorobiphenyl	10.8	7.58	70	11	40	59-130	
Dichlorobiphenyl	2.16	1.18	55	18	40	49-130	
Pentachlorobiphenyl	4.33	3.24	75	16	40	63-130	
Tetrachlorobiphenyl	4.33	2.43	56	11	40	54-130	
Trichlorobiphenyl	2.16	1.27	59	14	40	51-130	

Column to be used to flag recovery and RPD values

FORM III 680

FORM II
PCBS SURROGATE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): HP-5MS ID: 0.25(mm)

Client Sample ID	Lab Sample ID	13CDCB #
MRC-MW-135A-111218	240-104312-2	65
MRC-MW-135A-111218 RE	240-104312-2 RE	64
	MB 680-547809/7-A	72
	MB 680-549336/7-A	62
	LCS 680-547809/8-A	74
	LCS 680-549336/8-A	72
	LCSD 680-549336/9-A	57
MRC-MW-135A-111218 MS	240-104312-2 MS	73
MRC-MW-135A-111218 MSD	240-104312-2 MSD	68

	QC LIMITS
13CDCB = Decachlorobiphenyl-13C12	25-113

Column to be used to flag recovery values

FORM II 680

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Instrument ID: CMSX Calibration Start Date: 11/07/2018 13:33

GC Column: HP-5MS ID: 0.25(mm) Calibration End Date: 11/07/2018 17:06

Calibration ID: 61546

		PHN		CRY			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MEAN AREA AND MEAN RT		182659	12.30	170607	18.56		
UPPER LIMIT		273989	12.80	255911	19.06		
LOWER LIMIT		91330	11.80	85304	18.06		
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 680-546611/15		171986	12.30	140292	18.57		
CCVIS 680-548241/3		187426	12.30	178803	18.55		
MB 680-547809/7-A		216298	12.30	206769	18.55		
240-104312-2 MS	MRC-MW-135A-111218 MS	205376	12.29	217845	18.55		
240-104312-2 MSD	MRC-MW-135A-111218 MSD	199229	12.29	213458	18.55		
240-104312-2	MRC-MW-135A-111218	199925	12.30	212127	18.55		
CCVC 680-548241/15		216580	12.31	229848	18.55		
CCVIS 680-549800/3		205891	12.31	197369	18.57		
MB 680-549336/7-A		195292	12.30	222155	18.55		
LCS 680-549336/8-A		186553	12.30	199893	18.55		
LCSD 680-549336/9-A		192601	12.31	199824	18.55		
240-104312-2 RE	MRC-MW-135A-111218 RE	195825	12.30	207408	18.55		
CCVC 680-549800/14		227331	12.31	240918	18.55		

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 680

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Sample No.: CCVIS 680-548241/3 Date Analyzed: 11/21/2018 11:49

Instrument ID: CMSX GC Column: HP-5MS ID: 0.25(mm)

Lab File ID (Standard): xk2103.D Heated Purge: (Y/N) N

Calibration ID: 61546

		PHN		CRY			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		187426	12.30	178803	18.55		
UPPER LIMIT		243654	12.80	232444	19.05		
LOWER LIMIT		131198	11.80	125162	18.05		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 680-547809/7-A		216298	12.30	206769	18.55		
LCS 680-547809/8-A		188727	12.31	189978	18.55		
240-104312-2 MS	MRC-MW-135A-111218 MS	205376	12.29	217845	18.55		
240-104312-2 MSD	MRC-MW-135A-111218 MSD	199229	12.29	213458	18.55		
240-104312-2	MRC-MW-135A-111218	199925	12.30	212127	18.55		
CCVC 680-548241/15		216580	12.31	229848	18.55		

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 680

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Sample No.: CCVIS 680-549800/3 Date Analyzed: 12/03/2018 10:30

Instrument ID: CMSX GC Column: HP-5MS ID: 0.25(mm)

Lab File ID (Standard): xl0304.D Heated Purge: (Y/N) N

Calibration ID: 61546

		PHN		CRY			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		205891	12.31	197369	18.57		
UPPER LIMIT		267658	12.81	256580	19.07		
LOWER LIMIT		144124	11.81	138158	18.07		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 680-549336/7-A		195292	12.30	222155	18.55		
LCS 680-549336/8-A		186553	12.30	199893	18.55		
LCSD 680-549336/9-A		192601	12.31	199824	18.55		
240-104312-2 RE	MRC-MW-135A-111218 RE	195825	12.30	207408	18.55		
CCVC 680-549800/14		227331	12.31	240918	18.55		

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 680

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Batch Number: 547809 Batch Start Date: 11/16/18 15:42 Batch Analyst: Wilson, Charles E

Batch Method: 680 Batch End Date: 11/17/18 09:56

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ResidualChloCheck	ReceivedpH
240-104312-AJ-2	MRC-MW-135A-111218	680, 680	T	1542.5 g	507.4 g	1035.1 mL	1 mL	N	7 SU
MB 680-547809/7		680, 680				1000 mL	1 mL	N	7 SU
LCS 680-547809/8		680, 680				1000 mL	1 mL	N	7 SU
240-104312-B-2 MS	MRC-MW-135A-111218	680, 680	T	1559.2 g	506.0 g	1053.2 mL	1 mL	N	7 SU
240-104312-B-2 MSD	MRC-MW-135A-111218	680, 680	T	1431.0 g	506.3 g	924.7 mL	1 mL	N	7 SU

Lab Sample ID	Client Sample ID	Method Chain	Basis	680wkSPIKE 00118	680wkSURR-NEW 00033				
240-104312-AJ-2	MRC-MW-135A-111218	680, 680	T		1 mL				
MB 680-547809/7		680, 680			1 mL				
LCS 680-547809/8		680, 680		1 mL	1 mL				
240-104312-B-2 MS	MRC-MW-135A-111218	680, 680	T	1 mL	1 mL				
240-104312-B-2 MSD	MRC-MW-135A-111218	680, 680	T	1 mL	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.

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Batch Number: 547809 Batch Start Date: 11/16/18 15:42 Batch Analyst: Wilson, Charles E

Batch Method: 680 Batch End Date: 11/17/18 09:56

Batch Notes	
Balance ID	23
Batch Comment	680 box 680-123
Boiling Chips ID	901800
Concentration 1 Thermometer ID	50
Analyst ID - Concentration	CJ
Exchange Solvent ID	5796610
Analyst ID - Extraction	CEW
Extraction 1 End Time	10/17/2018 09:56
Extraction 1 Start Time	11/16/2018 15:42
Method/Fraction	680
pH Indicator ID	5423047
Pipette/Syringe/Dispenser ID	AA06G
Prep Solvent ID	5789952
Residual Chlorine Indicator ID	4991768
Analyst ID - Spike Analyst	CEW
Analyst ID - Spike Witness Analyst	EHS
Vial Lot Number	97963

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.

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Batch Number: 549336 Batch Start Date: 11/29/18 10:00 Batch Analyst: Wilson, Charles E

Batch Method: 680 Batch End Date: 11/30/18 04:20

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ResidualChloCheck	ReceivedpH
240-104312-AH-2	MRC-MW-135A-111218	680, 680	T	1538.2 g	509.0 g	1029.2 mL	1 mL	N	7 SU
MB 680-549336/7		680, 680				1000 mL	1 mL	N	7 SU
LCS 680-549336/8		680, 680				1000 mL	1 mL	N	7 SU
LCSD 680-549336/9		680, 680				1000 mL	1 mL	N	7 SU

Lab Sample ID	Client Sample ID	Method Chain	Basis	680wkSPIKE 00118	680wkSURR-NEW 00033	AnalysisComment			
240-104312-AH-2	MRC-MW-135A-111218	680, 680	T		1 mL	ReWrk			
MB 680-549336/7		680, 680			1 mL				
LCS 680-549336/8		680, 680		1 mL	1 mL				
LCSD 680-549336/9		680, 680		1 mL	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.

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 240-104312-1

SDG No.:

Batch Number: 549336 Batch Start Date: 11/29/18 10:00 Batch Analyst: Wilson, Charles E

Batch Method: 680 Batch End Date: 11/30/18 04:20

Batch Notes	
Balance ID	23
Batch Comment	680 box 680- 122
Boiling Chips ID	901800
Concentration 1 Thermometer ID	50
Analyst ID - Concentration	CAE
Exchange Solvent ID	5820211
Analyst ID - Extraction	CEW
Extraction 1 End Time	10/30/2018 04:20
Extraction 1 Start Time	11/29/2018 10:00
Method/Fraction	680
pH Indicator ID	5423047
Pipette/Syringe/Dispenser ID	AA06G
Prep Solvent ID	5819115
Residual Chlorine Indicator ID	4991768
Analyst ID - Spike Analyst	CEW
Analyst ID - Spike Witness Analyst	NWW
Vial Lot Number	97963

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 RSK-175

Dissolved Gases (GC) by Method RSK_175

GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Instrument ID: ZPID Start Date: 10/22/2018 13:09

Analysis Batch Number: 351262 End Date: 10/22/2018 16:32

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD1 240-351262/3 IC		10/22/2018 13:09	1	Z0102203.D	HP-PLOT/Q 0.53(mm)
STD 240-351262/4 IC		10/22/2018 13:26	1	Z0102204.D	HP-PLOT/Q 0.53(mm)
STD 240-351262/5 IC		10/22/2018 13:43	1	Z0102205.D	HP-PLOT/Q 0.53(mm)
STD 240-351262/6 IC		10/22/2018 14:00	1	Z0102206.D	HP-PLOT/Q 0.53(mm)
STD 240-351262/7 IC		10/22/2018 14:17	1	Z0102207.D	HP-PLOT/Q 0.53(mm)
STD 240-351262/8 IC		10/22/2018 14:34	1	Z0102208.D	HP-PLOT/Q 0.53(mm)
STD1 240-351262/9 IC		10/22/2018 14:51	1	Z0102209.D	HP-PLOT/Q 0.53(mm)
STD2 240-351262/10 IC		10/22/2018 15:07	1	Z0102210.D	HP-PLOT/Q 0.53(mm)
STD3 240-351262/11 IC		10/22/2018 15:24	1	Z0102211.D	HP-PLOT/Q 0.53(mm)
STD4 240-351262/12 IC		10/22/2018 15:41	1	Z0102212.D	HP-PLOT/Q 0.53(mm)
STD5 240-351262/13 IC		10/22/2018 15:58	1	Z0102213.D	HP-PLOT/Q 0.53(mm)
STD6 240-351262/14 IC		10/22/2018 16:15	1	Z0102214.D	HP-PLOT/Q 0.53(mm)
ICV 240-351262/15		10/22/2018 16:32	1	Z0102215.D	HP-PLOT/Q 0.53(mm)

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104312-1 Analy Batch No.: 351262

SDG No.:

Instrument ID: ZPID GC Column: HP-PLOT/Q ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/22/2018 13:09 Calibration End Date: 10/22/2018 14:34 Calibration ID: 47590

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 240-351262/3	Z0102203.D
Level 2	STD 240-351262/4	Z0102204.D
Level 3	STD 240-351262/5	Z0102205.D
Level 4	STD 240-351262/6	Z0102206.D
Level 5	STD 240-351262/7	Z0102207.D
Level 6	STD 240-351262/8	Z0102208.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
Methane	1.187	1.187	1.186	1.185	1.186	1.185					1.135 - 1.235	1.186
Ethene	1.887	1.887	1.886	1.885	1.884	1.880					1.830 - 1.930	1.885
Acetylene	2.002	2.002	2.000	2.000	1.999	1.995					1.945 - 2.045	2.000
Ethane	2.209	2.208	2.208	2.207	2.206	2.199					1.999 - 2.399	2.206
Propane	4.559	4.557	4.556	4.555	4.554	4.535					4.485 - 4.585	4.553

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-104312-1 Analy Batch No.: 351262

SDG No.:

Instrument ID: ZPID GC Column: HP-PLOT/Q ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/22/2018 13:09 Calibration End Date: 10/22/2018 14:34 Calibration ID: 47590

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 240-351262/3	Z0102203.D
Level 2	STD 240-351262/4	Z0102204.D
Level 3	STD 240-351262/5	Z0102205.D
Level 4	STD 240-351262/6	Z0102206.D
Level 5	STD 240-351262/7	Z0102207.D
Level 6	STD 240-351262/8	Z0102208.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
Methane	8642.5 6372.5	6610.0 5925.5	6298.9	6393.7	Ave		6707.18243				14.5		20.0			
Ethene	6394.9 5799.7	5798.8 5396.3	5721.7	5811.8	Ave		5820.52899				5.5		20.0			
Acetylene	2468.3 3434.0	2503.1 3313.8	2758.0	3205.1	Ave		2947.05553				14.4		30.0			
Ethane	6521.6 6052.7	5842.1 5641.3	5869.9	6041.9	Ave		5994.93225				5.0		20.0			
Propane	6508.2 6161.5	5832.5 5786.0	5913.4	6099.7	Ave		6050.19871				4.4		20.0			

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

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-104312-1 Analy Batch No.: 351262

SDG No.:

Instrument ID: ZPID GC Column: HP-PLOT/Q ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/22/2018 13:09 Calibration End Date: 10/22/2018 14:34 Calibration ID: 47590

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 240-351262/3	Z0102203.D
Level 2	STD 240-351262/4	Z0102204.D
Level 3	STD 240-351262/5	Z0102205.D
Level 4	STD 240-351262/6	Z0102206.D
Level 5	STD 240-351262/7	Z0102207.D
Level 6	STD 240-351262/8	Z0102208.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Methane	Ave	2465 25343316	13197	62879	638257	2725480	0.285 4277	2.00	9.98	99.8	428
Ethene	Ave	3203 40535362	20331	100304	1018840	4356593	0.501 7512	3.51	17.5	175	751
Acetylene	Ave	1144 23031933	8121	44740	519915	2386702	0.463 6950	3.24	16.2	162	695
Ethane	Ave	3499 45392947	21941	110227	1134571	4870279	0.537 8047	3.76	18.8	188	805
Propane	Ave	5116 68212789	32094	162695	1678203	7263997	0.786 11789	5.50	27.5	275	1179

Curve Type Legend:
Ave = Average

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104312-1 Analy Batch No.: 351262

SDG No.:

Instrument ID: ZPID GC Column: HP-PLOT/Q ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/22/2018 14:51 Calibration End Date: 10/22/2018 16:15 Calibration ID: 47591

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 240-351262/9	Z0102209.D
Level 2	STD2 240-351262/10	Z0102210.D
Level 3	STD3 240-351262/11	Z0102211.D
Level 4	STD4 240-351262/12	Z0102212.D
Level 5	STD5 240-351262/13	Z0102213.D
Level 6	STD6 240-351262/14	Z0102214.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
1,1,1-Trifluoroethane	3.354	3.354	3.354	3.352	3.349	3.347					3.247 - 3.447	3.352

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-104312-1 Analy Batch No.: 351262

SDG No.:

Instrument ID: ZPID GC Column: HP-PLOT/Q ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/22/2018 14:51 Calibration End Date: 10/22/2018 16:15 Calibration ID: 47591

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 240-351262/9	Z0102209.D
Level 2	STD2 240-351262/10	Z0102210.D
Level 3	STD3 240-351262/11	Z0102211.D
Level 4	STD4 240-351262/12	Z0102212.D
Level 5	STD5 240-351262/13	Z0102213.D
Level 6	STD6 240-351262/14	Z0102214.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
1,1,1-Trifluoroethane	2567.4 2490.2	2638.5 2415.0	2424.5	2345.8	Ave		2480.23869				4.4		30.0			

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

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-104312-1 Analy Batch No.: 351262

SDG No.:

Instrument ID: ZPID GC Column: HP-PLOT/Q ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/22/2018 14:51 Calibration End Date: 10/22/2018 16:15 Calibration ID: 47591

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 240-351262/9	Z0102209.D
Level 2	STD2 240-351262/10	Z0102210.D
Level 3	STD3 240-351262/11	Z0102211.D
Level 4	STD4 240-351262/12	Z0102212.D
Level 5	STD5 240-351262/13	Z0102213.D
Level 6	STD6 240-351262/14	Z0102214.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
1,1,1-Trifluoroethane	Ave	499646 23499093	898592	4128426	7988848	18173302	195 9730	341	1703	3406	7298

Curve Type Legend:

Ave = Average

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: ICV 240-351262/15 Calibration Date: 10/22/2018 16:32

Instrument ID: ZPID Calib Start Date: 10/22/2018 13:09

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 14:34

Lab File ID: Z0102215.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	6707	6354		270	285	-5.3	20.0
Ethene	Ave	5821	5870		505	501	0.9	20.0
Acetylene	Ave	2947	3540		557	463	20.1	30.0
Ethane	Ave	5995	6102		546	536	1.8	20.0
Propane	Ave	6050	6065		786	784	0.2	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: ICV 240-351262/15 Calibration Date: 10/22/2018 16:32

Instrument ID: ZPID Calib Start Date: 10/22/2018 13:09

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 14:34

Lab File ID: Z0102215.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.19	1.14	1.24
Ethene	1.88	1.83	1.93
Acetylene	2.00	1.95	2.05
Ethane	2.21	2.00	2.40
Propane	4.55	4.49	4.59

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: ICV 240-351262/15 Calibration Date: 10/22/2018 16:32

Instrument ID: ZPID Calib Start Date: 10/22/2018 14:51

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 16:15

Lab File ID: Z0102215.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1,1-Trifluoroethane	Ave	2480	2332		8690	9240	-6.0	30.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: ICV 240-351262/15 Calibration Date: 10/22/2018 16:32

Instrument ID: ZPID Calib Start Date: 10/22/2018 14:51

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 16:15

Lab File ID: Z0102215.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
1,1,1-Trifluoroethane	3.35	3.25	3.45

GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Instrument ID: ZPID Start Date: 11/19/2018 22:35

Analysis Batch Number: 356108 End Date: 11/20/2018 06:18

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 240-356108/34		11/19/2018 22:35	1	Z0111934.D	HP-PLOT/Q 0.53(mm)
MB 240-356108/35		11/19/2018 22:52	1	Z0111935.D	HP-PLOT/Q 0.53(mm)
LCS 240-356108/36		11/19/2018 23:09	1	Z0111936.D	HP-PLOT/Q 0.53(mm)
ZZZZZ		11/19/2018 23:26	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/19/2018 23:43	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 00:01	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 00:18	1		HP-PLOT/Q 0.53(mm)
240-104312-2		11/20/2018 00:35	1	Z0111941.D	HP-PLOT/Q 0.53(mm)
240-104312-2 MS		11/20/2018 00:52	1	Z0111942.D	HP-PLOT/Q 0.53(mm)
240-104312-2 MSD		11/20/2018 01:09	1	Z0111943.D	HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 01:26	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 01:44	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 02:01	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 02:18	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 02:35	1		HP-PLOT/Q 0.53(mm)
CCV 240-356108/49		11/20/2018 02:52	1	Z0111949.D	HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 03:09	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 03:26	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 03:44	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 04:01	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 04:18	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 04:35	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 04:52	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 05:09	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 05:26	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 05:44	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 06:01	1		HP-PLOT/Q 0.53(mm)
CCV 240-356108/61		11/20/2018 06:18	1		HP-PLOT/Q 0.53(mm)

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: CCVRT 240-356108/34 Calibration Date: 11/19/2018 22:35

Instrument ID: ZPID Calib Start Date: 10/22/2018 13:09

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 14:34

Lab File ID: Z0111934.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	6707	6138		261	285	-8.5	20.0
Ethene	Ave	5821	5756		495	501	-1.1	20.0
Acetylene	Ave	2947	3905		614	463	32.5*	30.0
Ethane	Ave	5995	5879		526	536	-1.9	20.0
Propane	Ave	6050	5811		755	786	-3.9	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: CCVRT 240-356108/34 Calibration Date: 11/19/2018 22:35

Instrument ID: ZPID Calib Start Date: 10/22/2018 13:09

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 14:34

Lab File ID: Z0111934.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.18	1.13	1.23
Ethene	1.88	1.83	1.93
Acetylene	2.00	1.95	2.05
Ethane	2.20	2.00	2.40
Propane	4.55	4.50	4.60

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: CCVRT 240-356108/34 Calibration Date: 11/19/2018 22:35

Instrument ID: ZPID Calib Start Date: 10/22/2018 14:51

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 16:15

Lab File ID: Z0111934.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1,1-Trifluoroethane	Ave	2480	2669		9950	9240	7.6	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: CCVRT 240-356108/34 Calibration Date: 11/19/2018 22:35

Instrument ID: ZPID Calib Start Date: 10/22/2018 14:51

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 16:15

Lab File ID: Z0111934.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
1,1,1-Trifluoroethane	3.34	3.24	3.44

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: CCV 240-356108/49 Calibration Date: 11/20/2018 02:52

Instrument ID: ZPID Calib Start Date: 10/22/2018 13:09

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 14:34

Lab File ID: Z0111949.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	6707	6266		266	285	-6.6	20.0
Ethene	Ave	5821	5837		502	501	0.3	20.0
Acetylene	Ave	2947	3941		620	463	33.7*	30.0
Ethane	Ave	5995	5976		535	536	-0.3	20.0
Propane	Ave	6050	5881		764	786	-2.8	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: CCV 240-356108/49 Calibration Date: 11/20/2018 02:52

Instrument ID: ZPID Calib Start Date: 10/22/2018 13:09

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 14:34

Lab File ID: Z0111949.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.18	1.13	1.23
Ethene	1.88	1.83	1.93
Acetylene	2.00	1.95	2.05
Ethane	2.20	2.00	2.40
Propane	4.55	4.50	4.60

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: CCV 240-356108/49 Calibration Date: 11/20/2018 02:52

Instrument ID: ZPID Calib Start Date: 10/22/2018 14:51

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 16:15

Lab File ID: Z0111949.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1,1-Trifluoroethane	Ave	2480	2670		9950	9240	7.6	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: CCV 240-356108/49 Calibration Date: 11/20/2018 02:52

Instrument ID: ZPID Calib Start Date: 10/22/2018 14:51

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 16:15

Lab File ID: Z0111949.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
1,1,1-Trifluoroethane	3.34	3.24	3.44

FORM IV
GC VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: MB 240-356108/35

Matrix: Water Date Extracted:

Lab File ID:(1) Z0111935.D Lab File ID:(2)

Date Analyzed:(1) 11/19/2018 22:52 Date Analyzed:(2)

Instrument ID:(1) ZPID Instrument ID:(2)

GC Column:(1) HP-PLOT/Q ID: 0.53(mm) GC Column:(2) ID:

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 240-356108/36	11/19/2018 23:09	
MRC-MW-135A-111218	240-104312-2	11/20/2018 00:35	
MRC-MW-135A-111218 MS	240-104312-2 MS	11/20/2018 00:52	
MRC-MW-135A-111218 MSD	240-104312-2 MSD	11/20/2018 01:09	

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104312-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-356108/35

Matrix: Water | Lab File ID: Z0111935.D

Analysis Method: RSK-175 | Date Collected:

Sample wt/vol: 23(mL) | Date Analyzed: 11/19/2018 22:52

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: HP-PLOT/Q ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 356108 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	0.17	U	1.0	0.17
74-84-0	Ethane	0.10	U	1.0	0.10
74-85-1	Ethene	0.11	U	1.0	0.11

CAS NO.	SURROGATE	%REC	Q	LIMITS
420-46-2	1,1,1-Trifluoroethane	111		60-140

FORM III
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Matrix: Water Level: Low Lab File ID: Z0111936.D

Lab ID: LCS 240-356108/36 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Methane	511	479	94	80-120	
Ethane	527	513	97	80-120	
Ethene	462	464	100	80-120	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM III
GC VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Matrix: Water Level: Low Lab File ID: Z0111942.D

Lab ID: 240-104312-2 MS Client ID: MRC-MW-135A-111218 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Methane	285	0.17 U	263	92	50-150	
Ethane	536	0.10 U	530	99	50-150	
Ethene	501	0.11 U	498	100	50-150	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM III
GC VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Matrix: Water Level: Low Lab File ID: Z0111943.D

Lab ID: 240-104312-2 MSD Client ID: MRC-MW-135A-111218 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Methane	285	262	92	0	30	50-150	
Ethane	536	527	98	0	30	50-150	
Ethene	501	495	99	1	30	50-150	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM II
GC VOA SURROGATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): HP-PLOT/Q ID: 0.53(mm)

Client Sample ID	Lab Sample ID	TFE1 #
MRC-MW-135A-111218	240-104312-2	106
	MB 240-356108/35	111
	LCS 240-356108/36	110
MRC-MW-135A-111218 MS	240-104312-2 MS	106
MRC-MW-135A-111218 MSD	240-104312-2 MSD	103

	QC LIMITS
TFE = 1,1,1-Trifluoroethane	60-140

Column to be used to flag recovery values

FORM II RSK-175

FORM VIII
GC VOA ANALYTICAL SEQUENCE

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Sample No.: CCVRT 240-356108/34 Date Analyzed: 11/19/2018 22:35

Instrument ID: ZPID GC Column: HP-PLOT/Q ID: 0.53(mm)

Lab File ID (Standard): Z0111934.D Heated Purge: (Y/N) N

Calibration ID: 47591

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs AND LCSs IS GIVEN BELOW:

				TFE		
				RT #		
CONTINUING CALIBRATION SURROGATE				3.34		
UPPER LIMIT				3.39		
LOWER LIMIT				3.29		
LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	LAB FILE ID			
CCVRT 240-356108/34		11/19/2018 22:35	Z0111934.D	3.34		
MB 240-356108/35		11/19/2018 22:52	Z0111935.D	3.34		
LCS 240-356108/36		11/19/2018 23:09	Z0111936.D	3.34		
240-104312-2	MRC-MW-135A-111218	11/20/2018 00:35	Z0111941.D	3.34		
240-104312-2 MS	MRC-MW-135A-111218 MS	11/20/2018 00:52	Z0111942.D	3.34		
240-104312-2 MSD	MRC-MW-135A-111218 MSD	11/20/2018 01:09	Z0111943.D	3.34		
CCV 240-356108/49		11/20/2018 02:52	Z0111949.D	3.34		

TFE = 1,1,1-Trifluoroethane

TFE RT Limit = ± 0.05 minutes of surrogate RT

Column used to flag values outside QC limits

FORM VIII RSK-175

GC VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Batch Number: 356108 Batch Start Date: 11/19/18 22:35 Batch Analyst: Grossman, Lucas

Batch Method: RSK-175 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	MEEP LCS 00007	SARSKHIGHCALP 00009	SARSKSURR 00011
CCVRT 240-356108/34		RSK-175		23 mL	23 mL	7 SU		1 mL	19 mL
MB 240-356108/35		RSK-175		23 mL	23 mL	7 SU			20 mL
LCS 240-356108/36		RSK-175		23 mL	23 mL	7 SU	23 mL		20 mL
240-104312-R-2	MRC-MW-135A-111218	RSK-175	T	23 mL	23 mL	<2 SU			20 mL
240-104312-O-2 MS	MRC-MW-135A-111218	RSK-175	T	23 mL	23 mL	<2 SU		1 mL	19 mL
240-104312-L-2 MSD	MRC-MW-135A-111218	RSK-175	T	23 mL	23 mL	<2 SU		1 mL	19 mL
CCV 240-356108/49		RSK-175		23 mL	23 mL	7 SU		1 mL	19 mL

Batch Notes	
pH Paper ID	3920071

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.

METALS

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Instrument ID: I9 Analysis Method: 6010C

Start Date: 11/15/2018 07:59 End Date: 11/16/2018 07:49

Lab Sample Id	D/F	Type	Time	Analytes																									
				Fe	Mn																								
ICIS 240-355599/1	1		07:59	X	X																								
CALSTD 240-355599/2 IC			08:03	X	X																								
CALSTD 240-355599/3 IC			08:07	X	X																								
ICV 240-355599/4	1		08:12	X	X																								
ICB 240-355599/5	1		08:16	X	X																								
ICVL 240-355599/6	1		08:20	X	X																								
ZZZZZZ			08:25																										
ICSA 240-355599/8	1		08:29	X	X																								
ICSAB 240-355599/9	1		08:33	X	X																								
CCV 240-355599/10			08:38																										
CCB 240-355599/11			08:42																										
ZZZZZZ			08:46																										
ZZZZZZ			08:51																										
ZZZZZZ			08:55																										
ZZZZZZ			09:00																										
ZZZZZZ			09:04																										
ZZZZZZ			09:08																										
CCV 240-355599/18			09:13																										
CCB 240-355599/19			09:17																										
ZZZZZZ			09:22																										
ZZZZZZ			09:26																										
ZZZZZZ			09:30																										
ZZZZZZ			09:35																										
ZZZZZZ			09:39																										
ZZZZZZ			09:44																										
ZZZZZZ			09:48																										
ZZZZZZ			09:52																										
ZZZZZZ			09:57																										
ZZZZZZ			10:01																										
CCV 240-355599/30			10:05																										
CCB 240-355599/31			10:09																										
ZZZZZZ			10:14																										
ZZZZZZ			10:37																										
CCV 240-355599/34			10:41																										
CCB 240-355599/35			10:45																										
ZZZZZZ			11:16																										
ZZZZZZ			11:20																										
ZZZZZZ			11:25																										
ZZZZZZ			11:29																										
ZZZZZZ			11:33																										
ZZZZZZ			11:37																										
ZZZZZZ			11:42																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Instrument ID: I9 Analysis Method: 6010C

Start Date: 11/15/2018 07:59 End Date: 11/16/2018 07:49

Lab Sample Id	D/F	Type	Time	Analytes																									
				Fe	Mn																								
ZZZZZZ			11:46																										
ZZZZZZ			11:50																										
ZZZZZZ			11:55																										
CCV 240-355599/46			11:59																										
CCB 240-355599/47			12:03																										
ZZZZZZ			12:08																										
ZZZZZZ			12:13																										
ZZZZZZ			12:17																										
ZZZZZZ			12:22																										
ZZZZZZ			12:26																										
ZZZZZZ			12:30																										
ZZZZZZ			12:35																										
ZZZZZZ			12:39																										
ZZZZZZ			12:43																										
ZZZZZZ			12:48																										
CCV 240-355599/58			12:52																										
CCB 240-355599/59			12:56																										
ZZZZZZ			13:01																										
ZZZZZZ			13:05																										
ZZZZZZ			13:10																										
ZZZZZZ			13:14																										
ZZZZZZ			13:18																										
ZZZZZZ			13:23																										
ZZZZZZ			13:27																										
ZZZZZZ			13:32																										
ZZZZZZ			13:36																										
ZZZZZZ			13:40																										
CCV 240-355599/70	1		13:45	X	X																								
CCB 240-355599/71	1		13:49	X	X																								
ZZZZZZ			13:53																										
ZZZZZZ			13:58																										
ZZZZZZ			14:02																										
ZZZZZZ			14:07																										
ZZZZZZ			14:11																										
ZZZZZZ			14:16																										
MB 240-355373/1-A	1	R	14:20	X	X																								
LCS 240-355373/2-A	1	R	14:25	X	X																								
240-104312-2	1	R	14:29	X	X																								
240-104312-2 SD	5	R	14:33	X	X																								
CCV 240-355599/82	1		14:38	X	X																								
CCB 240-355599/83	1		14:42	X	X																								
ZZZZZZ			14:46																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Instrument ID: I9 Analysis Method: 6010C

Start Date: 11/15/2018 07:59 End Date: 11/16/2018 07:49

Lab Sample Id	D/F	Type	Time	Analytes																									
				Fe	Mn																								
240-104312-2 MS	1	R	14:50	X	X																								
240-104312-2 MSD	1	R	14:54	X	X																								
ZZZZZZ			14:59																										
ZZZZZZ			15:03																										
ZZZZZZ			15:08																										
ZZZZZZ			15:12																										
ZZZZZZ			15:16																										
ZZZZZZ			15:21																										
ZZZZZZ			15:25																										
CCV 240-355599/94	1		15:30	X	X																								
CCB 240-355599/95	1		15:34	X	X																								
ZZZZZZ			15:38																										
ZZZZZZ			15:42																										
ZZZZZZ			15:47																										
ZZZZZZ			15:51																										
ZZZZZZ			15:56																										
ZZZZZZ			16:00																										
ZZZZZZ			16:05																										
ZZZZZZ			16:09																										
ZZZZZZ			16:14																										
ZZZZZZ			16:18																										
CCV 240-355599/106			16:23																										
CCB 240-355599/107			16:27																										
ZZZZZZ			16:32																										
ZZZZZZ			16:37																										
ZZZZZZ			16:41																										
ZZZZZZ			16:46																										
ZZZZZZ			16:50																										
ZZZZZZ			16:54																										
ZZZZZZ			16:59																										
ZZZZZZ			17:03																										
ZZZZZZ			17:07																										
ZZZZZZ			17:11																										
CCV 240-355599/118			17:16																										
CCB 240-355599/119			17:20																										
ZZZZZZ			17:24																										
ZZZZZZ			17:28																										
ZZZZZZ			17:33																										
ZZZZZZ			17:37																										
ZZZZZZ			17:42																										
CCVL 240-355599/125	1		07:40	X	X																								
CCV 240-355599/126			07:45																										

FORM XIII-IN

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

ICV Source: MT6500ICV_00050 Concentration Units: ug/L

CCV Source: MTICPCCV_00141

Analyte	ICV 240-355599/4 11/15/2018 08:12				CCV 240-355599/70 11/15/2018 13:45				CCV 240-355599/82 11/15/2018 14:38			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Iron	12600		12500	101	24200		25000	97	24900		25000	100
Manganese	1500		1500	100	2100		2000	105	2130		2000	107

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

ICV Source: MT6500ICV_00050 Concentration Units: ug/L

CCV Source: MTICPCCV_00141

Analyte	CCV 240-355599/94 11/15/2018 15:30											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Iron	24400		25000	98								
Manganese	2070		2000	104								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

ICV Source: MTTRCRIC_00063 Concentration Units: ug/L

CCV Source: MTTRCRIC_00063

Analyte	ICVL 240-355599/6 11/15/2018 08:20				CCVL 240-355599/125 11/16/2018 07:40							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Iron	202		200	101	176	J	200	88				
Manganese	13.9	J	15.0	93	14.1	J	15.0	94				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 240-355599/5 11/15/2018 08:16		CCB 240-355599/71 11/15/2018 13:49		CCB 240-355599/83 11/15/2018 14:42		CCB 240-355599/95 11/15/2018 15:34	
		Found	C	Found	C	Found	C	Found	C
Iron	200	26	U	26	U	26	U	26	U
Manganese	15	2.1	U	2.1	U	2.1	U	2.1	U

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 240-355373/1-A

Instrument Code: I9 Batch No.: 355599

CAS No.	Analyte	Concentration	C	Q	Method
7439-89-6	Iron	26	U		6010C
7439-96-5	Manganese	2.1	U		6010C

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: ICSA 240-355599/8 Instrument ID: I9

Lab File ID: I9111518A.asc ICS Source: MTTRICSAW_00043

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Iron	**200000**	**188290**	**94**
Manganese		**0.0300**	
Aluminum	*500000*	*506830*	*101*
Antimony		*-1.39*	
Arsenic		*-1.07*	
Barium		*-0.0892*	
Beryllium		*0.0717*	
Boron		*-3.18*	
Cadmium		*0.0200*	
Calcium	*500000*	*469460*	*94*
Chromium		*3.41*	
Cobalt		*-0.599*	
Copper		*1.18*	
Lead		*5.20*	
Lithium		*14.4*	
Magnesium	*500000*	*498280*	*100*
Molybdenum		*-0.299*	
Nickel		*2.94*	
Potassium		*84.0*	
Selenium		*0.591*	
Silicon		*2.55*	
Silver		*0.192*	
Sodium		*35.8*	
Strontium		*14.9*	
Thallium		*3.55*	
Tin		*5.21*	
Titanium		*-0.602*	
Vanadium		*-4.12*	
Zinc		*-3.06*	

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: ICSAB 240-355599/9 Instrument ID: I9

Lab File ID: I9111518A.asc ICS Source: MTICPICSABW_00019

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Iron	**200000**	**187680**	**94**
Manganese	**500**	**496**	**99**
Aluminum	*500000*	*502570*	*101*
Antimony	*1000*	*1006*	*101*
Arsenic	*1000*	*1027*	*103*
Barium	*500*	*498*	*100*
Beryllium	*500*	*489*	*98*
Boron	*500*	*540*	*108*
Cadmium	*1000*	*1030*	*103*
Calcium	*500000*	*470390*	*94*
Chromium	*500*	*491*	*98*
Cobalt	*500*	*504*	*101*
Copper	*500*	*532*	*106*
Lead	*1000*	*906*	*91*
Lithium	*500*	*561*	*112*
Magnesium	*500000*	*494700*	*99*
Molybdenum	*1000*	*970*	*97*
Nickel	*1000*	*984*	*98*
Potassium	*10000*	*10565*	*106*
Selenium	*1000*	*1015*	*101*
Silicon	*10000*	*9572*	*96*
Silver	*1000*	*1082*	*108*
Sodium	*10000*	*10562*	*106*
Strontium	*1500*	*1446*	*96*
Thallium	*1000*	*957*	*96*
Tin	*500*	*534*	*107*
Titanium	*500*	*523*	*105*
Vanadium	*500*	*485*	*97*
Zinc	*1000*	*996*	*100*

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

FORM IVA-IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 240-355373/2-A

Lab Name: TestAmerica Canton Job No.: 240-104312-1

Sample Matrix: Water LCS Source: MTICP1_00079

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Iron	1000	973		97	80	120		6010C
Manganese	500	519		104	80	120		6010C

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

FORM VIIA - IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS - TOTAL RECOVERABLE

Lab ID: 240-104312-2

SDG No:

Lab Name: TestAmerica Canton Job No: 240-104312-1

Matrix: Water Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Iron	390		415	J	NC		6010C
Manganese	170		185		9.7		6010C

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

FORM VIII-IN

9-IN
DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Canton Job Number: 240-104312-1

SDG Number:

Matrix: Water Instrument ID: I9

Method: 6010C MDL Date: 12/15/2017 12:49

Prep Method: 3005A

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Iron	271.441	200	25.958
Manganese	257.610	15	2.119

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Canton Job Number: 240-104312-1

SDG Number:

Matrix: Water Instrument ID: I9

Method: 6010C XMDL Date: 12/15/2017 12:49

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Iron	271.441	200	25.958
Manganese	257.610	15	2.119

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Canton Job No: 240-104312-1

SDG No.:

Instrument ID: I9 Date: 07/26/2018 09:39

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Iron		500000	6010C
Manganese		10000	6010C

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Prep Method: 3005A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 240-355373/1-A	11/14/2018 14:00	355373		50	50
LCS 240-355373/2-A	11/14/2018 14:00	355373		50	50
240-104312-2	11/14/2018 14:00	355373		50	50
240-104312-2 MS	11/14/2018 14:00	355373		50	50
240-104312-2 MSD	11/14/2018 14:00	355373		50	50

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Instrument ID: I14 Analysis Method: 6020A

Start Date: 11/15/2018 12:15 End Date: 11/15/2018 17:30

Lab Sample Id	D/F	Type	Time	Analytes																											
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl	V	Zn							
RINSE 240-355756/1			12:15																												
ICIS 240-355756/2			12:17	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
STD1 240-355756/3 IC	1		12:20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
STD2 240-355756/4 IC	1		12:22	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
STD3 240-355756/5 IC	1		12:24	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
STD4 240-355756/6 IC	1		12:26	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
ICV 240-355756/7	1		12:29	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
ICB 240-355756/8	1		12:31	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
ICVL 240-355756/9	1		12:33	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
ICSA 240-355756/10	1		12:36	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
ICSAB 240-355756/11	1		12:38	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
CCV 240-355756/12			12:40																												
CCB 240-355756/13			12:42																												
CCV 240-355756/14	1		13:16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
CCB 240-355756/15	1		13:19	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
MB 240-355373/1-A	1	R	13:21	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
LCS 240-355373/3-A	1	R	13:23	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
ZZZZZZ			13:25																												
CCV 240-355756/19	1		13:28	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
CCB 240-355756/20	1		13:30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
ZZZZZZ			13:37																												
CCV 240-355756/22	1		13:39	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
CCB 240-355756/23	1		13:41	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
240-104312-2	1	R	13:59	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
240-104312-2 SD	5	R	14:02	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
ZZZZZZ			14:04																												
240-104312-2 MS	1	R	14:06	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
240-104312-2 MSD	1	R	14:08	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
ZZZZZZ			14:10																												
ZZZZZZ			14:12																												
ZZZZZZ			14:16																												
ZZZZZZ			14:18																												
ZZZZZZ			14:20																												
CCV 240-355756/34	1		14:23	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
CCB 240-355756/35	1		14:25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
ZZZZZZ			14:27																												
ZZZZZZ			14:30																												
ZZZZZZ			14:32																												
ZZZZZZ			14:34																												
ZZZZZZ			14:36																												
ZZZZZZ			14:38																												
ZZZZZZ			14:41																												

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Instrument ID: I14 Analysis Method: 6020A

Start Date: 11/15/2018 12:15 End Date: 11/15/2018 17:30

Lab Sample Id	D/F	Type	Time	Analytes																											
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl	V	Zn				
ZZZZZZ			14:43																												
ZZZZZZ			14:45																												
ZZZZZZ			14:48																												
CCV 240-355756/46			14:50																												
CCB 240-355756/47			14:52																												
CCV 240-355756/48			14:58																												
CCB 240-355756/49			15:00																												
ZZZZZZ			15:03																												
ZZZZZZ			15:05																												
ZZZZZZ			15:07																												
ZZZZZZ			15:09																												
ZZZZZZ			15:11																												
ZZZZZZ			15:14																												
ZZZZZZ			15:16																												
ZZZZZZ			15:18																												
ZZZZZZ			15:20																												
ZZZZZZ			15:23																												
CCV 240-355756/60			15:25																												
CCB 240-355756/61			15:27																												
ZZZZZZ			15:29																												
ZZZZZZ			15:31																												
ZZZZZZ			15:33																												
ZZZZZZ			15:36																												
ZZZZZZ			15:38																												
CCV 240-355756/67			15:40																												
CCB 240-355756/68			15:42																												
CCVL 240-355756/69	1		15:45	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X					
ZZZZZZ			15:47																												
ZZZZZZ			15:49																												
ZZZZZZ			15:51																												
ZZZZZZ			15:54																												
ZZZZZZ			15:56																												
ZZZZZZ			15:58																												
ZZZZZZ			16:01																												
ZZZZZZ			16:03																												
ZZZZZZ			16:05																												
CCV 240-355756/79			16:07																												
CCB 240-355756/80			16:09																												
ZZZZZZ			16:12																												
ZZZZZZ			16:14																												
ZZZZZZ			16:16																												
ZZZZZZ			16:18																												

FORM XIII-IN

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

ICV Source: MTMSICVW_00087 Concentration Units: ug/L

CCV Source: MTMSCAL2CCVW_00222

Analyte	ICV 240-355756/7 11/15/2018 12:29				CCV 240-355756/34 11/15/2018 14:23							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	198		200	99	236		250	94				
Antimony	39.8		40.0	100	49.6		50.0	99				
Arsenic	38.7		40.0	97	48.0		50.0	96				
Barium	38.6		40.0	96	47.9		50.0	96				
Beryllium	39.0		40.0	98	52.1		50.0	104				
Cadmium	40.2		40.0	100	49.5		50.0	99				
Calcium	20100		20000	101	24800		25000	99				
Chromium	38.9		40.0	97	49.6		50.0	99				
Cobalt	39.0		40.0	97	48.9		50.0	98				
Copper	40.0		40.0	100	49.3		50.0	99				
Iron	9640		10000	96	12100		12500	96				
Lead	40.3		40.0	101	50.2		50.0	100				
Magnesium	19500		20000	98	24900		25000	100				
Manganese	195		200	97	241		250	96				
Nickel	39.5		40.0	99	49.1		50.0	98				
Potassium	19500		20000	97	24700		25000	99				
Selenium	39.2		40.0	98	48.6		50.0	97				
Silver	39.0		40.0	97	49.0		50.0	98				
Sodium	19900		20000	100	26700		25000	107				
Thallium	39.6		40.0	99	49.8		50.0	100				
Vanadium	38.9		40.0	97	48.6		50.0	97				
Zinc	39.5		40.0	99	48.1		50.0	96				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

ICV Source: MTMSICVW_00087 Concentration Units: ug/L

CCV Source: MTMSCAL2CCVW_00224

Analyte	ICV 240-355756/7 11/15/2018 12:29				CCV 240-355756/14 11/15/2018 13:16				CCV 240-355756/19 11/15/2018 13:28			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	198		200	99	242		250	97	249		250	100
Antimony	39.8		40.0	100	49.5		50.0	99	50.1		50.0	100
Arsenic	38.7		40.0	97	47.7		50.0	95	50.1		50.0	100
Barium	38.6		40.0	96	48.3		50.0	97	49.0		50.0	98
Beryllium	39.0		40.0	98	45.9		50.0	92	48.8		50.0	98
Cadmium	40.2		40.0	100	48.9		50.0	98	49.1		50.0	98
Calcium	20100		20000	101	25500		25000	102	26100		25000	104
Chromium	38.9		40.0	97	48.9		50.0	98	50.4		50.0	101
Cobalt	39.0		40.0	97	47.9		50.0	96	49.5		50.0	99
Copper	40.0		40.0	100	48.0		50.0	96	49.5		50.0	99
Iron	9640		10000	96	12000		12500	96	12300		12500	99
Lead	40.3		40.0	101	49.1		50.0	98	49.8		50.0	100
Magnesium	19500		20000	98	24500		25000	98	24800		25000	99
Manganese	195		200	97	241		250	97	251		250	100
Nickel	39.5		40.0	99	48.2		50.0	96	49.5		50.0	99
Potassium	19500		20000	97	25300		25000	101	25500		25000	102
Selenium	39.2		40.0	98	49.3		50.0	99	49.2		50.0	98
Silver	39.0		40.0	97	47.8		50.0	96	49.6		50.0	99
Sodium	19900		20000	100	24300		25000	97	24800		25000	99
Thallium	39.6		40.0	99	49.0		50.0	98	49.3		50.0	99
Vanadium	38.9		40.0	97	49.0		50.0	98	50.2		50.0	100
Zinc	39.5		40.0	99	47.4		50.0	95	48.7		50.0	97

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

ICV Source: MTMSICVW_00087 Concentration Units: ug/L

CCV Source: MTMSCAL2CCVW_00224

Analyte	CCV 240-355756/22 11/15/2018 13:39											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	247		250	99								
Antimony	49.2		50.0	98								
Arsenic	47.8		50.0	96								
Barium	48.7		50.0	97								
Beryllium	46.4		50.0	93								
Cadmium	48.2		50.0	96								
Calcium	25800		25000	103								
Chromium	49.8		50.0	100								
Cobalt	48.5		50.0	97								
Copper	48.6		50.0	97								
Iron	12200		12500	98								
Lead	49.5		50.0	99								
Magnesium	24500		25000	98								
Manganese	248		250	99								
Nickel	49.0		50.0	98								
Potassium	24600		25000	99								
Selenium	47.9		50.0	96								
Silver	49.1		50.0	98								
Sodium	24600		25000	98								
Thallium	49.5		50.0	99								
Vanadium	50.5		50.0	101								
Zinc	47.3		50.0	95								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

ICV Source: MTMSCRI6020AW_00076 Concentration Units: ug/L

CCV Source: MTMSCRI6020AW_00076

Analyte	ICVL 240-355756/9 11/15/2018 12:33				CCVL 240-355756/69 11/15/2018 15:45							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	61.7		50.0	123	58.2		50.0	116				
Antimony	2.12		2.00	106	2.24		2.00	112				
Arsenic	5.24		5.00	105	5.54		5.00	111				
Barium	5.20		5.00	104	5.42		5.00	108				
Beryllium	1.03		1.00	103	1.42		1.00	142				
Cadmium	1.06		1.00	106	1.16		1.00	116				
Calcium	1140		1000	114	1130		1000	113				
Chromium	2.21		2.00	110	2.31		2.00	115				
Cobalt	1.13		1.00	113	1.12		1.00	112				
Copper	2.19		2.00	109	2.65		2.00	133				
Iron	113		100	113	111		100	111				
Lead	1.16		1.00	116	1.18		1.00	118				
Magnesium	1120		1000	112	1100		1000	110				
Manganese	5.39		5.00	108	5.51		5.00	110				
Nickel	2.25		2.00	112	2.16		2.00	108				
Potassium	1200		1000	120	1210		1000	121				
Selenium	5.67		5.00	113	5.59		5.00	112				
Silver	1.10		1.00	110	1.10		1.00	110				
Sodium	1120		1000	112	1600		1000	160				
Thallium	1.14		1.00	114	1.17		1.00	117				
Vanadium	5.53		5.00	111	5.33		5.00	107				
Zinc	22.0		20.0	110	21.9		20.0	110				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 240-355756/8 11/15/2018 12:31		CCB 240-355756/15 11/15/2018 13:19		CCB 240-355756/20 11/15/2018 13:30		CCB 240-355756/23 11/15/2018 13:41	
		Found	C	Found	C	Found	C	Found	C
Aluminum	50	34	U	34	U	34	U	34	U
Antimony	2.0	0.57	U	0.57	U	0.57	U	0.57	U
Arsenic	5.0	0.75	U	0.75	U	0.75	U	0.75	U
Barium	5.0	2.2	U	2.2	U	2.2	U	2.2	U
Beryllium	1.0	0.31	U	0.31	U	0.31	U	0.31	U
Cadmium	1.0	0.21	U	0.21	U	0.21	U	0.21	U
Calcium	1000	580	U	580	U	580	U	580	U
Chromium	2.0	0.98	U	0.98	U	0.98	U	0.98	U
Cobalt	1.0	0.19	U	0.19	U	0.19	U	0.19	U
Copper	2.0	1.7	U	1.7	U	1.7	U	1.7	U
Iron	100	47	U	47	U	47	U	47	U
Lead	1.0	0.45	U	0.45	U	0.45	U	0.45	U
Magnesium	1000	200	U	200	U	200	U	200	U
Manganese	5.0	2.1	U	2.1	U	2.1	U	2.1	U
Nickel	2.0	1.5	U	1.5	U	1.5	U	1.5	U
Potassium	1000	220	U	220	U	220	U	220	U
Selenium	5.0	0.89	U	0.89	U	0.89	U	0.89	U
Silver	1.0	0.053	U	0.053	U	0.053	U	0.053	U
Sodium	1000	330	U	330	U	330	U	330	U
Thallium	1.0	0.20	U	0.20	U	0.20	U	0.20	U
Vanadium	5.0	0.82	U	0.82	U	0.82	U	0.82	U
Zinc	20	15	U	15	U	15	U	15	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 240-355756/35 11/15/2018 14:25							
		Found	C	Found	C	Found	C	Found	C
Aluminum	50	34	U						
Antimony	2.0	0.57	U						
Arsenic	5.0	0.75	U						
Barium	5.0	2.2	U						
Beryllium	1.0	0.31	U						
Cadmium	1.0	0.21	U						
Calcium	1000	580	U						
Chromium	2.0	0.98	U						
Cobalt	1.0	0.19	U						
Copper	2.0	1.7	U						
Iron	100	47	U						
Lead	1.0	0.45	U						
Magnesium	1000	200	U						
Manganese	5.0	2.1	U						
Nickel	2.0	1.5	U						
Potassium	1000	220	U						
Selenium	5.0	0.89	U						
Silver	1.0	0.053	U						
Sodium	1000	911	J						
Thallium	1.0	0.20	U						
Vanadium	5.0	0.82	U						
Zinc	20	15	U						

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 240-355373/1-A

Instrument Code: I14 Batch No.: 355756

CAS No.	Analyte	Concentration	C	Q	Method
7440-22-4	Silver	0.053	U		6020A
7429-90-5	Aluminum	34	U		6020A
7440-38-2	Arsenic	0.75	U		6020A
7440-39-3	Barium	2.2	U		6020A
7440-41-7	Beryllium	0.31	U	^	6020A
7440-43-9	Cadmium	0.21	U		6020A
7440-48-4	Cobalt	0.19	U		6020A
7440-47-3	Chromium	0.98	U		6020A
7440-50-8	Copper	1.7	U	^	6020A
7439-89-6	Iron	47	U		6020A
7439-96-5	Manganese	2.1	U		6020A
7440-02-0	Nickel	1.5	U		6020A
7439-92-1	Lead	0.45	U		6020A
7440-36-0	Antimony	0.57	U		6020A
7782-49-2	Selenium	0.89	U		6020A
7440-28-0	Thallium	0.20	U		6020A
7440-62-2	Vanadium	0.82	U		6020A
7440-66-6	Zinc	15	U		6020A
7440-70-2	Calcium	580	U		6020A
7440-09-7	Potassium	220	U		6020A
7439-95-4	Magnesium	200	U		6020A
7440-23-5	Sodium	330	U	^	6020A

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: ICSA 240-355756/10 Instrument ID: I14

Lab File ID: 010ICSA.d ICS Source: MTMSICSAW_00087

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	**50000**	**46702**	**93**
Antimony		**0.0120**	
Arsenic		**0.173**	
Barium		**0.0380**	
Beryllium		**-0.0330**	
Cadmium		**0.230**	
Calcium	**50000**	**47484**	**95**
Chromium		**0.119**	
Cobalt		**0.0120**	
Copper		**0.0920**	
Iron	**50000**	**47360**	**95**
Lead		**0.0240**	
Magnesium	**50000**	**47967**	**96**
Manganese		**-0.0190**	
Nickel		**0.130**	
Potassium	**50000**	**48091**	**96**
Selenium		**0.203**	
Silver		**0.0140**	
Sodium	**50000**	**47932**	**96**
Thallium		**0.0000**	
Vanadium		**0.0210**	
Zinc		**-0.404**	
Boron		*1.39*	
Lithium		*0.351*	
Molybdenum	*1000*	*1022*	*102*
Strontium		*0.467*	
Tin		*-0.0560*	
Titanium	*1000*	*963*	*96*
Tungsten		*0.0790*	

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Lab Sample ID: ICSAB 240-355756/11 Instrument ID: I14

Lab File ID: 011ICAB.d ICS Source: MTMSICSABW_00088

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Found Percent Recovery
Aluminum	**50000**	**45415**	**91**
Antimony	**100**	**100**	**100**
Arsenic	**100**	**95.6**	**96**
Barium	**100**	**96.6**	**97**
Beryllium	**100**	**102**	**102**
Cadmium	**100**	**96.1**	**96**
Calcium	**50000**	**46569**	**93**
Chromium	**100**	**94.4**	**94**
Cobalt	**100**	**95.9**	**96**
Copper	**100**	**94.2**	**94**
Iron	**50000**	**47101**	**94**
Lead	**100**	**97.8**	**98**
Magnesium	**50000**	**47110**	**94**
Manganese	**100**	**95.2**	**95**
Nickel	**100**	**95.7**	**96**
Potassium	**50000**	**47712**	**95**
Selenium	**100**	**95.7**	**96**
Silver	**100**	**95.2**	**95**
Sodium	**50000**	**47526**	**95**
Thallium	**100**	**95.9**	**96**
Vanadium	**100**	**94.6**	**95**
Zinc	**100**	**95.2**	**95**
Boron	*100*	*95.9*	*96*
Lithium	*100*	*101*	*101*
Molybdenum	*1100*	*1117*	*102*
Strontium	*100*	*94.7*	*95*
Tin	*100*	*101*	*101*
Titanium	*1100*	*1057*	*96*
Tungsten	*100*	*99.1*	*99*

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

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: MRC-MW-135A-111218 MS Lab ID: 240-104312-2 MS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Matrix: Water Concentration Units: ug/L

% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Iron	1380		390		1000	99	75-125		6010C
Manganese	694		170		500	105	75-125		6010C
Silver	96.0		0.053	U	100	96	75-125		6020A
Aluminum	9730		34	U	10000	97	75-125		6020A
Arsenic	985		0.75	U	1000	98	75-125		6020A
Barium	1080		80		1000	100	75-125		6020A
Beryllium	998		0.31	U	1000	100	75-125	^	6020A
Cadmium	966		0.21	U	1000	97	75-125		6020A
Cobalt	969		4.5		1000	96	75-125		6020A
Chromium	949		0.98	U	1000	95	75-125		6020A
Copper	947		1.7	U	1000	95	75-125	^	6020A
Iron	10100		420		10000	96	75-125		6020A
Manganese	1100		160		1000	94	75-125		6020A
Nickel	967		1.8	J	1000	97	75-125		6020A
Lead	964		0.45	U	1000	96	75-125		6020A
Antimony	98.4		0.57	U	100	98	75-125		6020A
Selenium	939		5.9		1000	93	75-125		6020A
Thallium	240		0.20	U	250	96	75-125		6020A
Vanadium	959		0.82	U	1000	96	75-125		6020A
Zinc	960		15	U	1000	96	75-125		6020A
Calcium	124000		120000		10000	27	75-125	4	6020A
Potassium	13000		3700		10000	93	75-125		6020A
Magnesium	34200		26000		10000	79	75-125		6020A
Sodium	244000		240000		10000	-7	75-125	4 ^	6020A

SSR = Spiked Sample Result

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

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: MRC-MW-135A-111218 MSD | Lab ID: 240-104312-2 MSD

Lab Name: TestAmerica Canton | Job No.: 240-104312-1

SDG No.:

Matrix: Water | Concentration Units: ug/L

% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Iron	1350		1000	96	75-125	2	20		6010C
Manganese	674		500	101	75-125	3	20		6010C
Silver	98.6		100	99	75-125	3	20		6020A
Aluminum	9990		10000	100	75-125	3	20		6020A
Arsenic	1010		1000	101	75-125	2	20		6020A
Barium	1080		1000	100	75-125	0	20		6020A
Beryllium	999		1000	100	75-125	0	20	^	6020A
Cadmium	983		1000	98	75-125	2	20		6020A
Cobalt	992		1000	99	75-125	2	20		6020A
Chromium	964		1000	96	75-125	2	20		6020A
Copper	975		1000	97	75-125	3	20	^	6020A
Iron	10400		10000	100	75-125	4	20		6020A
Manganese	1120		1000	96	75-125	1	20		6020A
Nickel	1000		1000	100	75-125	4	20		6020A
Lead	996		1000	100	75-125	3	20		6020A
Antimony	102		100	102	75-125	3	20		6020A
Selenium	997		1000	99	75-125	6	20		6020A
Thallium	247		250	99	75-125	3	20		6020A
Vanadium	981		1000	98	75-125	2	20		6020A
Zinc	975		1000	98	75-125	2	20		6020A
Calcium	122000		10000	6	75-125	2	20	4	6020A
Potassium	13200		10000	95	75-125	2	20		6020A
Magnesium	34100		10000	77	75-125	0	20		6020A
Sodium	240000		10000	-45	75-125	2	20	4 ^	6020A

SDR = Sample Duplicate Result

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

FORM VD - IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 240-355373/3-A

Lab Name: TestAmerica Canton Job No.: 240-104312-1

Sample Matrix: Water LCS Source: MTICPMSB_00037

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Silver	100	97.9		98	80	120		6020A
Aluminum	10000	10200		102	80	120		6020A
Arsenic	1000	936		94	80	120		6020A
Barium	1000	1010		101	80	120		6020A
Beryllium	1000	982		98	80	120	^	6020A
Cadmium	1000	985		98	80	120		6020A
Cobalt	1000	968		97	80	120		6020A
Chromium	1000	998		100	80	120		6020A
Copper	1000	951		95	80	120	^	6020A
Iron	10000	9650		96	80	120		6020A
Manganese	1000	1040		104	80	120		6020A
Nickel	1000	977		98	80	120		6020A
Lead	1000	1050		105	80	120		6020A
Antimony	100	100		100	80	120		6020A
Selenium	1000	976		98	80	120		6020A
Thallium	250	258		103	80	120		6020A
Vanadium	1000	978		98	80	120		6020A
Zinc	1000	953		95	80	120		6020A
Calcium	10000	9990		100	80	120		6020A
Potassium	10000	10200		102	80	120		6020A
Magnesium	10000	10200		102	80	120		6020A
Sodium	10000	10100		101	80	120	^	6020A

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

FORM VIIA - IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS - TOTAL RECOVERABLE

Lab ID: 240-104312-2

SDG No:

Lab Name: TestAmerica Canton Job No: 240-104312-1

Matrix: Water Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Silver	0.053	U	0.27	U	NC		6020A
Aluminum	34	U	170	U	NC		6020A
Arsenic	0.75	U	3.8	U	NC		6020A
Barium	80		81.9		NC		6020A
Beryllium	0.31	U	1.5	U	NC	^	6020A
Cadmium	0.21	U	1.1	U	NC		6020A
Cobalt	4.5		4.62	J	NC		6020A
Chromium	0.98	U	4.9	U	NC		6020A
Copper	1.7	U	8.5	U	NC	^	6020A
Iron	420		448	J	NC		6020A
Manganese	160		168		NC		6020A
Nickel	1.8	J	7.4	U	NC		6020A
Lead	0.45	U	2.3	U	NC		6020A
Antimony	0.57	U	2.9	U	NC		6020A
Selenium	5.9		5.93	J	NC		6020A
Thallium	0.20	U	1.0	U	NC		6020A
Vanadium	0.82	U	4.1	U	NC		6020A
Zinc	15	U	75	U	NC		6020A
Calcium	120000		131000		7.8		6020A
Potassium	3700		3980	J	NC		6020A
Magnesium	26000		28100		NC		6020A
Sodium	240000		255000		4.0	^	6020A

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

FORM VIII-IN

9-IN
DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Canton Job Number: 240-104312-1

SDG Number:

Matrix: Water Instrument ID: I14

Method: 6020A MDL Date: 04/27/2017 13:23

Prep Method: 3005A

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Aluminum	27.00	50	34
Antimony	121.00	2	0.57
Arsenic	75.00	5	0.75
Barium	137.00	5	2.23
Beryllium	9.00	1	0.305
Cadmium	111.00	1	0.212
Calcium	43.00	1000	583
Chromium	52.00	2	0.98
Cobalt	59.00	1	0.19
Copper	65.00	2	1.7
Iron	56.00	100	47
Lead	208.00	1	0.45
Magnesium	25.00	1000	199
Manganese	55.00	5	2.06
Nickel	60.00	2	1.47
Potassium	39.00	1000	216
Selenium	78.00	5	0.89
Silver	107.00	1	0.053
Sodium	23.00	1000	329
Thallium	205.00	1	0.2
Vanadium	51.00	5	0.82
Zinc	66.00	20	15

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Canton Job Number: 240-104312-1

SDG Number:

Matrix: Water Instrument ID: I14

Method: 6020A XMDL Date: 04/27/2017 13:25

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Aluminum	27.00	50	34
Antimony	121.00	2	0.57
Arsenic	75.00	5	0.75
Barium	137.00	5	2.23
Beryllium	9.00	1	0.305
Cadmium	111.00	1	0.212
Calcium	43.00	1000	583
Chromium	52.00	2	0.98
Cobalt	59.00	1	0.19
Copper	65.00	2	1.7
Iron	56.00	100	47
Lead	208.00	1	0.45
Magnesium	25.00	1000	199
Manganese	55.00	5	2.06
Nickel	60.00	2	1.47
Potassium	39.00	1000	216
Selenium	78.00	5	0.89
Silver	107.00	1	0.053
Sodium	23.00	1000	329
Thallium	205.00	1	0.2
Vanadium	51.00	5	0.82
Zinc	66.00	20	15

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Canton Job No: 240-104312-1

SDG No.:

Instrument ID: I14 Date: 10/02/2018 11:17

Analyte	Integ. Time (Sec.)	Concentration (ppb)	Method
Silver		300	6020A
Aluminum		200000	6020A
Arsenic		10000	6020A
Barium		10000	6020A
Beryllium		2000	6020A
Cadmium		4000	6020A
Cobalt		10000	6020A
Chromium		10000	6020A
Copper		10000	6020A
Iron		200000	6020A
Manganese		10000	6020A
Nickel		10000	6020A
Lead		4000	6020A
Antimony		200	6020A
Selenium		10000	6020A
Thallium		2000	6020A
Vanadium		10000	6020A
Zinc		10000	6020A
Calcium		500000	6020A
Potassium		500000	6020A
Magnesium		500000	6020A
Sodium		500000	6020A

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Prep Method: 3005A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 240-355373/1-A	11/14/2018 14:00	355373		50	50
LCS 240-355373/3-A	11/14/2018 14:00	355373		50	50
240-104312-2	11/14/2018 14:00	355373		50	50
240-104312-2 MS	11/14/2018 14:00	355373		50	50
240-104312-2 MSD	11/14/2018 14:00	355373		50	50

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

ICP Instrument ID: I9 Start Date: 11/15/2018 End Date: 11/16/2018

Lab Sample ID	Time	Internal Standards %RI For:									
		Element In 230.606	Q	Element Y 224.306	Q	Element Y 360.073	Q	Element Y 371.030	Q	Element	Q
ICIS 240-355599/1	07:59										
ICV 240-355599/4	08:12	92		98		98		101			
ICB 240-355599/5	08:16	100		100		100		101			
ICVL 240-355599/6	08:20	99		100		100		102			
ICSA 240-355599/8	08:29	77		87		87		95			
ICSAB 240-355599/9	08:33	77		87		87		96			
CCV 240-355599/70	13:45	87		94		97		97			
CCB 240-355599/71	13:49	104		104		107		104			
MB 240-355373/1-A	14:20	100		100		101		103			
LCS 240-355373/2-A	14:25	90		96		98		102			
240-104312-2	14:29	85		92		93		98			
240-104312-2 SD	14:33	92		96		97		100			
CCV 240-355599/82	14:38	86		94		96		99			
CCB 240-355599/83	14:42	99		99		101		101			
240-104312-2 MS	14:50	81		89		92		100			
240-104312-2 MSD	14:54	83		92		94		101			
CCV 240-355599/94	15:30	87		95		97		101			
CCB 240-355599/95	15:34	100		100		101		102			
CCVL 240-355599/125	07:40	101		102		104		106			

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

ICP-MS Instrument ID: I14 Start Date: 11/15/2018 End Date: 11/15/2018

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc/1	Q	Element Sc/2	Q	Element Sc/3	Q	Element Rh/2	Q
STD1 240-355756/3 IC	12:20	98		100		99		99		98	
STD2 240-355756/4 IC	12:22	96		100		97		98		96	
STD3 240-355756/5 IC	12:24	96		99		99		99		96	
STD4 240-355756/6 IC	12:26	102		103		99		100		101	
ICV 240-355756/7	12:29	99		101		100		101		99	
ICB 240-355756/8	12:31	101		103		100		100		101	
ICVL 240-355756/9	12:33	98		99		100		100		100	
ICSA 240-355756/10	12:36	93		99		96		97		91	
ICSAB 240-355756/11	12:38	89		99		97		99		92	
CCV 240-355756/14	13:16	98		99		99		101		101	
CCB 240-355756/15	13:19	103		101		101		100		104	
MB 240-355373/1-A	13:21	102		101		102		103		104	
LCS 240-355373/3-A	13:23	100		103		100		98		101	
CCV 240-355756/19	13:28	98		104		103		100		101	
CCB 240-355756/20	13:30	99		104		103		101		103	
CCV 240-355756/22	13:39	105		107		105		103		104	
CCB 240-355756/23	13:41	107		107		103		105		105	
240-104312-2	13:59	96		100		99		100		96	
240-104312-2 SD	14:02	101		105		103		103		101	
240-104312-2 MS	14:06	96		103		102		101		97	
240-104312-2 MSD	14:08	98		105		101		103		97	
CCV 240-355756/34	14:23	97		116		114		109		95	
CCB 240-355756/35	14:25	94		109		109		106		94	
CCVL 240-355756/69	15:45	87		110		110		107		100	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

ICP-MS Instrument ID: I14 Start Date: 11/15/2018 End Date: 11/15/2018

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Rh/3	Q	Element In/2	Q	Element In/3	Q	Element Tb	Q	Element Ho	Q
STD1 240-355756/3 IC	12:20	99		101		101		102		100	
STD2 240-355756/4 IC	12:22	95		98		97		100		99	
STD3 240-355756/5 IC	12:24	94		96		97		101		100	
STD4 240-355756/6 IC	12:26	100		101		102		103		101	
ICV 240-355756/7	12:29	97		100		100		103		101	
ICB 240-355756/8	12:31	100		102		102		101		100	
ICVL 240-355756/9	12:33	98		100		103		101		101	
ICSA 240-355756/10	12:36	93		95		97		101		101	
ICSAB 240-355756/11	12:38	95		96		98		101		101	
CCV 240-355756/14	13:16	97		96		99		103		100	
CCB 240-355756/15	13:19	100		103		103		103		102	
MB 240-355373/1-A	13:21	102		103		104		105		103	
LCS 240-355373/3-A	13:23	99		103		101		105		103	
CCV 240-355756/19	13:28	96		99		101		102		101	
CCB 240-355756/20	13:30	103		102		105		104		102	
CCV 240-355756/22	13:39	100		103		104		106		106	
CCB 240-355756/23	13:41	101		105		106		106		105	
240-104312-2	13:59	92		94		98		99		98	
240-104312-2 SD	14:02	98		100		102		102		101	
240-104312-2 MS	14:06	95		99		100		105		103	
240-104312-2 MSD	14:08	96		99		100		103		103	
CCV 240-355756/34	14:23	106		114		108		109		107	
CCB 240-355756/35	14:25	108		114		107		109		107	
CCVL 240-355756/69	15:45	109		114		111		109		108	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

ICP-MS Instrument ID: I14 Start Date: 11/15/2018 End Date: 11/15/2018

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Bi	Q	Element	Q	Element	Q	Element	Q	Element	Q
STD1 240-355756/3 IC	12:20	99									
STD2 240-355756/4 IC	12:22	97									
STD3 240-355756/5 IC	12:24	96									
STD4 240-355756/6 IC	12:26	101									
ICV 240-355756/7	12:29	100									
ICB 240-355756/8	12:31	101									
ICVL 240-355756/9	12:33	102									
ICSA 240-355756/10	12:36	98									
ICSAB 240-355756/11	12:38	99									
CCV 240-355756/14	13:16	101									
CCB 240-355756/15	13:19	106									
MB 240-355373/1-A	13:21	106									
LCS 240-355373/3-A	13:23	104									
CCV 240-355756/19	13:28	99									
CCB 240-355756/20	13:30	103									
CCV 240-355756/22	13:39	104									
CCB 240-355756/23	13:41	104									
240-104312-2	13:59	96									
240-104312-2 SD	14:02	98									
240-104312-2 MS	14:06	97									
240-104312-2 MSD	14:08	99									
CCV 240-355756/34	14:23	107									
CCB 240-355756/35	14:25	109									
CCVL 240-355756/69	15:45	109									

METALS BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Batch Number: 355373 Batch Start Date: 11/14/18 14:00 Batch Analyst: Butke, Michael

Batch Method: 3005A Batch End Date: 11/14/18 22:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MTAGSPIKEW 00087	MTICP1 00079	MTICP2A 00088	MTTMHCL 00225
MB 240-355373/1		3005A, 6010C		50 mL	50 mL				2.5 mL
LCS 240-355373/2		3005A, 6010C		50 mL	50 mL	1 mL	1 mL	1 mL	2.5 mL
240-104312-AE-2	MRC-MW-135A-111218	3005A, 6010C	R	50 mL	50 mL				2.5 mL
240-104312-AE-2 MS	MRC-MW-135A-111218	3005A, 6010C	R	50 mL	50 mL	1 mL	1 mL	1 mL	2.5 mL
240-104312-AE-2 MSD	MRC-MW-135A-111218	3005A, 6010C	R	50 mL	50 mL	1 mL	1 mL	1 mL	2.5 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	MTTMHNO3 00172					
MB 240-355373/1		3005A, 6010C		1 mL					
LCS 240-355373/2		3005A, 6010C		1 mL					
240-104312-AE-2	MRC-MW-135A-111218	3005A, 6010C	R	1 mL					
240-104312-AE-2 MS	MRC-MW-135A-111218	3005A, 6010C	R	1 mL					
240-104312-AE-2 MSD	MRC-MW-135A-111218	3005A, 6010C	R	1 mL					

Batch Notes	
Batch Comment	filter paper 70602101
Temperature - Corrected - End	temp log Degrees C
Temperature - Corrected - Start	temp log Degrees C
Digestion Unit ID	hb1
Pipette/Syringe/Dispenser ID	mp1, mp3
Thermometer ID	temp log
Digestion Tube/Cup ID	1807160
Temperature - Uncorrected - End	temp log Degrees C
Temperature - Uncorrected - Start	temp log Degrees C

Basis	Basis Description
R	Total Recoverable

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.

METALS BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Batch Number: 355373 Batch Start Date: 11/14/18 14:00 Batch Analyst: Butke, Michael

Batch Method: 3005A Batch End Date: 11/14/18 22:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MTICPMS2 00035	MTICPMSA 00037	MTICPMSB 00037	MTTMHCL 00225
MB 240-355373/1		3005A, 6020A		50 mL	50 mL				2.5 mL
LCS 240-355373/3		3005A, 6020A		50 mL	50 mL	0.5 mL	0.5 mL	0.5 mL	2.5 mL
240-104312-AE-2	MRC-MW-135A-111218	3005A, 6020A	R	50 mL	50 mL				2.5 mL
240-104312-AE-2 MS	MRC-MW-135A-111218	3005A, 6020A	R	50 mL	50 mL	0.5 mL	0.5 mL	0.5 mL	2.5 mL
240-104312-AE-2 MSD	MRC-MW-135A-111218	3005A, 6020A	R	50 mL	50 mL	0.5 mL	0.5 mL	0.5 mL	2.5 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	MTTMHNO3 00172
MB 240-355373/1		3005A, 6020A		1 mL
LCS 240-355373/3		3005A, 6020A		1 mL
240-104312-AE-2	MRC-MW-135A-111218	3005A, 6020A	R	1 mL
240-104312-AE-2 MS	MRC-MW-135A-111218	3005A, 6020A	R	1 mL
240-104312-AE-2 MSD	MRC-MW-135A-111218	3005A, 6020A	R	1 mL

Batch Notes	
Batch Comment	filter paper 70602101
Temperature - Corrected - End	temp log Degrees C
Temperature - Corrected - Start	temp log Degrees C
Digestion Unit ID	hb1
Pipette/Syringe/Dispenser ID	mp1, mp3
Thermometer ID	temp log
Digestion Tube/Cup ID	1807160
Temperature - Uncorrected - End	temp log Degrees C
Temperature - Uncorrected - Start	temp log Degrees C

Basis	Basis Description
R	Total Recoverable

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.

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104312-1

SDG No.:

Project: MRC Block F TCB Wells

Client Sample ID	Lab Sample ID
MRC-MW-135A-111218	240-104312-2

Comments:

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 240-104312-1

SDG No.:

Project: MRC Block F TCB Wells

Client Sample ID	Lab Sample ID
MRC-MW-135A-111218	240-104312-2

Comments:

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Analyst: JMB Batch Start Date: 11/20/2018

Reporting Units: mg/L Analytical Batch No.: 356443

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
2	CCV	17:40	Nitrate Nitrite as N	2.41	2.50	97	90-110		WCNO2NO3-5PPM_00008
3	CCB	17:41	Nitrate Nitrite as N	0.031				U	
14	CCV	17:54	Nitrate Nitrite as N	2.54	2.50	101	90-110		WCNO2NO3-5PPM_00008
15	CCB	17:55	Nitrate Nitrite as N	0.031				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Analyst: LKG Batch Start Date: 08/06/2018

Reporting Units: mg/L Analytical Batch No.: 339515

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
10	ICV	15:55	Sulfate	52.4	50.0	105	90-110		WCICLCS_00669
11	ICB	16:15	Sulfate	0.35				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Analyst: JWW Batch Start Date: 11/23/2018

Reporting Units: mg/L Analytical Batch No.: 356794

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	11:44	Sulfate	51.3	50.0	103	90-110		WCICCCV_00848
2	CCB	12:04	Sulfate	0.35				U	
13	CCV	15:46	Sulfate	51.3	50.0	103	90-110		WCICCCV_00848
14	CCB	16:06	Sulfate	0.35				U	
37	CCV	23:48	Sulfate	50.4	50.0	101	90-110		WCICCCV_00848
38	CCB	00:09	Sulfate	0.35				U	
47	CCV	03:10	Sulfate	51.5	50.0	103	90-110		WCICCCV_00848
48	CCB	03:30	Sulfate	0.35				U	
52	CCV	04:50	Sulfate	51.9	50.0	104	90-110		WCICCCV_00848
53	CCB	05:10	Sulfate	0.35				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 356748 Date: 11/21/2018 14:05							
2320B-2011	MB 240-356748/30	Alkalinity	2.6	U	mg/L	5.0	1
Batch ID: 355650 Date: 11/15/2018 13:43							
2340C-2011	MB 240-355650/1	Hardness as calcium carbonate	2.4	U	mg/L	5.0	1
Batch ID: 355855 Date: 11/16/2018 13:24							
2540 C-2011	MB 240-355855/1	Total Dissolved Solids	7.8	U	mg/L	10	1
Batch ID: 356443 Date: 11/20/2018 17:43							
353.2	MB 240-356443/4	Nitrate Nitrite as N	0.031	U	mg/L	0.050	1
Batch ID: 356794 Date: 11/23/2018 12:24							
9056A	MB 240-356794/3	Bromide	0.044	U	mg/L	0.50	1
9056A	MB 240-356794/3	Sulfate	0.35	U	mg/L	1.0	1

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 240-104312-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 263285 Date: 11/19/2018 12:48							
SM 2520B	MB 180-263285/1	Salinity	2.0	U	No Unit	2.0	1

FORM III-IN

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 355650 Date: 11/15/2018 16:06											
2340C-2011	240-104312-2	Hardness as calcium carbonate	400		mg/L						
2340C-2011	240-104312-2 MS	Hardness as calcium carbonate	1430		mg/L	1000	103	80-120			
Batch ID: 356794 Date: 11/24/2018 02:29											
300.0	240-104312-2	Bromide	0.044	U	mg/L						
300.0	240-104312-2 MS	Bromide	11.5		mg/L	10.0	115	80-120			
Batch ID: 356443 Date: 11/20/2018 17:46											
353.2	240-104312-2	Nitrate Nitrite as N	0.35		mg/L						F1
353.2	240-104312-2 MS	Nitrate Nitrite as N	0.780		mg/L	0.500	87	90-110			F1
Batch ID: 356794 Date: 11/24/2018 02:29											
9056A	240-104312-2	Sulfate	30		mg/L						
9056A	240-104312-2 MS	Sulfate	84.5		mg/L	50.0	108	80-120			

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

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 355650 Date: 11/15/2018 16:13											
2340C-2011	240-104312-2 MSD	Hardness as calcium carbonate	1430		mg/L	1000	103	80-120	0	10	
Batch ID: 356794 Date: 11/24/2018 02:49											
300.0	240-104312-2 MSD	Bromide	11.4		mg/L	10.0	114	80-120	0	15	
Batch ID: 356443 Date: 11/20/2018 17:47											
353.2	240-104312-2 MSD	Nitrate Nitrite as N	0.791		mg/L	0.500	89	90-110	1	20	F1
Batch ID: 356794 Date: 11/24/2018 02:49											
9056A	240-104312-2 MSD	Sulfate	84.3		mg/L	50.0	108	80-120	0	15	

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

FORM V-IN

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 356748 Date: 11/21/2018 14:10								
2320B-2011	MRC-MW-135A-111218	240-104312-2	Alkalinity	370	mg/L			
2320B-2011	MRC-MW-135A-111218	240-104312-2 DU	Alkalinity	371	mg/L	0.06	20	
Batch ID: 355855 Date: 11/16/2018 13:24								
2540 C-2011	MRC-MW-135A-111218	240-104312-2	Total Dissolved Solids	950	mg/L			
2540 C-2011	MRC-MW-135A-111218	240-104312-2 DU	Total Dissolved Solids	962	mg/L	1	20	

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

FORM VI-IN

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 240-104312-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 263285 Date: 11/19/2018 12:48								
SM 2520B	MRC-MW-135A-111218	240-104312-2	Salinity	2.0	No Unit			U
SM 2520B	MRC-MW-135A-111218	240-104312-2 DU	Salinity	2.0	No Unit	NC	20	U

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

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 356748	Date: 11/21/2018 14:01										
						LCS Source: WCPHENOMINER_00024					
2320B-2011	LCS 240-356748/29	Alkalinity	368		mg/L	384	96	86-123			
Batch ID: 355650	Date: 11/15/2018 13:49										
						LCS Source: WCHARDNESS_00030					
2340C-2011	LCS 240-355650/2	Hardness as calcium carbonate	292		mg/L	271	108	90-110			
Batch ID: 355855	Date: 11/16/2018 13:24										
						LCS Source: WCPHENOVSOLID_00037					
2540 C-2011	LCS 240-355855/2	Total Dissolved Solids	269		mg/L	259	104	80-120			
Batch ID: 356443	Date: 11/20/2018 17:44										
						LCS Source: WCWIBBYNUTRIE_00107					
353.2	LCS 240-356443/5	Nitrate Nitrite as N	3.93		mg/L	3.75	105	90-110			
Batch ID: 356794	Date: 11/23/2018 12:45										
						LCS Source: WCICLCS_00683					
9056A	LCS 240-356794/4	Sulfate	51.0		mg/L	50.0	102	90-110			

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

FORM VIIA-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Instrument ID: Maggie Analysis Method: 353.2

Start Date: 11/20/2018 17:39 End Date: 11/20/2018 18:18

Lab Sample Id	D/F	Type	Time	Analytes
				NNO32
ZZZZZZ			17:39	
CCV 240-356443/2	1		17:40	X
CCB 240-356443/3	1		17:41	X
MB 240-356443/4	1	T	17:43	X
LCS 240-356443/5	1	T	17:44	X
240-104312-2	1	T	17:45	X
240-104312-2 MS	1	T	17:46	X
240-104312-2 MSD	1	T	17:47	X
ZZZZZZ			17:48	
ZZZZZZ			17:49	
ZZZZZZ			17:50	
ZZZZZZ			17:52	
ZZZZZZ			17:53	
CCV 240-356443/14	1		17:54	X
CCB 240-356443/15	1		17:55	X
ZZZZZZ			17:56	
ZZZZZZ			17:57	
ZZZZZZ			17:58	
ZZZZZZ			18:00	
ZZZZZZ			18:01	
ZZZZZZ			18:02	
ZZZZZZ			18:03	
ZZZZZZ			18:04	
ZZZZZZ			18:05	
ZZZZZZ			18:06	
CCV 240-356443/26			18:07	
CCB 240-356443/27			18:08	
ZZZZZZ			18:10	
ZZZZZZ			18:11	
ZZZZZZ			18:12	
ZZZZZZ			18:13	
ZZZZZZ			18:14	
ZZZZZZ			18:15	
CCV 240-356443/34			18:16	
CCB 240-356443/35			18:18	

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Batch Number: 356443 Batch Start Date: 11/20/18 17:39 Batch Analyst: Burns, Jill

Batch Method: 353.2 Batch End Date: 11/21/18 18:18

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	WCNO2NO3-5PPM 00008	WCWIBBYNUTRIE 00107		
CCV 240-356443/2		353.2		2.0 mL	2.0 mL	1 mL			
CCB 240-356443/3		353.2		2.0 mL	2.0 mL				
MB 240-356443/4		353.2		2.0 mL	2.0 mL				
LCS 240-356443/5		353.2		2.0 mL	2.0 mL		2 mL		
240-104312-X-2	MRC-MW-135A-111218	353.2	T	2.0 mL	2.0 mL				
240-104312-X-2 MS	MRC-MW-135A-111218	353.2	T	2.0 mL	2.0 mL	0.2 mL			
240-104312-X-2 MSD	MRC-MW-135A-111218	353.2	T	2.0 mL	2.0 mL	0.2 mL			
CCV 240-356443/14		353.2		2.0 mL	2.0 mL	1 mL			
CCB 240-356443/15		353.2		2.0 mL	2.0 mL				

Batch Notes	
Color Reagent ID	3820762

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.

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: 2340C-2011

Start Date: 11/15/2018 13:43 End Date: 11/15/2018 16:34

Lab Sample Id	D/F	Type	Time	Analytes																								
				HardCC																								
MB 240-355650/1	1	T	13:43	X																								
LCS 240-355650/2	1	T	13:49	X																								
ZZZZZZ			13:56																									
ZZZZZZ			14:03																									
ZZZZZZ			14:10																									
ZZZZZZ			14:17																									
ZZZZZZ			14:24																									
ZZZZZZ			14:30																									
ZZZZZZ			14:37																									
ZZZZZZ			14:44																									
ZZZZZZ			14:51																									
ZZZZZZ			14:58																									
ZZZZZZ			15:05																									
ZZZZZZ			15:11																									
ZZZZZZ			15:18																									
ZZZZZZ			15:25																									
ZZZZZZ			15:32																									
ZZZZZZ			15:39																									
ZZZZZZ			15:46																									
ZZZZZZ			15:53																									
240-104312-2	1	T	15:59	X																								
240-104312-2 MS	1	T	16:06	X																								
240-104312-2 MSD	1	T	16:13	X																								
ZZZZZZ			16:20																									
ZZZZZZ			16:27																									
ZZZZZZ			16:34																									

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Batch Number: 355650 Batch Start Date: 11/15/18 13:43 Batch Analyst: Burns, Jill

Batch Method: 2340C-2011 Batch End Date: 11/15/18 16:41

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	TitrantVolume1	WCCALCIUMCARB 00018	WCHARDNESS 00030	
MB 240-355650/1		2340C-2011		25 mL	25 mL	0 mL			
LCS 240-355650/2		2340C-2011		25 mL	25 mL	7.30 mL		25 mL	
240-104312-AA-2	MRC-MW-135A-111218	2340C-2011	T	25 mL	25 mL	10.00 mL			
240-104312-AA-2 MS	MRC-MW-135A-111218	2340C-2011	T	5 mL	25 mL	7.15 mL	5 mL		
240-104312-AA-2 MSD	MRC-MW-135A-111218	2340C-2011	T	5 mL	25 mL	7.15 mL	5 mL		

Batch Notes	
Buffer Reagent ID	3741292
Indicator Reagent ID	3645370
Nominal Amount Used	25 mL
Pipette/Syringe/Dispenser ID	C2
Normality of First Titrant	0.02 N
Titrant ID	3725312

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.

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Instrument ID: Severus Analysis Method: 2320B-2011

Start Date: 11/21/2018 11:41 End Date: 11/21/2018 15:58

Lab Sample Id	D/F	Type	Time	Analytes
				Alk
ZZZZZZ			11:41	
ZZZZZZ			11:52	
ZZZZZZ			11:58	
ZZZZZZ			12:01	
ZZZZZZ			12:07	
ZZZZZZ			12:12	
ZZZZZZ			12:16	
ZZZZZZ			12:22	
ZZZZZZ			12:27	
ZZZZZZ			12:31	
ZZZZZZ			12:35	
ZZZZZZ			12:40	
ZZZZZZ			12:42	
ZZZZZZ			12:47	
ZZZZZZ			12:52	
ZZZZZZ			12:56	
ZZZZZZ			13:01	
ZZZZZZ			13:05	
ZZZZZZ			13:10	
ZZZZZZ			13:17	
ZZZZZZ			13:23	
ZZZZZZ			13:28	
ZZZZZZ			13:35	
ZZZZZZ			13:37	
ZZZZZZ			13:42	
ZZZZZZ			13:47	
ZZZZZZ			13:52	
ZZZZZZ			13:57	
LCS 240-356748/29	1	T	14:01	X
MB 240-356748/30	1	T	14:05	X
240-104312-2 DU	1	T	14:10	X
240-104312-2	1	T	14:14	X
ZZZZZZ			14:19	
ZZZZZZ			14:24	
ZZZZZZ			14:26	
ZZZZZZ			14:31	
ZZZZZZ			14:36	
ZZZZZZ			14:41	
ZZZZZZ			14:45	
ZZZZZZ			14:50	
ZZZZZZ			14:55	

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Batch Number: 356748 Batch Start Date: 11/21/18 11:41 Batch Analyst: Weisend, Joseph

Batch Method: 2320B-2011 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	CalcMsg	WCPHENOMINER 00024				
LCS 240-356748/29		2320B-2011		InitialAmount is blank	10 mL				
MB 240-356748/30		2320B-2011		InitialAmount is blank					
240-104312-AC-2 DU	MRC-MW-135A-111218	2320B-2011	T	InitialAmount is blank					
240-104312-AC-2	MRC-MW-135A-111218	2320B-2011	T	InitialAmount is blank					

Batch Notes	
Acid ID	3725314
pH Buffer 1 ID	4-3907122
pH Buffer 2 ID	7-3892887
pH Buffer 3 ID	10-3862127
pH Buffer 4 ID	12-3907147
Nominal Amount Used	10 mL
pH Meter ID	Severus
Probe ID	WCP 137
Normality of First Titrant	0.02 N

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.

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: 2540 C-2011

Start Date: 11/16/2018 13:24 End Date: 11/16/2018 14:05

Lab Sample Id	D/F	Type	Time	Analytes																								
				TDS																								
MB 240-355855/1	1	T	13:24	X																								
LCS 240-355855/2	1	T	13:24	X																								
ZZZZZZ			13:24																									
ZZZZZZ			13:24																									
ZZZZZZ			13:24																									
ZZZZZZ			13:24																									
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ZZZZZZ			13:24																									
ZZZZZZ			13:24																									
ZZZZZZ			13:24																									
240-104312-2 DU	1	T	13:24	X																								
240-104312-2	1	T	13:24	X																								
ZZZZZZ			13:24																									
ZZZZZZ			13:24																									
ZZZZZZ			13:24																									
ZZZZZZ			13:24																									
ZZZZZZ			13:24																									
ZZZZZZ			13:24																									
ZZZZZZ			14:05																									

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Batch Number: 355855 Batch Start Date: 11/16/18 13:24 Batch Analyst: Carson, Monica

Batch Method: 2540 C-2011 Batch End Date: 11/19/18 16:02

Lab Sample ID	Client Sample ID	Method Chain	Basis	Conductivity	TareWeight	InitialAmount	Weight1	Weight2	Weight3
MB 240-355855/1		2540 C-2011			3.7946 g	100 mL	3.7946 g	3.7946 g	0 g
LCS 240-355855/2		2540 C-2011			3.8023 g	100 mL	3.8293 g	3.8292 g	0 g
240-104312-U-2 DU	MRC-MW-135A-111218	2540 C-2011	T	1844 umhos/cm	3.8164 g	50 mL	3.8646 g	3.8645 g	0 g
240-104312-U-2	MRC-MW-135A-111218	2540 C-2011	T	1844 umhos/cm	3.7925 g	50 mL	3.8402 g	3.8399 g	0 g

Lab Sample ID	Client Sample ID	Method Chain	Basis	WeightOne%Diff	WeightTwo%Diff	Weight4OK	Residue	Residue2	Residue3
MB 240-355855/1		2540 C-2011		Pass No Unit	N/A No Unit	N/A	0 g	0 g	N/A g
LCS 240-355855/2		2540 C-2011		Pass No Unit	N/A No Unit	N/A	0.027 g	0.0269 g	N/A g
240-104312-U-2 DU	MRC-MW-135A-111218	2540 C-2011	T	Pass No Unit	N/A No Unit	N/A	0.0482 g	0.0481 g	N/A g
240-104312-U-2	MRC-MW-135A-111218	2540 C-2011	T	Pass No Unit	N/A No Unit	N/A	0.0477 g	0.0474 g	N/A g

Lab Sample ID	Client Sample ID	Method Chain	Basis	Residue4	FinalAmount	CalcMsg	WCPHENOVSOLID 00037		
MB 240-355855/1		2540 C-2011		N/A g	100 mL	OK			
LCS 240-355855/2		2540 C-2011		N/A g	100 mL	OK	100 mL		
240-104312-U-2 DU	MRC-MW-135A-111218	2540 C-2011	T	N/A g	100 mL	OK			
240-104312-U-2	MRC-MW-135A-111218	2540 C-2011	T	N/A g	100 mL	OK			

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Batch Number: 355855 Batch Start Date: 11/16/18 13:24 Batch Analyst: Carson, Monica

Batch Method: 2540 C-2011 Batch End Date: 11/19/18 16:02

Batch Notes	
Balance ID	B048
Conductivity Meter ID	Myron
Date/Time - In - CW (WT2)	11/19/2018 13:15
Date/Time - Out - CW (WT2)	11/19/2018 15:19
Temperature - Start - CW (WT2) - Correct	181 Celsius
Temperature - End - CW (WT2) - Correct	181 Celsius
Temperature - Start-CW(WT2) -Uncorrected	183 Celsius
Temperature - End-CW(WT2) -Uncorrected	183 Celsius
Temperature - Start - Corrected	104 Celsius
Temperature - End - Corrected	104 Celsius
Date/Time - In	11/16/2018 14:33
Date/Time - Out	11/19/2018 08:30
Filter ID	12210045
Nominal Amount Used	100 mL
Oven ID	O04
Oven ID - Low Temperature	O06
Thermometer ID - Low Temperature	84922
Thermometer ID	S68720
Temperature - Start - Uncorrected	105 Celsius
Temperature - End - Uncorrected	105 Celsius
Vessel Lot ID	04969963ING-8155-ZB
Weight(WT1) Start Date/Time	11/19/2018 08:30 No Unit
Weight(WT1) Date/Time Out	11/19/2018 11:15
Weight(WT1) Start Temp	181 Celsius
Weight(WT1) Temp Out	181 Celsius
Uncorrected Weight(WT1) Start Temp	183 Celsius
Uncorrected Weight(WT1) Temp Out	183 Celsius

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.

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Instrument ID: VERONICA Analysis Method: 9056A

Start Date: 08/06/2018 12:54 End Date: 08/06/2018 16:15

Lab Sample Id	D/F	Type	Time	Analytes																								
				SO4																								
STD1 240-339515/1 IC	1		12:54	X																								
STD2 240-339515/2 IC	1		13:14	X																								
STD3 240-339515/3 IC	1		13:34	X																								
STD4 240-339515/4 IC	1		13:54	X																								
STD5 240-339515/5 ICRT	1		14:14	X																								
STD6 240-339515/6 IC	1		14:34	X																								
STD7 240-339515/7 IC	1		14:54	X																								
STD8 240-339515/8 IC	1		15:15	X																								
STD9 240-339515/9 IC	1		15:35	X																								
ICV 240-339515/10	1		15:55	X																								
ICB 240-339515/11	1		16:15	X																								

Prep Types:
=

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Instrument ID: VERONICA Analysis Method: 9056A

Start Date: 11/23/2018 11:44 End Date: 11/24/2018 05:10

Lab Sample Id	D/F	Type	Time	Analytes																								
				Br	SO4																							
CCV 240-356794/1	1		11:44		X																							
CCB 240-356794/2	1		12:04		X																							
MB 240-356794/3	1	T	12:24		X																							
LCS 240-356794/4	1	T	12:45		X																							
ZZZZZZ			13:05																									
ZZZZZZ			13:25																									
ZZZZZZ			13:45																									
ZZZZZZ			14:05																									
ZZZZZZ			14:25																									
ZZZZZZ			14:45																									
ZZZZZZ			15:05																									
ZZZZZZ			15:25																									
CCV 240-356794/13	1		15:46		X																							
CCB 240-356794/14	1		16:06		X																							
ZZZZZZ			16:26																									
ZZZZZZ			16:46																									
ZZZZZZ			17:06																									
ZZZZZZ			17:26																									
ZZZZZZ			17:46																									
ZZZZZZ			18:06																									
ZZZZZZ			18:27																									
ZZZZZZ			18:47																									
ZZZZZZ			19:07																									
ZZZZZZ			19:27																									
CCV 240-356794/25			19:47																									
CCB 240-356794/26			20:07																									
ZZZZZZ			20:27																									
ZZZZZZ			20:47																									
ZZZZZZ			21:08																									
ZZZZZZ			21:28																									
ZZZZZZ			21:48																									
ZZZZZZ			22:08																									
ZZZZZZ			22:28																									
ZZZZZZ			22:48																									
ZZZZZZ			23:08																									
ZZZZZZ			23:28																									
CCV 240-356794/37	1		23:48		X																							
CCB 240-356794/38	1		00:09		X																							
ZZZZZZ			00:29																									
ZZZZZZ			00:49																									
ZZZZZZ			01:09																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Instrument ID: VERONICA Analysis Method: 9056A

Start Date: 11/23/2018 11:44 End Date: 11/24/2018 05:10

Lab Sample Id	D/F	Type	Time	Analytes																									
				Br	SO4																								
ZZZZZZ			01:29																										
ZZZZZZ			01:49																										
240-104312-2	1	T	02:09	X	X																								
240-104312-2 MS	1	T	02:29	X	X																								
240-104312-2 MSD	1	T	02:49	X	X																								
CCV 240-356794/47	1		03:10		X																								
CCB 240-356794/48	1		03:30		X																								
ZZZZZZ			03:50																										
ZZZZZZ			04:10																										
ZZZZZZ			04:30																										
CCV 240-356794/52	1		04:50		X																								
CCB 240-356794/53	1		05:10		X																								

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Batch Number: 339515 Batch Start Date: 08/06/18 12:54 Batch Analyst: Grossman, Lucas

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	WCICLCS 00669				
ICV 240-339515/10		9056A		5 mL	5 mL				
ICB 240-339515/11		9056A		5 mL					

Batch Notes	

Basis	Basis Description

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Batch Number: 356794 Batch Start Date: 11/23/18 11:44 Batch Analyst: Weimer, Joshua W

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	WCICSOLNA1 00018	WCICSOLNB1 00018			
240-104312-AC-2	MRC-MW-135A-111218	300.0 & 9056A	T	5 mL					
240-104312-AC-2 MS	MRC-MW-135A-111218	300.0 & 9056A	T	5 mL	0.1 mL	0.1 mL			
240-104312-AC-2 MSD	MRC-MW-135A-111218	300.0 & 9056A	T	5 mL	0.1 mL	0.1 mL			
240-104312-AC-2	MRC-MW-135A-111218	300.0 & 9056A	T	5 mL					
240-104312-AC-2 MS	MRC-MW-135A-111218	300.0 & 9056A	T	5 mL	0.1 mL	0.1 mL			
240-104312-AC-2 MSD	MRC-MW-135A-111218	300.0 & 9056A	T	5 mL	0.1 mL	0.1 mL			

Batch Notes	
Eluent 1 ID	Water

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Batch Number: 356794 Batch Start Date: 11/23/18 11:44 Batch Analyst: Weimer, Joshua W

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	WCICCCV 00848	WCICLCS 00683			
CCV 240-356794/1		9056A		5 mL	5 mL				
CCB 240-356794/2		9056A		5 mL					
MB 240-356794/3		9056A		5 mL					
LCS 240-356794/4		9056A		5 mL		5 mL			
CCV 240-356794/13		9056A		5 mL	5 mL				
CCB 240-356794/14		9056A		5 mL					
CCV 240-356794/37		9056A		5 mL	5 mL				
CCB 240-356794/38		9056A		5 mL					
CCV 240-356794/47		9056A		5 mL	5 mL				
CCB 240-356794/48		9056A		5 mL					
CCV 240-356794/52		9056A		5 mL	5 mL				
CCB 240-356794/53		9056A		5 mL					

Batch Notes	
Eluent 1 ID	Water

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.

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 240-104312-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: SM 2520B

Start Date: 11/19/2018 12:48 End Date: 11/19/2018 12:48

Lab Sample Id	D/F	Type	Time	Analytes																								
				Salin																								
MB 180-263285/1	1	T	12:48	X																								
240-104312-2	1	T	12:48	X																								
240-104312-2 DU	1	T	12:48	X																								
ZZZZZZ			12:48																									
ZZZZZZ			12:48																									
ZZZZZZ			12:48																									
ZZZZZZ			12:48																									
ZZZZZZ			12:48																									

Prep Types:
T = Total/NA

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Batch Number: 339515 Batch Start Date: 08/06/18 12:54 Batch Analyst: Grossman, Lucas

Batch Method: 300.0 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	WCICCALSOLN 00292				
STD1 240-339515/1 IC		300.0		5 mL	0.025 mL				
STD2 240-339515/2 IC		300.0		5 mL	0.125 mL				
STD3 240-339515/3 IC		300.0		5 mL	0.25 mL				
STD4 240-339515/4 IC		300.0		5 mL	0.5 mL				
STD5 240-339515/5 ICRT		300.0		5 mL	1.25 mL				
STD6 240-339515/6 IC		300.0		5 mL	2 mL				
STD7 240-339515/7 IC		300.0		5 mL	2.5 mL				
STD8 240-339515/8 IC		300.0		5 mL	3.75 mL				
STD9 240-339515/9 IC		300.0		5 mL	5 mL				

Batch Notes	

Basis	Basis Description

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104312-1

SDG No.:

Batch Number: 356794 Batch Start Date: 11/23/18 11:44 Batch Analyst: Weimer, Joshua W

Batch Method: 300.0 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	WCICSOLNA1 00018	WCICSOLNB1 00018			
240-104312-AC-2	MRC-MW-135A-111218	300.0 & 9056A	T	5 mL					
240-104312-AC-2 MS	MRC-MW-135A-111218	300.0 & 9056A	T	5 mL	0.1 mL	0.1 mL			
240-104312-AC-2 MSD	MRC-MW-135A-111218	300.0 & 9056A	T	5 mL	0.1 mL	0.1 mL			
240-104312-AC-2	MRC-MW-135A-111218	300.0 & 9056A	T	5 mL					
240-104312-AC-2 MS	MRC-MW-135A-111218	300.0 & 9056A	T	5 mL	0.1 mL	0.1 mL			
240-104312-AC-2 MSD	MRC-MW-135A-111218	300.0 & 9056A	T	5 mL	0.1 mL	0.1 mL			

Batch Notes	
Eluent 1 ID	Water

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.

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104312-1

SDG Number:

Matrix: Water Instrument ID: Maggie

Method: 353.2 MDL Date: 04/25/2017 11:29

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Nitrate Nitrite as N		0.05	0.031

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104312-1

SDG Number:

Matrix: Water Instrument ID: Maggie

Method: 353.2 XMDL Date: 04/25/2017 11:30

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Nitrate Nitrite as N		0.05	0.031

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104312-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 2340C-2011 MDL Date: 04/25/2017 11:12

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Hardness as calcium carbonate		5	2.389

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104312-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 2340C-2011 XMDL Date: 04/25/2017 11:12

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Hardness as calcium carbonate		5	2.389

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104312-1

SDG Number:

Matrix: Water Instrument ID: Severus

Method: 2320B-2011 MDL Date: 08/21/2018 15:58

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Alkalinity		5	2.6

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104312-1

SDG Number:

Matrix: Water Instrument ID: Severus

Method: 2320B-2011 XMDL Date: 04/25/2017 09:53

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Alkalinity		5	2.6

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104312-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 2540 C-2011 MDL Date: 04/25/2017 14:47

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Dissolved Solids		10	7.795

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104312-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 2540 C-2011 XMDL Date: 04/25/2017 14:48

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Dissolved Solids		10	7.795

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104312-1

SDG Number:

Matrix: Water Instrument ID: VERONICA

Method: 300.0 MDL Date: 05/02/2017 14:42

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Bromide		0.5	0.044

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104312-1

SDG Number:

Matrix: Water Instrument ID: VERONICA

Method: 300.0 XMDL Date: 05/02/2017 14:43

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Bromide		0.5	0.044

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104312-1

SDG Number:

Matrix: Water Instrument ID: VERONICA

Method: 9056A MDL Date: 05/02/2017 14:42

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Sulfate		1	0.348

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104312-1

SDG Number:

Matrix: Water Instrument ID: VERONICA

Method: 9056A XMDL Date: 05/02/2017 14:43

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Sulfate		1	0.348

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 240-104312-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2520B RL Date: 01/25/2011 12:16

Analyte	Wavelength/ Mass	RL (No Unit)	
Salinity		2	

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 240-104312-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2520B XRL Date: 01/25/2011 12:16

Analyte	Wavelength/ Mass	XRL (No Unit)	
Salinity		2	

FORM IX - IN

VOC CALCULATION	SAMPLE LCS			
TARGET ANALYTE	TRICHLOROETHENE			
ANALYTE RESPONSE	256077			
INTERNAL STANDARD	FLUOROBENZENE			
I.S. RESPONSE	835845			
I.S. CONCENTRATION	20	µg/l		
ANALYTE CAL. RF	0.316			
DILUTION FACTOR (DF)	1			
INITIAL SAMPLE VOLUME - V1	5	ml		
FINAL SAMPLE VOLUME - V2	5	ml		

$$\frac{\text{(ANALYTE RESPONSE) x (I.S. CONCENTRATION) X DF x V2}}{\text{(I.S. RESPONSE) x (CAL. R.F.) x V1}} = \mathbf{19.39}\ \mathbf{\mu g/l}$$

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104312-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 240-356400/4

Matrix: Water | Lab File ID: U1904016.d

Analysis Method: 8260C | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 11/20/2018 17:02

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.: 356400 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-59-2	cis-1,2-Dichloroethene	19.3		1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	19.3		1.0	0.61
87-68-3	Hexachlorobutadiene	20.5		1.0	0.83
74-95-3	Dibromomethane	19.3		1.0	0.090
75-27-4	Bromodichloromethane	18.4		1.0	0.17
75-71-8	Dichlorodifluoromethane	15.6		1.0	0.35
100-41-4	Ethylbenzene	20.2		1.0	0.11
106-93-4	1,2-Dibromoethane	19.3		1.0	0.12
91-20-3	Naphthalene	21.3		1.0	0.32
104-51-8	n-Butylbenzene	21.0		1.0	0.14
98-82-8	Isopropylbenzene	20.8		1.0	0.090
103-65-1	N-Propylbenzene	20.9		1.0	0.15
78-93-3	2-Butanone (MEK)	46.5		10	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	40.9		10	0.42
135-98-8	sec-Butylbenzene	20.8		1.0	0.13
1634-04-4	Methyl tert-butyl ether	17.2		1.0	0.070
75-09-2	Methylene Chloride	18.4		5.0	2.6
100-42-5	Styrene	20.6		1.0	0.10
98-06-6	tert-Butylbenzene	20.2		1.0	0.14
127-18-4	Tetrachloroethene	19.9		1.0	0.15
108-88-3	Toluene	19.8		1.0	0.14
156-60-5	trans-1,2-Dichloroethene	18.9		1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	17.2		1.0	0.67
79-01-6	Trichloroethene	19.4		1.0	0.10
75-69-4	Trichlorofluoromethane	17.0		1.0	0.45
108-05-4	Vinyl acetate	19.6		2.0	0.19
75-01-4	Vinyl chloride	18.1		1.0	0.20
75-65-0	tert-Butyl alcohol	278		50	1.7
1330-20-7	Xylenes, Total	41.3		2.0	0.15
124-48-1	Chlorodibromomethane	19.1		1.0	0.39

Report Date: 20-Nov-2018 18:25:38 Chrom Revision: 2.3 20-Nov-2018 10:08:14

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Canton\ChromData\A3UX19\20181120-82146.b\U1904016.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 20-Nov-2018 17:02:58 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 5.0 mL Dil. Factor: 1.0000
Sample Info: 004
Operator ID: 001904 Instrument ID: A3UX19

Method: \\chromdocs2018\q3\Canton\ChromData\A3UX19\20181120-82146.b\8260_19.m
Limit Group: MSV 8260C ICAL
Last Update: 20-Nov-2018 18:25:36 Calib Date: 10-Oct-2018 20:18:55
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A3UX19\20181010-80724.b\U1902694.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0319

First Level Reviewer: laveyt Date: 20-Nov-2018 18:25:36

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.654	5.654	0.000	97	835845	20.0	20.0	
* 2 Chlorobenzene-d5	117	8.500	8.500	0.000	83	671241	20.0	20.0	
* 3 1,4-Dichlorobenzene-d4	152	10.883	10.883	0.000	84	373552	20.0	20.0	
$ 4 Dibromofluoromethane (Surr	111	5.049	5.049	0.000	60	208510	20.0	18.5	
$ 5 1,2-Dichloroethane-d4 (Sur	65	5.357	5.357	0.000	99	239586	20.0	18.5	
$ 6 Toluene-d8 (Surr)	98	7.100	7.100	0.000	84	777445	20.0	19.3	
$ 7 4-Bromofluorobenzene (Surr	95	9.674	9.674	0.000	90	289928	20.0	19.1	
9 Dichlorodifluoromethane	85	1.598	1.610	-0.012	98	251358	20.0	15.6	
10 Chloromethane	50	1.812	1.823	-0.011	89	206964	20.0	17.2	
11 Vinyl chloride	62	1.906	1.918	-0.012	72	224803	20.0	18.1	
12 Butadiene	54	1.906	1.918	-0.012	86	201949	20.0	16.7	
13 Bromomethane	94	2.227	2.226	0.001	91	174464	20.0	17.9	
14 Chloroethane	64	2.298	2.321	-0.023	82	140959	20.0	18.2	
15 Dichlorofluoromethane	67	2.499	2.511	-0.012	98	348717	20.0	18.2	
16 Trichlorofluoromethane	101	2.570	2.582	-0.012	99	354029	20.0	17.0	
17 Ethyl ether	59	2.808	2.819	-0.011	87	141564	20.0	18.8	
18 Acrolein	56	2.926	2.938	-0.012	95	148492	100.0	79.9	
20 1,1,2-Trichloro-1,2,2-trif	101	3.057	3.068	-0.011	85	216999	20.0	20.2	
21 1,1-Dichloroethene	61	3.045	3.068	-0.023	98	286867	20.0	19.1	
22 Acetone	43	3.069	3.080	-0.011	77	163589	40.0	49.9	
23 Iodomethane	142	3.199	3.211	-0.012	97	376561	20.0	19.4	
24 Carbon disulfide	76	3.282	3.282	0.000	88	486508	20.0	15.5	
26 3-Chloro-1-propene	41	3.365	3.377	-0.012	69	249361	20.0	16.8	
27 Methyl acetate	43	3.389	3.389	0.000	96	398604	40.0	41.0	
28 Methylene Chloride	49	3.495	3.519	-0.024	54	218606	20.0	18.4	
29 2-Methyl-2-propanol	59	3.578	3.578	0.000	88	314639	200.0	278.0	
30 Acrylonitrile	53	3.697	3.697	0.000	99	977718	200.0	232.6	
31 Methyl tert-butyl ether	73	3.733	3.744	-0.011	86	499028	20.0	17.2	
32 trans-1,2-Dichloroethene	61	3.733	3.744	-0.011	68	267634	20.0	18.9	
33 Hexane	57	3.982	3.993	-0.011	80	278861	20.0	18.9	
34 1,1-Dichloroethane	63	4.112	4.112	0.000	97	325153	20.0	19.2	
35 Vinyl acetate	43	4.148	4.159	-0.011	97	380282	20.0	19.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
39 2,2-Dichloropropane	77	4.634	4.634	0.000	52	133573	20.0	13.1	
41 2-Butanone (MEK)	72	4.634	4.634	0.000	97	91680	40.0	46.5	
40 cis-1,2-Dichloroethene	96	4.634	4.634	0.000	77	233212	20.0	19.3	
45 Chlorobromomethane	49	4.835	4.847	-0.012	68	145760	20.0	17.9	
46 Tetrahydrofuran	42	4.883	4.883	0.000	82	181069	40.0	41.9	
47 Chloroform	83	4.907	4.906	0.001	83	359920	20.0	19.4	
48 1,1,1-Trichloroethane	97	5.084	5.084	0.000	89	323651	20.0	18.6	
49 Cyclohexane	84	5.144	5.144	0.000	83	310921	20.0	19.5	
50 1,1-Dichloropropene	75	5.227	5.227	0.000	92	282724	20.0	19.2	
51 Carbon tetrachloride	117	5.239	5.239	0.000	79	311230	20.0	18.5	
52 Isobutyl alcohol	41	5.298	5.298	0.000	87	300193	500.0	654.1	
53 Benzene	78	5.417	5.416	0.001	94	789626	20.0	19.9	
54 1,2-Dichloroethane	62	5.417	5.428	-0.011	54	273347	20.0	18.2	
56 n-Heptane	57	5.642	5.642	0.000	79	165768	20.0	17.9	
58 Trichloroethene	130	5.986	5.986	0.000	96	256077	20.0	19.4	
60 Methylcyclohexane	83	6.175	6.175	0.000	88	366600	20.0	19.1	
61 1,2-Dichloropropane	63	6.187	6.187	0.000	85	186776	20.0	20.2	
63 Dibromomethane	174	6.294	6.306	-0.012	88	183258	20.0	19.3	
64 1,4-Dioxane	88	6.306	6.306	0.000	45	72482	400.0	725.8	
65 Dichlorobromomethane	83	6.436	6.436	0.000	99	267443	20.0	18.4	
67 2-Chloroethyl vinyl ether	63	6.697	6.697	0.000	92	148781	20.0	20.1	
68 cis-1,3-Dichloropropene	75	6.840	6.851	-0.011	93	311172	20.0	19.3	
69 4-Methyl-2-pentanone (MIBK	43	6.982	6.982	0.000	93	547483	40.0	40.9	
70 Toluene	91	7.172	7.171	0.001	95	899975	20.0	19.8	
71 trans-1,3-Dichloropropene	75	7.361	7.361	0.000	85	278901	20.0	17.2	
72 Ethyl methacrylate	69	7.432	7.432	0.000	86	284448	20.0	19.5	
74 1,1,2-Trichloroethane	97	7.539	7.539	0.000	92	199036	20.0	20.9	
75 Tetrachloroethene	166	7.693	7.693	0.000	98	287781	20.0	19.9	
76 1,3-Dichloropropane	76	7.705	7.705	0.000	88	323191	20.0	20.1	
77 2-Hexanone	43	7.765	7.764	0.001	79	433176	40.0	41.0	
79 Chlorodibromomethane	129	7.931	7.930	0.001	89	229152	20.0	19.1	
80 Ethylene Dibromide	107	8.049	8.049	0.000	99	216671	20.0	19.3	
82 Chlorobenzene	112	8.523	8.523	0.000	91	616823	20.0	19.9	
83 1,1,1,2-Tetrachloroethane	131	8.607	8.606	0.000	92	222978	20.0	19.9	
84 Ethylbenzene	106	8.630	8.630	0.000	98	327903	20.0	20.2	
85 m-Xylene & p-Xylene	106	8.749	8.749	0.000	99	402330	20.0	20.4	
86 o-Xylene	106	9.152	9.152	0.000	86	392766	20.0	20.9	
87 Styrene	104	9.164	9.164	0.000	93	661713	20.0	20.6	
88 Bromoform	173	9.354	9.353	0.001	99	182899	20.0	18.6	
89 Isopropylbenzene	105	9.520	9.520	0.000	95	1049491	20.0	20.8	
91 1,1,2,2-Tetrachloroethane	83	9.816	9.816	0.000	83	300476	20.0	20.9	
92 Bromobenzene	156	9.840	9.840	0.000	87	292113	20.0	20.3	
93 1,2,3-Trichloropropane	110	9.864	9.863	0.001	72	116527	20.0	21.4	
94 trans-1,4-Dichloro-2-buten	53	9.875	9.875	0.000	62	71085	20.0	13.9	
95 N-Propylbenzene	120	9.947	9.946	0.001	96	302224	20.0	20.9	
96 2-Chlorotoluene	126	10.041	10.041	0.000	98	258215	20.0	21.1	
97 1,3,5-Trimethylbenzene	105	10.124	10.124	0.000	94	849683	20.0	20.4	
98 4-Chlorotoluene	126	10.148	10.148	0.000	97	273067	20.0	20.7	
99 tert-Butylbenzene	119	10.468	10.468	0.000	77	796374	20.0	20.2	
101 1,2,4-Trimethylbenzene	105	10.516	10.516	0.000	70	867629	20.0	20.6	
102 sec-Butylbenzene	105	10.694	10.694	0.000	93	1102556	20.0	20.8	
103 1,3-Dichlorobenzene	146	10.812	10.824	-0.012	84	540243	20.0	20.5	

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

Lab Name: TestAmerica Canton Job No.: 240-104312-1 Analy Batch No.: 337766

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/24/2018 17:50 Calibration End Date: 07/24/2018 20:04 Calibration ID: 46235

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon tetrachloride	0.3639 0.3981	0.3846 0.3917	0.3944	0.3722	0.3729	Ave		0.3825			0.1000	3.4		20.0			
Isobutyl alcohol	0.0095 0.0104	0.0071 0.0087	0.0088	0.0079	0.0092	Ave		0.0088				12.2		20.0			
Benzene	0.9890 1.0452	1.0827 1.0051	1.0373	1.0007	1.0215	Ave		1.0259			0.5000	3.1		20.0			
1,2-Dichloroethane	0.3674 0.3257	0.3549 0.3127	0.3205	0.3110	0.3150	Ave		0.3296			0.1000	6.8		20.0			
n-Heptane	+++++ 0.2252	0.7970 0.2266	0.2839	0.2324	0.2217	Lin1	0.5799	0.2147				4.3			0.9990		0.9900
Trichloroethene	0.3122 0.3167	0.3258 0.3140	0.3258	0.3068	0.3105	Ave		0.3160			0.1500	2.3		20.0			
Methylcyclohexane	0.4985 0.5342	0.5073 0.5200	0.5394	0.4970	0.4957	Ave		0.5132			0.1000	3.6		20.0			
1,2-Dichloropropane	0.2050 0.2404	0.2394 0.2326	0.2309	0.2270	0.2376	Ave		0.2304			0.1000	5.3		20.0			
Dibromomethane	0.2379 0.2151	0.2154 0.2010	0.2009	0.2115	0.2105	Ave		0.2132				5.8		20.0			
1,4-Dioxane	+++++ 0.0024	0.0017 0.0024	0.0024	0.0024	0.0023	Ave		0.0023				13.5		20.0			
Dichlorobromomethane	0.3232 0.3408	0.3027 0.3295	0.3203	0.3127	0.3310	Ave		0.3229			0.1500	3.9		20.0			
2-Chloroethyl vinyl ether	0.1601 0.1755	0.1580 0.1783	0.1797	0.1698	0.1774	Ave		0.1713				5.2		20.0			
cis-1,3-Dichloropropene	0.3599 0.3873	0.3811 0.3872	0.3686	0.3735	0.3865	Ave		0.3777			0.1500	2.8		20.0			
4-Methyl-2-pentanone (MIBK)	0.2834 0.3221	0.2998 0.3046	0.3240	0.2983	0.3095	Ave		0.3059			0.0500	4.6		20.0			
Toluene	1.5618 1.4027	1.4672 1.4180	1.4098	1.3276	1.3894	Ave		1.4252			0.4000	5.1		20.0			
trans-1,3-Dichloropropene	0.4760 0.4702	0.4587 0.4631	0.4478	0.4252	0.4649	Ave		0.4580			0.1000	3.7		20.0			
Ethyl methacrylate	0.4185 0.4604	0.4061 0.4531	0.4309	0.4112	0.4583	Ave		0.4341				5.3		20.0			
1,1,2-Trichloroethane	0.2547 0.2895	0.2773 0.2862	0.2834	0.2725	0.2908	Ave		0.2792			0.1000	4.5		20.0			
Tetrachloroethene	0.4086 0.4320	0.4228 0.4317	0.4309	0.4048	0.4173	Ave		0.4212			0.1500	2.7		20.0			
1,3-Dichloropropane	0.4853 0.4890	0.5028 0.4855	0.4893	0.4635	0.4865	Ave		0.4860				2.4		20.0			

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

TETRA TECH

INTERNAL CORRESPONDENCE

TO: **S. BRENNER** **DATE:** **FEBRUARY 8, 2019**

FROM: **TERRI L. SOLOMON** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC AND INORGANIC DATA VALIDATION –VOCs, PCBs, DISSOLVED GASES, METALS, MISCELLANEOUS PARAMETERS**
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER COMPLEX (MRC)
BLOCK F
SDG 240-104369-1

SAMPLES: 5/Aqueous/

MRC-MW-134A-111318	MRC-MW-134B-111318
MRC-MW-135B-111318	MRC-MW-136B-111318
MRC-MW-DUP-111318	

1/Trip Blank/
VOCs
TB-111318

Overview

The sample set for LMC-MRC Block F, SDG 240-104369-1, consisted of five (5) aqueous environmental samples and one (1) trip blank. All samples were analyzed for select volatile organic compounds (VOCs), polychlorinated biphenyl isomers (PCBs), dissolved gases (ethane, ethene and methane), metals and miscellaneous parameters (alkalinity, bromide, hardness, nitrate/nitrite, salinity, sulfate and total dissolved solids). One (1) field duplicate pair, MRC-MW-136B-111318 / MRC-MW-DUP-111318, was included in this sample delivery group (SDG).

The samples were collected by Tetra Tech, Inc. on November 13, 2018 and analyzed by Test America – Canton. All analyses were conducted in accordance with SW-846 methods 8260C, 6010C, 6020A and 9056A, EPA methods 680, 300.0 and 353.2, method RSK_175 and Standard Methods 2320B-2011, 2340C-2011, 2520B and 2540C-2011 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 instrument/method/trip blank results, interference check sample results surrogate spike recoveries, laboratory control sample, laboratory control sample duplicate results, matrix spike / matrix spike duplicate results, ICP serial dilution results, internal standard areas and recoveries, field duplicate results, chromatographic resolution, analyte identification, analyte quantitation, and detection limits. Areas of concern are listed below.

Major

- The laboratory case narrative indicates that all VOC samples were preserved with hydrochloric acid and the VOC analyte 2-chloroethyl vinyl ether is an acid-labile compound that degrades in an acidic medium. The non-detected results for 2-chloroethyl vinyl ether were rejected (UR) in all VOC samples.

Minor

- The VOC initial calibration verification performed on 08/27/18 @ 19:45 on instrument A3UX19 had a percent difference (%D) that were greater than the 20% quality control limit for dichlorodifluoromethane. Samples MRC-MW-135B-111318, MRC-MW-136B-111318 and MRC-MW-DUP-111318 were affected. The non-detected results reported for dichlorodifluoromethane in the affected samples were qualified as estimated (UJ).

- The VOC continuing calibration verification performed on 11/23/18 @ 12:20 on instrument A3UX19 had %Ds that was greater than the 20% quality control limit for ethyl tert-butyl ether and tert amyl methyl ether. Samples MRC-MW-135B-111318, MRC-MW-136B-111318 and MRC-MW-DUP-111318 were affected. The non-detected results reported for the aforementioned compound in the affected samples were qualified as estimated (UJ).

- The VOC continuing calibration verification performed on 11/23/18 @ 12:42 on instrument A3UX19 had %Ds that were greater than the 20% quality control limit for acetone, carbon disulfide and 2,2-dichloropropane. Samples MRC-MW-135B-111318, MRC-MW-136B-111318 and MRC-MW-DUP-111318 were affected. The non-detected results reported for the aforementioned compounds in the affected samples were qualified as estimated (UJ).

- The VOC initial calibration performed on 11/12/18 on instrument A3UX9 had a relative standard deviation (%RSD) that was greater than the 20% quality control limit for 1,2-dibromo-3-chloropropane. Samples MRC-MW-134A-111318, MRC-MW-134B-111318 and TB-111318 were affected. The non-detected results reported for 1,2-dibromo-3-chloropropane in the affected samples were qualified as estimated (UJ).

- The VOC initial calibration verification performed on 11/12/18 @ 21:51 on instrument A3UX9 had a %D that was greater than the 20% quality control limit for dichlorodifluoromethane. Samples MRC-MW-134A-111318, MRC-MW-134B-111318 and TB-111318 were affected. The non-detected results reported for dichlorodifluoromethane in the affected samples were qualified as estimated (UJ).

- The VOC continuing calibration verification performed on 11/21/18 @ 18:34 on instrument A3UX9 had a %D that was greater than the 20% quality control limit for dichlorodifluoromethane. Samples MRC-MW-134A-111318, MRC-MW-134B-111318 and TB-111318 were affected. The non-detected results reported for dichlorodifluoromethane in the affected samples were qualified as estimated (UJ).

- The PCB continuing calibration verification performed on 11/21/18 @ 17:31 on instrument CMSX had a %D that was greater than the 20% quality control limit for heptachlorobiphenyl. Samples MRC-MW-134B-111318, MRC-MW-135B-111318, MRC-MW-136B-111318 and MRC-MW-DUP-111318 were affected. The non-detected results reported for heptachlorobiphenyl in the affected samples were qualified as estimated (UJ).

- The PCB continuing calibration verification performed on 11/26/18 @ 14:03 on instrument CMSX had a %D that was greater than the 20% quality control limit for heptachlorobiphenyl. Sample MRC-MW-134A-111318 was affected. The non-detected result reported for heptachlorobiphenyl in the affected sample was qualified as estimated (UJ).

- The following contaminants were detected in the instrument/trip blanks at the following maximum concentrations:

Contaminant	Maximum Concentration	Reporting Limit (RL) > or <
tert butyl alcohol[(1)]	7.8 ug/L	< RL
beryllium[(2)]	0.334 ug/L	< RL
nitrate / nitrite[(3)]	0.0328 mg/L	< RL

(1) Maximum concentration present in the trip blank affecting the VOC analyses.

(2) Maximum concentration present in a metals instrument blank affecting all samples.
(3) Maximum concentration present in a metals instrument blank affecting all samples.

The detected results reported below the reporting limit (RL) for were qualified as non-detected, (U). Field quality control blanks are not qualified for blank contamination.

- The VOC matrix spike duplicate (MSD) percent recovery (%R) for chlorobenzene was below the quality control limits for sample MRC-MW-134A-111318. The matrix spike (MS) %R and MS/MSD relative percent difference (RPD) were within quality control limits. The detected result reported for chlorobenzene in the affected sample was qualified as estimated (J).

- The PCB laboratory control sample (LCS) %Rs for monochlorobiphenyl and dichlorobiphenyl were below the quality control limits. All samples were affected. The laboratory re-extracted and reanalyzed the environmental samples and LCS/laboratory control sample duplicate (LCSD) samples. The LCS and/or LCSD %Rs were all below the quality control limits except nonachlorobiphenyls. The original data was used for validation. It should be noted that the surrogate recoveries in all samples were acceptable and the matrix spike/matrix spike duplicate recoveries were acceptable. The detected and nondetected results reported for monochlorobiphenyl and dichlorobiphenyl in the affected samples were qualified as estimated (J) and (UJ), respectively.

- The nitrate / nitrite MS %R was below the quality control limits for sample MRC-MW-134A-111318. The MSD %R and MS/MSD RPD were within quality control limits. All samples were affected. The detected and nondetected results reported for nitrate / nitrite in the affected samples were qualified as estimated (J) and (UJ) respectively.

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

Notes

The following sample ID did not match the chain of custody.

Laboratory ID	Chain of Custody ID
MRC-MW-136B-111318	MRC-MW-136A-111318

All metals samples were analyzed for iron and manganese by SW-846 method 6010C. Iron and manganese were also analyzed by SW-846 method 6020A. The sample results reported from the SW-846 method 6020A were reported.

The chain of custody lists the fraction nitrates as analyzed by Standard method 4500-NO3E. The laboratory analyzed the samples as nitrate / nitrite by EPA method 353.2. The samples were analyzed 14 days after sampling.

The following samples were analyzed at dilutions. Detection limits of the non-detected results were elevated.

Sample	Fraction	Dilution
MRC-MW-134A-111318	VOC	5X
	methane	5X
MRC-MW-135B-111318	VOC	5X

Non-detected results were reported to the MDL.

The VOC MS/MSD %Rs for 2-chloroethyl vinyl ether were 0% for sample MRC-MW-134A-111318. No validation actions were required because the poor recovery is attributed to acid preservation and was previously qualified.

Executive Summary

Laboratory Performance: A few VOC analytes in the initial calibration, initial calibration verification and continuing calibration %RSDs and %Ds exceeded control limits. Three contaminants were detected in the laboratory method/instrument blanks. Two PCB homolog %Rs were outside the quality control limits for the PCB analyses. One PCB homolog %D was marginally above the control limit.

Other Factors Affecting Data Quality: Non-detected results for 2-chloroethyl vinyl ether were rejected due to preservation noncompliance. Results below the RL were estimated. Several MS and/or MSD %Rs were outside the quality control limits for the VOC and nitrate / nitrite analyses.

The data for these analyses were reviewed with reference to the USEPA "National Functional Guidelines for Organic Superfund Methods Data Review" (January 2017) and the "National Functional Guidelines for Inorganic Superfund Methods Data Review" (January 2017). The text of this report has been formulated to address only those problem areas affecting data quality.

for Tetra Tech, Inc.
Terri L. Solomon
Chemist/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

Data Qualifier Definitions

The following definitions provide brief explanations of the validation qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted detection limit.
J	The result is an estimated quantity. 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).
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
NJ	The analyte has been “tentatively identified” or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.
R	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.
UR	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.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team, but exclusion of the data is recommended.

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 x 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

PROJ_NO: 08667	NSAMPLE	MRC-MW-134A-111318			MRC-MW-134B-111318			MRC-MW-135B-111318			MRC-MW-136B-111318		
SDG: 240-104369-1	LAB_ID	240-104369-2			240-104369-3			240-104369-4			240-104369-5		
FRACTION: OV	SAMP_DATE	11/13/2018			11/13/2018			11/13/2018			11/13/2018		
MEDIA: WATER	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		0.7	U		0.14	U		0.7	U		0.14	U	
1,1,1-TRICHLOROETHANE		1.2	U		0.24	U		1.2	U		0.24	U	
1,1,2,2-TETRACHLOROETHANE		0.65	U		0.13	U		0.65	U		0.13	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		2.1	U		0.41	U		2.1	U		0.41	U	
1,1-DICHLOROETHANE		0.85	U		0.17	U		0.85	U		0.17	U	
1,1-DICHLOROETHENE		0.95	U		0.19	U		0.95	U		0.19	U	
1,1-DICHLOROPROPENE		0.7	U		0.14	U		0.7	U		0.14	U	
1,2,3-TRICHLOROBENZENE		2.7	U		0.54	U		67			1.3		
1,2,3-TRICHLOROPROPANE		1.2	U		0.24	U		1.2	U		0.24	U	
1,2,3-TRIMETHYLBENZENE		0.7	U		0.14	U		0.7	U		0.14	U	
1,2,4-TRICHLOROBENZENE		1.3	U		0.26	U		280			5		
1,2,4-TRIMETHYLBENZENE		0.35	U		0.07	U		0.35	U		0.07	U	
1,2-DIBROMO-3-CHLOROPROPANE		4.6	UJ	C	0.91	UJ	C	4.6	U		0.91	U	
1,2-DIBROMOETHANE		0.6	U		0.12	U		0.6	U		0.12	U	
1,2-DICHLOROBENZENE		0.75	U		0.15	U		4.2	J	P	0.15	U	
1,2-DICHLOROETHANE		1.1	U		0.21	U		1.1	U		0.85	J	P
1,2-DICHLOROPROPANE		0.75	U		0.15	U		0.75	U		0.15	U	
1,3-DICHLOROBENZENE		1.4	J	P	0.15	U		0.75	U		0.28	J	P
1,3-DICHLOROPROPANE		1.1	U		0.21	U		1.1	U		0.21	U	
1,4-DICHLOROBENZENE		6.4			0.16	U		5.8			0.17	J	P
2,2-DICHLOROPROPANE		1.6	U		0.31	U		1.6	UJ	C	0.31	UJ	C
2-BUTANONE		5.8	U		1.2	U		5.8	U		2.5	J	P
2-CHLOROETHYL VINYL ETHER		1.3	UR	M	0.26	UR	M	1.3	UR	M	0.26	UR	M
2-CHLOROTOLUENE		0.75	U		0.15	U		0.75	U		0.15	U	
2-HEXANONE		2.7	U		0.54	U		2.7	U		0.54	U	
4-CHLOROTOLUENE		0.45	U		0.09	U		0.45	U		0.09	U	
4-ISOPROPYLTOLUENE		0.65	U		0.13	U		0.65	U		0.13	U	
4-METHYL-2-PENTANONE		2.1	U		0.42	U		2.1	U		0.42	U	
ACETONE		27	U		5.4	U		27	UJ	C	5.4	UJ	C
BENZENE		2.5	J	P	0.13	U		0.65	U		0.13	U	
BROMOBENZENE		0.6	U		0.12	U		0.6	U		0.12	U	
BROMOCHLOROMETHANE		0.7	U		0.14	U		0.7	U		0.14	U	
BROMODICHLOROMETHANE		0.85	U		0.17	U		0.85	U		0.17	U	
BROMOFORM		3.8	U		0.76	U		3.8	U		0.76	U	
BROMOMETHANE		2.1	U		0.42	U		2.1	U		0.42	U	

PROJ_NO: 08667	NSAMPLE	MRC-MW-DUP-111318			TB-111318		
SDG: 240-104369-1	LAB_ID	240-104369-6			240-104369-1		
FRACTION: OV	SAMP_DATE	11/13/2018			11/13/2018		
MEDIA: WATER	QC_TYPE	FD			TB		
	UNITS	UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0		
	DUP_OF	MRC-MW-136B-111318					
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		0.14	U		0.14	U	
1,1,1-TRICHLOROETHANE		0.24	U		0.24	U	
1,1,2,2-TETRACHLOROETHANE		0.13	U		0.13	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		0.41	U		0.41	U	
1,1-DICHLOROETHANE		0.17	U		0.17	U	
1,1-DICHLOROETHENE		0.19	U		0.19	U	
1,1-DICHLOROPROPENE		0.14	U		0.14	U	
1,2,3-TRICHLOROBENZENE		1.1			0.54	U	
1,2,3-TRICHLOROPROPANE		0.24	U		0.24	U	
1,2,3-TRIMETHYLBENZENE		0.14	U		0.14	U	
1,2,4-TRICHLOROBENZENE		4.4			0.26	U	
1,2,4-TRIMETHYLBENZENE		0.07	U		0.07	U	
1,2-DIBROMO-3-CHLOROPROPANE		0.91	U		0.91	UJ	C
1,2-DIBROMOETHANE		0.12	U		0.12	U	
1,2-DICHLOROBENZENE		0.15	U		0.15	U	
1,2-DICHLOROETHANE		0.85	J	P	0.21	U	
1,2-DICHLOROPROPANE		0.15	U		0.15	U	
1,3-DICHLOROBENZENE		0.29	J	P	0.15	U	
1,3-DICHLOROPROPANE		0.21	U		0.21	U	
1,4-DICHLOROBENZENE		0.18	J	P	0.16	U	
2,2-DICHLOROPROPANE		0.31	UJ	C	0.31	U	
2-BUTANONE		2.6	J	P	1.2	U	
2-CHLOROETHYL VINYL ETHER		0.26	UR	M	0.26	UR	M
2-CHLOROTOLUENE		0.15	U		0.15	U	
2-HEXANONE		0.54	U		0.54	U	
4-CHLOROTOLUENE		0.09	U		0.09	U	
4-ISOPROPYLTOLUENE		0.13	U		0.13	U	
4-METHYL-2-PENTANONE		0.42	U		0.42	U	
ACETONE		5.4	UJ	C	5.4	U	
BENZENE		0.13	U		0.13	U	
BROMOBENZENE		0.12	U		0.12	U	
BROMOCHLOROMETHANE		0.14	U		0.14	U	
BROMODICHLOROMETHANE		0.17	U		0.17	U	
BROMOFORM		0.76	U		0.76	U	
BROMOMETHANE		0.42	U		0.42	U	

PROJ_NO: 08667	NSAMPLE	MRC-MW-134A-111318			MRC-MW-134B-111318			MRC-MW-135B-111318			MRC-MW-136B-111318		
SDG: 240-104369-1	LAB_ID	240-104369-2			240-104369-3			240-104369-4			240-104369-5		
FRACTION: OV	SAMP_DATE	11/13/2018			11/13/2018			11/13/2018			11/13/2018		
MEDIA: WATER	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		1.4	U		0.28	U		1.4	UJ	C	0.28	UJ	C
CARBON TETRACHLORIDE		1.3	U		0.26	U		1.3	U		0.26	U	
CHLOROBENZENE		160	J	D	0.14	U		0.7	U		0.14	U	
CHLORODIBROMOMETHANE		2	U		0.39	U		2	U		0.39	U	
CHLOROETHANE		4.2	U		0.83	U		4.2	U		0.83	U	
CHLOROFORM		0.65	U		0.13	U		0.65	U		0.13	U	
CHLOROMETHANE		1	U		0.2	U		1	U		0.2	U	
CIS-1,2-DICHLOROETHENE		0.8	U		0.16	U		23			0.16	U	
CIS-1,3-DICHLOROPROPENE		3.1	U		0.61	U		3.1	U		0.61	U	
DIBROMOMETHANE		0.45	U		0.09	U		0.45	U		0.09	U	
DICHLORODIFLUOROMETHANE		1.8	UJ	C	0.35	UJ	C	1.8	UJ	C	0.35	UJ	C
DIISOPROPYL ETHER		0.85	U		0.17	U		0.85	U		0.17	U	
ETHYL TERT-BUTYL ETHER		0.75	U		0.15	U		0.75	UJ	C	0.15	UJ	C
ETHYLBENZENE		0.55	U		0.11	U		0.55	U		0.11	U	
HEXACHLOROBUTADIENE		4.2	U		0.83	U		4.2	U		0.83	U	
ISOPROPYLBENZENE		0.45	U		0.09	U		0.45	U		0.09	U	
METHYL TERT-BUTYL ETHER		0.35	U		0.07	U		9.5			0.07	U	
METHYLENE CHLORIDE		13	U		2.6	U		13	U		2.6	U	
NAPHTHALENE		1.6	U		0.32	U		1.6	U		0.32	U	
N-BUTYLBENZENE		0.7	U		0.14	U		0.7	U		0.14	U	
N-PROPYLBENZENE		0.75	U		0.15	U		0.75	U		0.15	U	
SEC-BUTYLBENZENE		0.65	U		0.13	U		0.65	U		0.13	U	
STYRENE		0.5	U		0.1	U		0.5	U		0.1	U	
TERT-AMYL METHYL ETHER		0.55	U		0.11	U		0.55	UJ	C	0.11	UJ	C
TERT-BUTYLBENZENE		0.7	U		0.14	U		0.7	U		0.14	U	
TERTIARY-BUTYL ALCOHOL		8.5	U		1.7	U		9	U	B	1.7	U	
TETRACHLOROETHENE		0.75	U		0.15	U		0.75	U		0.15	U	
TOLUENE		0.7	U		0.14	U		0.7	U		0.14	U	
TOTAL XYLENES		0.75	U		0.15	U		0.75	U		0.15	U	
TRANS-1,2-DICHLOROETHENE		0.95	U		0.19	U		4.2	J	P	0.19	U	
TRANS-1,3-DICHLOROPROPENE		3.4	U		0.67	U		3.4	U		0.67	U	
TRICHLOROETHENE		0.5	U		0.1	U		9.8			0.1	U	
TRICHLOROFLUOROMETHANE		2.3	U		0.45	U		2.3	U		0.45	U	
VINYL ACETATE		0.95	U		0.19	U		0.95	U		0.19	U	
VINYL CHLORIDE		1	U		0.2	U		1.4	J	P	0.2	U	

PROJ_NO: 08667	NSAMPLE	MRC-MW-DUP-111318			TB-111318		
SDG: 240-104369-1	LAB_ID	240-104369-6			240-104369-1		
FRACTION: OV	SAMP_DATE	11/13/2018			11/13/2018		
MEDIA: WATER	QC_TYPE	FD			TB		
	UNITS	UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0		
	DUP_OF	MRC-MW-136B-111318					
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON DISULFIDE		0.28	UJ	C	0.28	U	
CARBON TETRACHLORIDE		0.26	U		0.26	U	
CHLOROBENZENE		0.14	U		0.14	U	
CHLORODIBROMOMETHANE		0.39	U		0.39	U	
CHLOROETHANE		0.83	U		0.83	U	
CHLOROFORM		0.13	U		0.13	U	
CHLOROMETHANE		0.2	U		0.2	U	
CIS-1,2-DICHLOROETHENE		0.16	U		0.16	U	
CIS-1,3-DICHLOROPROPENE		0.61	U		0.61	U	
DIBROMOMETHANE		0.09	U		0.09	U	
DICHLORODIFLUOROMETHANE		0.35	UJ	C	0.35	UJ	C
DIISOPROPYL ETHER		0.17	U		0.17	U	
ETHYL TERT-BUTYL ETHER		0.15	UJ	C	0.15	U	
ETHYLBENZENE		0.11	U		0.11	U	
HEXACHLOROBUTADIENE		0.83	U		0.83	U	
ISOPROPYLBENZENE		0.09	U		0.09	U	
METHYL TERT-BUTYL ETHER		0.07	U		0.07	U	
METHYLENE CHLORIDE		2.6	U		2.6	U	
NAPHTHALENE		0.32	U		0.32	U	
N-BUTYLBENZENE		0.14	U		0.14	U	
N-PROPYLBENZENE		0.15	U		0.15	U	
SEC-BUTYLBENZENE		0.13	U		0.13	U	
STYRENE		0.1	U		0.1	U	
TERT-AMYL METHYL ETHER		0.11	UJ	C	0.11	U	
TERT-BUTYLBENZENE		0.14	U		0.14	U	
TERTIARY-BUTYL ALCOHOL		1.7	U		7.8	J	P
TETRACHLOROETHENE		0.15	U		0.15	U	
TOLUENE		0.14	U		0.14	U	
TOTAL XYLENES		0.15	U		0.15	U	
TRANS-1,2-DICHLOROETHENE		0.19	U		0.19	U	
TRANS-1,3-DICHLOROPROPENE		0.67	U		0.67	U	
TRICHLOROETHENE		0.1	U		0.1	U	
TRICHLOROFLUOROMETHANE		0.45	U		0.45	U	
VINYL ACETATE		0.19	U		0.19	U	
VINYL CHLORIDE		0.2	U		0.2	U	

PROJ_NO: 08667	NSAMPLE	MRC-MW-134A-111318			MRC-MW-134B-111318			MRC-MW-135B-111318			MRC-MW-136B-111318		
SDG: 240-104369-1	LAB_ID	240-104369-2			240-104369-3			240-104369-4			240-104369-5		
FRACTION: PCB	SAMP_DATE	11/13/2018			11/13/2018			11/13/2018			11/13/2018		
MEDIA: WATER	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
DICHLOROBIPHENYLS		0.0052	UJ	E	0.0053	UJ	E	0.0058	UJ	E	0.0058	UJ	E
HEPTACHLOROBIPHENYLS		0.029	UJ	C	0.03	UJ	C	0.032	UJ	C	0.032	UJ	C
HEXACHLOROBIPHENYLS		0.015	U		0.015	U		0.016	U		0.016	U	
MONOCHLOROBIPHENYLS		0.0054	UJ	E	0.0055	UJ	E	0.015	J	EP	0.006	UJ	E
NONACHLOROBIPHENYLS		0.047	U		0.048	U		0.053	U		0.053	U	
OCTACHLOROBIPHENYLS		0.037	U		0.037	U		0.041	U		0.041	U	
PENTACHLOROBIPHENYLS		0.014	U		0.014	U		0.015	U		0.015	U	
TETRACHLOROBIPHENYLS		0.013	U		0.013	U		0.014	U		0.014	U	
TRICHLOROBIPHENYLS		0.0063	U		0.0064	U		0.007	U		0.007	U	

PROJ_NO: 08667	NSAMPLE	MRC-MW-DUP-111318		
SDG: 240-104369-1	LAB_ID	240-104369-6		
FRACTION: PCB	SAMP_DATE	11/13/2018		
MEDIA: WATER	QC_TYPE	FD		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF	MRC-MW-136B-111318		
PARAMETER		RESULT	VQL	QLCD
DICHLOROBIPHENYLS		0.0058	UJ	E
HEPTACHLOROBIPHENYLS		0.032	UJ	C
HEXACHLOROBIPHENYLS		0.016	U	
MONOCHLOROBIPHENYLS		0.006	UJ	E
NONACHLOROBIPHENYLS		0.052	U	
OCTACHLOROBIPHENYLS		0.041	U	
PENTACHLOROBIPHENYLS		0.015	U	
TETRACHLOROBIPHENYLS		0.014	U	
TRICHLOROBIPHENYLS		0.0069	U	

PROJ_NO: 08667	NSAMPLE	MRC-MW-134A-111318			MRC-MW-134B-111318			MRC-MW-135B-111318			MRC-MW-136B-111318		
SDG: 240-104369-1	LAB_ID	240-104369-2			240-104369-3			240-104369-4			240-104369-5		
FRACTION: OVG	SAMP_DATE	11/13/2018			11/13/2018			11/13/2018			11/13/2018		
MEDIA: WATER	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
ETHANE		0.1	U		0.1	U		0.1	U		0.1	U	
ETHENE		0.11	U		0.11	U		0.11	U		0.11	U	
METHANE		5900			0.17	U		88			0.17	U	

PROJ_NO: 08667	NSAMPLE	MRC-MW-DUP-111318		
SDG: 240-104369-1	LAB_ID	240-104369-6		
FRACTION: OVG	SAMP_DATE	11/13/2018		
MEDIA: WATER	QC_TYPE	FD		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF	MRC-MW-136B-111318		
PARAMETER		RESULT	VQL	QLCD
ETHANE		0.1	U	
ETHENE		0.11	U	
METHANE		0.17	U	

PROJ_NO: 08667	NSAMPLE	MRC-MW-134A-111318			MRC-MW-134B-111318			MRC-MW-135B-111318			MRC-MW-136B-111318		
SDG: 240-104369-1	LAB_ID	240-104369-2			240-104369-3			240-104369-4			240-104369-5		
FRACTION: M	SAMP_DATE	11/13/2018			11/13/2018			11/13/2018			11/13/2018		
MEDIA: WATER	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
ALUMINUM		34	U		82			79			400		
ANTIMONY		0.57	U		0.57	U		0.57	U		0.57	U	
ARSENIC		5.5			0.75	U		0.75	U		0.75	U	
BARIUM		130			57			110			83		
BERYLLIUM		0.31	U		0.31	U		9.5			10		
CADMIUM		0.21	U		0.21	U		0.21	U		0.21	U	
CALCIUM		75000			5000			7800			10000		
CHROMIUM		0.98	U		0.98	U		0.98	U		0.98	U	
COBALT		0.48	J	P	37			38			56		
COPPER		1.7	U		1.7	U		1.7	U		5.1		
IRON		17000			7600			80	J	P	150		
LEAD		0.45	U		0.45	U		0.45	U		0.51	J	P
MAGNESIUM		11000			3700			5700			10000		
MANGANESE		510			840			220			140		
NICKEL		1.5	U		60			92			130		
POTASSIUM		8200			2900			3200			4500		
SELENIUM		0.89	U		0.89	U		0.89	U		0.89	U	
SILVER		0.053	U		0.053	U		0.053	U		0.053	U	
SODIUM		120000			6000			20000			48000		
THALLIUM		0.2	U		0.2	U		0.2	U		0.2	U	
VANADIUM		0.82	U		0.82	U		0.82	U		0.91	J	P
ZINC		15	U		49			130			190		

PROJ_NO: 08667	NSAMPLE	MRC-MW-DUP-111318		
SDG: 240-104369-1	LAB_ID	240-104369-6		
FRACTION: M	SAMP_DATE	11/13/2018		
MEDIA: WATER	QC_TYPE	FD		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF	MRC-MW-136B-111318		
PARAMETER		RESULT	VQL	QLCD
ALUMINUM		350		
ANTIMONY		0.57	U	
ARSENIC		0.75	U	
BARIUM		84		
BERYLLIUM		11		
CADMIUM		0.21	U	
CALCIUM		9400		
CHROMIUM		0.98	U	
COBALT		55		
COPPER		5		
IRON		150		
LEAD		0.45	U	
MAGNESIUM		9800		
MANGANESE		140		
NICKEL		120		
POTASSIUM		3900		
SELENIUM		0.89	U	
SILVER		0.053	U	
SODIUM		47000		
THALLIUM		0.2	U	
VANADIUM		0.82	U	
ZINC		190		

PROJ_NO: 08667	NSAMPLE	MRC-MW-134A-111318						MRC-MW-134B-111318					
SDG: 240-104369-1	LAB_ID	240-104369-2						240-104369-3					
FRACTION: MISC	SAMP_DATE	11/13/2018						11/13/2018					
MEDIA: WATER	QC_TYPE	NM						NM					
	UNITS	MG/L			UNITLESS			MG/L			UNITLESS		
	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
ALKALINITY		280						32					
BROMIDE		0.079	J	P				0.044	U				
HARDNESS AS CACO3		250						44					
NITRITE/NITRATE-N		0.031	UJ	D				0.031	UJ	D			
SALINITY					2	U					2	U	
SULFATE		4						4.4					
TOTAL DISSOLVED SOLIDS		580						74					

PROJ_NO: 08667	NSAMPLE	MRC-MW-135B-111318						MRC-MW-136B-111318					
SDG: 240-104369-1	LAB_ID	240-104369-4						240-104369-5					
FRACTION: MISC	SAMP_DATE	11/13/2018						11/13/2018					
MEDIA: WATER	QC_TYPE	NM						NM					
	UNITS	MG/L			UNITLESS			MG/L			UNITLESS		
	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
ALKALINITY		5.9						21					
BROMIDE		0.044	U					0.044	U				
HARDNESS AS CACO3		48						72					
NITRITE/NITRATE-N		0.042	U	A				0.19	J	D			
SALINITY					2	U					2	U	
SULFATE		6.6						49					
TOTAL DISSOLVED SOLIDS		130						230					

PROJ_NO: 08667	NSAMPLE	MRC-MW-DUP-111318					
SDG: 240-104369-1	LAB_ID	240-104369-6					
FRACTION: MISC	SAMP_DATE	11/13/2018					
MEDIA: WATER	QC_TYPE	FD					
	UNITS	MG/L			UNITLESS		
	PCT_SOLIDS	0.0			0.0		
	DUP_OF	MRC-MW-136B-111318			MRC-MW-136B-111318		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
ALKALINITY		26					
BROMIDE		0.044	U				
HARDNESS AS CACO3		68					
NITRITE/NITRATE-N		0.17	J	D			
SALINITY					2	U	
SULFATE		48					
TOTAL DISSOLVED SOLIDS		220					

Appendix B

Results as Reported by the Laboratory

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: TB-111318 | Lab Sample ID: 240-104369-1

Matrix: Water | Lab File ID: UX975341.D

Analysis Method: 8260C | Date Collected: 11/13/2018 00:00

Sample wt/vol: 5(mL) | Date Analyzed: 11/21/2018 22:11

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.: 356655 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	0.14	U	1.0	0.14
71-55-6	1,1,1-Trichloroethane	0.24	U	1.0	0.24
79-34-5	1,1,2,2-Tetrachloroethane	0.13	U	1.0	0.13
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19
563-58-6	1,1-Dichloropropene	0.14	U	1.0	0.14
87-61-6	1,2,3-Trichlorobenzene	0.54	U	1.0	0.54
96-18-4	1,2,3-Trichloropropane	0.24	U	1.0	0.24
526-73-8	1,2,3-Trimethylbenzene	0.14	U	5.0	0.14
120-82-1	1,2,4-Trichlorobenzene	0.26	U	1.0	0.26
95-63-6	1,2,4-Trimethylbenzene	0.070	U	1.0	0.070
96-12-8	1,2-Dibromo-3-Chloropropane	0.91	U	2.0	0.91
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
107-06-2	1,2-Dichloroethane	0.21	U	1.0	0.21
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.15	U	1.0	0.15
142-28-9	1,3-Dichloropropane	0.21	U	1.0	0.21
106-46-7	1,4-Dichlorobenzene	0.16	U	1.0	0.16
594-20-7	2,2-Dichloropropane	0.31	U	1.0	0.31
110-75-8	2-Chloroethyl vinyl ether	0.26	U	10	0.26
95-49-8	2-Chlorotoluene	0.15	U	1.0	0.15
591-78-6	2-Hexanone	0.54	U	10	0.54
108-86-1	Bromobenzene	0.12	U	1.0	0.12
74-97-5	Bromochloromethane	0.14	U	1.0	0.14
106-43-4	4-Chlorotoluene	0.090	U	1.0	0.090
99-87-6	4-Isopropyltoluene	0.13	U	1.0	0.13
67-64-1	Acetone	5.4	U	10	5.4
71-43-2	Benzene	0.13	U	1.0	0.13
75-25-2	Bromoform	0.76	U	1.0	0.76
74-83-9	Bromomethane	0.42	U	1.0	0.42
75-15-0	Carbon disulfide	0.28	U	1.0	0.28
56-23-5	Carbon tetrachloride	0.26	U	1.0	0.26
108-90-7	Chlorobenzene	0.14	U	1.0	0.14
75-00-3	Chloroethane	0.83	U	1.0	0.83
67-66-3	Chloroform	0.13	U	1.0	0.13

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: TB-111318 | Lab Sample ID: 240-104369-1

Matrix: Water | Lab File ID: UX975341.D

Analysis Method: 8260C | Date Collected: 11/13/2018 00:00

Sample wt/vol: 5(mL) | Date Analyzed: 11/21/2018 22:11

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.: 356655 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	0.20	U	1.0	0.20
156-59-2	cis-1,2-Dichloroethene	0.16	U	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	0.61	U	1.0	0.61
87-68-3	Hexachlorobutadiene	0.83	U	1.0	0.83
74-95-3	Dibromomethane	0.090	U	1.0	0.090
75-27-4	Bromodichloromethane	0.17	U	1.0	0.17
75-71-8	Dichlorodifluoromethane	0.35	U	1.0	0.35
100-41-4	Ethylbenzene	0.11	U	1.0	0.11
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12
108-20-3	Diisopropyl ether	0.17	U	10	0.17
91-20-3	Naphthalene	0.32	U	1.0	0.32
104-51-8	n-Butylbenzene	0.14	U	1.0	0.14
98-82-8	Isopropylbenzene	0.090	U	1.0	0.090
103-65-1	N-Propylbenzene	0.15	U	1.0	0.15
78-93-3	2-Butanone (MEK)	1.2	U	10	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	0.42	U	10	0.42
135-98-8	sec-Butylbenzene	0.13	U	1.0	0.13
1634-04-4	Methyl tert-butyl ether	0.070	U	1.0	0.070
994-05-8	Tert-amyl methyl ether	0.11	U	5.0	0.11
75-09-2	Methylene Chloride	2.6	U	5.0	2.6
100-42-5	Styrene	0.10	U	1.0	0.10
637-92-3	Ethyl tert-butyl ether	0.15	U	5.0	0.15
98-06-6	tert-Butylbenzene	0.14	U	1.0	0.14
127-18-4	Tetrachloroethene	0.15	U	1.0	0.15
108-88-3	Toluene	0.14	U	1.0	0.14
156-60-5	trans-1,2-Dichloroethene	0.19	U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	0.67	U	1.0	0.67
79-01-6	Trichloroethene	0.10	U	1.0	0.10
75-69-4	Trichlorofluoromethane	0.45	U	1.0	0.45
108-05-4	Vinyl acetate	0.19	U	2.0	0.19
75-01-4	Vinyl chloride	0.20	U	1.0	0.20
75-65-0	tert-Butyl alcohol	7.8	J	50	1.7
1330-20-7	Xylenes, Total	0.15	U	2.0	0.15
124-48-1	Chlorodibromomethane	0.39	U	1.0	0.39

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Client Sample ID: TB-111318 Lab Sample ID: 240-104369-1

Matrix: Water Lab File ID: UX975341.D

Analysis Method: 8260C Date Collected: 11/13/2018 00:00

Sample wt/vol: 5(mL) Date Analyzed: 11/21/2018 22:11

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.: 356655 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	92		70-121
460-00-4	4-Bromofluorobenzene (Surr)	96		59-120
2037-26-5	Toluene-d8 (Surr)	97		70-123
1868-53-7	Dibromofluoromethane (Surr)	84		75-128

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-134A-111318 | Lab Sample ID: 240-104369-2

Matrix: Water | Lab File ID: UX975340.D

Analysis Method: 8260C | Date Collected: 11/13/2018 14:15

Sample wt/vol: 5(mL) | Date Analyzed: 11/21/2018 21:46

Soil Aliquot Vol: | Dilution Factor: 5

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 356655 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	0.70	U	5.0	0.70
71-55-6	1,1,1-Trichloroethane	1.2	U	5.0	1.2
79-34-5	1,1,2,2-Tetrachloroethane	0.65	U	5.0	0.65
76-13-1	1,1,2-Trichlorotrifluoroethane	2.1	U	5.0	2.1
75-34-3	1,1-Dichloroethane	0.85	U	5.0	0.85
75-35-4	1,1-Dichloroethene	0.95	U	5.0	0.95
563-58-6	1,1-Dichloropropene	0.70	U	5.0	0.70
87-61-6	1,2,3-Trichlorobenzene	2.7	U	5.0	2.7
96-18-4	1,2,3-Trichloropropane	1.2	U	5.0	1.2
526-73-8	1,2,3-Trimethylbenzene	0.70	U	25	0.70
120-82-1	1,2,4-Trichlorobenzene	1.3	U	5.0	1.3
95-63-6	1,2,4-Trimethylbenzene	0.35	U	5.0	0.35
96-12-8	1,2-Dibromo-3-Chloropropane	4.6	U	10	4.6
95-50-1	1,2-Dichlorobenzene	0.75	U	5.0	0.75
107-06-2	1,2-Dichloroethane	1.1	U	5.0	1.1
78-87-5	1,2-Dichloropropane	0.75	U	5.0	0.75
541-73-1	1,3-Dichlorobenzene	1.4	J	5.0	0.75
142-28-9	1,3-Dichloropropane	1.1	U	5.0	1.1
106-46-7	1,4-Dichlorobenzene	6.4		5.0	0.80
594-20-7	2,2-Dichloropropane	1.6	U	5.0	1.6
110-75-8	2-Chloroethyl vinyl ether	1.3	U F1	50	1.3
95-49-8	2-Chlorotoluene	0.75	U	5.0	0.75
591-78-6	2-Hexanone	2.7	U	50	2.7
108-86-1	Bromobenzene	0.60	U	5.0	0.60
74-97-5	Bromochloromethane	0.70	U	5.0	0.70
106-43-4	4-Chlorotoluene	0.45	U	5.0	0.45
99-87-6	4-Isopropyltoluene	0.65	U	5.0	0.65
67-64-1	Acetone	27	U	50	27
71-43-2	Benzene	2.5	J	5.0	0.65
75-25-2	Bromoform	3.8	U	5.0	3.8
74-83-9	Bromomethane	2.1	U	5.0	2.1
75-15-0	Carbon disulfide	1.4	U	5.0	1.4
56-23-5	Carbon tetrachloride	1.3	U	5.0	1.3
108-90-7	Chlorobenzene	160	F1	5.0	0.70
75-00-3	Chloroethane	4.2	U	5.0	4.2
67-66-3	Chloroform	0.65	U	5.0	0.65

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-134A-111318 | Lab Sample ID: 240-104369-2

Matrix: Water | Lab File ID: UX975340.D

Analysis Method: 8260C | Date Collected: 11/13/2018 14:15

Sample wt/vol: 5(mL) | Date Analyzed: 11/21/2018 21:46

Soil Aliquot Vol: | Dilution Factor: 5

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 356655 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	1.0	U	5.0	1.0
156-59-2	cis-1,2-Dichloroethene	0.80	U	5.0	0.80
10061-01-5	cis-1,3-Dichloropropene	3.1	U	5.0	3.1
87-68-3	Hexachlorobutadiene	4.2	U	5.0	4.2
74-95-3	Dibromomethane	0.45	U	5.0	0.45
75-27-4	Bromodichloromethane	0.85	U	5.0	0.85
75-71-8	Dichlorodifluoromethane	1.8	U	5.0	1.8
100-41-4	Ethylbenzene	0.55	U	5.0	0.55
106-93-4	1,2-Dibromoethane	0.60	U	5.0	0.60
108-20-3	Diisopropyl ether	0.85	U	50	0.85
91-20-3	Naphthalene	1.6	U	5.0	1.6
104-51-8	n-Butylbenzene	0.70	U	5.0	0.70
98-82-8	Isopropylbenzene	0.45	U	5.0	0.45
103-65-1	N-Propylbenzene	0.75	U	5.0	0.75
78-93-3	2-Butanone (MEK)	5.8	U	50	5.8
108-10-1	4-Methyl-2-pentanone (MIBK)	2.1	U	50	2.1
135-98-8	sec-Butylbenzene	0.65	U	5.0	0.65
1634-04-4	Methyl tert-butyl ether	0.35	U	5.0	0.35
994-05-8	Tert-amyl methyl ether	0.55	U	25	0.55
75-09-2	Methylene Chloride	13	U	25	13
100-42-5	Styrene	0.50	U	5.0	0.50
637-92-3	Ethyl tert-butyl ether	0.75	U	25	0.75
98-06-6	tert-Butylbenzene	0.70	U	5.0	0.70
127-18-4	Tetrachloroethene	0.75	U	5.0	0.75
108-88-3	Toluene	0.70	U	5.0	0.70
156-60-5	trans-1,2-Dichloroethene	0.95	U	5.0	0.95
10061-02-6	trans-1,3-Dichloropropene	3.4	U	5.0	3.4
79-01-6	Trichloroethene	0.50	U	5.0	0.50
75-69-4	Trichlorofluoromethane	2.3	U	5.0	2.3
108-05-4	Vinyl acetate	0.95	U	10	0.95
75-01-4	Vinyl chloride	1.0	U	5.0	1.0
75-65-0	tert-Butyl alcohol	8.5	U	250	8.5
1330-20-7	Xylenes, Total	0.75	U	10	0.75
124-48-1	Chlorodibromomethane	2.0	U	5.0	2.0

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-134A-111318 | Lab Sample ID: 240-104369-2

Matrix: Water | Lab File ID: UX975340.D

Analysis Method: 8260C | Date Collected: 11/13/2018 14:15

Sample wt/vol: 5(mL) | Date Analyzed: 11/21/2018 21:46

Soil Aliquot Vol: | Dilution Factor: 5

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 356655 | Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	91		70-121
460-00-4	4-Bromofluorobenzene (Surr)	101		59-120
2037-26-5	Toluene-d8 (Surr)	97		70-123
1868-53-7	Dibromofluoromethane (Surr)	85		75-128

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-134B-111318 | Lab Sample ID: 240-104369-3

Matrix: Water | Lab File ID: UX975342.D

Analysis Method: 8260C | Date Collected: 11/13/2018 16:12

Sample wt/vol: 5(mL) | Date Analyzed: 11/21/2018 22:35

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.: 356655 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	0.14	U	1.0	0.14
71-55-6	1,1,1-Trichloroethane	0.24	U	1.0	0.24
79-34-5	1,1,2,2-Tetrachloroethane	0.13	U	1.0	0.13
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19
563-58-6	1,1-Dichloropropene	0.14	U	1.0	0.14
87-61-6	1,2,3-Trichlorobenzene	0.54	U	1.0	0.54
96-18-4	1,2,3-Trichloropropane	0.24	U	1.0	0.24
526-73-8	1,2,3-Trimethylbenzene	0.14	U	5.0	0.14
120-82-1	1,2,4-Trichlorobenzene	0.26	U	1.0	0.26
95-63-6	1,2,4-Trimethylbenzene	0.070	U	1.0	0.070
96-12-8	1,2-Dibromo-3-Chloropropane	0.91	U	2.0	0.91
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
107-06-2	1,2-Dichloroethane	0.21	U	1.0	0.21
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.15	U	1.0	0.15
142-28-9	1,3-Dichloropropane	0.21	U	1.0	0.21
106-46-7	1,4-Dichlorobenzene	0.16	U	1.0	0.16
594-20-7	2,2-Dichloropropane	0.31	U	1.0	0.31
110-75-8	2-Chloroethyl vinyl ether	0.26	U	10	0.26
95-49-8	2-Chlorotoluene	0.15	U	1.0	0.15
591-78-6	2-Hexanone	0.54	U	10	0.54
108-86-1	Bromobenzene	0.12	U	1.0	0.12
74-97-5	Bromochloromethane	0.14	U	1.0	0.14
106-43-4	4-Chlorotoluene	0.090	U	1.0	0.090
99-87-6	4-Isopropyltoluene	0.13	U	1.0	0.13
67-64-1	Acetone	5.4	U	10	5.4
71-43-2	Benzene	0.13	U	1.0	0.13
75-25-2	Bromoform	0.76	U	1.0	0.76
74-83-9	Bromomethane	0.42	U	1.0	0.42
75-15-0	Carbon disulfide	0.28	U	1.0	0.28
56-23-5	Carbon tetrachloride	0.26	U	1.0	0.26
108-90-7	Chlorobenzene	0.14	U	1.0	0.14
75-00-3	Chloroethane	0.83	U	1.0	0.83
67-66-3	Chloroform	0.13	U	1.0	0.13

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-134B-111318 | Lab Sample ID: 240-104369-3

Matrix: Water | Lab File ID: UX975342.D

Analysis Method: 8260C | Date Collected: 11/13/2018 16:12

Sample wt/vol: 5(mL) | Date Analyzed: 11/21/2018 22:35

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.: 356655 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	0.20	U	1.0	0.20
156-59-2	cis-1,2-Dichloroethene	0.16	U	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	0.61	U	1.0	0.61
87-68-3	Hexachlorobutadiene	0.83	U	1.0	0.83
74-95-3	Dibromomethane	0.090	U	1.0	0.090
75-27-4	Bromodichloromethane	0.17	U	1.0	0.17
75-71-8	Dichlorodifluoromethane	0.35	U	1.0	0.35
100-41-4	Ethylbenzene	0.11	U	1.0	0.11
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12
108-20-3	Diisopropyl ether	0.17	U	10	0.17
91-20-3	Naphthalene	0.32	U	1.0	0.32
104-51-8	n-Butylbenzene	0.14	U	1.0	0.14
98-82-8	Isopropylbenzene	0.090	U	1.0	0.090
103-65-1	N-Propylbenzene	0.15	U	1.0	0.15
78-93-3	2-Butanone (MEK)	1.2	U	10	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	0.42	U	10	0.42
135-98-8	sec-Butylbenzene	0.13	U	1.0	0.13
1634-04-4	Methyl tert-butyl ether	0.070	U	1.0	0.070
994-05-8	Tert-amyl methyl ether	0.11	U	5.0	0.11
75-09-2	Methylene Chloride	2.6	U	5.0	2.6
100-42-5	Styrene	0.10	U	1.0	0.10
637-92-3	Ethyl tert-butyl ether	0.15	U	5.0	0.15
98-06-6	tert-Butylbenzene	0.14	U	1.0	0.14
127-18-4	Tetrachloroethene	0.15	U	1.0	0.15
108-88-3	Toluene	0.14	U	1.0	0.14
156-60-5	trans-1,2-Dichloroethene	0.19	U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	0.67	U	1.0	0.67
79-01-6	Trichloroethene	0.10	U	1.0	0.10
75-69-4	Trichlorofluoromethane	0.45	U	1.0	0.45
108-05-4	Vinyl acetate	0.19	U	2.0	0.19
75-01-4	Vinyl chloride	0.20	U	1.0	0.20
75-65-0	tert-Butyl alcohol	1.7	U	50	1.7
1330-20-7	Xylenes, Total	0.15	U	2.0	0.15
124-48-1	Chlorodibromomethane	0.39	U	1.0	0.39

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-134B-111318 Lab Sample ID: 240-104369-3

Matrix: Water Lab File ID: UX975342.D

Analysis Method: 8260C Date Collected: 11/13/2018 16:12

Sample wt/vol: 5(mL) Date Analyzed: 11/21/2018 22:35

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.: 356655 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	94		70-121
460-00-4	4-Bromofluorobenzene (Surr)	100		59-120
2037-26-5	Toluene-d8 (Surr)	99		70-123
1868-53-7	Dibromofluoromethane (Surr)	86		75-128

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-135B-111318 | Lab Sample ID: 240-104369-4

Matrix: Water | Lab File ID: U1904080.d

Analysis Method: 8260C | Date Collected: 11/13/2018 09:39

Sample wt/vol: 5(mL) | Date Analyzed: 11/23/2018 15:19

Soil Aliquot Vol: | Dilution Factor: 5

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 356782 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	0.70	U	5.0	0.70
71-55-6	1,1,1-Trichloroethane	1.2	U	5.0	1.2
79-34-5	1,1,2,2-Tetrachloroethane	0.65	U	5.0	0.65
76-13-1	1,1,2-Trichlorotrifluoroethane	2.1	U	5.0	2.1
75-34-3	1,1-Dichloroethane	0.85	U	5.0	0.85
75-35-4	1,1-Dichloroethene	0.95	U	5.0	0.95
563-58-6	1,1-Dichloropropene	0.70	U	5.0	0.70
87-61-6	1,2,3-Trichlorobenzene	67		5.0	2.7
96-18-4	1,2,3-Trichloropropane	1.2	U	5.0	1.2
526-73-8	1,2,3-Trimethylbenzene	0.70	U	25	0.70
120-82-1	1,2,4-Trichlorobenzene	280		5.0	1.3
95-63-6	1,2,4-Trimethylbenzene	0.35	U	5.0	0.35
96-12-8	1,2-Dibromo-3-Chloropropane	4.6	U	10	4.6
95-50-1	1,2-Dichlorobenzene	4.2	J	5.0	0.75
107-06-2	1,2-Dichloroethane	1.1	U	5.0	1.1
78-87-5	1,2-Dichloropropane	0.75	U	5.0	0.75
541-73-1	1,3-Dichlorobenzene	0.75	U	5.0	0.75
142-28-9	1,3-Dichloropropane	1.1	U	5.0	1.1
106-46-7	1,4-Dichlorobenzene	5.8		5.0	0.80
594-20-7	2,2-Dichloropropane	1.6	U	5.0	1.6
110-75-8	2-Chloroethyl vinyl ether	1.3	U	50	1.3
95-49-8	2-Chlorotoluene	0.75	U	5.0	0.75
591-78-6	2-Hexanone	2.7	U	50	2.7
108-86-1	Bromobenzene	0.60	U	5.0	0.60
74-97-5	Bromochloromethane	0.70	U	5.0	0.70
106-43-4	4-Chlorotoluene	0.45	U	5.0	0.45
99-87-6	4-Isopropyltoluene	0.65	U	5.0	0.65
67-64-1	Acetone	27	U	50	27
71-43-2	Benzene	0.65	U	5.0	0.65
75-25-2	Bromoform	3.8	U	5.0	3.8
74-83-9	Bromomethane	2.1	U	5.0	2.1
75-15-0	Carbon disulfide	1.4	U	5.0	1.4
56-23-5	Carbon tetrachloride	1.3	U	5.0	1.3
108-90-7	Chlorobenzene	0.70	U	5.0	0.70
75-00-3	Chloroethane	4.2	U	5.0	4.2
67-66-3	Chloroform	0.65	U	5.0	0.65

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-135B-111318 | Lab Sample ID: 240-104369-4

Matrix: Water | Lab File ID: U1904080.d

Analysis Method: 8260C | Date Collected: 11/13/2018 09:39

Sample wt/vol: 5(mL) | Date Analyzed: 11/23/2018 15:19

Soil Aliquot Vol: | Dilution Factor: 5

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 356782 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	1.0	U	5.0	1.0
156-59-2	cis-1,2-Dichloroethene	23		5.0	0.80
10061-01-5	cis-1,3-Dichloropropene	3.1	U	5.0	3.1
87-68-3	Hexachlorobutadiene	4.2	U	5.0	4.2
74-95-3	Dibromomethane	0.45	U	5.0	0.45
75-27-4	Bromodichloromethane	0.85	U	5.0	0.85
75-71-8	Dichlorodifluoromethane	1.8	U	5.0	1.8
100-41-4	Ethylbenzene	0.55	U	5.0	0.55
106-93-4	1,2-Dibromoethane	0.60	U	5.0	0.60
108-20-3	Diisopropyl ether	0.85	U	50	0.85
91-20-3	Naphthalene	1.6	U	5.0	1.6
104-51-8	n-Butylbenzene	0.70	U	5.0	0.70
98-82-8	Isopropylbenzene	0.45	U	5.0	0.45
103-65-1	N-Propylbenzene	0.75	U	5.0	0.75
78-93-3	2-Butanone (MEK)	5.8	U	50	5.8
108-10-1	4-Methyl-2-pentanone (MIBK)	2.1	U	50	2.1
135-98-8	sec-Butylbenzene	0.65	U	5.0	0.65
1634-04-4	Methyl tert-butyl ether	9.5		5.0	0.35
994-05-8	Tert-amyl methyl ether	0.55	U	25	0.55
75-09-2	Methylene Chloride	13	U	25	13
100-42-5	Styrene	0.50	U	5.0	0.50
637-92-3	Ethyl tert-butyl ether	0.75	U	25	0.75
98-06-6	tert-Butylbenzene	0.70	U	5.0	0.70
127-18-4	Tetrachloroethene	0.75	U	5.0	0.75
108-88-3	Toluene	0.70	U	5.0	0.70
156-60-5	trans-1,2-Dichloroethene	4.2	J	5.0	0.95
10061-02-6	trans-1,3-Dichloropropene	3.4	U	5.0	3.4
79-01-6	Trichloroethene	9.8		5.0	0.50
75-69-4	Trichlorofluoromethane	2.3	U	5.0	2.3
108-05-4	Vinyl acetate	0.95	U	10	0.95
75-01-4	Vinyl chloride	1.4	J	5.0	1.0
75-65-0	tert-Butyl alcohol	9.0	J	250	8.5
1330-20-7	Xylenes, Total	0.75	U	10	0.75
124-48-1	Chlorodibromomethane	2.0	U	5.0	2.0

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-135B-111318 | Lab Sample ID: 240-104369-4

Matrix: Water | Lab File ID: U1904080.d

Analysis Method: 8260C | Date Collected: 11/13/2018 09:39

Sample wt/vol: 5(mL) | Date Analyzed: 11/23/2018 15:19

Soil Aliquot Vol: | Dilution Factor: 5

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 356782 | Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		70-121
460-00-4	4-Bromofluorobenzene (Surr)	89		59-120
2037-26-5	Toluene-d8 (Surr)	97		70-123
1868-53-7	Dibromofluoromethane (Surr)	98		75-128

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-136B-111318 | Lab Sample ID: 240-104369-5

Matrix: Water | Lab File ID: U1904081.d

Analysis Method: 8260C | Date Collected: 11/13/2018 11:22

Sample wt/vol: 5(mL) | Date Analyzed: 11/23/2018 15:41

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.: 356782 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	0.14	U	1.0	0.14
71-55-6	1,1,1-Trichloroethane	0.24	U	1.0	0.24
79-34-5	1,1,2,2-Tetrachloroethane	0.13	U	1.0	0.13
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19
563-58-6	1,1-Dichloropropene	0.14	U	1.0	0.14
87-61-6	1,2,3-Trichlorobenzene	1.3		1.0	0.54
96-18-4	1,2,3-Trichloropropane	0.24	U	1.0	0.24
526-73-8	1,2,3-Trimethylbenzene	0.14	U	5.0	0.14
120-82-1	1,2,4-Trichlorobenzene	5.0		1.0	0.26
95-63-6	1,2,4-Trimethylbenzene	0.070	U	1.0	0.070
96-12-8	1,2-Dibromo-3-Chloropropane	0.91	U	2.0	0.91
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
107-06-2	1,2-Dichloroethane	0.85	J	1.0	0.21
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.28	J	1.0	0.15
142-28-9	1,3-Dichloropropane	0.21	U	1.0	0.21
106-46-7	1,4-Dichlorobenzene	0.17	J	1.0	0.16
594-20-7	2,2-Dichloropropane	0.31	U	1.0	0.31
110-75-8	2-Chloroethyl vinyl ether	0.26	U	10	0.26
95-49-8	2-Chlorotoluene	0.15	U	1.0	0.15
591-78-6	2-Hexanone	0.54	U	10	0.54
108-86-1	Bromobenzene	0.12	U	1.0	0.12
74-97-5	Bromochloromethane	0.14	U	1.0	0.14
106-43-4	4-Chlorotoluene	0.090	U	1.0	0.090
99-87-6	4-Isopropyltoluene	0.13	U	1.0	0.13
67-64-1	Acetone	5.4	U	10	5.4
71-43-2	Benzene	0.13	U	1.0	0.13
75-25-2	Bromoform	0.76	U	1.0	0.76
74-83-9	Bromomethane	0.42	U	1.0	0.42
75-15-0	Carbon disulfide	0.28	U	1.0	0.28
56-23-5	Carbon tetrachloride	0.26	U	1.0	0.26
108-90-7	Chlorobenzene	0.14	U	1.0	0.14
75-00-3	Chloroethane	0.83	U	1.0	0.83
67-66-3	Chloroform	0.13	U	1.0	0.13

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-136B-111318 | Lab Sample ID: 240-104369-5

Matrix: Water | Lab File ID: U1904081.d

Analysis Method: 8260C | Date Collected: 11/13/2018 11:22

Sample wt/vol: 5(mL) | Date Analyzed: 11/23/2018 15:41

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.: 356782 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	0.20	U	1.0	0.20
156-59-2	cis-1,2-Dichloroethene	0.16	U	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	0.61	U	1.0	0.61
87-68-3	Hexachlorobutadiene	0.83	U	1.0	0.83
74-95-3	Dibromomethane	0.090	U	1.0	0.090
75-27-4	Bromodichloromethane	0.17	U	1.0	0.17
75-71-8	Dichlorodifluoromethane	0.35	U	1.0	0.35
100-41-4	Ethylbenzene	0.11	U	1.0	0.11
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12
108-20-3	Diisopropyl ether	0.17	U	10	0.17
91-20-3	Naphthalene	0.32	U	1.0	0.32
104-51-8	n-Butylbenzene	0.14	U	1.0	0.14
98-82-8	Isopropylbenzene	0.090	U	1.0	0.090
103-65-1	N-Propylbenzene	0.15	U	1.0	0.15
78-93-3	2-Butanone (MEK)	2.5	J	10	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	0.42	U	10	0.42
135-98-8	sec-Butylbenzene	0.13	U	1.0	0.13
1634-04-4	Methyl tert-butyl ether	0.070	U	1.0	0.070
994-05-8	Tert-amyl methyl ether	0.11	U	5.0	0.11
75-09-2	Methylene Chloride	2.6	U	5.0	2.6
100-42-5	Styrene	0.10	U	1.0	0.10
637-92-3	Ethyl tert-butyl ether	0.15	U	5.0	0.15
98-06-6	tert-Butylbenzene	0.14	U	1.0	0.14
127-18-4	Tetrachloroethene	0.15	U	1.0	0.15
108-88-3	Toluene	0.14	U	1.0	0.14
156-60-5	trans-1,2-Dichloroethene	0.19	U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	0.67	U	1.0	0.67
79-01-6	Trichloroethene	0.10	U	1.0	0.10
75-69-4	Trichlorofluoromethane	0.45	U	1.0	0.45
108-05-4	Vinyl acetate	0.19	U	2.0	0.19
75-01-4	Vinyl chloride	0.20	U	1.0	0.20
75-65-0	tert-Butyl alcohol	1.7	U	50	1.7
1330-20-7	Xylenes, Total	0.15	U	2.0	0.15
124-48-1	Chlorodibromomethane	0.39	U	1.0	0.39

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-136B-111318 | Lab Sample ID: 240-104369-5

Matrix: Water | Lab File ID: U1904081.d

Analysis Method: 8260C | Date Collected: 11/13/2018 11:22

Sample wt/vol: 5(mL) | Date Analyzed: 11/23/2018 15:41

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.: 356782 | Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	96		70-121
460-00-4	4-Bromofluorobenzene (Surr)	89		59-120
2037-26-5	Toluene-d8 (Surr)	96		70-123
1868-53-7	Dibromofluoromethane (Surr)	95		75-128

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-DUP-111318 | Lab Sample ID: 240-104369-6

Matrix: Water | Lab File ID: U1904082.d

Analysis Method: 8260C | Date Collected: 11/13/2018 00:00

Sample wt/vol: 5(mL) | Date Analyzed: 11/23/2018 16:04

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.: 356782 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	0.14	U	1.0	0.14
71-55-6	1,1,1-Trichloroethane	0.24	U	1.0	0.24
79-34-5	1,1,2,2-Tetrachloroethane	0.13	U	1.0	0.13
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19
563-58-6	1,1-Dichloropropene	0.14	U	1.0	0.14
87-61-6	1,2,3-Trichlorobenzene	1.1		1.0	0.54
96-18-4	1,2,3-Trichloropropane	0.24	U	1.0	0.24
526-73-8	1,2,3-Trimethylbenzene	0.14	U	5.0	0.14
120-82-1	1,2,4-Trichlorobenzene	4.4		1.0	0.26
95-63-6	1,2,4-Trimethylbenzene	0.070	U	1.0	0.070
96-12-8	1,2-Dibromo-3-Chloropropane	0.91	U	2.0	0.91
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
107-06-2	1,2-Dichloroethane	0.85	J	1.0	0.21
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.29	J	1.0	0.15
142-28-9	1,3-Dichloropropane	0.21	U	1.0	0.21
106-46-7	1,4-Dichlorobenzene	0.18	J	1.0	0.16
594-20-7	2,2-Dichloropropane	0.31	U	1.0	0.31
110-75-8	2-Chloroethyl vinyl ether	0.26	U	10	0.26
95-49-8	2-Chlorotoluene	0.15	U	1.0	0.15
591-78-6	2-Hexanone	0.54	U	10	0.54
108-86-1	Bromobenzene	0.12	U	1.0	0.12
74-97-5	Bromochloromethane	0.14	U	1.0	0.14
106-43-4	4-Chlorotoluene	0.090	U	1.0	0.090
99-87-6	4-Isopropyltoluene	0.13	U	1.0	0.13
67-64-1	Acetone	5.4	U	10	5.4
71-43-2	Benzene	0.13	U	1.0	0.13
75-25-2	Bromoform	0.76	U	1.0	0.76
74-83-9	Bromomethane	0.42	U	1.0	0.42
75-15-0	Carbon disulfide	0.28	U	1.0	0.28
56-23-5	Carbon tetrachloride	0.26	U	1.0	0.26
108-90-7	Chlorobenzene	0.14	U	1.0	0.14
75-00-3	Chloroethane	0.83	U	1.0	0.83
67-66-3	Chloroform	0.13	U	1.0	0.13

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-DUP-111318 | Lab Sample ID: 240-104369-6

Matrix: Water | Lab File ID: U1904082.d

Analysis Method: 8260C | Date Collected: 11/13/2018 00:00

Sample wt/vol: 5(mL) | Date Analyzed: 11/23/2018 16:04

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.: 356782 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	0.20	U	1.0	0.20
156-59-2	cis-1,2-Dichloroethene	0.16	U	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	0.61	U	1.0	0.61
87-68-3	Hexachlorobutadiene	0.83	U	1.0	0.83
74-95-3	Dibromomethane	0.090	U	1.0	0.090
75-27-4	Bromodichloromethane	0.17	U	1.0	0.17
75-71-8	Dichlorodifluoromethane	0.35	U	1.0	0.35
100-41-4	Ethylbenzene	0.11	U	1.0	0.11
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12
108-20-3	Diisopropyl ether	0.17	U	10	0.17
91-20-3	Naphthalene	0.32	U	1.0	0.32
104-51-8	n-Butylbenzene	0.14	U	1.0	0.14
98-82-8	Isopropylbenzene	0.090	U	1.0	0.090
103-65-1	N-Propylbenzene	0.15	U	1.0	0.15
78-93-3	2-Butanone (MEK)	2.6	J	10	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	0.42	U	10	0.42
135-98-8	sec-Butylbenzene	0.13	U	1.0	0.13
1634-04-4	Methyl tert-butyl ether	0.070	U	1.0	0.070
994-05-8	Tert-amyl methyl ether	0.11	U	5.0	0.11
75-09-2	Methylene Chloride	2.6	U	5.0	2.6
100-42-5	Styrene	0.10	U	1.0	0.10
637-92-3	Ethyl tert-butyl ether	0.15	U	5.0	0.15
98-06-6	tert-Butylbenzene	0.14	U	1.0	0.14
127-18-4	Tetrachloroethene	0.15	U	1.0	0.15
108-88-3	Toluene	0.14	U	1.0	0.14
156-60-5	trans-1,2-Dichloroethene	0.19	U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	0.67	U	1.0	0.67
79-01-6	Trichloroethene	0.10	U	1.0	0.10
75-69-4	Trichlorofluoromethane	0.45	U	1.0	0.45
108-05-4	Vinyl acetate	0.19	U	2.0	0.19
75-01-4	Vinyl chloride	0.20	U	1.0	0.20
75-65-0	tert-Butyl alcohol	1.7	U	50	1.7
1330-20-7	Xylenes, Total	0.15	U	2.0	0.15
124-48-1	Chlorodibromomethane	0.39	U	1.0	0.39

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-DUP-111318 | Lab Sample ID: 240-104369-6

Matrix: Water | Lab File ID: U1904082.d

Analysis Method: 8260C | Date Collected: 11/13/2018 00:00

Sample wt/vol: 5(mL) | Date Analyzed: 11/23/2018 16:04

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.: 356782 | Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		70-121
460-00-4	4-Bromofluorobenzene (Surr)	90		59-120
2037-26-5	Toluene-d8 (Surr)	97		70-123
1868-53-7	Dibromofluoromethane (Surr)	97		75-128

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-134A-111318 | Lab Sample ID: 240-104369-2

Matrix: Water | Lab File ID: xk2609.D

Analysis Method: 680 | Date Collected: 11/13/2018 14:15

Extract. Method: 680 | Date Extracted: 11/16/2018 15:42

Sample wt/vol: 1033.2(mL) | Date Analyzed: 11/26/2018 13:34

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.: 548687 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	0.029	U	0.29	0.029
26601-64-9	Hexachlorobiphenyl	0.015	U	0.19	0.015
53742-07-7	Nonachlorobiphenyl	0.047	U	0.48	0.047
55722-26-4	Octachlorobiphenyl	0.037	U	0.29	0.037
27323-18-8	Monochlorobiphenyl	0.0054	U *	0.097	0.0054
2051-24-3	DCB Decachlorobiphenyl	0.068	U	0.48	0.068
25512-42-9	Dichlorobiphenyl	0.0052	U *	0.097	0.0052
25429-29-2	Pentachlorobiphenyl	0.014	U	0.19	0.014
26914-33-0	Tetrachlorobiphenyl	0.013	U	0.19	0.013
25323-68-6	Trichlorobiphenyl	0.0063	U	0.097	0.0063

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	55		25-113

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-134A-111318 RE | Lab Sample ID: 240-104369-2 RE

Matrix: Water | Lab File ID: x10310.D

Analysis Method: 680 | Date Collected: 11/13/2018 14:15

Extract. Method: 680 | Date Extracted: 11/29/2018 10:00

Sample wt/vol: 1035.9(mL) | Date Analyzed: 12/03/2018 13:21

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.: 549800 | Units: ug/L

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

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	58		25-113

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-134B-111318 | Lab Sample ID: 240-104369-3

Matrix: Water | Lab File ID: xk2111.D

Analysis Method: 680 | Date Collected: 11/13/2018 16:12

Extract. Method: 680 | Date Extracted: 11/16/2018 15:42

Sample wt/vol: 1015.2(mL) | Date Analyzed: 11/21/2018 15:37

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.: 548241 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	0.030	U	0.30	0.030
26601-64-9	Hexachlorobiphenyl	0.015	U	0.20	0.015
53742-07-7	Nonachlorobiphenyl	0.048	U	0.49	0.048
55722-26-4	Octachlorobiphenyl	0.037	U	0.30	0.037
27323-18-8	Monochlorobiphenyl	0.0055	U *	0.099	0.0055
2051-24-3	DCB Decachlorobiphenyl	0.069	U	0.49	0.069
25512-42-9	Dichlorobiphenyl	0.0053	U *	0.099	0.0053
25429-29-2	Pentachlorobiphenyl	0.014	U	0.20	0.014
26914-33-0	Tetrachlorobiphenyl	0.013	U	0.20	0.013
25323-68-6	Trichlorobiphenyl	0.0064	U	0.099	0.0064

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

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-134B-111318 RE | Lab Sample ID: 240-104369-3 RE

Matrix: Water | Lab File ID: xl0311.D

Analysis Method: 680 | Date Collected: 11/13/2018 16:12

Extract. Method: 680 | Date Extracted: 11/29/2018 10:00

Sample wt/vol: 1038.4(mL) | Date Analyzed: 12/03/2018 13:50

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.: 549800 | Units: ug/L

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

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	57		25-113

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-135B-111318 | Lab Sample ID: 240-104369-4

Matrix: Water | Lab File ID: xk2112.D

Analysis Method: 680 | Date Collected: 11/13/2018 09:39

Extract. Method: 680 | Date Extracted: 11/16/2018 15:42

Sample wt/vol: 925(mL) | Date Analyzed: 11/21/2018 16:05

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.: 548241 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	0.032	U	0.32	0.032
26601-64-9	Hexachlorobiphenyl	0.016	U	0.22	0.016
53742-07-7	Nonachlorobiphenyl	0.053	U	0.54	0.053
55722-26-4	Octachlorobiphenyl	0.041	U	0.32	0.041
27323-18-8	Monochlorobiphenyl	0.015	J *	0.11	0.0061
2051-24-3	DCB Decachlorobiphenyl	0.076	U	0.54	0.076
25512-42-9	Dichlorobiphenyl	0.0058	U *	0.11	0.0058
25429-29-2	Pentachlorobiphenyl	0.015	U	0.22	0.015
26914-33-0	Tetrachlorobiphenyl	0.014	U	0.22	0.014
25323-68-6	Trichlorobiphenyl	0.0070	U	0.11	0.0070

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	92		25-113

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-135B-111318 RE | Lab Sample ID: 240-104369-4 RE

Matrix: Water | Lab File ID: xl0312.D

Analysis Method: 680 | Date Collected: 11/13/2018 09:39

Extract. Method: 680 | Date Extracted: 11/29/2018 10:00

Sample wt/vol: 942.3(mL) | Date Analyzed: 12/03/2018 14:18

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.: 549800 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	*Heptachlorobiphenyl*	*0.032*	*U **	*0.32*	*0.032*
26601-64-9	*Hexachlorobiphenyl*	*0.016*	*U **	*0.21*	*0.016*
53742-07-7	*Nonachlorobiphenyl*	*0.052*	*U*	*0.53*	*0.052*
55722-26-4	*Octachlorobiphenyl*	*0.040*	*U **	*0.32*	*0.040*
27323-18-8	*Monochlorobiphenyl*	*0.0082*	*J **	*0.11*	*0.0059*
2051-24-3	*DCB Decachlorobiphenyl*	*0.074*	*U **	*0.53*	*0.074*
25512-42-9	*Dichlorobiphenyl*	*0.0057*	*U **	*0.11*	*0.0057*
25429-29-2	*Pentachlorobiphenyl*	*0.015*	*U **	*0.21*	*0.015*
26914-33-0	*Tetrachlorobiphenyl*	*0.014*	*U **	*0.21*	*0.014*
25323-68-6	*Trichlorobiphenyl*	*0.0069*	*U **	*0.11*	*0.0069*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	62		25-113

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-136B-111318 | Lab Sample ID: 240-104369-5

Matrix: Water | Lab File ID: xk2113.D

Analysis Method: 680 | Date Collected: 11/13/2018 11:22

Extract. Method: 680 | Date Extracted: 11/16/2018 15:42

Sample wt/vol: 928.7(mL) | Date Analyzed: 11/21/2018 16:34

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.: 548241 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	0.032	U	0.32	0.032
26601-64-9	Hexachlorobiphenyl	0.016	U	0.22	0.016
53742-07-7	Nonachlorobiphenyl	0.053	U	0.54	0.053
55722-26-4	Octachlorobiphenyl	0.041	U	0.32	0.041
27323-18-8	Monochlorobiphenyl	0.0060	U *	0.11	0.0060
2051-24-3	DCB Decachlorobiphenyl	0.075	U	0.54	0.075
25512-42-9	Dichlorobiphenyl	0.0058	U *	0.11	0.0058
25429-29-2	Pentachlorobiphenyl	0.015	U	0.22	0.015
26914-33-0	Tetrachlorobiphenyl	0.014	U	0.22	0.014
25323-68-6	Trichlorobiphenyl	0.0070	U	0.11	0.0070

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	43		25-113

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-136B-111318 RE | Lab Sample ID: 240-104369-5 RE

Matrix: Water | Lab File ID: xl0313.D

Analysis Method: 680 | Date Collected: 11/13/2018 11:22

Extract. Method: 680 | Date Extracted: 11/29/2018 10:00

Sample wt/vol: 938.8(mL) | Date Analyzed: 12/03/2018 14:47

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.: 549800 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	*Heptachlorobiphenyl*	*0.032*	*U **	*0.32*	*0.032*
26601-64-9	*Hexachlorobiphenyl*	*0.016*	*U **	*0.21*	*0.016*
53742-07-7	*Nonachlorobiphenyl*	*0.052*	*U*	*0.53*	*0.052*
55722-26-4	*Octachlorobiphenyl*	*0.040*	*U **	*0.32*	*0.040*
27323-18-8	*Monochlorobiphenyl*	*0.0060*	*U **	*0.11*	*0.0060*
2051-24-3	*DCB Decachlorobiphenyl*	*0.075*	*U **	*0.53*	*0.075*
25512-42-9	*Dichlorobiphenyl*	*0.0058*	*U **	*0.11*	*0.0058*
25429-29-2	*Pentachlorobiphenyl*	*0.015*	*U **	*0.21*	*0.015*
26914-33-0	*Tetrachlorobiphenyl*	*0.014*	*U **	*0.21*	*0.014*
25323-68-6	*Trichlorobiphenyl*	*0.0069*	*U **	*0.11*	*0.0069*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	59		25-113

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-DUP-111318 | Lab Sample ID: 240-104369-6

Matrix: Water | Lab File ID: xk2114.D

Analysis Method: 680 | Date Collected: 11/13/2018 00:00

Extract. Method: 680 | Date Extracted: 11/16/2018 15:42

Sample wt/vol: 935.4(mL) | Date Analyzed: 11/21/2018 17:02

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.: 548241 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	0.032	U	0.32	0.032
26601-64-9	Hexachlorobiphenyl	0.016	U	0.21	0.016
53742-07-7	Nonachlorobiphenyl	0.052	U	0.53	0.052
55722-26-4	Octachlorobiphenyl	0.041	U	0.32	0.041
27323-18-8	Monochlorobiphenyl	0.0060	U *	0.11	0.0060
2051-24-3	DCB Decachlorobiphenyl	0.075	U	0.53	0.075
25512-42-9	Dichlorobiphenyl	0.0058	U *	0.11	0.0058
25429-29-2	Pentachlorobiphenyl	0.015	U	0.21	0.015
26914-33-0	Tetrachlorobiphenyl	0.014	U	0.21	0.014
25323-68-6	Trichlorobiphenyl	0.0069	U	0.11	0.0069

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	54		25-113

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-DUP-111318 RE | Lab Sample ID: 240-104369-6 RE

Matrix: Water | Lab File ID: xl0314.D

Analysis Method: 680 | Date Collected: 11/13/2018 00:00

Extract. Method: 680 | Date Extracted: 11/29/2018 10:00

Sample wt/vol: 921.9(mL) | Date Analyzed: 12/03/2018 15:15

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.: 549800 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	*Heptachlorobiphenyl*	*0.033*	*U **	*0.33*	*0.033*
26601-64-9	*Hexachlorobiphenyl*	*0.016*	*U **	*0.22*	*0.016*
53742-07-7	*Nonachlorobiphenyl*	*0.053*	*U*	*0.54*	*0.053*
55722-26-4	*Octachlorobiphenyl*	*0.041*	*U **	*0.33*	*0.041*
27323-18-8	*Monochlorobiphenyl*	*0.0061*	*U **	*0.11*	*0.0061*
2051-24-3	*DCB Decachlorobiphenyl*	*0.076*	*U **	*0.54*	*0.076*
25512-42-9	*Dichlorobiphenyl*	*0.0059*	*U **	*0.11*	*0.0059*
25429-29-2	*Pentachlorobiphenyl*	*0.015*	*U **	*0.22*	*0.015*
26914-33-0	*Tetrachlorobiphenyl*	*0.014*	*U **	*0.22*	*0.014*
25323-68-6	*Trichlorobiphenyl*	*0.0071*	*U **	*0.11*	*0.0071*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	51		25-113

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-134A-111318 | Lab Sample ID: 240-104369-2

Matrix: Water | Lab File ID: Z0111954.D

Analysis Method: RSK-175 | Date Collected: 11/13/2018 14:15

Sample wt/vol: 23(mL) | Date Analyzed: 11/20/2018 04:18

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: HP-PLOT/Q ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 356108 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.10	U	1.0	0.10
74-85-1	Ethene	0.11	U	1.0	0.11

CAS NO.	SURROGATE	%REC	Q	LIMITS
420-46-2	1,1,1-Trifluoroethane	104		60-140

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-134A-111318 | Lab Sample ID: 240-104369-2

Matrix: Water | Lab File ID: Z0112007.D

Analysis Method: RSK-175 | Date Collected: 11/13/2018 14:15

Sample wt/vol: 23(mL) | Date Analyzed: 11/20/2018 11:11

Soil Aliquot Vol: | Dilution Factor: 5

Soil Extract Vol.: | GC Column: HP-PLOT/Q ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 356292 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	5900		5.0	0.87

CAS NO.	SURROGATE	%REC	Q	LIMITS
420-46-2	1,1,1-Trifluoroethane	110		60-140

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-134B-111318 | Lab Sample ID: 240-104369-3

Matrix: Water | Lab File ID: Z0111955.D

Analysis Method: RSK-175 | Date Collected: 11/13/2018 16:12

Sample wt/vol: 23(mL) | Date Analyzed: 11/20/2018 04:35

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: HP-PLOT/Q ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 356108 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	0.17	U	1.0	0.17
74-84-0	Ethane	0.10	U	1.0	0.10
74-85-1	Ethene	0.11	U	1.0	0.11

CAS NO.	SURROGATE	%REC	Q	LIMITS
420-46-2	1,1,1-Trifluoroethane	109		60-140

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-135B-111318 Lab Sample ID: 240-104369-4

Matrix: Water Lab File ID: Z0111956.D

Analysis Method: RSK-175 Date Collected: 11/13/2018 09:39

Sample wt/vol: 23(mL) Date Analyzed: 11/20/2018 04:52

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP-PLOT/Q ID: 0.53(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 356108 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	88		1.0	0.17
74-84-0	Ethane	0.10	U	1.0	0.10
74-85-1	Ethene	0.11	U	1.0	0.11

CAS NO.	SURROGATE	%REC	Q	LIMITS
420-46-2	1,1,1-Trifluoroethane	107		60-140

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-136B-111318 | Lab Sample ID: 240-104369-5

Matrix: Water | Lab File ID: Z0111957.D

Analysis Method: RSK-175 | Date Collected: 11/13/2018 11:22

Sample wt/vol: 23(mL) | Date Analyzed: 11/20/2018 05:09

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: HP-PLOT/Q ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 356108 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	0.17	U	1.0	0.17
74-84-0	Ethane	0.10	U	1.0	0.10
74-85-1	Ethene	0.11	U	1.0	0.11

CAS NO.	SURROGATE	%REC	Q	LIMITS
420-46-2	1,1,1-Trifluoroethane	105		60-140

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: MRC-MW-DUP-111318 | Lab Sample ID: 240-104369-6

Matrix: Water | Lab File ID: Z0111958.D

Analysis Method: RSK-175 | Date Collected: 11/13/2018 00:00

Sample wt/vol: 23(mL) | Date Analyzed: 11/20/2018 05:26

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: HP-PLOT/Q ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 356108 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	0.17	U	1.0	0.17
74-84-0	Ethane	0.10	U	1.0	0.10
74-85-1	Ethene	0.11	U	1.0	0.11

CAS NO.	SURROGATE	%REC	Q	LIMITS
420-46-2	1,1,1-Trifluoroethane	107		60-140

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: MRC-MW-134A-111318 Lab Sample ID: 240-104369-2

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 14:15

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-89-6	Iron	18000	200	26	ug/L			1	6010C
7439-96-5	Manganese	520	15	2.1	ug/L			1	6010C
7440-22-4	Silver	0.053	1.0	0.053	ug/L	U		1	6020A
7429-90-5	Aluminum	34	50	34	ug/L	U		1	6020A
7440-38-2	Arsenic	5.5	5.0	0.75	ug/L			1	6020A
7440-39-3	Barium	130	5.0	2.2	ug/L			1	6020A
7440-41-7	Beryllium	0.31	1.0	0.31	ug/L	U		1	6020A
7440-43-9	Cadmium	0.21	1.0	0.21	ug/L	U		1	6020A
7440-48-4	Cobalt	0.48	1.0	0.19	ug/L	J		1	6020A
7440-47-3	Chromium	0.98	2.0	0.98	ug/L	U		1	6020A
7440-50-8	Copper	1.7	2.0	1.7	ug/L	U		1	6020A
7439-89-6	Iron	17000	100	47	ug/L			1	6020A
7439-96-5	Manganese	510	5.0	2.1	ug/L			1	6020A
7440-02-0	Nickel	1.5	2.0	1.5	ug/L	U		1	6020A
7439-92-1	Lead	0.45	1.0	0.45	ug/L	U		1	6020A
7440-36-0	Antimony	0.57	2.0	0.57	ug/L	U		1	6020A
7782-49-2	Selenium	0.89	5.0	0.89	ug/L	U		1	6020A
7440-28-0	Thallium	0.20	1.0	0.20	ug/L	U		1	6020A
7440-62-2	Vanadium	0.82	5.0	0.82	ug/L	U		1	6020A
7440-66-6	Zinc	15	20	15	ug/L	U		1	6020A
7440-70-2	Calcium	75000	1000	580	ug/L			1	6020A
7440-09-7	Potassium	8200	1000	220	ug/L			1	6020A
7439-95-4	Magnesium	11000	1000	200	ug/L			1	6020A
7440-23-5	Sodium	120000	1000	330	ug/L			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: MRC-MW-134B-111318 Lab Sample ID: 240-104369-3

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 16:12

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-89-6	Iron	8300	200	26	ug/L			1	6010C
7439-96-5	Manganese	860	15	2.1	ug/L			1	6010C
7440-22-4	Silver	0.053	1.0	0.053	ug/L	U		1	6020A
7429-90-5	Aluminum	82	50	34	ug/L			1	6020A
7440-38-2	Arsenic	0.75	5.0	0.75	ug/L	U		1	6020A
7440-39-3	Barium	57	5.0	2.2	ug/L			1	6020A
7440-41-7	Beryllium	0.31	1.0	0.31	ug/L	U		1	6020A
7440-43-9	Cadmium	0.21	1.0	0.21	ug/L	U		1	6020A
7440-48-4	Cobalt	37	1.0	0.19	ug/L			1	6020A
7440-47-3	Chromium	0.98	2.0	0.98	ug/L	U		1	6020A
7440-50-8	Copper	1.7	2.0	1.7	ug/L	U		1	6020A
7439-89-6	Iron	7600	100	47	ug/L			1	6020A
7439-96-5	Manganese	840	5.0	2.1	ug/L			1	6020A
7440-02-0	Nickel	60	2.0	1.5	ug/L			1	6020A
7439-92-1	Lead	0.45	1.0	0.45	ug/L	U		1	6020A
7440-36-0	Antimony	0.57	2.0	0.57	ug/L	U		1	6020A
7782-49-2	Selenium	0.89	5.0	0.89	ug/L	U		1	6020A
7440-28-0	Thallium	0.20	1.0	0.20	ug/L	U		1	6020A
7440-62-2	Vanadium	0.82	5.0	0.82	ug/L	U		1	6020A
7440-66-6	Zinc	49	20	15	ug/L			1	6020A
7440-70-2	Calcium	5000	1000	580	ug/L			1	6020A
7440-09-7	Potassium	2900	1000	220	ug/L			1	6020A
7439-95-4	Magnesium	3700	1000	200	ug/L			1	6020A
7440-23-5	Sodium	6000	1000	330	ug/L			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: MRC-MW-135B-111318 Lab Sample ID: 240-104369-4

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 09:39

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-89-6	Iron	83	200	26	ug/L	J		1	6010C
7439-96-5	Manganese	230	15	2.1	ug/L			1	6010C
7440-22-4	Silver	0.053	1.0	0.053	ug/L	U		1	6020A
7429-90-5	Aluminum	79	50	34	ug/L			1	6020A
7440-38-2	Arsenic	0.75	5.0	0.75	ug/L	U		1	6020A
7440-39-3	Barium	110	5.0	2.2	ug/L			1	6020A
7440-41-7	Beryllium	9.5	1.0	0.31	ug/L			1	6020A
7440-43-9	Cadmium	0.21	1.0	0.21	ug/L	U		1	6020A
7440-48-4	Cobalt	38	1.0	0.19	ug/L			1	6020A
7440-47-3	Chromium	0.98	2.0	0.98	ug/L	U		1	6020A
7440-50-8	Copper	1.7	2.0	1.7	ug/L	U		1	6020A
7439-89-6	Iron	80	100	47	ug/L	J		1	6020A
7439-96-5	Manganese	220	5.0	2.1	ug/L			1	6020A
7440-02-0	Nickel	92	2.0	1.5	ug/L			1	6020A
7439-92-1	Lead	0.45	1.0	0.45	ug/L	U		1	6020A
7440-36-0	Antimony	0.57	2.0	0.57	ug/L	U		1	6020A
7782-49-2	Selenium	0.89	5.0	0.89	ug/L	U		1	6020A
7440-28-0	Thallium	0.20	1.0	0.20	ug/L	U		1	6020A
7440-62-2	Vanadium	0.82	5.0	0.82	ug/L	U		1	6020A
7440-66-6	Zinc	130	20	15	ug/L			1	6020A
7440-70-2	Calcium	7800	1000	580	ug/L			1	6020A
7440-09-7	Potassium	3200	1000	220	ug/L			1	6020A
7439-95-4	Magnesium	5700	1000	200	ug/L			1	6020A
7440-23-5	Sodium	20000	1000	330	ug/L			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: MRC-MW-136B-111318 Lab Sample ID: 240-104369-5

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 11:22

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-89-6	Iron	160	200	26	ug/L	J		1	6010C
7439-96-5	Manganese	150	15	2.1	ug/L			1	6010C
7440-22-4	Silver	0.053	1.0	0.053	ug/L	U		1	6020A
7429-90-5	Aluminum	400	50	34	ug/L			1	6020A
7440-38-2	Arsenic	0.75	5.0	0.75	ug/L	U		1	6020A
7440-39-3	Barium	83	5.0	2.2	ug/L			1	6020A
7440-41-7	Beryllium	10	1.0	0.31	ug/L			1	6020A
7440-43-9	Cadmium	0.21	1.0	0.21	ug/L	U		1	6020A
7440-48-4	Cobalt	56	1.0	0.19	ug/L			1	6020A
7440-47-3	Chromium	0.98	2.0	0.98	ug/L	U		1	6020A
7440-50-8	Copper	5.1	2.0	1.7	ug/L			1	6020A
7439-89-6	Iron	150	100	47	ug/L			1	6020A
7439-96-5	Manganese	140	5.0	2.1	ug/L			1	6020A
7440-02-0	Nickel	130	2.0	1.5	ug/L			1	6020A
7439-92-1	Lead	0.51	1.0	0.45	ug/L	J		1	6020A
7440-36-0	Antimony	0.57	2.0	0.57	ug/L	U		1	6020A
7782-49-2	Selenium	0.89	5.0	0.89	ug/L	U		1	6020A
7440-28-0	Thallium	0.20	1.0	0.20	ug/L	U		1	6020A
7440-62-2	Vanadium	0.91	5.0	0.82	ug/L	J		1	6020A
7440-66-6	Zinc	190	20	15	ug/L			1	6020A
7440-70-2	Calcium	10000	1000	580	ug/L			1	6020A
7440-09-7	Potassium	4500	1000	220	ug/L			1	6020A
7439-95-4	Magnesium	10000	1000	200	ug/L			1	6020A
7440-23-5	Sodium	48000	1000	330	ug/L			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: MRC-MW-DUP-111318 Lab Sample ID: 240-104369-6

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 00:00

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-89-6	Iron	140	200	26	ug/L	J		1	6010C
7439-96-5	Manganese	140	15	2.1	ug/L			1	6010C
7440-22-4	Silver	0.053	1.0	0.053	ug/L	U		1	6020A
7429-90-5	Aluminum	350	50	34	ug/L			1	6020A
7440-38-2	Arsenic	0.75	5.0	0.75	ug/L	U		1	6020A
7440-39-3	Barium	84	5.0	2.2	ug/L			1	6020A
7440-41-7	Beryllium	11	1.0	0.31	ug/L			1	6020A
7440-43-9	Cadmium	0.21	1.0	0.21	ug/L	U		1	6020A
7440-48-4	Cobalt	55	1.0	0.19	ug/L			1	6020A
7440-47-3	Chromium	0.98	2.0	0.98	ug/L	U		1	6020A
7440-50-8	Copper	5.0	2.0	1.7	ug/L			1	6020A
7439-89-6	Iron	150	100	47	ug/L			1	6020A
7439-96-5	Manganese	140	5.0	2.1	ug/L			1	6020A
7440-02-0	Nickel	120	2.0	1.5	ug/L			1	6020A
7439-92-1	Lead	0.45	1.0	0.45	ug/L	U		1	6020A
7440-36-0	Antimony	0.57	2.0	0.57	ug/L	U		1	6020A
7782-49-2	Selenium	0.89	5.0	0.89	ug/L	U		1	6020A
7440-28-0	Thallium	0.20	1.0	0.20	ug/L	U		1	6020A
7440-62-2	Vanadium	0.82	5.0	0.82	ug/L	U		1	6020A
7440-66-6	Zinc	190	20	15	ug/L			1	6020A
7440-70-2	Calcium	9400	1000	580	ug/L			1	6020A
7440-09-7	Potassium	3900	1000	220	ug/L			1	6020A
7439-95-4	Magnesium	9800	1000	200	ug/L			1	6020A
7440-23-5	Sodium	47000	1000	330	ug/L			1	6020A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-134A-111318 Lab Sample ID: 240-104369-2

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 14:15

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Nitrate Nitrite as N	0.031	0.050	0.031	mg/L	U	F1	1	353.2
	Hardness as calcium carbonate	250	5.0	2.4	mg/L			1	2340C-2011
	Alkalinity	280	5.0	2.6	mg/L			1	2320B-2011
	Total Dissolved Solids	580	10	7.8	mg/L			1	2540 C-2011
24959-67-9	Bromide	0.079	0.50	0.044	mg/L	J		1	300.0
14808-79-8	Sulfate	4.0	1.0	0.35	mg/L			1	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-134B-111318 Lab Sample ID: 240-104369-3

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 16:12

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Nitrate Nitrite as N	0.031	0.050	0.031	mg/L	U		1	353.2
	Hardness as calcium carbonate	44	5.0	2.4	mg/L			1	2340C-2011
	Alkalinity	32	5.0	2.6	mg/L			1	2320B-2011
	Total Dissolved Solids	74	10	7.8	mg/L			1	2540 C-2011
24959-67-9	Bromide	0.044	0.50	0.044	mg/L	U		1	300.0
14808-79-8	Sulfate	4.4	1.0	0.35	mg/L			1	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-135B-111318 Lab Sample ID: 240-104369-4

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 09:39

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Nitrate Nitrite as N	0.042	0.050	0.031	mg/L	J		1	353.2
	Hardness as calcium carbonate	48	5.0	2.4	mg/L			1	2340C-2011
	Alkalinity	5.9	5.0	2.6	mg/L			1	2320B-2011
	Total Dissolved Solids	130	10	7.8	mg/L			1	2540 C-2011
24959-67-9	Bromide	0.044	0.50	0.044	mg/L	U		1	300.0
14808-79-8	Sulfate	6.6	1.0	0.35	mg/L			1	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-136B-111318 Lab Sample ID: 240-104369-5

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 11:22

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Nitrate Nitrite as N	0.19	0.050	0.031	mg/L			1	353.2
	Hardness as calcium carbonate	72	5.0	2.4	mg/L			1	2340C-2011
	Alkalinity	21	5.0	2.6	mg/L			1	2320B-2011
	Total Dissolved Solids	230	10	7.8	mg/L			1	2540 C-2011
24959-67-9	Bromide	0.044	0.50	0.044	mg/L	U		1	300.0
14808-79-8	Sulfate	49	1.0	0.35	mg/L			1	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-DUP-111318 Lab Sample ID: 240-104369-6

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 00:00

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Nitrate Nitrite as N	0.17	0.050	0.031	mg/L			1	353.2
	Hardness as calcium carbonate	68	5.0	2.4	mg/L			1	2340C-2011
	Alkalinity	26	5.0	2.6	mg/L			1	2320B-2011
	Total Dissolved Solids	220	10	7.8	mg/L			1	2540 C-2011
24959-67-9	Bromide	0.044	0.50	0.044	mg/L	U		1	300.0
14808-79-8	Sulfate	48	1.0	0.35	mg/L			1	9056A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-134A-111318 Lab Sample ID: 240-104369-2

Lab Name: TestAmerica Pittsburgh Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 14:15

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Salinity	2.0	2.0	2.0	No Unit	U		1	SM 2520B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-134B-111318 Lab Sample ID: 240-104369-3

Lab Name: TestAmerica Pittsburgh Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 16:12

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Salinity	2.0	2.0	2.0	No Unit	U		1	SM 2520B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-135B-111318 Lab Sample ID: 240-104369-4

Lab Name: TestAmerica Pittsburgh Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 09:39

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Salinity	2.0	2.0	2.0	No Unit	U		1	SM 2520B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-136B-111318 Lab Sample ID: 240-104369-5

Lab Name: TestAmerica Pittsburgh Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 11:22

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Salinity	2.0	2.0	2.0	No Unit	U		1	SM 2520B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MRC-MW-DUP-111318 Lab Sample ID: 240-104369-6

Lab Name: TestAmerica Pittsburgh Job No.: 240-104369-1

SDG ID.:

Matrix: Water Date Sampled: 11/13/2018 00:00

Reporting Basis: WET Date Received: 11/14/2018 09:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Salinity	2.0	2.0	2.0	No Unit	U		1	SM 2520B

Appendix C

Support Documentation

ANALYTE	ORIGINAL MW-136A	DUPLICATE MW-DUP	RL	RPD	RPD > 30% Aqueous	ORIGINAL SAMPLE CONC >2xRL	DUPLICATE SAMPLE CONC >2xRL	DIFFERENCE >2XRL
1,2,3-TRICHLOROBENZENE	1.3	1.1	1	16.67	FALSE	FALSE	FALSE	FALSE
1,2,4-TRICHLOROBENZENE	5	4.4	1	12.77	FALSE	TRUE	TRUE	FALSE
1,2-DICHLOROETHANE	0.85	0.85	1	0.00	FALSE	FALSE	FALSE	FALSE
1,3-DICHLOROBENZENE	0.28	0.29	1	3.51	FALSE	FALSE	FALSE	FALSE
1,4-DICHLOROBENZENE	0.17	0.18	1	5.71	FALSE	FALSE	FALSE	FALSE
2-BUTANONE	2.5	2.6	10	3.92	FALSE	FALSE	FALSE	FALSE
ALUMINUM	400	350	50	13.33	FALSE	TRUE	TRUE	FALSE
BARIUM	83	84	5	1.20	FALSE	TRUE	TRUE	FALSE
BERYLLIUM	10	11	1	9.52	FALSE	TRUE	TRUE	FALSE
CALCIUM	10000	9400	1000	6.19	FALSE	TRUE	TRUE	FALSE
COBALT	56	55	1	1.80	FALSE	TRUE	TRUE	FALSE
COPPER	5.1	5	2	1.98	FALSE	TRUE	TRUE	FALSE
IRON	150	150	100	0.00	FALSE	FALSE	FALSE	FALSE
LEAD	0.51	0.45	1	12.50	FALSE	FALSE	FALSE	FALSE
MAGNESIUM	10000	9800	1000	2.02	FALSE	TRUE	TRUE	FALSE
MANGANESE	140	140	5	0.00	FALSE	TRUE	TRUE	FALSE
NICKEL	130	120	2	8.00	FALSE	TRUE	TRUE	TRUE
POTASSIUM	4500	3900	1000	14.29	FALSE	TRUE	TRUE	FALSE
SODIUM	48000	47000	1000	2.11	FALSE	TRUE	TRUE	FALSE
VANADIUM	0.91	0.82	5	10.40	FALSE	FALSE	FALSE	FALSE
ZINC	190	190	20	0.00	FALSE	TRUE	TRUE	FALSE
ALKALINITY	21	26	5	21.28	FALSE	TRUE	TRUE	FALSE
HARDNESS AS CACO3	72	68	5	5.71	FALSE	TRUE	TRUE	FALSE
NITRITE/NITRATE-N	0.19	0.17	0.05	11.11	FALSE	TRUE	TRUE	FALSE
SULFATE	49	48	1	2.06	FALSE	TRUE	TRUE	FALSE
TOTAL DISSOLVED SOLIDS	230	220	10	4.44	FALSE	TRUE	TRUE	FALSE

2.6|C3.5
0.6|C1.5

North Canton
4101 Shuffel Street, N. W.
North Canton, OH 44720
phone 330.497.9396 fax 330.497.0772

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Mike Martin	Site Contact: Mullis/Pryor	Date: 11/13/2018	COC No:
Tetra Tech	Tel: (301) 528-3021	Lab Contact: John McFadden	Carrier: Fedex	1 of 1 COCs
20251 Century Blvd, Suite 200	**Analysis Turnaround Time**			Job No.
Germantown, MD 20874	Calendar (C) or Work Days (W) _____			
(301) 528-3021 Phone	TAT if different from Below **10 DAY TAT**			SDG No.
(301) 528-3000 FAX	☐ 2 weeks			
Project Name: MRC BLOCK F TCB WELLS	☐ 1 week			Sampler: Pryor/Mullis
Site: MRC BLOCK F	☐ 2 days			
PO # 112IC08667	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs (8260)	PCBs (680)	Total Metals (6020A)	Sulfate (9056A)	Nitrates (SM 4500-NO3E)	Total Dissolved Solids (SM 2540C)	Bromide (EPA 300.0)	Iron and Manganese (6010C)	Alkalinity (SM 2320B)	Salinity (SM 2520B)	Hardness (ions) SM 2340C	Dissolved gasses (MEE) RSK-175	Sample Specific Notes:
TB-111318	11/13/2018	0000	GRAB	Water	2		x												
MRC-MW-134A-111318	11/13/2018	1415	GRAB	Water	13		x	x	x	x	x	x	x	x	x	x	x	x	
MRC-MW-134B-111318	11/13/2018	1612	GRAB	Water	13		x	x	x	x	x	x	x	x	x	x	x	x	
MRC-MW-135B-111318	11/13/2018	0939	GRAB	Water	13		x	x	x	x	x	x	x	x	x	x	x	x	
MRC-MW-136A-111318	11/13/2018	1122	GRAB	Water	13		x	x	x	x	x	x	x	x	x	x	x	x	
MRC-MW-DUP-111318	11/13/2018	0000	GRAB	Water	13		x	x	x	x	x	x	x	x	x	x	x	x	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____							2	1	4	1	1	1	1	4	1	1	4	2	



Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments: Block F TCB Wells

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Will Pe	TT NS	11-13-18 / 1930	POF	TAL	11-14-18 955
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 2, dated 03/06/2012

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: MRC Block F TCB Wells

TestAmerica Job ID: 240-104369-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-104369-1	TB-111318	Water	11/13/18 00:00	11/14/18 09:55
240-104369-2	MRC-MW-134A-111318	Water	11/13/18 14:15	11/14/18 09:55
240-104369-3	MRC-MW-134B-111318	Water	11/13/18 16:12	11/14/18 09:55
240-104369-4	MRC-MW-135B-111318	Water	11/13/18 09:39	11/14/18 09:55
240-104369-5	MRC-MW-136B-111318	Water	11/13/18 11:22	11/14/18 09:55
240-104369-6	MRC-MW-DUP-111318	Water	11/13/18 00:00	11/14/18 09:55

CASE NARRATIVE

Client: Tetra Tech, Inc.

Project: MRC Block F TCB Wells

Report Number: 240-104369-1

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 680 Polychlorinated Biphenyls (PCBs) analysis was performed at the TestAmerica Savannah laboratory. The 9050A Specific Conductance and 2520B Salinity analyses were performed at the TestAmerica Pittsburgh 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 11/14/2018 9:55 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.5º C and 3.5º C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TB-111318 (240-104369-1), MRC-MW-134A-111318 (240-104369-2), MRC-MW-134B-111318 (240-104369-3), MRC-MW-135B-111318 (240-104369-4), MRC-MW-136B-111318 (240-104369-5) and MRC-MW-DUP-111318 (240-104369-6) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 11/21/2018 and 11/23/2018.

Samples MRC-MW-134A-111318 (240-104369-2)[5X] and MRC-MW-135B-111318 (240-104369-4)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The continuing calibration verification (CCV) associated with batch 240-356655 recovered above the upper control limit for difluorodichloromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: TB-111318 (240-104369-1), MRC-MW-134A-111318 (240-104369-2), MRC-MW-134B-111318 (240-104369-3) and (CCVIS 240-356655/4).

The following samples were received preserved with hydrochloric acid: TB-111318 (240-104369-1), MRC-MW-134A-111318 (240-104369-2), MRC-MW-134B-111318 (240-104369-3), MRC-MW-135B-111318 (240-104369-4), MRC-MW-136B-111318 (240-104369-5) and MRC-MW-DUP-111318 (240-104369-6). The requested target analyte list includes 2-Chloroethyl vinyl ether, an acid-labile compound that degrades in an acidic medium.

The initial calibration (ICAL) did not pass the method calibration acceptance criteria for 1,2-Dibromo-3-Chloropropane. This variance only affects results measured above the reporting limit. A CCV standard at or below the reporting limit (RL) was analyzed with the samples and found to be acceptable. This demonstrates the reporting limit is valid for the affected analyte. The samples associated with the ICAL were non-detects for the affected analyte; therefore, the results have been reported. The following samples are impacted: TB-111318 (240-104369-1), MRC-MW-134A-111318 (240-104369-2), MRC-MW-134B-111318 (240-104369-3) and (CCVIS 240-356655/4).

The continuing calibration verification (CCV) analyzed in batch 240-356782 was outside the method criteria for some analytes. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the

reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

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

DISSOLVED GASES
Samples MRC-MW-134A-111318 (240-104369-2), MRC-MW-134B-111318 (240-104369-3), MRC-MW-135B-111318 (240-104369-4), MRC-MW-136B-111318 (240-104369-5) and MRC-MW-DUP-111318 (240-104369-6) were analyzed for dissolved gases in accordance with RSK_175. The samples were analyzed on 11/20/2018.

Sample MRC-MW-134A-111318 (240-104369-2)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

POLYCHLORINATED BIPHENYLS (PCBS)
Samples MRC-MW-134A-111318 (240-104369-2), MRC-MW-134B-111318 (240-104369-3), MRC-MW-135B-111318 (240-104369-4), MRC-MW-136B-111318 (240-104369-5) and MRC-MW-DUP-111318 (240-104369-6) were analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA Method 680. The samples were prepared on 11/16/2018 and 11/29/2018 and analyzed on 11/21/2018, 11/26/2018 and 12/03/2018.

Dichlorobiphenyl and Monochlorobiphenyl failed the recovery criteria low for LCS 680-547809/8-A. Dichlorobiphenyl, Monochlorobiphenyl and Tetrachlorobiphenyl failed the recovery criteria low for LCS 680-549336/8-A. Several analytes failed the recovery criteria low for LCSD 680-549336/9-A.

The SOP for the 680 Method allows that for soils the CCVIS has a limit of <30%D for each analyte and for liquids <20%D for each analyte. It also 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. (CCVC 680-548241/15)

The SOP for the 680 Method allows that for soils the CCVIS has a limit of <30%D for each analyte and for liquids <20%D for each analyte . It also 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. (CCVC 680-548687/10)

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 680-549336.

The LCS recovered low outside of limits for Monochlorobiphenyl, Dichlorobiphenyl and Tetrachlorobiphenyl. The LCSD recovered low for all analytes except Nonachlorobiphenyl. (LCS 680-549336/8-A) and (LCSD 680-549336/9-A)

The SOP for the 680 Method allows that for soils the CCVIS has a limit of <30%D for each analyte and for liquids <20%D for each analyte . It also 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. (CCVC 680-549800/14)

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

TOTAL RECOVERABLE METALS (ICP)
Samples MRC-MW-134A-111318 (240-104369-2), MRC-MW-134B-111318 (240-104369-3), MRC-MW-135B-111318 (240-104369-4), MRC-MW-136B-111318 (240-104369-5) and MRC-MW-DUP-111318 (240-104369-6) were analyzed for total recoverable metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 11/15/2018 and analyzed on 11/16/2018 and 11/17/2018.

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

TOTAL RECOVERABLE METALS (ICPMS)
Samples MRC-MW-134A-111318 (240-104369-2), MRC-MW-134B-111318 (240-104369-3), MRC-MW-135B-111318 (240-104369-4), MRC-MW-136B-111318 (240-104369-5) and MRC-MW-DUP-111318 (240-104369-6) were analyzed for total recoverable metals (ICPMS) in accordance with EPA SW-846 Method 6020A. The samples were prepared on 11/15/2018 and 11/19/2018 and analyzed on 11/16/2018 and 11/20/2018.

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

ALKALINITY
Samples MRC-MW-134A-111318 (240-104369-2), MRC-MW-134B-111318 (240-104369-3), MRC-MW-135B-111318 (240-104369-4), MRC-MW-136B-111318 (240-104369-5) and MRC-MW-DUP-111318 (240-104369-6) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 11/23/2018.

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

HARDNESS
Samples MRC-MW-134A-111318 (240-104369-2), MRC-MW-134B-111318 (240-104369-3), MRC-MW-135B-111318 (240-104369-4), MRC-MW-136B-111318 (240-104369-5) and MRC-MW-DUP-111318 (240-104369-6) were analyzed for hardness in accordance with SM

2340C. The samples were analyzed on 11/28/2018.

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

TOTAL DISSOLVED SOLIDS
Samples MRC-MW-134A-111318 (240-104369-2), MRC-MW-134B-111318 (240-104369-3), MRC-MW-135B-111318 (240-104369-4), MRC-MW-136B-111318 (240-104369-5) and MRC-MW-DUP-111318 (240-104369-6) were analyzed for total dissolved solids in accordance with SM 2540C. The samples were analyzed on 11/19/2018.

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

ANIONS
Samples MRC-MW-134A-111318 (240-104369-2), MRC-MW-134B-111318 (240-104369-3), MRC-MW-135B-111318 (240-104369-4), MRC-MW-136B-111318 (240-104369-5) and MRC-MW-DUP-111318 (240-104369-6) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 11/28/2018.

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

NITRATE-NITRITE AS NITROGEN
Samples MRC-MW-134A-111318 (240-104369-2), MRC-MW-134B-111318 (240-104369-3), MRC-MW-135B-111318 (240-104369-4), MRC-MW-136B-111318 (240-104369-5) and MRC-MW-DUP-111318 (240-104369-6) were analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 11/27/2018.

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

ANIONS
Samples MRC-MW-134A-111318 (240-104369-2), MRC-MW-134B-111318 (240-104369-3), MRC-MW-135B-111318 (240-104369-4), MRC-MW-136B-111318 (240-104369-5) and MRC-MW-DUP-111318 (240-104369-6) were analyzed for anions in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 11/28/2018.

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

SALINITY
Samples MRC-MW-134A-111318 (240-104369-2), MRC-MW-134B-111318 (240-104369-3), MRC-MW-135B-111318 (240-104369-4), MRC-MW-136B-111318 (240-104369-5) and MRC-MW-DUP-111318 (240-104369-6) were analyzed for Salinity in accordance with SM 2520B. The samples were analyzed on 11/19/2018.

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

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

GC/MS Semi 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.

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

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

Method Summary

Client: Tetra Tech, Inc.
Project/Site: MRC Block F TCB Wells

TestAmerica Job ID: 240-104369-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL CAN
680	Polychlorinated Biphenyls (PCBs) (GC/MS)	EPA	TAL SAV
RSK-175	Dissolved Gases (GC)	RSK	TAL CAN
6010C	Metals (ICP)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
2320B-2011	Alkalinity, Total	SM	TAL CAN
2340C-2011	Hardness, Total	SM	TAL CAN
2540 C-2011	Total Dissolved Solids (Dried at 180 °C)	SM	TAL CAN
300.0	Anions, Ion Chromatography	MCAWW	TAL CAN
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL CAN
9056A	Anions, Ion Chromatography	SW846	TAL CAN
SM 2520B	Salinity, Electrical Conductivity	SM	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
5030C	Purge and Trap	SW846	TAL CAN
680	Liquid-Liquid Extraction (Separatory Funnel)	EPA	TAL SAV

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

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

Method 8260C

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

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

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-111318	240-104369-1	84	92	97	96
MRC-MW-134A-111318	240-104369-2	85	91	97	101
MRC-MW-134B-111318	240-104369-3	86	94	99	100
MRC-MW-135B-111318	240-104369-4	98	97	97	89
MRC-MW-136B-111318	240-104369-5	95	96	96	89
MRC-MW-DUP-111318	240-104369-6	97	97	97	90
	MB 240-356655/10	88	96	99	100
	MB 240-356782/7	96	98	94	90
	LCS 240-356655/5	102	96	98	99
	LCS 240-356655/6	91	97	103	105
	LCS 240-356782/33	94	93	99	97
	LCSD 240-356655/7	92	97	102	104
MRC-MW-134A-111318 MS	240-104369-2 MS	101	99	103	105
	240-104634-A-2 MS	94	93	99	97
MRC-MW-134A-111318 MSD	240-104369-2 MSD	103	97	104	105
	240-104634-A-2 MSD	95	93	99	95

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	75-128
DCA = 1,2-Dichloroethane-d4 (Surr)	70-121
TOL = Toluene-d8 (Surr)	70-123
BFB = 4-Bromofluorobenzene (Surr)	59-120

Column to be used to flag recovery values

FORM II 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low Lab File ID: UX975333.D

Lab ID: LCS 240-356655/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	20.0	19.4	97	80-124	
1,1,1-Trichloroethane	20.0	21.0	105	69-134	
1,1,2,2-Tetrachloroethane	20.0	20.4	102	65-139	
1,1,2-Trichlorotrifluoroethane	20.0	18.8	94	50-156	
1,1-Dichloroethane	20.0	19.4	97	75-133	
1,1-Dichloroethene	20.0	18.9	95	65-139	
1,1-Dichloropropene	20.0	19.2	96	78-126	
1,2,3-Trichlorobenzene	20.0	18.9	94	39-138	
1,2,3-Trichloropropane	20.0	20.2	101	66-139	
1,2,4-Trichlorobenzene	20.0	18.5	92	42-133	
1,2,4-Trimethylbenzene	20.0	18.1	91	74-120	
1,2-Dibromo-3-Chloropropane	20.0	20.3	101	46-132	
1,2-Dichlorobenzene	20.0	18.7	93	78-120	
1,2-Dichloroethane	20.0	18.9	95	71-135	
1,2-Dichloropropane	20.0	19.8	99	78-133	
1,3-Dichlorobenzene	20.0	18.0	90	78-120	
1,3-Dichloropropane	20.0	18.7	94	72-134	
1,4-Dichlorobenzene	20.0	18.0	90	78-120	
2,2-Dichloropropane	20.0	20.0	100	42-150	
2-Chloroethyl vinyl ether	20.0	20.4	102	55-137	
2-Chlorotoluene	20.0	18.5	92	78-123	
2-Hexanone	40.0	40.6	101	43-148	
Bromobenzene	20.0	18.7	94	74-129	
Bromochloromethane	20.0	18.9	95	74-130	
4-Chlorotoluene	20.0	18.1	91	77-125	
4-Isopropyltoluene	20.0	18.9	94	69-122	
Acetone	40.0	36.8	92	21-162	
Benzene	20.0	19.5	97	80-123	
Bromoform	20.0	17.9	89	49-141	
Bromomethane	20.0	19.1	95	41-175	
Carbon disulfide	20.0	16.8	84	60-138	
Carbon tetrachloride	20.0	20.8	104	63-140	
Chlorobenzene	20.0	18.3	92	80-121	
Chloroethane	20.0	18.4	92	33-173	
Chloroform	20.0	19.5	98	79-127	
Chloromethane	20.0	19.1	95	54-143	
cis-1,2-Dichloroethene	20.0	19.2	96	76-128	
cis-1,3-Dichloropropene	20.0	18.7	93	64-132	
Hexachlorobutadiene	20.0	18.2	91	38-136	
Dibromomethane	20.0	19.6	98	74-124	
Bromodichloromethane	20.0	18.7	94	77-125	
Dichlorodifluoromethane	20.0	24.1	121	29-148	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low Lab File ID: UX975333.D

Lab ID: LCS 240-356655/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Ethylbenzene	20.0	19.2	96	80-120	
1,2-Dibromoethane	20.0	20.0	100	77-123	
Naphthalene	20.0	19.4	97	28-141	
m-Xylene & p-Xylene	20.0	18.3	91	80-120	
n-Butylbenzene	20.0	18.9	95	57-126	
Isopropylbenzene	20.0	19.2	96	74-120	
N-Propylbenzene	20.0	18.8	94	77-123	
2-Butanone (MEK)	40.0	41.5	104	39-163	
4-Methyl-2-pentanone (MIBK)	40.0	39.3	98	49-143	
sec-Butylbenzene	20.0	18.0	90	68-123	
Methyl tert-butyl ether	20.0	19.4	97	51-133	
Methylene Chloride	20.0	18.2	91	70-134	
o-Xylene	20.0	19.1	95	80-120	
Styrene	20.0	19.2	96	79-120	
tert-Butylbenzene	20.0	19.9	100	70-121	
Tetrachloroethene	20.0	18.6	93	74-130	
Toluene	20.0	19.2	96	78-129	
trans-1,2-Dichloroethene	20.0	19.2	96	78-133	
trans-1,3-Dichloropropene	20.0	18.1	90	55-128	
Trichloroethene	20.0	18.4	92	76-125	
Trichlorofluoromethane	20.0	19.8	99	51-164	
Vinyl acetate	20.0	19.8	99	45-151	
Vinyl chloride	20.0	20.5	102	58-143	
tert-Butyl alcohol	200	215	108	10-161	
Xylenes, Total	40.0	37.4	94	80-120	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low Lab File ID: U1904077.d

Lab ID: LCS 240-356782/33 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	20.0	20.1	100	80-124	
1,1,1-Trichloroethane	20.0	18.4	92	69-134	
1,1,2,2-Tetrachloroethane	20.0	21.1	106	65-139	
1,1,2-Trichlorotrifluoroethane	20.0	20.6	103	50-156	
1,1-Dichloroethane	20.0	19.2	96	75-133	
1,1-Dichloroethene	20.0	19.5	98	65-139	
1,1-Dichloropropene	20.0	19.3	97	78-126	
1,2,3-Trichlorobenzene	20.0	20.9	104	39-138	
1,2,3-Trichloropropane	20.0	21.6	108	66-139	
1,2,4-Trichlorobenzene	20.0	20.0	100	42-133	
1,2,4-Trimethylbenzene	20.0	21.1	106	74-120	
1,2-Dibromo-3-Chloropropane	20.0	19.6	98	46-132	
1,2-Dichlorobenzene	20.0	21.3	107	78-120	
1,2-Dichloroethane	20.0	18.0	90	71-135	
1,2-Dichloropropane	20.0	20.2	101	78-133	
1,3-Dichlorobenzene	20.0	21.0	105	78-120	
1,3-Dichloropropane	20.0	20.1	101	72-134	
1,4-Dichlorobenzene	20.0	20.5	103	78-120	
2,2-Dichloropropane	20.0	14.3	72	42-150	
2-Chloroethyl vinyl ether	20.0	19.2	96	55-137	
2-Chlorotoluene	20.0	21.8	109	78-123	
2-Hexanone	40.0	39.7	99	43-148	
Bromobenzene	20.0	21.1	105	74-129	
Bromochloromethane	20.0	17.3	87	74-130	
4-Chlorotoluene	20.0	21.4	107	77-125	
4-Isopropyltoluene	20.0	21.6	108	69-122	
Acetone	40.0	41.4	103	21-162	
Benzene	20.0	19.7	99	80-123	
Bromoform	20.0	18.8	94	49-141	
Bromomethane	20.0	17.6	88	41-175	
Carbon disulfide	20.0	16.1	80	60-138	
Carbon tetrachloride	20.0	18.9	95	63-140	
Chlorobenzene	20.0	20.1	101	80-121	
Chloroethane	20.0	18.1	91	33-173	
Chloroform	20.0	19.2	96	79-127	
Chloromethane	20.0	16.6	83	54-143	
cis-1,2-Dichloroethene	20.0	19.1	96	76-128	
cis-1,3-Dichloropropene	20.0	19.3	96	64-132	
Hexachlorobutadiene	20.0	21.1	105	38-136	
Dibromomethane	20.0	18.8	94	74-124	
Bromodichloromethane	20.0	18.4	92	77-125	
Dichlorodifluoromethane	20.0	14.4	72	29-148	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low Lab File ID: U1904077.d

Lab ID: LCS 240-356782/33 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Ethylbenzene	20.0	20.1	101	80-120	
1,2-Dibromoethane	20.0	19.3	97	77-123	
Naphthalene	20.0	19.7	98	28-141	
m-Xylene & p-Xylene	20.0	20.6	103	80-120	
n-Butylbenzene	20.0	21.0	105	57-126	
Isopropylbenzene	20.0	20.4	102	74-120	
N-Propylbenzene	20.0	21.4	107	77-123	
2-Butanone (MEK)	40.0	41.0	103	39-163	
4-Methyl-2-pentanone (MIBK)	40.0	37.8	94	49-143	
sec-Butylbenzene	20.0	21.6	108	68-123	
Methyl tert-butyl ether	20.0	16.3	81	51-133	
Methylene Chloride	20.0	18.6	93	70-134	
o-Xylene	20.0	20.6	103	80-120	
Styrene	20.0	20.4	102	79-120	
tert-Butylbenzene	20.0	21.0	105	70-121	
Tetrachloroethene	20.0	20.3	102	74-130	
Toluene	20.0	20.0	100	78-129	
trans-1,2-Dichloroethene	20.0	18.8	94	78-133	
trans-1,3-Dichloropropene	20.0	17.4	87	55-128	
Trichloroethene	20.0	19.7	98	76-125	
Trichlorofluoromethane	20.0	17.2	86	51-164	
Vinyl acetate	20.0	18.7	93	45-151	
Vinyl chloride	20.0	17.8	89	58-143	
tert-Butyl alcohol	200	182	91	10-161	
Xylenes, Total	40.0	41.2	103	80-120	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low Lab File ID: UX975346.D

Lab ID: 240-104369-2 MS Client ID: MRC-MW-134A-111318 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	100	0.70 U	92.4	92	67-123	
1,1,1-Trichloroethane	100	1.2 U	101	101	51-138	
1,1,2,2-Tetrachloroethane	100	0.65 U	97.7	98	60-137	
1,1,2-Trichlorotrifluoroethane	100	2.1 U	90.0	90	31-156	
1,1-Dichloroethane	100	0.85 U	93.1	93	63-136	
1,1-Dichloroethene	100	0.95 U	89.9	90	53-140	
1,1-Dichloropropene	100	0.70 U	94.6	95	62-127	
1,2,3-Trichlorobenzene	100	2.7 U	92.6	93	34-123	
1,2,3-Trichloropropane	100	1.2 U	97.9	98	61-143	
1,2,4-Trichlorobenzene	100	1.3 U	91.5	92	30-126	
1,2,4-Trimethylbenzene	100	0.35 U	87.5	88	62-120	
1,2-Dibromo-3-Chloropropane	100	4.6 U	93.0	93	38-124	
1,2-Dichlorobenzene	100	0.75 U	93.0	93	64-120	
1,2-Dichloroethane	100	1.1 U	94.0	94	65-135	
1,2-Dichloropropane	100	0.75 U	94.3	94	70-132	
1,3-Dichlorobenzene	100	1.4 J	89.0	88	62-120	
1,3-Dichloropropane	100	1.1 U	94.8	95	68-135	
1,4-Dichlorobenzene	100	6.4	93.9	88	63-120	
2,2-Dichloropropane	100	1.6 U	89.7	90	27-132	
2-Chloroethyl vinyl ether	100	1.3 U	1.3 U	0	10-120	F1
2-Chlorotoluene	100	0.75 U	87.5	88	64-123	
2-Hexanone	200	2.7 U	204	102	42-150	
Bromobenzene	100	0.60 U	89.1	89	66-127	
Bromochloromethane	100	0.70 U	90.5	90	73-120	
4-Chlorotoluene	100	0.45 U	90.3	90	63-126	
4-Isopropyltoluene	100	0.65 U	90.3	90	59-120	
Acetone	200	27 U	186	93	10-168	
Benzene	100	2.5 J	98.6	96	71-122	
Bromoform	100	3.8 U	87.1	87	44-129	
Bromomethane	100	2.1 U	96.9	97	19-187	
Carbon disulfide	100	1.4 U	75.5	76	43-144	
Carbon tetrachloride	100	1.3 U	96.4	96	41-143	
Chlorobenzene	100	160	240	78	70-123	
Chloroethane	100	4.2 U	91.7	92	11-189	
Chloroform	100	0.65 U	97.3	97	68-130	
Chloromethane	100	1.0 U	91.6	92	31-154	
cis-1,2-Dichloroethene	100	0.80 U	95.1	95	64-130	
cis-1,3-Dichloropropene	100	3.1 U	84.5	85	48-127	
Hexachlorobutadiene	100	4.2 U	80.9	81	32-128	
Dibromomethane	100	0.45 U	96.2	96	71-120	
Bromodichloromethane	100	0.85 U	86.9	87	64-125	
Dichlorodifluoromethane	100	1.8 U	114	114	28-136	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low Lab File ID: UX975346.D

Lab ID: 240-104369-2 MS Client ID: MRC-MW-134A-111318 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Ethylbenzene	100	0.55 U	92.5	93	66-120	
1,2-Dibromoethane	100	0.60 U	103	103	71-123	
Naphthalene	100	1.6 U	96.9	97	31-142	
m-Xylene & p-Xylene	100	0.40 U	91.7	92	63-121	
n-Butylbenzene	100	0.70 U	90.4	90	51-120	
Isopropylbenzene	100	0.45 U	97.5	97	59-120	
N-Propylbenzene	100	0.75 U	89.9	90	61-123	
2-Butanone (MEK)	200	5.8 U	203	102	37-156	
4-Methyl-2-pentanone (MIBK)	200	2.1 U	198	99	44-143	
sec-Butylbenzene	100	0.65 U	87.7	88	60-120	
Methyl tert-butyl ether	100	0.35 U	96.5	96	41-136	
Methylene Chloride	100	13 U	82.3	82	61-130	
o-Xylene	100	0.45 U	95.5	96	69-120	
Styrene	100	0.50 U	98.6	99	68-120	
tert-Butylbenzene	100	0.70 U	85.0	85	61-120	
Tetrachloroethene	100	0.75 U	94.0	94	51-136	
Toluene	100	0.70 U	97.0	97	62-132	
trans-1,2-Dichloroethene	100	0.95 U	93.7	94	68-133	
trans-1,3-Dichloropropene	100	3.4 U	81.6	82	40-125	
Trichloroethene	100	0.50 U	91.7	92	55-131	
Trichlorofluoromethane	100	2.3 U	96.2	96	37-174	
Vinyl acetate	100	0.95 U	93.6	94	37-148	
Vinyl chloride	100	1.0 U	97.6	98	43-154	
tert-Butyl alcohol	1000	8.5 U	1060	106	70-130	
Xylenes, Total	200	0.75 U	187	94	67-120	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low Lab File ID: U1904097.d

Lab ID: 240-104634-A-2 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	250	3.0 U	216	86	51-138	
1,1-Dichloroethane	250	6.7 J	236	92	63-136	
1,1-Dichloroethene	250	5.0 J	230	90	53-140	
Acetone	500	68 U	554	111	10-168	
Chloroform	250	1.6 U	233	93	68-130	
cis-1,2-Dichloroethene	250	13	238	90	64-130	
Naphthalene	250	4.0 U	238	95	31-142	
2-Butanone (MEK)	500	15 U	526	105	37-156	
trans-1,2-Dichloroethene	250	9.9 J	232	89	68-133	
Trichloroethene	250	320	519	81	55-131	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low Lab File ID: UX975347.D

Lab ID: 240-104369-2 MSD Client ID: MRC-MW-134A-111318 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	100	86.5	86	7	13	67-123	
1,1,1-Trichloroethane	100	96.2	96	5	27	51-138	
1,1,2,2-Tetrachloroethane	100	91.7	92	6	31	60-137	
1,1,2-Trichlorotrifluoroethane	100	84.3	84	7	35	31-156	
1,1-Dichloroethane	100	87.5	87	6	23	63-136	
1,1-Dichloroethene	100	85.0	85	6	35	53-140	
1,1-Dichloropropene	100	90.3	90	5	20	62-127	
1,2,3-Trichlorobenzene	100	87.2	87	6	35	34-123	
1,2,3-Trichloropropane	100	92.4	92	6	22	61-143	
1,2,4-Trichlorobenzene	100	85.9	86	6	35	30-126	
1,2,4-Trimethylbenzene	100	83.6	84	5	27	62-120	
1,2-Dibromo-3-Chloropropane	100	90.4	90	3	35	38-124	
1,2-Dichlorobenzene	100	88.3	88	5	30	64-120	
1,2-Dichloroethane	100	90.5	90	4	24	65-135	
1,2-Dichloropropane	100	91.0	91	4	26	70-132	
1,3-Dichlorobenzene	100	85.0	84	5	31	62-120	
1,3-Dichloropropane	100	89.4	89	6	15	68-135	
1,4-Dichlorobenzene	100	88.3	82	6	28	63-120	
2,2-Dichloropropane	100	88.3	88	2	18	27-132	
2-Chloroethyl vinyl ether	100	1.3 U	0	NC	35	10-120	F1
2-Chlorotoluene	100	82.0	82	6	20	64-123	
2-Hexanone	200	197	98	3	35	42-150	
Bromobenzene	100	85.1	85	5	19	66-127	
Bromochloromethane	100	85.8	86	5	15	73-120	
4-Chlorotoluene	100	84.9	85	6	20	63-126	
4-Isopropyltoluene	100	86.0	86	5	24	59-120	
Acetone	200	171	85	9	35	10-168	
Benzene	100	94.4	92	4	22	71-122	
Bromoform	100	79.7	80	9	28	44-129	
Bromomethane	100	89.2	89	8	35	19-187	
Carbon disulfide	100	75.0	75	1	33	43-144	
Carbon tetrachloride	100	93.2	93	3	30	41-143	
Chlorobenzene	100	230	68	4	23	70-123	F1
Chloroethane	100	86.9	87	5	35	11-189	
Chloroform	100	93.1	93	4	23	68-130	
Chloromethane	100	87.5	88	5	35	31-154	
cis-1,2-Dichloroethene	100	91.8	92	4	21	64-130	
cis-1,3-Dichloropropene	100	79.5	80	6	30	48-127	
Hexachlorobutadiene	100	76.5	77	6	35	32-128	
Dibromomethane	100	94.1	94	2	16	71-120	
Bromodichloromethane	100	81.8	82	6	27	64-125	
Dichlorodifluoromethane	100	106	106	7	35	28-136	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low Lab File ID: UX975347.D

Lab ID: 240-104369-2 MSD Client ID: MRC-MW-134A-111318 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Ethylbenzene	100	85.4	85	8	24	66-120	
1,2-Dibromoethane	100	96.1	96	6	27	71-123	
Naphthalene	100	90.1	90	7	35	31-142	
m-Xylene & p-Xylene	100	86.3	86	6	25	63-121	
n-Butylbenzene	100	83.7	84	8	27	51-120	
Isopropylbenzene	100	91.4	91	7	31	59-120	
N-Propylbenzene	100	84.4	84	6	20	61-123	
2-Butanone (MEK)	200	202	101	0	35	37-156	
4-Methyl-2-pentanone (MIBK)	200	189	94	5	35	44-143	
sec-Butylbenzene	100	84.2	84	4	24	60-120	
Methyl tert-butyl ether	100	90.4	90	6	29	41-136	
Methylene Chloride	100	81.5	81	1	29	61-130	
o-Xylene	100	91.7	92	4	25	69-120	
Styrene	100	92.4	92	7	26	68-120	
tert-Butylbenzene	100	80.1	80	6	20	61-120	
Tetrachloroethene	100	86.9	87	8	23	51-136	
Toluene	100	90.8	91	7	23	62-132	
trans-1,2-Dichloroethene	100	88.8	89	5	24	68-133	
trans-1,3-Dichloropropene	100	77.2	77	5	27	40-125	
Trichloroethene	100	87.5	88	5	23	55-131	
Trichlorofluoromethane	100	89.4	89	7	35	37-174	
Vinyl acetate	100	89.4	89	5	18	37-148	
Vinyl chloride	100	93.5	93	4	29	43-154	
tert-Butyl alcohol	1000	1020	102	4	35	70-130	
Xylenes, Total	200	178	89	5	25	67-120	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low Lab File ID: U1904098.d

Lab ID: 240-104634-A-2 MSD Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,1,1-Trichloroethane	250	207	83	4	27	51-138	
1,1-Dichloroethane	250	234	91	1	23	63-136	
1,1-Dichloroethene	250	231	91	1	35	53-140	
Acetone	500	590	118	6	35	10-168	
Chloroform	250	230	92	2	23	68-130	
cis-1,2-Dichloroethene	250	242	91	2	21	64-130	
Naphthalene	250	248	99	4	35	31-142	
2-Butanone (MEK)	500	525	105	0	35	37-156	
trans-1,2-Dichloroethene	250	229	88	2	24	68-133	
Trichloroethene	250	523	83	1	23	55-131	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab File ID: UX975338.D Lab Sample ID: MB 240-356655/10

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: A3UX9 Date Analyzed: 11/21/2018 20:58

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 240-356655/5	UX975333.D	11/21/2018 18:59
	LCS 240-356655/6	UX975334.D	11/21/2018 19:23
	LCSD 240-356655/7	UX975335.D	11/21/2018 19:47
MRC-MW-134A-111318	240-104369-2	UX975340.D	11/21/2018 21:46
TB-111318	240-104369-1	UX975341.D	11/21/2018 22:11
MRC-MW-134B-111318	240-104369-3	UX975342.D	11/21/2018 22:35
MRC-MW-134A-111318 MS	240-104369-2 MS	UX975346.D	11/22/2018 00:12
MRC-MW-134A-111318 MSD	240-104369-2 MSD	UX975347.D	11/22/2018 00:36

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-356655/10

Matrix: Water | Lab File ID: UX975338.D

Analysis Method: 8260C | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 11/21/2018 20:58

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.: 356655 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	0.14	U	1.0	0.14
71-55-6	1,1,1-Trichloroethane	0.24	U	1.0	0.24
79-34-5	1,1,2,2-Tetrachloroethane	0.13	U	1.0	0.13
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19
563-58-6	1,1-Dichloropropene	0.14	U	1.0	0.14
87-61-6	1,2,3-Trichlorobenzene	0.54	U	1.0	0.54
96-18-4	1,2,3-Trichloropropane	0.24	U	1.0	0.24
526-73-8	1,2,3-Trimethylbenzene	0.14	U	5.0	0.14
120-82-1	1,2,4-Trichlorobenzene	0.26	U	1.0	0.26
95-63-6	1,2,4-Trimethylbenzene	0.070	U	1.0	0.070
96-12-8	1,2-Dibromo-3-Chloropropane	0.91	U	2.0	0.91
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
107-06-2	1,2-Dichloroethane	0.21	U	1.0	0.21
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.15	U	1.0	0.15
142-28-9	1,3-Dichloropropane	0.21	U	1.0	0.21
106-46-7	1,4-Dichlorobenzene	0.16	U	1.0	0.16
594-20-7	2,2-Dichloropropane	0.31	U	1.0	0.31
110-75-8	2-Chloroethyl vinyl ether	0.26	U	10	0.26
95-49-8	2-Chlorotoluene	0.15	U	1.0	0.15
591-78-6	2-Hexanone	0.54	U	10	0.54
108-86-1	Bromobenzene	0.12	U	1.0	0.12
74-97-5	Bromochloromethane	0.14	U	1.0	0.14
106-43-4	4-Chlorotoluene	0.090	U	1.0	0.090
99-87-6	4-Isopropyltoluene	0.13	U	1.0	0.13
67-64-1	Acetone	5.4	U	10	5.4
71-43-2	Benzene	0.13	U	1.0	0.13
75-25-2	Bromoform	0.76	U	1.0	0.76
74-83-9	Bromomethane	0.42	U	1.0	0.42
75-15-0	Carbon disulfide	0.28	U	1.0	0.28
56-23-5	Carbon tetrachloride	0.26	U	1.0	0.26
108-90-7	Chlorobenzene	0.14	U	1.0	0.14
75-00-3	Chloroethane	0.83	U	1.0	0.83
67-66-3	Chloroform	0.13	U	1.0	0.13

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-356655/10

Matrix: Water | Lab File ID: UX975338.D

Analysis Method: 8260C | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 11/21/2018 20:58

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.: 356655 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	0.20	U	1.0	0.20
156-59-2	cis-1,2-Dichloroethene	0.16	U	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	0.61	U	1.0	0.61
87-68-3	Hexachlorobutadiene	0.83	U	1.0	0.83
74-95-3	Dibromomethane	0.090	U	1.0	0.090
75-27-4	Bromodichloromethane	0.17	U	1.0	0.17
75-71-8	Dichlorodifluoromethane	0.35	U	1.0	0.35
100-41-4	Ethylbenzene	0.11	U	1.0	0.11
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12
108-20-3	Diisopropyl ether	0.17	U	10	0.17
91-20-3	Naphthalene	0.32	U	1.0	0.32
104-51-8	n-Butylbenzene	0.14	U	1.0	0.14
98-82-8	Isopropylbenzene	0.090	U	1.0	0.090
103-65-1	N-Propylbenzene	0.15	U	1.0	0.15
78-93-3	2-Butanone (MEK)	1.2	U	10	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	0.42	U	10	0.42
135-98-8	sec-Butylbenzene	0.13	U	1.0	0.13
1634-04-4	Methyl tert-butyl ether	0.070	U	1.0	0.070
994-05-8	Tert-amyl methyl ether	0.11	U	5.0	0.11
75-09-2	Methylene Chloride	2.6	U	5.0	2.6
100-42-5	Styrene	0.10	U	1.0	0.10
637-92-3	Ethyl tert-butyl ether	0.15	U	5.0	0.15
98-06-6	tert-Butylbenzene	0.14	U	1.0	0.14
127-18-4	Tetrachloroethene	0.15	U	1.0	0.15
108-88-3	Toluene	0.14	U	1.0	0.14
156-60-5	trans-1,2-Dichloroethene	0.19	U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	0.67	U	1.0	0.67
79-01-6	Trichloroethene	0.10	U	1.0	0.10
75-69-4	Trichlorofluoromethane	0.45	U	1.0	0.45
108-05-4	Vinyl acetate	0.19	U	2.0	0.19
75-01-4	Vinyl chloride	0.20	U	1.0	0.20
75-65-0	tert-Butyl alcohol	1.7	U	50	1.7
1330-20-7	Xylenes, Total	0.15	U	2.0	0.15
124-48-1	Chlorodibromomethane	0.39	U	1.0	0.39

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 240-356655/10

Matrix: Water Lab File ID: UX975338.D

Analysis Method: 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 11/21/2018 20:58

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.: 356655 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	96		70-121
460-00-4	4-Bromofluorobenzene (Surr)	100		59-120
2037-26-5	Toluene-d8 (Surr)	99		70-123
1868-53-7	Dibromofluoromethane (Surr)	88		75-128

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab File ID: U1904079.d Lab Sample ID: MB 240-356782/7

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: A3UX19 Date Analyzed: 11/23/2018 14:57

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 240-356782/33	U1904077.d	11/23/2018 14:12
MRC-MW-135B-111318	240-104369-4	U1904080.d	11/23/2018 15:19
MRC-MW-136B-111318	240-104369-5	U1904081.d	11/23/2018 15:41
MRC-MW-DUP-111318	240-104369-6	U1904082.d	11/23/2018 16:04
	240-104634-A-2 MS	U1904097.d	11/23/2018 21:39
	240-104634-A-2 MSD	U1904098.d	11/23/2018 22:01

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-356782/7

Matrix: Water | Lab File ID: U1904079.d

Analysis Method: 8260C | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 11/23/2018 14:57

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.: 356782 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	0.14	U	1.0	0.14
71-55-6	1,1,1-Trichloroethane	0.24	U	1.0	0.24
79-34-5	1,1,2,2-Tetrachloroethane	0.13	U	1.0	0.13
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19
563-58-6	1,1-Dichloropropene	0.14	U	1.0	0.14
87-61-6	1,2,3-Trichlorobenzene	0.54	U	1.0	0.54
96-18-4	1,2,3-Trichloropropane	0.24	U	1.0	0.24
526-73-8	1,2,3-Trimethylbenzene	0.14	U	5.0	0.14
120-82-1	1,2,4-Trichlorobenzene	0.26	U	1.0	0.26
95-63-6	1,2,4-Trimethylbenzene	0.070	U	1.0	0.070
96-12-8	1,2-Dibromo-3-Chloropropane	0.91	U	2.0	0.91
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
107-06-2	1,2-Dichloroethane	0.21	U	1.0	0.21
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.15	U	1.0	0.15
142-28-9	1,3-Dichloropropane	0.21	U	1.0	0.21
106-46-7	1,4-Dichlorobenzene	0.16	U	1.0	0.16
594-20-7	2,2-Dichloropropane	0.31	U	1.0	0.31
110-75-8	2-Chloroethyl vinyl ether	0.26	U	10	0.26
95-49-8	2-Chlorotoluene	0.15	U	1.0	0.15
591-78-6	2-Hexanone	0.54	U	10	0.54
108-86-1	Bromobenzene	0.12	U	1.0	0.12
74-97-5	Bromochloromethane	0.14	U	1.0	0.14
106-43-4	4-Chlorotoluene	0.090	U	1.0	0.090
99-87-6	4-Isopropyltoluene	0.13	U	1.0	0.13
67-64-1	Acetone	5.4	U	10	5.4
71-43-2	Benzene	0.13	U	1.0	0.13
75-25-2	Bromoform	0.76	U	1.0	0.76
74-83-9	Bromomethane	0.42	U	1.0	0.42
75-15-0	Carbon disulfide	0.28	U	1.0	0.28
56-23-5	Carbon tetrachloride	0.26	U	1.0	0.26
108-90-7	Chlorobenzene	0.14	U	1.0	0.14
75-00-3	Chloroethane	0.83	U	1.0	0.83
67-66-3	Chloroform	0.13	U	1.0	0.13

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-356782/7

Matrix: Water | Lab File ID: U1904079.d

Analysis Method: 8260C | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 11/23/2018 14:57

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.: 356782 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-87-3	Chloromethane	0.20	U	1.0	0.20
156-59-2	cis-1,2-Dichloroethene	0.16	U	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	0.61	U	1.0	0.61
87-68-3	Hexachlorobutadiene	0.83	U	1.0	0.83
74-95-3	Dibromomethane	0.090	U	1.0	0.090
75-27-4	Bromodichloromethane	0.17	U	1.0	0.17
75-71-8	Dichlorodifluoromethane	0.35	U	1.0	0.35
100-41-4	Ethylbenzene	0.11	U	1.0	0.11
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12
108-20-3	Diisopropyl ether	0.17	U	10	0.17
91-20-3	Naphthalene	0.32	U	1.0	0.32
104-51-8	n-Butylbenzene	0.14	U	1.0	0.14
98-82-8	Isopropylbenzene	0.090	U	1.0	0.090
103-65-1	N-Propylbenzene	0.15	U	1.0	0.15
78-93-3	2-Butanone (MEK)	1.2	U	10	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	0.42	U	10	0.42
135-98-8	sec-Butylbenzene	0.13	U	1.0	0.13
1634-04-4	Methyl tert-butyl ether	0.070	U	1.0	0.070
994-05-8	Tert-amyl methyl ether	0.11	U	5.0	0.11
75-09-2	Methylene Chloride	2.6	U	5.0	2.6
100-42-5	Styrene	0.10	U	1.0	0.10
637-92-3	Ethyl tert-butyl ether	0.15	U	5.0	0.15
98-06-6	tert-Butylbenzene	0.14	U	1.0	0.14
127-18-4	Tetrachloroethene	0.15	U	1.0	0.15
108-88-3	Toluene	0.14	U	1.0	0.14
156-60-5	trans-1,2-Dichloroethene	0.19	U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	0.67	U	1.0	0.67
79-01-6	Trichloroethene	0.10	U	1.0	0.10
75-69-4	Trichlorofluoromethane	0.45	U	1.0	0.45
108-05-4	Vinyl acetate	0.19	U	2.0	0.19
75-01-4	Vinyl chloride	0.20	U	1.0	0.20
75-65-0	tert-Butyl alcohol	1.7	U	50	1.7
1330-20-7	Xylenes, Total	0.15	U	2.0	0.15
124-48-1	Chlorodibromomethane	0.39	U	1.0	0.39

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 240-356782/7

Matrix: Water Lab File ID: U1904079.d

Analysis Method: 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 11/23/2018 14:57

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.: 356782 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		70-121
460-00-4	4-Bromofluorobenzene (Surr)	90		59-120
2037-26-5	Toluene-d8 (Surr)	94		70-123
1868-53-7	Dibromofluoromethane (Surr)	96		75-128

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab File ID: bfb037.d BFB Injection Date: 07/25/2018

Instrument ID: A3UX19 BFB Injection Time: 11:28

Analysis Batch No.: 337917

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	21.4	
75	30.0 - 60.0 % of mass 95	52.5	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.8	
173	Less than 2.0 % of mass 174	1.1	(1.3) 1
174	50.0 - 120.00 % of mass 95	82.7	
175	5.0 - 9.0 % of mass 174	6.4	(7.8) 1
176	95.0 - 101.0 % of mass 174	80.3	(97.1) 1
177	5.0 - 9.0 % of mass 176	5.2	(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
	STDA9 240-337917/8	U1900802.d	07/25/2018	13:24
	STDA9 240-337917/9	U1900803.d	07/25/2018	13:46
	STDA9 240-337917/10	U1900804.d	07/25/2018	14:08
	STDA9 240-337917/11	U1900805.d	07/25/2018	14:30
	STDA9 240-337917/12	U1900806.d	07/25/2018	14:52
	STDA9 240-337917/13	U1900807.d	07/25/2018	15:15

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 337917

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/25/2018 13:24 Calibration End Date: 07/25/2018 15:15 Calibration ID: 46243

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDA9 240-337917/13	U1900807.d
Level 2	STDA9 240-337917/12	U1900806.d
Level 3	STDA9 240-337917/11	U1900805.d
Level 4	STDA9 240-337917/10	U1900804.d
Level 5	STDA9 240-337917/9	U1900803.d
Level 6	STDA9 240-337917/8	U1900802.d

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								
Acetonitrile	0.0267 0.0420	0.0243	0.0339	0.0383	0.0393	Lin1	-0.123	0.0406				15.8			0.9970		0.9900
Diisopropyl ether	0.2480 0.2295	0.2266	0.2186	0.2314	0.2335	Ave		0.2313				4.2		20.0			
2-Chloro-1,3-butadiene	0.4103 0.4183	0.3468	0.3861	0.4073	0.4185	Ave		0.3979				7.0		20.0			
Ethyl tert-butyl ether	0.6986 0.7570	0.7116	0.6979	0.7473	0.7423	Ave		0.7258				3.6		20.0			
Ethyl acetate	0.3112 0.3333	0.2920	0.2787	0.2931	0.2963	Ave		0.3007				6.3		20.0			
Propionitrile	0.0310 0.0489	0.0345	0.0381	0.0469	0.0451	Ave		0.0408				17.8		20.0			
Methacrylonitrile	0.1725 0.1953	0.1825	0.1747	0.1831	0.1889	Ave		0.1828				4.7		20.0			
Tert-amyl methyl ether	0.7358 0.8075	0.7777	0.7365	0.7842	0.7786	Ave		0.7700				3.7		20.0			
n-Butanol	0.0093 0.0103	0.0088	0.0085	0.0096	0.0096	Ave		0.0094				7.2		20.0			
Ethyl acrylate	0.3503 0.4100	0.3368	0.3674	0.3811	0.3761	Ave		0.3703				6.9		20.0			
Methyl methacrylate	0.2597 0.2591	0.2305	0.2383	0.2454	0.2423	Ave		0.2459				4.7		20.0			
2-Nitropropane	0.0701 0.0817	0.0670	0.0681	0.0750	0.0735	Ave		0.0726				7.5		20.0			
n-Butyl acetate	0.5119 0.5820	0.5042	0.5279	0.5447	0.5478	Ave		0.5364				5.3		20.0			
1-Chlorohexane	0.5172 0.4745	0.4432	0.4302	0.4451	0.4558	Ave		0.4610				6.8		20.0			
Cyclohexanone	0.0133 0.0157	0.0130	0.0126	0.0136	0.0138	Ave		0.0137				7.9		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.: 240-104369-1 Analy Batch No.: 337917

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/25/2018 13:24 Calibration End Date: 07/25/2018 15:15 Calibration ID: 46243

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	0.3347 0.3690	0.3068	0.3632	0.3574	0.3461	Ave		0.3462				6.6		20.0			
1,2,3-Trimethylbenzene	2.1501 2.3751	2.2616	2.2092	2.3745	2.2840	Ave		2.2757				3.9		20.0			
Benzyl chloride	1.0405 1.5547	1.1450	1.1839	1.3693	1.4244	Ave		1.2863				15.1		20.0			
1,3,5-Trichlorobenzene	1.0658 1.0430	1.1076	0.9448	1.0009	0.9668	Ave		1.0215				6.1		20.0			
2-Methylnaphthalene	1.2994 1.8015	1.3689	1.2543	1.3185	1.5534	Ave		1.4327				14.6		20.0			
1-Chloro-1-fluoroethane TIC	0.2622 0.2664	0.2640	0.2502	0.2645	0.2646	Ave		0.2620				2.3		20.0			

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

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 337917

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/25/2018 13:24 Calibration End Date: 07/25/2018 15:15 Calibration ID: 46243

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDA9 240-337917/13	U1900807.d
Level 2	STDA9 240-337917/12	U1900806.d
Level 3	STDA9 240-337917/11	U1900805.d
Level 4	STDA9 240-337917/10	U1900804.d
Level 5	STDA9 240-337917/9	U1900803.d
Level 6	STDA9 240-337917/8	U1900802.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Acetonitrile	FB	Lin1	6053 1541995	10939	154933	344974	710013	5.00 800	10.0	100	200	400
Diisopropyl ether	FB	Ave	5629 842560	10198	100050	208654	422081	0.500 80.0	1.00	10.0	20.0	40.0
2-Chloro-1,3-butadiene	FB	Ave	9314 1535298	15609	176705	367286	756317	0.500 80.0	1.00	10.0	20.0	40.0
Ethyl tert-butyl ether	FB	Ave	15860 2778668	32026	319412	673922	1341567	0.500 80.0	1.00	10.0	20.0	40.0
Ethyl acetate	FB	Ave	14128 2446844	26280	255115	528543	1070993	1.00 160	2.00	20.0	40.0	80.0
Propionitrile	FB	Ave	7042 1793207	15532	174314	423266	816037	5.00 800	10.0	100	200	400
Methacrylonitrile	FB	Ave	39164 7168171	82133	799457	1651014	3414371	5.00 800	10.0	100	200	400
Tert-amyl methyl ether	FB	Ave	16704 2963984	35001	337094	707156	1407333	0.500 80.0	1.00	10.0	20.0	40.0
n-Butanol	FB	Ave	5296 949589	9875	96861	216043	435974	12.5 2000	25.0	250	500	1000
Ethyl acrylate	FB	Ave	7952 1504928	15158	168159	343646	679802	0.500 80.0	1.00	10.0	20.0	40.0
Methyl methacrylate	FB	Ave	11793 1902368	20747	218113	442524	875995	1.00 160	2.00	20.0	40.0	80.0
2-Nitropropane	FB	Ave	3185 599949	6028	62364	135288	265523	1.00 160	2.00	20.0	40.0	80.0
n-Butyl acetate	CBNZ d5	Ave	9641 1740666	17906	199107	397090	794623	0.500 80.0	1.00	10.0	20.0	40.0
1-Chlorohexane	CBNZ d5	Ave	9741 1419019	15739	162266	324476	661168	0.500 80.0	1.00	10.0	20.0	40.0
Cyclohexanone	CBNZ d5	Ave	2498 468992	4617	47625	99504	200187	5.00 800	10.0	100	200	400
Pentachloroethane	DCBd 4	Ave	7164 1229564	12769	154980	304359	585743	1.00 160	2.00	20.0	40.0	80.0

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 337917

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/25/2018 13:24 Calibration End Date: 07/25/2018 15:15 Calibration ID: 46243

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
1,2,3-Trimethylbenzene	DCBd 4	Ave	23009 3957298	47067	471355	1010948	1932917	0.500 80.0	1.00	10.0	20.0	40.0
Benzyl chloride	DCBd 4	Ave	11135 2590360	23829	252607	582984	1205410	0.500 80.0	1.00	10.0	20.0	40.0
1,3,5-Trichlorobenzene	DCBd 4	Ave	11406 1737829	23051	201583	426143	818176	0.500 80.0	1.00	10.0	20.0	40.0
2-Methylnaphthalene	DCBd 4	Ave	27811 6003075	56979	535247	1122673	2629143	1.00 160	2.00	20.0	40.0	80.0
1-Chloro-1-fluoroethane TIC	FB	Ave	5953 977727	11883	114539	238507	478166	0.500 80.0	1.00	10.0	20.0	40.0

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 337917

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/25/2018 13:24 Calibration End Date: 07/25/2018 15:15 Calibration ID: 46243

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDA9 240-337917/13	U1900807.d
Level 2	STDA9 240-337917/12	U1900806.d
Level 3	STDA9 240-337917/11	U1900805.d
Level 4	STDA9 240-337917/10	U1900804.d
Level 5	STDA9 240-337917/9	U1900803.d
Level 6	STDA9 240-337917/8	U1900802.d

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Acetonitrile	26.1						50					

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab File ID: bfb058.d BFB Injection Date: 08/27/2018

Instrument ID: A3UX19 BFB Injection Time: 16:23

Analysis Batch No.: 342719

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	17.5	
75	30.0 - 60.0 % of mass 95	49.5	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.5	
173	Less than 2.0 % of mass 174	0.6	(0.6) 1
174	50.0 - 120.00 % of mass 95	94.9	
175	5.0 - 9.0 % of mass 174	7.3	(7.7) 1
176	95.0 - 101.0 % of mass 174	92.7	(97.7) 1
177	5.0 - 9.0 % of mass 176	5.9	(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
	STD8260 240-342719/7	U1901323.d	08/27/2018	17:09
	STD8260 240-342719/8	U1901324.d	08/27/2018	17:31
	STD8260 240-342719/9	U1901325.d	08/27/2018	17:53
	ICIS 240-342719/10	U1901326.d	08/27/2018	18:16
	STD8260 240-342719/11	U1901327.d	08/27/2018	18:38
	STD8260 240-342719/12	U1901328.d	08/27/2018	19:01
	STD8260 240-342719/13	U1901329.d	08/27/2018	19:23
	ICV 240-342719/14	U1901330.d	08/27/2018	19:45

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-342719/13	U1901329.d
Level 2	STD8260 240-342719/12	U1901328.d
Level 3	STD8260 240-342719/11	U1901327.d
Level 4	ICIS 240-342719/10	U1901326.d
Level 5	STD8260 240-342719/9	U1901325.d
Level 6	STD8260 240-342719/8	U1901324.d
Level 7	STD8260 240-342719/7	U1901323.d

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.3252 0.4073	0.3858 0.4041	0.3902	0.3772	0.4052	Ave		0.3850			0.1000	7.5		20.0			
Chloromethane	0.3476 0.2860	0.2731 0.2757	0.2817	0.2748	0.2796	Ave		0.2883			0.1000	9.2		20.0			
Butadiene	0.2863 0.2923	0.2971 0.2827	0.2967	0.2831	0.2826	Ave		0.2887				2.3		20.0			
Vinyl chloride	0.2799 0.3039	0.3000 0.2955	0.3102	0.2950	0.3013	Ave		0.2980			0.1000	3.2		20.0			
Bromomethane	0.2530 0.2308	0.2391 0.2251	0.2340	0.2259	0.2264	Ave		0.2335			0.0500	4.3		20.0			
Chloroethane	0.2052 0.1842	0.1766 0.1812	0.1882	0.1779	0.1807	Ave		0.1848			0.0500	5.3		20.0			
Dichlorofluoromethane	0.4944 0.4514	0.4567 0.4411	0.4677	0.4468	0.4490	Ave		0.4581				3.9		20.0			
Trichlorofluoromethane	0.4941 0.5030	0.4893 0.4931	0.5122	0.4967	0.5003	Ave		0.4984			0.1000	1.5		20.0			
Ethyl ether	0.1731 0.1798	0.1898 0.1760	0.1849	0.1771	0.1791	Ave		0.1800				3.1		20.0			
Acrolein	0.0495 0.0430	0.0446 0.0441	0.0420	0.0454	0.0427	Ave		0.0445				5.6		20.0			
1,1-Dichloroethene	0.3476 0.3661	0.3473 0.3597	0.3727	0.3582	0.3610	Ave		0.3589			0.1000	2.6		20.0			
1,1,2-Trichlorotrifluoroethane	0.2493 0.2658	0.2366 0.2616	0.2651	0.2563	0.2622	Ave		0.2567			0.0500	4.1		20.0			
Acetone	+++++ 0.0747	0.0941 0.0735	0.0766	0.0752	0.0764	Ave		0.0784			0.0100	9.9		20.0			
Iodomethane	0.4872 0.4597	0.4730 0.4538	0.4730	0.4575	0.4539	Ave		0.4655				2.7		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.: 240-104369-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon disulfide	0.8746 0.7168	0.8257 0.7023	0.7362	0.7031	0.7015	Ave		0.7515			0.1000	9.3		20.0			
3-Chloro-1-propene	0.3735 0.3489	0.3837 0.3396	0.3586	0.3361	0.3385	Ave		0.3541				5.3		20.0			
Methyl acetate	0.2638 0.2201	0.2366 0.2157	0.2398	0.2267	0.2267	Ave		0.2328			0.1000	6.9		20.0			
Methylene Chloride	+++++ 0.2751	0.3184 0.2694	0.2925	0.2792	0.2733	Ave		0.2846			0.1000	6.5		20.0			
tert-Butyl alcohol	0.0302 0.0245	0.0277 0.0251	0.0284	0.0260	0.0277	Ave		0.0271				7.4		20.0			
Acrylonitrile	0.1006 0.0983	0.1046 0.0951	0.1079	0.0977	0.0997	Ave		0.1006				4.3		20.0			
trans-1,2-Dichloroethene	0.3568 0.3338	0.3540 0.3216	0.3508	0.3269	0.3267	Ave		0.3387			0.1000	4.4		20.0			
Methyl tert-butyl ether	0.6459 0.7174	0.6970 0.7172	0.7178	0.6715	0.6899	Ave		0.6938			0.1000	3.9		20.0			
Hexane	0.3287 0.3643	0.3216 0.3693	0.3652	0.3577	0.3600	Ave		0.3524				5.4		20.0			
1,1-Dichloroethane	0.3877 0.4112	0.4141 0.3990	0.4182	0.3989	0.4043	Ave		0.4048			0.2000	2.6		20.0			
Vinyl acetate	0.4652 0.4557	0.4582 0.4625	0.4853	0.4584	0.4619	Ave		0.4639				2.1		20.0			
cis-1,2-Dichloroethene	0.3057 0.2869	0.2992 0.2782	0.2948	0.2801	0.2786	Ave		0.2891			0.1000	3.8		20.0			
2,2-Dichloropropane	0.2469 0.2502	0.2497 0.2458	0.2443	0.2181	0.2515	Ave		0.2438				4.8		20.0			
2-Butanone (MEK)	0.0487 0.0444	0.0481 0.0466	0.0506	0.0457	0.0465	Ave		0.0472			0.0100	4.3		20.0			
Bromochloromethane	0.2347 0.1831	0.2161 0.1713	0.1973	0.1804	0.1790	Ave		0.1945				11.9		20.0			
Tetrahydrofuran	+++++ 0.0978	0.2111 0.0981	0.1202	0.1027	0.1037	Lin1	0.2460	0.0976				7.4			0.9990		0.9900
Chloroform	0.4336 0.4423	0.4430 0.4326	0.4702	0.4398	0.4415	Ave		0.4433			0.2000	2.8		20.0			
1,1,1-Trichloroethane	0.3739 0.4296	0.4106 0.4262	0.4442	0.4096	0.4275	Ave		0.4174			0.1000	5.4		20.0			
Cyclohexane	0.3499 0.3999	0.3515 0.3986	0.3944	0.3825	0.3967	Ave		0.3819			0.1000	5.8		20.0			
1,1-Dichloropropene	0.3411 0.3565	0.3509 0.3499	0.3664	0.3469	0.3516	Ave		0.3519				2.3		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.: 240-104369-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon tetrachloride	0.3818 0.4136	0.3781 0.4121	0.4219	0.3956	0.4130	Ave		0.4023			0.1000	4.3		20.0			
Isobutyl alcohol	0.0122 0.0101	0.0118 0.0103	0.0107	0.0108	0.0111	Ave		0.0110				7.0		20.0			
Benzene	0.9270 0.9480	0.9546 0.9366	1.0106	0.9431	0.9423	Ave		0.9518			0.5000	2.9		20.0			
1,2-Dichloroethane	0.3794 0.3459	0.3845 0.3369	0.3743	0.3513	0.3479	Ave		0.3600			0.1000	5.2		20.0			
n-Heptane	+++++ 0.1978	0.8214 0.1912	0.2589	0.2169	0.2053	Lin1	0.6437	0.1861				3.4			1.0000		0.9900
Trichloroethene	0.3334 0.3137	0.3081 0.3106	0.3277	0.3076	0.3109	Ave		0.3160			0.1500	3.3		20.0			
Methylcyclohexane	0.4282 0.4825	0.4267 0.4698	0.4724	0.4580	0.4751	Ave		0.4590			0.1000	5.0		20.0			
1,2-Dichloropropane	0.2171 0.2187	0.2141 0.2164	0.2362	0.2209	0.2218	Ave		0.2208			0.1000	3.3		20.0			
Dibromomethane	0.2410 0.2204	0.2408 0.2155	0.2336	0.2191	0.2191	Ave		0.2271				4.9		20.0			
1,4-Dioxane	+++++ 0.0025	0.0016 0.0027	0.0021	0.0026	0.0028	Ave		0.0024				17.9		20.0			
Bromodichloromethane	0.3399 0.3440	0.3630 0.3379	0.3620	0.3462	0.3426	Ave		0.3479			0.1500	3.0		20.0			
2-Chloroethyl vinyl ether	0.1593 0.1741	0.1654 0.1828	0.1943	0.1818	0.1815	Ave		0.1770				6.6		20.0			
cis-1,3-Dichloropropene	0.3743 0.3841	0.3867 0.3870	0.4032	0.3827	0.3872	Ave		0.3865			0.1500	2.2		20.0			
4-Methyl-2-pentanone (MIBK)	0.3150 0.3064	0.3110 0.3144	0.3487	0.3229	0.3240	Ave		0.3203			0.0500	4.4		20.0			
Toluene	1.3762 1.3312	1.3706 1.3223	1.4018	1.3282	1.3309	Ave		1.3516			0.4000	2.3		20.0			
trans-1,3-Dichloropropene	0.4999 0.4712	0.5033 0.4805	0.4835	0.4641	0.4704	Ave		0.4818			0.1000	3.1		20.0			
Ethyl methacrylate	0.3824 0.4408	0.4001 0.4600	0.4577	0.4462	0.4540	Ave		0.4344				7.1		20.0			
1,1,2-Trichloroethane	0.2808 0.2823	0.2821 0.2821	0.2973	0.2798	0.2847	Ave		0.2842			0.1000	2.1		20.0			
Tetrachloroethene	0.4234 0.4375	0.4194 0.4317	0.4508	0.4248	0.4314	Ave		0.4313			0.1500	2.4		20.0			
1,3-Dichloropropane	0.4988 0.4724	0.4733 0.4772	0.5009	0.4686	0.4705	Ave		0.4802				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.: 240-104369-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
2-Hexanone	0.2781 0.3092	0.3020 0.3219	0.3438	0.3247	0.3245	Ave		0.3149			0.0500	6.6		20.0			
Chlorodibromomethane	0.3308 0.3663	0.3497 0.3646	0.3736	0.3604	0.3630	Ave		0.3583				3.9		20.0			
1,2-Dibromoethane	0.3770 0.3214	0.3321 0.3219	0.3422	0.3286	0.3194	Ave		0.3346				6.1		20.0			
Chlorobenzene	0.9370 0.9055	0.9832 0.8914	0.9544	0.9002	0.9056	Ave		0.9253			0.3000	3.7		20.0			
1,1,1,2-Tetrachloroethane	0.3225 0.3380	0.3313 0.3315	0.3490	0.3282	0.3347	Ave		0.3336				2.5		20.0			
Ethylbenzene	0.4566 0.4899	0.4640 0.4838	0.5159	0.4863	0.4886	Ave		0.4836				4.0		20.0			
m-Xylene & p-Xylene	0.5709 0.5980	0.5535 0.5943	0.6142	0.5959	0.5965	Ave		0.5890				3.4		20.0			
o-Xylene	0.5188 0.5706	0.5578 0.5579	0.5806	0.5638	0.5683	Ave		0.5597				3.5		20.0			
Styrene	0.8915 0.9829	0.9056 0.9730	1.0088	0.9699	0.9794	Ave		0.9588			0.3000	4.5		20.0			
Bromoform	0.2892 0.2933	0.2907 0.2979	0.3020	0.2847	0.2951	Ave		0.2933			0.1000	2.0		20.0			
Isopropylbenzene	1.3694 1.5447	1.4922 1.4942	1.5808	1.5060	1.5314	Ave		1.5027			0.1000	4.4		20.0			
1,1,2,2-Tetrachloroethane	0.7123 0.7674	0.7872 0.7661	0.8261	0.7624	0.7730	Ave		0.7706			0.3000	4.4		20.0			
Bromobenzene	0.7562 0.7639	0.7920 0.7473	0.8125	0.7532	0.7575	Ave		0.7690				3.1		20.0			
1,2,3-Trichloropropane	0.2805 0.2866	0.2903 0.2882	0.3178	0.2884	0.2929	Ave		0.2921				4.1		20.0			
trans-1,4-Dichloro-2-butene	+++++ 0.2667	0.2763 0.2751	0.2902	0.2665	0.2675	Ave		0.2737				3.3		20.0			
N-Propylbenzene	0.7009 0.7973	0.7492 0.7772	0.8251	0.7710	0.7894	Ave		0.7729				5.1		20.0			
2-Chlorotoluene	0.6131 0.6732	0.6212 0.6509	0.7079	0.6539	0.6587	Ave		0.6541				4.9		20.0			
1,3,5-Trimethylbenzene	2.1099 2.2883	2.1099 2.2183	2.3988	2.1936	2.2594	Ave		2.2255				4.6		20.0			
4-Chlorotoluene	0.7307 0.7048	0.6944 0.6840	0.7470	0.7010	0.6888	Ave		0.7072				3.3		20.0			
tert-Butylbenzene	1.9093 2.2037	2.0260 2.1009	2.2785	2.0983	2.1715	Ave		2.1126				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.: 240-104369-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,2,4-Trimethylbenzene	2.0996 2.3002	2.2590 2.2368	2.3762	2.2406	2.2826	Ave		2.2564				3.7		20.0			
sec-Butylbenzene	2.5921 3.0046	2.6994 2.8685	2.9965	2.8235	2.9285	Ave		2.8447				5.4		20.0			
1,3-Dichlorobenzene	1.4791 1.3933	1.5035 1.3394	1.4385	1.3676	1.3647	Ave		1.4123			0.6000	4.4		20.0			
4-Isopropyltoluene	2.2955 2.5970	2.3910 2.5362	2.6099	2.4625	2.5496	Ave		2.4917				4.6		20.0			
1,4-Dichlorobenzene	1.6054 1.4113	1.5675 1.3669	1.4816	1.3825	1.3984	Ave		1.4591			0.5000	6.5		20.0			
n-Butylbenzene	1.8944 2.1259	2.0232 2.0712	2.1091	2.0276	2.0953	Ave		2.0495				3.8		20.0			
1,2-Dichlorobenzene	1.3437 1.2534	1.3687 1.2318	1.3105	1.2348	1.2330	Ave		1.2823			0.4000	4.5		20.0			
1,2-Dibromo-3-Chloropropane	0.2630 0.2491	0.2219 0.2547	0.2430	0.2371	0.2465	Ave		0.2450			0.0500	5.4		20.0			
1,2,4-Trichlorobenzene	0.9409 0.8412	0.9494 0.8737	0.8099	0.7792	0.7909	Ave		0.8550			0.2000	8.1		20.0			
Hexachlorobutadiene	0.4751 0.4459	0.4859 0.4196	0.4201	0.4076	0.4202	Ave		0.4392				7.0		20.0			
Naphthalene	+++++ 2.4081	2.5248 2.5673	2.2519	2.1428	2.2829	Ave		2.3630				7.0		20.0			
1,2,3-Trichlorobenzene	0.7893 0.7724	0.8277 0.8517	0.7383	0.6846	0.7103	Ave		0.7677				7.9		20.0			
Dibromofluoromethane (Surr)	0.2950 0.2630	0.2820 0.2531	0.2707	0.2587	0.2619	Ave		0.2692				5.5		20.0			
1,2-Dichloroethane-d4 (Surr)	0.3515 0.2903	0.3408 0.2779	0.3137	0.2940	0.2963	Ave		0.3092				8.9		20.0			
Toluene-d8 (Surr)	1.2799 1.1805	1.2018 1.1653	1.2236	1.1594	1.1844	Ave		1.1993				3.5		20.0			
4-Bromofluorobenzene (Surr)	0.5295 0.4325	0.4716 0.4172	0.4467	0.4309	0.4307	Ave		0.4513				8.5		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
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-342719/13	U1901329.d
Level 2	STD8260 240-342719/12	U1901328.d
Level 3	STD8260 240-342719/11	U1901327.d
Level 4	ICIS 240-342719/10	U1901326.d
Level 5	STD8260 240-342719/9	U1901325.d
Level 6	STD8260 240-342719/8	U1901324.d
Level 7	STD8260 240-342719/7	U1901323.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	7625 1180992	18328 1552738	186223	366772	792590	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Chloromethane	FB	Ave	8152 829233	12972 1059365	134420	267203	546909	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Butadiene	FB	Ave	6713 847603	14115 1086231	141609	275330	552757	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Vinyl chloride	FB	Ave	6564 881108	14250 1135494	148037	286894	589426	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Bromomethane	FB	Ave	5934 669257	11360 864872	111689	219651	442826	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Chloroethane	FB	Ave	4812 533953	8387 696179	89838	172968	353502	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Dichlorofluoromethane	FB	Ave	11593 1308784	21694 1694878	223205	434465	878380	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Trichlorofluoromethane	FB	Ave	11587 1458414	23241 1894654	244417	483006	978643	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Ethyl ether	FB	Ave	4060 521372	9015 676475	88252	172224	350377	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Acrolein	FB	Ave	5804 622965	10600 846753	100203	220720	417769	2.50 300	5.00 400	50.0	100	200
1,1-Dichloroethene	FB	Ave	8152 1061526	16498 1382045	177882	348307	706289	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,1,2-Trichlorotrifluoroethane	FB	Ave	5847 770733	11240 1005400	126531	249289	512861	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Acetone	FB	Ave	+++++ 433055	8941 564923	73077	146204	298968	+++++ 120	2.00 160	20.0	40.0	80.0
Iodomethane	FB	Ave	11424 1332936	22471 1743886	225726	444884	888035	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Carbon disulfide	FB	Ave	20511 2078244	39223 2698750	351356	683722	1372316	0.500 60.0	1.00 80.0	10.0	20.0	40.0

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
3-Chloro-1-propene	FB	Ave	8759 1011692	18227 1304832	171118	326833	662138	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Methyl acetate	FB	Ave	12374 1276471	22480 1658043	228841	440913	886871	1.00 120	2.00 160	20.0	40.0	80.0
Methylene Chloride	FB	Ave	+++++ 797526	15126 1035294	139613	271471	534613	+++++ 60.0	1.00 80.0	10.0	20.0	40.0
tert-Butyl alcohol	FB	Ave	7089 709594	13140 963916	135517	252801	542388	5.00 600	10.0 800	100	200	400
Acrylonitrile	FB	Ave	23600 2849701	49680 3654042	514757	950386	1951040	5.00 600	10.0 800	100	200	400
trans-1,2-Dichloroethene	FB	Ave	8368 967924	16818 1235776	167419	317885	639131	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Methyl tert-butyl ether	FB	Ave	15146 2079947	33109 2755910	342568	653045	1349603	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Hexane	FB	Ave	7709 1056328	15276 1419117	174299	347875	704185	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,1-Dichloroethane	FB	Ave	9092 1192355	19673 1533220	199597	387941	790957	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Vinyl acetate	FB	Ave	10910 1321142	21765 1777280	231586	445770	903595	0.500 60.0	1.00 80.0	10.0	20.0	40.0
cis-1,2-Dichloroethene	FB	Ave	7168 831715	14212 1069027	140685	272438	545012	0.500 60.0	1.00 80.0	10.0	20.0	40.0
2,2-Dichloropropane	FB	Ave	5791 725393	11860 944363	116583	212094	491954	0.500 60.0	1.00 80.0	10.0	20.0	40.0
2-Butanone (MEK)	FB	Ave	2283 257675	4567 358198	48290	88909	181887	1.00 120	2.00 160	20.0	40.0	80.0
Bromochloromethane	FB	Ave	5503 530825	10266 658069	94139	175479	350082	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Tetrahydrofuran	FB	Lin1	+++++ 566965	20056 753652	114720	199816	405539	+++++ 120	2.00 160	20.0	40.0	80.0
Chloroform	FB	Ave	10169 1282514	21044 1662428	224371	427697	863672	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,1,1-Trichloroethane	FB	Ave	8767 1245609	19503 1637723	211997	398309	836381	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Cyclohexane	FB	Ave	8206 1159393	16696 1531667	188221	372006	776128	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,1-Dichloropropene	FB	Ave	7998 1033663	16667 1344377	174842	337392	687882	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Carbon tetrachloride	FB	Ave	8954 1199313	17959 1583649	201366	384700	807965	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Isobutyl alcohol	FB	Ave	7140 731439	14010 985172	127213	263438	540692	12.5 1500	25.0 2000	250	500	1000

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Benzene	FB	Ave	21738 2748682	45349 3599104	482300	917150	1843426	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2-Dichloroethane	FB	Ave	8896 1002994	18266 1294416	178638	341638	680627	0.500 60.0	1.00 80.0	10.0	20.0	40.0
n-Heptane	FB	Lin1	+++++ 573367	39021 734621	123554	210893	401639	+++++ 60.0	1.00 80.0	10.0	20.0	40.0
Trichloroethene	FB	Ave	7819 909646	14636 1193487	156409	299123	608172	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Methylcyclohexane	FB	Ave	10042 1399000	20268 1805108	225444	445411	929492	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2-Dichloropropane	FB	Ave	5092 634222	10172 831616	112735	214790	433884	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Dibromomethane	FB	Ave	5652 638964	11437 828119	111478	213090	428543	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,4-Dioxane	FB	Ave	+++++ 147508	1560 204613	20257	50489	108387	+++++ 1200	20.0 1600	200	400	800
Bromodichloromethane	FB	Ave	7972 997303	17242 1298324	172767	336655	670319	0.500 60.0	1.00 80.0	10.0	20.0	40.0
2-Chloroethyl vinyl ether	FB	Ave	7473 1009556	15714 1404589	185460	353595	710198	1.00 120	2.00 160	20.0	40.0	80.0
cis-1,3-Dichloropropene	FB	Ave	8778 1113655	18371 1486992	192411	372198	757475	0.500 60.0	1.00 80.0	10.0	20.0	40.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	14774 1776570	29549 2416341	332777	627983	1267570	1.00 120	2.00 160	20.0	40.0	80.0
Toluene	CBNZ d5	Ave	25413 3039879	50838 4036837	544474	1040131	2085055	0.500 60.0	1.00 80.0	10.0	20.0	40.0
trans-1,3-Dichloropropene	CBNZ d5	Ave	9232 1076004	18668 1466824	187797	363416	737016	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Ethyl methacrylate	CBNZ d5	Ave	7062 1006534	14839 1404401	177753	349427	711262	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,1,2-Trichloroethane	CBNZ d5	Ave	5186 644677	10462 861140	115489	219105	445968	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Tetrachloroethene	CBNZ d5	Ave	7818 999011	15556 1317893	175104	332664	675866	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,3-Dichloropropane	CBNZ d5	Ave	9211 1078694	17554 1456758	194537	366944	737142	0.500 60.0	1.00 80.0	10.0	20.0	40.0
2-Hexanone	CBNZ d5	Ave	10272 1411899	22402 1965782	267096	508487	1016835	1.00 120	2.00 160	20.0	40.0	80.0
Chlorodibromomethane	CBNZ d5	Ave	6108 836499	12969 1113195	145120	282195	568645	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2-Dibromoethane	CBNZ d5	Ave	6962 733806	12317 982631	132926	257341	500324	0.500 60.0	1.00 80.0	10.0	20.0	40.0

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Chlorobenzene	CBNZ d5	Ave	17303 2067581	36469 2721351	370702	704913	1418747	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	5956 771705	12290 1012040	135561	257026	524311	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Ethylbenzene	CBNZ d5	Ave	8431 1118678	17209 1476959	200390	380861	765441	0.500 60.0	1.00 80.0	10.0	20.0	40.0
m-Xylene & p-Xylene	CBNZ d5	Ave	10542 1365436	20530 1814431	238543	466651	934583	0.500 60.0	1.00 80.0	10.0	20.0	40.0
o-Xylene	CBNZ d5	Ave	9580 1302937	20689 1703380	225509	441487	890297	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Styrene	CBNZ d5	Ave	16463 2244503	33591 2970527	391834	759556	1534422	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Bromoform	CBNZ d5	Ave	5340 669771	10783 909465	117306	222929	462320	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Isopropylbenzene	CBNZ d5	Ave	25288 3527221	55346 4561888	613985	1179370	2399226	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	7218 951258	16261 1271933	172140	328526	660294	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Bromobenzene	DCBd 4	Ave	7663 946835	16361 1240722	169316	324573	647055	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2,3-Trichloropropane	DCBd 4	Ave	2842 355186	5997 478494	66218	124262	250203	0.500 60.0	1.00 80.0	10.0	20.0	40.0
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	+++++ 330637	5707 456736	60466	114842	228469	+++++ 60.0	1.00 80.0	10.0	20.0	40.0
N-Propylbenzene	DCBd 4	Ave	7103 988262	15476 1290307	171938	332244	674293	0.500 60.0	1.00 80.0	10.0	20.0	40.0
2-Chlorotoluene	DCBd 4	Ave	6213 834423	12831 1080636	147510	281753	562614	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	21381 2836427	43584 3682951	499875	945225	1929863	0.500 60.0	1.00 80.0	10.0	20.0	40.0
4-Chlorotoluene	DCBd 4	Ave	7405 873575	14345 1135643	155656	302046	588358	0.500 60.0	1.00 80.0	10.0	20.0	40.0
tert-Butylbenzene	DCBd 4	Ave	19348 2731529	41850 3487952	474813	904165	1854784	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	21277 2851175	46663 3713592	495166	965487	1949684	0.500 60.0	1.00 80.0	10.0	20.0	40.0
sec-Butylbenzene	DCBd 4	Ave	26267 3724288	55760 4762339	624437	1216655	2501406	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,3-Dichlorobenzene	DCBd 4	Ave	14989 1726981	31057 2223773	299776	589299	1165661	0.500 60.0	1.00 80.0	10.0	20.0	40.0
4-Isopropyltoluene	DCBd 4	Ave	23262 3219084	49391 4210777	543873	1061108	2177763	0.500 60.0	1.00 80.0	10.0	20.0	40.0

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,4-Dichlorobenzene	DCBd 4	Ave	16269 1749380	32379 2269476	308743	595729	1194426	0.500 60.0	1.00 80.0	10.0	20.0	40.0
n-Butylbenzene	DCBd 4	Ave	19197 2635155	41792 3438646	439518	873706	1789693	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2-Dichlorobenzene	DCBd 4	Ave	13617 1553579	28272 2045057	273092	532075	1053180	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	2665 308798	4583 422865	50642	102189	210526	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	9535 1042664	19612 1450610	168774	335760	675526	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Hexachlorobutadiene	DCBd 4	Ave	4814 552719	10037 696652	87534	175651	358938	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Naphthalene	DCBd 4	Ave	+++++ 2984863	52154 4262332	469280	923339	1949946	+++++ 60.0	1.00 80.0	10.0	20.0	40.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	7998 957428	17097 1414051	153843	295011	606712	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Dibromofluoromethane (Surr)	FB	Ave	6919 762443	13395 972724	129168	251584	512374	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	8242 841615	16187 1067780	149716	285917	579615	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Toluene-d8 (Surr)	CBNZ d5	Ave	23636 2695636	44577 3557725	475254	907923	1855495	0.500 60.0	1.00 80.0	10.0	20.0	40.0
4-Bromofluorobenzene (Surr)	CBNZ d5	Ave	9778 987516	17494 1273707	173480	337411	674745	0.500 60.0	1.00 80.0	10.0	20.0	40.0

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-342719/13	U1901329.d
Level 2	STD8260 240-342719/12	U1901328.d
Level 3	STD8260 240-342719/11	U1901327.d
Level 4	ICIS 240-342719/10	U1901326.d
Level 5	STD8260 240-342719/9	U1901325.d
Level 6	STD8260 240-342719/8	U1901324.d
Level 7	STD8260 240-342719/7	U1901323.d

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Tetrahydrofuran	+++++	-9.7						50				
n-Heptane	+++++	-4.5						50				

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: ICV 240-342719/14 Calibration Date: 08/27/2018 19:45

Instrument ID: A3UX19 Calib Start Date: 08/27/2018 17:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 19:23

Lab File ID: U1901330.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	0.3850	0.2913	0.1000	0.0151	0.0200	-24.3	30.0
Chloromethane	Ave	0.2883	0.2492	0.1000	0.0173	0.0200	-13.6	30.0
Butadiene	Ave	0.2887	0.2477		0.0172	0.0200	-14.2	30.0
Vinyl chloride	Ave	0.2980	0.2874	0.1000	0.0193	0.0200	-3.5	30.0
Bromomethane	Ave	0.2335	0.2187	0.0500	0.0187	0.0200	-6.3	30.0
Chloroethane	Ave	0.1848	0.1799	0.0500	0.0195	0.0200	-2.7	30.0
Dichlorofluoromethane	Ave	0.4581	0.4762		0.0208	0.0200	3.9	30.0
Trichlorofluoromethane	Ave	0.4984	0.5062	0.1000	0.0203	0.0200	1.6	30.0
Ethyl ether	Ave	0.1800	0.1933		0.0215	0.0200	7.4	30.0
Acrolein	Ave	0.0445	0.0361		0.0812	0.100	-18.8	50.0
1,1-Dichloroethene	Ave	0.3589	0.3889	0.1000	0.0217	0.0200	8.3	30.0
1,1,2-Trichlorotrifluoroethane	Ave	0.2567	0.2852	0.0500	0.0222	0.0200	11.1	30.0
Acetone	Ave	0.0784	0.0730	0.0100	0.0372	0.0400	-6.9	50.0
Iodomethane	Ave	0.4655	0.4827		0.0207	0.0200	3.7	30.0
Carbon disulfide	Ave	0.7515	0.7522	0.1000	0.0200	0.0200	0.0	30.0
3-Chloro-1-propene	Ave	0.3541	0.3611		0.0204	0.0200	2.0	30.0
Methyl acetate	Ave	0.2328	0.2202	0.1000	0.0378	0.0400	-5.4	30.0
Methylene Chloride	Ave	0.2846	0.2847	0.1000	0.0200	0.0200	0.0	50.0
tert-Butyl alcohol	Ave	0.0271	0.0283		0.209	0.200	4.3	50.0
Acrylonitrile	Ave	0.1006	0.1020		0.203	0.200	1.4	30.0
Methyl tert-butyl ether	Ave	0.6938	0.7063	0.1000	0.0204	0.0200	1.8	30.0
trans-1,2-Dichloroethene	Ave	0.3387	0.3554	0.1000	0.0210	0.0200	4.9	30.0
Hexane	Ave	0.3524	0.3872		0.0220	0.0200	9.9	30.0
1,1-Dichloroethane	Ave	0.4048	0.4171	0.2000	0.0206	0.0200	3.0	30.0
Vinyl acetate	Ave	0.4639	0.5080		0.0219	0.0200	9.5	50.0
2,2-Dichloropropane	Ave	0.2438	0.2691		0.0221	0.0200	10.4	30.0
2-Butanone (MEK)	Ave	0.0472	0.0464	0.0100	0.0393	0.0400	-1.8	30.0
cis-1,2-Dichloroethene	Ave	0.2891	0.2867	0.1000	0.0198	0.0200	-0.8	30.0
Bromochloromethane	Ave	0.1945	0.1891		0.0194	0.0200	-2.8	30.0
Tetrahydrofuran	Lin1		0.1082		0.0418	0.0400	4.6	30.0
Chloroform	Ave	0.4433	0.4563	0.2000	0.0206	0.0200	2.9	30.0
1,1,1-Trichloroethane	Ave	0.4174	0.4498	0.1000	0.0216	0.0200	7.8	30.0
Cyclohexane	Ave	0.3819	0.4119	0.1000	0.0216	0.0200	7.8	30.0
1,1-Dichloropropene	Ave	0.3519	0.3667		0.0208	0.0200	4.2	30.0
Carbon tetrachloride	Ave	0.4023	0.4240	0.1000	0.0211	0.0200	5.4	30.0
Isobutyl alcohol	Ave	0.0110	0.0112		0.508	0.500	1.6	30.0
1,2-Dichloroethane	Ave	0.3600	0.3604	0.1000	0.0200	0.0200	0.1	30.0
Benzene	Ave	0.9518	0.9713	0.5000	0.0204	0.0200	2.1	30.0
n-Heptane	Lin1		0.2300		0.0213	0.0200	6.3	30.0
Trichloroethene	Ave	0.3160	0.3196	0.1500	0.0202	0.0200	1.1	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: ICV 240-342719/14 Calibration Date: 08/27/2018 19:45

Instrument ID: A3UX19 Calib Start Date: 08/27/2018 17:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 19:23

Lab File ID: U1901330.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	0.4590	0.4761	0.1000	0.0207	0.0200	3.7	30.0
1,2-Dichloropropane	Ave	0.2208	0.2306	0.1000	0.0209	0.0200	4.5	30.0
Dibromomethane	Ave	0.2271	0.2193		0.0193	0.0200	-3.4	30.0
1,4-Dioxane	Ave	0.0024	0.0028		0.474	0.400	18.4	50.0
Bromodichloromethane	Ave	0.3479	0.3495	0.1500	0.0201	0.0200	0.4	30.0
2-Chloroethyl vinyl ether	Ave	0.1770	0.1822		0.0206	0.0200	2.9	30.0
cis-1,3-Dichloropropene	Ave	0.3865	0.4060	0.1500	0.0210	0.0200	5.1	30.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3203	0.3230	0.0500	0.0403	0.0400	0.8	30.0
Toluene	Ave	1.352	1.362	0.4000	0.0201	0.0200	0.7	30.0
trans-1,3-Dichloropropene	Ave	0.4818	0.4613	0.1000	0.0191	0.0200	-4.3	30.0
Ethyl methacrylate	Ave	0.4344	0.4432		0.0204	0.0200	2.0	30.0
1,1,2-Trichloroethane	Ave	0.2842	0.2905	0.1000	0.0204	0.0200	2.2	30.0
Tetrachloroethene	Ave	0.4313	0.4447	0.1500	0.0206	0.0200	3.1	30.0
1,3-Dichloropropane	Ave	0.4802	0.4738		0.0197	0.0200	-1.3	30.0
2-Hexanone	Ave	0.3149	0.3202	0.0500	0.0407	0.0400	1.7	30.0
Chlorodibromomethane	Ave	0.3583	0.3632		0.0203	0.0200	1.3	30.0
1,2-Dibromoethane	Ave	0.3346	0.3230		0.0193	0.0200	-3.5	30.0
Chlorobenzene	Ave	0.9253	0.9231	0.3000	0.0200	0.0200	-0.2	30.0
1,1,1,2-Tetrachloroethane	Ave	0.3336	0.3465		0.0208	0.0200	3.9	30.0
Ethylbenzene	Ave	0.4836	0.4959		0.0205	0.0200	2.5	30.0
m-Xylene & p-Xylene	Ave	0.5890	0.6110		0.0207	0.0200	3.7	30.0
o-Xylene	Ave	0.5597	0.5768		0.0206	0.0200	3.1	30.0
Styrene	Ave	0.9588	0.9701	0.3000	0.0202	0.0200	1.2	30.0
Bromoform	Ave	0.2933	0.2923	0.1000	0.0199	0.0200	-0.3	30.0
Isopropylbenzene	Ave	1.503	1.583	0.1000	0.0211	0.0200	5.3	30.0
1,1,2,2-Tetrachloroethane	Ave	0.7706	0.7768	0.3000	0.0202	0.0200	0.8	30.0
Bromobenzene	Ave	0.7690	0.7545		0.0196	0.0200	-1.9	30.0
1,2,3-Trichloropropane	Ave	0.2921	0.3010		0.0206	0.0200	3.0	30.0
trans-1,4-Dichloro-2-butene	Ave	0.2737	0.2785		0.0203	0.0200	1.7	30.0
N-Propylbenzene	Ave	0.7729	0.7998		0.0207	0.0200	3.5	30.0
2-Chlorotoluene	Ave	0.6541	0.6592		0.0202	0.0200	0.8	30.0
1,3,5-Trimethylbenzene	Ave	2.225	2.303		0.0207	0.0200	3.5	30.0
4-Chlorotoluene	Ave	0.7072	0.7078		0.0200	0.0200	0.0	30.0
tert-Butylbenzene	Ave	2.113	2.203		0.0209	0.0200	4.3	30.0
1,2,4-Trimethylbenzene	Ave	2.256	2.278		0.0202	0.0200	1.0	30.0
sec-Butylbenzene	Ave	2.845	3.009		0.0212	0.0200	5.8	30.0
1,3-Dichlorobenzene	Ave	1.412	1.370	0.6000	0.0194	0.0200	-3.0	30.0
4-Isopropyltoluene	Ave	2.492	2.628		0.0211	0.0200	5.5	30.0
1,4-Dichlorobenzene	Ave	1.459	1.395	0.5000	0.0191	0.0200	-4.4	30.0
n-Butylbenzene	Ave	2.050	2.114		0.0206	0.0200	3.1	30.0
1,2-Dichlorobenzene	Ave	1.282	1.257	0.4000	0.0196	0.0200	-2.0	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: ICV 240-342719/14 Calibration Date: 08/27/2018 19:45

Instrument ID: A3UX19 Calib Start Date: 08/27/2018 17:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 19:23

Lab File ID: U1901330.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	0.2450	0.2412	0.0500	0.0197	0.0200	-1.6	50.0
1,2,4-Trichlorobenzene	Ave	0.8550	0.8004	0.2000	0.0187	0.0200	-6.4	50.0
Hexachlorobutadiene	Ave	0.4392	0.4373		0.0199	0.0200	-0.4	30.0
Naphthalene	Ave	2.363	2.262		0.0191	0.0200	-4.3	50.0
1,2,3-Trichlorobenzene	Ave	0.7677	0.7284		0.0190	0.0200	-5.1	30.0
Dibromofluoromethane (Surr)	Ave	0.2692	0.2770		0.0206	0.0200	2.9	30.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3092	0.3266		0.0211	0.0200	5.6	30.0
Toluene-d8 (Surr)	Ave	1.199	1.238		0.0206	0.0200	3.2	30.0
4-Bromofluorobenzene (Surr)	Ave	0.4513	0.4759		0.0211	0.0200	5.5	30.0

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab File ID: bfb141.d BFB Injection Date: 11/23/2018

Instrument ID: A3UX19 BFB Injection Time: 11:57

Analysis Batch No.: 356782

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	15.6	
75	30.0 - 60.0 % of mass 95	46.8	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.5	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	100.6	
175	5.0 - 9.0 % of mass 174	7.2	(7.1) 1
176	95.0 - 101.0 % of mass 174	97.0	(96.3) 1
177	5.0 - 9.0 % of mass 176	6.5	(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
	CCV 240-356782/2	U1904072.d	11/23/2018	12:20
	CCVIS 240-356782/3	U1904073.d	11/23/2018	12:42
	LCS 240-356782/33	U1904077.d	11/23/2018	14:12
	MB 240-356782/7	U1904079.d	11/23/2018	14:57
MRC-MW-135B-111318	240-104369-4	U1904080.d	11/23/2018	15:19
MRC-MW-136B-111318	240-104369-5	U1904081.d	11/23/2018	15:41
MRC-MW-DUP-111318	240-104369-6	U1904082.d	11/23/2018	16:04
	240-104634-A-2 MS	U1904097.d	11/23/2018	21:39
	240-104634-A-2 MSD	U1904098.d	11/23/2018	22:01

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCV 240-356782/2 Calibration Date: 11/23/2018 12:20

Instrument ID: A3UX19 Calib Start Date: 07/25/2018 13:24

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 07/25/2018 15:15

Lab File ID: U1904072.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	Lin1		0.0400		0.200	0.200	0.1	20.0
Diisopropyl ether	Ave	0.2313	0.1878		0.0162	0.0200	-18.8	20.0
2-Chloro-1,3-butadiene	Ave	0.3979	0.3521		0.0177	0.0200	-11.5	20.0
Ethyl tert-butyl ether	Ave	0.7258	0.5346		0.0147	0.0200	-26.3*	20.0
Ethyl acetate	Ave	0.3007	0.3150		0.0419	0.0400	4.7	50.0
Propionitrile	Ave	0.0408	0.0517		0.254	0.200	26.9*	20.0
Methacrylonitrile	Ave	0.1828	0.1864		0.204	0.200	2.0	20.0
Tert-amyl methyl ether	Ave	0.7700	0.5671		0.0147	0.0200	-26.4*	20.0
n-Butanol	Ave	0.0094	0.0132		0.707	0.500	41.4*	20.0
Ethyl acrylate	Ave	0.3703	0.3922		0.0212	0.0200	5.9	20.0
Methyl methacrylate	Ave	0.2459	0.2378		0.0387	0.0400	-3.3	20.0
2-Nitropropane	Ave	0.0726	0.0896		0.0494	0.0400	23.5*	20.0
n-Butyl acetate	Ave	0.5364	0.5373		0.0200	0.0200	0.2	20.0
1-Chlorohexane	Ave	0.4610	0.4436		0.0192	0.0200	-3.8	20.0
Cyclohexanone	Ave	0.0137	0.0148		0.216	0.200	8.2	20.0
Pentachloroethane	Ave	0.3462	0.4521		0.0522	0.0400	30.6*	20.0
1,2,3-Trimethylbenzene	Ave	2.276	2.441		0.0215	0.0200	7.3	20.0
Benzyl chloride	Ave	1.286	1.525		0.0237	0.0200	18.6	20.0
1,3,5-Trichlorobenzene	Ave	1.021	1.160		0.0227	0.0200	13.5	20.0
2-Methylnaphthalene	Ave	1.433	1.152		0.0322	0.0400	-19.6	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCVIS 240-356782/3 Calibration Date: 11/23/2018 12:42

Instrument ID: A3UX19 Calib Start Date: 08/27/2018 17:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 19:23

Lab File ID: U1904073.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	0.3850	0.3367	0.1000	0.0175	0.0200	-12.5	20.0
Chloromethane	Ave	0.2883	0.2512	0.1000	0.0174	0.0200	-12.9	20.0
Butadiene	Ave	0.2887	0.2718		0.0188	0.0200	-5.9	20.0
Vinyl chloride	Ave	0.2980	0.2673	0.1000	0.0179	0.0200	-10.3	20.0
Bromomethane	Ave	0.2335	0.2108	0.0500	0.0181	0.0200	-9.7	20.0
Chloroethane	Ave	0.1848	0.1684	0.0500	0.0182	0.0200	-8.9	20.0
Dichlorofluoromethane	Ave	0.4581	0.4047		0.0177	0.0200	-11.7	20.0
Trichlorofluoromethane	Ave	0.4984	0.4279	0.1000	0.0172	0.0200	-14.1	20.0
Ethyl ether	Ave	0.1800	0.1597		0.0177	0.0200	-11.3	20.0
Acrolein	Ave	0.0445	0.0349		0.0784	0.100	-21.6	50.0
1,1,2-Trichlorotrifluoroethane	Ave	0.2567	0.2679	0.0500	0.0209	0.0200	4.4	20.0
1,1-Dichloroethene	Ave	0.3589	0.3452	0.1000	0.0192	0.0200	-3.8	20.0
Acetone	Ave	0.0784	0.0978	0.0100	0.0499	0.0400	24.7	50.0
Iodomethane	Ave	0.4655	0.4530		0.0195	0.0200	-2.7	20.0
Carbon disulfide	Ave	0.7515	0.5867	0.1000	0.0156	0.0200	-21.9*	20.0
3-Chloro-1-propene	Ave	0.3541	0.2945		0.0166	0.0200	-16.8	20.0
Methyl acetate	Ave	0.2328	0.2410	0.1000	0.0414	0.0400	3.5	20.0
Methylene Chloride	Ave	0.2846	0.2721	0.1000	0.0191	0.0200	-4.4	50.0
tert-Butyl alcohol	Ave	0.0271	0.0311		0.230	0.200	14.9	50.0
Acrylonitrile	Ave	0.1006	0.1187		0.236	0.200	18.0	20.0
Methyl tert-butyl ether	Ave	0.6938	0.5937	0.1000	0.0171	0.0200	-14.4	20.0
trans-1,2-Dichloroethene	Ave	0.3387	0.3131	0.1000	0.0185	0.0200	-7.6	20.0
Hexane	Ave	0.3524	0.3527		0.0200	0.0200	0.0	20.0
1,1-Dichloroethane	Ave	0.4048	0.3942	0.2000	0.0195	0.0200	-2.6	20.0
Vinyl acetate	Ave	0.4639	0.4607		0.0199	0.0200	-0.7	50.0
2,2-Dichloropropane	Ave	0.2438	0.1567		0.0129	0.0200	-35.7*	20.0
2-Butanone (MEK)	Ave	0.0472	0.0549	0.0100	0.0465	0.0400	16.1	20.0
cis-1,2-Dichloroethene	Ave	0.2891	0.2771	0.1000	0.0192	0.0200	-4.1	20.0
Bromochloromethane	Ave	0.1945	0.1718		0.0177	0.0200	-11.7	20.0
Tetrahydrofuran	Lin1		0.1108		0.0429	0.0400	7.2	20.0
Chloroform	Ave	0.4433	0.4260	0.2000	0.0192	0.0200	-3.9	20.0
1,1,1-Trichloroethane	Ave	0.4174	0.3849	0.1000	0.0184	0.0200	-7.8	20.0
Cyclohexane	Ave	0.3819	0.3731	0.1000	0.0195	0.0200	-2.3	20.0
1,1-Dichloropropene	Ave	0.3519	0.3451		0.0196	0.0200	-1.9	20.0
Carbon tetrachloride	Ave	0.4023	0.3853	0.1000	0.0192	0.0200	-4.2	20.0
Isobutyl alcohol	Ave	0.0110	0.0142		0.646	0.500	29.1*	20.0
1,2-Dichloroethane	Ave	0.3600	0.3344	0.1000	0.0186	0.0200	-7.1	20.0
Benzene	Ave	0.9518	0.9554	0.5000	0.0201	0.0200	0.4	20.0
n-Heptane	Lin1		0.2038		0.0184	0.0200	-7.8	20.0
Trichloroethene	Ave	0.3160	0.3086	0.1500	0.0195	0.0200	-2.3	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCVIS 240-356782/3 Calibration Date: 11/23/2018 12:42

Instrument ID: A3UX19 Calib Start Date: 08/27/2018 17:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 19:23

Lab File ID: U1904073.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	0.4590	0.4608	0.1000	0.0201	0.0200	0.4	20.0
1,2-Dichloropropane	Ave	0.2208	0.2221	0.1000	0.0201	0.0200	0.6	20.0
Dibromomethane	Ave	0.2271	0.2232		0.0197	0.0200	-1.7	20.0
1,4-Dioxane	Ave	0.0024	0.0040		0.663	0.400	65.8*	50.0
Bromodichloromethane	Ave	0.3479	0.3276	0.1500	0.0188	0.0200	-5.9	20.0
2-Chloroethyl vinyl ether	Ave	0.1770	0.1780		0.0402	0.0400	0.5	20.0
cis-1,3-Dichloropropene	Ave	0.3865	0.3590	0.1500	0.0186	0.0200	-7.1	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3203	0.3312	0.0500	0.0414	0.0400	3.4	20.0
Toluene	Ave	1.352	1.367	0.4000	0.0202	0.0200	1.2	20.0
trans-1,3-Dichloropropene	Ave	0.4818	0.4245	0.1000	0.0176	0.0200	-11.9	20.0
Ethyl methacrylate	Ave	0.4344	0.4308		0.0198	0.0200	-0.8	20.0
1,1,2-Trichloroethane	Ave	0.2842	0.2953	0.1000	0.0208	0.0200	3.9	20.0
Tetrachloroethene	Ave	0.4313	0.4430	0.1500	0.0205	0.0200	2.7	20.0
1,3-Dichloropropane	Ave	0.4802	0.4907		0.0204	0.0200	2.2	20.0
2-Hexanone	Ave	0.3149	0.3308	0.0500	0.0420	0.0400	5.0	20.0
Chlorodibromomethane	Ave	0.3583	0.3467		0.0194	0.0200	-3.2	20.0
1,2-Dibromoethane	Ave	0.3346	0.3301		0.0197	0.0200	-1.4	20.0
Chlorobenzene	Ave	0.9253	0.9392	0.3000	0.0203	0.0200	1.5	20.0
1,1,1,2-Tetrachloroethane	Ave	0.3336	0.3360		0.0201	0.0200	0.7	20.0
Ethylbenzene	Ave	0.4836	0.4955		0.0205	0.0200	2.5	20.0
m-Xylene & p-Xylene	Ave	0.5890	0.6194		0.0210	0.0200	5.2	20.0
o-Xylene	Ave	0.5597	0.5846		0.0209	0.0200	4.5	20.0
Styrene	Ave	0.9588	1.011	0.3000	0.0211	0.0200	5.4	20.0
Bromoform	Ave	0.2933	0.2813	0.1000	0.0192	0.0200	-4.1	20.0
Isopropylbenzene	Ave	1.503	1.559	0.1000	0.0208	0.0200	3.8	20.0
1,1,2,2-Tetrachloroethane	Ave	0.7706	0.8107	0.3000	0.0210	0.0200	5.2	20.0
Bromobenzene	Ave	0.7690	0.7839		0.0204	0.0200	1.9	20.0
1,2,3-Trichloropropane	Ave	0.2921	0.3139		0.0215	0.0200	7.5	20.0
trans-1,4-Dichloro-2-butene	Ave	0.2737	0.2020		0.0148	0.0200	-26.2*	20.0
N-Propylbenzene	Ave	0.7729	0.8006		0.0207	0.0200	3.6	20.0
2-Chlorotoluene	Ave	0.6541	0.6889		0.0211	0.0200	5.3	20.0
1,3,5-Trimethylbenzene	Ave	2.225	2.263		0.0203	0.0200	1.7	20.0
4-Chlorotoluene	Ave	0.7072	0.7406		0.0209	0.0200	4.7	20.0
tert-Butylbenzene	Ave	2.113	2.126		0.0201	0.0200	0.6	20.0
1,2,4-Trimethylbenzene	Ave	2.256	2.353		0.0209	0.0200	4.3	20.0
sec-Butylbenzene	Ave	2.845	2.935		0.0206	0.0200	3.2	20.0
1,3-Dichlorobenzene	Ave	1.412	1.460	0.6000	0.0207	0.0200	3.4	20.0
4-Isopropyltoluene	Ave	2.492	2.590		0.0208	0.0200	4.0	20.0
1,4-Dichlorobenzene	Ave	1.459	1.482	0.5000	0.0203	0.0200	1.6	20.0
n-Butylbenzene	Ave	2.050	2.160		0.0211	0.0200	5.4	20.0
1,2-Dichlorobenzene	Ave	1.282	1.344	0.4000	0.0210	0.0200	4.8	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCVIS 240-356782/3 Calibration Date: 11/23/2018 12:42

Instrument ID: A3UX19 Calib Start Date: 08/27/2018 17:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 19:23

Lab File ID: U1904073.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	0.2450	0.2538	0.0500	0.0207	0.0200	3.6	50.0
1,2,4-Trichlorobenzene	Ave	0.8550	0.8676	0.2000	0.0203	0.0200	1.5	50.0
Hexachlorobutadiene	Ave	0.4392	0.4409		0.0201	0.0200	0.4	20.0
Naphthalene	Ave	2.363	2.415		0.0204	0.0200	2.2	50.0
1,2,3-Trichlorobenzene	Ave	0.7677	0.8003		0.0208	0.0200	4.2	20.0
Dibromofluoromethane (Surr)	Ave	0.2692	0.2564		0.0190	0.0200	-4.8	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3092	0.2897		0.0187	0.0200	-6.3	20.0
Toluene-d8 (Surr)	Ave	1.199	1.197		0.0200	0.0200	-0.2	20.0
4-Bromofluorobenzene (Surr)	Ave	0.4513	0.4468		0.0198	0.0200	-1.0	20.0

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab File ID: BFB463.D BFB Injection Date: 09/30/2018

Instrument ID: A3UX9 BFB Injection Time: 13:21

Analysis Batch No.: 347872

No samples affected.

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	26.2	
75	30.0 - 60.0 % of mass 95	59.8	
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	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	80.2	
175	5.0 - 9.0 % of mass 174	6.6	(8.2) 1
176	95.0 - 101.0 % of mass 174	80.3	(100.1) 1
177	5.0 - 9.0 % of mass 176	4.9	(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 240-347872/9	UX974188.D	09/30/2018	14:36
	STD8260 240-347872/10	UX974189.D	09/30/2018	15:01
	ICIS 240-347872/11	UX974190.D	09/30/2018	15:25
	STD8260 240-347872/12	UX974191.D	09/30/2018	15:50
	STD8260 240-347872/13	UX974192.D	09/30/2018	16:14
	STD8260 240-347872/14	UX974193.D	09/30/2018	16:39
	ICV 240-347872/15	UX974194.D	09/30/2018	17:03
	STDET 240-347872/18	UX974196.D	09/30/2018	17:52
	STDET 240-347872/19	UX974197.D	09/30/2018	18:17
	STDET 240-347872/20	UX974198.D	09/30/2018	18:41
	STDET 240-347872/21	UX974199.D	09/30/2018	19:06
	STDET 240-347872/22	UX974200.D	09/30/2018	19:30
	STDA9 240-347872/25	UX974203.D	09/30/2018	20:43
	STDA9 240-347872/26	UX974204.D	09/30/2018	21:06
	STDA9 240-347872/27	UX974205.D	09/30/2018	21:31
	STDA9 240-347872/28	UX974206.D	09/30/2018	21:55
	STDA9 240-347872/29	UX974207.D	09/30/2018	22:19
	STDA9 240-347872/30	UX974208.D	09/30/2018	22:43

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 347872

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/30/2018 14:36 Calibration End Date: 09/30/2018 16:39 Calibration ID: 47162

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-347872/14	UX974193.D
Level 2	STD8260 240-347872/13	UX974192.D
Level 3	STD8260 240-347872/12	UX974191.D
Level 4	ICIS 240-347872/11	UX974190.D
Level 5	STD8260 240-347872/10	UX974189.D
Level 6	STD8260 240-347872/9	UX974188.D

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								
Dichlorodifluoromethane	0.5079 0.5449	0.5381	0.5308	0.5050	0.5577	Ave		0.5308			0.1000	3.9		20.0			
Chloromethane	0.7417 0.5516	0.6601	0.5353	0.5261	0.5755	Ave		0.5984			0.1000	14.2		20.0			
Vinyl chloride	0.5934 0.5623	0.6173	0.5355	0.5271	0.5706	Ave		0.5677			0.1000	6.0		20.0			
Butadiene	0.6972 0.5668	0.6742	0.5224	0.5218	0.5719	Ave		0.5924				12.8		20.0			
Bromomethane	0.5035 0.4196	0.4823	0.3967	0.3860	0.4311	Ave		0.4365			0.0500	10.8		20.0			
Chloroethane	0.3838 0.3828	0.3921	0.3514	0.3481	0.3898	Ave		0.3747			0.0500	5.3		20.0			
Dichlorofluoromethane	0.9691 0.8802	0.9689	0.8048	0.8002	0.8865	Ave		0.8849				8.4		20.0			
Trichlorofluoromethane	0.8665 0.9061	0.8284	0.8154	0.8104	0.8975	Ave		0.8540			0.1000	4.9		20.0			
Ethyl ether	0.3283 0.3646	0.3503	0.3396	0.3184	0.3697	Ave		0.3451				5.8		20.0			
Acrolein	0.0621 0.0513	0.0582	0.0545	0.0467	0.0518	Ave		0.0541				10.0		20.0			
1,1-Dichloroethene	0.7388 0.7420	0.7217	0.6556	0.6153	0.7407	Ave		0.7024			0.1000	7.7		20.0			
Acetone	0.0410 0.0349	0.0429	0.0355	0.0326	0.0369	Ave		0.0373			0.0100	10.4		20.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.4330 0.4709	0.4033	0.4176	0.3887	0.4691	Ave		0.4304			0.0500	7.9		20.0			
Iodomethane	0.5822 0.6159	0.5815	0.5778	0.5374	0.6298	Ave		0.5874				5.5		20.0			
Carbon disulfide	1.1653 0.9606	1.0624	0.8241	0.7834	0.9737	Ave		0.9616			0.1000	14.9		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.: 240-104369-1 Analy Batch No.: 347872

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/30/2018 14:36 Calibration End Date: 09/30/2018 16:39 Calibration ID: 47162

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	0.5313 0.3984	0.4834	0.4755	0.3735	0.4219	Ave		0.4473				13.3		20.0			
Methyl acetate	0.3085 0.2672	0.3022	0.2550	0.2330	0.2739	Ave		0.2733			0.1000	10.4		20.0			
Methylene Chloride	+++++ 0.4253	0.4799	0.3575	0.3686	0.4941	Ave		0.4251			0.1000	14.7		20.0			
2-Methyl-2-propanol	0.0393 0.0347	0.0377	0.0342	0.0316	0.0362	Ave		0.0356				7.7		20.0			
Acrylonitrile	0.1119 0.1038	0.1193	0.1099	0.1003	0.1104	Ave		0.1093				6.1		20.0			
trans-1,2-Dichloroethene	0.5401 0.3716	0.4764	0.4115	0.3711	0.3958	Ave		0.4278			0.1000	15.7		20.0			
Methyl tert-butyl ether	0.7960 0.7536	0.8664	0.7972	0.7923	0.8176	Ave		0.8038			0.1000	4.6		20.0			
Hexane	0.4811 0.3898	0.4407	0.3667	0.3387	0.3942	Ave		0.4019				12.8		20.0			
1,1-Dichloroethane	0.4892 0.5321	0.4991	0.5047	0.4704	0.5433	Ave		0.5065			0.2000	5.4		20.0			
Vinyl acetate	0.5239 0.6239	0.5568	0.5543	0.5427	0.6355	Ave		0.5729				8.0		20.0			
cis-1,2-Dichloroethene	0.3972 0.3478	0.3534	0.3275	0.3076	0.3572	Ave		0.3485			0.1000	8.7		20.0			
2,2-Dichloropropane	0.2246 0.2727	0.2563	0.2590	0.2418	0.2698	Ave		0.2541				7.1		20.0			
2-Butanone (MEK)	0.0289 0.0390	0.0380	0.0382	0.0336	0.0411	Ave		0.0365			0.0100	12.2		20.0			
Chlorobromomethane	0.2458 0.2781	0.2813	0.2558	0.2370	0.2645	Ave		0.2604				6.8		20.0			
Tetrahydrofuran	0.1360 0.0934	0.1276	0.0942	0.0846	0.0961	Ave		0.1053				20.0		20.0			
Chloroform	0.4904 0.5371	0.5306	0.5058	0.4801	0.5435	Ave		0.5146			0.2000	5.1		20.0			
1,1,1-Trichloroethane	0.3271 0.4529	0.3886	0.4322	0.3941	0.4638	Ave		0.4098			0.1000	12.4		20.0			
Cyclohexane	0.5777 0.4765	0.5091	0.4647	0.4295	0.4972	Ave		0.4924			0.1000	10.2		20.0			
1,1-Dichloropropene	0.4563 0.4138	0.4624	0.4183	0.3769	0.4307	Ave		0.4264				7.3		20.0			
Carbon tetrachloride	0.2775 0.4027	0.3218	0.3648	0.3471	0.4131	Ave		0.3545			0.1000	14.3		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.: 240-104369-1 Analy Batch No.: 347872

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/30/2018 14:36 Calibration End Date: 09/30/2018 16:39 Calibration ID: 47162

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	0.0138 0.0103	0.0127	0.0110	0.0097	0.0111	Ave		0.0114				13.4		20.0			
1,2-Dichloroethane	0.4822 0.4004	0.4793	0.4416	0.3908	0.4330	Ave		0.4379			0.1000	8.8		20.0			
Benzene	1.2918 1.0605	1.1888	1.1441	1.0421	1.1421	Ave		1.1449			0.5000	7.9		20.0			
n-Heptane	0.5089 0.1739	0.3498	0.1830	0.1715	0.1818	Lin1	0.1691	0.1715				4.3			0.9990		0.9900
Trichloroethene	0.3758 0.3257	0.3652	0.3184	0.2979	0.3336	Ave		0.3361			0.1500	8.7		20.0			
1,2-Dichloropropane	0.2744 0.2583	0.2701	0.2587	0.2423	0.2729	Ave		0.2628			0.1000	4.6		20.0			
Methylcyclohexane	0.4431 0.4158	0.4770	0.4085	0.3853	0.4356	Ave		0.4276			0.1000	7.4		20.0			
Dibromomethane	0.1975 0.1926	0.1957	0.1947	0.1775	0.2007	Ave		0.1931				4.2		20.0			
1,4-Dioxane	0.0020 0.0032	0.0029	0.0033	0.0029	0.0035	Ave		0.0030				17.6		20.0			
Dichlorobromomethane	0.2528 0.3812	0.3104	0.3174	0.3232	0.3838	Ave		0.3281			0.1500	15.0		20.0			
2-Chloroethyl vinyl ether	0.1835 0.1932	0.1827	0.1751	0.1706	0.1965	Ave		0.1836				5.5		20.0			
cis-1,3-Dichloropropene	0.3302 0.4550	0.3424	0.3925	0.3907	0.4596	Ave		0.3951			0.1500	13.8		20.0			
4-Methyl-2-pentanone (MIBK)	0.3315 0.2914	0.3211	0.2909	0.2673	0.3050	Ave		0.3012			0.0500	7.7		20.0			
Toluene	1.6494 1.1527	1.5947	1.4141	1.3016	1.3161	Ave		1.4047			0.4000	13.4		20.0			
trans-1,3-Dichloropropene	0.3339 0.4483	0.3579	0.4196	0.4301	0.4768	Ave		0.4111			0.1000	13.3		20.0			
Ethyl methacrylate	0.4304 0.4037	0.4445	0.4180	0.4018	0.4428	Ave		0.4236				4.4		20.0			
1,1,2-Trichloroethane	0.3041 0.2693	0.2941	0.2860	0.2683	0.2918	Ave		0.2856			0.1000	5.0		20.0			
1,3-Dichloropropane	0.5370 0.5038	0.5880	0.5243	0.4998	0.5388	Ave		0.5320				6.0		20.0			
Tetrachloroethene	0.4382 0.3380	0.3914	0.3663	0.3400	0.3687	Ave		0.3738			0.1500	10.0		20.0			
2-Hexanone	0.2548 0.2159	0.2516	0.2340	0.2219	0.2393	Ave		0.2363			0.0500	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.: 240-104369-1 Analy Batch No.: 347872

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/30/2018 14:36 Calibration End Date: 09/30/2018 16:39 Calibration ID: 47162

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	0.1982 0.2964	0.2104	0.2421	0.2620	0.3043	Ave		0.2522				17.3		20.0			
Ethylene Dibromide	0.2789 0.2932	0.2798	0.2969	0.2803	0.3132	Ave		0.2904				4.7		20.0			
Chlorobenzene	1.0624 0.8306	1.0414	0.9049	0.8411	0.8996	Ave		0.9300			0.3000	10.7		20.0			
1,1,1,2-Tetrachloroethane	0.2524 0.2894	0.2458	0.2809	0.2842	0.3136	Ave		0.2777				9.0		20.0			
Ethylbenzene	0.5326 0.4143	0.5410	0.5524	0.4528	0.4588	Ave		0.4920				11.6		20.0			
m-Xylene & p-Xylene	0.7075 0.4917	0.6858	0.6290	0.5568	0.5679	Ave		0.6065				13.6		20.0			
o-Xylene	0.6317 0.4890	0.6029	0.6040	0.5582	0.5645	Ave		0.5750				8.7		20.0			
Styrene	1.0867 0.7975	1.0557	1.0215	0.9455	0.9403	Ave		0.9745			0.3000	10.7		20.0			
Bromoform	+++++ 0.1659	0.1081	0.1403	0.1499	0.1787	Ave		0.1486			0.1000	18.2		20.0			
Isopropylbenzene	1.6656 1.3022	1.6154	1.5371	1.4495	1.4750	Ave		1.5075			0.1000	8.6		20.0			
1,1,2,2-Tetrachloroethane	0.6612 1.0150	0.7299	0.7054	0.7231	0.9014	Ave		0.7893			0.3000	17.5		20.0			
Bromobenzene	0.7789 0.9536	0.7621	0.7398	0.7506	0.8858	Ave		0.8118				10.7		20.0			
1,2,3-Trichloropropane	0.2627 0.3314	0.2407	0.2576	0.2665	0.3061	Ave		0.2775				12.3		20.0			
trans-1,4-Dichloro-2-butene	0.1415 0.2931	0.1629	0.1907	0.2080	0.2677	Ave		0.2107				28.1	*	20.0			
N-Propylbenzene	0.8336 0.9086	0.7868	0.7512	0.7731	0.8688	Ave		0.8203				7.4		20.0			
2-Chlorotoluene	0.7202 0.7746	0.6602	0.6536	0.6714	0.7632	Ave		0.7072				7.5		20.0			
1,3,5-Trimethylbenzene	2.3610 2.3636	2.4219	2.1925	2.1429	2.3942	Ave		2.3127				5.0		20.0			
4-Chlorotoluene	0.7576 0.6496	0.7431	0.6969	0.6682	0.6958	Ave		0.7018				6.0		20.0			
tert-Butylbenzene	2.3904 2.4861	2.3242	2.0208	2.0586	2.3963	Ave		2.2794				8.5		20.0			
1,2,4-Trimethylbenzene	2.5529 2.4986	2.3995	2.2939	2.2592	2.4991	Ave		2.4172				5.0		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.: 240-104369-1 Analy Batch No.: 347872

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/30/2018 14:36 Calibration End Date: 09/30/2018 16:39 Calibration ID: 47162

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	0.6209 0.6678	0.6138	0.5754	0.5649	0.6563	Ave		0.6165				6.7		20.0			
1,3-Dichlorobenzene	1.6649 1.5958	1.5773	1.3794	1.3713	1.5427	Ave		1.5219			0.6000	7.9		20.0			
4-Isopropyltoluene	2.6288 2.3973	2.4299	2.2197	2.1852	2.4169	Ave		2.3796				6.8		20.0			
1,4-Dichlorobenzene	1.6438 1.2803	1.5605	1.3159	1.2860	1.3616	Ave		1.4080			0.5000	11.0		20.0			
n-Butylbenzene	2.1929 2.4250	2.0616	1.8674	1.9009	2.2551	Ave		2.1171				10.2		20.0			
1,2-Dichlorobenzene	1.4917 1.4838	1.5448	1.3113	1.2934	1.4329	Ave		1.4263			0.4000	7.2		20.0			
1,2-Dibromo-3-Chloropropane	+++++ 0.2264	0.0859	0.1192	0.1341	0.1903	Ave		0.1512			0.0500	37.4	*	20.0			
1,2,4-Trichlorobenzene	1.0390 1.1835	0.9524	0.8157	0.8250	1.0022	Ave		0.9696			0.2000	14.3		20.0			
Hexachlorobutadiene	0.3414 0.3878	0.3284	0.2665	0.2680	0.3526	Ave		0.3241				14.9		20.0			
Naphthalene	2.7785 3.2762	2.7117	2.4155	2.3979	2.9205	Ave		2.7501				12.0		20.0			
1,2,3-Trichlorobenzene	0.8982 1.0559	0.9630	0.7415	0.7668	0.9400	Ave		0.8942				13.5		20.0			
Dibromofluoromethane (Surr)	0.2229 0.2861	0.2579	0.2739	0.2526	0.2819	Ave		0.2625				8.9		20.0			
1,2-Dichloroethane-d4 (Surr)	0.4320 0.3638	0.3898	0.3590	0.3347	0.3628	Ave		0.3737				9.0		20.0			
Toluene-d8 (Surr)	1.3103 1.0829	1.2687	1.2029	1.1641	1.1601	Ave		1.1982				6.8		20.0			
4-Bromofluorobenzene (Surr)	0.4022 +++++	0.4223	0.4055	0.3773	0.3836	Ave		0.3981				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
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 347872

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/30/2018 14:36 Calibration End Date: 09/30/2018 16:39 Calibration ID: 47162

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-347872/14	UX974193.D
Level 2	STD8260 240-347872/13	UX974192.D
Level 3	STD8260 240-347872/12	UX974191.D
Level 4	ICIS 240-347872/11	UX974190.D
Level 5	STD8260 240-347872/10	UX974189.D
Level 6	STD8260 240-347872/9	UX974188.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	10305 1492476	23194	255596	515864	1009096	0.500 60.0	1.00	10.0	20.0	40.0
Chloromethane	FB	Ave	15050 1510834	28452	257741	537433	1041143	0.500 60.0	1.00	10.0	20.0	40.0
Vinyl chloride	FB	Ave	12041 1540088	26607	257846	538394	1032419	0.500 60.0	1.00	10.0	20.0	40.0
Butadiene	FB	Ave	14146 1552208	29060	251525	533011	1034761	0.500 60.0	1.00	10.0	20.0	40.0
Bromomethane	FB	Ave	10216 1149185	20788	191029	394244	780003	0.500 60.0	1.00	10.0	20.0	40.0
Chloroethane	FB	Ave	7787 1048432	16901	169181	355518	705315	0.500 60.0	1.00	10.0	20.0	40.0
Dichlorofluoromethane	FB	Ave	19663 2410608	41763	387498	817367	1603814	0.500 60.0	1.00	10.0	20.0	40.0
Trichlorofluoromethane	FB	Ave	17581 2481694	35706	392641	827760	1623710	0.500 60.0	1.00	10.0	20.0	40.0
Ethyl ether	FB	Ave	6662 998537	15098	163526	325179	668838	0.500 60.0	1.00	10.0	20.0	40.0
Acrolein	FB	Ave	6295 702511	12546	131115	238638	468901	2.50 300	5.00	50.0	100	200
1,1-Dichloroethene	FB	Ave	14990 2032283	31109	315699	628481	1340164	0.500 60.0	1.00	10.0	20.0	40.0
Acetone	FB	Ave	1664 191250	3699	34232	66636	133560	1.00 120	2.00	20.0	40.0	80.0
1,1,2-Trichloro-1,2,2-trifluoroethane	FB	Ave	8785 1289754	17385	201086	397019	848782	0.500 60.0	1.00	10.0	20.0	40.0
Iodomethane	FB	Ave	11813 1686901	25063	278209	548921	1139541	0.500 60.0	1.00	10.0	20.0	40.0
Carbon disulfide	FB	Ave	23643 2630762	45791	396821	800234	1761726	0.500 60.0	1.00	10.0	20.0	40.0
3-Chloro-1-propene	FB	Ave	10780 1091159	20835	228980	381532	763344	0.500 60.0	1.00	10.0	20.0	40.0

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 347872

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/30/2018 14:36 Calibration End Date: 09/30/2018 16:39 Calibration ID: 47162

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Methyl acetate	FB	Ave	12519 1463709	26053	245599	475951	991221	1.00 120	2.00	20.0	40.0	80.0
Methylene Chloride	FB	Ave	+++++ 1164774	20685	172164	376468	893878	+++++ 60.0	1.00	10.0	20.0	40.0
2-Methyl-2-propanol	FB	Ave	7979 949346	16229	164598	322311	655324	5.00 600	10.0	100	200	400
Acrylonitrile	FB	Ave	22705 2843842	51418	529408	1024587	1997893	5.00 600	10.0	100	200	400
trans-1,2-Dichloroethene	FB	Ave	10958 1017862	20534	198150	379103	716151	0.500 60.0	1.00	10.0	20.0	40.0
Methyl tert-butyl ether	FB	Ave	16150 2063878	37343	383858	809330	1479214	0.500 60.0	1.00	10.0	20.0	40.0
Hexane	FB	Ave	9762 1067679	18997	176553	345949	713274	0.500 60.0	1.00	10.0	20.0	40.0
1,1-Dichloroethane	FB	Ave	9925 1457421	21513	243043	480456	982914	0.500 60.0	1.00	10.0	20.0	40.0
Vinyl acetate	FB	Ave	10629 1708785	23998	266922	554388	1149801	0.500 60.0	1.00	10.0	20.0	40.0
cis-1,2-Dichloroethene	FB	Ave	8059 952606	15233	157689	314247	646218	0.500 60.0	1.00	10.0	20.0	40.0
2,2-Dichloropropane	FB	Ave	4558 746935	11048	124712	247016	488121	0.500 60.0	1.00	10.0	20.0	40.0
2-Butanone (MEK)	FB	Ave	1172 213895	3276	36767	68598	148561	1.00 120	2.00	20.0	40.0	80.0
Chlorobromomethane	FB	Ave	4987 761584	12127	123161	242094	478468	0.500 60.0	1.00	10.0	20.0	40.0
Tetrahydrofuran	FB	Ave	5518 511684	11003	90717	172774	347834	1.00 120	2.00	20.0	40.0	80.0
Chloroform	FB	Ave	9950 1470910	22871	243539	490417	983229	0.500 60.0	1.00	10.0	20.0	40.0
1,1,1-Trichloroethane	FB	Ave	6637 1240516	16748	208119	402601	839042	0.500 60.0	1.00	10.0	20.0	40.0
Cyclohexane	FB	Ave	11722 1305113	21942	223761	438713	899501	0.500 60.0	1.00	10.0	20.0	40.0
1,1-Dichloropropene	FB	Ave	9259 1133295	19931	201421	384989	779206	0.500 60.0	1.00	10.0	20.0	40.0
Carbon tetrachloride	FB	Ave	5630 1102823	13870	175633	354562	747308	0.500 60.0	1.00	10.0	20.0	40.0
Isobutyl alcohol	FB	Ave	6997 708602	13669	132798	246449	503236	12.5 1500	25.0	250	500	1000
1,2-Dichloroethane	FB	Ave	9784 1096500	20658	212656	399163	783480	0.500 60.0	1.00	10.0	20.0	40.0

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 347872

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/30/2018 14:36 Calibration End Date: 09/30/2018 16:39 Calibration ID: 47162

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Benzene	FB	Ave	26211 2904437	51241	550886	1064451	2066354	0.500 60.0	1.00	10.0	20.0	40.0
n-Heptane	FB	Lin1	10325 476267	15078	88131	175173	328878	0.500 60.0	1.00	10.0	20.0	40.0
Trichloroethene	FB	Ave	7624 891939	15741	153337	304294	603531	0.500 60.0	1.00	10.0	20.0	40.0
1,2-Dichloropropane	FB	Ave	5568 707526	11641	124565	247542	493672	0.500 60.0	1.00	10.0	20.0	40.0
Methylcyclohexane	FB	Ave	8990 1138725	20561	196701	393581	788163	0.500 60.0	1.00	10.0	20.0	40.0
Dibromomethane	FB	Ave	4008 527494	8436	93730	181323	363120	0.500 60.0	1.00	10.0	20.0	40.0
1,4-Dioxane	FB	Ave	812 177881	2478	31754	60122	125106	10.0 1200	20.0	200	400	800
Dichlorobromomethane	FB	Ave	5130 1044092	13381	152823	330139	694404	0.500 60.0	1.00	10.0	20.0	40.0
2-Chloroethyl vinyl ether	FB	Ave	7447 1058298	15749	168665	348486	711171	1.00 120	2.00	20.0	40.0	80.0
cis-1,3-Dichloropropene	FB	Ave	6699 1246161	14759	189000	399083	831490	0.500 60.0	1.00	10.0	20.0	40.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	13453 1596033	27683	280140	546042	1103504	1.00 120	2.00	20.0	40.0	80.0
Toluene	CBNZ d5	Ave	28926 2869122	59798	593602	1112827	2090642	0.500 60.0	1.00	10.0	20.0	40.0
trans-1,3-Dichloropropene	CBNZ d5	Ave	5855 1115850	13420	176123	367719	757464	0.500 60.0	1.00	10.0	20.0	40.0
Ethyl methacrylate	CBNZ d5	Ave	7548 1004883	16670	175486	343542	703447	0.500 60.0	1.00	10.0	20.0	40.0
1,1,2-Trichloroethane	CBNZ d5	Ave	5333 670232	11030	120042	229435	463467	0.500 60.0	1.00	10.0	20.0	40.0
1,3-Dichloropropane	CBNZ d5	Ave	9417 1254129	22050	220089	427364	855937	0.500 60.0	1.00	10.0	20.0	40.0
Tetrachloroethene	CBNZ d5	Ave	7685 841317	14676	153748	290711	585639	0.500 60.0	1.00	10.0	20.0	40.0
2-Hexanone	CBNZ d5	Ave	8936 1074570	18873	196480	379412	760365	1.00 120	2.00	20.0	40.0	80.0
Chlorodibromomethane	CBNZ d5	Ave	3476 737879	7888	101621	224016	483338	0.500 60.0	1.00	10.0	20.0	40.0
Ethylene Dibromide	CBNZ d5	Ave	4891 729776	10494	124631	239644	497473	0.500 60.0	1.00	10.0	20.0	40.0
Chlorobenzene	CBNZ d5	Ave	18631 2067436	39051	379873	719087	1429090	0.500 60.0	1.00	10.0	20.0	40.0

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 347872

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/30/2018 14:36 Calibration End Date: 09/30/2018 16:39 Calibration ID: 47162

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	4426 720423	9216	117903	242975	498242	0.500 60.0	1.00	10.0	20.0	40.0
Ethylbenzene	CBNZ d5	Ave	9341 1031140	20287	231881	387137	728796	0.500 60.0	1.00	10.0	20.0	40.0
m-Xylene & p-Xylene	CBNZ d5	Ave	12408 1223954	25716	264064	476082	902135	0.500 60.0	1.00	10.0	20.0	40.0
o-Xylene	CBNZ d5	Ave	11078 1217065	22607	253550	477259	896736	0.500 60.0	1.00	10.0	20.0	40.0
Styrene	CBNZ d5	Ave	19058 1985169	39586	428800	808390	1493654	0.500 60.0	1.00	10.0	20.0	40.0
Bromoform	CBNZ d5	Ave	+++++ 412820	4053	58876	128184	283860	+++++ 60.0	1.00	10.0	20.0	40.0
Isopropylbenzene	CBNZ d5	Ave	29209 3241449	60574	645238	1239337	2343031	0.500 60.0	1.00	10.0	20.0	40.0
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	6318 859345	15031	157700	305172	610059	0.500 60.0	1.00	10.0	20.0	40.0
Bromobenzene	DCBd 4	Ave	7443 807389	15694	165396	316768	599475	0.500 60.0	1.00	10.0	20.0	40.0
1,2,3-Trichloropropane	DCBd 4	Ave	2510 280588	4957	57599	112493	207173	0.500 60.0	1.00	10.0	20.0	40.0
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	1352 248196	3355	42625	87792	181164	0.500 60.0	1.00	10.0	20.0	40.0
N-Propylbenzene	DCBd 4	Ave	7965 769273	16203	167942	326272	587953	0.500 60.0	1.00	10.0	20.0	40.0
2-Chlorotoluene	DCBd 4	Ave	6882 655831	13597	146128	283343	516490	0.500 60.0	1.00	10.0	20.0	40.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	22560 2001239	49878	490163	904382	1620369	0.500 60.0	1.00	10.0	20.0	40.0
4-Chlorotoluene	DCBd 4	Ave	7239 549979	15304	155789	281983	470879	0.500 60.0	1.00	10.0	20.0	40.0
tert-Butylbenzene	DCBd 4	Ave	22841 2104886	47866	451761	868791	1621784	0.500 60.0	1.00	10.0	20.0	40.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	24394 2115474	49415	512828	953447	1691332	0.500 60.0	1.00	10.0	20.0	40.0
sec-Butylbenzene	DCBd 4	Ave	5933 565408	12641	128627	238394	444140	0.500 60.0	1.00	10.0	20.0	40.0
1,3-Dichlorobenzene	DCBd 4	Ave	15909 1351121	32483	308382	578744	1044088	0.500 60.0	1.00	10.0	20.0	40.0
4-Isopropyltoluene	DCBd 4	Ave	25119 2029757	50043	496247	922219	1635674	0.500 60.0	1.00	10.0	20.0	40.0
1,4-Dichlorobenzene	DCBd 4	Ave	15707 1083961	32137	294182	542729	921494	0.500 60.0	1.00	10.0	20.0	40.0

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 347872

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/30/2018 14:36 Calibration End Date: 09/30/2018 16:39 Calibration ID: 47162

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
n-Butylbenzene	DCBd 4	Ave	20954 2053193	42457	417467	802262	1526214	0.500 60.0	1.00	10.0	20.0	40.0
1,2-Dichlorobenzene	DCBd 4	Ave	14254 1256305	31815	293163	545863	969722	0.500 60.0	1.00	10.0	20.0	40.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	+++++ 191676	1769	26653	56581	128778	+++++ 60.0	1.00	10.0	20.0	40.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	9928 1002058	19613	182365	348194	678282	0.500 60.0	1.00	10.0	20.0	40.0
Hexachlorobutadiene	DCBd 4	Ave	3262 328354	6764	59575	113120	238641	0.500 60.0	1.00	10.0	20.0	40.0
Naphthalene	DCBd 4	Ave	26550 2773904	55846	540013	1012016	1976554	0.500 60.0	1.00	10.0	20.0	40.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	8583 894038	19832	165770	323620	636150	0.500 60.0	1.00	10.0	20.0	40.0
Dibromofluoromethane (Surr)	FB	Ave	4522 783615	11115	131906	257990	509936	0.500 60.0	1.00	10.0	20.0	40.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	8766 996248	16800	172871	341900	656325	0.500 60.0	1.00	10.0	20.0	40.0
Toluene-d8 (Surr)	CBNZ d5	Ave	22979 2695430	47576	504955	995305	1842894	0.500 60.0	1.00	10.0	20.0	40.0
4-Bromofluorobenzene (Surr)	CBNZ d5	Ave	7053 +++++	15834	170207	322544	609341	0.500 +++++	1.00	10.0	20.0	40.0

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 347872

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/30/2018 14:36 Calibration End Date: 09/30/2018 16:39 Calibration ID: 47162

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-347872/14	UX974193.D
Level 2	STD8260 240-347872/13	UX974192.D
Level 3	STD8260 240-347872/12	UX974191.D
Level 4	ICIS 240-347872/11	UX974190.D
Level 5	STD8260 240-347872/10	UX974189.D
Level 6	STD8260 240-347872/9	UX974188.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
n-Heptane	-0.5						50					

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 347872

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/30/2018 17:52 Calibration End Date: 09/30/2018 19:30 Calibration ID: 47166

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDET 240-347872/18	UX974196.D
Level 2	STDET 240-347872/19	UX974197.D
Level 3	STDET 240-347872/20	UX974198.D
Level 4	STDET 240-347872/21	UX974199.D
Level 5	STDET 240-347872/22	UX974200.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								
3-Ethyltoluene	2.2134	2.3761	2.4147	2.3468	2.5708	Ave		2.3844				5.4		20.0			
2-Ethyltoluene	2.1097	2.3237	2.3645	2.3195	2.7136	Ave		2.3662				9.2		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
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 347872

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/30/2018 17:52 Calibration End Date: 09/30/2018 19:30 Calibration ID: 47166

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDET 240-347872/18	UX974196.D
Level 2	STDET 240-347872/19	UX974197.D
Level 3	STDET 240-347872/20	UX974198.D
Level 4	STDET 240-347872/21	UX974199.D
Level 5	STDET 240-347872/22	UX974200.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
3-Ethyltoluene	DCBd4	Ave	3736486	2025306	983074	480961	50026	79.2	39.6	19.8	9.90	0.990
2-Ethyltoluene	DCBd4	Ave	3561466	1980643	962647	475372	52805	79.2	39.6	19.8	9.90	0.990

Curve Type Legend:
Ave = Average ISTD

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 347872

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/30/2018 20:43 Calibration End Date: 09/30/2018 22:43 Calibration ID: 47170

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDA9 240-347872/30	UX974208.D
Level 2	STDA9 240-347872/29	UX974207.D
Level 3	STDA9 240-347872/28	UX974206.D
Level 4	STDA9 240-347872/27	UX974205.D
Level 5	STDA9 240-347872/26	UX974204.D
Level 6	STDA9 240-347872/25	UX974203.D

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								
Acetonitrile	0.0476 0.0369	0.0472	0.0363	0.0354	0.0312	Ave		0.0391				17.2		20.0			
Diisopropyl ether	0.2200 0.2488	0.2500	0.2720	0.2715	0.2465	Ave		0.2515				7.6		20.0			
2-Chloro-1,3-butadiene	0.3883 0.4081	0.4460	0.4421	0.4510	0.4105	Ave		0.4243				6.0		20.0			
Ethyl tert-butyl ether	0.7264 0.7636	0.8579	0.8613	0.8576	0.7571	Ave		0.8040				7.6		20.0			
Propionitrile	0.0340 0.0365	0.0395	0.0401	0.0406	0.0360	Ave		0.0378				7.1		20.0			
Ethyl acetate	0.2891 0.2723	0.3149	0.3109	0.3039	0.2722	Ave		0.2939				6.4		20.0			
Methacrylonitrile	0.1729 0.1410	0.1904	0.1839	0.1814	0.1499	Ave		0.1699				11.7		20.0			
Tert-amyl methyl ether	0.7705 0.7480	0.8304	0.8598	0.8415	0.7375	Ave		0.7980				6.6		20.0			
n-Butanol	0.0058 0.0080	0.0074	0.0074	0.0083	0.0077	Ave		0.0074				11.7		20.0			
Ethyl acrylate	0.3111 0.3635	0.3564	0.3679	0.3913	0.3526	Ave		0.3571				7.4		20.0			
Methyl methacrylate	0.2324 0.2673	0.2674	0.2833	0.2912	0.2600	Ave		0.2669				7.7		20.0			
2-Nitropropane	0.0402 0.0632	0.0440	0.0431	0.0518	0.0530	Ave		0.0492				17.4		20.0			
n-Butyl acetate	0.5009 0.5288	0.5206	0.5322	0.5752	0.5116	Ave		0.5282				4.9		20.0			
1-Chlorohexane	0.5082 0.4083	0.4647	0.4258	0.4295	0.3945	Ave		0.4385				9.5		20.0			
Cyclohexanone	0.0172 0.0204	0.0277	0.0223	0.0208	0.0197	Ave		0.0213				16.6		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.: 240-104369-1 Analy Batch No.: 347872

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/30/2018 20:43 Calibration End Date: 09/30/2018 22:43 Calibration ID: 47170

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	0.1523 0.3300	0.1913	0.2594	0.2946	0.2940	Lin1	-0.218	0.3115				12.5			0.9950		0.9900
1,2,3-Trimethylbenzene	2.1564 2.0840	2.3987	2.4294	2.3201	2.0591	Ave		2.2413				7.2		20.0			
Benzyl chloride	+++++ 0.1942	0.0817	0.1318	0.1555	0.1693	Lin1	-0.143	0.1805				19.6			0.9900		0.9900
1,3,5-Trichlorobenzene	0.8791 0.7526	0.9099	0.8571	0.8271	0.7550	Ave		0.8301				7.8		20.0			
2-Methylnaphthalene	1.3606 1.0867	1.6067	1.2209	1.2286	1.0854	Ave		1.2648				15.5		20.0			
1-Chloro-1-fluoroethane TIC	0.4607 0.4847	0.4762	0.5120	0.5198	0.4695	None											

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

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 347872

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/30/2018 20:43 Calibration End Date: 09/30/2018 22:43 Calibration ID: 47170

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDA9 240-347872/30	UX974208.D
Level 2	STDA9 240-347872/29	UX974207.D
Level 3	STDA9 240-347872/28	UX974206.D
Level 4	STDA9 240-347872/27	UX974205.D
Level 5	STDA9 240-347872/26	UX974204.D
Level 6	STDA9 240-347872/25	UX974203.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Acetonitrile	FB	Ave	10279 972282	19357	154904	300764	575411	5.00 600	10.0	100	200	400
Diisopropyl ether	FB	Ave	4754 655245	10250	116078	230593	454628	0.500 60.0	1.00	10.0	20.0	40.0
2-Chloro-1,3-butadiene	FB	Ave	8391 1074928	18283	188653	383089	757064	0.500 60.0	1.00	10.0	20.0	40.0
Ethyl tert-butyl ether	FB	Ave	15698 2011081	35169	367516	728487	1396411	0.500 60.0	1.00	10.0	20.0	40.0
Propionitrile	FB	Ave	7341 961465	16206	171218	344961	664179	5.00 600	10.0	100	200	400
Ethyl acetate	FB	Ave	12495 1434382	25816	265310	516330	1003880	1.00 120	2.00	20.0	40.0	80.0
Methacrylonitrile	FB	Ave	37371 3713547	78057	784792	1540468	2764660	5.00 600	10.0	100	200	400
Tert-amyl methyl ether	FB	Ave	16650 1970138	34042	366911	714824	1360184	0.500 60.0	1.00	10.0	20.0	40.0
n-Butanol	FB	Ave	3126 525240	7631	79217	176073	354698	12.5 1500	25.0	250	500	1000
Ethyl acrylate	FB	Ave	6723 957390	14609	156972	332358	650384	0.500 60.0	1.00	10.0	20.0	40.0
Methyl methacrylate	FB	Ave	10044 1407985	21922	241796	494766	959084	1.00 120	2.00	20.0	40.0	80.0
2-Nitropropane	FB	Ave	1736 333172	3604	36796	88077	195632	1.00 120	2.00	20.0	40.0	80.0
n-Butyl acetate	CBNZ d5	Ave	9356 1207602	18463	199386	419948	823500	0.500 60.0	1.00	10.0	20.0	40.0
1-Chlorohexane	CBNZ d5	Ave	9491 932442	16479	159520	313621	635049	0.500 60.0	1.00	10.0	20.0	40.0
Cyclohexanone	DCBd 4	Ave	1730 256908	5389	43590	84504	173677	5.00 600	10.0	100	200	400
Pentachloroethane	DCBd 4	Lin1	3063 831309	7436	101626	239691	518957	1.00 120	2.00	20.0	40.0	80.0

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 347872

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/30/2018 20:43 Calibration End Date: 09/30/2018 22:43 Calibration ID: 47170

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
1,2,3-Trimethylbenzene	DCBd 4	Ave	21682 2624741	46630	475901	943756	1817471	0.500 60.0	1.00	10.0	20.0	40.0
Benzyl chloride	DCBd 4	Lin1	+++++ 244604	1588	25822	63264	149402	+++++ 60.0	1.00	10.0	20.0	40.0
1,3,5-Trichlorobenzene	DCBd 4	Ave	8839 947885	17689	167896	336452	666397	0.500 60.0	1.00	10.0	20.0	40.0
2-Methylnaphthalene	DCBd 4	Ave	27362 2737297	62469	478335	999570	1916130	1.00 120	2.00	20.0	40.0	80.0
1-Chloro-1-fluoroethane TIC	FB	None	9956 1276673	19521	218490	441554	865860	0.500 60.0	1.00	10.0	20.0	40.0

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD
None = No Calib Curve

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 347872

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/30/2018 20:43 Calibration End Date: 09/30/2018 22:43 Calibration ID: 47170

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDA9 240-347872/30	UX974208.D
Level 2	STDA9 240-347872/29	UX974207.D
Level 3	STDA9 240-347872/28	UX974206.D
Level 4	STDA9 240-347872/27	UX974205.D
Level 5	STDA9 240-347872/26	UX974204.D
Level 6	STDA9 240-347872/25	UX974203.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Pentachloroethane	18.8						50					
Benzyl chloride	+++++	24.3						50				

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: ICV 240-347872/15 Calibration Date: 09/30/2018 17:03

Instrument ID: A3UX9 Calib Start Date: 09/30/2018 14:36

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 09/30/2018 16:39

Lab File ID: UX974194.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	0.5308	0.4350	0.1000	0.0164	0.0200	-18.0	30.0
Chloromethane	Ave	0.5984	0.5024	0.1000	0.0168	0.0200	-16.0	30.0
Vinyl chloride	Ave	0.5677	0.4914	0.1000	0.0173	0.0200	-13.5	30.0
Butadiene	Ave	0.5924	0.4358		0.0147	0.0200	-26.4	30.0
Bromomethane	Ave	0.4365	0.3855	0.0500	0.0177	0.0200	-11.7	30.0
Chloroethane	Ave	0.3747	0.3459	0.0500	0.0185	0.0200	-7.7	30.0
Dichlorofluoromethane	Ave	0.8849	0.8721		0.0197	0.0200	-1.5	30.0
Trichlorofluoromethane	Ave	0.8540	0.8040	0.1000	0.0188	0.0200	-5.9	30.0
Ethyl ether	Ave	0.3451	0.3534		0.0205	0.0200	2.4	30.0
Acrolein	Ave	0.0541	0.0598		0.111	0.100	10.6	50.0
1,1-Dichloroethene	Ave	0.7024	0.6678	0.1000	0.0190	0.0200	-4.9	30.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.4304	0.4211	0.0500	0.0196	0.0200	-2.2	30.0
Acetone	Ave	0.0373	0.0354	0.0100	0.0379	0.0400	-5.2	50.0
Iodomethane	Ave	0.5874	0.5864		0.0200	0.0200	-0.2	30.0
Carbon disulfide	Ave	0.9616	0.7507	0.1000	0.0156	0.0200	-21.9	30.0
3-Chloro-1-propene	Ave	0.4473	0.4656		0.0208	0.0200	4.1	30.0
Methyl acetate	Ave	0.2733	0.2471	0.1000	0.0362	0.0400	-9.6	30.0
Methylene Chloride	Ave	0.4251	0.3852	0.1000	0.0181	0.0200	-9.4	50.0
2-Methyl-2-propanol	Ave	0.0356	0.0337		0.189	0.200	-5.3	50.0
Acrylonitrile	Ave	0.1093	0.1089		0.199	0.200	-0.3	30.0
trans-1,2-Dichloroethene	Ave	0.4278	0.3949	0.1000	0.0185	0.0200	-7.7	30.0
Methyl tert-butyl ether	Ave	0.8038	0.7688	0.1000	0.0191	0.0200	-4.4	30.0
Hexane	Ave	0.4019	0.3416		0.0170	0.0200	-15.0	30.0
1,1-Dichloroethane	Ave	0.5065	0.4941	0.2000	0.0195	0.0200	-2.4	30.0
Vinyl acetate	Ave	0.5729	0.6039		0.0211	0.0200	5.4	50.0
cis-1,2-Dichloroethene	Ave	0.3485	0.3256	0.1000	0.0187	0.0200	-6.6	30.0
2,2-Dichloropropane	Ave	0.2541	0.2375		0.0187	0.0200	-6.5	30.0
2-Butanone (MEK)	Ave	0.0365	0.0379	0.0100	0.0416	0.0400	4.1	30.0
Chlorobromomethane	Ave	0.2604	0.2457		0.0189	0.0200	-5.7	30.0
Chloroform	Ave	0.5146	0.5159	0.2000	0.0200	0.0200	0.2	30.0
Tetrahydrofuran	Ave	0.1053	0.0924		0.0351	0.0400	-12.2	30.0
1,1,1-Trichloroethane	Ave	0.4098	0.4269	0.1000	0.0208	0.0200	4.2	30.0
Cyclohexane	Ave	0.4924	0.4444	0.1000	0.0180	0.0200	-9.8	30.0
1,1-Dichloropropene	Ave	0.4264	0.4048		0.0190	0.0200	-5.1	30.0
Carbon tetrachloride	Ave	0.3545	0.3632	0.1000	0.0205	0.0200	2.5	30.0
Isobutyl alcohol	Ave	0.0114	0.0110		0.481	0.500	-3.8	30.0
1,2-Dichloroethane	Ave	0.4379	0.4268	0.1000	0.0195	0.0200	-2.5	30.0
Benzene	Ave	1.145	1.100	0.5000	0.0192	0.0200	-3.9	30.0
n-Heptane	Lin1		0.1678		0.0186	0.0200	-7.1	30.0
Trichloroethene	Ave	0.3361	0.3097	0.1500	0.0184	0.0200	-7.9	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: ICV 240-347872/15 Calibration Date: 09/30/2018 17:03

Instrument ID: A3UX9 Calib Start Date: 09/30/2018 14:36

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 09/30/2018 16:39

Lab File ID: UX974194.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	0.4276	0.3855	0.1000	0.0180	0.0200	-9.8	30.0
1,2-Dichloropropane	Ave	0.2628	0.2647	0.1000	0.0201	0.0200	0.7	30.0
Dibromomethane	Ave	0.1931	0.1875		0.0194	0.0200	-2.9	30.0
1,4-Dioxane	Ave	0.0030	0.0032		0.429	0.400	7.2	50.0
Dichlorobromomethane	Ave	0.3281	0.3340	0.1500	0.0204	0.0200	1.8	30.0
2-Chloroethyl vinyl ether	Ave	0.1836	0.1818		0.0198	0.0200	-1.0	30.0
cis-1,3-Dichloropropene	Ave	0.3951	0.4233	0.1500	0.0214	0.0200	7.1	30.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3012	0.2998	0.0500	0.0398	0.0400	-0.5	30.0
Toluene	Ave	1.405	1.321	0.4000	0.0188	0.0200	-6.0	30.0
trans-1,3-Dichloropropene	Ave	0.4111	0.4162	0.1000	0.0202	0.0200	1.2	30.0
Ethyl methacrylate	Ave	0.4236	0.4152		0.0196	0.0200	-2.0	30.0
1,1,2-Trichloroethane	Ave	0.2856	0.2830	0.1000	0.0198	0.0200	-0.9	30.0
1,3-Dichloropropane	Ave	0.5320	0.5096		0.0192	0.0200	-4.2	30.0
Tetrachloroethene	Ave	0.3738	0.3272	0.1500	0.0175	0.0200	-12.5	30.0
2-Hexanone	Ave	0.2363	0.2383	0.0500	0.0403	0.0400	0.9	30.0
Chlorodibromomethane	Ave	0.2522	0.2578		0.0204	0.0200	2.2	30.0
Ethylene Dibromide	Ave	0.2904	0.2851		0.0196	0.0200	-1.8	30.0
Chlorobenzene	Ave	0.9300	0.8701	0.3000	0.0187	0.0200	-6.4	30.0
1,1,1,2-Tetrachloroethane	Ave	0.2777	0.2944		0.0212	0.0200	6.0	30.0
Ethylbenzene	Ave	0.4920	0.4558		0.0185	0.0200	-7.4	30.0
m-Xylene & p-Xylene	Ave	0.6065	0.5674		0.0187	0.0200	-6.4	30.0
o-Xylene	Ave	0.5750	0.5579		0.0194	0.0200	-3.0	30.0
Styrene	Ave	0.9745	0.9412	0.3000	0.0193	0.0200	-3.4	30.0
Bromoform	Ave	0.1486	0.1510	0.1000	0.0203	0.0200	1.7	30.0
Isopropylbenzene	Ave	1.507	1.447	0.1000	0.0192	0.0200	-4.0	30.0
1,1,2,2-Tetrachloroethane	Ave	0.7893	0.7558	0.3000	0.0192	0.0200	-4.2	30.0
Bromobenzene	Ave	0.8118	0.7544		0.0186	0.0200	-7.1	30.0
1,2,3-Trichloropropane	Ave	0.2775	0.2736		0.0197	0.0200	-1.4	30.0
trans-1,4-Dichloro-2-butene	Ave	0.2107	0.2111		0.0200	0.0200	0.2	30.0
N-Propylbenzene	Ave	0.8203	0.7555		0.0184	0.0200	-7.9	30.0
2-Chlorotoluene	Ave	0.7072	0.6673		0.0189	0.0200	-5.6	30.0
1,3,5-Trimethylbenzene	Ave	2.313	2.146		0.0186	0.0200	-7.2	30.0
4-Chlorotoluene	Ave	0.7018	0.6671		0.0190	0.0200	-5.0	30.0
tert-Butylbenzene	Ave	2.279	1.953		0.0171	0.0200	-14.3	30.0
1,2,4-Trimethylbenzene	Ave	2.417	2.238		0.0185	0.0200	-7.4	30.0
sec-Butylbenzene	Ave	0.6165	0.5573		0.0181	0.0200	-9.6	30.0
1,3-Dichlorobenzene	Ave	1.522	1.338	0.6000	0.0176	0.0200	-12.1	30.0
4-Isopropyltoluene	Ave	2.380	2.195		0.0184	0.0200	-7.8	30.0
1,4-Dichlorobenzene	Ave	1.408	1.270	0.5000	0.0180	0.0200	-9.8	30.0
n-Butylbenzene	Ave	2.117	1.829		0.0173	0.0200	-13.6	30.0
1,2-Dichlorobenzene	Ave	1.426	1.306	0.4000	0.0183	0.0200	-8.4	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: ICV 240-347872/15 Calibration Date: 09/30/2018 17:03

Instrument ID: A3UX9 Calib Start Date: 09/30/2018 14:36

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 09/30/2018 16:39

Lab File ID: UX974194.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	0.1512	0.1390	0.0500	0.0184	0.0200	-8.0	50.0
1,2,4-Trichlorobenzene	Ave	0.9696	0.8021	0.2000	0.0165	0.0200	-17.3	50.0
Hexachlorobutadiene	Ave	0.3241	0.2599		0.0160	0.0200	-19.8	30.0
Naphthalene	Ave	2.750	2.434		0.0177	0.0200	-11.5	50.0
1,2,3-Trichlorobenzene	Ave	0.8942	0.7649		0.0171	0.0200	-14.5	30.0
Dibromofluoromethane (Surr)	Ave	0.2625	0.2458		0.0154	0.0164	-6.4	30.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3737	0.3226		0.0142	0.0164	-13.7	30.0
Toluene-d8 (Surr)	Ave	1.198	1.145		0.0157	0.0164	-4.4	30.0
4-Bromofluorobenzene (Surr)	Ave	0.3981	0.4234		0.0179	0.0164	6.3	30.0

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab File ID: BFB506.D BFB Injection Date: 11/12/2018

Instrument ID: A3UX9 BFB Injection Time: 18:11

Analysis Batch No.: 355006

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	25.0	
75	30.0 - 60.0 % of mass 95	57.7	
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	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	94.9	
175	5.0 - 9.0 % of mass 174	7.5	(7.9) 1
176	95.0 - 101.0 % of mass 174	91.4	(96.3) 1
177	5.0 - 9.0 % of mass 176	5.8	(6.3) 2

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

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD8260 240-355006/8	UX975099.D	11/12/2018	19:01
	STD8260 240-355006/9	UX975100.D	11/12/2018	19:25
	STD8260 240-355006/10	UX975101.D	11/12/2018	19:50
	ICIS 240-355006/11	UX975102.D	11/12/2018	20:15
	STD8260 240-355006/12	UX975103.D	11/12/2018	20:39
	STD8260 240-355006/13	UX975104.D	11/12/2018	21:03
	STD8260 240-355006/14	UX975105.D	11/12/2018	21:27
	ICV 240-355006/15	UX975106.D	11/12/2018	21:51

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 355006

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/12/2018 19:01 Calibration End Date: 11/12/2018 21:27 Calibration ID: 47920

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-355006/14	UX975105.D
Level 2	STD8260 240-355006/13	UX975104.D
Level 3	STD8260 240-355006/12	UX975103.D
Level 4	ICIS 240-355006/11	UX975102.D
Level 5	STD8260 240-355006/10	UX975101.D
Level 6	STD8260 240-355006/9	UX975100.D
Level 7	STD8260 240-355006/8	UX975099.D

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.2460 0.3132	0.3326 0.3278	0.3391	0.3978	0.3149	Ave		0.3245			0.1000	13.8		20.0			
Chloromethane	0.3777 0.3716	0.5207 0.3693	0.4048	0.4515	0.3820	Ave		0.4111			0.1000	13.7		20.0			
Vinyl chloride	0.3051 0.3956	0.4592 0.3975	0.4014	0.4770	0.3917	Ave		0.4039			0.1000	13.7		20.0			
Butadiene	0.4092 0.3833	0.5001 0.3935	0.4130	0.4690	0.3844	Ave		0.4218				10.7		20.0			
Bromomethane	0.2743 0.3258	0.3836 0.3339	0.3253	0.3804	0.3190	Ave		0.3346			0.0500	11.3		20.0			
Chloroethane	0.2782 0.2937	0.3437 0.3066	0.2924	0.3452	0.2907	Ave		0.3072			0.0500	8.7		20.0			
Dichlorofluoromethane	0.6546 0.7128	0.8000 0.7422	0.7027	0.8476	0.6945	Ave		0.7363				9.0		20.0			
Trichlorofluoromethane	0.5495 0.6773	0.7296 0.7267	0.6652	0.8020	0.6571	Ave		0.6868			0.1000	11.4		20.0			
Ethyl ether	0.2828 0.2990	0.3346 0.3149	0.2948	0.3365	0.2956	Ave		0.3083				6.8		20.0			
Acrolein	0.0502 0.0509	0.0543 0.0489	0.0497	0.0583	0.0474	Ave		0.0514				7.2		20.0			
1,1-Dichloroethene	0.4669 0.5949	0.6223 0.6323	0.5741	0.6684	0.5901	Ave		0.5927			0.1000	10.8		20.0			
Acetone	+++++ 0.0310	0.0485 0.0313	0.0287	0.0346	0.0276	Lin1	0.0328	0.0303			0.0100	10.1			0.9940		0.9900
1,1,2-Trichlorotrifluoroethane	0.3022 0.3918	0.4450 0.4177	0.3881	0.4415	0.3953	Ave		0.3974			0.0500	12.1		20.0			
Iodomethane	0.4626 0.5626	0.6022 0.5876	0.5465	0.6399	0.5591	Ave		0.5658				9.8		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.: 240-104369-1 Analy Batch No.: 355006

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/12/2018 19:01 Calibration End Date: 11/12/2018 21:27 Calibration ID: 47920

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon disulfide	0.7141 0.7260	0.8298 0.7719	0.6321	0.7516	0.6988	Ave		0.7320			0.1000	8.5		20.0			
3-Chloro-1-propene	0.2570 0.2998	0.3216 0.2527	0.2965	0.3234	0.2499	Ave		0.2858				11.3		20.0			
Methyl acetate	0.1862 0.2110	0.2649 0.2199	0.2102	0.2404	0.2066	Ave		0.2199			0.1000	11.6		20.0			
Methylene Chloride	+++++ 0.3693	0.6340 0.3967	0.3873	0.4368	0.3787	Lin1	0.2479	0.3832			0.1000	6.9			0.9970		0.9900
tert-Butyl alcohol	0.0154 0.0246	0.0235 0.0256	0.0217	0.0269	0.0220	Ave		0.0228				16.5		20.0			
Acrylonitrile	0.0832 0.0906	0.1080 0.0901	0.0941	0.1073	0.0908	Ave		0.0948				9.8		20.0			
trans-1,2-Dichloroethene	0.3487 0.3409	0.4108 0.3394	0.3758	0.4256	0.3583	Ave		0.3714			0.1000	9.3		20.0			
Methyl tert-butyl ether	0.6795 0.7553	0.8685 0.6774	0.7714	0.8967	0.7379	Ave		0.7695			0.1000	11.1		20.0			
Hexane	0.3748 0.3489	0.3999 0.3564	0.3476	0.3998	0.3488	Ave		0.3680				6.4		20.0			
1,1-Dichloroethane	0.4055 0.4559	0.4808 0.4801	0.4708	0.5321	0.4693	Ave		0.4706			0.2000	8.0		20.0			
Vinyl acetate	0.3685 0.5184	0.4627 0.5503	0.4900	0.5853	0.4966	Ave		0.4960				14.0		20.0			
cis-1,2-Dichloroethene	0.2756 0.3206	0.3531 0.3298	0.3265	0.3725	0.3108	Ave		0.3270			0.1000	9.4		20.0			
2,2-Dichloropropane	0.1493 0.2213	0.1876 0.2219	0.2072	0.2506	0.2140	Ave		0.2074				15.4		20.0			
2-Butanone (MEK)	0.0222 0.0339	0.0367 0.0365	0.0329	0.0389	0.0351	Ave		0.0337			0.0100	16.2		20.0			
Bromochloromethane	0.2162 0.2223	0.2566 0.2385	0.2355	0.2638	0.2248	Ave		0.2368				7.5		20.0			
Chloroform	0.4287 0.4843	0.4958 0.4974	0.4762	0.5662	0.4825	Ave		0.4902			0.2000	8.3		20.0			
Tetrahydrofuran	0.0717 0.0742	0.0810 0.0774	0.0732	0.0830	0.0719	Ave		0.0760				5.9		20.0			
1,1,1-Trichloroethane	0.2367 0.4100	0.3346 0.4222	0.3990	0.4722	0.4107	Ave		0.3836			0.1000	19.9		20.0			
Cyclohexane	0.4016 0.5108	0.5518 0.5314	0.5293	0.6027	0.5168	Ave		0.5206			0.1000	11.7		20.0			
1,1-Dichloropropene	0.3389 0.3745	0.4062 0.3855	0.3954	0.4461	0.3818	Ave		0.3898				8.4		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.: 240-104369-1 Analy Batch No.: 355006

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/12/2018 19:01 Calibration End Date: 11/12/2018 21:27 Calibration ID: 47920

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon tetrachloride	0.2115 0.3570	0.2786 0.3750	0.3341	0.3970	0.3537	Ave		0.3295			0.1000	19.4		20.0			
Isobutyl alcohol	0.0074 0.0079	0.0089 0.0083	0.0078	0.0088	0.0076	Ave		0.0081				7.2		20.0			
1,2-Dichloroethane	0.4105 0.3705	0.4572 0.3603	0.4026	0.4490	0.3690	Ave		0.4027			0.1000	9.7		20.0			
Benzene	1.0496 1.0115	1.1619 0.9955	1.0979	1.2293	1.0329	Ave		1.0827			0.5000	7.9		20.0			
n-Heptane	+++++ 0.1609	0.3559 0.1622	0.1862	0.1962	0.1635	Lin1	0.2104	0.1612				9.4			0.9960		0.9900
Trichloroethene	0.2907 0.3072	0.3721 0.3095	0.3142	0.3571	0.3064	Ave		0.3224			0.1500	9.3		20.0			
Methylcyclohexane	0.3722 0.3968	0.4782 0.4111	0.4219	0.4738	0.4049	Ave		0.4227			0.1000	9.3		20.0			
1,2-Dichloropropane	0.2351 0.2300	0.2573 0.2362	0.2422	0.2744	0.2292	Ave		0.2435			0.1000	6.8		20.0			
Dibromomethane	0.1513 0.1812	0.1897 0.1789	0.1900	0.2054	0.1791	Ave		0.1822				9.1		20.0			
1,4-Dioxane	+++++ 0.0026	0.0021 +++++	0.0025	0.0031	0.0025	Ave		0.0026				14.6		20.0			
Bromodichloromethane	0.1755 0.3286	0.2571 0.3439	0.2905	0.3508	0.3195	Lin1	-0.088	0.3359			0.1500	6.5			0.9980		0.9900
2-Chloroethyl vinyl ether	0.1392 0.1631	0.1668 0.1680	0.1585	0.1848	0.1607	Ave		0.1630				8.3		20.0			
cis-1,3-Dichloropropene	0.1664 0.3856	0.2639 0.3975	0.3326	0.4128	0.3738	Lin1	-0.128	0.3920			0.1500	7.3			0.9980		0.9900
4-Methyl-2-pentanone (MIBK)	0.2272 0.2429	0.2466 0.2435	0.2431	0.2738	0.2387	Ave		0.2451			0.0500	5.8		20.0			
Toluene	1.4315 1.2445	1.6978 1.1504	1.4489	1.6062	1.3011	Ave		1.4115			0.4000	13.9		20.0			
trans-1,3-Dichloropropene	0.2252 0.3990	0.2805 0.4020	0.3617	0.4440	0.3907	Lin1	-0.103	0.4050			0.1000	7.3			0.9980		0.9900
Ethyl methacrylate	0.3100 0.3961	0.4142 0.3780	0.4169	0.4749	0.3977	Ave		0.3983				12.4		20.0			
1,1,2-Trichloroethane	0.2068 0.2733	0.3277 0.2608	0.3028	0.3326	0.2742	Ave		0.2826			0.1000	15.4		20.0			
1,3-Dichloropropane	0.4992 0.4966	0.6212 0.4819	0.5375	0.6023	0.5003	Ave		0.5341				10.5		20.0			
Tetrachloroethene	0.3617 0.3431	0.4282 0.3391	0.3826	0.4320	0.3550	Ave		0.3774			0.1500	10.3		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.: 240-104369-1 Analy Batch No.: 355006

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/12/2018 19:01 Calibration End Date: 11/12/2018 21:27 Calibration ID: 47920

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
2-Hexanone	0.1634 0.1958	0.2322 0.1933	0.2093	0.2330	0.1986	Ave		0.2037			0.0500	11.9		20.0			
Chlorodibromomethane	0.1401 0.2782	0.2161 0.2865	0.2402	0.3096	0.2750	Lin1	-0.077	0.2848				7.7			0.9970		0.9900
1,2-Dibromoethane	0.2004 0.2905	0.3094 0.2907	0.3105	0.3481	0.2930	Ave		0.2918				15.4		20.0			
Chlorobenzene	0.9933 0.8473	1.1553 0.8353	0.9521	1.0675	0.8671	Ave		0.9597			0.3000	12.6		20.0			
1,1,1,2-Tetrachloroethane	0.1420 0.2892	0.2783 0.2866	0.2906	0.3423	0.2909	Lin1	-0.049	0.2968				12.3			0.9960		0.9900
Ethylbenzene	0.4581 0.4351	0.6105 0.4104	0.5017	0.5577	0.4545	Ave		0.4897				14.6		20.0			
m-Xylene & p-Xylene	0.5628 0.5147	0.7420 +++++	0.6346	0.6851	0.5505	Ave		0.6150				14.2		20.0			
o-Xylene	0.5434 0.5139	0.6672 0.4716	0.6129	0.6884	0.5833	Ave		0.5830				13.6		20.0			
Styrene	0.8220 0.8642	1.1579 0.7618	1.0376	1.1410	0.9753	Ave		0.9657			0.3000	16.1		20.0			
Bromoform	+++++ 0.1501	0.0840 0.1392	0.1253	0.1647	0.1596	Lin1	-0.063	0.1500			0.1000	10.0			0.9930		0.9900
Isopropylbenzene	1.4814 1.3508	1.7341 1.2270	1.6067	1.7481	1.5002	Ave		1.5212			0.1000	12.6		20.0			
1,1,2,2-Tetrachloroethane	0.5401 0.9075	0.7453 +++++	0.7466	0.8617	0.8459	Ave		0.7745			0.3000	17.0		20.0			
Bromobenzene	0.7140 0.9247	0.9249 +++++	0.8242	0.9382	0.8745	Ave		0.8667				9.9		20.0			
1,2,3-Trichloropropane	0.2089 0.3095	0.2904 +++++	0.2746	0.3175	0.2943	Ave		0.2825				13.8		20.0			
trans-1,4-Dichloro-2-butene	+++++ 0.2084	0.0823 +++++	0.1300	0.1902	0.1820	Ave		0.1586				32.5	*	20.0			
N-Propylbenzene	0.7619 0.9085	0.9363 +++++	0.8723	0.9693	0.8794	Ave		0.8879				8.1		20.0			
2-Chlorotoluene	0.6427 0.7749	0.8177 1.0365	0.7684	0.8345	0.7587	Ave		0.8048				14.8		20.0			
1,3,5-Trimethylbenzene	2.2533 2.4433	2.7208 3.0708	2.4594	2.7125	2.3848	Ave		2.5778				10.7		20.0			
4-Chlorotoluene	0.7262 0.7154	0.8445 0.8239	0.7940	0.8422	0.7245	Ave		0.7815				7.4		20.0			
tert-Butylbenzene	1.8518 2.2975	2.3253 3.0038	2.2959	2.5164	2.4805	Ave		2.3959				14.4		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.: 240-104369-1 Analy Batch No.: 355006

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/12/2018 19:01 Calibration End Date: 11/12/2018 21:27 Calibration ID: 47920

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,2,4-Trimethylbenzene	2.2836 2.5177	2.7509 2.9672	2.5484	2.8554	2.4872	Ave		2.6301				9.0		20.0			
sec-Butylbenzene	0.5578 0.6515	0.7663 0.7762	0.6466	0.7136	0.6296	Ave		0.6774				11.6		20.0			
1,3-Dichlorobenzene	1.4956 1.5343	1.7388 1.8234	1.5298	1.7366	1.5004	Ave		1.6227			0.6000	8.5		20.0			
4-Isopropyltoluene	2.1979 2.4320	2.6648 2.7297	2.5079	2.7798	2.3831	Ave		2.5279				8.3		20.0			
1,4-Dichlorobenzene	1.4981 1.3305	1.8519 +++++	1.4708	1.6235	1.3175	Ave		1.5154			0.5000	13.2		20.0			
n-Butylbenzene	1.8085 2.2526	2.3036 +++++	2.0626	2.3811	2.1038	Ave		2.1520				9.6		20.0			
1,2-Dichlorobenzene	1.3897 1.4479	1.6402 +++++	1.4494	1.6084	1.3740	Ave		1.4849			0.4000	7.6		20.0			
1,2-Dibromo-3-Chloropropane	+++++ 0.1695	0.0507 +++++	0.1088	0.1405	0.1405	Ave		0.1220			0.0500	37.1	*	20.0			
1,2,4-Trichlorobenzene	0.8240 1.0740	1.0156 +++++	0.8685	1.0396	0.9388	Ave		0.9601			0.2000	10.4		20.0			
Hexachlorobutadiene	0.3025 0.3474	0.3156 +++++	0.2875	0.3406	0.3099	Ave		0.3172				7.2		20.0			
Naphthalene	2.0020 2.8593	2.8276 +++++	2.3455	2.7343	2.5384	Ave		2.5512				13.0		20.0			
1,2,3-Trichlorobenzene	0.7240 0.9421	0.9606 +++++	0.8288	0.9042	0.8339	Ave		0.8656				10.2		20.0			
Dibromofluoromethane (Surr)	0.1965 0.2557	0.2573 0.2630	0.2464	0.2929	0.2506	Ave		0.2518				11.4		20.0			
1,2-Dichloroethane-d4 (Surr)	0.2696 0.3043	0.3761 0.3183	0.3205	0.3654	0.3031	Ave		0.3225				11.5		20.0			
Toluene-d8 (Surr)	1.0474 1.1083	1.4285 1.0649	1.2143	1.3895	1.1230	Ave		1.1966				13.0		20.0			
4-Bromofluorobenzene (Surr)	0.3169 0.3366	0.4429 +++++	0.3812	0.4377	0.3668	Ave		0.3804				13.6		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
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 355006

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/12/2018 19:01 Calibration End Date: 11/12/2018 21:27 Calibration ID: 47920

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-355006/14	UX975105.D
Level 2	STD8260 240-355006/13	UX975104.D
Level 3	STD8260 240-355006/12	UX975103.D
Level 4	ICIS 240-355006/11	UX975102.D
Level 5	STD8260 240-355006/10	UX975101.D
Level 6	STD8260 240-355006/9	UX975100.D
Level 7	STD8260 240-355006/8	UX975099.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	5661 599227	13344 896002	160510	317030	449501	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Chloromethane	FB	Ave	8693 710904	20893 1009439	191599	359849	545248	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Vinyl chloride	FB	Ave	7022 756890	18425 1086713	189982	380167	559079	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Butadiene	FB	Ave	9417 733287	20067 1075763	195459	373806	548646	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Bromomethane	FB	Ave	6314 623245	15391 912839	153967	303166	455285	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Chloroethane	FB	Ave	6403 561866	13793 838090	138362	275124	414959	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Dichlorofluoromethane	FB	Ave	15065 1363555	32101 2028941	332566	675554	991330	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Trichlorofluoromethane	FB	Ave	12647 1295677	29276 1986625	314810	639267	937872	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Ethyl ether	FB	Ave	6509 572038	13426 860941	139515	268240	421960	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Acrolein	FB	Ave	5773 486957	10896 668910	117698	232274	338624	2.50 200	5.00 300	50.0	100	150
1,1-Dichloroethene	FB	Ave	10746 1138103	24972 1728592	271687	532788	842215	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Acetone	FB	Lin1	+++++ 118428	3895 171092	27153	55219	78700	+++++ 80.0	2.00 120	20.0	40.0	60.0
1,1,2-Trichlorotrifluoroethane	FB	Ave	6955 749613	17856 1141875	183695	351895	564151	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Iodomethane	FB	Ave	10646 1076249	24164 1606395	258629	509997	797973	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Carbon disulfide	FB	Ave	16435 1388873	33296 2109956	299144	599066	997370	0.500 40.0	1.00 60.0	10.0	20.0	30.0

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 355006

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/12/2018 19:01 Calibration End Date: 11/12/2018 21:27 Calibration ID: 47920

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
3-Chloro-1-propene	FB	Ave	5914 573487	12903 690658	140337	257787	356676	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Methyl acetate	FB	Ave	8571 807464	21261 1202470	198922	383273	589840	1.00 80.0	2.00 120	20.0	40.0	60.0
Methylene Chloride	FB	Lin1	+++++ 706544	25438 1084402	183288	348124	540558	+++++ 40.0	1.00 60.0	10.0	20.0	30.0
tert-Butyl alcohol	FB	Ave	3546 471295	9446 699885	102497	214774	313973	5.00 400	10.0 600	100	200	300
Acrylonitrile	FB	Ave	19138 1732698	43324 2462686	445257	855249	1295584	5.00 400	10.0 600	100	200	300
trans-1,2-Dichloroethene	FB	Ave	8026 652233	16485 927805	177840	339261	511371	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Methyl tert-butyl ether	FB	Ave	15639 1444949	34851 1851835	365088	714699	1053267	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Hexane	FB	Ave	8627 667388	16047 974244	164506	318637	497860	0.500 40.0	1.00 60.0	10.0	20.0	30.0
1,1-Dichloroethane	FB	Ave	9332 872198	19292 1312548	222817	424138	669787	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Vinyl acetate	FB	Ave	8481 991698	18567 1504215	231925	466496	708782	0.500 40.0	1.00 60.0	10.0	20.0	30.0
cis-1,2-Dichloroethene	FB	Ave	6344 613240	14167 901603	154527	296905	443612	0.500 40.0	1.00 60.0	10.0	20.0	30.0
2,2-Dichloropropane	FB	Ave	3436 423285	7527 606573	98071	199747	305504	0.500 40.0	1.00 60.0	10.0	20.0	30.0
2-Butanone (MEK)	FB	Ave	1021 129529	2948 199604	31120	62024	100200	1.00 80.0	2.00 120	20.0	40.0	60.0
Bromochloromethane	FB	Ave	4976 425264	10298 651854	111437	210224	320875	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Chloroform	FB	Ave	9867 926483	19893 1359729	225378	451297	688613	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Tetrahydrofuran	FB	Ave	3300 283772	6497 423199	69298	132245	205139	1.00 80.0	2.00 120	20.0	40.0	60.0
1,1,1-Trichloroethane	FB	Ave	5447 784263	13426 1154026	188813	376404	586139	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Cyclohexane	FB	Ave	9243 977226	22141 1452516	250493	480362	737698	0.500 40.0	1.00 60.0	10.0	20.0	30.0
1,1-Dichloropropene	FB	Ave	7799 716498	16300 1053708	187134	355545	545012	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Carbon tetrachloride	FB	Ave	4867 682981	11178 1024984	158106	316408	504883	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Isobutyl alcohol	FB	Ave	4237 378434	8881 565064	91977	174894	269568	12.5 1000	25.0 1500	250	500	750

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 355006

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/12/2018 19:01 Calibration End Date: 11/12/2018 21:27 Calibration ID: 47920

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dichloroethane	FB	Ave	9448 708836	18347 984957	190548	357877	526735	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Benzene	FB	Ave	24156 1935093	46624 2721338	519598	979810	1474291	0.500 40.0	1.00 60.0	10.0	20.0	30.0
n-Heptane	FB	Lin1	+++++ 307780	14280 443298	88126	156384	233296	+++++ 40.0	1.00 60.0	10.0	20.0	30.0
Trichloroethene	FB	Ave	6690 587633	14929 846084	148682	284613	437263	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Methylcyclohexane	FB	Ave	8566 759170	19189 1123750	199680	377624	577866	0.500 40.0	1.00 60.0	10.0	20.0	30.0
1,2-Dichloropropane	FB	Ave	5411 439995	10326 645637	114614	218715	327175	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Dibromomethane	FB	Ave	3482 346641	7613 489022	89922	163751	255625	0.500 40.0	1.00 60.0	10.0	20.0	30.0
1,4-Dioxane	FB	Ave	+++++ 99604	1685 +++++	23351	49879	70346	+++++ 800	20.0 +++++	200	400	600
Bromodichloromethane	FB	Lin1	4039 628599	10315 939994	137503	279617	456055	0.500 40.0	1.00 60.0	10.0	20.0	30.0
2-Chloroethyl vinyl ether	FB	Ave	6409 623993	13389 918322	150066	294523	458835	1.00 80.0	2.00 120	20.0	40.0	60.0
cis-1,3-Dichloropropene	FB	Lin1	3829 737670	10590 1086679	157391	328991	533479	0.500 40.0	1.00 60.0	10.0	20.0	30.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	10459 929481	19792 1331041	230075	436388	681532	1.00 80.0	2.00 120	20.0	40.0	60.0
Toluene	CBNZ d5	Ave	26120 1985654	53721 2712756	551735	1035641	1526725	0.500 40.0	1.00 60.0	10.0	20.0	30.0
trans-1,3-Dichloropropene	CBNZ d5	Lin1	4110 636624	8875 947933	137745	286255	458387	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Ethyl methacrylate	CBNZ d5	Ave	5656 632066	13107 891384	158742	306210	466707	0.500 40.0	1.00 60.0	10.0	20.0	30.0
1,1,2-Trichloroethane	CBNZ d5	Ave	3774 436017	10369 615080	115303	214444	321778	0.500 40.0	1.00 60.0	10.0	20.0	30.0
1,3-Dichloropropane	CBNZ d5	Ave	9108 792361	19656 1136349	204689	388369	587022	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Tetrachloroethene	CBNZ d5	Ave	6600 547404	13549 799645	145712	278559	416560	0.500 40.0	1.00 60.0	10.0	20.0	30.0
2-Hexanone	CBNZ d5	Ave	5963 624946	14693 911735	159392	300481	466091	1.00 80.0	2.00 120	20.0	40.0	60.0
Chlorodibromomethane	CBNZ d5	Lin1	2557 443907	6838 675660	91463	199629	322722	0.500 40.0	1.00 60.0	10.0	20.0	30.0
1,2-Dibromoethane	CBNZ d5	Ave	3657 463465	9789 685451	118243	224451	343831	0.500 40.0	1.00 60.0	10.0	20.0	30.0

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 355006

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/12/2018 19:01 Calibration End Date: 11/12/2018 21:27 Calibration ID: 47920

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Chlorobenzene	CBNZ d5	Ave	18124 1351982	36555 1969634	362563	688328	1017449	0.500 40.0	1.00 60.0	10.0	20.0	30.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Lin1	2591 461524	8807 675813	110660	220731	341301	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Ethylbenzene	CBNZ d5	Ave	8358 694324	19318 967691	191054	359625	533290	0.500 40.0	1.00 60.0	10.0	20.0	30.0
m-Xylene & p-Xylene	CBNZ d5	Ave	10270 821259	23477 +++++	241666	441756	645999	0.500 40.0	1.00 +++++	10.0	20.0	30.0
o-Xylene	CBNZ d5	Ave	9915 820043	21112 1111990	233403	443891	684491	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Styrene	CBNZ d5	Ave	14998 1378855	36638 1796296	395125	735710	1144355	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Bromoform	CBNZ d5	Lin1	+++++ 239428	2658 328352	47719	106186	187284	+++++ 40.0	1.00 60.0	10.0	20.0	30.0
Isopropylbenzene	CBNZ d5	Ave	27030 2155259	54869 2893311	611836	1127123	1760309	0.500 40.0	1.00 60.0	10.0	20.0	30.0
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	5267 547382	12418 +++++	143003	266109	426819	0.500 40.0	1.00 +++++	10.0	20.0	30.0
Bromobenzene	DCBd 4	Ave	6963 557712	15410 +++++	157861	289741	441213	0.500 40.0	1.00 +++++	10.0	20.0	30.0
1,2,3-Trichloropropane	DCBd 4	Ave	2037 186649	4839 +++++	52601	98065	148499	0.500 40.0	1.00 +++++	10.0	20.0	30.0
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	+++++ 125669	1372 +++++	24906	58749	91812	+++++ 40.0	1.00 +++++	10.0	20.0	30.0
N-Propylbenzene	DCBd 4	Ave	7430 547971	15600 +++++	167067	299349	443688	0.500 40.0	1.00 +++++	10.0	20.0	30.0
2-Chlorotoluene	DCBd 4	Ave	6268 467403	13625 576188	147167	257712	382814	0.500 40.0	1.00 60.0	10.0	20.0	30.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	21975 1473690	45333 1707057	471051	837690	1203263	0.500 40.0	1.00 60.0	10.0	20.0	30.0
4-Chlorotoluene	DCBd 4	Ave	7082 431517	14071 458015	152081	260093	365528	0.500 40.0	1.00 60.0	10.0	20.0	30.0
tert-Butylbenzene	DCBd 4	Ave	18060 1385774	38744 1669843	439720	777154	1251554	0.500 40.0	1.00 60.0	10.0	20.0	30.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	22271 1518590	45835 1649497	488088	881833	1254940	0.500 40.0	1.00 60.0	10.0	20.0	30.0
sec-Butylbenzene	DCBd 4	Ave	5440 392959	12768 431521	123837	220384	317674	0.500 40.0	1.00 60.0	10.0	20.0	30.0
1,3-Dichlorobenzene	DCBd 4	Ave	14586 925391	28971 1013630	293005	536330	757007	0.500 40.0	1.00 60.0	10.0	20.0	30.0
4-Isopropyltoluene	DCBd 4	Ave	21435 1466888	44400 1517465	480325	858502	1202378	0.500 40.0	1.00 60.0	10.0	20.0	30.0

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 355006

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/12/2018 19:01 Calibration End Date: 11/12/2018 21:27 Calibration ID: 47920

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,4-Dichlorobenzene	DCBd 4	Ave	14610 802521	30856 +++++	281706	501378	664723	0.500 40.0	1.00 +++++	10.0	20.0	30.0
n-Butylbenzene	DCBd 4	Ave	17637 1358677	38381 +++++	395040	735370	1061468	0.500 40.0	1.00 +++++	10.0	20.0	30.0
1,2-Dichlorobenzene	DCBd 4	Ave	13553 873298	27328 +++++	277607	496718	693239	0.500 40.0	1.00 +++++	10.0	20.0	30.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	+++++ 102246	845 +++++	20838	43405	70873	+++++ 40.0	1.00 +++++	10.0	20.0	30.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	8036 647777	16922 +++++	166349	321047	473696	0.500 40.0	1.00 +++++	10.0	20.0	30.0
Hexachlorobutadiene	DCBd 4	Ave	2950 209515	5258 +++++	55062	105190	156383	0.500 40.0	1.00 +++++	10.0	20.0	30.0
Naphthalene	DCBd 4	Ave	19524 1724574	47112 +++++	449223	844450	1280735	0.500 40.0	1.00 +++++	10.0	20.0	30.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	7061 568244	16005 +++++	158743	279259	420746	0.500 40.0	1.00 +++++	10.0	20.0	30.0
Dibromofluoromethane (Surr)	FB	Ave	4522 489242	10323 718921	116614	233435	357666	0.500 40.0	1.00 60.0	10.0	20.0	30.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	6205 582046	15091 870229	151688	291282	432654	0.500 40.0	1.00 60.0	10.0	20.0	30.0
Toluene-d8 (Surr)	CBNZ d5	Ave	19111 1768424	45200 2511091	462417	895916	1317729	0.500 40.0	1.00 60.0	10.0	20.0	30.0
4-Bromofluorobenzene (Surr)	CBNZ d5	Ave	5782 537093	14013 +++++	145178	282241	430416	0.500 40.0	1.00 +++++	10.0	20.0	30.0

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 355006

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/12/2018 19:01 Calibration End Date: 11/12/2018 21:27 Calibration ID: 47920

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-355006/14	UX975105.D
Level 2	STD8260 240-355006/13	UX975104.D
Level 3	STD8260 240-355006/12	UX975103.D
Level 4	ICIS 240-355006/11	UX975102.D
Level 5	STD8260 240-355006/10	UX975101.D
Level 6	STD8260 240-355006/9	UX975100.D
Level 7	STD8260 240-355006/8	UX975099.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Acetone	+++++	6.2						50				
Methylene Chloride	+++++	0.7						50				
n-Heptane	+++++	-9.8						50				
Bromodichloromethane	4.9						50					
cis-1,3-Dichloropropene	7.6						50					
trans-1,3-Dichloropropene	6.5						50					
Chlorodibromomethane	3.1						50					
1,1,1,2-Tetrachloroethane	-19.2						50					
Bromoform	+++++	-2.0						50				

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: ICV 240-355006/15 Calibration Date: 11/12/2018 21:51

Instrument ID: A3UX9 Calib Start Date: 11/12/2018 19:01

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/12/2018 21:27

Lab File ID: UX975106.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	0.3245	0.3967	0.1000	0.0245	0.0200	22.3	30.0
Chloromethane	Ave	0.4111	0.4200	0.1000	0.0204	0.0200	2.2	30.0
Butadiene	Ave	0.4218	0.3890		0.0184	0.0200	-7.8	30.0
Vinyl chloride	Ave	0.4039	0.4390	0.1000	0.0217	0.0200	8.7	30.0
Bromomethane	Ave	0.3346	0.3403	0.0500	0.0203	0.0200	1.7	30.0
Chloroethane	Ave	0.3072	0.3089	0.0500	0.0201	0.0200	0.5	30.0
Dichlorofluoromethane	Ave	0.7363	0.7661		0.0208	0.0200	4.0	30.0
Trichlorofluoromethane	Ave	0.6868	0.7158	0.1000	0.0208	0.0200	4.2	30.0
Ethyl ether	Ave	0.3083	0.3170		0.0206	0.0200	2.8	30.0
Acrolein	Ave	0.0514	0.0375		0.0730	0.100	-27.0	50.0
1,1-Dichloroethene	Ave	0.5927	0.6038	0.1000	0.0204	0.0200	1.9	30.0
Acetone	Lin1		0.0284	0.0100	0.0365	0.0400	-8.8	50.0
1,1,2-Trichlorotrifluoroethane	Ave	0.3974	0.4027	0.0500	0.0203	0.0200	1.3	30.0
Iodomethane	Ave	0.5658	0.5774		0.0204	0.0200	2.1	30.0
Carbon disulfide	Ave	0.7320	0.6648	0.1000	0.0182	0.0200	-9.2	30.0
3-Chloro-1-propene	Ave	0.2858	0.3073		0.0215	0.0200	7.5	30.0
Methyl acetate	Ave	0.2199	0.2144	0.1000	0.0390	0.0400	-2.5	30.0
Methylene Chloride	Lin1		0.3739	0.1000	0.0189	0.0200	-5.7	50.0
tert-Butyl alcohol	Ave	0.0228	0.0229		0.200	0.200	0.1	50.0
Acrylonitrile	Ave	0.0948	0.0958		0.202	0.200	1.0	30.0
trans-1,2-Dichloroethene	Ave	0.3714	0.3765	0.1000	0.0203	0.0200	1.4	30.0
Methyl tert-butyl ether	Ave	0.7695	0.7141	0.1000	0.0186	0.0200	-7.2	30.0
Hexane	Ave	0.3680	0.3586		0.0195	0.0200	-2.6	30.0
1,1-Dichloroethane	Ave	0.4706	0.4693	0.2000	0.0199	0.0200	-0.3	30.0
Vinyl acetate	Ave	0.4960	0.5081		0.0205	0.0200	2.4	50.0
cis-1,2-Dichloroethene	Ave	0.3270	0.3262	0.1000	0.0199	0.0200	-0.3	30.0
2,2-Dichloropropane	Ave	0.2074	0.2232		0.0215	0.0200	7.6	30.0
2-Butanone (MEK)	Ave	0.0337	0.0352	0.0100	0.0417	0.0400	4.2	30.0
Bromochloromethane	Ave	0.2368	0.2293		0.0194	0.0200	-3.2	30.0
Chloroform	Ave	0.4902	0.4976	0.2000	0.0203	0.0200	1.5	30.0
Tetrahydrofuran	Ave	0.0760	0.0764		0.0402	0.0400	0.4	30.0
1,1,1-Trichloroethane	Ave	0.3836	0.4175	0.1000	0.0218	0.0200	8.8	30.0
Cyclohexane	Ave	0.5206	0.5393	0.1000	0.0207	0.0200	3.6	30.0
1,1-Dichloropropene	Ave	0.3898	0.3908		0.0201	0.0200	0.3	30.0
Carbon tetrachloride	Ave	0.3295	0.3510	0.1000	0.0213	0.0200	6.5	30.0
Isobutyl alcohol	Ave	0.0081	0.0083		0.516	0.500	3.2	30.0
1,2-Dichloroethane	Ave	0.4027	0.3932	0.1000	0.0195	0.0200	-2.4	30.0
Benzene	Ave	1.083	1.099	0.5000	0.0203	0.0200	1.6	30.0
n-Heptane	Lin1		0.1720		0.0200	0.0200	0.2	30.0
Trichloroethene	Ave	0.3224	0.3158	0.1500	0.0196	0.0200	-2.1	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: ICV 240-355006/15 Calibration Date: 11/12/2018 21:51

Instrument ID: A3UX9 Calib Start Date: 11/12/2018 19:01

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/12/2018 21:27

Lab File ID: UX975106.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	0.4227	0.4104	0.1000	0.0194	0.0200	-2.9	30.0
1,2-Dichloropropane	Ave	0.2435	0.2483	0.1000	0.0204	0.0200	2.0	30.0
Dibromomethane	Ave	0.1822	0.1819		0.0200	0.0200	-0.2	30.0
1,4-Dioxane	Ave	0.0026	0.0031		0.482	0.400	20.4	50.0
Bromodichloromethane	Lin1		0.3070	0.1500	0.0185	0.0200	-7.3	30.0
2-Chloroethyl vinyl ether	Ave	0.1630	0.1630		0.0200	0.0200	-0.0	30.0
cis-1,3-Dichloropropene	Lin1		0.3783	0.1500	0.0196	0.0200	-1.9	30.0
4-Methyl-2-pentanone (MIBK)	Ave	0.2451	0.2481	0.0500	0.0405	0.0400	1.2	30.0
Toluene	Ave	1.411	1.436	0.4000	0.0204	0.0200	1.8	30.0
trans-1,3-Dichloropropene	Lin1		0.3777	0.1000	0.0189	0.0200	-5.5	30.0
Ethyl methacrylate	Ave	0.3983	0.4142		0.0208	0.0200	4.0	30.0
1,1,2-Trichloroethane	Ave	0.2826	0.3028	0.1000	0.0214	0.0200	7.1	30.0
1,3-Dichloropropane	Ave	0.5341	0.5249		0.0197	0.0200	-1.7	30.0
Tetrachloroethene	Ave	0.3774	0.3682	0.1500	0.0195	0.0200	-2.4	30.0
2-Hexanone	Ave	0.2037	0.2087	0.0500	0.0410	0.0400	2.5	30.0
Chlorodibromomethane	Lin1		0.2714		0.0193	0.0200	-3.4	30.0
1,2-Dibromoethane	Ave	0.2918	0.3076		0.0211	0.0200	5.4	30.0
Chlorobenzene	Ave	0.9597	0.9391	0.3000	0.0196	0.0200	-2.1	30.0
1,1,1,2-Tetrachloroethane	Lin1		0.3059		0.0208	0.0200	3.9	30.0
Ethylbenzene	Ave	0.4897	0.4915		0.0201	0.0200	0.4	30.0
m-Xylene & p-Xylene	Ave	0.6150	0.6053		0.0197	0.0200	-1.6	30.0
o-Xylene	Ave	0.5830	0.6372		0.0219	0.0200	9.3	30.0
Styrene	Ave	0.9657	1.046	0.3000	0.0217	0.0200	8.3	30.0
Bromoform	Lin1		0.1527	0.1000	0.0208	0.0200	3.9	30.0
Isopropylbenzene	Ave	1.521	1.639	0.1000	0.0215	0.0200	7.7	30.0
1,1,2,2-Tetrachloroethane	Ave	0.7745	0.7818	0.3000	0.0202	0.0200	0.9	30.0
Bromobenzene	Ave	0.8667	0.8618		0.0199	0.0200	-0.6	30.0
1,2,3-Trichloropropane	Ave	0.2825	0.2908		0.0206	0.0200	2.9	30.0
trans-1,4-Dichloro-2-butene	Ave	0.1586	0.1604		0.0202	0.0200	1.1	30.0
N-Propylbenzene	Ave	0.8879	0.8682		0.0196	0.0200	-2.2	30.0
2-Chlorotoluene	Ave	0.8048	0.7441		0.0185	0.0200	-7.5	30.0
1,3,5-Trimethylbenzene	Ave	2.578	2.429		0.0188	0.0200	-5.8	30.0
4-Chlorotoluene	Ave	0.7815	0.7542		0.0193	0.0200	-3.5	30.0
tert-Butylbenzene	Ave	2.396	2.259		0.0189	0.0200	-5.7	30.0
1,2,4-Trimethylbenzene	Ave	2.630	2.541		0.0193	0.0200	-3.4	30.0
sec-Butylbenzene	Ave	0.6774	0.6530		0.0193	0.0200	-3.6	30.0
1,3-Dichlorobenzene	Ave	1.623	1.550	0.6000	0.0191	0.0200	-4.5	30.0
4-Isopropyltoluene	Ave	2.528	2.495		0.0197	0.0200	-1.3	30.0
1,4-Dichlorobenzene	Ave	1.515	1.430	0.5000	0.0189	0.0200	-5.6	30.0
n-Butylbenzene	Ave	2.152	2.068		0.0192	0.0200	-3.9	30.0
1,2-Dichlorobenzene	Ave	1.485	1.440	0.4000	0.0194	0.0200	-3.0	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: ICV 240-355006/15 Calibration Date: 11/12/2018 21:51

Instrument ID: A3UX9 Calib Start Date: 11/12/2018 19:01

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/12/2018 21:27

Lab File ID: UX975106.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	0.1220	0.1202	0.0500	0.0197	0.0200	-1.4	50.0
1,2,4-Trichlorobenzene	Ave	0.9601	0.9038	0.2000	0.0188	0.0200	-5.9	50.0
Hexachlorobutadiene	Ave	0.3172	0.2727		0.0172	0.0200	-14.0	30.0
Naphthalene	Ave	2.551	2.415		0.0189	0.0200	-5.3	50.0
1,2,3-Trichlorobenzene	Ave	0.8656	0.8227		0.0190	0.0200	-5.0	30.0
Dibromofluoromethane (Surr)	Ave	0.2518	0.2518		0.0164	0.0164	0.0	30.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3225	0.3101		0.0158	0.0164	-3.8	30.0
Toluene-d8 (Surr)	Ave	1.197	1.210		0.0166	0.0164	1.1	30.0
4-Bromofluorobenzene (Surr)	Ave	0.3804	0.3955		0.0171	0.0164	4.0	30.0

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab File ID: BFB514.D BFB Injection Date: 11/21/2018

Instrument ID: A3UX9 BFB Injection Time: 17:39

Analysis Batch No.: 356655

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	24.2	
75	30.0 - 60.0 % of mass 95	57.9	
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	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	98.1	
175	5.0 - 9.0 % of mass 174	7.8	(7.9) 1
176	95.0 - 101.0 % of mass 174	97.0	(98.8) 1
177	5.0 - 9.0 % of mass 176	6.3	(6.5) 2

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

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 240-356655/3	UX975331.D	11/21/2018	18:09
	CCVIS 240-356655/4	UX975332.D	11/21/2018	18:34
	LCS 240-356655/5	UX975333.D	11/21/2018	18:59
	LCS 240-356655/6	UX975334.D	11/21/2018	19:23
	LCSD 240-356655/7	UX975335.D	11/21/2018	19:47
	MB 240-356655/10	UX975338.D	11/21/2018	20:58
MRC-MW-134A-111318	240-104369-2	UX975340.D	11/21/2018	21:46
TB-111318	240-104369-1	UX975341.D	11/21/2018	22:11
MRC-MW-134B-111318	240-104369-3	UX975342.D	11/21/2018	22:35
MRC-MW-134A-111318 MS	240-104369-2 MS	UX975346.D	11/22/2018	00:12
MRC-MW-134A-111318 MSD	240-104369-2 MSD	UX975347.D	11/22/2018	00:36

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCV 240-356655/3 Calibration Date: 11/21/2018 18:09

Instrument ID: A3UX9 Calib Start Date: 09/30/2018 20:43

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 09/30/2018 22:43

Lab File ID: UX975331.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	0.0391	0.0270		0.138	0.200	-31.0*	20.0
Diisopropyl ether	Ave	0.2515	0.2497		0.0199	0.0200	-0.7	20.0
2-Chloro-1,3-butadiene	Ave	0.4243	0.4002		0.0189	0.0200	-5.7	20.0
Ethyl tert-butyl ether	Ave	0.8040	0.6890		0.0171	0.0200	-14.3	20.0
Propionitrile	Ave	0.0378	0.0339		0.180	0.200	-10.2	20.0
Ethyl acetate	Ave	0.2939	0.2463		0.0335	0.0400	-16.2	50.0
Methacrylonitrile	Ave	0.1699	0.1450		0.171	0.200	-14.6	20.0
Tert-amyl methyl ether	Ave	0.7980	0.6560		0.0164	0.0200	-17.8	20.0
n-Butanol	Ave	0.0074	0.0055		0.372	0.500	-25.6*	20.0
Ethyl acrylate	Ave	0.3571	0.3211		0.0180	0.0200	-10.1	20.0
Methyl methacrylate	Ave	0.2669	0.2311		0.0346	0.0400	-13.4	20.0
2-Nitropropane	Ave	0.0492	0.0386		0.0314	0.0400	-21.5*	20.0
n-Butyl acetate	Ave	0.5282	0.4636		0.0176	0.0200	-12.2	20.0
1-Chlorohexane	Ave	0.4385	0.4432		0.0202	0.0200	1.1	20.0
Cyclohexanone	Ave	0.0213	0.0167		0.156	0.200	-21.8*	20.0
Pentachloroethane	Lin1		0.3041		0.0397	0.0400	-0.6	20.0
1,2,3-Trimethylbenzene	Ave	2.241	2.345		0.0209	0.0200	4.6	20.0
Benzyl chloride	Lin1		0.1261		0.0148	0.0200	-26.2*	20.0
1,3,5-Trichlorobenzene	Ave	0.8301	0.8777		0.0211	0.0200	5.7	20.0
2-Methylnaphthalene	Ave	1.265	0.9412		0.0298	0.0400	-25.6*	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCVIS 240-356655/4 Calibration Date: 11/21/2018 18:34

Instrument ID: A3UX9 Calib Start Date: 11/12/2018 19:01

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/12/2018 21:27

Lab File ID: UX975332.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	0.3245	0.4376	0.1000	0.0270	0.0200	34.9*	20.0
Chloromethane	Ave	0.4111	0.3942	0.1000	0.0192	0.0200	-4.1	20.0
Vinyl chloride	Ave	0.4039	0.3918	0.1000	0.0194	0.0200	-3.0	20.0
Butadiene	Ave	0.4218	0.3954		0.0187	0.0200	-6.3	20.0
Bromomethane	Ave	0.3346	0.3157	0.0500	0.0189	0.0200	-5.7	20.0
Chloroethane	Ave	0.3072	0.2804	0.0500	0.0183	0.0200	-8.7	20.0
Dichlorofluoromethane	Ave	0.7363	0.6556		0.0178	0.0200	-11.0	20.0
Trichlorofluoromethane	Ave	0.6868	0.6527	0.1000	0.0190	0.0200	-5.0	20.0
Ethyl ether	Ave	0.3083	0.2928		0.0190	0.0200	-5.0	20.0
Acrolein	Ave	0.0514	0.0416		0.0810	0.100	-19.0	50.0
1,1-Dichloroethene	Ave	0.5927	0.5487	0.1000	0.0185	0.0200	-7.4	20.0
Acetone	Lin1		0.0318	0.0100	0.0410	0.0400	2.5	50.0
1,1,2-Trichlorotrifluoroethane	Ave	0.3974	0.3822	0.0500	0.0192	0.0200	-3.8	20.0
Iodomethane	Ave	0.5658	0.5309		0.0188	0.0200	-6.2	20.0
Carbon disulfide	Ave	0.7320	0.6535	0.1000	0.0179	0.0200	-10.7	20.0
3-Chloro-1-propene	Ave	0.2858	0.3666		0.0257	0.0200	28.3*	20.0
Methyl acetate	Ave	0.2199	0.2064	0.1000	0.0375	0.0400	-6.2	20.0
Methylene Chloride	Lin1		0.3545	0.1000	0.0179	0.0200	-10.7	50.0
tert-Butyl alcohol	Ave	0.0228	0.0242		0.212	0.200	6.2	50.0
Acrylonitrile	Ave	0.0948	0.0946		0.199	0.200	-0.3	20.0
trans-1,2-Dichloroethene	Ave	0.3714	0.3429	0.1000	0.0185	0.0200	-7.7	20.0
Methyl tert-butyl ether	Ave	0.7695	0.7734	0.1000	0.0201	0.0200	0.5	20.0
Hexane	Ave	0.3680	0.3380		0.0184	0.0200	-8.2	20.0
1,1-Dichloroethane	Ave	0.4706	0.4552	0.2000	0.0193	0.0200	-3.3	20.0
Vinyl acetate	Ave	0.4960	0.5136		0.0207	0.0200	3.6	50.0
cis-1,2-Dichloroethene	Ave	0.3270	0.3131	0.1000	0.0191	0.0200	-4.3	20.0
2,2-Dichloropropane	Ave	0.2074	0.2195		0.0212	0.0200	5.8	20.0
2-Butanone (MEK)	Ave	0.0337	0.0371	0.0100	0.0440	0.0400	10.1	20.0
Bromochloromethane	Ave	0.2368	0.2160		0.0182	0.0200	-8.8	20.0
Chloroform	Ave	0.4902	0.4826	0.2000	0.0197	0.0200	-1.5	20.0
Tetrahydrofuran	Ave	0.0760	0.0748		0.0394	0.0400	-1.6	20.0
1,1,1-Trichloroethane	Ave	0.3836	0.3963	0.1000	0.0207	0.0200	3.3	20.0
Cyclohexane	Ave	0.5206	0.5201	0.1000	0.0200	0.0200	-0.1	20.0
1,1-Dichloropropene	Ave	0.3898	0.3766		0.0193	0.0200	-3.4	20.0
Carbon tetrachloride	Ave	0.3295	0.3499	0.1000	0.0212	0.0200	6.2	20.0
Isobutyl alcohol	Ave	0.0081	0.0079		0.490	0.500	-1.9	20.0
1,2-Dichloroethane	Ave	0.4027	0.3814	0.1000	0.0189	0.0200	-5.3	20.0
Benzene	Ave	1.083	1.053	0.5000	0.0194	0.0200	-2.8	20.0
n-Heptane	Lin1		0.1662		0.0193	0.0200	-3.4	20.0
Trichloroethene	Ave	0.3224	0.2983	0.1500	0.0185	0.0200	-7.5	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCVIS 240-356655/4 Calibration Date: 11/21/2018 18:34

Instrument ID: A3UX9 Calib Start Date: 11/12/2018 19:01

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/12/2018 21:27

Lab File ID: UX975332.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-Dichloropropane	Ave	0.2435	0.2360	0.1000	0.0194	0.0200	-3.1	20.0
Methylcyclohexane	Ave	0.4227	0.3983	0.1000	0.0188	0.0200	-5.8	20.0
Dibromomethane	Ave	0.1822	0.1787		0.0196	0.0200	-1.9	20.0
1,4-Dioxane	Ave	0.0026	0.0029		0.454	0.400	13.4	50.0
Bromodichloromethane	Lin1		0.3003	0.1500	0.0181	0.0200	-9.3	20.0
2-Chloroethyl vinyl ether	Ave	0.1630	0.1624		0.0398	0.0400	-0.4	20.0
cis-1,3-Dichloropropene	Lin1		0.3400	0.1500	0.0177	0.0200	-11.6	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.2451	0.2558	0.0500	0.0417	0.0400	4.4	20.0
Toluene	Ave	1.411	1.420	0.4000	0.0201	0.0200	0.6	20.0
trans-1,3-Dichloropropene	Lin1		0.3852	0.1000	0.0193	0.0200	-3.6	20.0
Ethyl methacrylate	Ave	0.3983	0.4234		0.0213	0.0200	6.3	20.0
1,1,2-Trichloroethane	Ave	0.2826	0.2925	0.1000	0.0207	0.0200	3.5	20.0
1,3-Dichloropropane	Ave	0.5341	0.5193		0.0194	0.0200	-2.8	20.0
Tetrachloroethene	Ave	0.3774	0.3675	0.1500	0.0195	0.0200	-2.6	20.0
2-Hexanone	Ave	0.2037	0.2091	0.0500	0.0411	0.0400	2.7	20.0
Chlorodibromomethane	Lin1		0.2724		0.0194	0.0200	-3.0	20.0
1,2-Dibromoethane	Ave	0.2918	0.3049		0.0209	0.0200	4.5	20.0
Chlorobenzene	Ave	0.9597	0.8985	0.3000	0.0187	0.0200	-6.4	20.0
1,1,1,2-Tetrachloroethane	Lin1		0.2939		0.0200	0.0200	-0.1	20.0
Ethylbenzene	Ave	0.4897	0.4769		0.0195	0.0200	-2.6	20.0
m-Xylene & p-Xylene	Ave	0.6150	0.5734		0.0186	0.0200	-6.8	20.0
o-Xylene	Ave	0.5830	0.5591		0.0192	0.0200	-4.1	20.0
Styrene	Ave	0.9657	0.9582	0.3000	0.0198	0.0200	-0.8	20.0
Bromoform	Lin1		0.1386	0.1000	0.0189	0.0200	-5.5	20.0
Isopropylbenzene	Ave	1.521	1.465	0.1000	0.0193	0.0200	-3.7	20.0
1,1,2,2-Tetrachloroethane	Ave	0.7745	0.7881	0.3000	0.0204	0.0200	1.8	20.0
Bromobenzene	Ave	0.8667	0.8126		0.0188	0.0200	-6.2	20.0
1,2,3-Trichloropropane	Ave	0.2825	0.2816		0.0199	0.0200	-0.3	20.0
trans-1,4-Dichloro-2-butene	Ave	0.1586	0.1750		0.0221	0.0200	10.3	20.0
N-Propylbenzene	Ave	0.8879	0.8330		0.0188	0.0200	-6.2	20.0
2-Chlorotoluene	Ave	0.8048	0.7161		0.0178	0.0200	-11.0	20.0
1,3,5-Trimethylbenzene	Ave	2.578	2.318		0.0180	0.0200	-10.1	20.0
4-Chlorotoluene	Ave	0.7815	0.7090		0.0181	0.0200	-9.3	20.0
tert-Butylbenzene	Ave	2.396	2.132		0.0178	0.0200	-11.0	20.0
1,2,4-Trimethylbenzene	Ave	2.630	2.408		0.0183	0.0200	-8.5	20.0
sec-Butylbenzene	Ave	0.6774	0.5972		0.0176	0.0200	-11.8	20.0
1,3-Dichlorobenzene	Ave	1.623	1.473	0.6000	0.0182	0.0200	-9.2	20.0
4-Isopropyltoluene	Ave	2.528	2.373		0.0188	0.0200	-6.1	20.0
1,4-Dichlorobenzene	Ave	1.515	1.375	0.5000	0.0181	0.0200	-9.3	20.0
n-Butylbenzene	Ave	2.152	2.040		0.0190	0.0200	-5.2	20.0
1,2-Dichlorobenzene	Ave	1.485	1.411	0.4000	0.0190	0.0200	-5.0	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCVIS 240-356655/4 Calibration Date: 11/21/2018 18:34

Instrument ID: A3UX9 Calib Start Date: 11/12/2018 19:01

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/12/2018 21:27

Lab File ID: UX975332.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	0.1220	0.1214	0.0500	0.0199	0.0200	-0.5	50.0
1,2,4-Trichlorobenzene	Ave	0.9601	0.8940	0.2000	0.0186	0.0200	-6.9	50.0
Hexachlorobutadiene	Ave	0.3172	0.2779		0.0175	0.0200	-12.4	20.0
Naphthalene	Ave	2.551	2.493		0.0195	0.0200	-2.3	50.0
1,2,3-Trichlorobenzene	Ave	0.8656	0.8138		0.0188	0.0200	-6.0	20.0
Dibromofluoromethane (Surr)	Ave	0.2518	0.2501		0.0163	0.0164	-0.7	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3225	0.3119		0.0159	0.0164	-3.3	20.0
Toluene-d8 (Surr)	Ave	1.197	1.235		0.0169	0.0164	3.2	20.0
4-Bromofluorobenzene (Surr)	Ave	0.3804	0.3826		0.0165	0.0164	0.6	20.0

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Sample No.: ICIS 240-342719/10 Date Analyzed: 08/27/2018 18:16

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): U1901326.d Heated Purge: (Y/N) N

Calibration ID: 46687

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		972482	5.65	783101	8.50	430906	10.88
UPPER LIMIT		1944964	6.15	1566202	9.00	861812	11.38
LOWER LIMIT		486241	5.15	391551	8.00	215453	10.38
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 240-342719/14		955207	5.65	765531	8.50	424750	10.88
CCVIS 240-356782/3		831356	5.65	662646	8.50	372948	10.88

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 8260C

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Sample No.: CCVIS 240-356782/3 Date Analyzed: 11/23/2018 12:42

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): U1904073.d Heated Purge: (Y/N) N

Calibration ID: 47354

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		831356	5.65	662646	8.50	372948	10.88
UPPER LIMIT		1662712	6.15	1325292	9.00	745896	11.38
LOWER LIMIT		415678	5.15	331323	8.00	186474	10.38
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 240-356782/33		821479	5.65	651352	8.50	347691	10.88
MB 240-356782/7		792212	5.65	647521	8.50	340267	10.88
240-104369-4	MRC-MW-135B-111318	795869	5.67	626624	8.50	331397	10.88
240-104369-5	MRC-MW-136B-111318	793242	5.65	628722	8.50	323966	10.88
240-104369-6	MRC-MW-DUP-111318	780658	5.67	611909	8.50	316072	10.88
240-104634-A-2 MS		803126	5.65	636827	8.50	349119	10.88
240-104634-A-2 MSD		804863	5.65	635739	8.50	355369	10.88

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 8260C

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Sample No.: ICIS 240-347872/11 Date Analyzed: 09/30/2018 15:25

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): UX974190.D Heated Purge: (Y/N) N

Calibration ID: 47162

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		1021447	5.66	854985	8.34	422035	10.57
UPPER LIMIT		2042894	6.16	1709970	8.84	844070	11.07
LOWER LIMIT		510724	5.16	427493	7.84	211018	10.07
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 240-347872/15		896689	5.67	807753	8.34	405544	10.57

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 8260C

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Sample No.: ICIS 240-355006/11 Date Analyzed: 11/12/2018 20:15

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): UX975102.D Heated Purge: (Y/N) N

Calibration ID: 47920

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		797054	5.66	644784	8.34	308831	10.57
UPPER LIMIT		1594108	6.16	1289568	8.84	617662	11.07
LOWER LIMIT		398527	5.16	322392	7.84	154416	10.07
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 240-355006/15		866007	5.66	712970	8.34	345716	10.57
CCVIS 240-356655/4		826658	5.66	681031	8.34	318006	10.57

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 8260C

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

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Sample No.: CCVIS 240-356655/4 Date Analyzed: 11/21/2018 18:34

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): UX975332.D Heated Purge: (Y/N) N

Calibration ID: 47920

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		826658	5.66	681031	8.34	318006	10.57
UPPER LIMIT		1653316	6.16	1362062	8.84	636012	11.07
LOWER LIMIT		413329	5.16	340516	7.84	159003	10.07
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 240-356655/5		822794	5.65	686127	8.33	313060	10.56
LCS 240-356655/6		835764	5.65	674371	8.33	368773	10.56
LCSD 240-356655/7		836090	5.66	673640	8.34	358406	10.57
MB 240-356655/10		751260	5.66	617441	8.34	319213	10.57
240-104369-2	MRC-MW-134A-111318	756014	5.67	607762	8.34	323390	10.56
240-104369-1	TB-111318	754477	5.66	613283	8.34	316381	10.57
240-104369-3	MRC-MW-134B-111318	750591	5.66	614076	8.34	331940	10.56
240-104369-2 MS	MRC-MW-134A-111318 MS	737595	5.66	606317	8.34	298644	10.57
240-104369-2 MSD	MRC-MW-134A-111318 MSD	781985	5.66	647050	8.34	315696	10.57

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 8260C

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: A3UX19 Start Date: 07/25/2018 11:28

Analysis Batch Number: 337917 End Date: 07/25/2018 19:42

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-337917/1		07/25/2018 11:28	1	bfb037.d	DB-624 0.18(mm)
CCVIS 240-337917/3		07/25/2018 12:17	1		DB-624 0.18(mm)
ZZZZZ		07/25/2018 12:39	1		DB-624 0.18(mm)
STDA9 240-337917/8 IC		07/25/2018 13:24	1	U1900802.d	DB-624 0.18(mm)
STDA9 240-337917/9 IC		07/25/2018 13:46	1	U1900803.d	DB-624 0.18(mm)
STDA9 240-337917/10 IC		07/25/2018 14:08	1	U1900804.d	DB-624 0.18(mm)
STDA9 240-337917/11 IC		07/25/2018 14:30	1	U1900805.d	DB-624 0.18(mm)
STDA9 240-337917/12 IC		07/25/2018 14:52	1	U1900806.d	DB-624 0.18(mm)
STDA9 240-337917/13 IC		07/25/2018 15:15	1	U1900807.d	DB-624 0.18(mm)
ICV 240-337917/14		07/25/2018 15:37	1		DB-624 0.18(mm)
MRL 240-337917/15 MDLV		07/25/2018 15:59	1		DB-624 0.18(mm)
ZZZZZ		07/25/2018 16:21	1		DB-624 0.18(mm)
ZZZZZ		07/25/2018 16:44	1		DB-624 0.18(mm)
ZZZZZ		07/25/2018 17:06	1		DB-624 0.18(mm)
ZZZZZ		07/25/2018 17:29	1		DB-624 0.18(mm)
ZZZZZ		07/25/2018 17:51	1		DB-624 0.18(mm)
ZZZZZ		07/25/2018 18:13	1		DB-624 0.18(mm)
ZZZZZ		07/25/2018 18:35	1		DB-624 0.18(mm)
ZZZZZ		07/25/2018 18:57	1		DB-624 0.18(mm)
ZZZZZ		07/25/2018 19:20	1		DB-624 0.18(mm)
ZZZZZ		07/25/2018 19:42	1		DB-624 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: A3UX19 Start Date: 08/27/2018 16:23

Analysis Batch Number: 342719 End Date: 08/27/2018 20:52

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-342719/1		08/27/2018 16:23	1	bfb058.d	DB-624 0.18(mm)
CCV 240-342719/2		08/27/2018 16:46	1		DB-624 0.18(mm)
STD8260 240-342719/7 IC		08/27/2018 17:09	1	U1901323.d	DB-624 0.18(mm)
STD8260 240-342719/8 IC		08/27/2018 17:31	1	U1901324.d	DB-624 0.18(mm)
STD8260 240-342719/9 IC		08/27/2018 17:53	1	U1901325.d	DB-624 0.18(mm)
ICIS 240-342719/10		08/27/2018 18:16	1	U1901326.d	DB-624 0.18(mm)
STD8260 240-342719/11 IC		08/27/2018 18:38	1	U1901327.d	DB-624 0.18(mm)
STD8260 240-342719/12 IC		08/27/2018 19:01	1	U1901328.d	DB-624 0.18(mm)
STD8260 240-342719/13 IC		08/27/2018 19:23	1	U1901329.d	DB-624 0.18(mm)
ICV 240-342719/14		08/27/2018 19:45	1	U1901330.d	DB-624 0.18(mm)
MRL 240-342719/15 MDLV		08/27/2018 20:07	1		DB-624 0.18(mm)
MDLV 240-342719/16		08/27/2018 20:30	1		DB-624 0.18(mm)
ZZZZZ		08/27/2018 20:52	1		DB-624 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: A3UX9 Start Date: 09/30/2018 13:21

Analysis Batch Number: 347872 End Date: 09/30/2018 23:07

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-347872/2		09/30/2018 13:21	1	BFB463.D	DB-624 0.18(mm)
MRL 240-347872/6 MDLV		09/30/2018 13:49	1		DB-624 0.18(mm)
STD8260 240-347872/9 IC		09/30/2018 14:36	1	UX974188.D	DB-624 0.18(mm)
STD8260 240-347872/10 IC		09/30/2018 15:01	1	UX974189.D	DB-624 0.18(mm)
ICIS 240-347872/11		09/30/2018 15:25	1	UX974190.D	DB-624 0.18(mm)
STD8260 240-347872/12 IC		09/30/2018 15:50	1	UX974191.D	DB-624 0.18(mm)
STD8260 240-347872/13 IC		09/30/2018 16:14	1	UX974192.D	DB-624 0.18(mm)
STD8260 240-347872/14 IC		09/30/2018 16:39	1	UX974193.D	DB-624 0.18(mm)
ICV 240-347872/15		09/30/2018 17:03	1	UX974194.D	DB-624 0.18(mm)
MDLV 240-347872/17		09/30/2018 17:28	1		DB-624 0.18(mm)
STDET 240-347872/18 IC		09/30/2018 17:52	1	UX974196.D	DB-624 0.18(mm)
STDET 240-347872/19 IC		09/30/2018 18:17	1	UX974197.D	DB-624 0.18(mm)
STDET 240-347872/20 IC		09/30/2018 18:41	1	UX974198.D	DB-624 0.18(mm)
STDET 240-347872/21 IC		09/30/2018 19:06	1	UX974199.D	DB-624 0.18(mm)
STDET 240-347872/22 IC		09/30/2018 19:30	1	UX974200.D	DB-624 0.18(mm)
ICV 240-347872/23		09/30/2018 19:54	1		DB-624 0.18(mm)
STDA9 240-347872/25 IC		09/30/2018 20:43	1	UX974203.D	DB-624 0.18(mm)
STDA9 240-347872/26 IC		09/30/2018 21:06	1	UX974204.D	DB-624 0.18(mm)
STDA9 240-347872/27 IC		09/30/2018 21:31	1	UX974205.D	DB-624 0.18(mm)
STDA9 240-347872/28 IC		09/30/2018 21:55	1	UX974206.D	DB-624 0.18(mm)
STDA9 240-347872/29 IC		09/30/2018 22:19	1	UX974207.D	DB-624 0.18(mm)
STDA9 240-347872/30 IC		09/30/2018 22:43	1	UX974208.D	DB-624 0.18(mm)
ICV 240-347872/31		09/30/2018 23:07	1		DB-624 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: A3UX9 Start Date: 11/12/2018 18:11

Analysis Batch Number: 355006 End Date: 11/12/2018 23:04

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-355006/1		11/12/2018 18:11	1	BFB506.D	DB-624 0.18(mm)
STD8260 240-355006/8 IC		11/12/2018 19:01	1	UX975099.D	DB-624 0.18(mm)
STD8260 240-355006/9 IC		11/12/2018 19:25	1	UX975100.D	DB-624 0.18(mm)
STD8260 240-355006/10 IC		11/12/2018 19:50	1	UX975101.D	DB-624 0.18(mm)
ICIS 240-355006/11		11/12/2018 20:15	1	UX975102.D	DB-624 0.18(mm)
STD8260 240-355006/12 IC		11/12/2018 20:39	1	UX975103.D	DB-624 0.18(mm)
STD8260 240-355006/13 IC		11/12/2018 21:03	1	UX975104.D	DB-624 0.18(mm)
STD8260 240-355006/14 IC		11/12/2018 21:27	1	UX975105.D	DB-624 0.18(mm)
ICV 240-355006/15		11/12/2018 21:51	1	UX975106.D	DB-624 0.18(mm)
MRL 240-355006/16 MDLV		11/12/2018 22:16	1		DB-624 0.18(mm)
MDLV 240-355006/17		11/12/2018 22:40	1		DB-624 0.18(mm)
ZZZZZ		11/12/2018 23:04	1		DB-624 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: A3UX9 Start Date: 11/21/2018 17:39

Analysis Batch Number: 356655 End Date: 11/22/2018 02:14

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-356655/1		11/21/2018 17:39	1	BFB514.D	DB-624 0.18(mm)
CCV 240-356655/3		11/21/2018 18:09	1	UX975331.D	DB-624 0.18(mm)
ZZZZZ		11/21/2018 18:09	1		DB-624 0.18(mm)
CCVIS 240-356655/4		11/21/2018 18:34	1	UX975332.D	DB-624 0.18(mm)
LCS 240-356655/5		11/21/2018 18:59	1	UX975333.D	DB-624 0.18(mm)
LCS 240-356655/6		11/21/2018 19:23	1	UX975334.D	DB-624 0.18(mm)
LCSD 240-356655/7		11/21/2018 19:47	1	UX975335.D	DB-624 0.18(mm)
MRL 240-356655/8 MDLV		11/21/2018 20:11	1		DB-624 0.18(mm)
MRL 240-356655/9 MDLV		11/21/2018 20:36	1		DB-624 0.18(mm)
MB 240-356655/10		11/21/2018 20:58	1	UX975338.D	DB-624 0.18(mm)
ZZZZZ		11/21/2018 21:22	1		DB-624 0.18(mm)
240-104369-2		11/21/2018 21:46	5	UX975340.D	DB-624 0.18(mm)
240-104369-1		11/21/2018 22:11	1	UX975341.D	DB-624 0.18(mm)
240-104369-3		11/21/2018 22:35	1	UX975342.D	DB-624 0.18(mm)
240-104369-2 MS		11/22/2018 00:12	5	UX975346.D	DB-624 0.18(mm)
240-104369-2 MSD		11/22/2018 00:36	5	UX975347.D	DB-624 0.18(mm)
ZZZZZ		11/22/2018 01:25	1		DB-624 0.18(mm)
ZZZZZ		11/22/2018 01:49	1		DB-624 0.18(mm)
ZZZZZ		11/22/2018 02:14	1		DB-624 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: A3UX19 Start Date: 11/23/2018 11:57

Analysis Batch Number: 356782 End Date: 11/23/2018 22:01

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-356782/1		11/23/2018 11:57	1	bfb141.d	DB-624 0.18(mm)
CCV 240-356782/2		11/23/2018 12:20	1	U1904072.d	DB-624 0.18(mm)
ZZZZZ		11/23/2018 12:20	1		DB-624 0.18(mm)
CCVIS 240-356782/3		11/23/2018 12:42	1	U1904073.d	DB-624 0.18(mm)
MRL 240-356782/5 MDLV		11/23/2018 13:27	1		DB-624 0.18(mm)
MRL 240-356782/6 MDLV		11/23/2018 13:50	1		DB-624 0.18(mm)
LCS 240-356782/33		11/23/2018 14:12	1	U1904077.d	DB-624 0.18(mm)
MB 240-356782/7		11/23/2018 14:57	1	U1904079.d	DB-624 0.18(mm)
240-104369-4		11/23/2018 15:19	5	U1904080.d	DB-624 0.18(mm)
240-104369-5		11/23/2018 15:41	1	U1904081.d	DB-624 0.18(mm)
240-104369-6		11/23/2018 16:04	1	U1904082.d	DB-624 0.18(mm)
ZZZZZ		11/23/2018 16:26	1		DB-624 0.18(mm)
ZZZZZ		11/23/2018 16:48	1		DB-624 0.18(mm)
ZZZZZ		11/23/2018 17:11	1		DB-624 0.18(mm)
ZZZZZ		11/23/2018 17:33	1		DB-624 0.18(mm)
ZZZZZ		11/23/2018 17:55	1		DB-624 0.18(mm)
ZZZZZ		11/23/2018 19:47	500		DB-624 0.18(mm)
ZZZZZ		11/23/2018 20:32	1		DB-624 0.18(mm)
ZZZZZ		11/23/2018 20:54	12.5		DB-624 0.18(mm)
ZZZZZ		11/23/2018 21:16	12.5		DB-624 0.18(mm)
240-104634-A-2 MS		11/23/2018 21:39	12.5	U1904097.d	DB-624 0.18(mm)
240-104634-A-2 MSD		11/23/2018 22:01	12.5	U1904098.d	DB-624 0.18(mm)

GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 342719 Batch Start Date: 08/27/18 16:23 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	vm50is_stk_A 00001	vm50ss 00333	vm50ss_stk 00077	vmarolistdw 00260
BFB 240-342719/1		8260C		5 mL	5 mL				
STD8260 240-342719/7 IC		8260C		5 mL	5 mL	2 uL	64 uL		64 uL
STD8260 240-342719/8 IC		8260C		5 mL	5 mL	2 uL	48 uL		48 uL
STD8260 240-342719/9 IC		8260C		5 mL	5 mL	2 uL	32 uL		32 uL
ICIS 240-342719/10		8260C		5 mL	5 mL	2 uL	16 uL		16 uL
STD8260 240-342719/11 IC		8260C		5 mL	5 mL	2 uL	8 uL		8 uL
STD8260 240-342719/12 IC		8260C		5 mL	5 mL	2 uL	0.8 uL		0.8 uL
STD8260 240-342719/13 IC		8260C		5 mL	5 mL	2 uL	0.4 uL		0.4 uL
ICV 240-342719/14		8260C		5 mL	5 mL	2 uL		2 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmbfb 00020	vmfasaw 00246	vmfasgw 00271	vmfaspw 00264	vmrgas 00259	vmrprimw 00297
BFB 240-342719/1		8260C		1 uL					
STD8260 240-342719/7 IC		8260C						64 uL	64 uL
STD8260 240-342719/8 IC		8260C						48 uL	48 uL
STD8260 240-342719/9 IC		8260C						32 uL	32 uL
ICIS 240-342719/10		8260C						16 uL	16 uL
STD8260 240-342719/11 IC		8260C						8 uL	8 uL
STD8260 240-342719/12 IC		8260C						0.8 uL	0.8 uL

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 342719 Batch Start Date: 08/27/18 16:23 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmbfb 00020	vmfasaw 00246	vmfasgw 00271	vmfaspw 00264	vmrgas 00259	vmrprimw 00297
STD8260 240-342719/13 IC		8260C						0.4 uL	0.4 uL
ICV 240-342719/14		8260C			16 uL	16 uL	16 uL		

Batch Notes	

Basis	Basis Description

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 347872 Batch Start Date: 09/30/18 13:21 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	vm100is_stk_A 00001	vm100ss_stk 00030	vm23ethtol 00003	vm50ss 00337
BFB 240-347872/2		8260C		5 mL	5 mL				
STD8260 240-347872/9 IC		8260C		5 mL	5 mL	1 uL			48 uL
STD8260 240-347872/10 IC		8260C		5 mL	5 mL	1 uL			32 uL
ICIS 240-347872/11		8260C		5 mL	5 mL	1 uL			16 uL
STD8260 240-347872/12 IC		8260C		5 mL	5 mL	1 uL			8 uL
STD8260 240-347872/13 IC		8260C		5 mL	5 mL	1 uL			0.8 uL
STD8260 240-347872/14 IC		8260C		5 mL	5 mL	1 uL			0.4 uL
ICV 240-347872/15		8260C		5 mL	5 mL	1 uL	0.8208 uL		
STDET 240-347872/18 IC		8260C		5 mL	5 mL	1 uL		64 uL	
STDET 240-347872/19 IC		8260C		5 mL	5 mL	1 uL		32 uL	
STDET 240-347872/20 IC		8260C		5 mL	5 mL	1 uL		16 uL	
STDET 240-347872/21 IC		8260C		5 mL	5 mL	1 uL		8 uL	
STDET 240-347872/22 IC		8260C		5 mL	5 mL	1 uL		0.8 uL	
STDA9 240-347872/25 IC		8260C		5 mL	5 mL	1 uL			
STDA9 240-347872/26 IC		8260C		5 mL	5 mL	1 uL			

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 347872 Batch Start Date: 09/30/18 13:21 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	vm100is_stk_A 00001	vm100ss_stk 00030	vm23ethtol 00003	vm50ss 00337
STDA9 240-347872/27 IC		8260C		5 mL	5 mL	1 uL			
STDA9 240-347872/28 IC		8260C		5 mL	5 mL	1 uL			
STDA9 240-347872/29 IC		8260C		5 mL	5 mL	1 uL			
STDA9 240-347872/30 IC		8260C		5 mL	5 mL	1 uL			

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmarolistdw 00266	vmbfb 00020	vmfasaw 00250	vmfasgw 00276	vmfaspw 00269	vmra9w 00267
BFB 240-347872/2		8260C			1 uL				
STD8260 240-347872/9 IC		8260C		48 uL					
STD8260 240-347872/10 IC		8260C		32 uL					
ICIS 240-347872/11		8260C		16 uL					
STD8260 240-347872/12 IC		8260C		8 uL					
STD8260 240-347872/13 IC		8260C		0.8 uL					
STD8260 240-347872/14 IC		8260C		0.4 uL					
ICV 240-347872/15		8260C				16 uL	16 uL	16 uL	
STDET 240-347872/18 IC		8260C							
STDET 240-347872/19 IC		8260C							

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 347872 Batch Start Date: 09/30/18 13:21 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmarolistdw 00266	vmbfb 00020	vmfasaw 00250	vmfasgw 00276	vmfaspw 00269	vmra9w 00267
STDET 240-347872/20 IC		8260C							
STDET 240-347872/21 IC		8260C							
STDET 240-347872/22 IC		8260C							
STDA9 240-347872/25 IC		8260C							48 uL
STDA9 240-347872/26 IC		8260C							32 uL
STDA9 240-347872/27 IC		8260C							16 uL
STDA9 240-347872/28 IC		8260C							8 uL
STDA9 240-347872/29 IC		8260C							0.8 uL
STDA9 240-347872/30 IC		8260C							0.4 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmrgas 00263	vmrprimw 00302				
BFB 240-347872/2		8260C							
STD8260 240-347872/9 IC		8260C		48 uL	48 uL				
STD8260 240-347872/10 IC		8260C		32 uL	32 uL				
ICIS 240-347872/11		8260C		16 uL	16 uL				
STD8260 240-347872/12 IC		8260C		8 uL	8 uL				

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 347872 Batch Start Date: 09/30/18 13:21 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmrgas 00263	vmrprimw 00302				
STD8260 240-347872/13 IC		8260C		0.8 uL	0.8 uL				
STD8260 240-347872/14 IC		8260C		0.4 uL	0.4 uL				
ICV 240-347872/15		8260C							
STDET 240-347872/18 IC		8260C							
STDET 240-347872/19 IC		8260C							
STDET 240-347872/20 IC		8260C							
STDET 240-347872/21 IC		8260C							
STDET 240-347872/22 IC		8260C							
STDA9 240-347872/25 IC		8260C							
STDA9 240-347872/26 IC		8260C							
STDA9 240-347872/27 IC		8260C							
STDA9 240-347872/28 IC		8260C							
STDA9 240-347872/29 IC		8260C							
STDA9 240-347872/30 IC		8260C							

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 347872 Batch Start Date: 09/30/18 13:21 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Batch Notes	

Basis	Basis Description

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 355006 Batch Start Date: 11/12/18 18:11 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	vm100is_stk_A 00001	vm100ss_stk 00030	vm50ss 00342	vmarolistdw 00272
BFB 240-355006/1		8260C		5 mL	5 mL				
STD8260 240-355006/8 IC		8260C		5 mL	5 mL	1 uL		48 uL	48 uL
STD8260 240-355006/9 IC		8260C		5 mL	5 mL	1 uL		32 uL	32 uL
STD8260 240-355006/10 IC		8260C		5 mL	5 mL	1 uL		24 uL	24 uL
ICIS 240-355006/11		8260C		5 mL	5 mL	1 uL		16 uL	16 uL
STD8260 240-355006/12 IC		8260C		5 mL	5 mL	1 uL		8 uL	8 uL
STD8260 240-355006/13 IC		8260C		5 mL	5 mL	1 uL		0.8 uL	0.8 uL
STD8260 240-355006/14 IC		8260C		5 mL	5 mL	1 uL		0.4 uL	0.4 uL
ICV 240-355006/15		8260C		5 mL	5 mL	1 uL	0.8208 uL		

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmbfb 00020	vmfasaw 00255	vmfasgw 00282	vmfaspw 00275	vmrgas 00269	vmrprimw 00308
BFB 240-355006/1		8260C		1 uL					
STD8260 240-355006/8 IC		8260C						48 uL	48 uL
STD8260 240-355006/9 IC		8260C						32 uL	32 uL
STD8260 240-355006/10 IC		8260C						24 uL	24 uL
ICIS 240-355006/11		8260C						16 uL	16 uL
STD8260 240-355006/12 IC		8260C						8 uL	8 uL
STD8260 240-355006/13 IC		8260C						0.8 uL	0.8 uL

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 355006 Batch Start Date: 11/12/18 18:11 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmbfb 00020	vmfasaw 00255	vmfasgw 00282	vmfaspw 00275	vmrgas 00269	vmrprimw 00308
STD8260 240-355006/14 IC		8260C						0.4 uL	0.4 uL
ICV 240-355006/15		8260C			16 uL	16 uL	16 uL		

Batch Notes	

Basis	Basis Description

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 356655 Batch Start Date: 11/21/18 17:39 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	vm100is_stk_A 00001	vm100ss_stk 00030	vm23ethtol 00005
BFB 240-356655/1		8260C		5 mL	5 mL				
CCV 240-356655/3		8260C		5 mL	5 mL		1 uL		16 uL
CCVIS 240-356655/4		8260C		5 mL	5 mL		1 uL	0.8208 uL	
LCS 240-356655/5		8260C		5 mL	5 mL		1 uL	0.8208 uL	
LCS 240-356655/6		8260C		5 mL	5 mL		1 uL	0.8208 uL	16 uL
LCSD 240-356655/7		8260C		5 mL	5 mL		1 uL	0.8208 uL	16 uL
MB 240-356655/10		8260C		5 mL	5 mL		1 uL	0.8208 uL	
240-104369-B-2	MRC-MW-134A-111318	8260C	T	5 mL	5 mL	<2 SU	1 uL	0.8208 uL	
240-104369-B-1	TB-111318	8260C	T	5 mL	5 mL	<2 SU	1 uL	0.8208 uL	
240-104369-B-3	MRC-MW-134B-111318	8260C	T	5 mL	5 mL	<2 SU	1 uL	0.8208 uL	
240-104369-B-2 MS	MRC-MW-134A-111318	8260C	T	5 mL	5 mL	<2 SU	1 uL	0.8208 uL	
240-104369-B-2 MSD	MRC-MW-134A-111318	8260C	T	5 mL	5 mL	<2 SU	1 uL	0.8208 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmarolistdw 00273	vmbfb 00020	VMFASA9 00015	vmfasaw 00257	vmfasgw 00283	vmfaspw 00276
BFB 240-356655/1		8260C			1 uL				
CCV 240-356655/3		8260C							
CCVIS 240-356655/4		8260C		16 uL					
LCS 240-356655/5		8260C					16 uL	16 uL	16 uL
LCS 240-356655/6		8260C				16 uL			
LCSD 240-356655/7		8260C				16 uL			
MB 240-356655/10		8260C							

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 356655 Batch Start Date: 11/21/18 17:39 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmarolistdw 00273	vmbfb 00020	VMFASA9 00015	vmfasaw 00257	vmfasgw 00283	vmfaspw 00276
240-104369-B-2	MRC-MW-134A-111318	8260C	T						
240-104369-B-1	TB-111318	8260C	T						
240-104369-B-3	MRC-MW-134B-111318	8260C	T						
240-104369-B-2 MS	MRC-MW-134A-111318	8260C	T				16 uL	16 uL	16 uL
240-104369-B-2 MSD	MRC-MW-134A-111318	8260C	T				16 uL	16 uL	16 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmra9w 00274	vmrgas 00271	vmrprimw 00309			
BFB 240-356655/1		8260C							
CCV 240-356655/3		8260C		16 uL					
CCVIS 240-356655/4		8260C			16 uL	16 uL			
LCS 240-356655/5		8260C							
LCS 240-356655/6		8260C							
LCSD 240-356655/7		8260C							
MB 240-356655/10		8260C							
240-104369-B-2	MRC-MW-134A-111318	8260C	T						
240-104369-B-1	TB-111318	8260C	T						
240-104369-B-3	MRC-MW-134B-111318	8260C	T						
240-104369-B-2 MS	MRC-MW-134A-111318	8260C	T						
240-104369-B-2 MSD	MRC-MW-134A-111318	8260C	T						

Batch Notes	
pH Indicator ID	HC746949

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 356655 Batch Start Date: 11/21/18 17:39 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 356782 Batch Start Date: 11/23/18 11:57 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	vm50is_stk_A 00002	vm50ss_stk 00078	vmarolistdw 00273
BFB 240-356782/1		8260C		5 mL	5 mL				
CCV 240-356782/2		8260C		5 mL	5 mL		2 uL		
CCVIS 240-356782/3		8260C		5 mL	5 mL		2 uL	2 uL	16 uL
MB 240-356782/7		8260C		5 mL	5 mL		2 uL	2 uL	
240-104369-C-4	MRC-MW-135B-111318	8260C	T	5 mL	5 mL	<2 SU	2 uL	2 uL	
240-104369-C-5	MRC-MW-136A-111318	8260C	T	5 mL	5 mL	<2 SU	2 uL	2 uL	
240-104369-C-6	MRC-MW-DUP-111318	8260C	T	5 mL	5 mL	<2 SU	2 uL	2 uL	
240-104634-A-2 MS		8260C	T	5 mL	5 mL	<2 SU	2 uL	2 uL	
240-104634-A-2 MSD		8260C	T	5 mL	5 mL	<2 SU	2 uL	2 uL	
LCS 240-356782/33		8260C		5 mL	5 mL		2 uL	2 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmbfb 00020	vmfasaw 00257	vmfasgw 00283	vmfaspw 00276	vmra9w 00274	vmrgas 00271
BFB 240-356782/1		8260C		1 uL					
CCV 240-356782/2		8260C						16 uL	
CCVIS 240-356782/3		8260C							16 uL
MB 240-356782/7		8260C							
240-104369-C-4	MRC-MW-135B-111318	8260C	T						
240-104369-C-5	MRC-MW-136A-111318	8260C	T						
240-104369-C-6	MRC-MW-DUP-111318	8260C	T						
240-104634-A-2 MS		8260C	T		16 uL	16 uL	16 uL		
240-104634-A-2 MSD		8260C	T		16 uL	16 uL	16 uL		
LCS 240-356782/33		8260C			16 uL	16 uL	16 uL		

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 356782 Batch Start Date: 11/23/18 11:57 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmrprimw 00310					
BFB 240-356782/1		8260C							
CCV 240-356782/2		8260C							
CCVIS 240-356782/3		8260C		16 uL					
MB 240-356782/7		8260C							
240-104369-C-4	MRC-MW-135B-111318	8260C	T						
240-104369-C-5	MRC-MW-136A-111318	8260C	T						
240-104369-C-6	MRC-MW-DUP-111318	8260C	T						
240-104634-A-2 MS		8260C	T						
240-104634-A-2 MSD		8260C	T						
LCS 240-356782/33		8260C							

Batch Notes	
pH Indicator ID	HC746949

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

Polychlorinated Biphenyls (PCBs) (GC/MS) by Method 680

FORM II
PCBS SURROGATE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): HP-5MS ID: 0.25(mm)

Client Sample ID	Lab Sample ID	13CDCB #
MRC-MW-134A-111318	240-104369-2	55
MRC-MW-134A-111318 RE	240-104369-2 RE	58
MRC-MW-134B-111318	240-104369-3	67
MRC-MW-134B-111318 RE	240-104369-3 RE	57
MRC-MW-135B-111318	240-104369-4	92
MRC-MW-135B-111318 RE	240-104369-4 RE	62
MRC-MW-136B-111318	240-104369-5	43
MRC-MW-136B-111318 RE	240-104369-5 RE	59
MRC-MW-DUP-111318	240-104369-6	54
MRC-MW-DUP-111318 RE	240-104369-6 RE	51
	MB 680-547809/7-A	72
	MB 680-549336/7-A	62
	LCS 680-547809/8-A	74
	LCS 680-549336/8-A	72
	LCSD 680-549336/9-A	57
	240-104312-B-2-A MS	73
	240-104312-B-2-B MSD	68

	QC LIMITS
13CDCB = Decachlorobiphenyl-13C12	25-113

Column to be used to flag recovery values

FORM II 680

FORM III
PCBS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low Lab File ID: xk2106.D

Lab ID: LCS 680-547809/8-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Heptachlorobiphenyl	6.00	4.31	72	62-130	
Hexachlorobiphenyl	4.00	3.15	79	62-130	
Nonachlorobiphenyl	10.0	13.6	136	70-195	
Octachlorobiphenyl	6.00	4.77	80	64-130	
Monochlorobiphenyl	2.00	0.602	30	42-130	*
DCB Decachlorobiphenyl	10.0	7.71	77	59-130	
Dichlorobiphenyl	2.00	0.886	44	49-130	*
Pentachlorobiphenyl	4.00	3.23	81	63-130	
Tetrachlorobiphenyl	4.00	2.15	54	54-130	
Trichlorobiphenyl	2.00	1.10	55	51-130	

Column to be used to flag recovery and RPD values

FORM III 680

FORM III
PCBS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low Lab File ID: xl0307.D

Lab ID: LCS 680-549336/8-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Heptachlorobiphenyl	6.00	3.97	66	62-130	
Hexachlorobiphenyl	4.00	2.85	71	62-130	
Nonachlorobiphenyl	10.0	12.5	125	70-195	
Octachlorobiphenyl	6.00	4.27	71	64-130	
Monochlorobiphenyl	2.00	0.660	33	42-130	*
DCB Decachlorobiphenyl	10.0	7.13	71	59-130	
Dichlorobiphenyl	2.00	0.917	46	49-130	*
Pentachlorobiphenyl	4.00	2.97	74	63-130	
Tetrachlorobiphenyl	4.00	2.04	51	54-130	*
Trichlorobiphenyl	2.00	1.07	54	51-130	

Column to be used to flag recovery and RPD values

FORM III 680

FORM III
PCBS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low Lab File ID: xl0308.D

Lab ID: LCSD 680-549336/9-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Heptachlorobiphenyl	6.00	3.29	55	19	40	62-130	*
Hexachlorobiphenyl	4.00	2.39	60	17	40	62-130	*
Nonachlorobiphenyl	10.0	10.7	107	15	40	70-195	
Octachlorobiphenyl	6.00	3.64	61	16	40	64-130	*
Monochlorobiphenyl	2.00	0.556	28	17	40	42-130	*
DCB Decachlorobiphenyl	10.0	5.75	57	22	40	59-130	*
Dichlorobiphenyl	2.00	0.807	40	13	40	49-130	*
Pentachlorobiphenyl	4.00	2.46	62	19	40	63-130	*
Tetrachlorobiphenyl	4.00	1.82	46	11	40	54-130	*
Trichlorobiphenyl	2.00	0.950	48	12	40	51-130	*

Column to be used to flag recovery and RPD values

FORM III 680

FORM III
PCBS MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low Lab File ID: xk2107.D

Lab ID: 240-104312-B-2-A MS Client ID:

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Heptachlorobiphenyl	5.70	0.029 U	3.80	67	62-130	
Hexachlorobiphenyl	3.80	0.014 U	2.82	74	62-130	
Nonachlorobiphenyl	9.49	0.047 U	12.2	128	70-195	
Octachlorobiphenyl	5.70	0.037 U	4.31	76	64-130	
Monochlorobiphenyl	1.90	0.0054 U	0.845	44	42-130	
DCB Decachlorobiphenyl	9.49	0.068 U	6.78	71	59-130	
Dichlorobiphenyl	1.90	0.0052 U	0.987	52	49-130	
Pentachlorobiphenyl	3.80	0.014 U	2.77	73	63-130	
Tetrachlorobiphenyl	3.80	0.013 U	2.19	58	54-130	
Trichlorobiphenyl	1.90	0.0063 U	1.11	59	51-130	

Column to be used to flag recovery and RPD values

FORM III 680

FORM III
PCBS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low Lab File ID: xk2108.D

Lab ID: 240-104312-B-2-B MSD Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Heptachlorobiphenyl	6.49	4.37	67	14	40	62-130	
Hexachlorobiphenyl	4.33	3.21	74	13	40	62-130	
Nonachlorobiphenyl	10.8	14.3	132	16	40	70-195	
Octachlorobiphenyl	6.49	4.93	76	13	40	64-130	
Monochlorobiphenyl	2.16	1.09	50	25	40	42-130	
DCB Decachlorobiphenyl	10.8	7.58	70	11	40	59-130	
Dichlorobiphenyl	2.16	1.18	55	18	40	49-130	
Pentachlorobiphenyl	4.33	3.24	75	16	40	63-130	
Tetrachlorobiphenyl	4.33	2.43	56	11	40	54-130	
Trichlorobiphenyl	2.16	1.27	59	14	40	51-130	

Column to be used to flag recovery and RPD values

FORM III 680

FORM IV
PCBS METHOD BLANK SUMMARY

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Lab File ID: xk2105.D Lab Sample ID: MB 680-547809/7-A

Matrix: Water Date Extracted: 11/16/2018 15:42

Instrument ID: CMSX Date Analyzed: 11/21/2018 12:46

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 680-547809/8-A	xk2106.D	11/21/2018 13:14
	240-104312-B-2-A MS	xk2107.D	11/21/2018 13:43
	240-104312-B-2-B MSD	xk2108.D	11/21/2018 14:11
MRC-MW-134B-111318	240-104369-3	xk2111.D	11/21/2018 15:37
MRC-MW-135B-111318	240-104369-4	xk2112.D	11/21/2018 16:05
MRC-MW-136B-111318	240-104369-5	xk2113.D	11/21/2018 16:34
MRC-MW-DUP-111318	240-104369-6	xk2114.D	11/21/2018 17:02
MRC-MW-134A-111318	240-104369-2	xk2609.D	11/26/2018 13:34

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 240-104369-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 680-547809/7-A

Matrix: Water | Lab File ID: xk2105.D

Analysis Method: 680 | Date Collected:

Extract. Method: 680 | Date Extracted: 11/16/2018 15:42

Sample wt/vol: 1000(mL) | Date Analyzed: 11/21/2018 12:46

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.: 548241 | Units: ug/L

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

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

FORM IV
PCBS METHOD BLANK SUMMARY

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Lab File ID: xl0306.D Lab Sample ID: MB 680-549336/7-A

Matrix: Water Date Extracted: 11/29/2018 10:00

Instrument ID: CMSX Date Analyzed: 12/03/2018 11:27

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 680-549336/8-A	xl0307.D	12/03/2018 11:55
	LCSD 680-549336/9-A	xl0308.D	12/03/2018 12:24
MRC-MW-134A-111318 RE	240-104369-2 RE	xl0310.D	12/03/2018 13:21
MRC-MW-134B-111318 RE	240-104369-3 RE	xl0311.D	12/03/2018 13:50
MRC-MW-135B-111318 RE	240-104369-4 RE	xl0312.D	12/03/2018 14:18
MRC-MW-136B-111318 RE	240-104369-5 RE	xl0313.D	12/03/2018 14:47
MRC-MW-DUP-111318 RE	240-104369-6 RE	xl0314.D	12/03/2018 15:15

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 240-104369-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 680-549336/7-A

Matrix: Water | Lab File ID: xl0306.D

Analysis Method: 680 | Date Collected:

Extract. Method: 680 | Date Extracted: 11/29/2018 10:00

Sample wt/vol: 1000(mL) | Date Analyzed: 12/03/2018 11:27

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.: 549800 | Units: ug/L

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

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	62		25-113

FORM V
PCBS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Lab File ID: xk0701.D DFTPP Injection Date: 11/07/2018

Instrument ID: CMSX DFTPP Injection Time: 12:32

Analysis Batch No.: 546611

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
127	40 - 60 % of mass 198	51.5
197	Less than 1 % of mass 198	0.7
198	Base peak, 100 % Relative abundance	100.0
199	5 - 9 % of mass 198	6.3
275	10 - 30% of mass 198	25.6
365	Greater than 1% of mass 198	4.3
441	Present but less than mass 443	13.6 (77.6) 2
442	Greater than 40% of mass 198	96.3
443	17 - 23% of mass 442	17.5 (18.1) 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 680-546611/3	xk0703.D	11/07/2018	13:33
	IC 680-546611/4	xk0706.D	11/07/2018	15:12
	IC 680-546611/11	xk0707.D	11/07/2018	15:40
	IC 680-546611/12	xk0708.D	11/07/2018	16:09
	IC 680-546611/13	xk0709.D	11/07/2018	16:37
	IC 680-546611/14	xk0710.D	11/07/2018	17:06
	ICV 680-546611/15	xk0711.D	11/07/2018	17:34

FORM V
PCBS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Lab File ID: xk2101.D DFTPP Injection Date: 11/21/2018

Instrument ID: CMSX DFTPP Injection Time: 10:48

Analysis Batch No.: 548241

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
127	40 - 60 % of mass 198	53.8
197	Less than 1 % of mass 198	0.8
198	Base peak, 100 % Relative abundance	100.0
199	5 - 9 % of mass 198	6.3
275	10 - 30% of mass 198	24.7
365	Greater than 1% of mass 198	3.8
441	Present but less than mass 443	13.0 (82.1) 2
442	Greater than 40% of mass 198	83.4
443	17 - 23% of mass 442	15.9 (19.0) 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 680-548241/2	xk2102.D	11/21/2018	11:18
	CCVIS 680-548241/3	xk2103.D	11/21/2018	11:49
	MB 680-547809/7-A	xk2105.D	11/21/2018	12:46
	LCS 680-547809/8-A	xk2106.D	11/21/2018	13:14
	240-104312-B-2-A MS	xk2107.D	11/21/2018	13:43
	240-104312-B-2-B MSD	xk2108.D	11/21/2018	14:11
MRC-MW-134B-111318	240-104369-3	xk2111.D	11/21/2018	15:37
MRC-MW-135B-111318	240-104369-4	xk2112.D	11/21/2018	16:05
MRC-MW-136B-111318	240-104369-5	xk2113.D	11/21/2018	16:34
MRC-MW-DUP-111318	240-104369-6	xk2114.D	11/21/2018	17:02
	CCVC 680-548241/15	xk2115.D	11/21/2018	17:31

FORM V
PCBS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Lab File ID: xk2601.D DFTPP Injection Date: 11/26/2018

Instrument ID: CMSX DFTPP Injection Time: 08:13

Analysis Batch No.: 548687

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
127	40 - 60 % of mass 198	52.8
197	Less than 1 % of mass 198	0.2
198	Base peak, 100 % Relative abundance	100.0
199	5 - 9 % of mass 198	6.9
275	10 - 30% of mass 198	24.8
365	Greater than 1% of mass 198	3.7
441	Present but less than mass 443	12.7 (79.7) 2
442	Greater than 40% of mass 198	81.1
443	17 - 23% of mass 442	15.9 (19.7) 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 680-548687/2	xk2602.D	11/26/2018	08:43
	CCVIS 680-548687/3	xk2603.D	11/26/2018	09:14
MRC-MW-134A-111318	240-104369-2	xk2609.D	11/26/2018	13:34
	CCVC 680-548687/10	xk2610.D	11/26/2018	14:03

FORM V
PCBS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Lab File ID: xl0301.D DFTPP Injection Date: 12/03/2018

Instrument ID: CMSX DFTPP Injection Time: 08:58

Analysis Batch No.: 549800

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
127	40 - 60 % of mass 198	53.1
197	Less than 1 % of mass 198	1.0
198	Base peak, 100 % Relative abundance	100.0
199	5 - 9 % of mass 198	7.0
275	10 - 30% of mass 198	25.2
365	Greater than 1% of mass 198	4.0
441	Present but less than mass 443	13.8 (80.2) 2
442	Greater than 40% of mass 198	89.6
443	17 - 23% of mass 442	17.2 (19.2) 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 680-549800/2	xl0303.D	12/03/2018	09:59
	CCVIS 680-549800/3	xl0304.D	12/03/2018	10:30
	MB 680-549336/7-A	xl0306.D	12/03/2018	11:27
	LCS 680-549336/8-A	xl0307.D	12/03/2018	11:55
	LCSD 680-549336/9-A	xl0308.D	12/03/2018	12:24
MRC-MW-134A-111318 RE	240-104369-2 RE	xl0310.D	12/03/2018	13:21
MRC-MW-134B-111318 RE	240-104369-3 RE	xl0311.D	12/03/2018	13:50
MRC-MW-135B-111318 RE	240-104369-4 RE	xl0312.D	12/03/2018	14:18
MRC-MW-136B-111318 RE	240-104369-5 RE	xl0313.D	12/03/2018	14:47
MRC-MW-DUP-111318 RE	240-104369-6 RE	xl0314.D	12/03/2018	15:15
	CCVC 680-549800/14	xl0315.D	12/03/2018	15:44

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Instrument ID: CMSX Calibration Start Date: 11/07/2018 13:33

GC Column: HP-5MS ID: 0.25(mm) Calibration End Date: 11/07/2018 17:06

Calibration ID: 61546

		PHN		CRY			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MEAN AREA AND MEAN RT		182659	12.30	170607	18.56		
UPPER LIMIT		273989	12.80	255911	19.06		
LOWER LIMIT		91330	11.80	85304	18.06		
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 680-546611/15		171986	12.30	140292	18.57		
CCVIS 680-548241/3		187426	12.30	178803	18.55		
MB 680-547809/7-A		216298	12.30	206769	18.55		
240-104312-B-2-A MS		205376	12.29	217845	18.55		
240-104312-B-2-B MSD		199229	12.29	213458	18.55		
240-104369-3	MRC-MW-134B-111318	201015	12.29	205190	18.55		
240-104369-4	MRC-MW-135B-111318	135055	12.29	146524	18.55		
240-104369-5	MRC-MW-136B-111318	208911	12.29	222238	18.55		
240-104369-6	MRC-MW-DUP-111318	190609	12.29	209083	18.55		
CCVC 680-548241/15		216580	12.31	229848	18.55		
CCVIS 680-549800/3		205891	12.31	197369	18.57		
MB 680-549336/7-A		195292	12.30	222155	18.55		
LCS 680-549336/8-A		186553	12.30	199893	18.55		
LCSD 680-549336/9-A		192601	12.31	199824	18.55		
240-104369-2 RE	MRC-MW-134A-111318 RE	215389	12.29	241820	18.55		
240-104369-3 RE	MRC-MW-134B-111318 RE	207066	12.31	220072	18.55		
240-104369-4 RE	MRC-MW-135B-111318 RE	191682	12.29	206218	18.55		
240-104369-5 RE	MRC-MW-136B-111318 RE	197384	12.29	219097	18.55		
240-104369-6 RE	MRC-MW-DUP-111318 RE	191603	12.31	210026	18.55		
CCVC 680-549800/14		227331	12.31	240918	18.55		

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 680

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Sample No.: CCVIS 680-548241/3 Date Analyzed: 11/21/2018 11:49

Instrument ID: CMSX GC Column: HP-5MS ID: 0.25(mm)

Lab File ID (Standard): xk2103.D Heated Purge: (Y/N) N

Calibration ID: 61546

		PHN		CRY			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		187426	12.30	178803	18.55		
UPPER LIMIT		243654	12.80	232444	19.05		
LOWER LIMIT		131198	11.80	125162	18.05		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 680-547809/7-A		216298	12.30	206769	18.55		
LCS 680-547809/8-A		188727	12.31	189978	18.55		
240-104312-B-2-A MS		205376	12.29	217845	18.55		
240-104312-B-2-B MSD		199229	12.29	213458	18.55		
240-104369-3	MRC-MW-134B-111318	201015	12.29	205190	18.55		
240-104369-4	MRC-MW-135B-111318	135055	12.29	146524	18.55		
240-104369-5	MRC-MW-136B-111318	208911	12.29	222238	18.55		
240-104369-6	MRC-MW-DUP-111318	190609	12.29	209083	18.55		
CCVC 680-548241/15		216580	12.31	229848	18.55		

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 680

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Sample No.: CCVIS 680-548687/3 Date Analyzed: 11/26/2018 09:14

Instrument ID: CMSX GC Column: HP-5MS ID: 0.25(mm)

Lab File ID (Standard): xk2603.D Heated Purge: (Y/N) N

Calibration ID: 61546

		PHN		CRY			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		194580	12.31	192076	18.57		
UPPER LIMIT		252954	12.81	249699	19.07		
LOWER LIMIT		136206	11.81	134453	18.07		
LAB SAMPLE ID	CLIENT SAMPLE ID						
240-104369-2	MRC-MW-134A-111318	190402	12.29	227421	18.55		
CCVC 680-548687/10		205463	12.31	212713	18.57		

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 680

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Sample No.: CCVIS 680-549800/3 Date Analyzed: 12/03/2018 10:30

Instrument ID: CMSX GC Column: HP-5MS ID: 0.25(mm)

Lab File ID (Standard): xl0304.D Heated Purge: (Y/N) N

Calibration ID: 61546

		PHN		CRY			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		205891	12.31	197369	18.57		
UPPER LIMIT		267658	12.81	256580	19.07		
LOWER LIMIT		144124	11.81	138158	18.07		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 680-549336/7-A		195292	12.30	222155	18.55		
LCS 680-549336/8-A		186553	12.30	199893	18.55		
LCSD 680-549336/9-A		192601	12.31	199824	18.55		
240-104369-2 RE	MRC-MW-134A-111318 RE	215389	12.29	241820	18.55		
240-104369-3 RE	MRC-MW-134B-111318 RE	207066	12.31	220072	18.55		
240-104369-4 RE	MRC-MW-135B-111318 RE	191682	12.29	206218	18.55		
240-104369-5 RE	MRC-MW-136B-111318 RE	197384	12.29	219097	18.55		
240-104369-6 RE	MRC-MW-DUP-111318 RE	191603	12.31	210026	18.55		
CCVC 680-549800/14		227331	12.31	240918	18.55		

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 680

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Savannah Job No.: 240-104369-1 Analy Batch No.: 546611

SDG No.:

Instrument ID: CMSX GC Column: HP-5MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/07/2018 13:33 Calibration End Date: 11/07/2018 17:06 Calibration ID: 61546

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-546611/14	xk0710.D
Level 2	IC 680-546611/13	xk0709.D
Level 3	IC 680-546611/12	xk0708.D
Level 4	ICISAV 680-546611/3	xk0703.D
Level 5	IC 680-546611/11	xk0707.D
Level 6	IC 680-546611/4	xk0706.D

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								
Monochlorobiphenyl	0.9108 0.8416	0.9802	0.9313	0.9369	0.7037	Ave		0.8841				11.2		20.0			
Dichlorobiphenyl	0.5964 0.5881	0.6423	0.6270	0.6409	0.5052	Ave		0.6000				8.6		20.0			
Trichlorobiphenyl	0.4212 0.4257	0.4565	0.4288	0.4529	0.3659	Ave		0.4252				7.7		20.0			
PCB-104				0.3985		Ave		0.3985						30.0			
Tetrachlorobiphenyl	0.3004 0.3071	0.3311	0.3291	0.3353	0.2635	Ave		0.3111				8.7		20.0			
Pentachlorobiphenyl	0.2150 0.2427	0.2331	0.2414	0.2570	0.2116	Ave		0.2335				7.5		20.0			
PCB-77				0.4889		Ave		0.4889						30.0			
Hexachlorobiphenyl	0.2279 0.2512	0.2468	0.2550	0.2750	0.2206	Ave		0.2461				8.0		20.0			
Heptachlorobiphenyl	0.2701 0.2213	0.2658	0.2282	0.2397	0.1940	Ave		0.2365				12.1		20.0			
Octachlorobiphenyl	0.1909 0.2059	0.2077	0.2099	0.2148	0.1831	Ave		0.2020				6.1		20.0			
PCB-208				0.0820		Ave		0.0820						30.0			
Nonachlorobiphenyl				0.0658		Ave		0.0444				11.6		20.0			
DCB Decachlorobiphenyl	0.0364 0.0500	0.0411	0.0443	0.0493	0.0451	Ave		0.0444				11.6		20.0			
Decachlorobiphenyl-13C12	0.0412 0.0594	0.0468	0.0585	0.0588	0.0544	Ave		0.0532				14.2		20.0			

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

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Savannah Job No.: 240-104369-1 Analy Batch No.: 546611

SDG No.:

Instrument ID: CMSX GC Column: HP-5MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/07/2018 13:33 Calibration End Date: 11/07/2018 17:06 Calibration ID: 61546

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-546611/14	xk0710.D
Level 2	IC 680-546611/13	xk0709.D
Level 3	IC 680-546611/12	xk0708.D
Level 4	ICISAV 680-546611/3	xk0703.D
Level 5	IC 680-546611/11	xk0707.D
Level 6	IC 680-546611/4	xk0706.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Monochlorobiphenyl	CRY	Ave	8598 1123962	17755	96712	191582	444271	0.0500 5.00	0.100	0.500	1.00	2.00
Dichlorobiphenyl	CRY	Ave	5630 785435	11635	65115	131055	318959	0.0500 5.00	0.100	0.500	1.00	2.00
Trichlorobiphenyl	CRY	Ave	3976 568519	8269	44525	92606	231006	0.0500 5.00	0.100	0.500	1.00	2.00
PCB-104	CRY	Ave				162987					2.00	
Tetrachlorobiphenyl	CRY	Ave	5672 820280	11993	68346	137111	332705	0.100 10.0	0.200	1.00	2.00	4.00
Pentachlorobiphenyl	CRY	Ave	4059 648334	8446	50131	105118	267163	0.100 10.0	0.200	1.00	2.00	4.00
PCB-77	CRY	Ave				199923					2.00	
Hexachlorobiphenyl	CRY	Ave	4303 671022	8939	52953	112466	278590	0.100 10.0	0.200	1.00	2.00	4.00
Heptachlorobiphenyl	CRY	Ave	7650 886590	14441	71084	147067	367439	0.150 15.0	0.300	1.50	3.00	6.00
Octachlorobiphenyl	CRY	Ave	5405 824822	11289	65375	131782	346847	0.150 15.0	0.300	1.50	3.00	6.00
PCB-208	CRY	Ave				67068					4.00	
Nonachlorobiphenyl	CRY	Ave				67282					5.00	
DCB Decachlorobiphenyl	CRY	Ave	1716 333740	3725	23021	50447	142326	0.250 25.0	0.500	2.50	5.00	10.0
Decachlorobiphenyl-13C12	CRY	Ave	1944 317550	4242	30354	60087	171791	0.250 20.0	0.500	2.50	5.00	10.0

Curve Type Legend:
Ave = Average ISTD

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Lab Sample ID: ICV 680-546611/15 Calibration Date: 11/07/2018 17:34

Instrument ID: CMSX Calib Start Date: 11/07/2018 15:12

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 11/07/2018 17:06

Lab File ID: xk0711.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.8841	0.9481		1.07	1.00	7.2	20.0
Total Dichlorobiphenyls	Ave	0.6000	0.6288		1.05	1.00	4.8	20.0
Total Trichlorobiphenyls	Ave	0.4252	0.4765		1.12	1.00	12.1	20.0
Total Tetrachlorobiphenyls	Ave	0.3111	0.3387		2.18	2.00	8.9	20.0
Total Pentachlorobiphenyls	Ave	0.2335	0.2535		2.17	2.00	8.6	20.0
Hexachlorobiphenyl	Ave	0.2461	0.2586		2.10	2.00	5.1	20.0
Heptachlorobiphenyl	Ave	0.2365	0.2312		2.93	3.00	-2.3	20.0
Octachlorobiphenyl	Ave	0.2020	0.2163		3.21	3.00	7.0	20.0
DCB Decachlorobiphenyl	Ave	0.0444	0.0473		5.33	5.00	6.6	20.0
Decachlorobiphenyl-13C12	Ave	0.0532	0.0601		5.65	5.00	13.0	20.0

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Lab Sample ID: ICV 680-546611/15 Calibration Date: 11/07/2018 17:34

Instrument ID: CMSX Calib Start Date: 11/07/2018 13:33

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 11/07/2018 13:33

Lab File ID: xk0711.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nonachlorobiphenyl	Ave	0.0658	0.0850		7.66	4.00	29.1*	20.0

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCVIS 680-548241/3 Calibration Date: 11/21/2018 11:49

Instrument ID: CMSX Calib Start Date: 11/07/2018 13:33

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 11/07/2018 17:06

Lab File ID: xk2103.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.8841	0.8422		0.953	1.00	-4.7	20.0
Dichlorobiphenyl	Ave	0.6000	0.5817		0.969	1.00	-3.1	20.0
Trichlorobiphenyl	Ave	0.4252	0.4101		0.965	1.00	-3.5	20.0
Tetrachlorobiphenyl	Ave	0.3111	0.3012		1.94	2.00	-3.2	20.0
Pentachlorobiphenyl	Ave	0.2335	0.2371		2.03	2.00	1.6	20.0
Hexachlorobiphenyl	Ave	0.2461	0.2457		2.00	2.00	-0.2	20.0
Heptachlorobiphenyl	Ave	0.2365	0.2134		2.71	3.00	-9.8	20.0
Octachlorobiphenyl	Ave	0.2020	0.1966		2.92	3.00	-2.7	20.0
DCB Decachlorobiphenyl	Ave	0.0444	0.0441		4.97	5.00	-0.7	20.0
Decachlorobiphenyl-13C12	Ave	0.0532	0.0529		4.97	5.00	-0.5	20.0

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCVC 680-548241/15 Calibration Date: 11/21/2018 17:31

Instrument ID: CMSX Calib Start Date: 11/07/2018 13:33

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 11/07/2018 17:06

Lab File ID: xk2115.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.8841	0.7259		0.821	1.00	-17.9	20.0
Dichlorobiphenyl	Ave	0.6000	0.4999		0.833	1.00	-16.7	20.0
Trichlorobiphenyl	Ave	0.4252	0.3568		0.839	1.00	-16.1	20.0
Tetrachlorobiphenyl	Ave	0.3111	0.2561		1.65	2.00	-17.7	20.0
Pentachlorobiphenyl	Ave	0.2335	0.2102		1.80	2.00	-10.0	20.0
Hexachlorobiphenyl	Ave	0.2461	0.2148		1.75	2.00	-12.7	20.0
Heptachlorobiphenyl	Ave	0.2365	0.1809		2.30	3.00	-23.5*	20.0
Octachlorobiphenyl	Ave	0.2020	0.1737		2.58	3.00	-14.1	20.0
DCB Decachlorobiphenyl	Ave	0.0444	0.0394		4.43	5.00	-11.3	20.0
Decachlorobiphenyl-13C12	Ave	0.0532	0.0462		4.34	5.00	-13.2	20.0

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCVIS 680-548687/3 Calibration Date: 11/26/2018 09:14

Instrument ID: CMSX Calib Start Date: 11/07/2018 13:33

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 11/07/2018 17:06

Lab File ID: xk2603.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.8841	0.7971		0.902	1.00	-9.8	20.0
Dichlorobiphenyl	Ave	0.6000	0.5472		0.912	1.00	-8.8	20.0
Trichlorobiphenyl	Ave	0.4252	0.3899		0.917	1.00	-8.3	20.0
Tetrachlorobiphenyl	Ave	0.3111	0.2832		1.82	2.00	-9.0	20.0
Pentachlorobiphenyl	Ave	0.2335	0.2217		1.90	2.00	-5.0	20.0
Hexachlorobiphenyl	Ave	0.2461	0.2350		1.91	2.00	-4.5	20.0
Heptachlorobiphenyl	Ave	0.2365	0.2007		2.55	3.00	-15.1	20.0
Octachlorobiphenyl	Ave	0.2020	0.1827		2.71	3.00	-9.6	20.0
DCB Decachlorobiphenyl	Ave	0.0444	0.0396		4.47	5.00	-10.7	20.0
Decachlorobiphenyl-13C12	Ave	0.0532	0.0483		4.54	5.00	-9.2	20.0

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCVC 680-548687/10 Calibration Date: 11/26/2018 14:03

Instrument ID: CMSX Calib Start Date: 11/07/2018 13:33

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 11/07/2018 17:06

Lab File ID: xk2610.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.8841	0.7384		0.835	1.00	-16.5	20.0
Dichlorobiphenyl	Ave	0.6000	0.5130		0.855	1.00	-14.5	20.0
Trichlorobiphenyl	Ave	0.4252	0.3646		0.858	1.00	-14.2	20.0
Tetrachlorobiphenyl	Ave	0.3111	0.2593		1.67	2.00	-16.6	20.0
Pentachlorobiphenyl	Ave	0.2335	0.2115		1.81	2.00	-9.4	20.0
Hexachlorobiphenyl	Ave	0.2461	0.2169		1.76	2.00	-11.9	20.0
Heptachlorobiphenyl	Ave	0.2365	0.1768		2.24	3.00	-25.3*	20.0
Octachlorobiphenyl	Ave	0.2020	0.1718		2.55	3.00	-15.0	20.0
DCB Decachlorobiphenyl	Ave	0.0444	0.0375		4.23	5.00	-15.4	20.0
Decachlorobiphenyl-13C12	Ave	0.0532	0.0458		4.30	5.00	-13.9	20.0

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCVIS 680-549800/3 Calibration Date: 12/03/2018 10:30

Instrument ID: CMSX Calib Start Date: 11/07/2018 13:33

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 11/07/2018 17:06

Lab File ID: xl0304.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.8841	0.8021		0.907	1.00	-9.3	20.0
Dichlorobiphenyl	Ave	0.6000	0.5582		0.930	1.00	-7.0	20.0
Trichlorobiphenyl	Ave	0.4252	0.3968		0.933	1.00	-6.7	20.0
Tetrachlorobiphenyl	Ave	0.3111	0.2830		1.82	2.00	-9.0	20.0
Pentachlorobiphenyl	Ave	0.2335	0.2261		1.94	2.00	-3.2	20.0
Hexachlorobiphenyl	Ave	0.2461	0.2307		1.88	2.00	-6.2	20.0
Heptachlorobiphenyl	Ave	0.2365	0.1992		2.53	3.00	-15.8	20.0
Octachlorobiphenyl	Ave	0.2020	0.1841		2.73	3.00	-8.9	20.0
DCB Decachlorobiphenyl	Ave	0.0444	0.0397		4.47	5.00	-10.6	20.0
Decachlorobiphenyl-13C12	Ave	0.0532	0.0489		4.60	5.00	-8.0	20.0

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCVC 680-549800/14 Calibration Date: 12/03/2018 15:44

Instrument ID: CMSX Calib Start Date: 11/07/2018 13:33

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 11/07/2018 17:06

Lab File ID: xl0315.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.8841	0.7193		0.814	1.00	-18.6	20.0
Dichlorobiphenyl	Ave	0.6000	0.4959		0.827	1.00	-17.3	20.0
Trichlorobiphenyl	Ave	0.4252	0.3565		0.838	1.00	-16.2	20.0
Tetrachlorobiphenyl	Ave	0.3111	0.2535		1.63	2.00	-18.5	20.0
Pentachlorobiphenyl	Ave	0.2335	0.2094		1.79	2.00	-10.3	20.0
Hexachlorobiphenyl	Ave	0.2461	0.2111		1.72	2.00	-14.2	20.0
Heptachlorobiphenyl	Ave	0.2365	0.1856		2.35	3.00	-21.5*	20.0
Octachlorobiphenyl	Ave	0.2020	0.1684		2.50	3.00	-16.7	20.0
DCB Decachlorobiphenyl	Ave	0.0444	0.0380		4.28	5.00	-14.4	20.0
Decachlorobiphenyl-13C12	Ave	0.0532	0.0458		4.31	5.00	-13.9	20.0

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Instrument ID: CMSX Start Date: 11/07/2018 12:32

Analysis Batch Number: 546611 End Date: 11/07/2018 20:25

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 680-546611/1		11/07/2018 12:32	1	xk0701.D	HP-5MS 0.25(mm)
WDM 680-546611/2		11/07/2018 13:03	1		HP-5MS 0.25(mm)
ICISAV 680-546611/3		11/07/2018 13:33	1	xk0703.D	HP-5MS 0.25(mm)
IC 680-546611/4		11/07/2018 15:12	1	xk0706.D	HP-5MS 0.25(mm)
IC 680-546611/11		11/07/2018 15:40	1	xk0707.D	HP-5MS 0.25(mm)
IC 680-546611/12		11/07/2018 16:09	1	xk0708.D	HP-5MS 0.25(mm)
IC 680-546611/13		11/07/2018 16:37	1	xk0709.D	HP-5MS 0.25(mm)
IC 680-546611/14		11/07/2018 17:06	1	xk0710.D	HP-5MS 0.25(mm)
ICV 680-546611/15		11/07/2018 17:34	1	xk0711.D	HP-5MS 0.25(mm)
ZZZZZ		11/07/2018 18:03	1		HP-5MS 0.25(mm)
ZZZZZ		11/07/2018 18:31	1		HP-5MS 0.25(mm)
ZZZZZ		11/07/2018 19:00	1		HP-5MS 0.25(mm)
ZZZZZ		11/07/2018 19:28	1		HP-5MS 0.25(mm)
ZZZZZ		11/07/2018 19:57	1		HP-5MS 0.25(mm)
CCV 680-546611/10		11/07/2018 20:25	1		HP-5MS 0.25(mm)

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Instrument ID: CMSX Start Date: 11/21/2018 10:48

Analysis Batch Number: 548241 End Date: 11/21/2018 17:31

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 680-548241/1		11/21/2018 10:48	1	xk2101.D	HP-5MS 0.25(mm)
WDM 680-548241/2		11/21/2018 11:18	1	xk2102.D	HP-5MS 0.25(mm)
CCVIS 680-548241/3		11/21/2018 11:49	1	xk2103.D	HP-5MS 0.25(mm)
MB 680-547809/7-A		11/21/2018 12:46	1	xk2105.D	HP-5MS 0.25(mm)
LCS 680-547809/8-A		11/21/2018 13:14	1	xk2106.D	HP-5MS 0.25(mm)
240-104312-B-2-A MS		11/21/2018 13:43	1	xk2107.D	HP-5MS 0.25(mm)
240-104312-B-2-B MSD		11/21/2018 14:11	1	xk2108.D	HP-5MS 0.25(mm)
ZZZZZ		11/21/2018 14:40	1		HP-5MS 0.25(mm)
ZZZZZ		11/21/2018 15:08	1		HP-5MS 0.25(mm)
240-104369-3		11/21/2018 15:37	1	xk2111.D	HP-5MS 0.25(mm)
240-104369-4		11/21/2018 16:05	1	xk2112.D	HP-5MS 0.25(mm)
240-104369-5		11/21/2018 16:34	1	xk2113.D	HP-5MS 0.25(mm)
240-104369-6		11/21/2018 17:02	1	xk2114.D	HP-5MS 0.25(mm)
CCVC 680-548241/15		11/21/2018 17:31	1	xk2115.D	HP-5MS 0.25(mm)

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Instrument ID: CMSX Start Date: 11/26/2018 08:13

Analysis Batch Number: 548687 End Date: 11/26/2018 14:03

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 680-548687/1		11/26/2018 08:13	1	xk2601.D	HP-5MS 0.25(mm)
WDM 680-548687/2		11/26/2018 08:43	1	xk2602.D	HP-5MS 0.25(mm)
CCVIS 680-548687/3		11/26/2018 09:14	1	xk2603.D	HP-5MS 0.25(mm)
ZZZZZ		11/26/2018 13:06	1		HP-5MS 0.25(mm)
240-104369-2		11/26/2018 13:34	1	xk2609.D	HP-5MS 0.25(mm)
CCVC 680-548687/10		11/26/2018 14:03	1	xk2610.D	HP-5MS 0.25(mm)

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Instrument ID: CMSX Start Date: 12/03/2018 08:58

Analysis Batch Number: 549800 End Date: 12/03/2018 15:44

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 680-549800/1		12/03/2018 08:58	1	x10301.D	HP-5MS 0.25(mm)
WDM 680-549800/2		12/03/2018 09:59	1	x10303.D	HP-5MS 0.25(mm)
CCVIS 680-549800/3		12/03/2018 10:30	1	x10304.D	HP-5MS 0.25(mm)
MB 680-549336/7-A		12/03/2018 11:27	1	x10306.D	HP-5MS 0.25(mm)
LCS 680-549336/8-A		12/03/2018 11:55	1	x10307.D	HP-5MS 0.25(mm)
LCSD 680-549336/9-A		12/03/2018 12:24	1	x10308.D	HP-5MS 0.25(mm)
ZZZZZ		12/03/2018 12:52	1		HP-5MS 0.25(mm)
240-104369-2 RE		12/03/2018 13:21	1	x10310.D	HP-5MS 0.25(mm)
240-104369-3 RE		12/03/2018 13:50	1	x10311.D	HP-5MS 0.25(mm)
240-104369-4 RE		12/03/2018 14:18	1	x10312.D	HP-5MS 0.25(mm)
240-104369-5 RE		12/03/2018 14:47	1	x10313.D	HP-5MS 0.25(mm)
240-104369-6 RE		12/03/2018 15:15	1	x10314.D	HP-5MS 0.25(mm)
CCVC 680-549800/14		12/03/2018 15:44	1	x10315.D	HP-5MS 0.25(mm)

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Batch Number: 547809 Batch Start Date: 11/16/18 15:42 Batch Analyst: Wilson, Charles E

Batch Method: 680 Batch End Date: 11/17/18 09:56

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ResidualChloCheck	ReceivedpH
240-104369-M-2	MRC-MW-134A-111318	680, 680	T	1544.1 g	510.9 g	1033.2 mL	1 mL	N	7 SU
240-104369-L-3	MRC-MW-134B-111318	680, 680	T	1521.9 g	506.7 g	1015.2 mL	1 mL	N	7 SU
240-104369-M-4	MRC-MW-135B-111318	680, 680	T	1316.2 g	391.2 g	925 mL	1 mL	N	6 SU
240-104369-M-5	MRC-MW-136B-111318	680, 680	T	1318.7 g	390.0 g	928.7 mL	1 mL	N	6 SU
240-104369-L-6	MRC-MW-DUP-111318	680, 680	T	1326.0 g	390.6 g	935.4 mL	1 mL	N	6 SU
MB 680-547809/7		680, 680				1000 mL	1 mL	N	7 SU
LCS 680-547809/8		680, 680				1000 mL	1 mL	N	7 SU
240-104312-B-2 MS		680, 680	T	1559.2 g	506.0 g	1053.2 mL	1 mL	N	7 SU
240-104312-B-2 MSD		680, 680	T	1431.0 g	506.3 g	924.7 mL	1 mL	N	7 SU

Lab Sample ID	Client Sample ID	Method Chain	Basis	680wkSPIKE 00118	680wkSURR-NEW 00033				
240-104369-M-2	MRC-MW-134A-111318	680, 680	T		1 mL				
240-104369-L-3	MRC-MW-134B-111318	680, 680	T		1 mL				
240-104369-M-4	MRC-MW-135B-111318	680, 680	T		1 mL				
240-104369-M-5	MRC-MW-136B-111318	680, 680	T		1 mL				
240-104369-L-6	MRC-MW-DUP-111318	680, 680	T		1 mL				
MB 680-547809/7		680, 680			1 mL				
LCS 680-547809/8		680, 680		1 mL	1 mL				
240-104312-B-2 MS		680, 680	T	1 mL	1 mL				
240-104312-B-2 MSD		680, 680	T	1 mL	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.

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Batch Number: 547809 Batch Start Date: 11/16/18 15:42 Batch Analyst: Wilson, Charles E

Batch Method: 680 Batch End Date: 11/17/18 09:56

Batch Notes	
Balance ID	23
Batch Comment	680 box 680-123
Boiling Chips ID	901800
Concentration 1 Thermometer ID	50
Analyst ID - Concentration	CJ
Exchange Solvent ID	5796610
Analyst ID - Extraction	CEW
Extraction 1 End Time	10/17/2018 09:56
Extraction 1 Start Time	11/16/2018 15:42
Method/Fraction	680
pH Indicator ID	5423047
Pipette/Syringe/Dispenser ID	AA06G
Prep Solvent ID	5789952
Residual Chlorine Indicator ID	4991768
Analyst ID - Spike Analyst	CEW
Analyst ID - Spike Witness Analyst	EHS
Vial Lot Number	97963

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.

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Batch Number: 549336 Batch Start Date: 11/29/18 10:00 Batch Analyst: Wilson, Charles E

Batch Method: 680 Batch End Date: 11/30/18 04:20

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ResidualChloCheck	ReceivedpH
240-104369-L-2	MRC-MW-134A-111318	680, 680	T	1543.7 g	507.8 g	1035.9 mL	1 mL	N	7 SU
240-104369-M-3	MRC-MW-134B-111318	680, 680	T	1544.9 g	506.5 g	1038.4 mL	1 mL	N	7 SU
240-104369-L-4	MRC-MW-135B-111318	680, 680	T	1334.0 g	391.7 g	942.3 mL	1 mL	N	7 SU
240-104369-L-5	MRC-MW-136B-111318	680, 680	T	1329.3 g	390.5 g	938.8 mL	1 mL	N	7 SU
240-104369-M-6	MRC-MW-DUP-111318	680, 680	T	1314.5 g	392.6 g	921.9 mL	1 mL	N	7 SU
MB 680-549336/7		680, 680				1000 mL	1 mL	N	7 SU
LCS 680-549336/8		680, 680				1000 mL	1 mL	N	7 SU
LCSD 680-549336/9		680, 680				1000 mL	1 mL	N	7 SU

Lab Sample ID	Client Sample ID	Method Chain	Basis	680wkSPIKE 00118	680wkSURR-NEW 00033	AnalysisComment			
240-104369-L-2	MRC-MW-134A-111318	680, 680	T		1 mL	ReWrk			
240-104369-M-3	MRC-MW-134B-111318	680, 680	T		1 mL	ReWrk			
240-104369-L-4	MRC-MW-135B-111318	680, 680	T		1 mL	ReWrk			
240-104369-L-5	MRC-MW-136B-111318	680, 680	T		1 mL	ReWrk			
240-104369-M-6	MRC-MW-DUP-111318	680, 680	T		1 mL	ReWrk			
MB 680-549336/7		680, 680			1 mL				
LCS 680-549336/8		680, 680		1 mL	1 mL				
LCSD 680-549336/9		680, 680		1 mL	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.

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 240-104369-1

SDG No.:

Batch Number: 549336 Batch Start Date: 11/29/18 10:00 Batch Analyst: Wilson, Charles E

Batch Method: 680 Batch End Date: 11/30/18 04:20

Batch Notes	
Balance ID	23
Batch Comment	680 box 680- 122
Boiling Chips ID	901800
Concentration 1 Thermometer ID	50
Analyst ID - Concentration	CAE
Exchange Solvent ID	5820211
Analyst ID - Extraction	CEW
Extraction 1 End Time	10/30/2018 04:20
Extraction 1 Start Time	11/29/2018 10:00
Method/Fraction	680
pH Indicator ID	5423047
Pipette/Syringe/Dispenser ID	AA06G
Prep Solvent ID	5819115
Residual Chlorine Indicator ID	4991768
Analyst ID - Spike Analyst	CEW
Analyst ID - Spike Witness Analyst	NWW
Vial Lot Number	97963

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 RSK-175

Dissolved Gases (GC) by Method RSK_175

FORM II
GC VOA SURROGATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): HP-PLOT/Q ID: 0.53(mm)

Client Sample ID	Lab Sample ID	TFE1 #
MRC-MW-134A-111318	240-104369-2	104
MRC-MW-134A-111318	240-104369-2	110
MRC-MW-134B-111318	240-104369-3	109
MRC-MW-135B-111318	240-104369-4	107
MRC-MW-136B-111318	240-104369-5	105
MRC-MW-DUP-111318	240-104369-6	107
	MB 240-356108/35	111
	MB 240-356292/4	110
	LCS 240-356108/36	110
	LCS 240-356292/5	110
	LCSD 240-356292/6	109
	180-84003-I-5 MS	105
	180-84003-J-5 MSD	108

	QC LIMITS
TFE = 1,1,1-Trifluoroethane	60-140

Column to be used to flag recovery values

FORM II RSK-175

FORM III
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low Lab File ID: Z0111936.D

Lab ID: LCS 240-356108/36 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Methane	511	479	94	80-120	
Ethane	527	513	97	80-120	
Ethene	462	464	100	80-120	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM III
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low Lab File ID: Z0112005.D

Lab ID: LCS 240-356292/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Methane	511	477	93	80-120	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM III
GC VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low Lab File ID: Z0112006.D

Lab ID: LCSD 240-356292/6 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Methane	511	488	96	2	35	80-120	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM III
GC VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low Lab File ID: Z0111951.D

Lab ID: 180-84003-I-5 MS Client ID:

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Methane	285	0.17 U	265	93	50-150	
Ethane	536	0.10 U	528	98	50-150	
Ethene	501	0.11 U	495	99	50-150	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM III
GC VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water Level: Low Lab File ID: Z0111952.D

Lab ID: 180-84003-J-5 MSD Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Methane	285	270	95	2	30	50-150	
Ethane	536	537	100	2	30	50-150	
Ethene	501	506	101	2	30	50-150	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM IV
GC VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: MB 240-356108/35

Matrix: Water Date Extracted:

Lab File ID:(1) Z0111935.D Lab File ID:(2)

Date Analyzed:(1) 11/19/2018 22:52 Date Analyzed:(2)

Instrument ID:(1) ZPID Instrument ID:(2)

GC Column:(1) HP-PLOT/Q ID: 0.53(mm) GC Column:(2) ID:

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 240-356108/36	11/19/2018 23:09	
	180-84003-I-5 MS	11/20/2018 03:26	
	180-84003-J-5 MSD	11/20/2018 03:44	
MRC-MW-134A-111318	240-104369-2	11/20/2018 04:18	
MRC-MW-134B-111318	240-104369-3	11/20/2018 04:35	
MRC-MW-135B-111318	240-104369-4	11/20/2018 04:52	
MRC-MW-136B-111318	240-104369-5	11/20/2018 05:09	
MRC-MW-DUP-111318	240-104369-6	11/20/2018 05:26	

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-104369-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-356108/35

Matrix: Water | Lab File ID: Z0111935.D

Analysis Method: RSK-175 | Date Collected:

Sample wt/vol: 23(mL) | Date Analyzed: 11/19/2018 22:52

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: HP-PLOT/Q ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 356108 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	0.17	U	1.0	0.17
74-84-0	Ethane	0.10	U	1.0	0.10
74-85-1	Ethene	0.11	U	1.0	0.11

CAS NO.	SURROGATE	%REC	Q	LIMITS
420-46-2	1,1,1-Trifluoroethane	111		60-140

FORM IV
GC VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: MB 240-356292/4

Matrix: Water Date Extracted:

Lab File ID:(1) Z0112004.D Lab File ID:(2)

Date Analyzed:(1) 11/20/2018 10:19 Date Analyzed:(2)

Instrument ID:(1) ZPID Instrument ID:(2)

GC Column:(1) HP-PLOT/Q ID: 0.53(mm) GC Column:(2) ID:

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 240-356292/5	11/20/2018 10:37	
	LCSD 240-356292/6	11/20/2018 10:54	
MRC-MW-134A-111318	240-104369-2	11/20/2018 11:11	

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 240-356292/4

Matrix: Water Lab File ID: Z0112004.D

Analysis Method: RSK-175 Date Collected:

Sample wt/vol: 23(mL) Date Analyzed: 11/20/2018 10:19

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP-PLOT/Q ID: 0.53(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 356292 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	0.17	U	1.0	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
420-46-2	1,1,1-Trifluoroethane	110		60-140

FORM VIII
GC VOA ANALYTICAL SEQUENCE

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Sample No.: CCVRT 240-356108/34 Date Analyzed: 11/19/2018 22:35

Instrument ID: ZPID GC Column: HP-PLOT/Q ID: 0.53(mm)

Lab File ID (Standard): Z0111934.D Heated Purge: (Y/N) N

Calibration ID: 47591

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs AND LCSs IS GIVEN BELOW:

				TFE		
				RT #		
CONTINUING CALIBRATION SURROGATE				3.34		
UPPER LIMIT				3.39		
LOWER LIMIT				3.29		
LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	LAB FILE ID			
CCVRT 240-356108/34		11/19/2018 22:35	Z0111934.D	3.34		
MB 240-356108/35		11/19/2018 22:52	Z0111935.D	3.34		
LCS 240-356108/36		11/19/2018 23:09	Z0111936.D	3.34		
CCV 240-356108/49		11/20/2018 02:52	Z0111949.D	3.34		
180-84003-I-5 MS		11/20/2018 03:26	Z0111951.D	3.34		
180-84003-J-5 MSD		11/20/2018 03:44	Z0111952.D	3.34		
240-104369-2	MRC-MW-134A-111318	11/20/2018 04:18	Z0111954.D	3.35		
240-104369-3	MRC-MW-134B-111318	11/20/2018 04:35	Z0111955.D	3.34		
240-104369-4	MRC-MW-135B-111318	11/20/2018 04:52	Z0111956.D	3.35		
240-104369-5	MRC-MW-136B-111318	11/20/2018 05:09	Z0111957.D	3.34		
240-104369-6	MRC-MW-DUP-111318	11/20/2018 05:26	Z0111958.D	3.35		
CCV 240-356108/61		11/20/2018 06:18	Z0111961.D	3.35		

TFE = 1,1,1-Trifluoroethane

TFE RT Limit = ± 0.05 minutes of surrogate RT

Column used to flag values outside QC limits

FORM VIII RSK-175

FORM VIII
GC VOA ANALYTICAL SEQUENCE

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Sample No.: CCVRT 240-356292/3 Date Analyzed: 11/20/2018 10:02

Instrument ID: ZPID GC Column: HP-PLOT/Q ID: 0.53(mm)

Lab File ID (Standard): Z0112003.D Heated Purge: (Y/N) N

Calibration ID: 47591

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs AND LCSs IS GIVEN BELOW:

				TFE		
				RT #		
CONTINUING CALIBRATION SURROGATE				3.34		
UPPER LIMIT				3.39		
LOWER LIMIT				3.29		
LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	LAB FILE ID			
CCVRT 240-356292/3		11/20/2018 10:02	Z0112003.D	3.34		
MB 240-356292/4		11/20/2018 10:19	Z0112004.D	3.34		
LCS 240-356292/5		11/20/2018 10:37	Z0112005.D	3.34		
LCSD 240-356292/6		11/20/2018 10:54	Z0112006.D	3.34		
240-104369-2	MRC-MW-134A-111318	11/20/2018 11:11	Z0112007.D	3.34		
CCV 240-356292/19		11/20/2018 14:38	Z0112019.D	3.34		

TFE = 1,1,1-Trifluoroethane

TFE RT Limit = ± 0.05 minutes of surrogate RT

Column used to flag values outside QC limits

FORM VIII RSK-175

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 351262

SDG No.:

Instrument ID: ZPID GC Column: HP-PLOT/Q ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/22/2018 13:09 Calibration End Date: 10/22/2018 14:34 Calibration ID: 47590

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 240-351262/3	Z0102203.D
Level 2	STD 240-351262/4	Z0102204.D
Level 3	STD 240-351262/5	Z0102205.D
Level 4	STD 240-351262/6	Z0102206.D
Level 5	STD 240-351262/7	Z0102207.D
Level 6	STD 240-351262/8	Z0102208.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
Methane	1.187	1.187	1.186	1.185	1.186	1.185					1.135 - 1.235	1.186
Ethene	1.887	1.887	1.886	1.885	1.884	1.880					1.830 - 1.930	1.885
Acetylene	2.002	2.002	2.000	2.000	1.999	1.995					1.945 - 2.045	2.000
Ethane	2.209	2.208	2.208	2.207	2.206	2.199					1.999 - 2.399	2.206
Propane	4.559	4.557	4.556	4.555	4.554	4.535					4.485 - 4.585	4.553

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 351262

SDG No.:

Instrument ID: ZPID GC Column: HP-PLOT/Q ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/22/2018 13:09 Calibration End Date: 10/22/2018 14:34 Calibration ID: 47590

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 240-351262/3	Z0102203.D
Level 2	STD 240-351262/4	Z0102204.D
Level 3	STD 240-351262/5	Z0102205.D
Level 4	STD 240-351262/6	Z0102206.D
Level 5	STD 240-351262/7	Z0102207.D
Level 6	STD 240-351262/8	Z0102208.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
Methane	8642.5 6372.5	6610.0 5925.5	6298.9	6393.7	Ave		6707.18243				14.5		20.0			
Ethene	6394.9 5799.7	5798.8 5396.3	5721.7	5811.8	Ave		5820.52899				5.5		20.0			
Acetylene	2468.3 3434.0	2503.1 3313.8	2758.0	3205.1	Ave		2947.05553				14.4		30.0			
Ethane	6521.6 6052.7	5842.1 5641.3	5869.9	6041.9	Ave		5994.93225				5.0		20.0			
Propane	6508.2 6161.5	5832.5 5786.0	5913.4	6099.7	Ave		6050.19871				4.4		20.0			

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

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 351262

SDG No.:

Instrument ID: ZPID GC Column: HP-PLOT/Q ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/22/2018 13:09 Calibration End Date: 10/22/2018 14:34 Calibration ID: 47590

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 240-351262/3	Z0102203.D
Level 2	STD 240-351262/4	Z0102204.D
Level 3	STD 240-351262/5	Z0102205.D
Level 4	STD 240-351262/6	Z0102206.D
Level 5	STD 240-351262/7	Z0102207.D
Level 6	STD 240-351262/8	Z0102208.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Methane	Ave	2465 25343316	13197	62879	638257	2725480	0.285 4277	2.00	9.98	99.8	428
Ethene	Ave	3203 40535362	20331	100304	1018840	4356593	0.501 7512	3.51	17.5	175	751
Acetylene	Ave	1144 23031933	8121	44740	519915	2386702	0.463 6950	3.24	16.2	162	695
Ethane	Ave	3499 45392947	21941	110227	1134571	4870279	0.537 8047	3.76	18.8	188	805
Propane	Ave	5116 68212789	32094	162695	1678203	7263997	0.786 11789	5.50	27.5	275	1179

Curve Type Legend:
Ave = Average

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 351262

SDG No.:

Instrument ID: ZPID GC Column: HP-PLOT/Q ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/22/2018 14:51 Calibration End Date: 10/22/2018 16:15 Calibration ID: 47591

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 240-351262/9	Z0102209.D
Level 2	STD2 240-351262/10	Z0102210.D
Level 3	STD3 240-351262/11	Z0102211.D
Level 4	STD4 240-351262/12	Z0102212.D
Level 5	STD5 240-351262/13	Z0102213.D
Level 6	STD6 240-351262/14	Z0102214.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
1,1,1-Trifluoroethane	3.354	3.354	3.354	3.352	3.349	3.347					3.247 - 3.447	3.352

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 351262

SDG No.:

Instrument ID: ZPID GC Column: HP-PLOT/Q ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/22/2018 14:51 Calibration End Date: 10/22/2018 16:15 Calibration ID: 47591

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 240-351262/9	Z0102209.D
Level 2	STD2 240-351262/10	Z0102210.D
Level 3	STD3 240-351262/11	Z0102211.D
Level 4	STD4 240-351262/12	Z0102212.D
Level 5	STD5 240-351262/13	Z0102213.D
Level 6	STD6 240-351262/14	Z0102214.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
1,1,1-Trifluoroethane	2567.4 2490.2	2638.5 2415.0	2424.5	2345.8	Ave		2480.23869				4.4		30.0			

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

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-104369-1 Analy Batch No.: 351262

SDG No.:

Instrument ID: ZPID GC Column: HP-PLOT/Q ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/22/2018 14:51 Calibration End Date: 10/22/2018 16:15 Calibration ID: 47591

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 240-351262/9	Z0102209.D
Level 2	STD2 240-351262/10	Z0102210.D
Level 3	STD3 240-351262/11	Z0102211.D
Level 4	STD4 240-351262/12	Z0102212.D
Level 5	STD5 240-351262/13	Z0102213.D
Level 6	STD6 240-351262/14	Z0102214.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
1,1,1-Trifluoroethane	Ave	499646 23499093	898592	4128426	7988848	18173302	195 9730	341	1703	3406	7298

Curve Type Legend:
Ave = Average

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: ICV 240-351262/15 Calibration Date: 10/22/2018 16:32

Instrument ID: ZPID Calib Start Date: 10/22/2018 13:09

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 14:34

Lab File ID: Z0102215.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	6707	6354		270	285	-5.3	20.0
Ethene	Ave	5821	5870		505	501	0.9	20.0
Acetylene	Ave	2947	3540		557	463	20.1	30.0
Ethane	Ave	5995	6102		546	536	1.8	20.0
Propane	Ave	6050	6065		786	784	0.2	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: ICV 240-351262/15 Calibration Date: 10/22/2018 16:32

Instrument ID: ZPID Calib Start Date: 10/22/2018 13:09

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 14:34

Lab File ID: Z0102215.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.19	1.14	1.24
Ethene	1.88	1.83	1.93
Acetylene	2.00	1.95	2.05
Ethane	2.21	2.00	2.40
Propane	4.55	4.49	4.59

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: ICV 240-351262/15 Calibration Date: 10/22/2018 16:32

Instrument ID: ZPID Calib Start Date: 10/22/2018 14:51

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 16:15

Lab File ID: Z0102215.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1,1-Trifluoroethane	Ave	2480	2332		8690	9240	-6.0	30.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: ICV 240-351262/15 Calibration Date: 10/22/2018 16:32

Instrument ID: ZPID Calib Start Date: 10/22/2018 14:51

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 16:15

Lab File ID: Z0102215.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
1,1,1-Trifluoroethane	3.35	3.25	3.45

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCVRT 240-356108/34 Calibration Date: 11/19/2018 22:35

Instrument ID: ZPID Calib Start Date: 10/22/2018 13:09

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 14:34

Lab File ID: Z0111934.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	6707	6138		261	285	-8.5	20.0
Ethene	Ave	5821	5756		495	501	-1.1	20.0
Acetylene	Ave	2947	3905		614	463	32.5*	30.0
Ethane	Ave	5995	5879		526	536	-1.9	20.0
Propane	Ave	6050	5811		755	786	-3.9	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCVRT 240-356108/34 Calibration Date: 11/19/2018 22:35

Instrument ID: ZPID Calib Start Date: 10/22/2018 13:09

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 14:34

Lab File ID: Z0111934.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.18	1.13	1.23
Ethene	1.88	1.83	1.93
Acetylene	2.00	1.95	2.05
Ethane	2.20	2.00	2.40
Propane	4.55	4.50	4.60

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCVRT 240-356108/34 Calibration Date: 11/19/2018 22:35

Instrument ID: ZPID Calib Start Date: 10/22/2018 14:51

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 16:15

Lab File ID: Z0111934.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1,1-Trifluoroethane	Ave	2480	2669		9950	9240	7.6	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCVRT 240-356108/34 Calibration Date: 11/19/2018 22:35

Instrument ID: ZPID Calib Start Date: 10/22/2018 14:51

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 16:15

Lab File ID: Z0111934.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
1,1,1-Trifluoroethane	3.34	3.24	3.44

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCV 240-356108/49 Calibration Date: 11/20/2018 02:52

Instrument ID: ZPID Calib Start Date: 10/22/2018 13:09

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 14:34

Lab File ID: Z0111949.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	6707	6266		266	285	-6.6	20.0
Ethene	Ave	5821	5837		502	501	0.3	20.0
Acetylene	Ave	2947	3941		620	463	33.7*	30.0
Ethane	Ave	5995	5976		535	536	-0.3	20.0
Propane	Ave	6050	5881		764	786	-2.8	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCV 240-356108/49 Calibration Date: 11/20/2018 02:52

Instrument ID: ZPID Calib Start Date: 10/22/2018 13:09

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 14:34

Lab File ID: Z0111949.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.18	1.13	1.23
Ethene	1.88	1.83	1.93
Acetylene	2.00	1.95	2.05
Ethane	2.20	2.00	2.40
Propane	4.55	4.50	4.60

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCV 240-356108/49 Calibration Date: 11/20/2018 02:52

Instrument ID: ZPID Calib Start Date: 10/22/2018 14:51

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 16:15

Lab File ID: Z0111949.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1,1-Trifluoroethane	Ave	2480	2670		9950	9240	7.6	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCV 240-356108/49 Calibration Date: 11/20/2018 02:52

Instrument ID: ZPID Calib Start Date: 10/22/2018 14:51

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 16:15

Lab File ID: Z0111949.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
1,1,1-Trifluoroethane	3.34	3.24	3.44

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCV 240-356108/61 Calibration Date: 11/20/2018 06:18

Instrument ID: ZPID Calib Start Date: 10/22/2018 13:09

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 14:34

Lab File ID: Z0111961.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	6707	6214		264	285	-7.3	20.0
Ethene	Ave	5821	5762		496	501	-1.0	20.0
Acetylene	Ave	2947	3949		621	463	34.0*	30.0
Ethane	Ave	5995	5849		523	536	-2.4	20.0
Propane	Ave	6050	5645		733	786	-6.7	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCV 240-356108/61 Calibration Date: 11/20/2018 06:18

Instrument ID: ZPID Calib Start Date: 10/22/2018 13:09

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 14:34

Lab File ID: Z0111961.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.18	1.13	1.23
Ethene	1.88	1.83	1.93
Acetylene	2.00	1.95	2.05
Ethane	2.20	2.00	2.40
Propane	4.55	4.50	4.60

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCV 240-356108/61 Calibration Date: 11/20/2018 06:18

Instrument ID: ZPID Calib Start Date: 10/22/2018 14:51

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 16:15

Lab File ID: Z0111961.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1,1-Trifluoroethane	Ave	2480	2744		10200	9240	10.6	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCV 240-356108/61 Calibration Date: 11/20/2018 06:18

Instrument ID: ZPID Calib Start Date: 10/22/2018 14:51

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 16:15

Lab File ID: Z0111961.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
1,1,1-Trifluoroethane	3.35	3.24	3.44

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCVRT 240-356292/3 Calibration Date: 11/20/2018 10:02

Instrument ID: ZPID Calib Start Date: 10/22/2018 13:09

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 14:34

Lab File ID: Z0112003.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	6707	6444		274	285	-3.9	20.0
Ethene	Ave	5821	6152		529	501	5.7	20.0
Acetylene	Ave	2947	3947		621	463	33.9*	30.0
Ethane	Ave	5995	6380		571	536	6.4	20.0
Propane	Ave	6050	6568		853	786	8.6	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCVRT 240-356292/3 Calibration Date: 11/20/2018 10:02

Instrument ID: ZPID Calib Start Date: 10/22/2018 13:09

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 14:34

Lab File ID: Z0112003.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.18	1.13	1.23
Ethene	1.88	1.83	1.93
Acetylene	2.00	1.95	2.05
Ethane	2.20	2.00	2.40
Propane	4.55	4.50	4.60

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCVRT 240-356292/3 Calibration Date: 11/20/2018 10:02

Instrument ID: ZPID Calib Start Date: 10/22/2018 14:51

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 16:15

Lab File ID: Z0112003.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1,1-Trifluoroethane	Ave	2480	2739		10200	9240	10.4	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCVRT 240-356292/3 Calibration Date: 11/20/2018 10:02

Instrument ID: ZPID Calib Start Date: 10/22/2018 14:51

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 16:15

Lab File ID: Z0112003.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
1,1,1-Trifluoroethane	3.34	3.24	3.44

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCV 240-356292/19 Calibration Date: 11/20/2018 14:38

Instrument ID: ZPID Calib Start Date: 10/22/2018 13:09

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 14:34

Lab File ID: Z0112019.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	6707	6431		273	285	-4.1	20.0
Ethene	Ave	5821	6053		521	501	4.0	20.0
Acetylene	Ave	2947	3945		620	463	33.9*	30.0
Ethane	Ave	5995	6219		557	536	3.7	20.0
Propane	Ave	6050	6276		815	786	3.7	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCV 240-356292/19 Calibration Date: 11/20/2018 14:38

Instrument ID: ZPID Calib Start Date: 10/22/2018 13:09

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 14:34

Lab File ID: Z0112019.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.18	1.13	1.23
Ethene	1.88	1.83	1.93
Acetylene	1.99	1.95	2.05
Ethane	2.20	2.00	2.40
Propane	4.55	4.50	4.60

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCV 240-356292/19 Calibration Date: 11/20/2018 14:38

Instrument ID: ZPID Calib Start Date: 10/22/2018 14:51

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 16:15

Lab File ID: Z0112019.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1,1-Trifluoroethane	Ave	2480	2697		10100	9240	8.7	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: CCV 240-356292/19 Calibration Date: 11/20/2018 14:38

Instrument ID: ZPID Calib Start Date: 10/22/2018 14:51

GC Column: HP-PLOT/Q ID: 0.53(mm) Calib End Date: 10/22/2018 16:15

Lab File ID: Z0112019.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
1,1,1-Trifluoroethane	3.34	3.24	3.44

GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: ZPID Start Date: 10/22/2018 13:09

Analysis Batch Number: 351262 End Date: 10/22/2018 16:32

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD1 240-351262/3 IC		10/22/2018 13:09	1	Z0102203.D	HP-PLOT/Q 0.53(mm)
STD 240-351262/4 IC		10/22/2018 13:26	1	Z0102204.D	HP-PLOT/Q 0.53(mm)
STD 240-351262/5 IC		10/22/2018 13:43	1	Z0102205.D	HP-PLOT/Q 0.53(mm)
STD 240-351262/6 IC		10/22/2018 14:00	1	Z0102206.D	HP-PLOT/Q 0.53(mm)
STD 240-351262/7 IC		10/22/2018 14:17	1	Z0102207.D	HP-PLOT/Q 0.53(mm)
STD 240-351262/8 IC		10/22/2018 14:34	1	Z0102208.D	HP-PLOT/Q 0.53(mm)
STD1 240-351262/9 IC		10/22/2018 14:51	1	Z0102209.D	HP-PLOT/Q 0.53(mm)
STD2 240-351262/10 IC		10/22/2018 15:07	1	Z0102210.D	HP-PLOT/Q 0.53(mm)
STD3 240-351262/11 IC		10/22/2018 15:24	1	Z0102211.D	HP-PLOT/Q 0.53(mm)
STD4 240-351262/12 IC		10/22/2018 15:41	1	Z0102212.D	HP-PLOT/Q 0.53(mm)
STD5 240-351262/13 IC		10/22/2018 15:58	1	Z0102213.D	HP-PLOT/Q 0.53(mm)
STD6 240-351262/14 IC		10/22/2018 16:15	1	Z0102214.D	HP-PLOT/Q 0.53(mm)
ICV 240-351262/15		10/22/2018 16:32	1	Z0102215.D	HP-PLOT/Q 0.53(mm)

GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: ZPID Start Date: 11/19/2018 22:35

Analysis Batch Number: 356108 End Date: 11/20/2018 06:18

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 240-356108/34		11/19/2018 22:35	1	Z0111934.D	HP-PLOT/Q 0.53(mm)
MB 240-356108/35		11/19/2018 22:52	1	Z0111935.D	HP-PLOT/Q 0.53(mm)
LCS 240-356108/36		11/19/2018 23:09	1	Z0111936.D	HP-PLOT/Q 0.53(mm)
ZZZZZ		11/19/2018 23:26	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/19/2018 23:43	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 00:01	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 00:18	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 00:35	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 00:52	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 01:09	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 01:26	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 01:44	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 02:01	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 02:18	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 02:35	1		HP-PLOT/Q 0.53(mm)
CCV 240-356108/49		11/20/2018 02:52	1	Z0111949.D	HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 03:09	1		HP-PLOT/Q 0.53(mm)
180-84003-I-5 MS		11/20/2018 03:26	1	Z0111951.D	HP-PLOT/Q 0.53(mm)
180-84003-J-5 MSD		11/20/2018 03:44	1	Z0111952.D	HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 04:01	1		HP-PLOT/Q 0.53(mm)
240-104369-2		11/20/2018 04:18	1	Z0111954.D	HP-PLOT/Q 0.53(mm)
240-104369-3		11/20/2018 04:35	1	Z0111955.D	HP-PLOT/Q 0.53(mm)
240-104369-4		11/20/2018 04:52	1	Z0111956.D	HP-PLOT/Q 0.53(mm)
240-104369-5		11/20/2018 05:09	1	Z0111957.D	HP-PLOT/Q 0.53(mm)
240-104369-6		11/20/2018 05:26	1	Z0111958.D	HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 05:44	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 06:01	1		HP-PLOT/Q 0.53(mm)
CCV 240-356108/61		11/20/2018 06:18	1	Z0111961.D	HP-PLOT/Q 0.53(mm)

GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: ZPID Start Date: 11/20/2018 10:02

Analysis Batch Number: 356292 End Date: 11/20/2018 16:38

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 240-356292/3		11/20/2018 10:02	1	Z0112003.D	HP-PLOT/Q 0.53(mm)
MB 240-356292/4		11/20/2018 10:19	1	Z0112004.D	HP-PLOT/Q 0.53(mm)
LCS 240-356292/5		11/20/2018 10:37	1	Z0112005.D	HP-PLOT/Q 0.53(mm)
LCSD 240-356292/6		11/20/2018 10:54	1	Z0112006.D	HP-PLOT/Q 0.53(mm)
240-104369-2		11/20/2018 11:11	5	Z0112007.D	HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 11:28	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 11:45	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 12:03	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 12:20	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 12:37	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 12:54	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 13:12	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 13:29	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 13:46	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 14:03	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 14:21	1		HP-PLOT/Q 0.53(mm)
CCV 240-356292/19		11/20/2018 14:38	1	Z0112019.D	HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 14:55	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 15:12	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 15:29	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 15:47	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 16:04	1		HP-PLOT/Q 0.53(mm)
ZZZZZ		11/20/2018 16:21	1		HP-PLOT/Q 0.53(mm)
CCV 240-356292/26		11/20/2018 16:38	1		HP-PLOT/Q 0.53(mm)

GC VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 356108 Batch Start Date: 11/19/18 22:35 Batch Analyst: Grossman, Lucas

Batch Method: RSK-175 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	MEEP LCS 00007	SARSKHIGHCALP 00009	SARSKSURR 00011
CCVRT 240-356108/34		RSK-175		23 mL	23 mL	7 SU		1 mL	19 mL
MB 240-356108/35		RSK-175		23 mL	23 mL	7 SU			20 mL
LCS 240-356108/36		RSK-175		23 mL	23 mL	7 SU	23 mL		20 mL
CCV 240-356108/49		RSK-175		23 mL	23 mL	7 SU		1 mL	19 mL
180-84003-I-5 MS	WG-2077-111318-IM-033	RSK-175	T	23 mL	23 mL	<2 SU		1 mL	19 mL
180-84003-J-5 MSD	WG-2077-111318-IM-033	RSK-175	T	23 mL	23 mL	<2 SU		1 mL	19 mL
240-104369-F-2	MRC-MW-134A-111318	RSK-175	T	23 mL	23 mL	<2 SU			20 mL
240-104369-E-3	MRC-MW-134B-111318	RSK-175	T	23 mL	23 mL	<2 SU			20 mL
240-104369-D-4	MRC-MW-135B-111318	RSK-175	T	23 mL	23 mL	<2 SU			20 mL
240-104369-E-5	MRC-MW-136A-111318	RSK-175	T	23 mL	23 mL	<2 SU			20 mL
240-104369-E-6	MRC-MW-DUP-111318	RSK-175	T	23 mL	23 mL	<2 SU			20 mL
CCV 240-356108/61		RSK-175		23 mL	23 mL	7 SU		1 mL	19 mL

Batch Notes	
pH Paper ID	3920071

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Batch Number: 356292 Batch Start Date: 11/20/18 10:02 Batch Analyst: Grossman, Lucas

Batch Method: RSK-175 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	MEEP LCS 00007	SARSKHIGHCALP 00009	SARSKSURR 00011
CCVRT 240-356292/3		RSK-175		23 mL	23 mL	7 SU		1 mL	19 mL
MB 240-356292/4		RSK-175		23 mL	23 mL	7 SU			20 mL
LCS 240-356292/5		RSK-175		23 mL	23 mL	7 SU	23 mL		20 mL
LCSD 240-356292/6		RSK-175		23 mL	23 mL	7 SU	23 mL		20 mL
240-104369-E-2	MRC-MW-134A-111318	RSK-175	T	23 mL	23 mL	<2 SU			20 mL
CCV 240-356292/19		RSK-175		23 mL	23 mL	7 SU		1 mL	19 mL

Batch Notes	
pH Paper ID	3920071

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.

METALS

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICV Source: MT6500ICV_00050 Concentration Units: ug/L

CCV Source: MTICPCCV_00142

Analyte	ICV 240-355822/4 11/16/2018 08:12				CCV 240-355822/42 11/16/2018 10:59				CCV 240-355822/51 11/16/2018 11:38			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Iron	12700		12500	102	25300		25000	101	25300		25000	101
Manganese	1510		1500	101	1980		2000	99	1960		2000	98

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICV Source: MT6500ICV_00050 Concentration Units: ug/L

CCV Source: MTICPCCV_00142

Analyte	CCV 240-355822/78 11/16/2018 14:59				CCV 240-355822/88 11/16/2018 15:42				CCV 240-355822/100 11/16/2018 16:35			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Iron	24000		25000	96	24400		25000	98	24700		25000	99
Manganese	1990		2000	99	1960		2000	98	1940		2000	97

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICV Source: MT6500ICV_00050 Concentration Units: ug/L

CCV Source: MTICPCCV_00142

Analyte	CCV 240-355822/196 11/16/2018 23:34				CCV 240-355822/208 11/17/2018 00:26				CCV 240-355822/220 11/17/2018 01:18			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Iron	25700		25000	103	25900		25000	104	26300		25000	105
Manganese	1950		2000	98	1960		2000	98	1990		2000	99

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICV Source: MTTRCRIC_00065 Concentration Units: ug/L

CCV Source: MTTRCRIC_00065

Analyte	ICVL 240-355822/6 11/16/2018 08:21				CCVL 240-355822/299 11/17/2018 07:02							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Iron	201		200	101	230		200	115				
Manganese	13.9	J	15.0	93	14.0	J	15.0	93				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICV Source: MTMSICVW_00087 Concentration Units: ug/L

CCV Source: MTMSCAL2CCVW_00222

Analyte	ICV 240-356045/7 11/16/2018 10:25				CCV 240-356045/24 11/16/2018 11:03				CCV 240-356045/36 11/16/2018 11:29			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	201		200	100	245		250	98	245		250	98
Antimony	40.6		40.0	102	50.9		50.0	102	51.1		50.0	102
Arsenic	38.7		40.0	97	48.6		50.0	97	48.7		50.0	97
Barium	38.8		40.0	97	49.0		50.0	98	48.7		50.0	97
Beryllium	38.6		40.0	97	48.0		50.0	96	47.5		50.0	95
Cadmium	38.9		40.0	97	48.6		50.0	97	48.4		50.0	97
Calcium	20300		20000	102	25100		25000	101	25200		25000	101
Chromium	39.6		40.0	99	49.2		50.0	98	49.2		50.0	98
Cobalt	38.9		40.0	97	48.5		50.0	97	48.6		50.0	97
Copper	39.8		40.0	99	48.2		50.0	96	48.1		50.0	96
Iron	9690		10000	97	12200		12500	97	12300		12500	98
Lead	39.8		40.0	100	48.9		50.0	98	49.1		50.0	98
Magnesium	20300		20000	101	24700		25000	99	25100		25000	100
Manganese	195		200	97	242		250	97	241		250	96
Nickel	39.1		40.0	98	48.7		50.0	97	48.7		50.0	97
Potassium	19700		20000	98	24800		25000	99	25000		25000	100
Selenium	39.9		40.0	100	49.9		50.0	100	50.1		50.0	100
Silver	38.7		40.0	97	48.4		50.0	97	48.6		50.0	97
Sodium	20300		20000	101	24500		25000	98	24700		25000	99
Thallium	38.0		40.0	95	47.3		50.0	95	47.4		50.0	95
Vanadium	39.5		40.0	99	48.6		50.0	97	48.4		50.0	97
Zinc	39.7		40.0	99	48.1		50.0	96	48.2		50.0	96

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICV Source: MTMSICVW_00087 Concentration Units: ug/L

CCV Source: MTMSCAL2CCVW_00222

Analyte	CCV 240-356045/59 11/16/2018 12:20				CCV 240-356045/71 11/16/2018 12:47							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	252		250	101	257		250	103				
Antimony	52.3		50.0	105	52.6		50.0	105				
Arsenic	48.4		50.0	97	49.5		50.0	99				
Barium	49.9		50.0	100	49.7		50.0	99				
Beryllium	48.2		50.0	96	50.0		50.0	100				
Cadmium	49.6		50.0	99	49.6		50.0	99				
Calcium	25700		25000	103	26400		25000	106				
Chromium	50.0		50.0	100	50.8		50.0	102				
Cobalt	48.9		50.0	98	50.4		50.0	101				
Copper	48.9		50.0	98	50.0		50.0	100				
Iron	12200		12500	98	12600		12500	101				
Lead	50.4		50.0	101	50.7		50.0	101				
Magnesium	25500		25000	102	26400		25000	106				
Manganese	247		250	99	250		250	100				
Nickel	48.7		50.0	97	50.0		50.0	100				
Potassium	25100		25000	100	26000		25000	104				
Selenium	50.5		50.0	101	49.1		50.0	98				
Silver	49.3		50.0	99	50.3		50.0	101				
Sodium	25700		25000	103	26400		25000	105				
Thallium	49.0		50.0	98	49.0		50.0	98				
Vanadium	49.8		50.0	100	50.7		50.0	101				
Zinc	49.5		50.0	99	51.0		50.0	102				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICV Source: MTMSICVW_00087 Concentration Units: ug/L

CCV Source: MTMSCAL2CCVW_00224

Analyte	ICV 240-356045/7 11/16/2018 10:25				CCV 240-356045/12 11/16/2018 10:37				CCV 240-356045/47 11/16/2018 11:54			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	201		200	100	248		250	99	250		250	100
Antimony	40.6		40.0	102	51.2		50.0	102	52.1		50.0	104
Arsenic	38.7		40.0	97	47.2		50.0	94	48.2		50.0	96
Barium	38.8		40.0	97	49.0		50.0	98	49.7		50.0	99
Beryllium	38.6		40.0	97	46.6		50.0	93	46.9		50.0	94
Cadmium	38.9		40.0	97	48.9		50.0	98	49.4		50.0	99
Calcium	20300		20000	102	25000		25000	100	25800		25000	103
Chromium	39.6		40.0	99	48.9		50.0	98	50.8		50.0	102
Cobalt	38.9		40.0	97	48.3		50.0	97	49.7		50.0	99
Copper	39.8		40.0	99	48.0		50.0	96	49.2		50.0	98
Iron	9690		10000	97	11900		12500	95	12300		12500	98
Lead	39.8		40.0	100	48.5		50.0	97	50.2		50.0	100
Magnesium	20300		20000	101	24700		25000	99	25400		25000	102
Manganese	195		200	97	239		250	96	248		250	99
Nickel	39.1		40.0	98	48.6		50.0	97	49.2		50.0	98
Potassium	19700		20000	98	24200		25000	97	25500		25000	102
Selenium	39.9		40.0	100	49.7		50.0	99	50.4		50.0	101
Silver	38.7		40.0	97	48.5		50.0	97	49.6		50.0	99
Sodium	20300		20000	101	24500		25000	98	25600		25000	102
Thallium	38.0		40.0	95	47.3		50.0	95	48.6		50.0	97
Vanadium	39.5		40.0	99	48.7		50.0	97	50.9		50.0	102
Zinc	39.7		40.0	99	47.4		50.0	95	48.9		50.0	98

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICV Source: MTMSCRI6020AW_00076 Concentration Units: ug/L

CCV Source: MTMSCRI6020AW_00076

Analyte	ICVL 240-356045/9 11/16/2018 10:30				CCVL 240-356045/49 11/16/2018 11:59				CCVL 240-356045/83 11/16/2018 13:14			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	45.1	J	50.0	90	45.3	J	50.0	91	48.2	J	50.0	96
Antimony	2.01		2.00	101	1.98	J	2.00	99	2.01		2.00	100
Arsenic	4.63	J	5.00	93	4.59	J	5.00	92	4.54	J	5.00	91
Barium	4.77	J	5.00	95	4.84	J	5.00	97	4.94	J	5.00	99
Beryllium	0.922	J	1.00	92	0.950	J	1.00	95	0.987	J	1.00	99
Cadmium	0.953	J	1.00	95	0.996	J	1.00	100	1.00		1.00	100
Calcium	992	J	1000	99	987	J	1000	99	1020		1000	102
Chromium	1.92	J	2.00	96	1.94	J	2.00	97	1.99	J	2.00	100
Cobalt	0.965	J	1.00	97	0.993	J	1.00	99	0.961	J	1.00	96
Copper	1.87	J	2.00	94	1.91	J	2.00	96	2.01		2.00	100
Iron	98.2	J	100	98	99.4	J	100	99	101		100	101
Lead	0.968	J	1.00	97	0.960	J	1.00	96	1.02		1.00	102
Magnesium	1020		1000	102	1010		1000	101	1040		1000	104
Manganese	4.70	J	5.00	94	4.73	J	5.00	95	4.76	J	5.00	95
Nickel	1.84	J	2.00	92	1.86	J	2.00	93	1.86	J	2.00	93
Potassium	1050		1000	105	1050		1000	105	1090		1000	109
Selenium	4.88	J	5.00	98	5.07		5.00	101	4.93	J	5.00	99
Silver	0.973	J	1.00	97	0.969	J	1.00	97	0.999	J	1.00	100
Sodium	997	J	1000	100	1110		1000	111	1120		1000	112
Thallium	0.948	J	1.00	95	0.996	J	1.00	100	1.00		1.00	100
Vanadium	4.75	J	5.00	95	4.75	J	5.00	95	4.68	J	5.00	94
Zinc	18.7	J	20.0	94	18.8	J	20.0	94	19.5	J	20.0	98

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICV Source: MTMSICVW_00087 Concentration Units: ug/L

CCV Source: MTMSCAL2CCVW_00222

Analyte	ICV 240-356380/7 11/20/2018 10:03				CCV 240-356380/53 11/20/2018 11:46				CCV 240-356380/65 11/20/2018 12:14			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Silver	39.1		40.0	98	51.5		50.0	103	48.3		50.0	97
Aluminum	200		200	100	250		250	100	242		250	97
Antimony	40.5		40.0	101	53.8		50.0	108	50.7		50.0	101
Arsenic	39.3		40.0	98	50.0		50.0	100	51.2		50.0	102
Barium	38.7		40.0	97	49.9		50.0	100	47.5		50.0	95
Beryllium	39.4		40.0	99	53.2		50.0	106	46.5		50.0	93
Cadmium	39.3		40.0	98	51.1		50.0	102	48.0		50.0	96
Calcium	20400		20000	102	25900		25000	104	25100		25000	100
Chromium	40.0		40.0	100	51.8		50.0	104	47.7		50.0	95
Cobalt	39.0		40.0	98	50.5		50.0	101	51.1		50.0	102
Copper	40.7		40.0	102	51.3		50.0	103	53.1		50.0	106
Iron	9630		10000	96	12700		12500	101	13100		12500	105
Lead	40.3		40.0	101	51.1		50.0	102	48.5		50.0	97
Magnesium	19800		20000	99	25600		25000	102	25900		25000	104
Manganese	196		200	98	252		250	101	264		250	106
Nickel	38.6		40.0	97	50.3		50.0	101	50.5		50.0	101
Potassium	20200		20000	101	26400		25000	106	27200		25000	109
Selenium	38.8		40.0	97	52.0		50.0	104	45.5		50.0	91
Sodium	20200		20000	101	25800		25000	103	26700		25000	107
Thallium	38.8		40.0	97	50.6		50.0	101	47.6		50.0	95
Vanadium	40.0		40.0	100	51.6		50.0	103	48.7		50.0	97
Zinc	38.4		40.0	96	50.7		50.0	101	49.1		50.0	98

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICV Source: MTMSICVW_00087 Concentration Units: ug/L

CCV Source: MTMSCAL2CCVW_00224

Analyte	ICV 240-356380/7 11/20/2018 10:03				CCV 240-356380/41 11/20/2018 11:20							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Silver	39.1		40.0	98	50.2		50.0	100				
Aluminum	200		200	100	245		250	98				
Antimony	40.5		40.0	101	52.2		50.0	104				
Arsenic	39.3		40.0	98	48.9		50.0	98				
Barium	38.7		40.0	97	48.3		50.0	97				
Beryllium	39.4		40.0	99	53.1		50.0	106				
Cadmium	39.3		40.0	98	49.1		50.0	98				
Calcium	20400		20000	102	25500		25000	102				
Chromium	40.0		40.0	100	50.6		50.0	101				
Cobalt	39.0		40.0	98	49.5		50.0	99				
Copper	40.7		40.0	102	49.9		50.0	100				
Iron	9630		10000	96	12300		12500	99				
Lead	40.3		40.0	101	51.1		50.0	102				
Magnesium	19800		20000	99	24900		25000	99				
Manganese	196		200	98	245		250	98				
Nickel	38.6		40.0	97	49.2		50.0	98				
Potassium	20200		20000	101	25300		25000	101				
Selenium	38.8		40.0	97	48.5		50.0	97				
Sodium	20200		20000	101	25100		25000	100				
Thallium	38.8		40.0	97	50.4		50.0	101				
Vanadium	40.0		40.0	100	50.6		50.0	101				
Zinc	38.4		40.0	96	49.0		50.0	98				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICV Source: MTMSCRI6020AW_00076 Concentration Units: ug/L

CCV Source: MTMSCRI6020AW_00076

Analyte	ICVL 240-356380/9 11/20/2018 10:08				CCVL 240-356380/76 11/20/2018 12:38							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Silver	0.961	J	1.00	96	0.995	J	1.00	100				
Aluminum	43.2	J	50.0	86	42.3	J	50.0	85				
Antimony	2.02		2.00	101	2.12		2.00	106				
Arsenic	4.75	J	5.00	95	5.20		5.00	104				
Barium	4.72	J	5.00	94	4.75	J	5.00	95				
Beryllium	0.940	J	1.00	94	0.897	J	1.00	90				
Cadmium	0.945	J	1.00	95	0.963	J	1.00	96				
Calcium	1000		1000	100	1010		1000	101				
Chromium	1.95	J	2.00	97	1.91	J	2.00	95				
Cobalt	0.985	J	1.00	99	1.01		1.00	101				
Iron	99.1	J	100	99	104		100	104				
Lead	1.00		1.00	100	1.01		1.00	101				
Magnesium	1020		1000	102	995	J	1000	99				
Manganese	4.42	J	5.00	88	4.69	J	5.00	94				
Nickel	1.71	J	2.00	86	1.5	U	2.00	70				
Potassium	1070		1000	107	1190		1000	119				
Selenium	4.97	J	5.00	99	4.58	J	5.00	92				
Thallium	1.01		1.00	101	1.03		1.00	103				
Vanadium	4.85	J	5.00	97	4.32	J	5.00	86				
Zinc	18.8	J	20.0	94	19.7	J	20.0	99				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 240-355822/5 11/16/2018 08:16		CCB 240-355822/43 11/16/2018 11:03		CCB 240-355822/52 11/16/2018 11:42		CCB 240-355822/79 11/16/2018 15:04	
		Found	C	Found	C	Found	C	Found	C
Iron	200	26	U	26	U	26	U	26	U
Manganese	15	2.1	U	2.1	U	2.1	U	2.1	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 240-355822/89 11/16/2018 15:47		CCB 240-355822/101 11/16/2018 16:39		CCB 240-355822/197 11/16/2018 23:38		CCB 240-355822/209 11/17/2018 00:30	
		Found	C	Found	C	Found	C	Found	C
Iron	200	26	U	26	U	26	U	26	U
Manganese	15	2.1	U	2.1	U	2.1	U	2.1	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 240-355822/221 11/17/2018 01:22							
		Found	C	Found	C	Found	C	Found	C
Iron	200	26	U						
Manganese	15	2.1	U						

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 240-356045/8 11/16/2018 10:28		CCB 240-356045/13 11/16/2018 10:39		CCB 240-356045/25 11/16/2018 11:05		CCB 240-356045/37 11/16/2018 11:31	
		Found	C	Found	C	Found	C	Found	C
						No samples affected			
Aluminum	50	34	U	34	U	34	U	34	U
Antimony	2.0	0.57	U	0.57	U	0.57	U	0.57	U
Arsenic	5.0	0.75	U	0.75	U	0.75	U	0.75	U
Barium	5.0	2.2	U	2.2	U	2.2	U	2.2	U
Beryllium	1.0	0.31	U	0.31	U	0.391	J	0.31	U
Cadmium	1.0	0.21	U	0.21	U	0.21	U	0.21	U
Calcium	1000	580	U	580	U	580	U	580	U
Chromium	2.0	0.98	U	0.98	U	0.98	U	0.98	U
Cobalt	1.0	0.19	U	0.19	U	0.19	U	0.19	U
Copper	2.0	1.7	U	1.7	U	1.7	U	1.7	U
Iron	100	47	U	47	U	47	U	47	U
Lead	1.0	0.45	U	0.45	U	0.45	U	0.45	U
Magnesium	1000	200	U	200	U	200	U	200	U
Manganese	5.0	2.1	U	2.1	U	2.1	U	2.1	U
Nickel	2.0	1.5	U	1.5	U	1.5	U	1.5	U
Potassium	1000	220	U	220	U	220	U	220	U
Selenium	5.0	0.89	U	0.89	U	0.89	U	0.89	U
Silver	1.0	0.053	U	0.053	U	0.053	U	0.053	U
Sodium	1000	330	U	330	U	330	U	330	U
Thallium	1.0	0.20	U	0.20	U	0.20	U	0.20	U
Vanadium	5.0	0.82	U	0.82	U	0.82	U	0.82	U
Zinc	20	15	U	15	U	15	U	15	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 240-356045/48 11/16/2018 11:57		CCB 240-356045/60 11/16/2018 12:23		CCB 240-356045/72 11/16/2018 12:50			
		Found	C	Found	C	Found	C	Found	C
Aluminum	50	34	U	34	U	34	U		
Antimony	2.0	0.57	U	0.57	U	0.57	U		
Arsenic	5.0	0.75	U	0.75	U	0.75	U		
Barium	5.0	2.2	U	2.2	U	2.2	U		
Beryllium	1.0	0.31	U	0.334	J	0.31	U		
Cadmium	1.0	0.21	U	0.21	U	0.21	U		
Calcium	1000	580	U	580	U	580	U		
Chromium	2.0	0.98	U	0.98	U	0.98	U		
Cobalt	1.0	0.19	U	0.19	U	0.19	U		
Copper	2.0	1.7	U	1.7	U	1.7	U		
Iron	100	47	U	47	U	47	U		
Lead	1.0	0.45	U	0.45	U	0.45	U		
Magnesium	1000	200	U	200	U	200	U		
Manganese	5.0	2.1	U	2.1	U	2.1	U		
Nickel	2.0	1.5	U	1.5	U	1.5	U		
Potassium	1000	220	U	220	U	220	U		
Selenium	5.0	0.89	U	0.89	U	0.89	U		
Silver	1.0	0.053	U	0.053	U	0.053	U		
Sodium	1000	330	U	330	U	330	U		
Thallium	1.0	0.20	U	0.20	U	0.20	U		
Vanadium	5.0	0.82	U	0.82	U	0.82	U		
Zinc	20	15	U	15	U	15	U		

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 240-356380/8 11/20/2018 10:06		CCB 240-356380/42 11/20/2018 11:22		CCB 240-356380/54 11/20/2018 11:48		CCB 240-356380/66 11/20/2018 12:16	
		Found	C	Found	C	Found	C	Found	C
Silver	1.0	0.053	U	0.053	U	0.053	U	0.053	U
Aluminum	50	34	U	34	U	34	U	34	U
Antimony	2.0	0.57	U	0.57	U	0.57	U	0.57	U
Arsenic	5.0	0.75	U	0.75	U	0.75	U	0.75	U
Barium	5.0	2.2	U	2.2	U	2.2	U	2.2	U
Beryllium	1.0	0.31	U	0.31	U	0.400	J	0.31	U
Cadmium	1.0	0.21	U	0.21	U	0.21	U	0.21	U
Calcium	1000	580	U	580	U	580	U	580	U
Chromium	2.0	0.98	U	0.98	U	0.98	U	0.98	U
Cobalt	1.0	0.19	U	0.19	U	0.19	U	0.19	U
Copper	2.0	1.7	U	1.7	U	1.7	U	1.74	J
Iron	100	47	U	47	U	47	U	47	U
Lead	1.0	0.45	U	0.45	U	0.45	U	0.45	U
Magnesium	1000	200	U	200	U	200	U	200	U
Manganese	5.0	2.1	U	2.1	U	2.1	U	2.43	J
Nickel	2.0	1.5	U	1.5	U	1.5	U	1.5	U
Potassium	1000	220	U	220	U	220	U	227	J
Selenium	5.0	0.89	U	0.89	U	0.89	U	0.89	U
Sodium	1000	330	U	330	U	330	U	529	J
Thallium	1.0	0.20	U	0.20	U	0.20	U	0.20	U
Vanadium	5.0	0.82	U	0.82	U	0.82	U	0.82	U
Zinc	20	15	U	15	U	15	U	15	U

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 240-355538/1-A

Instrument Code: I9 Batch No.: 355822

CAS No.	Analyte	Concentration	C	Q	Method
7439-89-6	Iron	26	U		6010C
7439-96-5	Manganese	2.1	U		6010C

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 240-355573/1-A

Instrument Code: I9 Batch No.: 355822

CAS No.	Analyte	Concentration	C	Q	Method
7439-89-6	Iron	26	U		6010C
7439-96-5	Manganese	2.1	U		6010C

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 240-355538/1-A

Instrument Code: I14 Batch No.: 356045

CAS No.	Analyte	Concentration	C	Q	Method
7440-22-4	Silver	0.053	U		6020A
7429-90-5	Aluminum	34	U		6020A
7440-38-2	Arsenic	0.75	U		6020A
7440-39-3	Barium	2.2	U		6020A
7440-41-7	Beryllium	0.31	U		6020A
7440-43-9	Cadmium	0.21	U		6020A
7440-48-4	Cobalt	0.19	U		6020A
7440-47-3	Chromium	0.98	U		6020A
7440-50-8	Copper	1.7	U		6020A
7439-89-6	Iron	47	U		6020A
7439-96-5	Manganese	2.1	U		6020A
7440-02-0	Nickel	1.5	U		6020A
7439-92-1	Lead	0.45	U		6020A
7440-36-0	Antimony	0.57	U		6020A
7782-49-2	Selenium	0.89	U		6020A
7440-28-0	Thallium	0.20	U		6020A
7440-62-2	Vanadium	0.82	U		6020A
7440-66-6	Zinc	15	U		6020A
7440-70-2	Calcium	580	U		6020A
7440-09-7	Potassium	220	U		6020A
7439-95-4	Magnesium	200	U		6020A
7440-23-5	Sodium	330	U		6020A

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 240-355573/1-A

Instrument Code: I14 Batch No.: 356045

CAS No.	Analyte	Concentration	C	Q	Method
7440-22-4	Silver	0.053	U		6020A
7429-90-5	Aluminum	34	U		6020A
7440-38-2	Arsenic	0.75	U		6020A
7440-39-3	Barium	2.2	U		6020A
7440-41-7	Beryllium	0.31	U		6020A
7440-43-9	Cadmium	0.21	U		6020A
7440-48-4	Cobalt	0.19	U		6020A
7440-47-3	Chromium	0.98	U		6020A
7440-50-8	Copper	1.7	U		6020A
7439-89-6	Iron	47	U		6020A
7439-96-5	Manganese	2.1	U		6020A
7440-02-0	Nickel	1.5	U		6020A
7439-92-1	Lead	0.45	U		6020A
7440-36-0	Antimony	0.57	U		6020A
7782-49-2	Selenium	0.89	U		6020A
7440-28-0	Thallium	0.20	U		6020A
7440-62-2	Vanadium	0.82	U		6020A
7440-66-6	Zinc	15	U		6020A
7440-70-2	Calcium	580	U		6020A
7440-09-7	Potassium	220	U		6020A
7439-95-4	Magnesium	200	U		6020A
7440-23-5	Sodium	330	U		6020A

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 240-356168/1-A

Instrument Code: I14 Batch No.: 356380

CAS No.	Analyte	Concentration	C	Q	Method
7440-22-4	Silver	0.053	U		6020A

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: ICSA 240-355822/8 Instrument ID: I9

Lab File ID: I9111618A.asc ICS Source: MTTRICSAW_00043

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Iron	**200000**	**187590**	**94**
Manganese		**-0.0960**	
Aluminum	*500000*	*506040*	*101*
Antimony		*-3.37*	
Arsenic		*-1.97*	
Barium		*0.114*	
Beryllium		*0.0803*	
Boron		*-1.43*	
Cadmium		*0.375*	
Calcium	*500000*	*469240*	*94*
Chromium		*3.77*	
Cobalt		*-0.558*	
Copper		*1.80*	
Lead		*5.04*	
Lithium		*14.7*	
Magnesium	*500000*	*498600*	*100*
Molybdenum		*0.879*	
Nickel		*4.34*	
Potassium		*141*	
Selenium		*-5.21*	
Silicon		*5.41*	
Silver		*-0.566*	
Sodium		*135*	
Strontium		*8.45*	
Thallium		*2.49*	
Tin		*-0.519*	
Titanium		*-0.601*	
Vanadium		*-4.69*	
Zinc		*-3.58*	

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: ICSAB 240-355822/9 Instrument ID: I9

Lab File ID: I9111618A.asc ICS Source: MTICPICSABW_00019

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Iron	**200000**	**189520**	**95**
Manganese	**500**	**500**	**100**
Aluminum	*500000*	*508330*	*102*
Antimony	*1000*	*1023*	*102*
Arsenic	*1000*	*1042*	*104*
Barium	*500*	*501*	*100*
Beryllium	*500*	*494*	*99*
Boron	*500*	*547*	*109*
Cadmium	*1000*	*1044*	*104*
Calcium	*500000*	*468590*	*94*
Chromium	*500*	*489*	*98*
Cobalt	*500*	*511*	*102*
Copper	*500*	*536*	*107*
Lead	*1000*	*917*	*92*
Lithium	*500*	*564*	*113*
Magnesium	*500000*	*502650*	*101*
Molybdenum	*1000*	*979*	*98*
Nickel	*1000*	*995*	*100*
Potassium	*10000*	*10796*	*108*
Selenium	*1000*	*1021*	*102*
Silicon	*10000*	*9815*	*98*
Silver	*1000*	*1090*	*109*
Sodium	*10000*	*10837*	*108*
Strontium	*1500*	*1460*	*97*
Thallium	*1000*	*970*	*97*
Tin	*500*	*535*	*107*
Titanium	*500*	*531*	*106*
Vanadium	*500*	*488*	*98*
Zinc	*1000*	*1012*	*101*

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: ICSA 240-356045/10 Instrument ID: I14

Lab File ID: 010ICSA.d ICS Source: MTMSICSAW_00087

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	**50000**	**47273**	**95**
Antimony		**0.0140**	
Arsenic		**-0.0180**	
Barium		**0.0450**	
Beryllium		**-0.0340**	
Cadmium		**0.234**	
Calcium	**50000**	**47218**	**94**
Chromium		**0.0680**	
Cobalt		**0.0050**	
Copper		**0.0360**	
Iron	**50000**	**47858**	**96**
Lead		**-0.0050**	
Magnesium	**50000**	**48344**	**97**
Manganese		**-0.0510**	
Nickel		**0.0990**	
Potassium	**50000**	**47388**	**95**
Selenium		**0.0760**	
Silver		**0.0060**	
Sodium	**50000**	**47942**	**96**
Thallium		**-0.0010**	
Vanadium		**-0.152**	
Zinc		**-0.735**	
Boron		*1.51*	
Lithium		*-0.323*	
Molybdenum	*1000*	*1043*	*104*
Strontium		*0.426*	
Tin		*-2.18*	
Titanium	*1000*	*1012*	*101*
Tungsten		*0.0920*	

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: ICSAB 240-356045/11 Instrument ID: I14

Lab File ID: 011ICAB.d ICS Source: MTMSICSABW_00088

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Found Percent Recovery
Aluminum	**50000**	**47523**	**95**
Antimony	**100**	**101**	**101**
Arsenic	**100**	**97.0**	**97**
Barium	**100**	**96.2**	**96**
Beryllium	**100**	**94.1**	**94**
Cadmium	**100**	**95.5**	**96**
Calcium	**50000**	**47623**	**95**
Chromium	**100**	**96.0**	**96**
Cobalt	**100**	**95.5**	**96**
Copper	**100**	**95.0**	**95**
Iron	**50000**	**47482**	**95**
Lead	**100**	**96.9**	**97**
Magnesium	**50000**	**48582**	**97**
Manganese	**100**	**95.1**	**95**
Nickel	**100**	**95.9**	**96**
Potassium	**50000**	**47937**	**96**
Selenium	**100**	**97.5**	**97**
Silver	**100**	**95.3**	**95**
Sodium	**50000**	**48324**	**97**
Thallium	**100**	**95.4**	**95**
Vanadium	**100**	**95.4**	**95**
Zinc	**100**	**95.4**	**95**
Boron	*100*	*99.9*	*100*
Lithium	*100*	*96.8*	*97*
Molybdenum	*1100*	*1141*	*104*
Strontium	*100*	*95.8*	*96*
Tin	*100*	*103*	*103*
Titanium	*1100*	*1118*	*102*
Tungsten	*100*	*101*	*101*

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: ICSA 240-356380/10 Instrument ID: I14

Lab File ID: 010ICSA.d ICS Source: MTMSICSAW_00087

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Silver		**0.0090**	
Aluminum	*50000*	*48746*	*97*
Antimony		*0.0240*	
Arsenic		*0.0780*	
Barium		*0.0070*	
Beryllium		*0.0070*	
Boron		*2.78*	
Cadmium		*0.212*	
Calcium	*50000*	*48614*	*97*
Chromium		*0.0250*	
Cobalt		*0.0080*	
Copper		*0.0300*	
Iron	*50000*	*48838*	*98*
Lead		*-0.0080*	
Lithium		*0.503*	
Magnesium	*50000*	*48570*	*97*
Manganese		*-0.437*	
Molybdenum	*1000*	*1046*	*105*
Nickel		*-0.115*	
Potassium	*50000*	*48910*	*98*
Selenium		*0.124*	
Sodium	*50000*	*48655*	*97*
Strontium		*0.454*	
Thallium		*-0.0020*	
Tin		*-5.50*	
Titanium	*1000*	*1003*	*100*
Tungsten		*0.106*	
Vanadium		*-0.0850*	
Zinc		*-1.43*	

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Lab Sample ID: ICSAB 240-356380/11 Instrument ID: I14

Lab File ID: 011ICAB.d ICS Source: MTMSICSABW_00088

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Found Percent Recovery
Silver	**100**	**97.7**	**98**
Aluminum	*50000*	*48999*	*98*
Antimony	*100*	*104*	*104*
Arsenic	*100*	*99.3*	*99*
Barium	*100*	*97.8*	*98*
Beryllium	*100*	*101*	*101*
Boron	*100*	*99.4*	*99*
Cadmium	*100*	*97.4*	*97*
Calcium	*50000*	*48490*	*97*
Chromium	*100*	*98.6*	*99*
Cobalt	*100*	*98.7*	*99*
Copper	*100*	*99.3*	*99*
Iron	*50000*	*48096*	*96*
Lead	*100*	*101*	*101*
Lithium	*100*	*104*	*104*
Magnesium	*50000*	*49127*	*98*
Manganese	*100*	*97.7*	*98*
Molybdenum	*1100*	*1164*	*106*
Nickel	*100*	*98.7*	*99*
Potassium	*50000*	*49759*	*100*
Selenium	*100*	*102*	*102*
Sodium	*50000*	*49282*	*99*
Strontium	*100*	*98.9*	*99*
Thallium	*100*	*98.4*	*98*
Tin	*100*	*105*	*105*
Titanium	*1100*	*1115*	*101*
Tungsten	*100*	*102*	*102*
Vanadium	*100*	*99.1*	*99*
Zinc	*100*	*97.9*	*98*

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

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: MRC-MW-134A-111318 MS
Lab ID: 240-104369-2 MS
Lab Name: TestAmerica Canton
Job No.: 240-104369-1
SDG No.:
Matrix: Water
Concentration Units: ug/L
% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Silver	98.3		0.053	U	100	98	75-125		6020A

SSR = Spiked Sample Result

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

FORM VA - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

sample not included in SDG

Client ID: _____ Lab ID: 240-104375-K-2-B MS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	SSR C		Sample Result (SR) C		Spike Added (SA)	%R	Control Limit %R	Q	Method
Iron	36900		35000		1000	174	75-125	4	6010C
Manganese	674		170		500	100	75-125		6010C

SSR = Spiked Sample Result

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

FORM VA - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Sample not included in SDG

Client ID: _____ Lab ID: 240-104368-N-2-B MS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Silver	92.7		0.053	U	100	93	75-125		6020A
Aluminum	9450		120		10000	93	75-125		6020A
Arsenic	962		4.2	J	1000	96	75-125		6020A
Barium	1110		130		1000	98	75-125		6020A
Beryllium	922		1.3		1000	92	75-125		6020A
Cadmium	945		0.45	J	1000	94	75-125		6020A
Cobalt	951		2.9		1000	95	75-125		6020A
Chromium	934		6.5		1000	93	75-125		6020A
Copper	940		1.7	U	1000	94	75-125		6020A
Iron	9770		470		10000	93	75-125		6020A
Manganese	1170		250		1000	92	75-125		6020A
Nickel	966		6.5		1000	96	75-125		6020A
Lead	956		1.7		1000	95	75-125		6020A
Antimony	98.3		0.57	U	100	98	75-125		6020A
Selenium	904		1.8	J	1000	90	75-125		6020A
Thallium	232		0.20	U	250	93	75-125		6020A
Vanadium	937		3.7	J	1000	93	75-125		6020A
Zinc	953		15	U	1000	95	75-125		6020A
Calcium	70000		61000		10000	93	75-125	4	6020A
Potassium	35300		27000		10000	86	75-125		6020A
Magnesium	34900		26000		10000	88	75-125		6020A
Sodium	212000		210000		10000	52	75-125	4	6020A

SSR = Spiked Sample Result

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

FORM VA - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: _____ Lab ID: 240-104371-H-1-B MS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Iron	1080		59	J	1000	102	75-125		6010C
Manganese	493		7.2	J	500	97	75-125		6010C

SSR = Spiked Sample Result

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

FORM VA - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: _____ Lab ID: 240-104371-H-1-D MS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Silver	95.1		0.053	U	100	95	75-125		6020A
Aluminum	10300		56		10000	102	75-125		6020A
Arsenic	989		0.75	U	1000	99	75-125		6020A
Barium	1030		26		1000	100	75-125		6020A
Beryllium	940		0.88	J	1000	94	75-125		6020A
Cadmium	965		0.23	J	1000	96	75-125		6020A
Cobalt	969		0.27	J	1000	97	75-125		6020A
Chromium	968		0.98	U	1000	97	75-125		6020A
Copper	988		1.7	U	1000	99	75-125		6020A
Iron	9960		63	J	10000	99	75-125		6020A
Manganese	980		6.7		1000	97	75-125		6020A
Nickel	971		1.5	U	1000	97	75-125		6020A
Lead	1010		0.45	U	1000	101	75-125		6020A
Antimony	101		0.57	U	100	101	75-125		6020A
Selenium	965		0.89	U	1000	97	75-125		6020A
Thallium	243		0.20	U	250	97	75-125		6020A
Vanadium	980		0.82	U	1000	98	75-125		6020A
Zinc	988		15	U	1000	99	75-125		6020A
Calcium	252000		240000		10000	75	75-125	4	6020A
Potassium	11800		2100		10000	97	75-125		6020A
Magnesium	63000		53000		10000	96	75-125	4	6020A
Sodium	14800		5100		10000	97	75-125		6020A

SSR = Spiked Sample Result

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

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: MRC-MW-134A-111318 MSD
Lab ID: 240-104369-2 MSD
Lab Name: TestAmerica Canton
Job No.: 240-104369-1
SDG No.:
Matrix: Water
Concentration Units: ug/L
% Solids:

Analyte	(SDR) C		Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Silver	98.3		100	98	75-125	0	20		6020A

SDR = Sample Duplicate Result

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

FORM VD - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: _____ Lab ID: 240-104375-K-2-C MSD

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	(SDR) C		Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Iron	35100		1000	-3	75-125	5	20	4	6010C
Manganese	642		500	94	75-125	5	20		6010C

SDR = Sample Duplicate Result

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

FORM VD - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Sample not included in SDG

Client ID: _____ Lab ID: 240-104368-N-2-C MSD

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Silver	80.3		100	80	75-125	14	20		6020A
Aluminum	8450		10000	83	75-125	11	20		6020A
Arsenic	832		1000	83	75-125	14	20		6020A
Barium	951		1000	82	75-125	15	20		6020A
Beryllium	795		1000	79	75-125	15	20		6020A
Cadmium	821		1000	82	75-125	14	20		6020A
Cobalt	834		1000	83	75-125	13	20		6020A
Chromium	822		1000	82	75-125	13	20		6020A
Copper	818		1000	82	75-125	14	20		6020A
Iron	8540		10000	81	75-125	13	20		6020A
Manganese	1030		1000	78	75-125	13	20		6020A
Nickel	831		1000	82	75-125	15	20		6020A
Lead	826		1000	82	75-125	15	20		6020A
Antimony	85.3		100	85	75-125	14	20		6020A
Selenium	794		1000	79	75-125	13	20		6020A
Thallium	200		250	80	75-125	15	20		6020A
Vanadium	827		1000	82	75-125	12	20		6020A
Zinc	824		1000	82	75-125	15	20		6020A
Calcium	61300		10000	6	75-125	13	20	4	6020A
Potassium	31100		10000	45	75-125	13	20	F1	6020A
Magnesium	30700		10000	46	75-125	13	20	F1	6020A
Sodium	190000		10000	-170	75-125	11	20	4	6020A

SDR = Sample Duplicate Result

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

FORM VD - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: _____ Lab ID: 240-104371-H-1-C MSD

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	(SDR) C		Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Iron	1080		1000	103	75-125	1	20		6010C
Manganese	499		500	98	75-125	1	20		6010C

SDR = Sample Duplicate Result

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

FORM VD - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Sample not included in SDG.

Client ID: _____ Lab ID: 240-104371-H-1-E MSD

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Silver	94.5		100	94	75-125	1	20		6020A
Aluminum	10400		10000	103	75-125	1	20		6020A
Arsenic	1000		1000	100	75-125	1	20		6020A
Barium	1030		1000	100	75-125	0	20		6020A
Beryllium	952		1000	95	75-125	1	20		6020A
Cadmium	964		1000	96	75-125	0	20		6020A
Cobalt	968		1000	97	75-125	0	20		6020A
Chromium	973		1000	97	75-125	1	20		6020A
Copper	949		1000	95	75-125	4	20		6020A
Iron	9970		10000	99	75-125	0	20		6020A
Manganese	1000		1000	99	75-125	2	20		6020A
Nickel	980		1000	98	75-125	1	20		6020A
Lead	1010		1000	101	75-125	0	20		6020A
Antimony	102		100	102	75-125	1	20		6020A
Selenium	971		1000	97	75-125	1	20		6020A
Thallium	244		250	98	75-125	1	20		6020A
Vanadium	988		1000	99	75-125	1	20		6020A
Zinc	973		1000	97	75-125	2	20		6020A
Calcium	255000		10000	105	75-125	1	20	4	6020A
Potassium	12000		10000	99	75-125	1	20		6020A
Magnesium	64200		10000	108	75-125	2	20	4	6020A
Sodium	14900		10000	98	75-125	1	20		6020A

SDR = Sample Duplicate Result

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

FORM VD - IN

5B-IN
POST DIGESTION SPIKE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: _____ Lab ID: 240-104368-N-2-A PDS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Potassium	35600		27000		10000	90	80-120		6020A
Magnesium	35300		26000		10000	92	80-120		6020A

SSR = Spiked Sample Result

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

FORM VB - IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 240-355538/2-A

Lab Name: TestAmerica Canton Job No.: 240-104369-1

Sample Matrix: Water LCS Source: MTICP1_00079

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Iron	1000	1030		103	80	120		6010C
Manganese	500	501		100	80	120		6010C

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

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 240-355573/2-A

Lab Name: TestAmerica Canton Job No.: 240-104369-1

Sample Matrix: Water LCS Source: MTICP1_00079

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Iron	1000	1020		102	80	120		6010C
Manganese	500	486		97	80	120		6010C

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

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 240-355538/3-A

Lab Name: TestAmerica Canton Job No.: 240-104369-1

Sample Matrix: Water LCS Source: MTICPMSB_00037

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Silver	100	96.0		96	80	120		6020A
Aluminum	10000	9980		100	80	120		6020A
Arsenic	1000	926		93	80	120		6020A
Barium	1000	977		98	80	120		6020A
Beryllium	1000	942		94	80	120		6020A
Cadmium	1000	985		99	80	120		6020A
Cobalt	1000	955		95	80	120		6020A
Chromium	1000	977		98	80	120		6020A
Copper	1000	952		95	80	120		6020A
Iron	10000	9390		94	80	120		6020A
Manganese	1000	968		97	80	120		6020A
Nickel	1000	972		97	80	120		6020A
Lead	1000	983		98	80	120		6020A
Antimony	100	97.3		97	80	120		6020A
Selenium	1000	975		97	80	120		6020A
Thallium	250	240		96	80	120		6020A
Vanadium	1000	952		95	80	120		6020A
Zinc	1000	950		95	80	120		6020A
Calcium	10000	9610		96	80	120		6020A
Potassium	10000	9650		96	80	120		6020A
Magnesium	10000	10000		100	80	120		6020A
Sodium	10000	9760		98	80	120		6020A

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

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 240-355573/3-A

Lab Name: TestAmerica Canton Job No.: 240-104369-1

Sample Matrix: Water LCS Source: MTICPMS2_00035

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Aluminum	10000	10200		102	80	120		6020A
Arsenic	1000	946		95	80	120		6020A
Barium	1000	980		98	80	120		6020A
Beryllium	1000	942		94	80	120		6020A
Cadmium	1000	947		95	80	120		6020A
Cobalt	1000	959		96	80	120		6020A
Chromium	1000	938		94	80	120		6020A
Copper	1000	929		93	80	120		6020A
Iron	10000	9630		96	80	120		6020A
Manganese	1000	963		96	80	120		6020A
Nickel	1000	982		98	80	120		6020A
Lead	1000	997		100	80	120		6020A
Antimony	100	96.3		96	80	120		6020A
Selenium	1000	929		93	80	120		6020A
Thallium	250	242		97	80	120		6020A
Vanadium	1000	941		94	80	120		6020A
Zinc	1000	964		96	80	120		6020A
Calcium	10000	9650		97	80	120		6020A
Potassium	10000	9790		98	80	120		6020A
Magnesium	10000	10000		100	80	120		6020A
Sodium	10000	9670		97	80	120		6020A

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

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 240-356168/2-A

Lab Name: TestAmerica Canton Job No.: 240-104369-1

Sample Matrix: Water LCS Source: MTICPMSB_00037

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Silver	100	95.9		96	80	120		6020A

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

FORM VIIA - IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS - TOTAL RECOVERABLE

Lab ID: 240-104375-K-2-A SD ^5

SDG No:

Lab Name: TestAmerica Canton Job No: 240-104369-1

Matrix: Water Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Iron	35000		36700		4.6		6010C
Manganese	170		179		3.3		6010C

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

FORM VIII-IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS - TOTAL RECOVERABLE

Lab ID: 240-104371-H-1-A SD ^5

SDG No:

Lab Name: TestAmerica Canton Job No: 240-104369-1

Matrix: Water Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Iron	59	J	130	U	NC		6010C
Manganese	7.2	J	11	U	NC		6010C

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

FORM VIII-IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS - TOTAL RECOVERABLE

Lab ID: 240-104369-2

SDG No:

Lab Name: TestAmerica Canton Job No: 240-104369-1

Matrix: Water Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Silver	0.053	U	0.27	U	NC		6020A

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

FORM VIII-IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS - TOTAL RECOVERABLE

Lab ID: 240-104368-N-2-A SD ^5

SDG No:

Lab Name: TestAmerica Canton Job No: 240-104369-1

Matrix: Water Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Silver	0.053	U	0.27	U	NC		6020A
Aluminum	120		170	U	NC		6020A
Arsenic	4.2	J	4.53	J	NC		6020A
Barium	130		132		NC		6020A
Beryllium	1.3		1.80	J	NC		6020A
Cadmium	0.45	J	1.1	U	NC		6020A
Cobalt	2.9		3.03	J	NC		6020A
Chromium	6.5		6.85	J	NC		6020A
Copper	1.7	U	8.5	U	NC		6020A
Iron	470		476	J	NC		6020A
Manganese	250		258		NC		6020A
Nickel	6.5		7.4	U	NC		6020A
Lead	1.7		2.3	U	NC		6020A
Antimony	0.57	U	2.9	U	NC		6020A
Selenium	1.8	J	4.5	U	NC		6020A
Thallium	0.20	U	1.0	U	NC		6020A
Vanadium	3.7	J	4.1	U	NC		6020A
Zinc	15	U	75	U	NC		6020A
Calcium	61000		64900		NC		6020A
Potassium	27000		28000		NC		6020A
Magnesium	26000		28200		NC		6020A
Sodium	210000		219000		5.8		6020A

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

FORM VIII-IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS - TOTAL RECOVERABLE

Lab ID: 240-104371-H-1-A SD ^5

SDG No:

Lab Name: TestAmerica Canton Job No: 240-104369-1

Matrix: Water Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Silver	0.053	U	0.27	U	NC		6020A
Aluminum	56		170	U	NC		6020A
Arsenic	0.75	U	3.8	U	NC		6020A
Barium	26		26.4		NC		6020A
Beryllium	0.88	J	1.5	U	NC		6020A
Cadmium	0.23	J	1.1	U	NC		6020A
Cobalt	0.27	J	0.95	U	NC		6020A
Chromium	0.98	U	4.9	U	NC		6020A
Copper	1.7	U	8.5	U	NC		6020A
Iron	63	J	240	U	NC		6020A
Manganese	6.7		10	U	NC		6020A
Nickel	1.5	U	7.4	U	NC		6020A
Lead	0.45	U	2.3	U	NC		6020A
Antimony	0.57	U	2.9	U	NC		6020A
Selenium	0.89	U	4.5	U	NC		6020A
Thallium	0.20	U	1.0	U	NC		6020A
Vanadium	0.82	U	4.1	U	NC		6020A
Zinc	15	U	75	U	NC		6020A
Calcium	240000		250000		2.0		6020A
Potassium	2100		2110	J	NC		6020A
Magnesium	53000		55200		NC		6020A
Sodium	5100		5530		NC		6020A

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

FORM VIII-IN

9-IN
DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: I9

Method: 6010C MDL Date: 12/15/2017 12:49

Prep Method: 3005A

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Iron	271.441	200	25.958
Manganese	257.610	15	2.119

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: I9

Method: 6010C XMDL Date: 12/15/2017 12:49

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Iron	271.441	200	25.958
Manganese	257.610	15	2.119

9-IN
DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: I14

Method: 6020A MDL Date: 04/27/2017 13:23

Prep Method: 3005A

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Aluminum	27.00	50	34
Antimony	121.00	2	0.57
Arsenic	75.00	5	0.75
Barium	137.00	5	2.23
Beryllium	9.00	1	0.305
Cadmium	111.00	1	0.212
Calcium	43.00	1000	583
Chromium	52.00	2	0.98
Cobalt	59.00	1	0.19
Copper	65.00	2	1.7
Iron	56.00	100	47
Lead	208.00	1	0.45
Magnesium	25.00	1000	199
Manganese	55.00	5	2.06
Nickel	60.00	2	1.47
Potassium	39.00	1000	216
Selenium	78.00	5	0.89
Silver	107.00	1	0.053
Sodium	23.00	1000	329
Thallium	205.00	1	0.2
Vanadium	51.00	5	0.82
Zinc	66.00	20	15

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: I14

Method: 6020A XMDL Date: 04/27/2017 13:25

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Aluminum	27.00	50	34
Antimony	121.00	2	0.57
Arsenic	75.00	5	0.75
Barium	137.00	5	2.23
Beryllium	9.00	1	0.305
Cadmium	111.00	1	0.212
Calcium	43.00	1000	583
Chromium	52.00	2	0.98
Cobalt	59.00	1	0.19
Copper	65.00	2	1.7
Iron	56.00	100	47
Lead	208.00	1	0.45
Magnesium	25.00	1000	199
Manganese	55.00	5	2.06
Nickel	60.00	2	1.47
Potassium	39.00	1000	216
Selenium	78.00	5	0.89
Silver	107.00	1	0.053
Sodium	23.00	1000	329
Thallium	205.00	1	0.2
Vanadium	51.00	5	0.82
Zinc	66.00	20	15

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG No.:

ICP-AES Instrument ID: I9 Date: 07/25/2018

Analyte	Wave Length	Al	As	Ca	Co	Cr	Cu	Fe	Mn	Mo	Ni	Si	Ti	Tl	V
Aluminum										0.021446					0.026101
Antimony		-0.000056			-0.000451			-0.000015							0.002940
Arsenic		0.000005			-0.000198	0.000538			-0.000355	0.001291					
Barium															
Beryllium															0.000086
Boron															
Cadmium			0.008775					-0.00001							
Calcium															
Chromium															
Cobalt													0.001923		
Copper				0.000018	0.000453			-0.000018					-0.000463		
Iron															
Lead		-0.000129					0.000183	0.000043			0.000260	0.0001			
Lithium															
Magnesium															
Manganese															
Molybdenum															
Nickel					0.000799			0.000054							
Potassium															
Selenium		-0.000049							0.000231						
Silver															
Sodium															
Strontium															
Thallium		-0.000010			0.003994			0.000007	0.001101				-0.000498		-0.000210
Tin															
Titanium															
Vanadium								0.000027							
Zinc						-0.000286									

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Canton Job No: 240-104369-1

SDG No.:

Instrument ID: I9 Date: 07/26/2018 09:39

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Iron		500000	6010C
Manganese		10000	6010C

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Canton Job No: 240-104369-1

SDG No.:

Instrument ID: I14 Date: 10/02/2018 11:17

Analyte	Integ. Time (Sec.)	Concentration (ppb)	Method
Silver		300	6020A
Aluminum		200000	6020A
Arsenic		10000	6020A
Barium		10000	6020A
Beryllium		2000	6020A
Cadmium		4000	6020A
Cobalt		10000	6020A
Chromium		10000	6020A
Copper		10000	6020A
Iron		200000	6020A
Manganese		10000	6020A
Nickel		10000	6020A
Lead		4000	6020A
Antimony		200	6020A
Selenium		10000	6020A
Thallium		2000	6020A
Vanadium		10000	6020A
Zinc		10000	6020A
Calcium		500000	6020A
Potassium		500000	6020A
Magnesium		500000	6020A
Sodium		500000	6020A

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Prep Method: 3005A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 240-355538/1-A	11/15/2018 14:00	355538		50	50
LCS 240-355538/2-A	11/15/2018 14:00	355538		50	50
240-104375-K-2-B MS	11/15/2018 14:00	355538		50	50
240-104375-K-2-C MSD	11/15/2018 14:00	355538		50	50
240-104369-6	11/15/2018 14:00	355538		50	50

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Prep Method: 3005A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 240-355573/1-A	11/15/2018 14:00	355573		50	50
LCS 240-355573/2-A	11/15/2018 14:00	355573		50	50
240-104371-H-1-B MS	11/15/2018 14:00	355573		50	50
240-104371-H-1-C MSD	11/15/2018 14:00	355573		50	50
240-104369-2	11/15/2018 14:00	355573		50	50
240-104369-3	11/15/2018 14:00	355573		50	50
240-104369-4	11/15/2018 14:00	355573		50	50
240-104369-5	11/15/2018 14:00	355573		50	50

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Prep Method: 3005A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 240-355538/1-A	11/15/2018 14:00	355538		50	50
LCS 240-355538/3-A	11/15/2018 14:00	355538		50	50
240-104368-N-2-B MS	11/15/2018 14:00	355538		50	50
240-104368-N-2-C MSD	11/15/2018 14:00	355538		50	50
240-104369-6	11/15/2018 14:00	355538		50	50

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Prep Method: 3005A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 240-355573/1-A	11/15/2018 14:00	355573		50	50
LCS 240-355573/3-A	11/15/2018 14:00	355573		50	50
240-104371-H-1-D MS	11/15/2018 14:00	355573		50	50
240-104371-H-1-E MSD	11/15/2018 14:00	355573		50	50
240-104369-2	11/15/2018 14:00	355573		50	50
240-104369-3	11/15/2018 14:00	355573		50	50
240-104369-4	11/15/2018 14:00	355573		50	50
240-104369-5	11/15/2018 14:00	355573		50	50

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Prep Method: 3005A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 240-356168/1-A	11/19/2018 14:00	356168		50	50
LCS 240-356168/2-A	11/19/2018 14:00	356168		50	50
240-104369-2	11/19/2018 14:00	356168		50	50
240-104369-2 MS	11/19/2018 14:00	356168		50	50
240-104369-2 MSD	11/19/2018 14:00	356168		50	50
240-104369-3	11/19/2018 14:00	356168		50	50
240-104369-4	11/19/2018 14:00	356168		50	50
240-104369-5	11/19/2018 14:00	356168		50	50

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: I9 Analysis Method: 6010C

Start Date: 11/16/2018 07:59 End Date: 11/17/2018 07:11

Lab Sample Id	D/F	Type	Time	Analytes																									
				Fe	Mn																								
ICIS 240-355822/1	1		07:59	X	X																								
CALSTD 240-355822/2 IC			08:03	X	X																								
CALSTD 240-355822/3 IC			08:08	X	X																								
ICV 240-355822/4	1		08:12	X	X																								
ICB 240-355822/5	1		08:16	X	X																								
ICVL 240-355822/6	1		08:21	X	X																								
ZZZZZZ			08:25																										
ICSA 240-355822/8	1		08:29	X	X																								
ICSAB 240-355822/9	1		08:34	X	X																								
CCV 240-355822/10			08:38																										
CCB 240-355822/11			08:42																										
ZZZZZZ			08:46																										
ZZZZZZ			08:51																										
ZZZZZZ			08:55																										
ZZZZZZ			09:00																										
ZZZZZZ			09:04																										
ZZZZZZ			09:09																										
CCV 240-355822/18			09:13																										
CCB 240-355822/19			09:17																										
ZZZZZZ			09:22																										
ZZZZZZ			09:26																										
ZZZZZZ			09:31																										
ZZZZZZ			09:35																										
ZZZZZZ			09:40																										
ZZZZZZ			09:44																										
ZZZZZZ			09:49																										
ZZZZZZ			09:53																										
ZZZZZZ			09:58																										
HIGHSTD 240-355822/29 IC			10:03	X	X																								
CCV 240-355822/30			10:08																										
CCB 240-355822/31			10:12																										
ZZZZZZ			10:16																										
ZZZZZZ			10:21																										
ZZZZZZ			10:25																										
ZZZZZZ			10:30																										
ZZZZZZ			10:34																										
ZZZZZZ			10:38																										
ZZZZZZ			10:43																										
ZZZZZZ			10:47																										
ZZZZZZ			10:51																										
ZZZZZZ			10:55																										
CCV 240-355822/42	1		10:59	X	X																								

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ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: I9 Analysis Method: 6010C

Start Date: 11/16/2018 07:59 End Date: 11/17/2018 07:11

Lab Sample Id	D/F	Type	Time	Analytes																									
				Fe	Mn																								
CCB 240-355822/43	1		11:03	X	X																								
ZZZZZZ			11:07																										
ZZZZZZ			11:12																										
LCS 240-355538/2-A	1	R	11:16	X	X																								
ZZZZZZ			11:20																										
MB 240-355538/1-A	1	R	11:25	X	X																								
ZZZZZZ			11:29																										
ZZZZZZ			11:34																										
CCV 240-355822/51	1		11:38	X	X																								
CCB 240-355822/52	1		11:42	X	X																								
CCVL 240-355822/53			11:47																										
ZZZZZZ			12:02																										
ZZZZZZ			12:09																										
ZZZZZZ			12:14																										
CCV 240-355822/57			12:19																										
CCB 240-355822/58			12:23																										
CCVL 240-355822/59			12:27																										
CCV 240-355822/60			12:39																										
CCB 240-355822/61			12:43																										
ZZZZZZ			12:48																										
ZZZZZZ			12:52																										
ZZZZZZ			12:57																										
ZZZZZZ			13:02																										
ZZZZZZ			13:07																										
ZZZZZZ			13:11																										
ZZZZZZ			13:16																										
ZZZZZZ			13:21																										
CCV 240-355822/70			13:25																										
CCB 240-355822/71			13:29																										
ZZZZZZ			13:34																										
ZZZZZZ			13:38																										
ZZZZZZ			13:42																										
ZZZZZZ			13:47																										
ZZZZZZ			13:51																										
ZZZZZZ			13:56																										
CCV 240-355822/78	1		14:59	X	X																								
CCB 240-355822/79	1		15:04	X	X																								
ZZZZZZ			15:08																										
ZZZZZZ			15:12																										
ZZZZZZ			15:17																										
ZZZZZZ			15:21																										
ZZZZZZ			15:26																										

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ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: I9 Analysis Method: 6010C

Start Date: 11/16/2018 07:59 End Date: 11/17/2018 07:11

Lab Sample Id	D/F	Type	Time	Analytes																									
				Fe	Mn																								
240-104375-K-2-A SD ^5	5	R	15:30	X	X																								
ZZZZZZ			15:34																										
240-104375-K-2-B MS	1	R	15:38	X	X																								
CCV 240-355822/88	1		15:42	X	X																								
CCB 240-355822/89	1		15:47	X	X																								
240-104375-K-2-C MSD	1	R	15:51	X	X																								
ZZZZZZ			15:55																										
240-104369-6	1	R	16:00	X	X																								
ZZZZZZ			16:04																										
ZZZZZZ			16:08																										
ZZZZZZ			16:13																										
ZZZZZZ			16:17																										
ZZZZZZ			16:22																										
ZZZZZZ			16:26																										
ZZZZZZ			16:31																										
CCV 240-355822/100	1		16:35	X	X																								
CCB 240-355822/101	1		16:39	X	X																								
ZZZZZZ			16:44																										
ZZZZZZ			16:48																										
ZZZZZZ			16:53																										
ZZZZZZ			16:57																										
ZZZZZZ			17:01																										
ZZZZZZ			17:06																										
ZZZZZZ			17:10																										
ZZZZZZ			17:15																										
ZZZZZZ			17:19																										
ZZZZZZ			17:24																										
CCV 240-355822/112			17:29																										
CCB 240-355822/113			17:33																										
ZZZZZZ			17:37																										
ZZZZZZ			17:42																										
ZZZZZZ			17:47																										
ZZZZZZ			17:51																										
ZZZZZZ			17:56																										
ZZZZZZ			18:01																										
ZZZZZZ			18:05																										
ZZZZZZ			18:10																										
ZZZZZZ			18:15																										
ZZZZZZ			18:19																										
CCV 240-355822/124			18:24																										
CCB 240-355822/125			18:28																										
ZZZZZZ			18:32																										

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ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: I9 Analysis Method: 6010C

Start Date: 11/16/2018 07:59 End Date: 11/17/2018 07:11

Lab Sample Id	D/F	Type	Time	Analytes																								
				Fe	Mn																							
ZZZZZZ			18:37																									
ZZZZZZ			18:41																									
ZZZZZZ			18:45																									
ZZZZZZ			18:49																									
ZZZZZZ			18:53																									
ZZZZZZ			18:58																									
ZZZZZZ			19:02																									
ZZZZZZ			19:06																									
ZZZZZZ			19:11																									
CCV 240-355822/136			19:15																									
CCB 240-355822/137			19:19																									
ZZZZZZ			19:24																									
ZZZZZZ			19:28																									
ZZZZZZ			19:33																									
ZZZZZZ			19:37																									
ZZZZZZ			19:41																									
ZZZZZZ			19:46																									
ZZZZZZ			19:50																									
ZZZZZZ			19:55																									
ZZZZZZ			19:59																									
ZZZZZZ			20:03																									
CCV 240-355822/148			20:08																									
CCB 240-355822/149			20:12																									
ZZZZZZ			20:16																									
ZZZZZZ			20:20																									
ZZZZZZ			20:25																									
ZZZZZZ			20:29																									
ZZZZZZ			20:33																									
ZZZZZZ			20:37																									
ZZZZZZ			20:41																									
ZZZZZZ			20:45																									
ZZZZZZ			20:49																									
ZZZZZZ			20:54																									
CCV 240-355822/160			20:58																									
CCB 240-355822/161			21:02																									
ZZZZZZ			21:07																									
ZZZZZZ			21:11																									
ZZZZZZ			21:15																									
ZZZZZZ			21:19																									
ZZZZZZ			21:24																									
ZZZZZZ			21:28																									
ZZZZZZ			21:32																									

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ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: I9 Analysis Method: 6010C

Start Date: 11/16/2018 07:59 End Date: 11/17/2018 07:11

Lab Sample Id	D/F	Type	Time	Analytes																									
				Fe	Mn																								
ZZZZZZ			21:36																										
ZZZZZZ			21:41																										
ZZZZZZ			21:45																										
CCV 240-355822/172			21:49																										
CCB 240-355822/173			21:53																										
ZZZZZZ			21:58																										
ZZZZZZ			22:02																										
ZZZZZZ			22:07																										
ZZZZZZ			22:11																										
ZZZZZZ			22:15																										
ZZZZZZ			22:20																										
ZZZZZZ			22:24																										
ZZZZZZ			22:28																										
ZZZZZZ			22:32																										
ZZZZZZ			22:37																										
CCV 240-355822/184			22:41																										
CCB 240-355822/185			22:45																										
ZZZZZZ			22:50																										
ZZZZZZ			22:54																										
ZZZZZZ			22:58																										
ZZZZZZ			23:03																										
ZZZZZZ			23:07																										
ZZZZZZ			23:12																										
ZZZZZZ			23:16																										
ZZZZZZ			23:20																										
ZZZZZZ			23:25																										
ZZZZZZ			23:30																										
CCV 240-355822/196	1		23:34	X	X																								
CCB 240-355822/197	1		23:38	X	X																								
ZZZZZZ			23:43																										
ZZZZZZ			23:47																										
MB 240-355573/1-A	1	R	23:52	X	X																								
LCS 240-355573/2-A	1	R	23:56	X	X																								
ZZZZZZ			00:00																										
240-104371-H-1-A SD ^5	5	R	00:05	X	X																								
ZZZZZZ			00:09																										
240-104371-H-1-B MS	1	R	00:13	X	X																								
240-104371-H-1-C MSD	1	R	00:17	X	X																								
ZZZZZZ			00:21																										
CCV 240-355822/208	1		00:26	X	X																								
CCB 240-355822/209	1		00:30	X	X																								
ZZZZZZ			00:34																										

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13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: I9 Analysis Method: 6010C

Start Date: 11/16/2018 07:59 End Date: 11/17/2018 07:11

Lab Sample Id	D/F	Type	Time	Analytes																									
				Fe	Mn																								
ZZZZZZ			00:39																										
ZZZZZZ			00:43																										
240-104369-2	1	R	00:48	X	X																								
240-104369-3	1	R	00:52	X	X																								
240-104369-4	1	R	00:57	X	X																								
240-104369-5	1	R	01:01	X	X																								
ZZZZZZ			01:05																										
ZZZZZZ			01:10																										
ZZZZZZ			01:14																										
CCV 240-355822/220	1		01:18	X	X																								
CCB 240-355822/221	1		01:22	X	X																								
ZZZZZZ			01:27																										
ZZZZZZ			01:31																										
ZZZZZZ			01:36																										
ZZZZZZ			01:40																										
ZZZZZZ			01:45																										
ZZZZZZ			01:49																										
ZZZZZZ			01:54																										
ZZZZZZ			01:58																										
ZZZZZZ			02:02																										
ZZZZZZ			02:07																										
CCV 240-355822/232			02:11																										
CCB 240-355822/233			02:15																										
ZZZZZZ			02:20																										
ZZZZZZ			02:24																										
ZZZZZZ			02:29																										
ZZZZZZ			02:33																										
ZZZZZZ			02:38																										
ZZZZZZ			02:42																										
ZZZZZZ			02:47																										
ZZZZZZ			02:51																										
ZZZZZZ			02:55																										
ZZZZZZ			03:00																										
CCV 240-355822/244			03:04																										
CCB 240-355822/245			03:08																										
ZZZZZZ			03:13																										
ZZZZZZ			03:17																										
ZZZZZZ			03:21																										
ZZZZZZ			03:26																										
ZZZZZZ			03:30																										
ZZZZZZ			03:35																										
ZZZZZZ			03:39																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: I9 Analysis Method: 6010C

Start Date: 11/16/2018 07:59 End Date: 11/17/2018 07:11

Lab Sample Id	D/F	Type	Time	Analytes																								
				Fe	Mn																							
ZZZZZZ			03:43																									
ZZZZZZ			03:48																									
ZZZZZZ			03:52																									
CCV 240-355822/256			03:56																									
CCB 240-355822/257			04:01																									
ZZZZZZ			04:05																									
ZZZZZZ			04:09																									
ZZZZZZ			04:14																									
ZZZZZZ			04:18																									
ZZZZZZ			04:22																									
ZZZZZZ			04:27																									
ZZZZZZ			04:31																									
ZZZZZZ			04:36																									
ZZZZZZ			04:40																									
ZZZZZZ			04:45																									
CCV 240-355822/268			04:49																									
CCB 240-355822/269			04:53																									
ZZZZZZ			04:58																									
ZZZZZZ			05:02																									
ZZZZZZ			05:06																									
ZZZZZZ			05:10																									
ZZZZZZ			05:14																									
ZZZZZZ			05:18																									
ZZZZZZ			05:23																									
ZZZZZZ			05:27																									
ZZZZZZ			05:31																									
ZZZZZZ			05:36																									
CCV 240-355822/280			05:40																									
CCB 240-355822/281			05:44																									
ZZZZZZ			05:49																									
ZZZZZZ			05:53																									
ZZZZZZ			05:57																									
ZZZZZZ			06:02																									
ZZZZZZ			06:06																									
ZZZZZZ			06:10																									
ZZZZZZ			06:15																									
ZZZZZZ			06:19																									
ZZZZZZ			06:23																									
ZZZZZZ			06:28																									
CCV 240-355822/292			06:32																									
CCB 240-355822/293			06:36																									
ZZZZZZ			06:40																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: I9 Analysis Method: 6010C

Start Date: 11/16/2018 07:59 End Date: 11/17/2018 07:11

Lab Sample Id	D/F	Type	Time	Analytes																								
				Fe	Mn																							
ZZZZZZ			06:45																									
ZZZZZZ			06:49																									
ZZZZZZ			06:54																									
ZZZZZZ			06:58																									
CCVL 240-355822/299	1		07:02	X	X																							
CCV 240-355822/300			07:07																									
CCB 240-355822/301			07:11																									

Prep Types:
R = Total Recoverable

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: I14 Analysis Method: 6020A

Start Date: 11/16/2018 10:12 End Date: 11/16/2018 16:52

Lab Sample Id	D/F	Type	Time	Analytes																											
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl	V	Zn							
RINSE 240-356045/1			10:12																												
ICIS 240-356045/2			10:14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
STD1 240-356045/3 IC	1		10:16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
STD2 240-356045/4 IC	1		10:19	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
STD3 240-356045/5 IC	1		10:21	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
STD4 240-356045/6 IC	1		10:23	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
ICV 240-356045/7	1		10:25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
ICB 240-356045/8	1		10:28	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
ICVL 240-356045/9	1		10:30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
ICSA 240-356045/10	1		10:32	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
ICSAB 240-356045/11	1		10:34	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
CCV 240-356045/12	1		10:37	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
CCB 240-356045/13	1		10:39	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
MB 240-355538/1-A	1	R	10:42	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
LCS 240-355538/3-A	1	R	10:44	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
ZZZZZZ			10:46																												
ZZZZZZ			10:48																												
ZZZZZZ			10:50																												
ZZZZZZ			10:52																												
ZZZZZZ			10:54																												
ZZZZZZ			10:56																												
240-104368-N-2-A SD ^5	5	R	10:59	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
240-104368-N-2-A PDS	1	R	11:01												X	X																
CCV 240-356045/24	1		11:03	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
CCB 240-356045/25	1		11:05	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
240-104368-N-2-B MS	1	R	11:08	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
240-104368-N-2-C MSD	1	R	11:10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
ZZZZZZ			11:12																												
ZZZZZZ			11:14																												
ZZZZZZ			11:16																												
ZZZZZZ			11:18																												
ZZZZZZ			11:20																												
ZZZZZZ			11:22																												
ZZZZZZ			11:25																												
ZZZZZZ			11:27																												
CCV 240-356045/36	1		11:29	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
CCB 240-356045/37	1		11:31	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
ZZZZZZ			11:34																												
ZZZZZZ			11:36																												
ZZZZZZ			11:38																												
ZZZZZZ			11:40																												
ZZZZZZ			11:43																												

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: I14 Analysis Method: 6020A

Start Date: 11/16/2018 10:12 End Date: 11/16/2018 16:52

Lab Sample Id	D/F	Type	Time	Analytes																											
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl	V	Zn							
ZZZZZZ			11:45																												
ZZZZZZ			11:47																												
240-104369-6	1	R	11:50	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
ZZZZZZ			11:52																												
CCV 240-356045/47	1		11:54	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
CCB 240-356045/48	1		11:57	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
CCVL 240-356045/49	1		11:59	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
MB 240-355573/1-A	1	R	12:01	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
LCS 240-355573/3-A	1	R	12:03		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
ZZZZZZ			12:05																												
240-104371-H-1-A SD ^5	5	R	12:08	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
ZZZZZZ			12:10																												
240-104371-H-1-D MS	1	R	12:12	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
240-104371-H-1-E MSD	1	R	12:14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
ZZZZZZ			12:16																												
ZZZZZZ			12:18																												
CCV 240-356045/59	1		12:20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
CCB 240-356045/60	1		12:23	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
ZZZZZZ			12:25																												
ZZZZZZ			12:27																												
ZZZZZZ			12:29																												
240-104369-2	1	R	12:32		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
240-104369-3	1	R	12:34		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
240-104369-4	1	R	12:36		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
240-104369-5	1	R	12:38		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
ZZZZZZ			12:41																												
ZZZZZZ			12:43																												
ZZZZZZ			12:45																												
CCV 240-356045/71	1		12:47	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
CCB 240-356045/72	1		12:50	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
ZZZZZZ			12:52																												
ZZZZZZ			12:54																												
ZZZZZZ			12:56																												
ZZZZZZ			12:59																												
ZZZZZZ			13:01																												
ZZZZZZ			13:03																												
ZZZZZZ			13:05																												
ZZZZZZ			13:07																												
CCV 240-356045/81			13:10																												
CCB 240-356045/82			13:12																												
CCVL 240-356045/83	1		13:14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
ZZZZZZ			13:17																												

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: I14 Analysis Method: 6020A

Start Date: 11/16/2018 10:12 End Date: 11/16/2018 16:52

Lab Sample Id	D/F	Type	Time	Analytes																											
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl	V	Zn				
ZZZZZZ			13:19																												
ZZZZZZ			13:21																												
ZZZZZZ			13:23																												
ZZZZZZ			13:26																												
ZZZZZZ			13:28																												
ZZZZZZ			13:30																												
ZZZZZZ			13:32																												
CCV 240-356045/92			13:34																												
CCB 240-356045/93			13:36																												
CCVL 240-356045/94			13:39																												
ZZZZZZ			13:41																												
ZZZZZZ			13:43																												
ZZZZZZ			13:45																												
ZZZZZZ			13:48																												
ZZZZZZ			13:50																												
ZZZZZZ			13:52																												
ZZZZZZ			13:54																												
ZZZZZZ			13:56																												
ZZZZZZ			13:58																												
CCV 240-356045/104			14:00																												
CCB 240-356045/105			14:03																												
ZZZZZZ			14:05																												
ZZZZZZ			14:07																												
ZZZZZZ			14:09																												
ZZZZZZ			14:12																												
ZZZZZZ			14:14																												
ZZZZZZ			14:16																												
ZZZZZZ			14:18																												
ZZZZZZ			14:21																												
ZZZZZZ			14:23																												
ZZZZZZ			14:25																												
CCV 240-356045/116			14:27																												
CCB 240-356045/117			14:30																												
ZZZZZZ			14:32																												
ZZZZZZ			14:34																												
ZZZZZZ			14:36																												
ZZZZZZ			14:39																												
ZZZZZZ			14:41																												
ZZZZZZ			14:43																												
ZZZZZZ			14:45																												
ZZZZZZ			14:48																												
ZZZZZZ			14:50																												

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: I14 Analysis Method: 6020A

Start Date: 11/16/2018 10:12 End Date: 11/16/2018 16:52

Lab Sample Id	D/F	Type	Time	Analytes																											
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl	V	Zn				
ZZZZZZ			14:52																												
CCV 240-356045/128			14:54																												
CCB 240-356045/129			14:57																												
ZZZZZZ			14:59																												
ZZZZZZ			15:01																												
ZZZZZZ			15:03																												
ZZZZZZ			15:05																												
CCV 240-356045/134			15:08																												
CCB 240-356045/135			15:10																												
CCVL 240-356045/136			15:12																												
ZZZZZZ			15:15																												
ZZZZZZ			15:17																												
ZZZZZZ			15:19																												
ZZZZZZ			15:21																												
ZZZZZZ			15:24																												
ZZZZZZ			15:26																												
ZZZZZZ			15:28																												
ZZZZZZ			15:30																												
ZZZZZZ			15:32																												
CCV 240-356045/146			15:34																												
CCB 240-356045/147			15:37																												
ZZZZZZ			15:39																												
ZZZZZZ			15:41																												
ZZZZZZ			15:44																												
ZZZZZZ			15:46																												
ZZZZZZ			15:48																												
ZZZZZZ			15:50																												
ZZZZZZ			15:53																												
ZZZZZZ			15:55																												
ZZZZZZ			15:57																												
ZZZZZZ			16:00																												
CCV 240-356045/158			16:02																												
CCB 240-356045/159			16:04																												
ZZZZZZ			16:06																												
ZZZZZZ			16:09																												
ZZZZZZ			16:11																												
CCV 240-356045/163			16:13																												
CCB 240-356045/164			16:16																												
CCVL 240-356045/165			16:18																												
CCV 240-356045/166			16:20																												
CCB 240-356045/167			16:23																												
ZZZZZZ			16:39																												

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: I14 Analysis Method: 6020A

Start Date: 11/16/2018 10:12 End Date: 11/16/2018 16:52

Lab Sample Id	D/F	Type	Time	Analytes																												
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl	V	Zn				
CCV 240-356045/169			16:41																													
CCB 240-356045/170			16:43																													
ZZZZZZ			16:45																													
CCV 240-356045/172			16:47																													
CCB 240-356045/173			16:49																													
CCVL 240-356045/174			16:52																													

Prep Types:
R = Total Recoverable

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: I14 Analysis Method: 6020A

Start Date: 11/20/2018 09:50 End Date: 11/20/2018 18:31

Lab Sample Id	D/F	Type	Time	Analytes
				Ag
RINSE 240-356380/1			09:50	
ICIS 240-356380/2			09:52	X
STD1 240-356380/3 IC	1		09:54	X
STD2 240-356380/4 IC	1		09:57	X
STD3 240-356380/5 IC	1		09:59	X
STD4 240-356380/6 IC	1		10:01	X
ICV 240-356380/7	1		10:03	X
ICB 240-356380/8	1		10:06	X
ICVL 240-356380/9	1		10:08	X
ICSA 240-356380/10	1		10:10	X
ICSAB 240-356380/11	1		10:12	X
CCV 240-356380/12			10:15	
CCB 240-356380/13			10:17	
ZZZZZZ			10:20	
ZZZZZZ			10:22	
ZZZZZZ			10:24	
ZZZZZZ			10:27	
ZZZZZZ			10:29	
ZZZZZZ			10:31	
ZZZZZZ			10:33	
ZZZZZZ			10:35	
ZZZZZZ			10:37	
ZZZZZZ			10:40	
CCV 240-356380/24			10:42	
CCB 240-356380/25			10:44	
ZZZZZZ			10:46	
ZZZZZZ			10:49	
ZZZZZZ			10:51	
ZZZZZZ			10:53	
ZZZZZZ			10:55	
ZZZZZZ			10:58	
ZZZZZZ			11:00	
ZZZZZZ			11:02	
ZZZZZZ			11:04	
ZZZZZZ			11:07	
CCV 240-356380/36			11:09	
CCB 240-356380/37			11:11	
ZZZZZZ			11:13	
ZZZZZZ			11:16	
ZZZZZZ			11:18	
CCV 240-356380/41	1		11:20	X
CCB 240-356380/42	1		11:22	X

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: I14 Analysis Method: 6020A

Start Date: 11/20/2018 09:50 End Date: 11/20/2018 18:31

Lab Sample Id	D/F	Type	Time	Analytes
				Ag
CCVL 240-356380/43			11:25	
MB 240-356168/1-A	1	R	11:27	X
LCS 240-356168/2-A	1	R	11:29	X
240-104369-2	1	R	11:31	X
240-104369-2 SD	5	R	11:33	X
ZZZZZZ			11:36	
240-104369-2 MS	1	R	11:38	X
240-104369-2 MSD	1	R	11:40	X
240-104369-3	1	R	11:42	X
240-104369-4	1	R	11:44	X
CCV 240-356380/53	1		11:46	X
CCB 240-356380/54	1		11:48	X
240-104369-5	1	R	11:51	X
ZZZZZZ			11:53	
ZZZZZZ			11:55	
ZZZZZZ			11:58	
ZZZZZZ			12:00	
ZZZZZZ			12:02	
ZZZZZZ			12:04	
ZZZZZZ			12:07	
ZZZZZZ			12:09	
ZZZZZZ			12:11	
CCV 240-356380/65	1		12:14	X
CCB 240-356380/66	1		12:16	X
ZZZZZZ			12:18	
ZZZZZZ			12:21	
ZZZZZZ			12:23	
ZZZZZZ			12:25	
ZZZZZZ			12:27	
ZZZZZZ			12:30	
ZZZZZZ			12:32	
CCV 240-356380/74			12:34	
CCB 240-356380/75			12:36	
CCVL 240-356380/76	1		12:38	X
ZZZZZZ			12:41	
ZZZZZZ			12:43	
ZZZZZZ			12:45	
ZZZZZZ			12:47	
ZZZZZZ			12:49	
ZZZZZZ			12:51	
ZZZZZZ			12:53	
ZZZZZZ			12:56	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: I14 Analysis Method: 6020A

Start Date: 11/20/2018 09:50 End Date: 11/20/2018 18:31

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag																								
ZZZZZZ			12:58																									
CCV 240-356380/86			13:00																									
CCB 240-356380/87			13:02																									
ZZZZZZ			13:05																									
ZZZZZZ			13:07																									
ZZZZZZ			13:09																									
ZZZZZZ			13:11																									
ZZZZZZ			13:14																									
ZZZZZZ			13:16																									
ZZZZZZ			13:18																									
ZZZZZZ			13:20																									
ZZZZZZ			13:23																									
ZZZZZZ			13:25																									
CCV 240-356380/98			13:27																									
CCB 240-356380/99			13:30																									
ZZZZZZ			13:32																									
ZZZZZZ			13:34																									
ZZZZZZ			13:36																									
ZZZZZZ			13:39																									
ZZZZZZ			13:41																									
CCV 240-356380/105			13:43																									
CCB 240-356380/106			13:46																									
CCVL 240-356380/107			13:48																									
ZZZZZZ			13:50																									
ZZZZZZ			13:52																									
ZZZZZZ			13:54																									
ZZZZZZ			13:57																									
ZZZZZZ			13:59																									
ZZZZZZ			14:01																									
ZZZZZZ			14:03																									
ZZZZZZ			14:05																									
ZZZZZZ			14:07																									
CCV 240-356380/117			14:09																									
CCB 240-356380/118			14:12																									
ZZZZZZ			14:14																									
ZZZZZZ			14:16																									
ZZZZZZ			14:19																									
ZZZZZZ			14:21																									
ZZZZZZ			14:23																									
ZZZZZZ			14:25																									
ZZZZZZ			14:28																									
ZZZZZZ			14:30																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: I14 Analysis Method: 6020A

Start Date: 11/20/2018 09:50 End Date: 11/20/2018 18:31

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag																								
ZZZZZZ			14:32																									
ZZZZZZ			14:34																									
CCV 240-356380/129			14:37																									
CCB 240-356380/130			14:39																									
ZZZZZZ			14:41																									
ZZZZZZ			14:44																									
ZZZZZZ			14:46																									
ZZZZZZ			14:48																									
ZZZZZZ			14:50																									
ZZZZZZ			14:53																									
ZZZZZZ			14:55																									
ZZZZZZ			14:57																									
ZZZZZZ			14:59																									
ZZZZZZ			15:01																									
CCV 240-356380/141			15:03																									
CCB 240-356380/142			15:05																									
ZZZZZZ			15:08																									
ZZZZZZ			15:10																									
ZZZZZZ			15:12																									
ZZZZZZ			15:15																									
ZZZZZZ			15:17																									
ZZZZZZ			15:19																									
ZZZZZZ			15:21																									
ZZZZZZ			15:24																									
ZZZZZZ			15:26																									
ZZZZZZ			15:28																									
CCV 240-356380/153			15:30																									
CCB 240-356380/154			15:33																									
ZZZZZZ			15:35																									
ZZZZZZ			15:37																									
ZZZZZZ			15:39																									
ZZZZZZ			15:42																									
ZZZZZZ			15:44																									
ZZZZZZ			15:46																									
ZZZZZZ			15:49																									
CCV 240-356380/162			15:51																									
CCB 240-356380/163			15:53																									
CCVL 240-356380/164			15:55																									
ZZZZZZ			15:58																									
ZZZZZZ			16:00																									
ZZZZZZ			16:02																									
ZZZZZZ			16:04																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: I14 Analysis Method: 6020A

Start Date: 11/20/2018 09:50 End Date: 11/20/2018 18:31

Lab Sample Id	D/F	Type	Time	Analytes
				Ag
ZZZZZZ			16:07	
ZZZZZZ			16:08	
ZZZZZZ			16:10	
ZZZZZZ			16:12	
ZZZZZZ			16:15	
CCV 240-356380/174			16:17	
CCB 240-356380/175			16:19	
ZZZZZZ			16:22	
ZZZZZZ			16:24	
ZZZZZZ			16:26	
ZZZZZZ			16:28	
ZZZZZZ			16:31	
ZZZZZZ			16:33	
ZZZZZZ			16:35	
ZZZZZZ			16:37	
ZZZZZZ			16:40	
ZZZZZZ			16:42	
CCV 240-356380/186			16:44	
CCB 240-356380/187			16:46	
ZZZZZZ			16:49	
ZZZZZZ			16:51	
ZZZZZZ			16:53	
ZZZZZZ			16:56	
ZZZZZZ			16:58	
ZZZZZZ			17:00	
ZZZZZZ			17:02	
ZZZZZZ			17:05	
ZZZZZZ			17:07	
ZZZZZZ			17:09	
CCV 240-356380/198			17:11	
CCB 240-356380/199			17:13	
ZZZZZZ			17:16	
ZZZZZZ			17:18	
ZZZZZZ			17:20	
CCV 240-356380/203			17:22	
CCB 240-356380/204			17:24	
ZZZZZZ			17:27	
ZZZZZZ			17:29	
ZZZZZZ			17:31	
ZZZZZZ			17:33	
ZZZZZZ			17:36	
ZZZZZZ			17:38	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: I14 Analysis Method: 6020A

Start Date: 11/20/2018 09:50 End Date: 11/20/2018 18:31

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag																								
ZZZZZZ			17:40																									
ZZZZZZ			17:42																									
ZZZZZZ			17:44																									
ZZZZZZ			17:46																									
CCV 240-356380/215			17:48																									
CCB 240-356380/216			17:51																									
ZZZZZZ			17:53																									
ZZZZZZ			17:55																									
ZZZZZZ			17:57																									
ZZZZZZ			18:00																									
ZZZZZZ			18:02																									
ZZZZZZ			18:04																									
ZZZZZZ			18:06																									
ZZZZZZ			18:09																									
ZZZZZZ			18:11																									
ZZZZZZ			18:13																									
CCV 240-356380/227			18:15																									
CCB 240-356380/228			18:18																									
ZZZZZZ			18:20																									
ZZZZZZ			18:22																									
ZZZZZZ			18:25																									
ZZZZZZ			18:27																									
CCV 240-356380/233			18:29																									
CCB 240-356380/234			18:31																									

Prep Types:
R = Total Recoverable

FORM XIII-IN

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICP Instrument ID: I9 Start Date: 11/16/2018 End Date: 11/17/2018

Lab Sample ID	Time	Internal Standards %RI For:									
		Element In 230.606	Q	Element Y 224.306	Q	Element Y 360.073	Q	Element Y 371.030	Q	Element	Q
ICIS 240-355822/1	07:59										
ICV 240-355822/4	08:12	92		98		98		100			
ICB 240-355822/5	08:16	101		101		101		100			
ICVL 240-355822/6	08:21	98		100		100		101			
ICSA 240-355822/8	08:29	78		88		88		96			
ICSAB 240-355822/9	08:34	77		87		87		96			
CCV 240-355822/42	10:59	87		94		94		95			
CCB 240-355822/43	11:03	99		99		99		97			
LCS 240-355538/2-A	11:16	90		96		97		99			
MB 240-355538/1-A	11:25	101		102		101		100			
CCV 240-355822/51	11:38	89		96		96		100			
CCB 240-355822/52	11:42	102		102		102		102			
CCV 240-355822/78	14:59	89		97		97		102			
CCB 240-355822/79	15:04	102		102		102		102			
240-104375-K-2-A SD ^5	15:30	96		100		100		103			
240-104375-K-2-B MS	15:38	85		94		96		102			
CCV 240-355822/88	15:42	90		98		97		101			
CCB 240-355822/89	15:47	102		103		103		104			
240-104375-K-2-C MSD	15:51	85		94		95		101			
240-104369-6	16:00	98		102		102		105			
CCV 240-355822/100	16:35	91		98		98		103			
CCB 240-355822/101	16:39	102		102		103		102			
CCV 240-355822/196	23:34	91		99		99		99			
CCB 240-355822/197	23:38	104		104		104		100			
MB 240-355573/1-A	23:52	109		109		107		100			
LCS 240-355573/2-A	23:56	94		100		101		100			
240-104371-H-1-A SD ^5	00:05	102		105		105		102			
240-104371-H-1-B MS	00:13	89		96		98		100			
240-104371-H-1-C MSD	00:17	89		96		98		100			
CCV 240-355822/208	00:26	91		98		99		98			
CCB 240-355822/209	00:30	104		104		105		100			
240-104369-2	00:48	93		100		100		100			
240-104369-3	00:52	104		105		105		103			
240-104369-4	00:57	102		104		105		104			
240-104369-5	01:01	99		102		103		101			
CCV 240-355822/220	01:18	89		97		97		97			
CCB 240-355822/221	01:22	103		103		103		99			
CCVL 240-355822/299	07:02	100		102		101		95			

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15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICP Instrument ID: I9 Start Date: 11/16/2018 End Date: 11/17/2018

Lab Sample ID	Time	Internal Standards %RI For:									
		Element In 230.606	Q	Element Y 224.306	Q	Element Y 360.073	Q	Element Y 371.030	Q	Element	Q

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ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICP-MS Instrument ID: I14 Start Date: 11/16/2018 End Date: 11/16/2018

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc/1	Q	Element Sc/2	Q	Element Sc/3	Q	Element Rh/2	Q
STD1 240-356045/3 IC	10:16	99		101		100		97		97	
STD2 240-356045/4 IC	10:19	96		99		98		96		94	
STD3 240-356045/5 IC	10:21	94		97		96		96		91	
STD4 240-356045/6 IC	10:23	99		100		98		97		98	
ICV 240-356045/7	10:25	97		98		97		95		94	
ICB 240-356045/8	10:28	99		100		98		97		97	
ICVL 240-356045/9	10:30	100		98		98		96		97	
ICSA 240-356045/10	10:32	94		96		95		94		90	
ICSAB 240-356045/11	10:34	92		97		97		95		90	
CCV 240-356045/12	10:37	92		99		99		97		94	
CCB 240-356045/13	10:39	97		100		99		97		97	
MB 240-355538/1-A	10:42	98		103		100		98		99	
LCS 240-355538/3-A	10:44	95		101		98		95		95	
240-104368-N-2-A SD ^5	10:59	102		108		106		102		103	
240-104368-N-2-A PDS	11:01	96		104		102		100		96	
CCV 240-356045/24	11:03	99		104		103		100		100	
CCB 240-356045/25	11:05	100		104		102		99		102	
240-104368-N-2-B MS	11:08	95		103		101		99		95	
240-104368-N-2-C MSD	11:10	99		106		103		101		98	
CCV 240-356045/36	11:29	104		106		103		101		102	
CCB 240-356045/37	11:31	102		104		103		100		106	
240-104369-6	11:50	97		103		101		99		97	
CCV 240-356045/47	11:54	99		106		103		99		100	
CCB 240-356045/48	11:57	100		105		103		100		102	
CCVL 240-356045/49	11:59	99		104		102		99		100	
MB 240-355573/1-A	12:01	111		115		111		110		123	
LCS 240-355573/3-A	12:03	109		111		108		108		119	
240-104371-H-1-A SD ^5	12:08	104		106		105		102		103	
240-104371-H-1-D MS	12:12	104		104		102		101		105	
240-104371-H-1-E MSD	12:14	105		104		102		101		105	
CCV 240-356045/59	12:20	97		100		99		97		95	
CCB 240-356045/60	12:23	100		102		100		98		98	
240-104369-2	12:32	105		107		104		104		104	
240-104369-3	12:34	111		110		108		106		115	
240-104369-4	12:36	108		110		108		108		113	

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ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICP-MS Instrument ID: I14 Start Date: 11/16/2018 End Date: 11/16/2018

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc/1	Q	Element Sc/2	Q	Element Sc/3	Q	Element Rh/2	Q
240-104369-5	12:38	109		110		107		106		111	
CCV 240-356045/71	12:47	106		102		102		97		97	
CCB 240-356045/72	12:50	103		102		100		98		98	
CCVL 240-356045/83	13:14	102		99		99		95		99	

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ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICP-MS Instrument ID: I14 Start Date: 11/16/2018 End Date: 11/16/2018

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Rh/3	Q	Element In/2	Q	Element In/3	Q	Element Tb	Q	Element Ho	Q
STD1 240-356045/3 IC	10:16	96		101		99		99		99	
STD2 240-356045/4 IC	10:19	94		96		97		98		98	
STD3 240-356045/5 IC	10:21	92		94		94		96		96	
STD4 240-356045/6 IC	10:23	97		99		99		98		98	
ICV 240-356045/7	10:25	94		97		98		98		98	
ICB 240-356045/8	10:28	98		100		99		99		99	
ICVL 240-356045/9	10:30	97		100		100		99		99	
ICSA 240-356045/10	10:32	92		96		95		99		99	
ICSAB 240-356045/11	10:34	93		97		97		99		99	
CCV 240-356045/12	10:37	97		101		97		100		100	
CCB 240-356045/13	10:39	100		102		100		101		100	
MB 240-355538/1-A	10:42	100		103		102		102		101	
LCS 240-355538/3-A	10:44	96		101		100		101		101	
240-104368-N-2-A SD ^5	10:59	100		105		104		104		103	
240-104368-N-2-A PDS	11:01	94		100		98		101		102	
CCV 240-356045/24	11:03	99		102		101		103		102	
CCB 240-356045/25	11:05	101		102		103		104		102	
240-104368-N-2-B MS	11:08	94		99		98		102		100	
240-104368-N-2-C MSD	11:10	96		101		101		103		102	
CCV 240-356045/36	11:29	99		102		102		102		102	
CCB 240-356045/37	11:31	101		103		104		104		104	
240-104369-6	11:50	97		103		102		102		101	
CCV 240-356045/47	11:54	98		104		101		101		101	
CCB 240-356045/48	11:57	102		105		102		102		102	
CCVL 240-356045/49	11:59	101		105		103		103		103	
MB 240-355573/1-A	12:01	107		111		113		108		108	
LCS 240-355573/3-A	12:03	103		107		110		106		106	
240-104371-H-1-A SD ^5	12:08	101		106		105		104		104	
240-104371-H-1-D MS	12:12	96		102		105		104		104	
240-104371-H-1-E MSD	12:14	97		102		105		104		105	
CCV 240-356045/59	12:20	97		99		100		101		100	
CCB 240-356045/60	12:23	101		104		101		103		101	
240-104369-2	12:32	98		102		105		103		104	
240-104369-3	12:34	103		108		109		106		105	
240-104369-4	12:36	102		106		110		106		105	

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15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICP-MS Instrument ID: I14 Start Date: 11/16/2018 End Date: 11/16/2018

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Rh/3	Q	Element In/2	Q	Element In/3	Q	Element Tb	Q	Element Ho	Q
240-104369-5	12:38	101		106		109		105		105	
CCV 240-356045/71	12:47	95		101		99		99		99	
CCB 240-356045/72	12:50	99		102		101		101		101	
CCVL 240-356045/83	13:14	96		100		100		100		99	

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ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICP-MS Instrument ID: I14 Start Date: 11/16/2018 End Date: 11/16/2018

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Bi	Q	Element	Q	Element	Q	Element	Q	Element	Q
STD1 240-356045/3 IC	10:16	97									
STD2 240-356045/4 IC	10:19	94									
STD3 240-356045/5 IC	10:21	92									
STD4 240-356045/6 IC	10:23	96									
ICV 240-356045/7	10:25	95									
ICB 240-356045/8	10:28	96									
ICVL 240-356045/9	10:30	98									
ICSA 240-356045/10	10:32	95									
ICSAB 240-356045/11	10:34	96									
CCV 240-356045/12	10:37	96									
CCB 240-356045/13	10:39	99									
MB 240-355538/1-A	10:42	102									
LCS 240-355538/3-A	10:44	98									
240-104368-N-2-A SD ^5	10:59	101									
240-104368-N-2-A PDS	11:01	95									
CCV 240-356045/24	11:03	99									
CCB 240-356045/25	11:05	101									
240-104368-N-2-B MS	11:08	94									
240-104368-N-2-C MSD	11:10	95									
CCV 240-356045/36	11:29	100									
CCB 240-356045/37	11:31	101									
240-104369-6	11:50	100									
CCV 240-356045/47	11:54	98									
CCB 240-356045/48	11:57	101									
CCVL 240-356045/49	11:59	102									
MB 240-355573/1-A	12:01	108									
LCS 240-355573/3-A	12:03	104									
240-104371-H-1-A SD ^5	12:08	105									
240-104371-H-1-D MS	12:12	101									
240-104371-H-1-E MSD	12:14	102									
CCV 240-356045/59	12:20	99									
CCB 240-356045/60	12:23	101									
240-104369-2	12:32	100									
240-104369-3	12:34	105									
240-104369-4	12:36	104									

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15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICP-MS Instrument ID: I14 Start Date: 11/16/2018 End Date: 11/16/2018

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Bi	Q	Element	Q	Element	Q	Element	Q	Element	Q
240-104369-5	12:38	103									
CCV 240-356045/71	12:47	98									
CCB 240-356045/72	12:50	101									
CCVL 240-356045/83	13:14	99									

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICP-MS Instrument ID: I14 Start Date: 11/20/2018 End Date: 11/20/2018

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc/1	Q	Element Sc/2	Q	Element Sc/3	Q	Element Rh/2	Q
STD1 240-356380/3 IC	09:54	98		99		98		98		100	
STD2 240-356380/4 IC	09:57	97		100		96		99		97	
STD3 240-356380/5 IC	09:59	97		100		99		101		95	
STD4 240-356380/6 IC	10:01	102		104		102		102		106	
ICV 240-356380/7	10:03	99		102		102		100		100	
ICB 240-356380/8	10:06	101		103		101		101		105	
ICVL 240-356380/9	10:08	100		105		101		102		103	
ICSA 240-356380/10	10:10	95		100		100		100		95	
ICSAB 240-356380/11	10:12	94		104		102		100		96	
CCV 240-356380/41	11:20	91		107		101		101		101	
CCB 240-356380/42	11:22	92		105		100		100		100	
MB 240-356168/1-A	11:27	93		107		103		103		107	
LCS 240-356168/2-A	11:29	93		107		104		101		102	
240-104369-2	11:31	88		103		100		99		93	
240-104369-2 SD	11:33	92		106		102		100		100	
240-104369-2 MS	11:38	91		106		103		103		98	
240-104369-2 MSD	11:40	91		104		102		102		97	
240-104369-3	11:42	94		107		102		103		102	
240-104369-4	11:44	93		105		104		103		102	
CCV 240-356380/53	11:46	92		105		102		101		98	
CCB 240-356380/54	11:48	93		107		103		102		107	
240-104369-5	11:51	93		108		103		104		105	
CCV 240-356380/65	12:14	117		131		123		122		126	
CCB 240-356380/66	12:16	114		128		120		118		127	
CCVL 240-356380/76	12:38	108		120		112		112		119	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICP-MS Instrument ID: I14 Start Date: 11/20/2018 End Date: 11/20/2018

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Rh/3	Q	Element In/2	Q	Element In/3	Q	Element Tb	Q	Element Ho	Q
STD1 240-356380/3 IC	09:54	99		99		100		99		100	
STD2 240-356380/4 IC	09:57	97		96		98		99		99	
STD3 240-356380/5 IC	09:59	95		96		97		99		100	
STD4 240-356380/6 IC	10:01	101		102		102		102		103	
ICV 240-356380/7	10:03	99		100		100		102		102	
ICB 240-356380/8	10:06	103		103		104		102		103	
ICVL 240-356380/9	10:08	102		103		104		103		102	
ICSA 240-356380/10	10:10	96		98		98		102		103	
ICSAB 240-356380/11	10:12	97		100		99		103		102	
CCV 240-356380/41	11:20	100		104		101		101		101	
CCB 240-356380/42	11:22	103		104		102		102		104	
MB 240-356168/1-A	11:27	104		107		105		104		104	
LCS 240-356168/2-A	11:29	101		105		102		103		104	
240-104369-2	11:31	96		102		100		102		101	
240-104369-2 SD	11:33	102		106		102		102		101	
240-104369-2 MS	11:38	97		104		99		100		99	
240-104369-2 MSD	11:40	97		103		99		101		100	
240-104369-3	11:42	102		106		103		104		102	
240-104369-4	11:44	102		107		103		103		102	
CCV 240-356380/53	11:46	99		102		100		100		101	
CCB 240-356380/54	11:48	103		105		102		102		102	
240-104369-5	11:51	102		105		104		103		103	
CCV 240-356380/65	12:14	110		117		115		109		109	
CCB 240-356380/66	12:16	113		116		115		108		109	
CCVL 240-356380/76	12:38	108		110		110		105		104	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

ICP-MS Instrument ID: I14 Start Date: 11/20/2018 End Date: 11/20/2018

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Bi	Q	Element	Q	Element	Q	Element	Q	Element	Q
STD1 240-356380/3 IC	09:54	100									
STD2 240-356380/4 IC	09:57	97									
STD3 240-356380/5 IC	09:59	95									
STD4 240-356380/6 IC	10:01	100									
ICV 240-356380/7	10:03	101									
ICB 240-356380/8	10:06	102									
ICVL 240-356380/9	10:08	101									
ICSA 240-356380/10	10:10	99									
ICSAB 240-356380/11	10:12	100									
CCV 240-356380/41	11:20	99									
CCB 240-356380/42	11:22	101									
MB 240-356168/1-A	11:27	104									
LCS 240-356168/2-A	11:29	101									
240-104369-2	11:31	97									
240-104369-2 SD	11:33	100									
240-104369-2 MS	11:38	96									
240-104369-2 MSD	11:40	96									
240-104369-3	11:42	102									
240-104369-4	11:44	101									
CCV 240-356380/53	11:46	98									
CCB 240-356380/54	11:48	101									
240-104369-5	11:51	102									
CCV 240-356380/65	12:14	104									
CCB 240-356380/66	12:16	106									
CCVL 240-356380/76	12:38	102									

GENERAL CHEMISTRY

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Analyst: JWW Batch Start Date: 11/27/2018

Reporting Units: mg/L Analytical Batch No.: 357271

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
2	CCV	18:05	Nitrate Nitrite as N	2.43	2.50	97	90-110		WCNO2NO3-5PPM_00008
3	CCB	18:06	Nitrate Nitrite as N	0.031				U	
14	CCV	18:18	Nitrate Nitrite as N	2.60	2.50	104	90-110		WCNO2NO3-5PPM_00008
15	CCB	18:19	Nitrate Nitrite as N	0.031				U	
26	CCV	18:32	Nitrate Nitrite as N	2.52	2.50	101	90-110		WCNO2NO3-5PPM_00008
27	CCB	18:33	Nitrate Nitrite as N	0.0328				J	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Analyst: LKG Batch Start Date: 08/07/2018

Reporting Units: mg/L Analytical Batch No.: 339523

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
10	ICV	15:20	Sulfate	52.9	50.0	106	90-110		WCICLCS_00669
11	ICB	15:41	Sulfate	0.35				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Analyst: JWW Batch Start Date: 11/28/2018

Reporting Units: mg/L Analytical Batch No.: 357269

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	02:33	Sulfate	51.3	50.0	103	90-110		WCICCCV_00849
2	CCB	02:54	Sulfate	0.35				U	
13	CCV	06:42	Sulfate	51.5	50.0	103	90-110		WCICCCV_00849
14	CCB	07:02	Sulfate	0.35				U	
25	CCV	10:50	Sulfate	52.1	50.0	104	90-110		WCICCCV_00849
26	CCB	11:11	Sulfate	0.35				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 356952 Date: 11/23/2018 11:36							
2320B-2011	MB 240-356952/4	Alkalinity	2.6	U	mg/L	5.0	1
Batch ID: 356952 Date: 11/23/2018 13:35							
2320B-2011	MB 240-356952/30	Alkalinity	2.6	U	mg/L	5.0	1
Batch ID: 357370 Date: 11/28/2018 08:53							
2340C-2011	MB 240-357370/1	Hardness as calcium carbonate	2.4	U	mg/L	5.0	1
Batch ID: 356174 Date: 11/19/2018 14:11							
2540 C-2011	MB 240-356174/1	Total Dissolved Solids	7.8	U	mg/L	10	1
Batch ID: 357271 Date: 11/27/2018 18:07							
353.2	MB 240-357271/4	Nitrate Nitrite as N	0.031	U	mg/L	0.050	1
Batch ID: 357269 Date: 11/28/2018 03:14							
9056A	MB 240-357269/3	Bromide	0.044	U	mg/L	0.50	1
9056A	MB 240-357269/3	Sulfate	0.35	U	mg/L	1.0	1

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 240-104369-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 263285 Date: 11/19/2018 12:48							
SM 2520B	MB 180-263285/1	Salinity	2.0	U	No Unit	2.0	1

FORM III-IN

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 357370 Date: 11/28/2018 09:31											
2340C-2011	240-104451-A-1	Hardness as calcium carbonate	52		mg/L						
2340C-2011	240-104451-A-1 MS	Hardness as calcium carbonate	250		mg/L	200	99	80-120			
Batch ID: 357269 Date: 11/28/2018 08:04											
300.0	240-104369-4	Bromide	0.044	U	mg/L						
300.0	240-104369-4 MS	Bromide	10.7		mg/L	10.0	107	80-120			
Batch ID: 357271 Date: 11/27/2018 18:16											
353.2	240-104369-2	Nitrate Nitrite as N	0.031	U	mg/L						F1
353.2	240-104369-2 MS	Nitrate Nitrite as N	0.413		mg/L	0.500	83	90-110			F1
Batch ID: 357269 Date: 11/28/2018 08:04											
9056A	240-104369-4	Sulfate	6.6		mg/L						
9056A	240-104369-4 MS	Sulfate	58.6		mg/L	50.0	104	80-120			

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

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 357370 Date: 11/28/2018 09:34											
2340C-2011	240-104451-A-1 MSD	Hardness as calcium carbonate	252		mg/L	200	100	80-120	1	10	
Batch ID: 357269 Date: 11/28/2018 08:25											
300.0	240-104369-4 MSD	Bromide	10.7		mg/L	10.0	107	80-120	0	15	
Batch ID: 357271 Date: 11/27/2018 18:17											
353.2	240-104369-2 MSD	Nitrate Nitrite as N	0.454		mg/L	0.500	91	90-110	10	20	
Batch ID: 357269 Date: 11/28/2018 08:25											
9056A	240-104369-4 MSD	Sulfate	58.8		mg/L	50.0	104	80-120	0	15	

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

FORM V-IN

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 356952 Date: 11/23/2018 13:43								
2320B-2011	MRC-MW-134B-111318	240-104369-3	Alkalinity	32	mg/L			
2320B-2011	MRC-MW-134B-111318	240-104369-3 DU	Alkalinity	32.1	mg/L	0.2	20	
Batch ID: 357370 Date: 11/28/2018 09:04								
2340C-2011	MRC-MW-134A-111318	240-104369-2	Hardness as calcium carbonate	250	mg/L			
2340C-2011	MRC-MW-134A-111318	240-104369-2 DU	Hardness as calcium carbonate	252	mg/L	0.8	20	
Batch ID: 356174 Date: 11/19/2018 14:11								
2540 C-2011		240-104363-B-4	Total Dissolved Solids	780	mg/L			
2540 C-2011		240-104363-B-4 DU	Total Dissolved Solids	780	mg/L	0.5	20	

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

FORM VI-IN

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 240-104369-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 263285 Date: 11/19/2018 12:48								
SM 2520B		240-104312-W-2	Salinity	2.0	No Unit			U
SM 2520B		240-104312-W-2 DU	Salinity	2.0	No Unit	NC	20	U

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

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 356952	Date: 11/23/2018 11:32										
						LCS Source: WCPHENOMINER_00024					
2320B-2011	LCS 240-356952/3	Alkalinity	363		mg/L	384	95	86-123			
Batch ID: 356952	Date: 11/23/2018 13:31										
						LCS Source: WCPHENOMINER_00024					
2320B-2011	LCS 240-356952/29	Alkalinity	371		mg/L	384	97	86-123			
Batch ID: 357370	Date: 11/28/2018 08:56										
						LCS Source: WCHARDNESS_00030					
2340C-2011	LCS 240-357370/2	Hardness as calcium carbonate	272		mg/L	271	100	90-110			
Batch ID: 356174	Date: 11/19/2018 14:11										
						LCS Source: WCPHENOVSOLID_00037					
2540 C-2011	LCS 240-356174/2	Total Dissolved Solids	261		mg/L	259	101	80-120			
Batch ID: 357271	Date: 11/27/2018 18:08										
						LCS Source: WCWIBBYNUTRIE_00114					
353.2	LCS 240-357271/5	Nitrate Nitrite as N	3.86		mg/L	3.75	103	90-110			
Batch ID: 357269	Date: 11/28/2018 03:35										
						LCS Source: WCICLCS_00684					
9056A	LCS 240-357269/4	Sulfate	51.9		mg/L	50.0	104	90-110			

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

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: Maggie

Method: 353.2 MDL Date: 04/25/2017 11:29

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Nitrate Nitrite as N		0.05	0.031

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: Maggie

Method: 353.2 XMDL Date: 04/25/2017 11:30

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Nitrate Nitrite as N		0.05	0.031

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 2340C-2011 MDL Date: 04/25/2017 11:12

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Hardness as calcium carbonate		5	2.389

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 2340C-2011 XMDL Date: 04/25/2017 11:12

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Hardness as calcium carbonate		5	2.389

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: Severus

Method: 2320B-2011 MDL Date: 08/21/2018 15:58

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Alkalinity		5	2.6

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: Severus

Method: 2320B-2011 XMDL Date: 04/25/2017 09:53

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Alkalinity		5	2.6

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 2540 C-2011 MDL Date: 04/25/2017 14:47

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Dissolved Solids		10	7.795

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 2540 C-2011 XMDL Date: 04/25/2017 14:48

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Dissolved Solids		10	7.795

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: THOR

Method: 300.0 MDL Date: 05/02/2017 14:42

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Bromide		0.5	0.044

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: THOR

Method: 300.0 XMDL Date: 05/02/2017 14:43

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Bromide		0.5	0.044

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: THOR

Method: 9056A MDL Date: 05/02/2017 14:42

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Sulfate		1	0.348

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: THOR

Method: 9056A XMDL Date: 05/02/2017 14:43

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Sulfate		1	0.348

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2520B RL Date: 01/25/2011 12:16

Analyte	Wavelength/ Mass	RL (No Unit)	
Salinity		2	

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 240-104369-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2520B XRL Date: 01/25/2011 12:16

Analyte	Wavelength/ Mass	XRL (No Unit)	
Salinity		2	

FORM IX - IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: Maggie Analysis Method: 353.2

Start Date: 11/27/2018 18:03 End Date: 11/27/2018 18:42

Lab Sample Id	D/F	Type	Time	Analytes
				NNO32
ZZZZZZ			18:03	
CCV 240-357271/2	1		18:05	X
CCB 240-357271/3	1		18:06	X
MB 240-357271/4	1	T	18:07	X
LCS 240-357271/5	1	T	18:08	X
ZZZZZZ			18:09	
ZZZZZZ			18:10	
240-104369-5	1	T	18:11	X
240-104369-4	1	T	18:13	X
240-104369-3	1	T	18:14	X
240-104369-2	1	T	18:15	X
240-104369-2 MS	1	T	18:16	X
240-104369-2 MSD	1	T	18:17	X
CCV 240-357271/14	1		18:18	X
CCB 240-357271/15	1		18:19	X
ZZZZZZ			18:20	
240-104369-6	1	T	18:22	X
ZZZZZZ			18:23	
ZZZZZZ			18:24	
ZZZZZZ			18:25	
ZZZZZZ			18:26	
ZZZZZZ			18:27	
ZZZZZZ			18:28	
ZZZZZZ			18:29	
ZZZZZZ			18:31	
CCV 240-357271/26	1		18:32	X
CCB 240-357271/27	1		18:33	X
ZZZZZZ			18:34	
ZZZZZZ			18:35	
ZZZZZZ			18:36	
ZZZZZZ			18:37	
ZZZZZZ			18:38	
ZZZZZZ			18:40	
CCV 240-357271/34			18:41	
CCB 240-357271/35			18:42	

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: 2340C-2011

Start Date: 11/28/2018 08:53 End Date: 11/28/2018 10:55

Lab Sample Id	D/F	Type	Time	Analytes																								
				HardCC																								
MB 240-357370/1	1	T	08:53	X																								
LCS 240-357370/2	1	T	08:56	X																								
240-104369-2	1	T	09:00	X																								
240-104369-2 DU	1	T	09:04	X																								
240-104369-3	1	T	09:08	X																								
240-104369-4	1	T	09:12	X																								
240-104369-5	1	T	09:15	X																								
240-104369-6	1	T	09:19	X																								
ZZZZZZ			09:23																									
ZZZZZZ			09:27																									
240-104451-A-1 MS	1	T	09:31	X																								
240-104451-A-1 MSD	1	T	09:34	X																								
ZZZZZZ			09:38																									
ZZZZZZ			09:42																									
ZZZZZZ			09:46																									
ZZZZZZ			09:50																									
ZZZZZZ			09:54																									
ZZZZZZ			09:57																									
ZZZZZZ			10:01																									
ZZZZZZ			10:05																									
ZZZZZZ			10:09																									
ZZZZZZ			10:13																									
ZZZZZZ			10:16																									
ZZZZZZ			10:20																									
ZZZZZZ			10:24																									
ZZZZZZ			10:28																									
ZZZZZZ			10:32																									
ZZZZZZ			10:36																									
ZZZZZZ			10:39																									
ZZZZZZ			10:43																									
ZZZZZZ			10:47																									
ZZZZZZ			10:51																									
ZZZZZZ			10:55																									

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: Severus Analysis Method: 2320B-2011

Start Date: 11/23/2018 11:16 End Date: 11/23/2018 15:22

Lab Sample Id	D/F	Type	Time	Analytes																								
				Alk																								
ZZZZZZ			11:16																									
ZZZZZZ			11:27																									
LCS 240-356952/3	1	T	11:32	X																								
MB 240-356952/4	1	T	11:36	X																								
ZZZZZZ			11:40																									
ZZZZZZ			11:45																									
ZZZZZZ			11:50																									
ZZZZZZ			11:55																									
ZZZZZZ			12:00																									
ZZZZZZ			12:04																									
ZZZZZZ			12:09																									
ZZZZZZ			12:14																									
ZZZZZZ			12:17																									
ZZZZZZ			12:21																									
ZZZZZZ			12:26																									
ZZZZZZ			12:31																									
ZZZZZZ			12:36																									
ZZZZZZ			12:41																									
ZZZZZZ			12:46																									
ZZZZZZ			12:51																									
ZZZZZZ			12:56																									
ZZZZZZ			13:01																									
ZZZZZZ			13:06																									
ZZZZZZ			13:07																									
ZZZZZZ			13:12																									
ZZZZZZ			13:17																									
ZZZZZZ			13:21																									
240-104369-2	1	T	13:26	X																								
LCS 240-356952/29	1	T	13:31	X																								
MB 240-356952/30	1	T	13:35	X																								
240-104369-3	1	T	13:39	X																								
240-104369-3 DU	1	T	13:43	X																								
240-104369-4	1	T	13:47	X																								
240-104369-5	1	T	13:52	X																								
ZZZZZZ			13:53																									
240-104369-6	1	T	13:57	X																								
ZZZZZZ			14:02																									
ZZZZZZ			14:07																									
ZZZZZZ			14:11																									
ZZZZZZ			14:16																									
ZZZZZZ			14:21																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: Severus Analysis Method: 2320B-2011

Start Date: 11/23/2018 11:16 End Date: 11/23/2018 15:22

Lab Sample Id	D/F	Type	Time	Analytes																								
				Alk																								
ZZZZZZ			14:26																									
ZZZZZZ			14:31																									
ZZZZZZ			14:36																									
ZZZZZZ			14:40																									
ZZZZZZ			14:42																									
ZZZZZZ			14:47																									
ZZZZZZ			14:52																									
ZZZZZZ			14:57																									
ZZZZZZ			15:01																									
ZZZZZZ			15:07																									
ZZZZZZ			15:11																									
ZZZZZZ			15:16																									
ZZZZZZ			15:21																									
ZZZZZZ			15:22																									

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: 2540 C-2011

Start Date: 11/19/2018 14:11 End Date: 11/19/2018 14:11

Lab Sample Id	D/F	Type	Time	Analytes																								
				TDS																								
MB 240-356174/1	1	T	14:11	X																								
LCS 240-356174/2	1	T	14:11	X																								
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
240-104363-B-4 DU	1	T	14:11	X																								
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
ZZZZZZ			14:11																									
240-104369-2	1	T	14:11	X																								
240-104369-3	1	T	14:11	X																								
240-104369-4	1	T	14:11	X																								
240-104369-5	1	T	14:11	X																								
240-104369-6	1	T	14:11	X																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: THOR Analysis Method: 9056A

Start Date: 08/07/2018 12:13 End Date: 08/07/2018 15:41

Lab Sample Id	D/F	Type	Time	Analytes																								
				SO4																								
STD1 240-339523/1 IC	1		12:13	X																								
STD2 240-339523/2 IC	1		12:34	X																								
STD3 240-339523/3 IC	1		12:55	X																								
STD4 240-339523/4 IC	1		13:16	X																								
STD5 240-339523/5 ICRT	1		13:36	X																								
STD6 240-339523/6 IC	1		13:57	X																								
STD7 240-339523/7 IC	1		14:18	X																								
STD8 240-339523/8 IC	1		14:39	X																								
STD9 240-339523/9 IC	1		14:59	X																								
ICV 240-339523/10	1		15:20	X																								
ICB 240-339523/11	1		15:41	X																								

Prep Types:
=

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: THOR Analysis Method: 9056A

Start Date: 11/28/2018 02:33 End Date: 11/28/2018 22:34

Lab Sample Id	D/F	Type	Time	Analytes																									
				Br	SO4																								
CCV 240-357269/1	1		02:33		X																								
CCB 240-357269/2	1		02:54		X																								
MB 240-357269/3	1	T	03:14		X																								
LCS 240-357269/4	1	T	03:35		X																								
ZZZZZZ			03:56																										
ZZZZZZ			04:17																										
ZZZZZZ			04:37																										
ZZZZZZ			04:58																										
ZZZZZZ			05:19																										
ZZZZZZ			05:39																										
240-104369-2	1	T	06:00	X	X																								
ZZZZZZ			06:21																										
CCV 240-357269/13	1		06:42		X																								
CCB 240-357269/14	1		07:02		X																								
240-104369-3	1	T	07:23	X	X																								
240-104369-4	1	T	07:44	X	X																								
240-104369-4 MS	1	T	08:04	X	X																								
240-104369-4 MSD	1	T	08:25	X	X																								
240-104369-5	1	T	08:46	X	X																								
240-104369-6	1	T	09:06	X	X																								
ZZZZZZ			09:27																										
ZZZZZZ			09:48																										
ZZZZZZ			10:09																										
ZZZZZZ			10:30																										
CCV 240-357269/25	1		10:50		X																								
CCB 240-357269/26	1		11:11		X																								
ZZZZZZ			11:32																										
ZZZZZZ			11:52																										
ZZZZZZ			12:13																										
ZZZZZZ			12:34																										
ZZZZZZ			12:55																										
ZZZZZZ			13:15																										
ZZZZZZ			13:36																										
ZZZZZZ			13:57																										
ZZZZZZ			14:17																										
ZZZZZZ			14:38																										
CCV 240-357269/37			14:59																										
CCB 240-357269/38			15:20																										
ZZZZZZ			15:40																										
ZZZZZZ			16:01																										
ZZZZZZ			16:22																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 240-104369-1

SDG No.:

Instrument ID: THOR Analysis Method: 9056A

Start Date: 11/28/2018 02:33 End Date: 11/28/2018 22:34

Lab Sample Id	D/F	Type	Time	Analytes																								
				Br	SO4																							
ZZZZZZ			16:42																									
ZZZZZZ			17:03																									
ZZZZZZ			17:24																									
ZZZZZZ			17:44																									
ZZZZZZ			18:05																									
ZZZZZZ			18:26																									
ZZZZZZ			18:47																									
CCV 240-357269/49			19:07																									
CCB 240-357269/50			19:28																									
ZZZZZZ			19:49																									
ZZZZZZ			20:09																									
ZZZZZZ			20:30																									
ZZZZZZ			20:51																									
ZZZZZZ			21:12																									
ZZZZZZ			21:32																									
ZZZZZZ			21:53																									
CCV 240-357269/58			22:14																									
CCB 240-357269/59			22:34																									

Prep Types:
T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 240-104369-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: SM 2520B

Start Date: 11/19/2018 12:48 End Date: 11/19/2018 12:48

Lab Sample Id	D/F	Type	Time	Analytes																								
				Salin																								
MB 180-263285/1	1	T	12:48	X																								
ZZZZZZ			12:48																									
240-104312-W-2 DU	1	T	12:48	X																								
240-104369-2	1	T	12:48	X																								
240-104369-3	1	T	12:48	X																								
240-104369-4	1	T	12:48	X																								
240-104369-5	1	T	12:48	X																								
240-104369-6	1	T	12:48	X																								

Prep Types:
T = Total/NA

FORM XIII-IN

MRC Block F
SDG 240-104369-1

SAMPLE IDENTIFICATION	MRC-MW-136B-111318
COMPOUND	1,2,4-trichlorobenzene
COMPOUND AREA	69647
INTERNAL STANDARD AMOUNT (ng)	20
DILUTION FACTOR	1
INTERNAL STANDARD AREA	323966
AVERAGE RRF	0.855
VOLUME OF SAMPLE	5
VOLUME OF EXTRACT	5
CONCENTRATION =	5.03 ug/L

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Canton\ChromData\A3UX19\20181123-82226.b\U1904081.d
Lims ID: 240-104369-C-5
Client ID: MRC-MW-136A-111318
Sample Type: Client
Inject. Date: 23-Nov-2018 15:41:50 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 5.0 mL Dil. Factor: 1.0000
Sample Info: 011
Operator ID: 001904 Instrument ID: A3UX19

Method: \\chromdocs2018\q3\Canton\ChromData\A3UX19\20181123-82226.b\8260_19.m
Limit Group: MSV 8260C ICAL
Last Update: 23-Nov-2018 16:10:55 Calib Date: 10-Oct-2018 20:18:55
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A3UX19\20181010-80724.b\U1902694.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0325

First Level Reviewer: laveyt Date: 23-Nov-2018 16:10:55

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.654	5.654	0.000	99	793242	20.0	
* 2 Chlorobenzene-d5	117	8.500	8.500	0.000	82	628722	20.0	
* 3 1,4-Dichlorobenzene-d4	152	10.883	10.883	0.000	93	323966	20.0	
$ 4 Dibromofluoromethane (Surr	111	5.049	5.049	0.000	59	203708	19.1	
$ 5 1,2-Dichloroethane-d4 (Sur	65	5.357	5.357	0.000	97	235174	19.2	
$ 6 Toluene-d8 (Surr)	98	7.100	7.100	0.000	93	721994	19.2	
$ 7 4-Bromofluorobenzene (Surr	95	9.674	9.674	0.000	91	251269	17.7	
9 Dichlorodifluoromethane	85		1.598				ND	
10 Chloromethane	50		1.811				ND	
11 Vinyl chloride	62		1.918				ND	
13 Bromomethane	94		2.227				ND	
14 Chloroethane	64		2.310				ND	
16 Trichlorofluoromethane	101		2.570				ND	
21 1,1-Dichloroethene	61		3.057				ND	
20 1,1,2-Trichloro-1,2,2-trif	101		3.057				ND	
22 Acetone	43	3.080	3.069	0.012	90	12019	3.86	
24 Carbon disulfide	76		3.282				ND	
28 Methylene Chloride	49	3.495	3.495	0.000	37	1774	0.1571	
29 2-Methyl-2-propanol	59		3.578				ND	
31 Methyl tert-butyl ether	73		3.733				ND	
32 trans-1,2-Dichloroethene	61		3.733				ND	
34 1,1-Dichloroethane	63		4.112				ND	
35 Vinyl acetate	43		4.148				ND	
36 Isopropyl ether	87		4.171				ND	
38 Tert-butyl ethyl ether	59		4.491				ND	
40 cis-1,2-Dichloroethene	96	4.634	4.634	0.000	1	1688	0.1472	
39 2,2-Dichloropropane	77		4.634				ND	
41 2-Butanone (MEK)	72	4.634	4.634	0.000	92	4691	2.50	
45 Chlorobromomethane	49		4.835				ND	
47 Chloroform	83		4.907				ND	
48 1,1,1-Trichloroethane	97		5.084				ND	
50 1,1-Dichloropropene	75		5.227				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
51 Carbon tetrachloride	117		5.239				ND	
53 Benzene	78		5.417				ND	
54 1,2-Dichloroethane	62	5.416	5.417	-0.001	33	12166	0.8520	
55 Tert-amyl methyl ether	73		5.499				ND	
58 Trichloroethene	130		5.986				ND	
61 1,2-Dichloropropane	63		6.187				ND	
63 Dibromomethane	174		6.294				ND	
65 Dichlorobromomethane	83		6.436				ND	
67 2-Chloroethyl vinyl ether	63		6.697				ND	
68 cis-1,3-Dichloropropene	75		6.840				ND	
69 4-Methyl-2-pentanone (MIBK	43		6.982				ND	
70 Toluene	91		7.172				ND	
71 trans-1,3-Dichloropropene	75		7.361				ND	
75 Tetrachloroethene	166		7.693				ND	
76 1,3-Dichloropropane	76		7.705				ND	
77 2-Hexanone	43		7.765				ND	
79 Chlorodibromomethane	129		7.931				ND	
80 Ethylene Dibromide	107		8.049				ND	
82 Chlorobenzene	112		8.523				ND	
83 1,1,1,2-Tetrachloroethane	131		8.607				ND	
84 Ethylbenzene	106		8.630				ND	
85 m-Xylene & p-Xylene	106		8.749				ND	
86 o-Xylene	106		9.152				ND	
87 Styrene	104		9.152				ND	
88 Bromoform	173		9.354				ND	
89 Isopropylbenzene	105		9.520				ND	
91 1,1,2,2-Tetrachloroethane	83		9.816				ND	
92 Bromobenzene	156		9.840				ND	
93 1,2,3-Trichloropropane	110		9.864				ND	
95 N-Propylbenzene	120		9.947				ND	
96 2-Chlorotoluene	126		10.041				ND	
98 4-Chlorotoluene	126		10.148				ND	
99 tert-Butylbenzene	119		10.468				ND	
101 1,2,4-Trimethylbenzene	105		10.516				ND	
102 sec-Butylbenzene	105		10.694				ND	
103 1,3-Dichlorobenzene	146	10.824	10.812	0.012	2	6357	0.2779	a
104 4-Isopropyltoluene	119		10.848				ND	
105 1,4-Dichlorobenzene	146	10.907	10.907	0.000	29	4115	0.1741	
106 1,2,3-Trimethylbenzene	105		10.966				ND	
108 n-Butylbenzene	91		11.275				ND	
109 1,2-Dichlorobenzene	146		11.298				ND	
110 1,2-Dibromo-3-Chloropropan	157		12.129				ND	
112 1,2,4-Trichlorobenzene	180	13.018	13.018	0.000	91	69647	5.03	
113 Hexachlorobutadiene	225		13.208				ND	
114 Naphthalene	128		13.279				ND	
115 1,2,3-Trichlorobenzene	180	13.540	13.540	0.000	81	16064	1.29	
S 126 Xylenes, Total	106		16.520				ND	

MRC Block F
SDG 240-104369-1

SAMPLE IDENTIFICATION	MRC-MW-135B-111318		
COMPOUND	Monochlorobiphenyl		
COMPOUND AREA	2403		
INTERNAL STANDARD AMOUNT (ng)	0.75		
DILUTION FACTOR	1		
INTERNAL STANDARD AREA	146524		
AVERAGE RRF	0.8841		
VOLUME OF SAMPLE	0.925		
VOLUME OF EXTRACT	1.00		
CONCENTRATION =	0.01504	ug/L	0.015

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Savannah\ChromData\CMSX\20181119-51987.b\xk2112.D
Lims ID: 240-104369-M-4-A
Client ID: MRC-MW-135B-111318
Sample Type: Client
Inject. Date: 21-Nov-2018 16:05:30 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 240-104369-M-4-A
Misc. Info.: 680-0051987-012
Operator ID: Instrument ID: CMSX

Method: \\chromdocs2018\q3\Savannah\ChromData\CMSX\20181119-51987.b\680_CMSX.m
Limit Group: 680
Last Update: 23-Nov-2018 11:07:01 Calib Date: 07-Nov-2018 17:06:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0710.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0301

First Level Reviewer: davisn Date: 23-Nov-2018 11:08:09

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.657	9.160 - 10.154		0	2403	0.0139	
A 24 Total Dichlorobiphenyls	222	11.459	10.487 - 12.430		0	403	0.003438	7
* 5 Phenanthrene-d10	188	12.290	12.304	-0.014	100	135055	0.7500	
A 25 Total Trichlorobiphenyls	256	13.144	11.794 - 14.495		0	83	0.000999	7
A 26 Total Tetrachlorobiphenyls	292	14.655	12.921 - 16.388		0	235	0.003867	7
A 27 Total Pentachlorobiphenyls	326	16.075	14.211 - 17.940		0	533	0.0117	
* 15 Chrysene-d12	240	18.550	18.550	0.0	100	146524	0.7500	
$ 22 Decachlorobiphenyl-13C12	510	21.672	21.672	0.0	33	23910	2.30	

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Calculation RSK175	**Sample**		
	MRC-MW-134A-111318		
Target Analyte	Methane		
Analyte Response	7949802		
Slope/QR A	6707.18		
Dilution Factor (DF)	5		
	on column amount	1185.26743	
		5926.34	ug/L

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Canton\ChromData\ZPID\20181120-82130.b\Z0112007.D
Lims ID: 240-104369-E-2
Client ID: MRC-MW-134A-111318
Sample Type: Client
Inject. Date: 20-Nov-2018 11:11:32 ALS Bottle#: 7 Worklist Smp#: 7
Purge Vol: 1.000 mL Dil. Factor: 5.0000
Sample Info: 240-0082130-007
Operator ID: Instrument ID: ZPID

Method: \\chromdocs2018\q3\Canton\ChromData\ZPID\20181120-82130.b\RSK175.m
Limit Group: GCV RSK 175 ICAL
Last Update: 21-Nov-2018 07:16:56 Calib Date: 22-Oct-2018 16:15:42
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\ZPID\20181022-81079.b\Z0102214.D

Column 1 : Det: GC FID1A
Process Host: CTX1008

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
1	Methane					
	1.182	1.183	-0.001	7949802	1185.3	
2	Ethylene					
		1.881			ND	
4	Ethane					
		2.203			ND	
$ 5	1,1,1-Trifluoroethane					
	3.342	3.344	-0.002	26543244	10702	

Reagents:

SARSKSURR_00011 Amount Added: 20.00 Units: mL Run Reagent

Sample Report

Sample Name	240-104369-K-2-A
File Name	064SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\I14111618A.b
Acq Time	2018-11-16 12:32:06
Sample Type	Sample
Total Dilution	1.0000
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

Sample MRC-MW-134A-111318

Arsenic 5.5 ug/L

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	45	No Gas	-0.343	ug/l	N/A	63785.74	10000	
Be	9	45	No Gas	0.073	ug/l	20.4	281.12	2000	
B	11	45	No Gas	79.383	ug/l	1.2	76911.70	300	
Na	23	45	He	120520.433	ug/l	1.2	82439783.39	500000	
Mg	24	45	He	11041.527	ug/l	0.9	4117899.14	500000	
Al	27	45	He	6.098	ug/l	8.0	2157.97	200000	
K	39	45	He	8168.510	ug/l	0.4	4106252.34	500000	
Ca	44	45	He	75115.419	ug/l	0.5	881347.55	500000	
Ti	47	45	He	0.125	ug/l	45.6	27.78	2500	
V	51	45	He	0.458	ug/l	36.1	813.99	10000	
Cr	52	45	He	0.036	ug/l	36.0	1775.69	10000	
Mn	55	45	He	506.436	ug/l	1.5	1682201.12	10000	
Fe	56	103	He	16875.970	ug/l	2.0	66278208.48	200000	
Co	59	103	He	0.482	ug/l	0.9	3288.19	5000	
Ni	60	103	He	0.271	ug/l	3.0	771.14	10000	
Cu	63	103	He	-0.051	ug/l	N/A	971.16	10000	
Zn	66	103	He	1.461	ug/l	9.2	2752.52	10000	
As	75	103	He	5.485	ug/l	8.5	4602.15	10000	
Se	78	45	H2	0.051	ug/l	34.1	52.33	10000	
Sr	88	103	He	505.225	ug/l	2.5	2645982.74	10000	
Mo	95	103	He	2.070	ug/l	2.4	4972.06	2000	
Ag	107	103	He	0.000	ug/l	596.0	71.11	100	
Cd	111	115	He	0.004	ug/l	423.1	40.76	4000	
Sn	118	115	He	-2.163	ug/l	N/A	1900.15	2000	
Sb	123	115	He	0.046	ug/l	5.5	252.23	200	
Ba	137	115	He	134.359	ug/l	1.1	255823.55	10000	
W	182	159	He	-0.012	ug/l	N/A	716.70	2500	
Tl	205	165	He	0.004	ug/l	47.1	246.67	2000	
Pb	208	165	He	0.020	ug/l	25.7	3919.17	4000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li6	6	No Gas	1199725.14	1.5	1147242.16	104.57	59.5	120.4	
Sc	45	No Gas	6459642.80	0.9	6048100.87	106.8	59.5	120.4	
Sc	45	H2	4817368.17	0.5	4644516.33	103.72	59.5	120.4	
Sc	45	He	1159662.87	1.0	1114465.58	104.06	59.5	120.4	
Rh	103	H2	1042246.79	0.6	1004936.23	103.71	59.5	120.4	

TETRA TECH

INTERNAL CORRESPONDENCE

TO: **T. APANAVAGE** **DATE:** **NOVEMBER 7, 2018**

FROM: **TERRI L. SOLOMON** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – SELECT VOCs**
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER COMPLEX (MRC)
BLOCK F
SDG 240-101358-1

SAMPLES: 5/Aqueous/

F-GWS-1D-14-18	F-GWS-2A-21-25
F-GWS-2B-14-18	F-GWS-2C-3-7
F-GWS-3B-18-22	

1/Trip Blank/
TB-091218

Overview

The sample set for LMC-MRC Block F, SDG 240-101358-1, consisted of five (5) aqueous environmental samples and one (1) trip blank. All samples were analyzed for select volatile organic compounds (VOCs). No field duplicate pairs were included in this sample delivery group (SDG).

The samples were collected by Tetra Tech, Inc. on September 12 and 13, 2018 and analyzed by Test America – Canton. All analyses were conducted in accordance with SW-846 Method 8260B 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/trip blank results, 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

No issues.

Minor

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

Notes

The following samples were analyzed at dilutions for the VOC analyses.

Sample	Dilution
F-GWS-2B-14-18	16.7X
F-GWS-3B-18-22	20X

Non-detected results were reported to the MDL.

Executive Summary

Laboratory Performance: No issues.

Other Factors Affecting Data Quality: Results below the RL were estimated.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Organic Superfund Methods Data Review" (January 2017). The text of this report has been formulated to address only those areas affecting data quality.

Tetra Tech, Inc.
Terri L. Solomon
Chemist/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

Data Qualifier Definitions

The following definitions provide brief explanations of the validation qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted detection limit.
J	The result is an estimated quantity. 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).
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
NJ	The analyte has been “tentatively identified” or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.
R	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.
UR	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.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team, but exclusion of the data is recommended.

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 x 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

PROJ_NO: 08667	NSAMPLE	F-GWS-1D-14-18			F-GWS-2A-21-25			F-GWS-2B-14-18			F-GWS-2C-3-7		
SDG: 240-101358-1	LAB_ID	240-101358-5			240-101358-4			240-101358-3			240-101358-2		
FRACTION: OV	SAMP_DATE	9/13/2018			9/12/2018			9/12/2018			9/12/2018		
MEDIA: WATER	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
1,2,4-TRICHLOROBENZENE		0.26	U		17			270			0.26	U	
1,2-DICHLOROBENZENE		0.15	U		0.49	J	P	3.9	J	P	0.15	U	
1,3-DICHLOROBENZENE		0.15	U		1.1			2.5	U		0.15	U	
CHLOROBENZENE		5.4			1.4			2.3	U		0.14	U	

PROJ_NO: 08667	NSAMPLE	F-GWS-3B-18-22			TB-091218		
SDG: 240-101358-1	LAB_ID	240-101358-6			240-101358-1		
FRACTION: OV	SAMP_DATE	9/13/2018			9/12/2018		
MEDIA: WATER	QC_TYPE	NM			NM		
	UNITS	UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0		
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,2,4-TRICHLOROBENZENE		460			0.26	U	
1,2-DICHLOROBENZENE		8.9	J	P	0.15	U	
1,3-DICHLOROBENZENE		6.5	J	P	0.15	U	
CHLOROBENZENE		2.8	U		0.14	U	

Appendix B

Results as Reported by the Laboratory

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101358-1

SDG No.:

Client Sample ID: TB-091218 | Lab Sample ID: 240-101358-1

Matrix: Water | Lab File ID: U1902107.d

Analysis Method: 8260C | Date Collected: 09/12/2018 00:00

Sample wt/vol: 5(mL) | Date Analyzed: 09/22/2018 14:44

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.: 346694 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
120-82-1	1,2,4-Trichlorobenzene	0.26	U	1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.15	U	1.0	0.15
108-90-7	Chlorobenzene	0.14	U	1.0	0.14

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	102		73-120
1868-53-7	Dibromofluoromethane (Surr)	107		69-124
460-00-4	4-Bromofluorobenzene (Surr)	94		69-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	108		61-138

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101358-1

SDG No.:

Client Sample ID: F-GWS-2C-3-7 | Lab Sample ID: 240-101358-2

Matrix: Water | Lab File ID: U1902108.d

Analysis Method: 8260C | Date Collected: 09/12/2018 08:30

Sample wt/vol: 5(mL) | Date Analyzed: 09/22/2018 15:06

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.: 346694 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
120-82-1	1,2,4-Trichlorobenzene	0.26	U	1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.15	U	1.0	0.15
108-90-7	Chlorobenzene	0.14	U	1.0	0.14

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	102		73-120
1868-53-7	Dibromofluoromethane (Surr)	107		69-124
460-00-4	4-Bromofluorobenzene (Surr)	95		69-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	106		61-138

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101358-1

SDG No.:

Client Sample ID: F-GWS-2B-14-18 | Lab Sample ID: 240-101358-3

Matrix: Water | Lab File ID: U1902109.d

Analysis Method: 8260C | Date Collected: 09/12/2018 09:45

Sample wt/vol: 5(mL) | Date Analyzed: 09/22/2018 15:29

Soil Aliquot Vol: | Dilution Factor: 16.7

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 346694 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
120-82-1	1,2,4-Trichlorobenzene	270		17	4.3
95-50-1	1,2-Dichlorobenzene	3.9	J	17	2.5
541-73-1	1,3-Dichlorobenzene	2.5	U	17	2.5
108-90-7	Chlorobenzene	2.3	U	17	2.3

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	99		73-120
1868-53-7	Dibromofluoromethane (Surr)	108		69-124
460-00-4	4-Bromofluorobenzene (Surr)	92		69-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	107		61-138

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101358-1

SDG No.:

Client Sample ID: F-GWS-2A-21-25 | Lab Sample ID: 240-101358-4

Matrix: Water | Lab File ID: UX973996.D

Analysis Method: 8260C | Date Collected: 09/12/2018 12:05

Sample wt/vol: 5(mL) | Date Analyzed: 09/24/2018 19:25

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.: 346967 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
120-82-1	1,2,4-Trichlorobenzene	17		1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.49	J	1.0	0.15
541-73-1	1,3-Dichlorobenzene	1.1		1.0	0.15
108-90-7	Chlorobenzene	1.4		1.0	0.14

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	110		73-120
1868-53-7	Dibromofluoromethane (Surr)	95		69-124
460-00-4	4-Bromofluorobenzene (Surr)	100		69-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	92		61-138

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101358-1

SDG No.:

Client Sample ID: F-GWS-1D-14-18 | Lab Sample ID: 240-101358-5

Matrix: Water | Lab File ID: U1902111.d

Analysis Method: 8260C | Date Collected: 09/13/2018 09:15

Sample wt/vol: 5(mL) | Date Analyzed: 09/22/2018 16:13

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.: 346694 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
120-82-1	1,2,4-Trichlorobenzene	0.26	U	1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.15	U	1.0	0.15
108-90-7	Chlorobenzene	5.4		1.0	0.14

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	103		73-120
1868-53-7	Dibromofluoromethane (Surr)	110		69-124
460-00-4	4-Bromofluorobenzene (Surr)	94		69-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	109		61-138

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101358-1

SDG No.:

Client Sample ID: F-GWS-3B-18-22 | Lab Sample ID: 240-101358-6

Matrix: Water | Lab File ID: U1902112.d

Analysis Method: 8260C | Date Collected: 09/13/2018 14:20

Sample wt/vol: 5(mL) | Date Analyzed: 09/22/2018 16:36

Soil Aliquot Vol: | Dilution Factor: 20

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 346694 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
120-82-1	1,2,4-Trichlorobenzene	460		20	5.2
95-50-1	1,2-Dichlorobenzene	8.9	J	20	3.0
541-73-1	1,3-Dichlorobenzene	6.5	J	20	3.0
108-90-7	Chlorobenzene	2.8	U	20	2.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	99		73-120
1868-53-7	Dibromofluoromethane (Surr)	102		69-124
460-00-4	4-Bromofluorobenzene (Surr)	89		69-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		61-138

Appendix C

Support Documentation

TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9396 Fax (330) 497-0772

Chain of Custody Record

0.8 / C1.7

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Josh Mullis	Lab PM: McFadden, John	Carrier Tracking No(s):	COC No: 240-53614-23066.10
Client Contact: Tony Apanavage / Mike Martin	Phone: 410-279-2700	E-Mail: john.mcfadden@testamericainc.com		Page: Page ~~10 of 16~~ 1 of 1
Company: Tetra Tech, Inc.				Job #:
Address: 20251 Century Blvd Suite 200	Due Date Requested:			
City: Germantown	TAT Requested (days): Standard TAT			
State, Zip: MD, 20874				
Phone: 301-233-8230(Tel) / 301-528-3021	PO #: ~~1105883~~ Project # 112IC08667			
Email: Tony.Apanavage@tetratech.com	WO #: 112IC08255			
Project Name: ~~PCBs~~ Block F TCB Inv.	Project #: 24010126			
Site: MRC, Block F	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

180325
BALTIMORE

240-101358 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8082A - PCBs / Aroclors Project VOCs (8260)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		
TB-091218	9/12/18	—	G	AQ Solid			X		* Analyses: Chlorobenzene,
F-GWS-2C-3-7		0830		Solid			X		1,2-dichlorobenzene,
F-GWS-2B-14-18		0945		Solid JAM			X		1,3-dichlorobenzene,
F-GWS-2A-21-25		1205		Solid			X		1,2,4-trichlorobenzene
F-GWS-1D-14-18	9/13/18	0915		Solid			X		
F-GWS-3B-18-22	9/13/18	1420		Solid			X		
		9/14/18		Solid					
				Solid					
				Solid					
				Solid					
				Solid					

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: Analyze for VOCs (8260)

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	9/14/18 1445	Tetra Tech Inc	[signature]	9-14-2018 / 1445	TestAmerica
[signature]	9/14/18		[signature]	9/15/18 945	TA

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 08/04/2016

TestAmerica Canton Sample Receipt Form/Narrative **Login # : 101358**
Canton Facility

Client TetraTech Site Name Cooler unpacked by:

Cooler Received on 9/15/18 Opened on 9/17/18

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

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

TestAmerica Cooler # N/A 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 +0.9 °C) Observed Cooler Temp. 0.8 °C Corrected Cooler Temp. 1.7 °C
   IR GUN #36 (CF +0.6°C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
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 12-16 have been checked at the originating laboratory.		
12. Were all preserved sample(s) at the correct pH upon receipt?	Yes No	NA pH Strip Lot# HC849161
13. Were VOAs on the COC?	Yes	No
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes No	NA 9/18
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # B817003 VB	Yes	No
16. Was a LL Hg or Me Hg trip blank present?	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM Date by via Verbal Voice Mail Other

Concerning

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: NJ

18. SAMPLE CONDITION

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

Sample(s) were received in a broken container.

Sample(s) 1x HCL Trip Blank 2x 10-14-18 were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.

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

CASE NARRATIVE

Client: Tetra Tech, Inc.

Project: Block F TCB Investigation

Report Number: 240-101358-1

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 9/15/2018 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.7º C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TB-091218 (240-101358-1), F-GWS-2C-3-7 (240-101358-2), F-GWS-2B-14-18 (240-101358-3), F-GWS-2A-21-25 (240-101358-4), F-GWS-1D-14-18 (240-101358-5) and F-GWS-3B-18-22 (240-101358-6) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 09/22/2018 and 09/24/2018.

Samples F-GWS-2B-14-18 (240-101358-3)[16.7X] and F-GWS-3B-18-22 (240-101358-6)[20X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The surrogate recovery for the continuing calibration verification (CCV) standard was outside the CCV control limit (20%), but it was within the sample recovery control limit, so no corrective action was needed.

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

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Method Summary

Client: Tetra Tech, Inc.
Project/Site: Block F TCB Investigation

TestAmerica Job ID: 240-101358-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL CAN
5030C	Purge and Trap	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: Block F TCB Investigation

TestAmerica Job ID: 240-101358-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-101358-1	TB-091218	Water	09/12/18 00:00	09/15/18 09:45
240-101358-2	F-GWS-2C-3-7	Water	09/12/18 08:30	09/15/18 09:45
240-101358-3	F-GWS-2B-14-18	Water	09/12/18 09:45	09/15/18 09:45
240-101358-4	F-GWS-2A-21-25	Water	09/12/18 12:05	09/15/18 09:45
240-101358-5	F-GWS-1D-14-18	Water	09/13/18 09:15	09/15/18 09:45
240-101358-6	F-GWS-3B-18-22	Water	09/13/18 14:20	09/15/18 09:45

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-101358-1

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-091218	240-101358-1	107	108	102	94
F-GWS-2C-3-7	240-101358-2	107	106	102	95
F-GWS-2B-14-18	240-101358-3	108	107	99	92
F-GWS-2A-21-25	240-101358-4	95	92	110	100
F-GWS-1D-14-18	240-101358-5	110	109	103	94
F-GWS-3B-18-22	240-101358-6	102	102	99	89
	MB 240-346694/6	108	109	101	94
	MB 240-346967/7	82	80	95	86
	LCS 240-346694/4	101	99	102	99
	LCS 240-346967/5	89	80	93	88

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	69-124
DCA = 1,2-Dichloroethane-d4 (Surr)	61-138
TOL = Toluene-d8 (Surr)	73-120
BFB = 4-Bromofluorobenzene (Surr)	69-120

Column to be used to flag recovery values

FORM II 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Matrix: Water Level: Low Lab File ID: U1902104.d

Lab ID: LCS 240-346694/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,2,4-Trichlorobenzene	20.0	18.9	94	34-141	
1,2-Dichlorobenzene	20.0	21.1	106	80-120	
1,3-Dichlorobenzene	20.0	20.6	103	80-120	
Chlorobenzene	20.0	20.0	100	80-120	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Matrix: Water Level: Low Lab File ID: UX973991.D

Lab ID: LCS 240-346967/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,2,4-Trichlorobenzene	20.0	18.7	93	34-141	
1,2-Dichlorobenzene	20.0	21.0	105	80-120	
1,3-Dichlorobenzene	20.0	20.6	103	80-120	
Chlorobenzene	20.0	21.3	106	80-120	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Lab File ID: U1902106.d Lab Sample ID: MB 240-346694/6

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: A3UX19 Date Analyzed: 09/22/2018 14:22

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 240-346694/4	U1902104.d	09/22/2018 13:38
TB-091218	240-101358-1	U1902107.d	09/22/2018 14:44
F-GWS-2C-3-7	240-101358-2	U1902108.d	09/22/2018 15:06
F-GWS-2B-14-18	240-101358-3	U1902109.d	09/22/2018 15:29
F-GWS-1D-14-18	240-101358-5	U1902111.d	09/22/2018 16:13
F-GWS-3B-18-22	240-101358-6	U1902112.d	09/22/2018 16:36

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101358-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-346694/6

Matrix: Water | Lab File ID: U1902106.d

Analysis Method: 8260C | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 09/22/2018 14:22

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.: 346694 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
120-82-1	1,2,4-Trichlorobenzene	0.26	U	1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.15	U	1.0	0.15
108-90-7	Chlorobenzene	0.14	U	1.0	0.14

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	101		73-120
1868-53-7	Dibromofluoromethane (Surr)	108		69-124
460-00-4	4-Bromofluorobenzene (Surr)	94		69-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	109		61-138

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Lab File ID: UX973993.D Lab Sample ID: MB 240-346967/7

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: A3UX9 Date Analyzed: 09/24/2018 18:12

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 240-346967/5	UX973991.D	09/24/2018 17:23
F-GWS-2A-21-25	240-101358-4	UX973996.D	09/24/2018 19:25

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101358-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-346967/7

Matrix: Water | Lab File ID: UX973993.D

Analysis Method: 8260C | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 09/24/2018 18:12

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.: 346967 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
120-82-1	1,2,4-Trichlorobenzene	0.26	U	1.0	0.26
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.15	U	1.0	0.15
108-90-7	Chlorobenzene	0.14	U	1.0	0.14

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	95		73-120
1868-53-7	Dibromofluoromethane (Surr)	82		69-124
460-00-4	4-Bromofluorobenzene (Surr)	86		69-120
17060-07-0	1,2-Dichloroethane-d4 (Surr)	80		61-138

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

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Lab File ID: bfb058.d BFB Injection Date: 08/27/2018

Instrument ID: A3UX19 BFB Injection Time: 16:23

Analysis Batch No.: 342719

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	17.5	
75	30.0 - 60.0 % of mass 95	49.5	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.5	
173	Less than 2.0 % of mass 174	0.6	(0.6) 1
174	50.0 - 120.00 % of mass 95	94.9	
175	5.0 - 9.0 % of mass 174	7.3	(7.7) 1
176	95.0 - 101.0 % of mass 174	92.7	(97.7) 1
177	5.0 - 9.0 % of mass 176	5.9	(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
	STD8260 240-342719/7	U1901323.d	08/27/2018	17:09
	STD8260 240-342719/8	U1901324.d	08/27/2018	17:31
	STD8260 240-342719/9	U1901325.d	08/27/2018	17:53
	ICIS 240-342719/10	U1901326.d	08/27/2018	18:16
	STD8260 240-342719/11	U1901327.d	08/27/2018	18:38
	STD8260 240-342719/12	U1901328.d	08/27/2018	19:01
	STD8260 240-342719/13	U1901329.d	08/27/2018	19:23
	ICV 240-342719/14	U1901330.d	08/27/2018	19:45

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

Lab Name: TestAmerica Canton Job No.: 240-101358-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-342719/13	U1901329.d
Level 2	STD8260 240-342719/12	U1901328.d
Level 3	STD8260 240-342719/11	U1901327.d
Level 4	ICIS 240-342719/10	U1901326.d
Level 5	STD8260 240-342719/9	U1901325.d
Level 6	STD8260 240-342719/8	U1901324.d
Level 7	STD8260 240-342719/7	U1901323.d

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.3252 0.4073	0.3858 0.4041	0.3902	0.3772	0.4052	Ave		0.3850			0.1000	7.5		20.0			
Chloromethane	0.3476 0.2860	0.2731 0.2757	0.2817	0.2748	0.2796	Ave		0.2883			0.1000	9.2		20.0			
Butadiene	0.2863 0.2923	0.2971 0.2827	0.2967	0.2831	0.2826	Ave		0.2887				2.3		20.0			
Vinyl chloride	0.2799 0.3039	0.3000 0.2955	0.3102	0.2950	0.3013	Ave		0.2980			0.1000	3.2		20.0			
Bromomethane	0.2530 0.2308	0.2391 0.2251	0.2340	0.2259	0.2264	Ave		0.2335			0.0500	4.3		20.0			
Chloroethane	0.2052 0.1842	0.1766 0.1812	0.1882	0.1779	0.1807	Ave		0.1848			0.0500	5.3		20.0			
Dichlorofluoromethane	0.4944 0.4514	0.4567 0.4411	0.4677	0.4468	0.4490	Ave		0.4581				3.9		20.0			
Trichlorofluoromethane	0.4941 0.5030	0.4893 0.4931	0.5122	0.4967	0.5003	Ave		0.4984			0.1000	1.5		20.0			
Ethyl ether	0.1731 0.1798	0.1898 0.1760	0.1849	0.1771	0.1791	Ave		0.1800				3.1		20.0			
Acrolein	0.0495 0.0430	0.0446 0.0441	0.0420	0.0454	0.0427	Ave		0.0445				5.6		20.0			
1,1-Dichloroethene	0.3476 0.3661	0.3473 0.3597	0.3727	0.3582	0.3610	Ave		0.3589			0.1000	2.6		20.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.2493 0.2658	0.2366 0.2616	0.2651	0.2563	0.2622	Ave		0.2567			0.0500	4.1		20.0			
Acetone	+++++ 0.0747	0.0941 0.0735	0.0766	0.0752	0.0764	Ave		0.0784			0.0100	9.9		20.0			
Iodomethane	0.4872 0.4597	0.4730 0.4538	0.4730	0.4575	0.4539	Ave		0.4655				2.7		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.: 240-101358-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon disulfide	0.8746 0.7168	0.8257 0.7023	0.7362	0.7031	0.7015	Ave		0.7515			0.1000	9.3		20.0			
3-Chloro-1-propene	0.3735 0.3489	0.3837 0.3396	0.3586	0.3361	0.3385	Ave		0.3541				5.3		20.0			
Methyl acetate	0.2638 0.2201	0.2366 0.2157	0.2398	0.2267	0.2267	Ave		0.2328			0.1000	6.9		20.0			
Methylene Chloride	+++++ 0.2751	0.3184 0.2694	0.2925	0.2792	0.2733	Ave		0.2846			0.1000	6.5		20.0			
2-Methyl-2-propanol	0.0302 0.0245	0.0277 0.0251	0.0284	0.0260	0.0277	Ave		0.0271				7.4		20.0			
Acrylonitrile	0.1006 0.0983	0.1046 0.0951	0.1079	0.0977	0.0997	Ave		0.1006				4.3		20.0			
trans-1,2-Dichloroethene	0.3568 0.3338	0.3540 0.3216	0.3508	0.3269	0.3267	Ave		0.3387			0.1000	4.4		20.0			
Methyl tert-butyl ether	0.6459 0.7174	0.6970 0.7172	0.7178	0.6715	0.6899	Ave		0.6938			0.1000	3.9		20.0			
Hexane	0.3287 0.3643	0.3216 0.3693	0.3652	0.3577	0.3600	Ave		0.3524				5.4		20.0			
1,1-Dichloroethane	0.3877 0.4112	0.4141 0.3990	0.4182	0.3989	0.4043	Ave		0.4048			0.2000	2.6		20.0			
Vinyl acetate	0.4652 0.4557	0.4582 0.4625	0.4853	0.4584	0.4619	Ave		0.4639				2.1		20.0			
cis-1,2-Dichloroethene	0.3057 0.2869	0.2992 0.2782	0.2948	0.2801	0.2786	Ave		0.2891			0.1000	3.8		20.0			
2,2-Dichloropropane	0.2469 0.2502	0.2497 0.2458	0.2443	0.2181	0.2515	Ave		0.2438				4.8		20.0			
2-Butanone (MEK)	0.0487 0.0444	0.0481 0.0466	0.0506	0.0457	0.0465	Ave		0.0472			0.0100	4.3		20.0			
Chlorobromomethane	0.2347 0.1831	0.2161 0.1713	0.1973	0.1804	0.1790	Ave		0.1945				11.9		20.0			
Tetrahydrofuran	+++++ 0.0978	0.2111 0.0981	0.1202	0.1027	0.1037	Lin1	0.2460	0.0976				7.4			0.9990		0.9900
Chloroform	0.4336 0.4423	0.4430 0.4326	0.4702	0.4398	0.4415	Ave		0.4433			0.2000	2.8		20.0			
1,1,1-Trichloroethane	0.3739 0.4296	0.4106 0.4262	0.4442	0.4096	0.4275	Ave		0.4174			0.1000	5.4		20.0			
Cyclohexane	0.3499 0.3999	0.3515 0.3986	0.3944	0.3825	0.3967	Ave		0.3819			0.1000	5.8		20.0			
1,1-Dichloropropene	0.3411 0.3565	0.3509 0.3499	0.3664	0.3469	0.3516	Ave		0.3519				2.3		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.: 240-101358-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon tetrachloride	0.3818 0.4136	0.3781 0.4121	0.4219	0.3956	0.4130	Ave		0.4023			0.1000	4.3		20.0			
Isobutyl alcohol	0.0122 0.0101	0.0118 0.0103	0.0107	0.0108	0.0111	Ave		0.0110				7.0		20.0			
Benzene	0.9270 0.9480	0.9546 0.9366	1.0106	0.9431	0.9423	Ave		0.9518			0.5000	2.9		20.0			
1,2-Dichloroethane	0.3794 0.3459	0.3845 0.3369	0.3743	0.3513	0.3479	Ave		0.3600			0.1000	5.2		20.0			
n-Heptane	+++++ 0.1978	0.8214 0.1912	0.2589	0.2169	0.2053	Lin1	0.6437	0.1861				3.4			1.0000		0.9900
Trichloroethene	0.3334 0.3137	0.3081 0.3106	0.3277	0.3076	0.3109	Ave		0.3160			0.1500	3.3		20.0			
Methylcyclohexane	0.4282 0.4825	0.4267 0.4698	0.4724	0.4580	0.4751	Ave		0.4590			0.1000	5.0		20.0			
1,2-Dichloropropane	0.2171 0.2187	0.2141 0.2164	0.2362	0.2209	0.2218	Ave		0.2208			0.1000	3.3		20.0			
Dibromomethane	0.2410 0.2204	0.2408 0.2155	0.2336	0.2191	0.2191	Ave		0.2271				4.9		20.0			
1,4-Dioxane	+++++ 0.0025	0.0016 0.0027	0.0021	0.0026	0.0028	Ave		0.0024				17.9		20.0			
Dichlorobromomethane	0.3399 0.3440	0.3630 0.3379	0.3620	0.3462	0.3426	Ave		0.3479			0.1500	3.0		20.0			
2-Chloroethyl vinyl ether	0.1593 0.1741	0.1654 0.1828	0.1943	0.1818	0.1815	Ave		0.1770				6.6		20.0			
cis-1,3-Dichloropropene	0.3743 0.3841	0.3867 0.3870	0.4032	0.3827	0.3872	Ave		0.3865			0.1500	2.2		20.0			
4-Methyl-2-pentanone (MIBK)	0.3150 0.3064	0.3110 0.3144	0.3487	0.3229	0.3240	Ave		0.3203			0.0500	4.4		20.0			
Toluene	1.3762 1.3312	1.3706 1.3223	1.4018	1.3282	1.3309	Ave		1.3516			0.4000	2.3		20.0			
trans-1,3-Dichloropropene	0.4999 0.4712	0.5033 0.4805	0.4835	0.4641	0.4704	Ave		0.4818			0.1000	3.1		20.0			
Ethyl methacrylate	0.3824 0.4408	0.4001 0.4600	0.4577	0.4462	0.4540	Ave		0.4344				7.1		20.0			
1,1,2-Trichloroethane	0.2808 0.2823	0.2821 0.2821	0.2973	0.2798	0.2847	Ave		0.2842			0.1000	2.1		20.0			
Tetrachloroethene	0.4234 0.4375	0.4194 0.4317	0.4508	0.4248	0.4314	Ave		0.4313			0.1500	2.4		20.0			
1,3-Dichloropropane	0.4988 0.4724	0.4733 0.4772	0.5009	0.4686	0.4705	Ave		0.4802				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.: 240-101358-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
2-Hexanone	0.2781 0.3092	0.3020 0.3219	0.3438	0.3247	0.3245	Ave		0.3149			0.0500	6.6		20.0			
Chlorodibromomethane	0.3308 0.3663	0.3497 0.3646	0.3736	0.3604	0.3630	Ave		0.3583				3.9		20.0			
Ethylene Dibromide	0.3770 0.3214	0.3321 0.3219	0.3422	0.3286	0.3194	Ave		0.3346				6.1		20.0			
Chlorobenzene	0.9370 0.9055	0.9832 0.8914	0.9544	0.9002	0.9056	Ave		0.9253			0.3000	3.7		20.0			
1,1,1,2-Tetrachloroethane	0.3225 0.3380	0.3313 0.3315	0.3490	0.3282	0.3347	Ave		0.3336				2.5		20.0			
Ethylbenzene	0.4566 0.4899	0.4640 0.4838	0.5159	0.4863	0.4886	Ave		0.4836				4.0		20.0			
m-Xylene & p-Xylene	0.5709 0.5980	0.5535 0.5943	0.6142	0.5959	0.5965	Ave		0.5890				3.4		20.0			
o-Xylene	0.5188 0.5706	0.5578 0.5579	0.5806	0.5638	0.5683	Ave		0.5597				3.5		20.0			
Styrene	0.8915 0.9829	0.9056 0.9730	1.0088	0.9699	0.9794	Ave		0.9588			0.3000	4.5		20.0			
Bromoform	0.2892 0.2933	0.2907 0.2979	0.3020	0.2847	0.2951	Ave		0.2933			0.1000	2.0		20.0			
Isopropylbenzene	1.3694 1.5447	1.4922 1.4942	1.5808	1.5060	1.5314	Ave		1.5027			0.1000	4.4		20.0			
1,1,2,2-Tetrachloroethane	0.7123 0.7674	0.7872 0.7661	0.8261	0.7624	0.7730	Ave		0.7706			0.3000	4.4		20.0			
Bromobenzene	0.7562 0.7639	0.7920 0.7473	0.8125	0.7532	0.7575	Ave		0.7690				3.1		20.0			
1,2,3-Trichloropropane	0.2805 0.2866	0.2903 0.2882	0.3178	0.2884	0.2929	Ave		0.2921				4.1		20.0			
trans-1,4-Dichloro-2-butene	+++++ 0.2667	0.2763 0.2751	0.2902	0.2665	0.2675	Ave		0.2737				3.3		20.0			
N-Propylbenzene	0.7009 0.7973	0.7492 0.7772	0.8251	0.7710	0.7894	Ave		0.7729				5.1		20.0			
2-Chlorotoluene	0.6131 0.6732	0.6212 0.6509	0.7079	0.6539	0.6587	Ave		0.6541				4.9		20.0			
1,3,5-Trimethylbenzene	2.1099 2.2883	2.1099 2.2183	2.3988	2.1936	2.2594	Ave		2.2255				4.6		20.0			
4-Chlorotoluene	0.7307 0.7048	0.6944 0.6840	0.7470	0.7010	0.6888	Ave		0.7072				3.3		20.0			
tert-Butylbenzene	1.9093 2.2037	2.0260 2.1009	2.2785	2.0983	2.1715	Ave		2.1126				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.: 240-101358-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,2,4-Trimethylbenzene	2.0996 2.3002	2.2590 2.2368	2.3762	2.2406	2.2826	Ave		2.2564				3.7		20.0			
sec-Butylbenzene	2.5921 3.0046	2.6994 2.8685	2.9965	2.8235	2.9285	Ave		2.8447				5.4		20.0			
1,3-Dichlorobenzene	1.4791 1.3933	1.5035 1.3394	1.4385	1.3676	1.3647	Ave		1.4123			0.6000	4.4		20.0			
4-Isopropyltoluene	2.2955 2.5970	2.3910 2.5362	2.6099	2.4625	2.5496	Ave		2.4917				4.6		20.0			
1,4-Dichlorobenzene	1.6054 1.4113	1.5675 1.3669	1.4816	1.3825	1.3984	Ave		1.4591			0.5000	6.5		20.0			
n-Butylbenzene	1.8944 2.1259	2.0232 2.0712	2.1091	2.0276	2.0953	Ave		2.0495				3.8		20.0			
1,2-Dichlorobenzene	1.3437 1.2534	1.3687 1.2318	1.3105	1.2348	1.2330	Ave		1.2823			0.4000	4.5		20.0			
1,2-Dibromo-3-Chloropropane	0.2630 0.2491	0.2219 0.2547	0.2430	0.2371	0.2465	Ave		0.2450			0.0500	5.4		20.0			
1,2,4-Trichlorobenzene	0.9409 0.8412	0.9494 0.8737	0.8099	0.7792	0.7909	Ave		0.8550			0.2000	8.1		20.0			
Hexachlorobutadiene	0.4751 0.4459	0.4859 0.4196	0.4201	0.4076	0.4202	Ave		0.4392				7.0		20.0			
Naphthalene	+++++ 2.4081	2.5248 2.5673	2.2519	2.1428	2.2829	Ave		2.3630				7.0		20.0			
1,2,3-Trichlorobenzene	0.7893 0.7724	0.8277 0.8517	0.7383	0.6846	0.7103	Ave		0.7677				7.9		20.0			
Dibromofluoromethane (Surr)	0.2950 0.2630	0.2820 0.2531	0.2707	0.2587	0.2619	Ave		0.2692				5.5		20.0			
1,2-Dichloroethane-d4 (Surr)	0.3515 0.2903	0.3408 0.2779	0.3137	0.2940	0.2963	Ave		0.3092				8.9		20.0			
Toluene-d8 (Surr)	1.2799 1.1805	1.2018 1.1653	1.2236	1.1594	1.1844	Ave		1.1993				3.5		20.0			
4-Bromofluorobenzene (Surr)	0.5295 0.4325	0.4716 0.4172	0.4467	0.4309	0.4307	Ave		0.4513				8.5		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
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-101358-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-342719/13	U1901329.d
Level 2	STD8260 240-342719/12	U1901328.d
Level 3	STD8260 240-342719/11	U1901327.d
Level 4	ICIS 240-342719/10	U1901326.d
Level 5	STD8260 240-342719/9	U1901325.d
Level 6	STD8260 240-342719/8	U1901324.d
Level 7	STD8260 240-342719/7	U1901323.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	7625 1180992	18328 1552738	186223	366772	792590	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Chloromethane	FB	Ave	8152 829233	12972 1059365	134420	267203	546909	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Butadiene	FB	Ave	6713 847603	14115 1086231	141609	275330	552757	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Vinyl chloride	FB	Ave	6564 881108	14250 1135494	148037	286894	589426	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Bromomethane	FB	Ave	5934 669257	11360 864872	111689	219651	442826	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Chloroethane	FB	Ave	4812 533953	8387 696179	89838	172968	353502	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Dichlorofluoromethane	FB	Ave	11593 1308784	21694 1694878	223205	434465	878380	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Trichlorofluoromethane	FB	Ave	11587 1458414	23241 1894654	244417	483006	978643	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Ethyl ether	FB	Ave	4060 521372	9015 676475	88252	172224	350377	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Acrolein	FB	Ave	5804 622965	10600 846753	100203	220720	417769	2.50 300	5.00 400	50.0	100	200
1,1-Dichloroethene	FB	Ave	8152 1061526	16498 1382045	177882	348307	706289	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,1,2-Trichloro-1,2,2-trifluoroetha ne	FB	Ave	5847 770733	11240 1005400	126531	249289	512861	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Acetone	FB	Ave	+++++ 433055	8941 564923	73077	146204	298968	+++++ 120	2.00 160	20.0	40.0	80.0
Iodomethane	FB	Ave	11424 1332936	22471 1743886	225726	444884	888035	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Carbon disulfide	FB	Ave	20511 2078244	39223 2698750	351356	683722	1372316	0.500 60.0	1.00 80.0	10.0	20.0	40.0

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

Lab Name: TestAmerica Canton Job No.: 240-101358-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
3-Chloro-1-propene	FB	Ave	8759 1011692	18227 1304832	171118	326833	662138	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Methyl acetate	FB	Ave	12374 1276471	22480 1658043	228841	440913	886871	1.00 120	2.00 160	20.0	40.0	80.0
Methylene Chloride	FB	Ave	+++++ 797526	15126 1035294	139613	271471	534613	+++++ 60.0	1.00 80.0	10.0	20.0	40.0
2-Methyl-2-propanol	FB	Ave	7089 709594	13140 963916	135517	252801	542388	5.00 600	10.0 800	100	200	400
Acrylonitrile	FB	Ave	23600 2849701	49680 3654042	514757	950386	1951040	5.00 600	10.0 800	100	200	400
trans-1,2-Dichloroethene	FB	Ave	8368 967924	16818 1235776	167419	317885	639131	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Methyl tert-butyl ether	FB	Ave	15146 2079947	33109 2755910	342568	653045	1349603	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Hexane	FB	Ave	7709 1056328	15276 1419117	174299	347875	704185	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,1-Dichloroethane	FB	Ave	9092 1192355	19673 1533220	199597	387941	790957	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Vinyl acetate	FB	Ave	10910 1321142	21765 1777280	231586	445770	903595	0.500 60.0	1.00 80.0	10.0	20.0	40.0
cis-1,2-Dichloroethene	FB	Ave	7168 831715	14212 1069027	140685	272438	545012	0.500 60.0	1.00 80.0	10.0	20.0	40.0
2,2-Dichloropropane	FB	Ave	5791 725393	11860 944363	116583	212094	491954	0.500 60.0	1.00 80.0	10.0	20.0	40.0
2-Butanone (MEK)	FB	Ave	2283 257675	4567 358198	48290	88909	181887	1.00 120	2.00 160	20.0	40.0	80.0
Chlorobromomethane	FB	Ave	5503 530825	10266 658069	94139	175479	350082	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Tetrahydrofuran	FB	Lin1	+++++ 566965	20056 753652	114720	199816	405539	+++++ 120	2.00 160	20.0	40.0	80.0
Chloroform	FB	Ave	10169 1282514	21044 1662428	224371	427697	863672	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,1,1-Trichloroethane	FB	Ave	8767 1245609	19503 1637723	211997	398309	836381	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Cyclohexane	FB	Ave	8206 1159393	16696 1531667	188221	372006	776128	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,1-Dichloropropene	FB	Ave	7998 1033663	16667 1344377	174842	337392	687882	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Carbon tetrachloride	FB	Ave	8954 1199313	17959 1583649	201366	384700	807965	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Isobutyl alcohol	FB	Ave	7140 731439	14010 985172	127213	263438	540692	12.5 1500	25.0 2000	250	500	1000

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

Lab Name: TestAmerica Canton Job No.: 240-101358-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Benzene	FB	Ave	21738 2748682	45349 3599104	482300	917150	1843426	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2-Dichloroethane	FB	Ave	8896 1002994	18266 1294416	178638	341638	680627	0.500 60.0	1.00 80.0	10.0	20.0	40.0
n-Heptane	FB	Lin1	+++++ 573367	39021 734621	123554	210893	401639	+++++ 60.0	1.00 80.0	10.0	20.0	40.0
Trichloroethene	FB	Ave	7819 909646	14636 1193487	156409	299123	608172	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Methylcyclohexane	FB	Ave	10042 1399000	20268 1805108	225444	445411	929492	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2-Dichloropropane	FB	Ave	5092 634222	10172 831616	112735	214790	433884	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Dibromomethane	FB	Ave	5652 638964	11437 828119	111478	213090	428543	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,4-Dioxane	FB	Ave	+++++ 147508	1560 204613	20257	50489	108387	+++++ 1200	20.0 1600	200	400	800
Dichlorobromomethane	FB	Ave	7972 997303	17242 1298324	172767	336655	670319	0.500 60.0	1.00 80.0	10.0	20.0	40.0
2-Chloroethyl vinyl ether	FB	Ave	7473 1009556	15714 1404589	185460	353595	710198	1.00 120	2.00 160	20.0	40.0	80.0
cis-1,3-Dichloropropene	FB	Ave	8778 1113655	18371 1486992	192411	372198	757475	0.500 60.0	1.00 80.0	10.0	20.0	40.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	14774 1776570	29549 2416341	332777	627983	1267570	1.00 120	2.00 160	20.0	40.0	80.0
Toluene	CBNZ d5	Ave	25413 3039879	50838 4036837	544474	1040131	2085055	0.500 60.0	1.00 80.0	10.0	20.0	40.0
trans-1,3-Dichloropropene	CBNZ d5	Ave	9232 1076004	18668 1466824	187797	363416	737016	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Ethyl methacrylate	CBNZ d5	Ave	7062 1006534	14839 1404401	177753	349427	711262	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,1,2-Trichloroethane	CBNZ d5	Ave	5186 644677	10462 861140	115489	219105	445968	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Tetrachloroethene	CBNZ d5	Ave	7818 999011	15556 1317893	175104	332664	675866	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,3-Dichloropropane	CBNZ d5	Ave	9211 1078694	17554 1456758	194537	366944	737142	0.500 60.0	1.00 80.0	10.0	20.0	40.0
2-Hexanone	CBNZ d5	Ave	10272 1411899	22402 1965782	267096	508487	1016835	1.00 120	2.00 160	20.0	40.0	80.0
Chlorodibromomethane	CBNZ d5	Ave	6108 836499	12969 1113195	145120	282195	568645	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Ethylene Dibromide	CBNZ d5	Ave	6962 733806	12317 982631	132926	257341	500324	0.500 60.0	1.00 80.0	10.0	20.0	40.0

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

Lab Name: TestAmerica Canton Job No.: 240-101358-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Chlorobenzene	CBNZ d5	Ave	17303 2067581	36469 2721351	370702	704913	1418747	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	5956 771705	12290 1012040	135561	257026	524311	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Ethylbenzene	CBNZ d5	Ave	8431 1118678	17209 1476959	200390	380861	765441	0.500 60.0	1.00 80.0	10.0	20.0	40.0
m-Xylene & p-Xylene	CBNZ d5	Ave	10542 1365436	20530 1814431	238543	466651	934583	0.500 60.0	1.00 80.0	10.0	20.0	40.0
o-Xylene	CBNZ d5	Ave	9580 1302937	20689 1703380	225509	441487	890297	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Styrene	CBNZ d5	Ave	16463 2244503	33591 2970527	391834	759556	1534422	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Bromoform	CBNZ d5	Ave	5340 669771	10783 909465	117306	222929	462320	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Isopropylbenzene	CBNZ d5	Ave	25288 3527221	55346 4561888	613985	1179370	2399226	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	7218 951258	16261 1271933	172140	328526	660294	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Bromobenzene	DCBd 4	Ave	7663 946835	16361 1240722	169316	324573	647055	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2,3-Trichloropropane	DCBd 4	Ave	2842 355186	5997 478494	66218	124262	250203	0.500 60.0	1.00 80.0	10.0	20.0	40.0
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	+++++ 330637	5707 456736	60466	114842	228469	+++++ 60.0	1.00 80.0	10.0	20.0	40.0
N-Propylbenzene	DCBd 4	Ave	7103 988262	15476 1290307	171938	332244	674293	0.500 60.0	1.00 80.0	10.0	20.0	40.0
2-Chlorotoluene	DCBd 4	Ave	6213 834423	12831 1080636	147510	281753	562614	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	21381 2836427	43584 3682951	499875	945225	1929863	0.500 60.0	1.00 80.0	10.0	20.0	40.0
4-Chlorotoluene	DCBd 4	Ave	7405 873575	14345 1135643	155656	302046	588358	0.500 60.0	1.00 80.0	10.0	20.0	40.0
tert-Butylbenzene	DCBd 4	Ave	19348 2731529	41850 3487952	474813	904165	1854784	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	21277 2851175	46663 3713592	495166	965487	1949684	0.500 60.0	1.00 80.0	10.0	20.0	40.0
sec-Butylbenzene	DCBd 4	Ave	26267 3724288	55760 4762339	624437	1216655	2501406	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,3-Dichlorobenzene	DCBd 4	Ave	14989 1726981	31057 2223773	299776	589299	1165661	0.500 60.0	1.00 80.0	10.0	20.0	40.0
4-Isopropyltoluene	DCBd 4	Ave	23262 3219084	49391 4210777	543873	1061108	2177763	0.500 60.0	1.00 80.0	10.0	20.0	40.0

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

Lab Name: TestAmerica Canton Job No.: 240-101358-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,4-Dichlorobenzene	DCBd 4	Ave	16269 1749380	32379 2269476	308743	595729	1194426	0.500 60.0	1.00 80.0	10.0	20.0	40.0
n-Butylbenzene	DCBd 4	Ave	19197 2635155	41792 3438646	439518	873706	1789693	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2-Dichlorobenzene	DCBd 4	Ave	13617 1553579	28272 2045057	273092	532075	1053180	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	2665 308798	4583 422865	50642	102189	210526	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	9535 1042664	19612 1450610	168774	335760	675526	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Hexachlorobutadiene	DCBd 4	Ave	4814 552719	10037 696652	87534	175651	358938	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Naphthalene	DCBd 4	Ave	+++++ 2984863	52154 4262332	469280	923339	1949946	+++++ 60.0	1.00 80.0	10.0	20.0	40.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	7998 957428	17097 1414051	153843	295011	606712	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Dibromofluoromethane (Surr)	FB	Ave	6919 762443	13395 972724	129168	251584	512374	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	8242 841615	16187 1067780	149716	285917	579615	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Toluene-d8 (Surr)	CBNZ d5	Ave	23636 2695636	44577 3557725	475254	907923	1855495	0.500 60.0	1.00 80.0	10.0	20.0	40.0
4-Bromofluorobenzene (Surr)	CBNZ d5	Ave	9778 987516	17494 1273707	173480	337411	674745	0.500 60.0	1.00 80.0	10.0	20.0	40.0

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Canton Job No.: 240-101358-1 Analy Batch No.: 342719

SDG No.:

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/27/2018 17:09 Calibration End Date: 08/27/2018 19:23 Calibration ID: 46687

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-342719/13	U1901329.d
Level 2	STD8260 240-342719/12	U1901328.d
Level 3	STD8260 240-342719/11	U1901327.d
Level 4	ICIS 240-342719/10	U1901326.d
Level 5	STD8260 240-342719/9	U1901325.d
Level 6	STD8260 240-342719/8	U1901324.d
Level 7	STD8260 240-342719/7	U1901323.d

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Tetrahydrofuran	+++++	-9.7						50				
n-Heptane	+++++	-4.5						50				

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Lab Sample ID: ICV 240-342719/14 Calibration Date: 08/27/2018 19:45

Instrument ID: A3UX19 Calib Start Date: 08/27/2018 17:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 19:23

Lab File ID: U1901330.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	0.3850	0.2913	0.1000	0.0151	0.0200	-24.3	30.0
Chloromethane	Ave	0.2883	0.2492	0.1000	0.0173	0.0200	-13.6	30.0
Butadiene	Ave	0.2887	0.2477		0.0172	0.0200	-14.2	30.0
Vinyl chloride	Ave	0.2980	0.2874	0.1000	0.0193	0.0200	-3.5	30.0
Bromomethane	Ave	0.2335	0.2187	0.0500	0.0187	0.0200	-6.3	30.0
Chloroethane	Ave	0.1848	0.1799	0.0500	0.0195	0.0200	-2.7	30.0
Dichlorofluoromethane	Ave	0.4581	0.4762		0.0208	0.0200	3.9	30.0
Trichlorofluoromethane	Ave	0.4984	0.5062	0.1000	0.0203	0.0200	1.6	30.0
Ethyl ether	Ave	0.1800	0.1933		0.0215	0.0200	7.4	30.0
Acrolein	Ave	0.0445	0.0361		0.0812	0.100	-18.8	50.0
1,1-Dichloroethene	Ave	0.3589	0.3889	0.1000	0.0217	0.0200	8.3	30.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2567	0.2852	0.0500	0.0222	0.0200	11.1	30.0
Acetone	Ave	0.0784	0.0730	0.0100	0.0372	0.0400	-6.9	50.0
Iodomethane	Ave	0.4655	0.4827		0.0207	0.0200	3.7	30.0
Carbon disulfide	Ave	0.7515	0.7522	0.1000	0.0200	0.0200	0.0	30.0
3-Chloro-1-propene	Ave	0.3541	0.3611		0.0204	0.0200	2.0	30.0
Methyl acetate	Ave	0.2328	0.2202	0.1000	0.0378	0.0400	-5.4	30.0
Methylene Chloride	Ave	0.2846	0.2847	0.1000	0.0200	0.0200	0.0	50.0
2-Methyl-2-propanol	Ave	0.0271	0.0283		0.209	0.200	4.3	50.0
Acrylonitrile	Ave	0.1006	0.1020		0.203	0.200	1.4	30.0
Methyl tert-butyl ether	Ave	0.6938	0.7063	0.1000	0.0204	0.0200	1.8	30.0
trans-1,2-Dichloroethene	Ave	0.3387	0.3554	0.1000	0.0210	0.0200	4.9	30.0
Hexane	Ave	0.3524	0.3872		0.0220	0.0200	9.9	30.0
1,1-Dichloroethane	Ave	0.4048	0.4171	0.2000	0.0206	0.0200	3.0	30.0
Vinyl acetate	Ave	0.4639	0.5080		0.0219	0.0200	9.5	50.0
2,2-Dichloropropane	Ave	0.2438	0.2691		0.0221	0.0200	10.4	30.0
2-Butanone (MEK)	Ave	0.0472	0.0464	0.0100	0.0393	0.0400	-1.8	30.0
cis-1,2-Dichloroethene	Ave	0.2891	0.2867	0.1000	0.0198	0.0200	-0.8	30.0
Chlorobromomethane	Ave	0.1945	0.1891		0.0194	0.0200	-2.8	30.0
Tetrahydrofuran	Lin1		0.1082		0.0418	0.0400	4.6	30.0
Chloroform	Ave	0.4433	0.4563	0.2000	0.0206	0.0200	2.9	30.0
1,1,1-Trichloroethane	Ave	0.4174	0.4498	0.1000	0.0216	0.0200	7.8	30.0
Cyclohexane	Ave	0.3819	0.4119	0.1000	0.0216	0.0200	7.8	30.0
1,1-Dichloropropene	Ave	0.3519	0.3667		0.0208	0.0200	4.2	30.0
Carbon tetrachloride	Ave	0.4023	0.4240	0.1000	0.0211	0.0200	5.4	30.0
Isobutyl alcohol	Ave	0.0110	0.0112		0.508	0.500	1.6	30.0
1,2-Dichloroethane	Ave	0.3600	0.3604	0.1000	0.0200	0.0200	0.1	30.0
Benzene	Ave	0.9518	0.9713	0.5000	0.0204	0.0200	2.1	30.0
n-Heptane	Lin1		0.2300		0.0213	0.0200	6.3	30.0
Trichloroethene	Ave	0.3160	0.3196	0.1500	0.0202	0.0200	1.1	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Lab Sample ID: ICV 240-342719/14 Calibration Date: 08/27/2018 19:45

Instrument ID: A3UX19 Calib Start Date: 08/27/2018 17:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 19:23

Lab File ID: U1901330.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	0.4590	0.4761	0.1000	0.0207	0.0200	3.7	30.0
1,2-Dichloropropane	Ave	0.2208	0.2306	0.1000	0.0209	0.0200	4.5	30.0
Dibromomethane	Ave	0.2271	0.2193		0.0193	0.0200	-3.4	30.0
1,4-Dioxane	Ave	0.0024	0.0028		0.474	0.400	18.4	50.0
Dichlorobromomethane	Ave	0.3479	0.3495	0.1500	0.0201	0.0200	0.4	30.0
2-Chloroethyl vinyl ether	Ave	0.1770	0.1822		0.0206	0.0200	2.9	30.0
cis-1,3-Dichloropropene	Ave	0.3865	0.4060	0.1500	0.0210	0.0200	5.1	30.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3203	0.3230	0.0500	0.0403	0.0400	0.8	30.0
Toluene	Ave	1.352	1.362	0.4000	0.0201	0.0200	0.7	30.0
trans-1,3-Dichloropropene	Ave	0.4818	0.4613	0.1000	0.0191	0.0200	-4.3	30.0
Ethyl methacrylate	Ave	0.4344	0.4432		0.0204	0.0200	2.0	30.0
1,1,2-Trichloroethane	Ave	0.2842	0.2905	0.1000	0.0204	0.0200	2.2	30.0
Tetrachloroethene	Ave	0.4313	0.4447	0.1500	0.0206	0.0200	3.1	30.0
1,3-Dichloropropane	Ave	0.4802	0.4738		0.0197	0.0200	-1.3	30.0
2-Hexanone	Ave	0.3149	0.3202	0.0500	0.0407	0.0400	1.7	30.0
Chlorodibromomethane	Ave	0.3583	0.3632		0.0203	0.0200	1.3	30.0
Ethylene Dibromide	Ave	0.3346	0.3230		0.0193	0.0200	-3.5	30.0
Chlorobenzene	Ave	0.9253	0.9231	0.3000	0.0200	0.0200	-0.2	30.0
1,1,1,2-Tetrachloroethane	Ave	0.3336	0.3465		0.0208	0.0200	3.9	30.0
Ethylbenzene	Ave	0.4836	0.4959		0.0205	0.0200	2.5	30.0
m-Xylene & p-Xylene	Ave	0.5890	0.6110		0.0207	0.0200	3.7	30.0
o-Xylene	Ave	0.5597	0.5768		0.0206	0.0200	3.1	30.0
Styrene	Ave	0.9588	0.9701	0.3000	0.0202	0.0200	1.2	30.0
Bromoform	Ave	0.2933	0.2923	0.1000	0.0199	0.0200	-0.3	30.0
Isopropylbenzene	Ave	1.503	1.583	0.1000	0.0211	0.0200	5.3	30.0
1,1,2,2-Tetrachloroethane	Ave	0.7706	0.7768	0.3000	0.0202	0.0200	0.8	30.0
Bromobenzene	Ave	0.7690	0.7545		0.0196	0.0200	-1.9	30.0
1,2,3-Trichloropropane	Ave	0.2921	0.3010		0.0206	0.0200	3.0	30.0
trans-1,4-Dichloro-2-butene	Ave	0.2737	0.2785		0.0203	0.0200	1.7	30.0
N-Propylbenzene	Ave	0.7729	0.7998		0.0207	0.0200	3.5	30.0
2-Chlorotoluene	Ave	0.6541	0.6592		0.0202	0.0200	0.8	30.0
1,3,5-Trimethylbenzene	Ave	2.225	2.303		0.0207	0.0200	3.5	30.0
4-Chlorotoluene	Ave	0.7072	0.7078		0.0200	0.0200	0.0	30.0
tert-Butylbenzene	Ave	2.113	2.203		0.0209	0.0200	4.3	30.0
1,2,4-Trimethylbenzene	Ave	2.256	2.278		0.0202	0.0200	1.0	30.0
sec-Butylbenzene	Ave	2.845	3.009		0.0212	0.0200	5.8	30.0
1,3-Dichlorobenzene	Ave	1.412	1.370	0.6000	0.0194	0.0200	-3.0	30.0
4-Isopropyltoluene	Ave	2.492	2.628		0.0211	0.0200	5.5	30.0
1,4-Dichlorobenzene	Ave	1.459	1.395	0.5000	0.0191	0.0200	-4.4	30.0
n-Butylbenzene	Ave	2.050	2.114		0.0206	0.0200	3.1	30.0
1,2-Dichlorobenzene	Ave	1.282	1.257	0.4000	0.0196	0.0200	-2.0	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Lab Sample ID: ICV 240-342719/14 Calibration Date: 08/27/2018 19:45

Instrument ID: A3UX19 Calib Start Date: 08/27/2018 17:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 19:23

Lab File ID: U1901330.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	0.2450	0.2412	0.0500	0.0197	0.0200	-1.6	50.0
1,2,4-Trichlorobenzene	Ave	0.8550	0.8004	0.2000	0.0187	0.0200	-6.4	50.0
Hexachlorobutadiene	Ave	0.4392	0.4373		0.0199	0.0200	-0.4	30.0
Naphthalene	Ave	2.363	2.262		0.0191	0.0200	-4.3	50.0
1,2,3-Trichlorobenzene	Ave	0.7677	0.7284		0.0190	0.0200	-5.1	30.0
Dibromofluoromethane (Surr)	Ave	0.2692	0.2770		0.0206	0.0200	2.9	30.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3092	0.3266		0.0211	0.0200	5.6	30.0
Toluene-d8 (Surr)	Ave	1.199	1.238		0.0206	0.0200	3.2	30.0
4-Bromofluorobenzene (Surr)	Ave	0.4513	0.4759		0.0211	0.0200	5.5	30.0

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

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Lab File ID: bfb079.d BFB Injection Date: 09/22/2018

Instrument ID: A3UX19 BFB Injection Time: 12:30

Analysis Batch No.: 346694

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	17.2	
75	30.0 - 60.0 % of mass 95	48.2	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.8	
173	Less than 2.0 % of mass 174	0.9	(0.9) 1
174	50.0 - 120.00 % of mass 95	94.7	
175	5.0 - 9.0 % of mass 174	6.9	(7.3) 1
176	95.0 - 101.0 % of mass 174	90.9	(96.0) 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
	CCV 240-346694/2	U1902102.d	09/22/2018	12:53
	CCVIS 240-346694/3	U1902103.d	09/22/2018	13:16
	LCS 240-346694/4	U1902104.d	09/22/2018	13:38
	MB 240-346694/6	U1902106.d	09/22/2018	14:22
TB-091218	240-101358-1	U1902107.d	09/22/2018	14:44
F-GWS-2C-3-7	240-101358-2	U1902108.d	09/22/2018	15:06
F-GWS-2B-14-18	240-101358-3	U1902109.d	09/22/2018	15:29
F-GWS-1D-14-18	240-101358-5	U1902111.d	09/22/2018	16:13
F-GWS-3B-18-22	240-101358-6	U1902112.d	09/22/2018	16:36

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Lab Sample ID: CCVIS 240-346694/3 Calibration Date: 09/22/2018 13:16

Instrument ID: A3UX19 Calib Start Date: 08/27/2018 17:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 19:23

Lab File ID: U1902103.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	0.3850	0.3591	0.1000	0.0187	0.0200	-6.7	20.0
Chloromethane	Ave	0.2883	0.2743	0.1000	0.0190	0.0200	-4.9	20.0
Butadiene	Ave	0.2887	0.2893		0.0200	0.0200	0.2	20.0
Vinyl chloride	Ave	0.2980	0.3039	0.1000	0.0204	0.0200	2.0	20.0
Bromomethane	Ave	0.2335	0.2385	0.0500	0.0204	0.0200	2.2	20.0
Chloroethane	Ave	0.1848	0.1910	0.0500	0.0207	0.0200	3.3	20.0
Dichlorofluoromethane	Ave	0.4581	0.4705		0.0205	0.0200	2.7	20.0
Trichlorofluoromethane	Ave	0.4984	0.4995	0.1000	0.0200	0.0200	0.2	20.0
Ethyl ether	Ave	0.1800	0.1891		0.0210	0.0200	5.1	20.0
Acrolein	Ave	0.0445	0.0412		0.0926	0.100	-7.4	50.0
1,1-Dichloroethene	Ave	0.3589	0.3688	0.1000	0.0206	0.0200	2.8	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2567	0.2751	0.0500	0.0214	0.0200	7.1	20.0
Acetone	Ave	0.0784	0.0879	0.0100	0.0448	0.0400	12.1	50.0
Iodomethane	Ave	0.4655	0.4605		0.0198	0.0200	-1.1	20.0
Carbon disulfide	Ave	0.7515	0.7046	0.1000	0.0188	0.0200	-6.2	20.0
3-Chloro-1-propene	Ave	0.3541	0.3295		0.0186	0.0200	-6.9	20.0
Methyl acetate	Ave	0.2328	0.2286	0.1000	0.0393	0.0400	-1.8	20.0
Methylene Chloride	Ave	0.2846	0.2813	0.1000	0.0198	0.0200	-1.2	50.0
2-Methyl-2-propanol	Ave	0.0271	0.0268		0.198	0.200	-0.9	50.0
Acrylonitrile	Ave	0.1006	0.1095		0.218	0.200	8.9	20.0
Methyl tert-butyl ether	Ave	0.6938	0.6469	0.1000	0.0186	0.0200	-6.8	20.0
trans-1,2-Dichloroethene	Ave	0.3387	0.3427	0.1000	0.0202	0.0200	1.2	20.0
Hexane	Ave	0.3524	0.3523		0.0200	0.0200	-0.0	20.0
1,1-Dichloroethane	Ave	0.4048	0.4158	0.2000	0.0205	0.0200	2.7	20.0
Vinyl acetate	Ave	0.4639	0.4509		0.0194	0.0200	-2.8	50.0
2,2-Dichloropropane	Ave	0.2438	0.2211		0.0181	0.0200	-9.3	20.0
2-Butanone (MEK)	Ave	0.0472	0.0465	0.0100	0.0393	0.0400	-1.6	20.0
cis-1,2-Dichloroethene	Ave	0.2891	0.3015	0.1000	0.0209	0.0200	4.3	20.0
Chlorobromomethane	Ave	0.1945	0.1886		0.0194	0.0200	-3.1	20.0
Tetrahydrofuran	Lin1		0.0992		0.0381	0.0400	-4.6	20.0
Chloroform	Ave	0.4433	0.4647	0.2000	0.0210	0.0200	4.8	20.0
1,1,1-Trichloroethane	Ave	0.4174	0.4192	0.1000	0.0201	0.0200	0.4	20.0
Cyclohexane	Ave	0.3819	0.4003	0.1000	0.0210	0.0200	4.8	20.0
1,1-Dichloropropene	Ave	0.3519	0.3520		0.0200	0.0200	0.0	20.0
Carbon tetrachloride	Ave	0.4023	0.3957	0.1000	0.0197	0.0200	-1.7	20.0
Isobutyl alcohol	Ave	0.0110	0.0103		0.468	0.500	-6.4	20.0
1,2-Dichloroethane	Ave	0.3600	0.3508	0.1000	0.0195	0.0200	-2.6	20.0
Benzene	Ave	0.9518	0.9803	0.5000	0.0206	0.0200	3.0	20.0
n-Heptane	Lin1		0.1933		0.0173	0.0200	-13.4	20.0
Trichloroethene	Ave	0.3160	0.3122	0.1500	0.0198	0.0200	-1.2	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Lab Sample ID: CCVIS 240-346694/3 Calibration Date: 09/22/2018 13:16

Instrument ID: A3UX19 Calib Start Date: 08/27/2018 17:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 19:23

Lab File ID: U1902103.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	0.4590	0.4697	0.1000	0.0205	0.0200	2.3	20.0
1,2-Dichloropropane	Ave	0.2208	0.2135	0.1000	0.0193	0.0200	-3.3	20.0
Dibromomethane	Ave	0.2271	0.2187		0.0193	0.0200	-3.7	20.0
1,4-Dioxane	Ave	0.0024	0.0026		0.436	0.400	9.0	50.0
Dichlorobromomethane	Ave	0.3479	0.3341	0.1500	0.0192	0.0200	-4.0	20.0
2-Chloroethyl vinyl ether	Ave	0.1770	0.1578		0.0356	0.0400	-10.9	20.0
cis-1,3-Dichloropropene	Ave	0.3865	0.3516	0.1500	0.0182	0.0200	-9.0	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3203	0.3000	0.0500	0.0375	0.0400	-6.4	20.0
Toluene	Ave	1.352	1.389	0.4000	0.0206	0.0200	2.8	20.0
trans-1,3-Dichloropropene	Ave	0.4818	0.4309	0.1000	0.0179	0.0200	-10.6	20.0
Ethyl methacrylate	Ave	0.4344	0.4230		0.0195	0.0200	-2.6	20.0
1,1,2-Trichloroethane	Ave	0.2842	0.2965	0.1000	0.0209	0.0200	4.3	20.0
Tetrachloroethene	Ave	0.4313	0.4444	0.1500	0.0206	0.0200	3.0	20.0
1,3-Dichloropropane	Ave	0.4802	0.4791		0.0200	0.0200	-0.2	20.0
2-Hexanone	Ave	0.3149	0.3086	0.0500	0.0392	0.0400	-2.0	20.0
Chlorodibromomethane	Ave	0.3583	0.3562		0.0199	0.0200	-0.6	20.0
Ethylene Dibromide	Ave	0.3346	0.3284		0.0196	0.0200	-1.9	20.0
Chlorobenzene	Ave	0.9253	0.9356	0.3000	0.0202	0.0200	1.1	20.0
1,1,1,2-Tetrachloroethane	Ave	0.3336	0.3539		0.0212	0.0200	6.1	20.0
Ethylbenzene	Ave	0.4836	0.5035		0.0208	0.0200	4.1	20.0
m-Xylene & p-Xylene	Ave	0.5890	0.6200		0.0211	0.0200	5.3	20.0
o-Xylene	Ave	0.5597	0.6060		0.0217	0.0200	8.3	20.0
Styrene	Ave	0.9588	1.007	0.3000	0.0210	0.0200	5.0	20.0
Bromoform	Ave	0.2933	0.2789	0.1000	0.0190	0.0200	-4.9	20.0
Isopropylbenzene	Ave	1.503	1.625	0.1000	0.0216	0.0200	8.2	20.0
1,1,2,2-Tetrachloroethane	Ave	0.7706	0.8225	0.3000	0.0213	0.0200	6.7	20.0
Bromobenzene	Ave	0.7690	0.7808		0.0203	0.0200	1.5	20.0
1,2,3-Trichloropropane	Ave	0.2921	0.3050		0.0209	0.0200	4.4	20.0
trans-1,4-Dichloro-2-butene	Ave	0.2737	0.2310		0.0169	0.0200	-15.6	20.0
N-Propylbenzene	Ave	0.7729	0.8245		0.0213	0.0200	6.7	20.0
2-Chlorotoluene	Ave	0.6541	0.6944		0.0212	0.0200	6.2	20.0
1,3,5-Trimethylbenzene	Ave	2.225	2.350		0.0211	0.0200	5.6	20.0
4-Chlorotoluene	Ave	0.7072	0.7266		0.0205	0.0200	2.7	20.0
tert-Butylbenzene	Ave	2.113	2.181		0.0207	0.0200	3.3	20.0
1,2,4-Trimethylbenzene	Ave	2.256	2.370		0.0210	0.0200	5.0	20.0
sec-Butylbenzene	Ave	2.845	3.043		0.0214	0.0200	7.0	20.0
1,3-Dichlorobenzene	Ave	1.412	1.433	0.6000	0.0203	0.0200	1.4	20.0
4-Isopropyltoluene	Ave	2.492	2.641		0.0212	0.0200	6.0	20.0
1,4-Dichlorobenzene	Ave	1.459	1.461	0.5000	0.0200	0.0200	0.1	20.0
n-Butylbenzene	Ave	2.050	2.153		0.0210	0.0200	5.1	20.0
1,2-Dichlorobenzene	Ave	1.282	1.343	0.4000	0.0209	0.0200	4.7	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Lab Sample ID: CCVIS 240-346694/3 Calibration Date: 09/22/2018 13:16

Instrument ID: A3UX19 Calib Start Date: 08/27/2018 17:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 19:23

Lab File ID: U1902103.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	0.2450	0.2437	0.0500	0.0199	0.0200	-0.5	50.0
1,2,4-Trichlorobenzene	Ave	0.8550	0.8009	0.2000	0.0187	0.0200	-6.3	50.0
Hexachlorobutadiene	Ave	0.4392	0.4292		0.0195	0.0200	-2.3	20.0
Naphthalene	Ave	2.363	2.334		0.0198	0.0200	-1.2	50.0
1,2,3-Trichlorobenzene	Ave	0.7677	0.7513		0.0196	0.0200	-2.1	20.0
Dibromofluoromethane (Surr)	Ave	0.2692	0.2777		0.0206	0.0200	3.2	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3092	0.3127		0.0202	0.0200	1.1	20.0
Toluene-d8 (Surr)	Ave	1.199	1.232		0.0206	0.0200	2.8	20.0
4-Bromofluorobenzene (Surr)	Ave	0.4513	0.4465		0.0198	0.0200	-1.1	20.0

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

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Lab File ID: BFB448.D BFB Injection Date: 09/21/2018

Instrument ID: A3UX9 BFB Injection Time: 15:28

Analysis Batch No.: 346602

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	23.7	
75	30.0 - 60.0 % of mass 95	57.2	
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	87.8	
175	5.0 - 9.0 % of mass 174	6.8	(7.7) 1
176	95.0 - 101.0 % of mass 174	83.7	(95.3) 1
177	5.0 - 9.0 % of mass 176	5.6	(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 240-346602/8	UX973906.D	09/21/2018	16:29
	STD8260 240-346602/9	UX973907.D	09/21/2018	16:54
	STD8260 240-346602/10	UX973908.D	09/21/2018	17:18
	ICIS 240-346602/11	UX973909.D	09/21/2018	17:43
	STD8260 240-346602/12	UX973910.D	09/21/2018	18:07
	STD8260 240-346602/13	UX973911.D	09/21/2018	18:32
	STD8260 240-346602/14	UX973912.D	09/21/2018	18:56
	ICV 240-346602/15	UX973913.D	09/21/2018	19:20
	ICV 240-346602/24	UX973922.D	09/21/2018	22:57

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

Lab Name: TestAmerica Canton Job No.: 240-101358-1 Analy Batch No.: 346602

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2018 16:29 Calibration End Date: 09/21/2018 18:56 Calibration ID: 47013

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-346602/14	UX973912.D
Level 2	STD8260 240-346602/13	UX973911.D
Level 3	STD8260 240-346602/12	UX973910.D
Level 4	ICIS 240-346602/11	UX973909.D
Level 5	STD8260 240-346602/10	UX973908.D
Level 6	STD8260 240-346602/9	UX973907.D
Level 7	STD8260 240-346602/8	UX973906.D

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.4321 0.4727	0.4465 0.4878	0.5173	0.4440	0.4875	Ave		0.4697			0.1000	6.5		20.0			
Chloromethane	0.6190 0.4864	0.5629 0.4852	0.5285	0.4506	0.4907	Ave		0.5176			0.1000	11.1		20.0			
Vinyl chloride	0.5153 0.4859	0.5098 0.4949	0.5175	0.4482	0.4887	Ave		0.4943			0.1000	4.8		20.0			
Butadiene	+++++ 0.4713	0.6279 0.4986	0.5544	0.4421	0.4841	Ave		0.5131				13.1		20.0			
Bromomethane	0.5691 0.3588	0.5035 0.3635	0.3739	0.3276	0.3537	Lin1	0.1144	0.3548			0.0500	6.4			0.9990		0.9900
Chloroethane	0.3714 0.3268	0.3245 0.3349	0.3349	0.2939	0.3263	Ave		0.3304			0.0500	6.9		20.0			
Dichlorofluoromethane	+++++ 0.7425	0.9477 0.7592	0.8252	0.6875	0.7517	Ave		0.7856				11.5		20.0			
Trichlorofluoromethane	0.7265 0.7107	0.6219 0.7472	0.7552	0.6648	0.7259	Ave		0.7074			0.1000	6.8		20.0			
Ethyl ether	0.3547 0.3149	0.3157 0.3138	0.3288	0.2866	0.3097	Ave		0.3177				6.5		20.0			
Acrolein	+++++ 0.0498	0.1124 0.0555	0.0596	0.0504	0.0515	Lin1	0.2930	0.0514				6.7			0.9960		0.9900
1,1-Dichloroethene	0.6144 0.6359	0.6134 0.6465	0.6522	0.5610	0.6213	Ave		0.6207			0.1000	4.9		20.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.3653 0.3848	0.3499 0.3866	0.3917	0.3337	0.3627	Ave		0.3678			0.0500	5.8		20.0			
Acetone	+++++ 0.0343	0.0720 0.0310	0.0412	0.0317	0.0344	Lin1	0.0861	0.0321			0.0100	10.6			0.9960		0.9900
Iodomethane	0.4498 0.5364	0.4614 0.5420	0.5563	0.4765	0.5354	Ave		0.5083				8.7		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.: 240-101358-1 Analy Batch No.: 346602

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2018 16:29 Calibration End Date: 09/21/2018 18:56 Calibration ID: 47013

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon disulfide	1.3533 0.9460	1.4102 0.9498	1.0405	0.8710	0.9159	Lin1	0.2997	0.9324			0.1000	13.3			0.9980		0.9900
3-Chloro-1-propene	+++++ 0.3867	0.4655 0.3323	0.4929	0.3424	0.3408	Ave		0.3934				17.7		20.0			
Methyl acetate	+++++ 0.2463	0.2859 0.2396	0.2724	0.2304	0.2460	Ave		0.2534			0.1000	8.4		20.0			
Methylene Chloride	+++++ 0.4557	0.4283 0.4666	0.4939	0.4143	0.4597	Ave		0.4531			0.1000	6.3		20.0			
2-Methyl-2-propanol	0.0392 0.0357	0.0367 0.0338	0.0394	0.0331	0.0356	Ave		0.0362				6.7		20.0			
Acrylonitrile	0.1145 0.1055	0.1123 0.1008	0.1228	0.1020	0.1085	Ave		0.1095				7.1		20.0			
trans-1,2-Dichloroethene	0.4984 0.3828	0.4497 0.3724	0.4662	0.3854	0.4095	Ave		0.4235			0.1000	11.4		20.0			
Methyl tert-butyl ether	0.8680 0.8312	0.8949 0.8339	0.9379	0.8686	0.9222	Ave		0.8795			0.1000	4.7		20.0			
Hexane	+++++ 0.3734	0.4863 0.3754	0.4042	0.3363	0.3621	Ave		0.3896				13.4		20.0			
1,1-Dichloroethane	0.4908 0.5333	0.4854 0.5445	0.5676	0.4849	0.5420	Ave		0.5212			0.2000	6.5		20.0			
Vinyl acetate	0.7129 0.7099	0.6216 0.6981	0.7515	0.6346	0.7016	Ave		0.6900				6.7		20.0			
cis-1,2-Dichloroethene	0.3671 0.3339	0.3315 0.3382	0.3550	0.3025	0.3384	Ave		0.3381			0.1000	6.0		20.0			
2,2-Dichloropropane	0.2364 0.2829	0.2802 0.2708	0.3290	0.2597	0.2740	Ave		0.2761				10.2		20.0			
2-Butanone (MEK)	+++++ 0.0388	0.0378 0.0375	0.0432	0.0361	0.0379	Ave		0.0386			0.0100	6.3		20.0			
Chlorobromomethane	0.2572 0.2650	0.2699 0.2790	0.2947	0.2495	0.2770	Ave		0.2703				5.5		20.0			
Chloroform	0.5638 0.5447	0.5531 0.5528	0.5811	0.4936	0.5518	Ave		0.5487			0.2000	4.9		20.0			
Tetrahydrofuran	+++++ 0.0960	0.1439 0.0913	0.1128	0.0932	0.0969	Ave		0.1057				19.1		20.0			
1,1,1-Trichloroethane	0.3910 0.4574	0.4252 0.4609	0.4932	0.4150	0.4538	Ave		0.4424			0.1000	7.7		20.0			
Cyclohexane	0.4326 0.4523	0.4690 0.4616	0.4949	0.4213	0.4523	Ave		0.4549			0.1000	5.3		20.0			
1,1-Dichloropropene	0.4241 0.4175	0.4065 0.4191	0.4609	0.3979	0.4191	Ave		0.4207				4.7		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.: 240-101358-1 Analy Batch No.: 346602

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2018 16:29 Calibration End Date: 09/21/2018 18:56 Calibration ID: 47013

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon tetrachloride	0.3696 0.4137	0.3517 0.4137	0.4298	0.3774	0.4059	Ave		0.3945			0.1000	7.2		20.0			
Isobutyl alcohol	+++++ 0.0112	0.0116 0.0104	0.0129	0.0108	0.0113	Ave		0.0114				7.5		20.0			
1,2-Dichloroethane	0.4164 0.4436	0.4028 0.4291	0.5007	0.4282	0.4576	Ave		0.4398			0.1000	7.3		20.0			
Benzene	1.1863 1.1047	1.1121 1.0668	1.2618	1.0590	1.1515	Ave		1.1346			0.5000	6.3		20.0			
n-Heptane	+++++ 0.1846	0.3875 0.1858	0.2120	0.1774	0.1791	Lin1	0.2059	0.1797				5.2			0.9990		0.9900
Trichloroethene	0.3060 0.3168	0.3259 0.3221	0.3467	0.2942	0.3194	Ave		0.3187			0.1500	5.1		20.0			
Methylcyclohexane	0.4683 0.4259	0.4488 0.4271	0.4673	0.3944	0.4192	Ave		0.4359			0.1000	6.2		20.0			
1,2-Dichloropropane	0.2787 0.2786	0.2717 0.2781	0.3013	0.2572	0.2825	Ave		0.2783			0.1000	4.7		20.0			
Dibromomethane	0.1826 0.1977	0.1778 0.1957	0.2185	0.1837	0.1995	Ave		0.1936				7.1		20.0			
1,4-Dioxane	+++++ 0.0028	0.0029 0.0032	0.0035	0.0027	0.0032	Ave		0.0030				10.1		20.0			
Dichlorobromomethane	0.4057 0.4325	0.3813 0.4417	0.4461	0.3906	0.4352	Ave		0.4190			0.1500	6.2		20.0			
2-Chloroethyl vinyl ether	0.1969 0.2015	0.1892 0.2002	0.2164	0.1843	0.2035	Ave		0.1988				5.2		20.0			
cis-1,3-Dichloropropene	0.4524 0.5005	0.4572 0.5053	0.5285	0.4548	0.5017	Ave		0.4858			0.1500	6.3		20.0			
4-Methyl-2-pentanone (MIBK)	0.3590 0.3230	0.3030 0.3071	0.3553	0.2981	0.3201	Ave		0.3237			0.0500	7.6		20.0			
Toluene	1.5070 1.2871	1.4812 1.1870	1.5830	1.3286	1.3911	Ave		1.3950			0.4000	9.9		20.0			
trans-1,3-Dichloropropene	0.5464 0.5410	0.5496 0.5272	0.6026	0.5120	0.5631	Ave		0.5489			0.1000	5.2		20.0			
Ethyl methacrylate	0.5680 0.4692	0.4619 0.4474	0.5409	0.4536	0.4831	Ave		0.4892				9.5		20.0			
1,1,2-Trichloroethane	0.3079 0.2917	0.3049 0.2822	0.3280	0.2756	0.3017	Ave		0.2988			0.1000	5.9		20.0			
1,3-Dichloropropane	0.5781 0.5474	0.5563 0.5364	0.6228	0.5287	0.5654	Ave		0.5621				5.6		20.0			
Tetrachloroethene	0.3481 0.3598	0.3601 0.3506	0.4000	0.3424	0.3605	Ave		0.3602			0.1500	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.: 240-101358-1 Analy Batch No.: 346602

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2018 16:29 Calibration End Date: 09/21/2018 18:56 Calibration ID: 47013

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
2-Hexanone	0.3012 0.2591	0.2881 0.2394	0.2959	0.2499	0.2632	Ave		0.2710			0.0500	8.9		20.0			
Chlorodibromomethane	0.3311 0.3584	0.3198 0.3541	0.3688	0.3293	0.3612	Ave		0.3461				5.5		20.0			
Ethylene Dibromide	0.3160 0.3158	0.3016 0.3063	0.3456	0.2925	0.3236	Ave		0.3145				5.5		20.0			
Chlorobenzene	0.9263 0.8992	0.9211 0.8685	1.0253	0.8766	0.9338	Ave		0.9216			0.3000	5.7		20.0			
1,1,1,2-Tetrachloroethane	0.2754 0.3398	0.2957 0.3319	0.3812	0.3302	0.3493	Ave		0.3291				10.6		20.0			
Ethylbenzene	0.5386 0.4724	0.4979 0.4424	0.5754	0.4782	0.5045	Ave		0.5013				8.8		20.0			
m-Xylene & p-Xylene	0.6541 0.5836	0.6725 0.5405	0.7026	0.5896	0.6178	Ave		0.6230				9.1		20.0			
o-Xylene	0.6790 0.5795	0.5793 0.5225	0.6865	0.5809	0.6007	Ave		0.6041				9.8		20.0			
Styrene	1.1402 0.9724	1.0850 0.8499	1.2017	1.0101	1.0333	Ave		1.0418			0.3000	11.1		20.0			
Bromoform	+++++ 0.2477	0.2047 0.2344	0.2509	0.2192	0.2458	Ave		0.2338			0.1000	7.9		20.0			
Isopropylbenzene	1.6137 1.5476	1.5691 1.4751	1.7933	1.5144	1.5910	Ave		1.5863			0.1000	6.5		20.0			
1,1,2,2-Tetrachloroethane	0.7084 0.8807	0.7692 0.9613	0.8385	0.6992	0.8231	Ave		0.8115			0.3000	11.6		20.0			
Bromobenzene	0.7551 0.8392	0.7376 0.9198	0.8312	0.6921	0.8171	Ave		0.7989				9.5		20.0			
1,2,3-Trichloropropane	0.2377 0.2918	0.2574 0.3080	0.2983	0.2456	0.2792	Ave		0.2740				10.0		20.0			
trans-1,4-Dichloro-2-butene	0.2726 0.3085	0.2987 0.3294	0.2948	0.2571	0.2970	Ave		0.2940				8.0		20.0			
N-Propylbenzene	0.8090 0.8327	0.7876 0.9015	0.8502	0.7234	0.8162	Ave		0.8172				6.7		20.0			
2-Chlorotoluene	0.6942 0.7467	0.6683 0.7949	0.7348	0.6497	0.7248	Ave		0.7162				6.9		20.0			
1,3,5-Trimethylbenzene	2.4278 2.4237	2.4106 2.5044	2.5373	2.1530	2.4110	Ave		2.4097				5.1		20.0			
4-Chlorotoluene	0.7497 0.6622	0.6783 0.6577	0.7785	0.6491	0.6919	Ave		0.6953				7.1		20.0			
tert-Butylbenzene	2.2017 2.3244	2.1656 2.6419	2.2621	1.9177	2.1650	Ave		2.2398				9.7		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.: 240-101358-1 Analy Batch No.: 346602

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2018 16:29 Calibration End Date: 09/21/2018 18:56 Calibration ID: 47013

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,2,4-Trimethylbenzene	2.6753 2.5619	2.5262 2.6386	2.6700	2.2735	2.5491	Ave		2.5564				5.4		20.0			
sec-Butylbenzene	0.5603 0.6659	0.6185 0.7334	0.6390	0.5480	0.6248	Ave		0.6271				10.0		20.0			
1,3-Dichlorobenzene	1.4816 1.5714	1.4610 1.7014	1.5574	1.3288	1.4944	Ave		1.5137			0.6000	7.6		20.0			
4-Isopropyltoluene	2.7059 2.4526	2.5024 2.4984	2.6413	2.2082	2.4123	Ave		2.4887				6.5		20.0			
1,4-Dichlorobenzene	1.5701 1.4180	1.4815 1.3999	1.5436	1.2898	1.4226	Ave		1.4465			0.5000	6.6		20.0			
n-Butylbenzene	2.3542 2.3811	2.1680 2.6462	2.2441	1.9241	2.1859	Ave		2.2719				9.8		20.0			
1,2-Dichlorobenzene	1.3908 1.4735	1.3358 1.5430	1.5207	1.2760	1.4256	Ave		1.4236			0.4000	6.8		20.0			
1,2-Dibromo-3-Chloropropane	+++++ 0.2249	0.1804 0.2407	0.1963	0.1727	0.2011	Ave		0.2027			0.0500	12.8		20.0			
1,2,4-Trichlorobenzene	1.0228 1.0447	1.0436 1.1555	0.9938	0.8561	0.9630	Ave		1.0114			0.2000	9.0		20.0			
Hexachlorobutadiene	0.3446 0.3774	0.4173 0.4320	0.3525	0.3121	0.3443	Ave		0.3686				11.7		20.0			
Naphthalene	2.9025 2.9581	2.9441 3.1471	2.9077	2.4760	2.7509	Ave		2.8695				7.3		20.0			
1,2,3-Trichlorobenzene	1.0621 0.9849	0.9729 1.0631	0.9504	0.7982	0.9119	Ave		0.9633				9.5		20.0			
Dibromofluoromethane (Surr)	0.2539 0.2805	0.2524 0.2816	0.2876	0.2449	0.2787	Ave		0.2685				6.5		20.0			
1,2-Dichloroethane-d4 (Surr)	0.4124 0.3728	0.3606 0.3861	0.4026	0.3347	0.3760	Ave		0.3779				6.9		20.0			
Toluene-d8 (Surr)	1.2326 1.1478	1.1482 1.1015	1.3332	1.0890	1.1920	Ave		1.1778				7.2		20.0			
4-Bromofluorobenzene (Surr)	0.5522 0.4491	0.4800 0.4232	0.4973	0.4077	0.4559	Ave		0.4665				10.4		20.0			

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

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

Lab Name: TestAmerica Canton Job No.: 240-101358-1 Analy Batch No.: 346602

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2018 16:29 Calibration End Date: 09/21/2018 18:56 Calibration ID: 47013

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-346602/14	UX973912.D
Level 2	STD8260 240-346602/13	UX973911.D
Level 3	STD8260 240-346602/12	UX973910.D
Level 4	ICIS 240-346602/11	UX973909.D
Level 5	STD8260 240-346602/10	UX973908.D
Level 6	STD8260 240-346602/9	UX973907.D
Level 7	STD8260 240-346602/8	UX973906.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	8482 1097005	18160 1506506	189229	370420	762884	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Chloromethane	FB	Ave	12151 1128952	22894 1498390	193338	375888	767907	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Vinyl chloride	FB	Ave	10116 1127829	20733 1528308	189295	373933	764790	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Butadiene	FB	Ave	+++++ 1093799	25538 1539783	202812	368834	757625	+++++ 60.0	1.00 80.0	10.0	20.0	40.0
Bromomethane	FB	Lin1	11172 832679	20479 1122734	136761	273271	553624	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Chloroethane	FB	Ave	7290 758505	13199 1034145	122508	245160	510679	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Dichlorofluoromethane	FB	Ave	+++++ 1723421	38545 2344589	301860	573529	1176487	+++++ 60.0	1.00 80.0	10.0	20.0	40.0
Trichlorofluoromethane	FB	Ave	14261 1649519	25294 2307510	276261	554571	1136116	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Ethyl ether	FB	Ave	6964 730839	12841 969115	120266	239099	484663	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Acrolein	FB	Lin1	+++++ 577969	22851 857075	109098	210039	402855	+++++ 300	5.00 400	50.0	100	200
1,1-Dichloroethene	FB	Ave	12062 1475943	24948 1996758	238592	468022	972296	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,1,2-Trichloro-1,2,2-trifluoroethane	FB	Ave	7171 893142	14229 1193996	143272	278395	567658	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Acetone	FB	Lin1	+++++ 159224	5853 191725	30123	52826	107718	+++++ 120	2.00 160	20.0	40.0	80.0
Iodomethane	FB	Ave	8829 1244942	18767 1673860	203520	397485	837887	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Carbon disulfide	FB	Lin1	26567 2195714	57357 2933199	380622	726590	1433475	0.500 60.0	1.00 80.0	10.0	20.0	40.0

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

Lab Name: TestAmerica Canton Job No.: 240-101358-1 Analy Batch No.: 346602

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2018 16:29 Calibration End Date: 09/21/2018 18:56 Calibration ID: 47013

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
3-Chloro-1-propene	FB	Ave	+++++ 897580	18934 1026232	180298	285600	533432	+++++ 60.0	1.00 80.0	10.0	20.0	40.0
Methyl acetate	FB	Ave	+++++ 1143286	23259 1479953	199285	384406	770133	+++++ 120	2.00 160	20.0	40.0	80.0
Methylene Chloride	FB	Ave	+++++ 1057560	17421 1441018	180666	345630	719509	+++++ 60.0	1.00 80.0	10.0	20.0	40.0
2-Methyl-2-propanol	FB	Ave	7690 829223	14940 1042559	143982	276241	556961	5.00 600	10.0 800	100	200	400
Acrylonitrile	FB	Ave	22483 2447643	45659 3112105	449148	851159	1697318	5.00 600	10.0 800	100	200	400
trans-1,2-Dichloroethene	FB	Ave	9784 888541	18292 1150045	170536	321496	640806	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Methyl tert-butyl ether	FB	Ave	17040 1929263	36395 2575324	343086	724597	1443186	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Hexane	FB	Ave	+++++ 866698	19777 1159448	147874	280569	566667	+++++ 60.0	1.00 80.0	10.0	20.0	40.0
1,1-Dichloroethane	FB	Ave	9634 1237868	19740 1681557	207640	404475	848241	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Vinyl acetate	FB	Ave	13994 1647545	25280 2155848	274906	529437	1098035	0.500 60.0	1.00 80.0	10.0	20.0	40.0
cis-1,2-Dichloroethene	FB	Ave	7207 775079	13481 1044374	129878	252321	529606	0.500 60.0	1.00 80.0	10.0	20.0	40.0
2,2-Dichloropropane	FB	Ave	4641 656512	11397 836409	120357	216615	428808	0.500 60.0	1.00 80.0	10.0	20.0	40.0
2-Butanone (MEK)	FB	Ave	+++++ 180253	3071 231695	31575	60298	118779	+++++ 120	2.00 160	20.0	40.0	80.0
Chlorobromomethane	FB	Ave	5050 615028	10979 861543	107815	208169	433506	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Chloroform	FB	Ave	11067 1264142	22496 1707274	212575	411768	863522	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Tetrahydrofuran	FB	Ave	+++++ 445749	11706 563960	82517	155519	303164	+++++ 120	2.00 160	20.0	40.0	80.0
1,1,1-Trichloroethane	FB	Ave	7675 1061581	17294 1423332	180434	346223	710161	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Cyclohexane	FB	Ave	8492 1049779	19073 1425586	181048	351462	707929	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,1-Dichloropropene	FB	Ave	8325 969088	16532 1294408	168618	331927	655826	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Carbon tetrachloride	FB	Ave	7255 960200	14303 1277744	157243	314823	635288	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Isobutyl alcohol	FB	Ave	+++++ 652725	11833 800928	117663	225792	440628	+++++ 1500	25.0 2000	250	500	1000

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

Lab Name: TestAmerica Canton Job No.: 240-101358-1 Analy Batch No.: 346602

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2018 16:29 Calibration End Date: 09/21/2018 18:56 Calibration ID: 47013

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dichloroethane	FB	Ave	8174 1029681	16383 1325142	183179	357202	716112	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Benzene	FB	Ave	23288 2563983	45229 3294691	461599	883422	1802164	0.500 60.0	1.00 80.0	10.0	20.0	40.0
n-Heptane	FB	Lin1	+++++ 428439	15760 573839	77555	147957	280291	+++++ 60.0	1.00 80.0	10.0	20.0	40.0
Trichloroethene	FB	Ave	6007 735195	13253 994689	126831	245445	499894	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Methylcyclohexane	FB	Ave	9193 988478	18252 1319187	170953	328978	656105	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2-Dichloropropane	FB	Ave	5472 646609	11050 858857	110228	214556	442097	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Dibromomethane	FB	Ave	3584 458800	7231 604255	79929	153277	312210	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,4-Dioxane	FB	Ave	+++++ 129043	2325 196758	25524	44906	99683	+++++ 1200	20.0 1600	200	400	800
Dichlorobromomethane	FB	Ave	7965 1003773	15508 1364088	163208	325818	681125	0.500 60.0	1.00 80.0	10.0	20.0	40.0
2-Chloroethyl vinyl ether	FB	Ave	7730 935431	15389 1236554	158296	307506	636926	1.00 120	2.00 160	20.0	40.0	80.0
cis-1,3-Dichloropropene	FB	Ave	8881 1161638	18593 1560493	193341	379398	785110	0.500 60.0	1.00 80.0	10.0	20.0	40.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	14094 1499311	24645 1896896	259947	497440	1001860	1.00 120	2.00 160	20.0	40.0	80.0
Toluene	CBNZ d5	Ave	25440 2638011	51298 3325430	496769	956920	1899137	0.500 60.0	1.00 80.0	10.0	20.0	40.0
trans-1,3-Dichloropropene	CBNZ d5	Ave	9224 1108919	19035 1477092	189088	368791	768774	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Ethyl methacrylate	CBNZ d5	Ave	9589 961667	15999 1253443	169726	326738	659610	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,1,2-Trichloroethane	CBNZ d5	Ave	5198 597850	10561 790593	102921	198477	411864	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,3-Dichloropropane	CBNZ d5	Ave	9760 1121860	19266 1502800	195433	380813	771841	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Tetrachloroethene	CBNZ d5	Ave	5877 737518	12470 982361	125528	246590	492220	0.500 60.0	1.00 80.0	10.0	20.0	40.0
2-Hexanone	CBNZ d5	Ave	10170 1062261	19959 1341223	185739	359966	718622	1.00 120	2.00 160	20.0	40.0	80.0
Chlorodibromomethane	CBNZ d5	Ave	5589 734540	11076 992047	115727	237150	493157	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Ethylene Dibromide	CBNZ d5	Ave	5335 647277	10445 858066	108442	210700	441802	0.500 60.0	1.00 80.0	10.0	20.0	40.0

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

Lab Name: TestAmerica Canton Job No.: 240-101358-1 Analy Batch No.: 346602

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2018 16:29 Calibration End Date: 09/21/2018 18:56 Calibration ID: 47013

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Chlorobenzene	CBNZ d5	Ave	15638 1842946	31901 2433250	321765	631392	1274905	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	4649 696511	10242 929779	119623	237849	476878	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Ethylbenzene	CBNZ d5	Ave	9092 968303	17245 1239500	180560	344426	688724	0.500 60.0	1.00 80.0	10.0	20.0	40.0
m-Xylene & p-Xylene	CBNZ d5	Ave	11042 1196113	23292 1514402	220500	424697	843499	0.500 60.0	1.00 80.0	10.0	20.0	40.0
o-Xylene	CBNZ d5	Ave	11463 1187737	20062 1463957	215442	418425	820117	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Styrene	CBNZ d5	Ave	19248 1993061	37577 2380976	377111	727539	1410750	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Bromoform	CBNZ d5	Ave	+++++ 507702	7090 656609	78723	157909	335633	+++++ 60.0	1.00 80.0	10.0	20.0	40.0
Isopropylbenzene	CBNZ d5	Ave	27242 3171933	54343 4132784	562748	1090773	2172058	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	6767 856696	14825 1105434	147315	277829	577667	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Bromobenzene	DCBd 4	Ave	7213 816326	14217 1057769	146035	275011	573486	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2,3-Trichloropropane	DCBd 4	Ave	2271 283876	4962 354217	52401	97581	195975	0.500 60.0	1.00 80.0	10.0	20.0	40.0
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	2604 300133	5757 378833	51796	102162	208412	0.500 60.0	1.00 80.0	10.0	20.0	40.0
N-Propylbenzene	DCBd 4	Ave	7728 810036	15181 1036655	149368	287459	572828	0.500 60.0	1.00 80.0	10.0	20.0	40.0
2-Chlorotoluene	DCBd 4	Ave	6631 726400	12880 914072	129087	258197	508673	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	23191 2357819	46463 2879955	445755	855572	1692102	0.500 60.0	1.00 80.0	10.0	20.0	40.0
4-Chlorotoluene	DCBd 4	Ave	7161 644206	13074 756304	136771	257949	485580	0.500 60.0	1.00 80.0	10.0	20.0	40.0
tert-Butylbenzene	DCBd 4	Ave	21031 2261183	41740 3038039	397415	762066	1519451	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	25555 2492252	48691 3034209	469080	903452	1789048	0.500 60.0	1.00 80.0	10.0	20.0	40.0
sec-Butylbenzene	DCBd 4	Ave	5352 647757	11921 843417	112268	217769	438489	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,3-Dichlorobenzene	DCBd 4	Ave	14153 1528699	28160 1956545	273600	528056	1048849	0.500 60.0	1.00 80.0	10.0	20.0	40.0
4-Isopropyltoluene	DCBd 4	Ave	25847 2385867	48232 2873072	464030	877473	1692999	0.500 60.0	1.00 80.0	10.0	20.0	40.0

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

Lab Name: TestAmerica Canton Job No.: 240-101358-1 Analy Batch No.: 346602

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2018 16:29 Calibration End Date: 09/21/2018 18:56 Calibration ID: 47013

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,4-Dichlorobenzene	DCBd 4	Ave	14998 1379456	28555 1609836	271185	512545	998416	0.500 60.0	1.00 80.0	10.0	20.0	40.0
n-Butylbenzene	DCBd 4	Ave	22488 2316314	41787 3042971	394248	764616	1534120	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2-Dichlorobenzene	DCBd 4	Ave	13285 1433373	25747 1774366	267161	507050	1000552	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	+++++ 218761	3478 276742	34484	68620	141111	+++++ 60.0	1.00 80.0	10.0	20.0	40.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	9770 1016307	20114 1328722	174595	340211	675893	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Hexachlorobutadiene	DCBd 4	Ave	3292 367120	8043 496768	61924	124040	241668	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Naphthalene	DCBd 4	Ave	27725 2877620	56744 3618999	510837	983902	1930638	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	10145 958097	18751 1222497	166961	317187	640015	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Dibromofluoromethane (Surr)	FB	Ave	4984 651098	10264 869679	105215	204326	436228	0.500 60.0	1.00 80.0	10.0	20.0	40.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	8095 865347	14667 1192379	147262	279256	588419	0.500 60.0	1.00 80.0	10.0	20.0	40.0
Toluene-d8 (Surr)	CBNZ d5	Ave	20808 2352459	39767 3086002	418384	784370	1627381	0.500 60.0	1.00 80.0	10.0	20.0	40.0
4-Bromofluorobenzene (Surr)	CBNZ d5	Ave	9322 920467	16624 1185616	156073	293659	622476	0.500 60.0	1.00 80.0	10.0	20.0	40.0

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Canton Job No.: 240-101358-1 Analy Batch No.: 346602

SDG No.:

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2018 16:29 Calibration End Date: 09/21/2018 18:56 Calibration ID: 47013

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-346602/14	UX973912.D
Level 2	STD8260 240-346602/13	UX973911.D
Level 3	STD8260 240-346602/12	UX973910.D
Level 4	ICIS 240-346602/11	UX973909.D
Level 5	STD8260 240-346602/10	UX973908.D
Level 6	STD8260 240-346602/9	UX973907.D
Level 7	STD8260 240-346602/8	UX973906.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Bromomethane	-4.1						50					
Acrolein	+++++	4.5						50				
Acetone	+++++	-10.0						50				
Carbon disulfide	-19.1						50					
n-Heptane	+++++	1.0						50				

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Lab Sample ID: ICV 240-346602/15 Calibration Date: 09/21/2018 19:20

Instrument ID: A3UX9 Calib Start Date: 09/21/2018 16:29

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 09/21/2018 18:56

Lab File ID: UX973913.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	0.4697	0.4470	0.1000	0.0190	0.0200	-4.8	30.0
Chloromethane	Ave	0.5176	0.4679	0.1000	0.0181	0.0200	-9.6	30.0
Vinyl chloride	Ave	0.4943	0.4996	0.1000	0.0202	0.0200	1.1	30.0
Butadiene	Ave	0.5131	0.4549		0.0177	0.0200	-11.3	30.0
Bromomethane	Lin1		0.3468	0.0500	0.0192	0.0200	-3.9	30.0
Chloroethane	Ave	0.3304	0.3241	0.0500	0.0196	0.0200	-1.9	30.0
Dichlorofluoromethane	Ave	0.7856	0.7838		0.0200	0.0200	-0.2	30.0
Trichlorofluoromethane	Ave	0.7074	0.7384	0.1000	0.0209	0.0200	4.4	30.0
Ethyl ether	Ave	0.3177	0.3295		0.0207	0.0200	3.7	30.0
Acrolein	Lin1		0.0466		0.0850	0.100	-15.0	50.0
1,1-Dichloroethene	Ave	0.6207	0.6516	0.1000	0.0210	0.0200	5.0	30.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.3678	0.3916	0.0500	0.0213	0.0200	6.5	30.0
Acetone	Lin1		0.0327	0.0100	0.0380	0.0400	-5.0	50.0
Iodomethane	Ave	0.5083	0.5417		0.0213	0.0200	6.6	30.0
Carbon disulfide	Lin1		0.9345	0.1000	0.0197	0.0200	-1.4	30.0
3-Chloro-1-propene	Ave	0.3934	0.4233		0.0215	0.0200	7.6	30.0
Methyl acetate	Ave	0.2534	0.2450	0.1000	0.0387	0.0400	-3.3	30.0
Methylene Chloride	Ave	0.4531	0.4559	0.1000	0.0201	0.0200	0.6	50.0
2-Methyl-2-propanol	Ave	0.0362	0.0353		0.195	0.200	-2.5	50.0
Acrylonitrile	Ave	0.1095	0.1110		0.203	0.200	1.4	30.0
trans-1,2-Dichloroethene	Ave	0.4235	0.4234	0.1000	0.0200	0.0200	-0.0	30.0
Methyl tert-butyl ether	Ave	0.8795	0.8798	0.1000	0.0200	0.0200	0.0	30.0
Hexane	Ave	0.3896	0.3909		0.0201	0.0200	0.3	30.0
1,1-Dichloroethane	Ave	0.5212	0.5276	0.2000	0.0202	0.0200	1.2	30.0
Vinyl acetate	Ave	0.6900	0.7022		0.0204	0.0200	1.8	50.0
cis-1,2-Dichloroethene	Ave	0.3381	0.3261	0.1000	0.0193	0.0200	-3.5	30.0
2,2-Dichloropropane	Ave	0.2761	0.2853		0.0207	0.0200	3.3	30.0
2-Butanone (MEK)	Ave	0.0386	0.0376	0.0100	0.0390	0.0400	-2.4	30.0
Chlorobromomethane	Ave	0.2703	0.2629		0.0194	0.0200	-2.8	30.0
Chloroform	Ave	0.5487	0.5411	0.2000	0.0197	0.0200	-1.4	30.0
Tetrahydrofuran	Ave	0.1057	0.0985		0.0373	0.0400	-6.8	30.0
1,1,1-Trichloroethane	Ave	0.4424	0.4592	0.1000	0.0208	0.0200	3.8	30.0
Cyclohexane	Ave	0.4549	0.4602	0.1000	0.0202	0.0200	1.2	30.0
1,1-Dichloropropene	Ave	0.4207	0.4227		0.0201	0.0200	0.5	30.0
Carbon tetrachloride	Ave	0.3945	0.3965	0.1000	0.0201	0.0200	0.5	30.0
Isobutyl alcohol	Ave	0.0114	0.0112		0.494	0.500	-1.2	30.0
1,2-Dichloroethane	Ave	0.4398	0.4481	0.1000	0.0204	0.0200	1.9	30.0
Benzene	Ave	1.135	1.134	0.5000	0.0200	0.0200	-0.0	30.0
n-Heptane	Lin1		0.1887		0.0199	0.0200	-0.7	30.0
Trichloroethene	Ave	0.3187	0.3116	0.1500	0.0196	0.0200	-2.2	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Lab Sample ID: ICV 240-346602/15 Calibration Date: 09/21/2018 19:20

Instrument ID: A3UX9 Calib Start Date: 09/21/2018 16:29

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 09/21/2018 18:56

Lab File ID: UX973913.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	0.4359	0.4213	0.1000	0.0193	0.0200	-3.3	30.0
1,2-Dichloropropane	Ave	0.2783	0.2828	0.1000	0.0203	0.0200	1.6	30.0
Dibromomethane	Ave	0.1936	0.1906		0.0197	0.0200	-1.6	30.0
1,4-Dioxane	Ave	0.0030	0.0030		0.399	0.400	-0.3	50.0
Dichlorobromomethane	Ave	0.4190	0.4111	0.1500	0.0196	0.0200	-1.9	30.0
2-Chloroethyl vinyl ether	Ave	0.1988	0.1953		0.0196	0.0200	-1.8	30.0
cis-1,3-Dichloropropene	Ave	0.4858	0.4992	0.1500	0.0206	0.0200	2.8	30.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3237	0.3218	0.0500	0.0398	0.0400	-0.6	30.0
Toluene	Ave	1.395	1.430	0.4000	0.0205	0.0200	2.5	30.0
trans-1,3-Dichloropropene	Ave	0.5489	0.5275	0.1000	0.0192	0.0200	-3.9	30.0
Ethyl methacrylate	Ave	0.4892	0.4769		0.0195	0.0200	-2.5	30.0
1,1,2-Trichloroethane	Ave	0.2988	0.3011	0.1000	0.0201	0.0200	0.7	30.0
1,3-Dichloropropane	Ave	0.5621	0.5471		0.0195	0.0200	-2.7	30.0
Tetrachloroethene	Ave	0.3602	0.3614	0.1500	0.0201	0.0200	0.3	30.0
2-Hexanone	Ave	0.2710	0.2609	0.0500	0.0385	0.0400	-3.7	30.0
Chlorodibromomethane	Ave	0.3461	0.3447		0.0199	0.0200	-0.4	30.0
Ethylene Dibromide	Ave	0.3145	0.3072		0.0195	0.0200	-2.3	30.0
Chlorobenzene	Ave	0.9216	0.9152	0.3000	0.0199	0.0200	-0.7	30.0
1,1,1,2-Tetrachloroethane	Ave	0.3291	0.3361		0.0204	0.0200	2.1	30.0
Ethylbenzene	Ave	0.5013	0.5096		0.0203	0.0200	1.6	30.0
m-Xylene & p-Xylene	Ave	0.6230	0.6254		0.0201	0.0200	0.4	30.0
o-Xylene	Ave	0.6041	0.6096		0.0202	0.0200	0.9	30.0
Styrene	Ave	1.042	1.047	0.3000	0.0201	0.0200	0.5	30.0
Bromoform	Ave	0.2338	0.2267	0.1000	0.0194	0.0200	-3.0	30.0
Isopropylbenzene	Ave	1.586	1.593	0.1000	0.0201	0.0200	0.4	30.0
1,1,2,2-Tetrachloroethane	Ave	0.8115	0.7666	0.3000	0.0189	0.0200	-5.5	30.0
Bromobenzene	Ave	0.7989	0.7633		0.0191	0.0200	-4.5	30.0
1,2,3-Trichloropropane	Ave	0.2740	0.2763		0.0202	0.0200	0.8	30.0
trans-1,4-Dichloro-2-butene	Ave	0.2940	0.2851		0.0194	0.0200	-3.0	30.0
N-Propylbenzene	Ave	0.8172	0.7955		0.0195	0.0200	-2.7	30.0
2-Chlorotoluene	Ave	0.7162	0.6876		0.0192	0.0200	-4.0	30.0
1,3,5-Trimethylbenzene	Ave	2.410	2.304		0.0191	0.0200	-4.4	30.0
4-Chlorotoluene	Ave	0.6953	0.6957		0.0200	0.0200	0.0	30.0
tert-Butylbenzene	Ave	2.240	2.084		0.0186	0.0200	-6.9	30.0
1,2,4-Trimethylbenzene	Ave	2.556	2.448		0.0192	0.0200	-4.2	30.0
sec-Butylbenzene	Ave	0.6271	0.5941		0.0189	0.0200	-5.3	30.0
1,3-Dichlorobenzene	Ave	1.514	1.421	0.6000	0.0188	0.0200	-6.1	30.0
4-Isopropyltoluene	Ave	2.489	2.373		0.0191	0.0200	-4.6	30.0
1,4-Dichlorobenzene	Ave	1.447	1.402	0.5000	0.0194	0.0200	-3.1	30.0
n-Butylbenzene	Ave	2.272	2.012		0.0177	0.0200	-11.5	30.0
1,2-Dichlorobenzene	Ave	1.424	1.376	0.4000	0.0193	0.0200	-3.4	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Lab Sample ID: ICV 240-346602/15 Calibration Date: 09/21/2018 19:20

Instrument ID: A3UX9 Calib Start Date: 09/21/2018 16:29

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 09/21/2018 18:56

Lab File ID: UX973913.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	0.2027	0.1851	0.0500	0.0183	0.0200	-8.7	50.0
1,2,4-Trichlorobenzene	Ave	1.011	0.9015	0.2000	0.0178	0.0200	-10.9	50.0
Hexachlorobutadiene	Ave	0.3686	0.3033		0.0165	0.0200	-17.7	30.0
Naphthalene	Ave	2.869	2.636		0.0184	0.0200	-8.1	50.0
1,2,3-Trichlorobenzene	Ave	0.9633	0.8556		0.0178	0.0200	-11.2	30.0
Dibromofluoromethane (Surr)	Ave	0.2685	0.2072		0.0154	0.0200	-22.8	30.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3779	0.2758		0.0146	0.0200	-27.0	30.0
Toluene-d8 (Surr)	Ave	1.178	0.9793		0.0166	0.0200	-16.9	30.0
4-Bromofluorobenzene (Surr)	Ave	0.4665	0.3968		0.0170	0.0200	-14.9	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Lab Sample ID: ICV 240-346602/24 Calibration Date: 09/21/2018 22:57

Instrument ID: A3UX9 Calib Start Date: 09/21/2018 20:32

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 09/21/2018 22:32

Lab File ID: UX973922.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	0.0355	0.0439		0.247	0.200	23.7	30.0
Isopropyl ether	Ave	0.2625	0.3198		0.0244	0.0200	21.8	30.0
2-Chloro-1,3-butadiene	Ave	0.5153	0.6103		0.0237	0.0200	18.4	30.0
Tert-butyl ethyl ether	Ave	0.9045	1.057		0.0234	0.0200	16.9	30.0
Propionitrile	Ave	0.0423	0.0488		0.231	0.200	15.4	30.0
Ethyl acetate	Ave	0.3227	0.3850		0.0477	0.0400	19.3	50.0
Methacrylonitrile	Ave	0.1905	0.2286		0.240	0.200	20.0	30.0
Tert-amyl methyl ether	Ave	0.8644	1.005		0.0232	0.0200	16.2	30.0
n-Butanol	Ave	0.0104	0.0112		0.540	0.500	7.9	30.0
Ethyl acrylate	Ave	0.4499	0.4954		0.0220	0.0200	10.1	30.0
Methyl methacrylate	Ave	0.3099	0.3642		0.0470	0.0400	17.5	30.0
2-Nitropropane	Ave	0.1260	0.1313		0.0417	0.0400	4.2	30.0
n-Butyl acetate	Ave	0.6491	0.7211		0.0222	0.0200	11.1	30.0
1-Chlorohexane	Ave	0.5137	0.5531		0.0215	0.0200	7.7	30.0
Cyclohexanone	Lin1		0.0287		0.243	0.200	21.7	30.0
Pentachloroethane	Ave	0.4182	0.4866		0.0465	0.0400	16.4	30.0
1,2,3-Trimethylbenzene	Ave	2.490	2.930		0.0235	0.0200	17.7	30.0
Benzyl chloride	Ave	0.3226	0.3746		0.0232	0.0200	16.1	30.0
1,3,5-Trichlorobenzene	Ave	0.9563	1.059		0.0221	0.0200	10.7	30.0
2-Methylnaphthalene	Ave	1.590	1.559		0.0392	0.0400	-1.9	30.0

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

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Lab File ID: BFB453.D BFB Injection Date: 09/24/2018

Instrument ID: A3UX9 BFB Injection Time: 16:08

Analysis Batch No.: 346967

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	26.0	
75	30.0 - 60.0 % of mass 95	59.8	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.8	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	85.0	
175	5.0 - 9.0 % of mass 174	6.9	(8.1) 1
176	95.0 - 101.0 % of mass 174	81.9	(96.3) 1
177	5.0 - 9.0 % of mass 176	5.3	(6.5) 2

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

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 240-346967/3	UX973989.D	09/24/2018	16:34
	CCVIS 240-346967/4	UX973990.D	09/24/2018	16:59
	LCS 240-346967/5	UX973991.D	09/24/2018	17:23
	MB 240-346967/7	UX973993.D	09/24/2018	18:12
F-GWS-2A-21-25	240-101358-4	UX973996.D	09/24/2018	19:25

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Lab Sample ID: CCVIS 240-346967/4 Calibration Date: 09/24/2018 16:59

Instrument ID: A3UX9 Calib Start Date: 09/21/2018 16:29

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 09/21/2018 18:56

Lab File ID: UX973990.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	0.4697	0.4853	0.1000	0.0207	0.0200	3.3	20.0
Chloromethane	Ave	0.5176	0.5200	0.1000	0.0201	0.0200	0.5	20.0
Vinyl chloride	Ave	0.4943	0.5125	0.1000	0.0207	0.0200	3.7	20.0
Butadiene	Ave	0.5131	0.5368		0.0209	0.0200	4.6	20.0
Bromomethane	Lin1		0.3650	0.0500	0.0203	0.0200	1.3	20.0
Chloroethane	Ave	0.3304	0.3453	0.0500	0.0209	0.0200	4.5	20.0
Dichlorofluoromethane	Ave	0.7856	0.8049		0.0205	0.0200	2.4	20.0
Trichlorofluoromethane	Ave	0.7074	0.7964	0.1000	0.0225	0.0200	12.6	20.0
Ethyl ether	Ave	0.3177	0.3357		0.0211	0.0200	5.6	20.0
Acrolein	Lin1		0.0657		0.122	0.100	22.0	50.0
1,1-Dichloroethene	Ave	0.6207	0.6703	0.1000	0.0216	0.0200	8.0	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.3678	0.4052	0.0500	0.0220	0.0200	10.2	20.0
Acetone	Lin1		0.0378	0.0100	0.0444	0.0400	11.0	50.0
Iodomethane	Ave	0.5083	0.5403		0.0213	0.0200	6.3	20.0
Carbon disulfide	Lin1		0.8469	0.1000	0.0178	0.0200	-10.8	20.0
3-Chloro-1-propene	Ave	0.3934	0.3879		0.0197	0.0200	-1.4	20.0
Methyl acetate	Ave	0.2534	0.2576	0.1000	0.0407	0.0400	1.7	20.0
Methylene Chloride	Ave	0.4531	0.4504	0.1000	0.0199	0.0200	-0.6	50.0
2-Methyl-2-propanol	Ave	0.0362	0.0359		0.198	0.200	-1.0	50.0
Acrylonitrile	Ave	0.1095	0.1086		0.198	0.200	-0.8	20.0
trans-1,2-Dichloroethene	Ave	0.4235	0.3965	0.1000	0.0187	0.0200	-6.4	20.0
Methyl tert-butyl ether	Ave	0.8795	0.8232	0.1000	0.0187	0.0200	-6.4	20.0
Hexane	Ave	0.3896	0.3565		0.0183	0.0200	-8.5	20.0
1,1-Dichloroethane	Ave	0.5212	0.5031	0.2000	0.0193	0.0200	-3.5	20.0
Vinyl acetate	Ave	0.6900	0.6005		0.0174	0.0200	-13.0	50.0
2,2-Dichloropropane	Ave	0.2761	0.2707		0.0196	0.0200	-2.0	20.0
cis-1,2-Dichloroethene	Ave	0.3381	0.3254	0.1000	0.0192	0.0200	-3.8	20.0
2-Butanone (MEK)	Ave	0.0386	0.0377	0.0100	0.0391	0.0400	-2.1	20.0
Chlorobromomethane	Ave	0.2703	0.2562		0.0190	0.0200	-5.2	20.0
Chloroform	Ave	0.5487	0.5145	0.2000	0.0188	0.0200	-6.2	20.0
Tetrahydrofuran	Ave	0.1057	0.0893		0.0338	0.0400	-15.5	20.0
1,1,1-Trichloroethane	Ave	0.4424	0.4332	0.1000	0.0196	0.0200	-2.1	20.0
Cyclohexane	Ave	0.4549	0.4438	0.1000	0.0195	0.0200	-2.4	20.0
1,1-Dichloropropene	Ave	0.4207	0.4002		0.0190	0.0200	-4.9	20.0
Carbon tetrachloride	Ave	0.3945	0.3780	0.1000	0.0192	0.0200	-4.2	20.0
Isobutyl alcohol	Ave	0.0114	0.0112		0.490	0.500	-1.9	20.0
1,2-Dichloroethane	Ave	0.4398	0.4212	0.1000	0.0192	0.0200	-4.2	20.0
Benzene	Ave	1.135	1.094	0.5000	0.0193	0.0200	-3.5	20.0
n-Heptane	Lin1		0.1668		0.0174	0.0200	-12.9	20.0
Trichloroethene	Ave	0.3187	0.2961	0.1500	0.0186	0.0200	-7.1	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Lab Sample ID: CCVIS 240-346967/4 Calibration Date: 09/24/2018 16:59

Instrument ID: A3UX9 Calib Start Date: 09/21/2018 16:29

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 09/21/2018 18:56

Lab File ID: UX973990.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	0.4359	0.3962	0.1000	0.0182	0.0200	-9.1	20.0
1,2-Dichloropropane	Ave	0.2783	0.2604	0.1000	0.0187	0.0200	-6.4	20.0
Dibromomethane	Ave	0.1936	0.1794		0.0185	0.0200	-7.4	20.0
1,4-Dioxane	Ave	0.0030	0.0030		0.397	0.400	-0.6	50.0
Dichlorobromomethane	Ave	0.4190	0.3670	0.1500	0.0175	0.0200	-12.4	20.0
2-Chloroethyl vinyl ether	Ave	0.1988	0.1855		0.0373	0.0400	-6.7	20.0
cis-1,3-Dichloropropene	Ave	0.4858	0.4298	0.1500	0.0177	0.0200	-11.5	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3237	0.3035	0.0500	0.0375	0.0400	-6.2	20.0
Toluene	Ave	1.395	1.365	0.4000	0.0196	0.0200	-2.2	20.0
trans-1,3-Dichloropropene	Ave	0.5489	0.4824	0.1000	0.0176	0.0200	-12.1	20.0
Ethyl methacrylate	Ave	0.4892	0.4485		0.0183	0.0200	-8.3	20.0
1,1,2-Trichloroethane	Ave	0.2988	0.2853	0.1000	0.0191	0.0200	-4.5	20.0
1,3-Dichloropropane	Ave	0.5621	0.5291		0.0188	0.0200	-5.9	20.0
Tetrachloroethene	Ave	0.3602	0.3430	0.1500	0.0190	0.0200	-4.8	20.0
2-Hexanone	Ave	0.2710	0.2530	0.0500	0.0373	0.0400	-6.6	20.0
Chlorodibromomethane	Ave	0.3461	0.2969		0.0172	0.0200	-14.2	20.0
Ethylene Dibromide	Ave	0.3145	0.2916		0.0185	0.0200	-7.3	20.0
Chlorobenzene	Ave	0.9216	0.8699	0.3000	0.0189	0.0200	-5.6	20.0
1,1,1,2-Tetrachloroethane	Ave	0.3291	0.3066		0.0186	0.0200	-6.8	20.0
Ethylbenzene	Ave	0.5013	0.4789		0.0191	0.0200	-4.5	20.0
m-Xylene & p-Xylene	Ave	0.6230	0.5889		0.0189	0.0200	-5.5	20.0
o-Xylene	Ave	0.6041	0.5818		0.0193	0.0200	-3.7	20.0
Styrene	Ave	1.042	1.000	0.3000	0.0192	0.0200	-4.0	20.0
Bromoform	Ave	0.2338	0.1849	0.1000	0.0158	0.0200	-20.9*	20.0
Isopropylbenzene	Ave	1.586	1.493	0.1000	0.0188	0.0200	-5.9	20.0
1,1,2,2-Tetrachloroethane	Ave	0.8115	0.7600	0.3000	0.0187	0.0200	-6.3	20.0
Bromobenzene	Ave	0.7989	0.7517		0.0188	0.0200	-5.9	20.0
1,2,3-Trichloropropane	Ave	0.2740	0.2702		0.0197	0.0200	-1.4	20.0
trans-1,4-Dichloro-2-butene	Ave	0.2940	0.2328		0.0158	0.0200	-20.8*	20.0
N-Propylbenzene	Ave	0.8172	0.7694		0.0188	0.0200	-5.9	20.0
2-Chlorotoluene	Ave	0.7162	0.6699		0.0187	0.0200	-6.5	20.0
1,3,5-Trimethylbenzene	Ave	2.410	2.221		0.0184	0.0200	-7.8	20.0
4-Chlorotoluene	Ave	0.6953	0.6800		0.0196	0.0200	-2.2	20.0
tert-Butylbenzene	Ave	2.240	2.049		0.0183	0.0200	-8.5	20.0
1,2,4-Trimethylbenzene	Ave	2.556	2.375		0.0186	0.0200	-7.1	20.0
sec-Butylbenzene	Ave	0.6271	0.5800		0.0185	0.0200	-7.5	20.0
1,3-Dichlorobenzene	Ave	1.514	1.402	0.6000	0.0185	0.0200	-7.4	20.0
4-Isopropyltoluene	Ave	2.489	2.282		0.0183	0.0200	-8.3	20.0
1,4-Dichlorobenzene	Ave	1.447	1.343	0.5000	0.0186	0.0200	-7.2	20.0
n-Butylbenzene	Ave	2.272	1.971		0.0174	0.0200	-13.2	20.0
1,2-Dichlorobenzene	Ave	1.424	1.339	0.4000	0.0188	0.0200	-5.9	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Lab Sample ID: CCVIS 240-346967/4 Calibration Date: 09/24/2018 16:59

Instrument ID: A3UX9 Calib Start Date: 09/21/2018 16:29

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 09/21/2018 18:56

Lab File ID: UX973990.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	0.2027	0.1590	0.0500	0.0157	0.0200	-21.5	50.0
1,2,4-Trichlorobenzene	Ave	1.011	0.8424	0.2000	0.0167	0.0200	-16.7	50.0
Hexachlorobutadiene	Ave	0.3686	0.2767		0.0150	0.0200	-24.9*	20.0
Naphthalene	Ave	2.869	2.536		0.0177	0.0200	-11.6	50.0
1,2,3-Trichlorobenzene	Ave	0.9633	0.7978		0.0166	0.0200	-17.2	20.0
Dibromofluoromethane (Surr)	Ave	0.2685	0.2091		0.0156	0.0200	-22.1*	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3779	0.2746		0.0145	0.0200	-27.3*	20.0
Toluene-d8 (Surr)	Ave	1.178	1.008		0.0171	0.0200	-14.4	20.0
4-Bromofluorobenzene (Surr)	Ave	0.4665	0.3600		0.0154	0.0200	-22.8*	20.0

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

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Sample No.: ICIS 240-342719/10 Date Analyzed: 08/27/2018 18:16

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): U1901326.d Heated Purge: (Y/N) N

Calibration ID: 46687

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		972482	5.65	783101	8.50	430906	10.88
UPPER LIMIT		1944964	6.15	1566202	9.00	861812	11.38
LOWER LIMIT		486241	5.15	391551	8.00	215453	10.38
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 240-342719/14		955207	5.65	765531	8.50	424750	10.88
CCVIS 240-346694/3		886826	5.65	668114	8.50	374757	10.88

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 8260C

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

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Sample No.: CCVIS 240-346694/3 Date Analyzed: 09/22/2018 13:16

Instrument ID: A3UX19 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): U1902103.d Heated Purge: (Y/N) N

Calibration ID: 46687

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		886826	5.65	668114	8.50	374757	10.88
UPPER LIMIT		1773652	6.15	1336228	9.00	749514	11.38
LOWER LIMIT		443413	5.15	334057	8.00	187379	10.38
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 240-346694/4		908585	5.65	706874	8.50	382316	10.88
MB 240-346694/6		844633	5.65	643691	8.50	333425	10.88
240-101358-1	TB-091218	860454	5.65	673918	8.50	342181	10.88
240-101358-2	F-GWS-2C-3-7	858877	5.65	652792	8.50	347704	10.88
240-101358-3	F-GWS-2B-14-18	835958	5.65	642641	8.50	334475	10.88
240-101358-5	F-GWS-1D-14-18	829030	5.65	629837	8.50	326609	10.88
240-101358-6	F-GWS-3B-18-22	852034	5.65	665462	8.50	339021	10.88

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 8260C

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

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Sample No.: ICIS 240-346602/11 Date Analyzed: 09/21/2018 17:43

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): UX973909.D Heated Purge: (Y/N) N

Calibration ID: 47013

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		834224	5.65	720268	8.34	397379	10.57
UPPER LIMIT		1668448	6.15	1440536	8.84	794758	11.07
LOWER LIMIT		417112	5.15	360134	7.84	198690	10.07
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 240-346602/15		763083	5.65	665185	8.34	360851	10.56
ICV 240-346602/24		593072	5.65	513866	8.34	287743	10.56
CCVIS 240-346967/4		794032	5.65	666234	8.34	341803	10.57

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 8260C

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

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Sample No.: CCVIS 240-346967/4 Date Analyzed: 09/24/2018 16:59

Instrument ID: A3UX9 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): UX973990.D Heated Purge: (Y/N) N

Calibration ID: 47017

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		794032	5.65	666234	8.34	341803	10.57
UPPER LIMIT		1588064	6.15	1332468	8.84	683606	11.07
LOWER LIMIT		397016	5.15	333117	7.84	170902	10.07
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 240-346967/5		698956	5.65	593167	8.33	304307	10.56
MB 240-346967/7		661656	5.65	550377	8.33	299223	10.56
240-101358-4	F-GWS-2A-21-25	557083	5.65	461072	8.34	255410	10.57

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 8260C

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Instrument ID: A3UX19 Start Date: 08/27/2018 16:23

Analysis Batch Number: 342719 End Date: 08/27/2018 20:52

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-342719/1		08/27/2018 16:23	1	bfb058.d	DB-624 0.18(mm)
CCV 240-342719/2		08/27/2018 16:46	1		DB-624 0.18(mm)
STD8260 240-342719/7 IC		08/27/2018 17:09	1	U1901323.d	DB-624 0.18(mm)
STD8260 240-342719/8 IC		08/27/2018 17:31	1	U1901324.d	DB-624 0.18(mm)
STD8260 240-342719/9 IC		08/27/2018 17:53	1	U1901325.d	DB-624 0.18(mm)
ICIS 240-342719/10		08/27/2018 18:16	1	U1901326.d	DB-624 0.18(mm)
STD8260 240-342719/11 IC		08/27/2018 18:38	1	U1901327.d	DB-624 0.18(mm)
STD8260 240-342719/12 IC		08/27/2018 19:01	1	U1901328.d	DB-624 0.18(mm)
STD8260 240-342719/13 IC		08/27/2018 19:23	1	U1901329.d	DB-624 0.18(mm)
ICV 240-342719/14		08/27/2018 19:45	1	U1901330.d	DB-624 0.18(mm)
MRL 240-342719/15 MDLV		08/27/2018 20:07	1		DB-624 0.18(mm)
MDLV 240-342719/16		08/27/2018 20:30	1		DB-624 0.18(mm)
ZZZZZ		08/27/2018 20:52	1		DB-624 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Instrument ID: A3UX9 Start Date: 09/21/2018 15:28

Analysis Batch Number: 346602 End Date: 09/21/2018 23:46

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-346602/1		09/21/2018 15:28	1	BFB448.D	DB-624 0.18(mm)
STD8260 240-346602/8 IC		09/21/2018 16:29	1	UX973906.D	DB-624 0.18(mm)
STD8260 240-346602/9 IC		09/21/2018 16:54	1	UX973907.D	DB-624 0.18(mm)
STD8260 240-346602/10 IC		09/21/2018 17:18	1	UX973908.D	DB-624 0.18(mm)
ICIS 240-346602/11		09/21/2018 17:43	1	UX973909.D	DB-624 0.18(mm)
STD8260 240-346602/12 IC		09/21/2018 18:07	1	UX973910.D	DB-624 0.18(mm)
STD8260 240-346602/13 IC		09/21/2018 18:32	1	UX973911.D	DB-624 0.18(mm)
STD8260 240-346602/14 IC		09/21/2018 18:56	1	UX973912.D	DB-624 0.18(mm)
ICV 240-346602/15		09/21/2018 19:20	1	UX973913.D	DB-624 0.18(mm)
MRL 240-346602/16 MDLV		09/21/2018 19:45	1		DB-624 0.18(mm)
MDLV 240-346602/17		09/21/2018 20:10	1		DB-624 0.18(mm)
STDA9 240-346602/18 IC		09/21/2018 20:32	1		DB-624 0.18(mm)
STDA9 240-346602/19 IC		09/21/2018 20:56	1		DB-624 0.18(mm)
STDA9 240-346602/20 IC		09/21/2018 21:19	1		DB-624 0.18(mm)
STDA9 240-346602/21 IC		09/21/2018 21:44	1		DB-624 0.18(mm)
STDA9 240-346602/22 IC		09/21/2018 22:08	1		DB-624 0.18(mm)
STDA9 240-346602/23 IC		09/21/2018 22:32	1		DB-624 0.18(mm)
ICV 240-346602/24		09/21/2018 22:57	1	UX973922.D	DB-624 0.18(mm)
MRL 240-346602/25 MDLV		09/21/2018 23:21	1		DB-624 0.18(mm)
ZZZZZ		09/21/2018 23:46	1		DB-624 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Instrument ID: A3UX19 Start Date: 09/22/2018 12:30

Analysis Batch Number: 346694 End Date: 09/22/2018 22:32

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-346694/1		09/22/2018 12:30	1	bfb079.d	DB-624 0.18(mm)
CCV 240-346694/2		09/22/2018 12:53	1	U1902102.d	DB-624 0.18(mm)
CCVIS 240-346694/3		09/22/2018 13:16	1	U1902103.d	DB-624 0.18(mm)
LCS 240-346694/4		09/22/2018 13:38	1	U1902104.d	DB-624 0.18(mm)
MRL 240-346694/5 MDLV		09/22/2018 14:00	1		DB-624 0.18(mm)
MB 240-346694/6		09/22/2018 14:22	1	U1902106.d	DB-624 0.18(mm)
240-101358-1		09/22/2018 14:44	1	U1902107.d	DB-624 0.18(mm)
240-101358-2		09/22/2018 15:06	1	U1902108.d	DB-624 0.18(mm)
240-101358-3		09/22/2018 15:29	16.7	U1902109.d	DB-624 0.18(mm)
ZZZZZ		09/22/2018 15:51	2.5		DB-624 0.18(mm)
240-101358-5		09/22/2018 16:13	1	U1902111.d	DB-624 0.18(mm)
240-101358-6		09/22/2018 16:36	20	U1902112.d	DB-624 0.18(mm)
ZZZZZ		09/22/2018 16:58	200		DB-624 0.18(mm)
ZZZZZ		09/22/2018 17:20	200		DB-624 0.18(mm)
ZZZZZ		09/22/2018 17:43	200		DB-624 0.18(mm)
ZZZZZ		09/22/2018 18:05	200		DB-624 0.18(mm)
ZZZZZ		09/22/2018 18:27	250		DB-624 0.18(mm)
ZZZZZ		09/22/2018 18:50	250		DB-624 0.18(mm)
ZZZZZ		09/22/2018 19:12	25		DB-624 0.18(mm)
ZZZZZ		09/22/2018 19:34	200		DB-624 0.18(mm)
ZZZZZ		09/22/2018 19:56	1000		DB-624 0.18(mm)
ZZZZZ		09/22/2018 20:18	100		DB-624 0.18(mm)
ZZZZZ		09/22/2018 20:40	1000		DB-624 0.18(mm)
ZZZZZ		09/22/2018 21:02	100		DB-624 0.18(mm)
ZZZZZ		09/22/2018 21:24	200		DB-624 0.18(mm)
ZZZZZ		09/22/2018 21:47	400		DB-624 0.18(mm)
ZZZZZ		09/22/2018 22:09	400		DB-624 0.18(mm)
ZZZZZ		09/22/2018 22:32	400		DB-624 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Instrument ID: A3UX9 Start Date: 09/24/2018 16:08

Analysis Batch Number: 346967 End Date: 09/25/2018 03:33

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-346967/1		09/24/2018 16:08	1	BFB453.D	DB-624 0.18(mm)
CCV 240-346967/3		09/24/2018 16:34	1	UX973989.D	DB-624 0.18(mm)
CCVIS 240-346967/4		09/24/2018 16:59	1	UX973990.D	DB-624 0.18(mm)
LCS 240-346967/5		09/24/2018 17:23	1	UX973991.D	DB-624 0.18(mm)
MRL 240-346967/6 MDLV		09/24/2018 17:48	1		DB-624 0.18(mm)
MB 240-346967/7		09/24/2018 18:12	1	UX973993.D	DB-624 0.18(mm)
MRL 240-346967/8 MDLV		09/24/2018 18:36	1		DB-624 0.18(mm)
ZZZZZ		09/24/2018 19:01	1		DB-624 0.18(mm)
240-101358-4		09/24/2018 19:25	1	UX973996.D	DB-624 0.18(mm)
ZZZZZ		09/24/2018 19:49	20		DB-624 0.18(mm)
ZZZZZ		09/24/2018 20:13	1		DB-624 0.18(mm)
ZZZZZ		09/24/2018 20:37	1		DB-624 0.18(mm)
ZZZZZ		09/24/2018 21:02	2.5		DB-624 0.18(mm)
ZZZZZ		09/24/2018 21:26	1		DB-624 0.18(mm)
ZZZZZ		09/24/2018 21:51	1		DB-624 0.18(mm)
ZZZZZ		09/24/2018 22:15	2		DB-624 0.18(mm)
ZZZZZ		09/24/2018 22:39	10		DB-624 0.18(mm)
ZZZZZ		09/24/2018 23:04	10		DB-624 0.18(mm)
ZZZZZ		09/24/2018 23:28	62.5		DB-624 0.18(mm)
ZZZZZ		09/24/2018 23:53	1		DB-624 0.18(mm)
ZZZZZ		09/25/2018 00:17	1		DB-624 0.18(mm)
ZZZZZ		09/25/2018 01:06	125		DB-624 0.18(mm)
ZZZZZ		09/25/2018 01:30	250		DB-624 0.18(mm)
ZZZZZ		09/25/2018 01:55	500		DB-624 0.18(mm)
ZZZZZ		09/25/2018 02:19	1000		DB-624 0.18(mm)
ZZZZZ		09/25/2018 02:43	200		DB-624 0.18(mm)
ZZZZZ		09/25/2018 03:08	200		DB-624 0.18(mm)
ZZZZZ		09/25/2018 03:33	200		DB-624 0.18(mm)

GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Batch Number: 342719 Batch Start Date: 08/27/18 16:23 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	vm50is_stk_A 00001	vm50ss 00333	vm50ss_stk 00077	vmarolistdw 00260
BFB 240-342719/1		8260C		5 mL	5 mL				
STD8260 240-342719/7 IC		8260C		5 mL	5 mL	2 uL	64 uL		64 uL
STD8260 240-342719/8 IC		8260C		5 mL	5 mL	2 uL	48 uL		48 uL
STD8260 240-342719/9 IC		8260C		5 mL	5 mL	2 uL	32 uL		32 uL
ICIS 240-342719/10		8260C		5 mL	5 mL	2 uL	16 uL		16 uL
STD8260 240-342719/11 IC		8260C		5 mL	5 mL	2 uL	8 uL		8 uL
STD8260 240-342719/12 IC		8260C		5 mL	5 mL	2 uL	0.8 uL		0.8 uL
STD8260 240-342719/13 IC		8260C		5 mL	5 mL	2 uL	0.4 uL		0.4 uL
ICV 240-342719/14		8260C		5 mL	5 mL	2 uL		2 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmbfb 00020	vmfasaw 00246	vmfasgw 00271	vmfaspw 00264	vmrgas 00259	vmrprimw 00297
BFB 240-342719/1		8260C		1 uL					
STD8260 240-342719/7 IC		8260C						64 uL	64 uL
STD8260 240-342719/8 IC		8260C						48 uL	48 uL
STD8260 240-342719/9 IC		8260C						32 uL	32 uL
ICIS 240-342719/10		8260C						16 uL	16 uL
STD8260 240-342719/11 IC		8260C						8 uL	8 uL
STD8260 240-342719/12 IC		8260C						0.8 uL	0.8 uL

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Batch Number: 342719 Batch Start Date: 08/27/18 16:23 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmbfb 00020	vmfasaw 00246	vmfasgw 00271	vmfaspw 00264	vmrgas 00259	vmrprimw 00297
STD8260 240-342719/13 IC		8260C						0.4 uL	0.4 uL
ICV 240-342719/14		8260C			16 uL	16 uL	16 uL		

Batch Notes	

Basis	Basis Description

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Batch Number: 346602 Batch Start Date: 09/21/18 15:28 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	vm100is_stk_A 00001	vm100ss_stk 00029	vm50ss 00336	vmarolistdw 00265
BFB 240-346602/1		8260C		5 mL	5 mL				
STD8260 240-346602/8 IC		8260C		5 mL	5 mL	1 uL		64 uL	64 uL
STD8260 240-346602/9 IC		8260C		5 mL	5 mL	1 uL		48 uL	48 uL
STD8260 240-346602/10 IC		8260C		5 mL	5 mL	1 uL		32 uL	32 uL
ICIS 240-346602/11		8260C		5 mL	5 mL	1 uL		16 uL	16 uL
STD8260 240-346602/12 IC		8260C		5 mL	5 mL	1 uL		8 uL	8 uL
STD8260 240-346602/13 IC		8260C		5 mL	5 mL	1 uL		0.8 uL	0.8 uL
STD8260 240-346602/14 IC		8260C		5 mL	5 mL	1 uL		0.4 uL	0.4 uL
ICV 240-346602/15		8260C		5 mL	5 mL	1 uL	1 uL		
ICV 240-346602/24		8260C		5 mL	5 mL	1 uL	1 uL		

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmbfb 00020	VMFASA9W 00201	vmfasaw 00249	vmfasgw 00274	VMFASPW 00267	vmrgas 00262
BFB 240-346602/1		8260C		1 uL					
STD8260 240-346602/8 IC		8260C							64 uL
STD8260 240-346602/9 IC		8260C							48 uL
STD8260 240-346602/10 IC		8260C							32 uL
ICIS 240-346602/11		8260C							16 uL
STD8260 240-346602/12 IC		8260C							8 uL

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Batch Number: 346602 Batch Start Date: 09/21/18 15:28 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmbfb 00020	VMFASA9W 00201	vmfasaw 00249	vmfasgw 00274	VMFASPW 00267	vmrgas 00262
STD8260 240-346602/13 IC		8260C							0.8 uL
STD8260 240-346602/14 IC		8260C							0.4 uL
ICV 240-346602/15		8260C				16 uL	16 uL	16 uL	
ICV 240-346602/24		8260C			16 uL				

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmrprimw 00300					
BFB 240-346602/1		8260C							
STD8260 240-346602/8 IC		8260C		64 uL					
STD8260 240-346602/9 IC		8260C		48 uL					
STD8260 240-346602/10 IC		8260C		32 uL					
ICIS 240-346602/11		8260C		16 uL					
STD8260 240-346602/12 IC		8260C		8 uL					
STD8260 240-346602/13 IC		8260C		0.8 uL					
STD8260 240-346602/14 IC		8260C		0.4 uL					
ICV 240-346602/15		8260C							
ICV 240-346602/24		8260C							

Batch Notes	

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Batch Number: 346602 Batch Start Date: 09/21/18 15:28 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Basis	Basis Description

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Batch Number: 346694 Batch Start Date: 09/22/18 12:30 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	vm50is_stk_A 00001	vm50ss_stk 00077	vmarolistdw 00265
BFB 240-346694/1		8260C		5 mL	5 mL				
CCV 240-346694/2		8260C		5 mL	5 mL		2 uL		
CCVIS 240-346694/3		8260C		5 mL	5 mL		2 uL	2 uL	16 uL
LCS 240-346694/4		8260C		5 mL	5 mL		2 uL	2 uL	
MB 240-346694/6		8260C		5 mL	5 mL		2 uL	2 uL	
240-101358-A-1	TB-091218	8260C	T	5 mL	5 mL	<2 SU	2 uL	2 uL	
240-101358-B-2	F-GWS-2C-3-7	8260C	T	5 mL	5 mL	<2 SU	2 uL	2 uL	
240-101358-B-3	F-GWS-2B-14-18	8260C	T	5 mL	5 mL	<2 SU	2 uL	2 uL	
240-101358-B-5	F-GWS-1D-14-18	8260C	T	5 mL	5 mL	<2 SU	2 uL	2 uL	
240-101358-B-6	F-GWS-3B-18-22	8260C	T	5 mL	5 mL	<2 SU	2 uL	2 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmbfb 00020	vmfasaw 00249	vmfasgw 00275	vmfaspw 00268	vmra9w 00266	vmrgas 00262
BFB 240-346694/1		8260C		1 uL					
CCV 240-346694/2		8260C						16 uL	
CCVIS 240-346694/3		8260C							16 uL
LCS 240-346694/4		8260C			16 uL	16 uL	16 uL		
MB 240-346694/6		8260C							
240-101358-A-1	TB-091218	8260C	T						
240-101358-B-2	F-GWS-2C-3-7	8260C	T						
240-101358-B-3	F-GWS-2B-14-18	8260C	T						
240-101358-B-5	F-GWS-1D-14-18	8260C	T						
240-101358-B-6	F-GWS-3B-18-22	8260C	T						

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmrprimw 00301					
BFB 240-346694/1		8260C							

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Batch Number: 346694 Batch Start Date: 09/22/18 12:30 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmrprimw 00301					
CCV 240-346694/2		8260C							
CCVIS 240-346694/3		8260C		16 uL					
LCS 240-346694/4		8260C							
MB 240-346694/6		8260C							
240-101358-A-1	TB-091218	8260C	T						
240-101358-B-2	F-GWS-2C-3-7	8260C	T						
240-101358-B-3	F-GWS-2B-14-18	8260C	T						
240-101358-B-5	F-GWS-1D-14-18	8260C	T						
240-101358-B-6	F-GWS-3B-18-22	8260C	T						

Batch Notes	
pH Indicator ID	HC746949

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Batch Number: 346967 Batch Start Date: 09/24/18 16:08 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	vm100is_stk_A 00001	vm100ss_stk 00030	vmarolistdw 00266
BFB 240-346967/1		8260C		5 mL	5 mL				
CCV 240-346967/3		8260C		5 mL	5 mL		1 uL		
CCVIS 240-346967/4		8260C		5 mL	5 mL		1 uL	1 uL	16 uL
LCS 240-346967/5		8260C		5 mL	5 mL		1 uL	1 uL	
MB 240-346967/7		8260C		5 mL	5 mL		1 uL	1 uL	
240-101358-C-4	F-GWS-2A-21-25	8260C	T	5 mL	5 mL	<2 SU	1 uL	1 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmbfb 00020	vmfasaw 00249	vmfasgw 00275	vmfaspw 00268	vmra9w 00266	vmrgas 00262
BFB 240-346967/1		8260C		1 uL					
CCV 240-346967/3		8260C						16 uL	
CCVIS 240-346967/4		8260C							16 uL
LCS 240-346967/5		8260C			16 uL	16 uL	16 uL		
MB 240-346967/7		8260C							
240-101358-C-4	F-GWS-2A-21-25	8260C	T						

Lab Sample ID	Client Sample ID	Method Chain	Basis	vmrprimw 00301					
BFB 240-346967/1		8260C							
CCV 240-346967/3		8260C							
CCVIS 240-346967/4		8260C		16 uL					
LCS 240-346967/5		8260C							
MB 240-346967/7		8260C							
240-101358-C-4	F-GWS-2A-21-25	8260C	T						

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-101358-1

SDG No.:

Batch Number: 346967 Batch Start Date: 09/24/18 16:08 Batch Analyst: Lavey, Tim

Batch Method: 8260C Batch End Date:

Batch Notes	
pH Indicator ID	HC746949

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.

VOA Calibration Calculations:

Initial Calibration 9/21/2018
Instrument A3UX9

1,2,4-trichlorobenzene

Analyte Concentration	Analyte Response	Internal Standard Response	Internal Standard Amount	RRF	Reported RRF
0.5	9770	382090	20	1.0228	1.0228
1	20114	385482	20	1.0436	1.0436
10	174595	351366	20	0.9938	0.9938
20	340211	397379	20	0.8561	0.8561
40	675893	350916	20	0.9630	0.963
60	1016307	324266	20	1.0447	1.0447
80	1328722	287488	20	1.1555	1.1555
			Average	1.0114	1.0114
			Standard Deviation	0.0911	
			RSD	0.0901	
			%RSD	9.0066	9.0

Continuing Calibration 09/24/2018@ 16:59
Instrument A3UX9

1,2,4-trichlorobenzene

Analyte Concentration	Analyte Response	Internal Standard Response	Internal Standard Amount	RRF	%D	Reported RRF	Reported %D
20	287938	341803	20	0.8424	-16.709	0.8424	-16.7

Block F
SDG 240-101358-1

SAMPLE IDENTIFICATION	F-GWS-2A-21-25
COMPOUND	1,2,4-trichlorobenzene
COMPOUND AREA	218880
INTERNAL STANDARD AMOUNT (ng)	20
DILUTION FACTOR	1
INTERNAL STANDARD AREA	255410
AVERAGE RRF	1.0114
VOLUME OF SAMPLE	5
VOLUME OF EXTRACT	5.00
CONCENTRATION =	16.95 ug/L

TestAmerica Canton

Target Compound Quantitation Report

Data File:	\\ChromNA\Canton\ChromData\A3UX9\20180924-80177.b\UX973996.D				
Lims ID:	240-101358-C-4				
Client ID:	F-GWS-2A-21-25				
Sample Type:	Client				
Inject. Date:	24-Sep-2018 19:25:30	ALS Bottle#:	9	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	240-0080177-010				
Operator ID:	001904	Instrument ID:	A3UX9		
Method:	\\ChromNA\Canton\ChromData\A3UX9\20180924-80177.b\8260_9.m				
Limit Group:	MSV 8260C ICAL				
Last Update:	24-Sep-2018 20:25:52	Calib Date:	21-Sep-2018 22:32:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Canton\ChromData\A3UX9\20180921-80091.b\UX973921.D				
Column 1 :	DB-624 (0.18 mm)		Det: MS SCAN		
Process Host:	XAWRK010				
First Level Reviewer: laveyt		Date:	24-Sep-2018 20:27:29		

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	5.650	5.650	0.000	98	557083	20.0	
* 2 Chlorobenzene-d5	117	8.335	8.336	-0.001	88	461072	20.0	
* 3 1,4-Dichlorobenzene-d4	152	10.570	10.571	-0.001	96	255410	20.0	
$ 4 Dibromofluoromethane (Surr	113	5.070	5.071	-0.001	92	142630	19.1	
$ 5 1,2-Dichloroethane-d4 (Sur	65	5.366	5.367	-0.001	99	194045	18.4	
$ 6 Toluene-d8 (Surr)	98	7.022	7.023	-0.001	94	595513	21.9	
$ 7 4-Bromofluorobenzene (Surr	95	9.435	9.436	-0.001	89	215370	20.0	
85 Chlorobenzene	112	8.358	8.359	-0.001	90	29015	1.37	
108 1,3-Dichlorobenzene	146	10.499	10.500	-0.001	96	20666	1.07	
114 1,2-Dichlorobenzene	146	10.961	10.962	-0.001	92	8886	0.4888	
117 1,2,4-Trichlorobenzene	180	12.557	12.558	-0.001	93	218880	16.9	

Reagents:

vm100ss_stk_00030	Amount Added: 1.00	Units: uL	Run Reagent
vmDist_H2o_00127	Amount Added: 0.00	Units:	Run Reagent
vm40ml_vials_00005	Amount Added: 0.00	Units:	Run Reagent
vm100is_stk_A_00001	Amount Added: 1.00	Units: uL	Run Reagent

TETRA TECH

INTERNAL CORRESPONDENCE

TO: **T. APANAVAGE** **DATE:** **NOVEMBER 7, 2018**

FROM: **TERRI L. SOLOMON** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOCs**
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER COMPLEX (MRC)
BLOCK F
SDG 240-101689-1

SAMPLES: 7/Soil/

SB-DUP01-092018	SB-MW134-15-20
SB-MW134-9-10	SB-MW135-10-15
SB-MW135-15-20	SB-MW136-23.8-25
SB-MW136-25-28	

1/Trip Blank/
TB-092018

Overview

The sample set for LMC-MRC Block F, SDG 240-101689-1, consisted of seven (7) soil environmental samples and one (1) trip blank. All samples were analyzed for volatile organic compounds (VOCs). One (1) field duplicate pair, SB-MW134-9-10 / SB-DUP01-092018, was included in this sample delivery group (SDG).

The samples were collected by Tetra Tech, Inc. on September 20, 2018 and analyzed by TestAmerica – Canton. All analyses were conducted in accordance with SW-846 Method 8260B 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/trip blank results, surrogate spike recoveries, laboratory control sample results, matrix spike / matrix spike duplicate recoveries, internal standard areas and recoveries, field duplicate results, chromatographic resolution, analyte identification, analyte quantitation, and detection limits. Areas of concern are listed below.

Major

- The VOC initial calibration verification and continuing calibration performed on instrument A3UX17 on 10/2/2018 @ 14:33 and 10/3/2018 @ 12:07 had a relative response factor (RRF) for tert-butyl alcohol below the 0.01 quality control limit. Sample TB-092018 was affected. The non-detected result reported for tert-butyl alcohol in the affected sample was qualified as rejected, (UR).

Minor

- The VOC initial calibration verification performed on instrument A3UX14 on 08/27/18 @ 17:38 had percent differences (%Ds) for dichlorodifluoromethane, carbon disulfide and hexachlorobutadiene which exceeded the 20% quality control limit. All soil samples were affected. The detected and non-detected results reported for the aforementioned compounds in the affected samples were qualified as estimated, (J) and (UJ), respectively.

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

Notes

The VOC matrix spike / matrix spike duplicate (MS/MSD) relative percent differences (RPDs) for hecachlorobutadiene and n-butylbenzene were outside the quality control limits for sample SB-MW135-15-20. No validation actions were required all sample results were nondetects.

The following compound was detected in the laboratory method blank at the following maximum concentration:

Analyte	Maximum Concentration	Reporting Limit (RL) > or <
trans-1,3-dichloropropene(1)	2.59 ug/kg	< RL

(1) Maximum concentration present in a method blank affecting the soil samples.

No validation actions were required as all sample results were nondetects.

Non-detected results were reported to the MDL.

Executive Summary

Laboratory Performance: The initial calibration verification and continuing calibration RRF for tert-butyl alcohol was < 0.01. Several initial calibration verification %Ds were outside the quality control limits.

Other Factors Affecting Data Quality: Results below the RL were estimated.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Organic Superfund Methods Data Review" (January 2017). The text of this report has been formulated to address only those areas affecting data quality.

Tetra Tech, Inc.
Terri L. Solomon
Chemist/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

Data Qualifier Definitions

The following definitions provide brief explanations of the validation qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted detection limit.
J	The result is an estimated quantity. 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).
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
NJ	The analyte has been “tentatively identified” or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.
R	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.
UR	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.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team, but exclusion of the data is recommended.

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 x 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

PROJ_NO: 08667	NSAMPLE	TB-092018		
SDG: 240-101689-1	LAB_ID	240-101689-1		
FRACTION: OV	SAMP_DATE	9/20/2018		
MEDIA: WATER	QC_TYPE	TB		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		0.14	U	
1,1,1-TRICHLOROETHANE		0.24	U	
1,1,2,2-TETRACHLOROETHANE		0.13	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		0.41	U	
1,1-DICHLOROETHANE		0.17	U	
1,1-DICHLOROETHENE		0.19	U	
1,1-DICHLOROPROPENE		0.14	U	
1,2,3-TRICHLOROBENZENE		0.54	U	
1,2,3-TRICHLOROPROPANE		0.24	U	
1,2,3-TRIMETHYLBENZENE		0.14	U	
1,2,4-TRICHLOROBENZENE		0.26	U	
1,2,4-TRIMETHYLBENZENE		0.07	U	
1,2-DIBROMO-3-CHLOROPROPANE		0.91	U	
1,2-DIBROMOETHANE		0.12	U	
1,2-DICHLOROBENZENE		0.15	U	
1,2-DICHLOROETHANE		0.21	U	
1,2-DICHLOROPROPANE		0.15	U	
1,3-DICHLOROBENZENE		0.15	U	
1,3-DICHLOROPROPANE		0.21	U	
1,4-DICHLOROBENZENE		0.16	U	
2,2-DICHLOROPROPANE		0.31	U	
2-BUTANONE		1.2	U	
2-CHLOROETHYL VINYL ETHER		0.26	U	
2-CHLOROTOLUENE		0.15	U	
2-HEXANONE		0.54	U	
4-CHLOROTOLUENE		0.09	U	
4-ISOPROPYLTOLUENE		0.13	U	
4-METHYL-2-PENTANONE		0.42	U	
ACETONE		5.4	U	
BENZENE		0.13	U	
BROMOBENZENE		0.12	U	
BROMOCHLOROMETHANE		0.14	U	
BROMODICHLOROMETHANE		0.17	U	
BROMOFORM		0.76	U	
BROMOMETHANE		0.42	U	

PROJ_NO: 08667	NSAMPLE	TB-092018		
SDG: 240-101689-1	LAB_ID	240-101689-1		
FRACTION: OV	SAMP_DATE	9/20/2018		
MEDIA: WATER	QC_TYPE	TB		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
CARBON DISULFIDE		0.28	U	
CARBON TETRACHLORIDE		0.26	U	
CHLOROBENZENE		0.14	U	
CHLORODIBROMOMETHANE		0.39	U	
CHLOROETHANE		0.83	U	
CHLOROFORM		0.13	U	
CHLOROMETHANE		0.2	U	
CIS-1,2-DICHLOROETHENE		0.16	U	
CIS-1,3-DICHLOROPROPENE		0.61	U	
DIBROMOMETHANE		0.09	U	
DICHLORODIFLUOROMETHANE		0.35	U	
DIISOPROPYL ETHER		0.17	U	
ETHYL TERT-BUTYL ETHER		0.15	U	
ETHYLBENZENE		0.11	U	
HEXACHLOROBUTADIENE		0.83	U	
ISOPROPYLBENZENE		0.09	U	
M+P-XYLENES		0.08	U	
METHYL TERT-BUTYL ETHER		0.07	U	
METHYLENE CHLORIDE		2.6	U	
NAPHTHALENE		0.32	U	
N-BUTYLBENZENE		0.14	U	
N-PROPYLBENZENE		0.15	U	
O-XYLENE		0.09	U	
SEC-BUTYLBENZENE		0.13	U	
STYRENE		0.1	U	
TERT-AMYL METHYL ETHER		0.11	U	
TERT-BUTYLBENZENE		0.14	U	
TERTIARY-BUTYL ALCOHOL		1.7	UR	C
TETRACHLOROETHENE		0.15	U	
TOLUENE		0.14	U	
TOTAL XYLENES		0.15	U	
TRANS-1,2-DICHLOROETHENE		0.19	U	
TRANS-1,3-DICHLOROPROPENE		0.67	U	
TRICHLOROETHENE		0.1	U	
TRICHLOROFLUOROMETHANE		0.45	U	

PROJ_NO: 08667	NSAMPLE	TB-092018		
SDG: 240-101689-1	LAB_ID	240-101689-1		
FRACTION: OV	SAMP_DATE	9/20/2018		
MEDIA: WATER	QC_TYPE	TB		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
VINYL ACETATE		0.19	U	
VINYL CHLORIDE		0.2	U	

PROJ_NO: 08667	NSAMPLE	SB-DUP01-092018			SB-MW134-15-20			SB-MW134-9-10			SB-MW135-10-15		
SDG: 240-101689-1	LAB_ID	240-101689-8			240-101689-7			240-101689-6			240-101689-4		
FRACTION: OV	SAMP_DATE	9/20/2018			9/20/2018			9/20/2018			9/20/2018		
MEDIA: SOIL	QC_TYPE	FD			NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	84.5			86.0			83.8			83.4		
	DUP_OF	SB-MW134-9-10											
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		3.2	U		3.2	U		3.2	U		3.4	U	
1,1,1-TRICHLOROETHANE		0.87	U		0.89	U		0.89	U		0.93	U	
1,1,2,2-TETRACHLOROETHANE		1.5	U		1.5	U		1.5	U		1.6	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		1.4	U		1.4	U		1.4	U		1.5	U	
1,1-DICHLOROETHANE		0.74	U		0.75	U		0.75	U		0.79	U	
1,1-DICHLOROETHENE		0.96	U		0.98	U		0.98	U		1	U	
1,1-DICHLOROPROPENE		1.1	U		1.1	U		1.1	U		1.1	U	
1,2,3-TRICHLOROBENZENE		0.61	U		0.62	U		0.62	U		2.7	J	P
1,2,3-TRICHLOROPROPANE		1.7	U		1.7	U		1.7	U		1.8	U	
1,2,3-TRIMETHYLBENZENE		1.9	U		2	U		2	U		2.1	U	
1,2,4-TRICHLOROBENZENE		0.61	U		0.62	U		0.62	U		14		
1,2,4-TRIMETHYLBENZENE		1.1	U		1.1	U		1.1	U		1.1	U	
1,2-DIBROMO-3-CHLOROPROPANE		3.8	U		3.9	U		3.9	U		4.1	U	
1,2-DIBROMOETHANE		0.82	U		0.83	U		0.83	U		0.87	U	
1,2-DICHLOROBENZENE		1.2	U		1.2	U		1.2	U		1.3	U	
1,2-DICHLOROETHANE		0.82	U		1.8	J	P	0.83	U		0.88	U	
1,2-DICHLOROPROPANE		0.91	U		0.92	U		0.92	U		0.97	U	
1,3-DICHLOROBENZENE		0.87	U		0.88	U		0.88	U		1	J	P
1,3-DICHLOROPROPANE		1.1	U		1.1	U		1.1	U		1.1	U	
1,4-DICHLOROBENZENE		1.1	J	P	0.95	U		0.95	U		1	U	
2,2-DICHLOROPROPANE		1.3	U		1.3	U		1.3	U		1.4	U	
2-BUTANONE		3.8	U		3.8	U		4.9	J	P	4	U	
2-CHLOROETHYL VINYL ETHER		9.5	U		9.6	U		9.6	U		10	U	
2-CHLOROTOLUENE		1	U		1	U		1	U		1.1	U	
2-HEXANONE		4.4	U		4.4	U		4.4	U		4.6	U	
4-CHLOROTOLUENE		0.92	U		0.93	U		0.93	U		0.98	U	
4-ISOPROPYLTOLUENE		3.1	U		3.2	U		3.2	U		3.3	U	
4-METHYL-2-PENTANONE		4	U		4	U		4	U		4.2	U	
ACETONE		30			23	U		24	J	P	24	U	
BENZENE		0.74	U		0.76	U		0.75	U		0.79	U	
BROMOBENZENE		1.2	U		1.3	U		1.3	U		1.3	U	
BROMOCHLOROMETHANE		0.63	U		0.64	U		0.64	U		0.67	U	
BROMODICHLOROMETHANE		0.72	U		0.74	U		0.73	U		0.77	U	
BROMOFORM		2.6	U		2.6	U		2.6	U		2.7	U	
BROMOMETHANE		1.1	U		1.1	U		1.1	U		1.1	U	

PROJ_NO: 08667	NSAMPLE	SB-MW135-15-20			SB-MW136-23.8-25			SB-MW136-25-28		
SDG: 240-101689-1	LAB_ID	240-101689-5			240-101689-2			240-101689-3		
FRACTION: OV	SAMP_DATE	9/20/2018			9/20/2018			9/20/2018		
MEDIA: SOIL	QC_TYPE	NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	82.6			83.8			84.7		
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		3.2	U		3.2	U		3.4	U	
1,1,1-TRICHLOROETHANE		0.89	U		0.89	U		0.95	U	
1,1,2,2-TETRACHLOROETHANE		1.6	U		1.5	U		1.7	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		1.4	U		1.4	U		1.5	U	
1,1-DICHLOROETHANE		0.75	U		0.75	U		0.8	U	
1,1-DICHLOROETHENE		0.98	U		0.98	U		1	U	
1,1-DICHLOROPROPENE		1.1	U		1.1	U		1.1	U	
1,2,3-TRICHLOROBENZENE		7.5			0.62	U		0.66	U	
1,2,3-TRICHLOROPROPANE		1.7	U		1.7	U		1.8	U	
1,2,3-TRIMETHYLBENZENE		2	U		2	U		2.1	U	
1,2,4-TRICHLOROBENZENE		31			0.62	U		0.66	U	
1,2,4-TRIMETHYLBENZENE		1.1	U		1.1	U		1.2	U	
1,2-DIBROMO-3-CHLOROPROPANE		3.9	U		3.9	U		4.2	U	
1,2-DIBROMOETHANE		0.84	U		0.83	U		0.89	U	
1,2-DICHLOROBENZENE		1.2	U		1.2	U		1.3	U	
1,2-DICHLOROETHANE		0.84	U		0.83	U		1.1	J	P
1,2-DICHLOROPROPANE		0.93	U		0.92	U		0.98	U	
1,3-DICHLOROBENZENE		0.89	U		0.88	U		0.94	U	
1,3-DICHLOROPROPANE		1.1	U		1.1	U		1.1	U	
1,4-DICHLOROBENZENE		0.96	U		0.95	U		1	U	
2,2-DICHLOROPROPANE		1.3	U		1.3	U		1.4	U	
2-BUTANONE		3.9	U		3.8	U		4.1	U	
2-CHLOROETHYL VINYL ETHER		9.7	U		9.6	U		10	U	
2-CHLOROTOLUENE		1	U		1	U		1.1	U	
2-HEXANONE		4.4	U		4.4	U		4.7	U	
4-CHLOROTOLUENE		0.94	U		0.93	U		0.99	U	
4-ISOPROPYLTOLUENE		3.2	U		3.2	U		3.4	U	
4-METHYL-2-PENTANONE		4	U		4	U		4.3	U	
ACETONE		23	U		23	U		24	U	
BENZENE		0.76	U		0.75	U		0.81	U	
BROMOBENZENE		1.3	U		1.3	U		1.3	U	
BROMOCHLOROMETHANE		0.65	U		0.64	U		0.69	U	
BROMODICHLOROMETHANE		0.74	U		0.73	U		0.78	U	
BROMOFORM		2.6	U		2.6	U		2.8	U	
BROMOMETHANE		1.1	U		1.1	U		1.1	U	

PROJ_NO: 08667	NSAMPLE	SB-DUP01-092018			SB-MW134-15-20			SB-MW134-9-10			SB-MW135-10-15		
SDG: 240-101689-1	LAB_ID	240-101689-8			240-101689-7			240-101689-6			240-101689-4		
FRACTION: OV	SAMP_DATE	9/20/2018			9/20/2018			9/20/2018			9/20/2018		
MEDIA: SOIL	QC_TYPE	FD			NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	84.5			86.0			83.8			83.4		
	DUP_OF	SB-MW134-9-10											
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON DISULFIDE		1.4	J	CP	1.3	UJ	C	1.3	J	CP	1.3	UJ	C
CARBON TETRACHLORIDE		3.5	U		3.5	U		3.5	U		3.7	U	
CHLOROBENZENE		3.9	J	P	4.5	J	P	2.1	J	P	1	U	
CHLORODIBROMOMETHANE		3	U		3	U		3	U		3.2	U	
CHLOROETHANE		1.3	U		1.3	U		1.3	U		1.4	U	
CHLOROFORM		0.84	U		0.85	U		0.85	U		0.89	U	
CHLOROMETHANE		1.1	U		1.1	U		1.1	U		1.2	U	
CIS-1,2-DICHLOROETHENE		0.69	U		0.7	U		0.7	U		0.74	U	
CIS-1,3-DICHLOROPROPENE		1.5	U		1.6	U		1.6	U		1.6	U	
DIBROMOMETHANE		0.71	U		0.72	U		0.72	U		0.76	U	
DICHLORODIFLUOROMETHANE		1	UJ	C	1	UJ	C	1	UJ	C	1.1	UJ	C
DIISOPROPYL ETHER		0.81	U		0.82	U		0.82	U		0.86	U	
ETHYL TERT-BUTYL ETHER		2.4	U		2.4	U		2.4	U		2.6	U	
ETHYLBENZENE		1.1	U		1.1	U		1.1	U		1.2	U	
HEXACHLOROBUTADIENE		4	UJ	C	4	UJ	C	4	UJ	C	4.2	UJ	C
ISOPROPYLBENZENE		0.89	U		0.9	U		0.9	U		0.94	U	
M+P-XYLENES		0.84	U		0.85	U		0.85	U		0.89	U	
METHYL TERT-BUTYL ETHER		0.87	U		0.89	U		0.89	U		0.93	U	
METHYLENE CHLORIDE		13	U		13	U		13	U		14	U	
NAPHTHALENE		2.9	U		2.9	U		2.9	U		3.1	U	
N-BUTYLBENZENE		3.7	U		3.8	U		3.7	U		3.9	U	
N-PROPYLBENZENE		0.78	U		0.79	U		0.79	U		0.83	U	
O-XYLENE		0.92	U		0.93	U		0.93	U		0.98	U	
SEC-BUTYLBENZENE		0.92	U		0.94	U		0.93	U		0.98	U	
STYRENE		1.2	U		1.3	U		1.3	U		1.3	U	
TERT-AMYL METHYL ETHER		2.4	U		2.4	U		2.4	U		2.6	U	
TERT-BUTYLBENZENE		0.97	U		0.98	U		0.98	U		1	U	
TERTIARY-BUTYL ALCOHOL		18	U		18	U		18	U		19	U	
TETRACHLOROETHENE		0.78	U		0.79	U		0.79	U		0.83	U	
TOLUENE		0.82	U		0.84	U		0.84	U		0.88	U	
TOTAL XYLENES		1.7	U		1.7	U		1.7	U		1.8	U	
TRANS-1,2-DICHLOROETHENE		0.5	U		0.5	U		0.5	U		0.53	U	
TRANS-1,3-DICHLOROPROPENE		1.1	U		1.1	U		1.1	U		1.2	U	
TRICHLOROETHENE		0.68	U		0.69	U		0.68	U		0.72	U	
TRICHLOROFLUOROMETHANE		1.1	U		1.2	U		1.2	U		1.2	U	

PROJ_NO: 08667	NSAMPLE	SB-MW135-15-20			SB-MW136-23.8-25			SB-MW136-25-28		
SDG: 240-101689-1	LAB_ID	240-101689-5			240-101689-2			240-101689-3		
FRACTION: OV	SAMP_DATE	9/20/2018			9/20/2018			9/20/2018		
MEDIA: SOIL	QC_TYPE	NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	82.6			83.8			84.7		
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON DISULFIDE		1.3	UJ	C	1.3	UJ	C	1.3	UJ	C
CARBON TETRACHLORIDE		3.5	U		3.5	U		3.8	U	
CHLOROBENZENE		1	U		0.99	U		1.1	U	
CHLORODIBROMOMETHANE		3	U		3	U		3.2	U	
CHLOROETHANE		1.3	U		1.3	U		1.4	U	
CHLOROFORM		0.86	U		0.85	U		0.91	U	
CHLOROMETHANE		1.1	U		1.1	U		1.2	U	
CIS-1,2-DICHLOROETHENE		0.71	U		0.7	U		0.75	U	
CIS-1,3-DICHLOROPROPENE		1.6	U		1.6	U		1.7	U	
DIBROMOMETHANE		0.73	U		0.72	U		0.77	U	
DICHLORODIFLUOROMETHANE		1	UJ	C	1	UJ	C	1.1	UJ	C
DIISOPROPYL ETHER		0.82	U		0.82	U		0.87	U	
ETHYL TERT-BUTYL ETHER		2.5	U		2.4	U		2.6	U	
ETHYLBENZENE		1.1	U		1.1	U		1.2	U	
HEXACHLOROBUTADIENE		4.1	UJ	C	4	UJ	C	4.3	UJ	C
ISOPROPYLBENZENE		0.91	U		0.9	U		0.96	U	
M+P-XYLENES		0.85	U		0.85	U		0.9	U	
METHYL TERT-BUTYL ETHER		0.89	U		0.89	U		0.95	U	
METHYLENE CHLORIDE		13	U		13	U		14	U	
NAPHTHALENE		2.9	U		2.9	U		3.1	U	
N-BUTYLBENZENE		3.8	U		3.7	U		4	U	
N-PROPYLBENZENE		0.8	U		0.79	U		0.84	U	
O-XYLENE		0.94	U		0.93	U		0.99	U	
SEC-BUTYLBENZENE		0.94	U		0.93	U		1	U	
STYRENE		1.3	U		1.3	U		1.3	U	
TERT-AMYL METHYL ETHER		2.4	U		2.4	U		2.6	U	
TERT-BUTYLBENZENE		0.99	U		0.98	U		1	U	
TERTIARY-BUTYL ALCOHOL		18	U		18	U		19	U	
TETRACHLOROETHENE		0.79	U		0.79	U		0.84	U	
TOLUENE		0.84	U		0.84	U		0.89	U	
TOTAL XYLENES		1.7	U		1.7	U		1.8	U	
TRANS-1,2-DICHLOROETHENE		0.51	U		0.5	U		0.54	U	
TRANS-1,3-DICHLOROPROPENE		1.1	U		1.1	U		1.2	U	
TRICHLOROETHENE		0.69	U		0.68	U		0.73	U	
TRICHLOROFLUOROMETHANE		1.2	U		1.2	U		1.2	U	

PROJ_NO: 08667	NSAMPLE	SB-DUP01-092018			SB-MW134-15-20			SB-MW134-9-10			SB-MW135-10-15		
SDG: 240-101689-1	LAB_ID	240-101689-8			240-101689-7			240-101689-6			240-101689-4		
FRACTION: OV	SAMP_DATE	9/20/2018			9/20/2018			9/20/2018			9/20/2018		
MEDIA: SOIL	QC_TYPE	FD			NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	84.5			86.0			83.8			83.4		
	DUP_OF	SB-MW134-9-10											
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
VINYL ACETATE		2.3	U		2.3	U		2.3	U		2.4	U	
VINYL CHLORIDE		0.89	U		0.91	U		0.9	U		0.95	U	

PROJ_NO: 08667	NSAMPLE	SB-MW135-15-20			SB-MW136-23.8-25			SB-MW136-25-28		
SDG: 240-101689-1	LAB_ID	240-101689-5			240-101689-2			240-101689-3		
FRACTION: OV	SAMP_DATE	9/20/2018			9/20/2018			9/20/2018		
MEDIA: SOIL	QC_TYPE	NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	82.6			83.8			84.7		
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
VINYL ACETATE		2.3	U		2.3	U		2.5	U	
VINYL CHLORIDE		0.91	U		0.9	U		0.97	U	

Appendix B

Results as Reported by the Laboratory

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: TB-092018 | Lab Sample ID: 240-101689-1

Matrix: Water | Lab File ID: UXR6944.D

Analysis Method: 8260B | Date Collected: 09/20/2018 00:00

Sample wt/vol: 5(mL) | Date Analyzed: 10/03/2018 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.: 348343 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	0.14	U	1.0	0.14
71-55-6	1,1,1-Trichloroethane	0.24	U	1.0	0.24
79-34-5	1,1,2,2-Tetrachloroethane	0.13	U	1.0	0.13
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.41	U	1.0	0.41
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19
563-58-6	1,1-Dichloropropene	0.14	U	1.0	0.14
87-61-6	1,2,3-Trichlorobenzene	0.54	U	1.0	0.54
96-18-4	1,2,3-Trichloropropane	0.24	U	1.0	0.24
526-73-8	1,2,3-Trimethylbenzene	0.14	U	5.0	0.14
120-82-1	1,2,4-Trichlorobenzene	0.26	U	1.0	0.26
95-63-6	1,2,4-Trimethylbenzene	0.070	U	1.0	0.070
96-12-8	1,2-Dibromo-3-Chloropropane	0.91	U	2.0	0.91
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
107-06-2	1,2-Dichloroethane	0.21	U	1.0	0.21
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.15	U	1.0	0.15
142-28-9	1,3-Dichloropropane	0.21	U	1.0	0.21
106-46-7	1,4-Dichlorobenzene	0.16	U	1.0	0.16
594-20-7	2,2-Dichloropropane	0.31	U	1.0	0.31
110-75-8	2-Chloroethyl vinyl ether	0.26	U	10	0.26
95-49-8	2-Chlorotoluene	0.15	U	1.0	0.15
591-78-6	2-Hexanone	0.54	U	10	0.54
108-86-1	Bromobenzene	0.12	U	1.0	0.12
74-97-5	Bromochloromethane	0.14	U	1.0	0.14
106-43-4	4-Chlorotoluene	0.090	U	1.0	0.090
99-87-6	p-Isopropyltoluene	0.13	U	1.0	0.13
67-64-1	Acetone	5.4	U	10	5.4
71-43-2	Benzene	0.13	U	1.0	0.13
75-25-2	Bromoform	0.76	U	1.0	0.76
74-83-9	Bromomethane	0.42	U	1.0	0.42
75-15-0	Carbon disulfide	0.28	U	1.0	0.28
56-23-5	Carbon tetrachloride	0.26	U	1.0	0.26
108-90-7	Chlorobenzene	0.14	U	1.0	0.14
75-00-3	Chloroethane	0.83	U	1.0	0.83

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: TB-092018 | Lab Sample ID: 240-101689-1

Matrix: Water | Lab File ID: UXR6944.D

Analysis Method: 8260B | Date Collected: 09/20/2018 00:00

Sample wt/vol: 5(mL) | Date Analyzed: 10/03/2018 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.: 348343 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-66-3	Chloroform	0.13	U	1.0	0.13
74-87-3	Chloromethane	0.20	U	1.0	0.20
156-59-2	cis-1,2-Dichloroethene	0.16	U	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	0.61	U	1.0	0.61
87-68-3	Hexachlorobutadiene	0.83	U	1.0	0.83
74-95-3	Dibromomethane	0.090	U	1.0	0.090
75-27-4	Bromodichloromethane	0.17	U	1.0	0.17
75-71-8	Dichlorodifluoromethane	0.35	U	1.0	0.35
100-41-4	Ethylbenzene	0.11	U	1.0	0.11
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12
108-20-3	Diisopropyl ether	0.17	U	10	0.17
91-20-3	Naphthalene	0.32	U	1.0	0.32
179601-23-1	m-Xylene & p-Xylene	0.080	U	2.0	0.080
104-51-8	n-Butylbenzene	0.14	U	1.0	0.14
98-82-8	Isopropylbenzene	0.090	U	1.0	0.090
103-65-1	N-Propylbenzene	0.15	U	1.0	0.15
78-93-3	2-Butanone (MEK)	1.2	U	10	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	0.42	U	10	0.42
135-98-8	sec-Butylbenzene	0.13	U	1.0	0.13
1634-04-4	Methyl tert-butyl ether	0.070	U	1.0	0.070
994-05-8	Tert-amyl methyl ether	0.11	U	5.0	0.11
75-09-2	Methylene Chloride	2.6	U	5.0	2.6
95-47-6	o-Xylene	0.090	U	1.0	0.090
100-42-5	Styrene	0.10	U	1.0	0.10
637-92-3	Ethyl t-butyl ether	0.15	U	5.0	0.15
98-06-6	tert-Butylbenzene	0.14	U	1.0	0.14
127-18-4	Tetrachloroethene	0.15	U	1.0	0.15
108-88-3	Toluene	0.14	U	1.0	0.14
156-60-5	trans-1,2-Dichloroethene	0.19	U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	0.67	U	1.0	0.67
79-01-6	Trichloroethene	0.10	U	1.0	0.10
75-69-4	Trichlorofluoromethane	0.45	U	1.0	0.45
108-05-4	Vinyl acetate	0.19	U	2.0	0.19
75-01-4	Vinyl chloride	0.20	U	1.0	0.20
75-65-0	tert-Butyl alcohol	1.7	U	50	1.7
1330-20-7	Xylenes, Total	0.15	U	2.0	0.15

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: TB-092018 | Lab Sample ID: 240-101689-1

Matrix: Water | Lab File ID: UXR6944.D

Analysis Method: 8260B | Date Collected: 09/20/2018 00:00

Sample wt/vol: 5(mL) | Date Analyzed: 10/03/2018 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.: 348343 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	0.39	U	1.0	0.39

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	108		61-138
460-00-4	4-Bromofluorobenzene (Surr)	90		69-120
2037-26-5	Toluene-d8 (Surr)	97		73-120
1868-53-7	Dibromofluoromethane (Surr)	107		69-124

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: SB-MW136-23.8-25 | Lab Sample ID: 240-101689-2

Matrix: Solid | Lab File ID: 1415854.D

Analysis Method: 8260B | Date Collected: 09/20/2018 10:15

Sample wt/vol: 5.5210(g) | Date Analyzed: 09/25/2018 19:42

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 16.2 | Level: (low/med) Low

Analysis Batch No.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	3.2	U	5.4	3.2
71-55-6	1,1,1-Trichloroethane	0.89	U	5.4	0.89
79-34-5	1,1,2,2-Tetrachloroethane	1.5	U	5.4	1.5
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.4	U	5.4	1.4
75-34-3	1,1-Dichloroethane	0.75	U	5.4	0.75
75-35-4	1,1-Dichloroethene	0.98	U	5.4	0.98
563-58-6	1,1-Dichloropropene	1.1	U	5.4	1.1
87-61-6	1,2,3-Trichlorobenzene	0.62	U	5.4	0.62
96-18-4	1,2,3-Trichloropropane	1.7	U	5.4	1.7
526-73-8	1,2,3-Trimethylbenzene	2.0	U	5.4	2.0
120-82-1	1,2,4-Trichlorobenzene	0.62	U	5.4	0.62
95-63-6	1,2,4-Trimethylbenzene	1.1	U	5.4	1.1
96-12-8	1,2-Dibromo-3-Chloropropane	3.9	U	11	3.9
95-50-1	1,2-Dichlorobenzene	1.2	U	5.4	1.2
107-06-2	1,2-Dichloroethane	0.83	U	5.4	0.83
78-87-5	1,2-Dichloropropane	0.92	U	5.4	0.92
541-73-1	1,3-Dichlorobenzene	0.88	U	5.4	0.88
142-28-9	1,3-Dichloropropane	1.1	U	5.4	1.1
106-46-7	1,4-Dichlorobenzene	0.95	U	5.4	0.95
594-20-7	2,2-Dichloropropane	1.3	U	5.4	1.3
110-75-8	2-Chloroethyl vinyl ether	9.6	U	54	9.6
95-49-8	2-Chlorotoluene	1.0	U	5.4	1.0
591-78-6	2-Hexanone	4.4	U	22	4.4
108-86-1	Bromobenzene	1.3	U	5.4	1.3
74-97-5	Bromochloromethane	0.64	U	5.4	0.64
106-43-4	4-Chlorotoluene	0.93	U	5.4	0.93
99-87-6	p-Isopropyltoluene	3.2	U	5.4	3.2
67-64-1	Acetone	23	U	27	23
71-43-2	Benzene	0.75	U	5.4	0.75
75-25-2	Bromoform	2.6	U	5.4	2.6
74-83-9	Bromomethane	1.1	U	5.4	1.1
75-15-0	Carbon disulfide	1.3	U	5.4	1.3
56-23-5	Carbon tetrachloride	3.5	U	5.4	3.5
108-90-7	Chlorobenzene	0.99	U	5.4	0.99
75-00-3	Chloroethane	1.3	U	5.4	1.3

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: SB-MW136-23.8-25 | Lab Sample ID: 240-101689-2

Matrix: Solid | Lab File ID: 1415854.D

Analysis Method: 8260B | Date Collected: 09/20/2018 10:15

Sample wt/vol: 5.5210(g) | Date Analyzed: 09/25/2018 19:42

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 16.2 | Level: (low/med) Low

Analysis Batch No.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-66-3	Chloroform	0.85	U	5.4	0.85
74-87-3	Chloromethane	1.1	U	5.4	1.1
156-59-2	cis-1,2-Dichloroethene	0.70	U	5.4	0.70
10061-01-5	cis-1,3-Dichloropropene	1.6	U	5.4	1.6
87-68-3	Hexachlorobutadiene	4.0	U	5.4	4.0
74-95-3	Dibromomethane	0.72	U	5.4	0.72
75-27-4	Bromodichloromethane	0.73	U	5.4	0.73
75-71-8	Dichlorodifluoromethane	1.0	U	5.4	1.0
100-41-4	Ethylbenzene	1.1	U	5.4	1.1
106-93-4	1,2-Dibromoethane	0.83	U	5.4	0.83
108-20-3	Diisopropyl ether	0.82	U	11	0.82
91-20-3	Naphthalene	2.9	U	5.4	2.9
179601-23-1	m-Xylene & p-Xylene	0.85	U	11	0.85
104-51-8	n-Butylbenzene	3.7	U	5.4	3.7
98-82-8	Isopropylbenzene	0.90	U	5.4	0.90
103-65-1	N-Propylbenzene	0.79	U	5.4	0.79
78-93-3	2-Butanone (MEK)	3.8	U	22	3.8
108-10-1	4-Methyl-2-pentanone (MIBK)	4.0	U	22	4.0
135-98-8	sec-Butylbenzene	0.93	U	5.4	0.93
1634-04-4	Methyl tert-butyl ether	0.89	U	5.4	0.89
994-05-8	Tert-amyl methyl ether	2.4	U	5.4	2.4
75-09-2	Methylene Chloride	13	U	27	13
95-47-6	o-Xylene	0.93	U	5.4	0.93
100-42-5	Styrene	1.3	U	5.4	1.3
637-92-3	Ethyl t-butyl ether	2.4	U	5.4	2.4
98-06-6	tert-Butylbenzene	0.98	U	5.4	0.98
127-18-4	Tetrachloroethene	0.79	U	5.4	0.79
108-88-3	Toluene	0.84	U	5.4	0.84
156-60-5	trans-1,2-Dichloroethene	0.50	U	5.4	0.50
10061-02-6	trans-1,3-Dichloropropene	1.1	U	5.4	1.1
79-01-6	Trichloroethene	0.68	U	5.4	0.68
75-69-4	Trichlorofluoromethane	1.2	U	5.4	1.2
108-05-4	Vinyl acetate	2.3	U	11	2.3
75-01-4	Vinyl chloride	0.90	U	5.4	0.90
75-65-0	tert-Butyl alcohol	18	U	220	18
1330-20-7	Xylenes, Total	1.7	U	11	1.7

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: SB-MW136-23.8-25 | Lab Sample ID: 240-101689-2

Matrix: Solid | Lab File ID: 1415854.D

Analysis Method: 8260B | Date Collected: 09/20/2018 10:15

Sample wt/vol: 5.5210(g) | Date Analyzed: 09/25/2018 19:42

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 16.2 | Level: (low/med) Low

Analysis Batch No.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	3.0	U	5.4	3.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	90		48-123
460-00-4	4-Bromofluorobenzene (Surr)	95		49-141
2037-26-5	Toluene-d8 (Surr)	84		62-135
1868-53-7	Dibromofluoromethane (Surr)	85		49-132

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: SB-MW136-25-28 | Lab Sample ID: 240-101689-3

Matrix: Solid | Lab File ID: 1415855.D

Analysis Method: 8260B | Date Collected: 09/20/2018 10:20

Sample wt/vol: 5.1148(g) | Date Analyzed: 09/25/2018 20:03

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 15.3 | Level: (low/med) Low

Analysis Batch No.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	3.4	U	5.8	3.4
71-55-6	1,1,1-Trichloroethane	0.95	U	5.8	0.95
79-34-5	1,1,2,2-Tetrachloroethane	1.7	U	5.8	1.7
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.5	U	5.8	1.5
75-34-3	1,1-Dichloroethane	0.80	U	5.8	0.80
75-35-4	1,1-Dichloroethene	1.0	U	5.8	1.0
563-58-6	1,1-Dichloropropene	1.1	U	5.8	1.1
87-61-6	1,2,3-Trichlorobenzene	0.66	U	5.8	0.66
96-18-4	1,2,3-Trichloropropane	1.8	U	5.8	1.8
526-73-8	1,2,3-Trimethylbenzene	2.1	U	5.8	2.1
120-82-1	1,2,4-Trichlorobenzene	0.66	U	5.8	0.66
95-63-6	1,2,4-Trimethylbenzene	1.2	U	5.8	1.2
96-12-8	1,2-Dibromo-3-Chloropropane	4.2	U	12	4.2
95-50-1	1,2-Dichlorobenzene	1.3	U	5.8	1.3
107-06-2	1,2-Dichloroethane	1.1	J	5.8	0.89
78-87-5	1,2-Dichloropropane	0.98	U	5.8	0.98
541-73-1	1,3-Dichlorobenzene	0.94	U	5.8	0.94
142-28-9	1,3-Dichloropropane	1.1	U	5.8	1.1
106-46-7	1,4-Dichlorobenzene	1.0	U	5.8	1.0
594-20-7	2,2-Dichloropropane	1.4	U	5.8	1.4
110-75-8	2-Chloroethyl vinyl ether	10	U	58	10
95-49-8	2-Chlorotoluene	1.1	U	5.8	1.1
591-78-6	2-Hexanone	4.7	U	23	4.7
108-86-1	Bromobenzene	1.3	U	5.8	1.3
74-97-5	Bromochloromethane	0.69	U	5.8	0.69
106-43-4	4-Chlorotoluene	0.99	U	5.8	0.99
99-87-6	p-Isopropyltoluene	3.4	U	5.8	3.4
67-64-1	Acetone	24	U	29	24
71-43-2	Benzene	0.81	U	5.8	0.81
75-25-2	Bromoform	2.8	U	5.8	2.8
74-83-9	Bromomethane	1.1	U	5.8	1.1
75-15-0	Carbon disulfide	1.3	U	5.8	1.3
56-23-5	Carbon tetrachloride	3.8	U	5.8	3.8
108-90-7	Chlorobenzene	1.1	U	5.8	1.1
75-00-3	Chloroethane	1.4	U	5.8	1.4

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: SB-MW136-25-28 | Lab Sample ID: 240-101689-3

Matrix: Solid | Lab File ID: 1415855.D

Analysis Method: 8260B | Date Collected: 09/20/2018 10:20

Sample wt/vol: 5.1148(g) | Date Analyzed: 09/25/2018 20:03

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 15.3 | Level: (low/med) Low

Analysis Batch No.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-66-3	Chloroform	0.91	U	5.8	0.91
74-87-3	Chloromethane	1.2	U	5.8	1.2
156-59-2	cis-1,2-Dichloroethene	0.75	U	5.8	0.75
10061-01-5	cis-1,3-Dichloropropene	1.7	U	5.8	1.7
87-68-3	Hexachlorobutadiene	4.3	U	5.8	4.3
74-95-3	Dibromomethane	0.77	U	5.8	0.77
75-27-4	Bromodichloromethane	0.78	U	5.8	0.78
75-71-8	Dichlorodifluoromethane	1.1	U	5.8	1.1
100-41-4	Ethylbenzene	1.2	U	5.8	1.2
106-93-4	1,2-Dibromoethane	0.89	U	5.8	0.89
108-20-3	Diisopropyl ether	0.87	U	12	0.87
91-20-3	Naphthalene	3.1	U	5.8	3.1
179601-23-1	m-Xylene & p-Xylene	0.90	U	12	0.90
104-51-8	n-Butylbenzene	4.0	U	5.8	4.0
98-82-8	Isopropylbenzene	0.96	U	5.8	0.96
103-65-1	N-Propylbenzene	0.84	U	5.8	0.84
78-93-3	2-Butanone (MEK)	4.1	U	23	4.1
108-10-1	4-Methyl-2-pentanone (MIBK)	4.3	U	23	4.3
135-98-8	sec-Butylbenzene	1.0	U	5.8	1.0
1634-04-4	Methyl tert-butyl ether	0.95	U	5.8	0.95
994-05-8	Tert-amyl methyl ether	2.6	U	5.8	2.6
75-09-2	Methylene Chloride	14	U	29	14
95-47-6	o-Xylene	0.99	U	5.8	0.99
100-42-5	Styrene	1.3	U	5.8	1.3
637-92-3	Ethyl t-butyl ether	2.6	U	5.8	2.6
98-06-6	tert-Butylbenzene	1.0	U	5.8	1.0
127-18-4	Tetrachloroethene	0.84	U	5.8	0.84
108-88-3	Toluene	0.89	U	5.8	0.89
156-60-5	trans-1,2-Dichloroethene	0.54	U	5.8	0.54
10061-02-6	trans-1,3-Dichloropropene	1.2	U	5.8	1.2
79-01-6	Trichloroethene	0.73	U	5.8	0.73
75-69-4	Trichlorofluoromethane	1.2	U	5.8	1.2
108-05-4	Vinyl acetate	2.5	U	12	2.5
75-01-4	Vinyl chloride	0.97	U	5.8	0.97
75-65-0	tert-Butyl alcohol	19	U	230	19
1330-20-7	Xylenes, Total	1.8	U	12	1.8

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: SB-MW136-25-28 | Lab Sample ID: 240-101689-3

Matrix: Solid | Lab File ID: 1415855.D

Analysis Method: 8260B | Date Collected: 09/20/2018 10:20

Sample wt/vol: 5.1148(g) | Date Analyzed: 09/25/2018 20:03

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 15.3 | Level: (low/med) Low

Analysis Batch No.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	3.2	U	5.8	3.2

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		48-123
460-00-4	4-Bromofluorobenzene (Surr)	90		49-141
2037-26-5	Toluene-d8 (Surr)	86		62-135
1868-53-7	Dibromofluoromethane (Surr)	87		49-132

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: SB-MW135-10-15 | Lab Sample ID: 240-101689-4

Matrix: Solid | Lab File ID: 1415856.D

Analysis Method: 8260B | Date Collected: 09/20/2018 11:15

Sample wt/vol: 5.2772(g) | Date Analyzed: 09/25/2018 20:25

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 16.6 | Level: (low/med) Low

Analysis Batch No.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	3.4	U	5.7	3.4
71-55-6	1,1,1-Trichloroethane	0.93	U	5.7	0.93
79-34-5	1,1,2,2-Tetrachloroethane	1.6	U	5.7	1.6
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.5	U	5.7	1.5
75-34-3	1,1-Dichloroethane	0.79	U	5.7	0.79
75-35-4	1,1-Dichloroethene	1.0	U	5.7	1.0
563-58-6	1,1-Dichloropropene	1.1	U	5.7	1.1
87-61-6	1,2,3-Trichlorobenzene	2.7	J	5.7	0.65
96-18-4	1,2,3-Trichloropropane	1.8	U	5.7	1.8
526-73-8	1,2,3-Trimethylbenzene	2.1	U	5.7	2.1
120-82-1	1,2,4-Trichlorobenzene	14		5.7	0.65
95-63-6	1,2,4-Trimethylbenzene	1.1	U	5.7	1.1
96-12-8	1,2-Dibromo-3-Chloropropane	4.1	U	11	4.1
95-50-1	1,2-Dichlorobenzene	1.3	U	5.7	1.3
107-06-2	1,2-Dichloroethane	0.88	U	5.7	0.88
78-87-5	1,2-Dichloropropane	0.97	U	5.7	0.97
541-73-1	1,3-Dichlorobenzene	1.0	J	5.7	0.93
142-28-9	1,3-Dichloropropane	1.1	U	5.7	1.1
106-46-7	1,4-Dichlorobenzene	1.0	U	5.7	1.0
594-20-7	2,2-Dichloropropane	1.4	U	5.7	1.4
110-75-8	2-Chloroethyl vinyl ether	10	U	57	10
95-49-8	2-Chlorotoluene	1.1	U	5.7	1.1
591-78-6	2-Hexanone	4.6	U	23	4.6
108-86-1	Bromobenzene	1.3	U	5.7	1.3
74-97-5	Bromochloromethane	0.67	U	5.7	0.67
106-43-4	4-Chlorotoluene	0.98	U	5.7	0.98
99-87-6	p-Isopropyltoluene	3.3	U	5.7	3.3
67-64-1	Acetone	24	U	28	24
71-43-2	Benzene	0.79	U	5.7	0.79
75-25-2	Bromoform	2.7	U	5.7	2.7
74-83-9	Bromomethane	1.1	U	5.7	1.1
75-15-0	Carbon disulfide	1.3	U	5.7	1.3
56-23-5	Carbon tetrachloride	3.7	U	5.7	3.7
108-90-7	Chlorobenzene	1.0	U	5.7	1.0
75-00-3	Chloroethane	1.4	U	5.7	1.4

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: SB-MW135-10-15 | Lab Sample ID: 240-101689-4

Matrix: Solid | Lab File ID: 1415856.D

Analysis Method: 8260B | Date Collected: 09/20/2018 11:15

Sample wt/vol: 5.2772(g) | Date Analyzed: 09/25/2018 20:25

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 16.6 | Level: (low/med) Low

Analysis Batch No.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-66-3	Chloroform	0.89	U	5.7	0.89
74-87-3	Chloromethane	1.2	U	5.7	1.2
156-59-2	cis-1,2-Dichloroethene	0.74	U	5.7	0.74
10061-01-5	cis-1,3-Dichloropropene	1.6	U	5.7	1.6
87-68-3	Hexachlorobutadiene	4.2	U	5.7	4.2
74-95-3	Dibromomethane	0.76	U	5.7	0.76
75-27-4	Bromodichloromethane	0.77	U	5.7	0.77
75-71-8	Dichlorodifluoromethane	1.1	U	5.7	1.1
100-41-4	Ethylbenzene	1.2	U	5.7	1.2
106-93-4	1,2-Dibromoethane	0.87	U	5.7	0.87
108-20-3	Diisopropyl ether	0.86	U	11	0.86
91-20-3	Naphthalene	3.1	U	5.7	3.1
179601-23-1	m-Xylene & p-Xylene	0.89	U	11	0.89
104-51-8	n-Butylbenzene	3.9	U	5.7	3.9
98-82-8	Isopropylbenzene	0.94	U	5.7	0.94
103-65-1	N-Propylbenzene	0.83	U	5.7	0.83
78-93-3	2-Butanone (MEK)	4.0	U	23	4.0
108-10-1	4-Methyl-2-pentanone (MIBK)	4.2	U	23	4.2
135-98-8	sec-Butylbenzene	0.98	U	5.7	0.98
1634-04-4	Methyl tert-butyl ether	0.93	U	5.7	0.93
994-05-8	Tert-amyl methyl ether	2.6	U	5.7	2.6
75-09-2	Methylene Chloride	14	U	28	14
95-47-6	o-Xylene	0.98	U	5.7	0.98
100-42-5	Styrene	1.3	U	5.7	1.3
637-92-3	Ethyl t-butyl ether	2.6	U	5.7	2.6
98-06-6	tert-Butylbenzene	1.0	U	5.7	1.0
127-18-4	Tetrachloroethene	0.83	U	5.7	0.83
108-88-3	Toluene	0.88	U	5.7	0.88
156-60-5	trans-1,2-Dichloroethene	0.53	U	5.7	0.53
10061-02-6	trans-1,3-Dichloropropene	1.2	U	5.7	1.2
79-01-6	Trichloroethene	0.72	U	5.7	0.72
75-69-4	Trichlorofluoromethane	1.2	U	5.7	1.2
108-05-4	Vinyl acetate	2.4	U	11	2.4
75-01-4	Vinyl chloride	0.95	U	5.7	0.95
75-65-0	tert-Butyl alcohol	19	U	230	19
1330-20-7	Xylenes, Total	1.8	U	11	1.8

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: SB-MW135-10-15 | Lab Sample ID: 240-101689-4

Matrix: Solid | Lab File ID: 1415856.D

Analysis Method: 8260B | Date Collected: 09/20/2018 11:15

Sample wt/vol: 5.2772(g) | Date Analyzed: 09/25/2018 20:25

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 16.6 | Level: (low/med) Low

Analysis Batch No.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	3.2	U	5.7	3.2

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		48-123
460-00-4	4-Bromofluorobenzene (Surr)	92		49-141
2037-26-5	Toluene-d8 (Surr)	88		62-135
1868-53-7	Dibromofluoromethane (Surr)	89		49-132

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: SB-MW135-15-20 | Lab Sample ID: 240-101689-5

Matrix: Solid | Lab File ID: 1415857.D

Analysis Method: 8260B | Date Collected: 09/20/2018 11:20

Sample wt/vol: 5.5636(g) | Date Analyzed: 09/25/2018 20:46

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 17.4 | Level: (low/med) Low

Analysis Batch No.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	3.2	U	5.4	3.2
71-55-6	1,1,1-Trichloroethane	0.89	U	5.4	0.89
79-34-5	1,1,2,2-Tetrachloroethane	1.6	U	5.4	1.6
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.4	U	5.4	1.4
75-34-3	1,1-Dichloroethane	0.75	U	5.4	0.75
75-35-4	1,1-Dichloroethene	0.98	U	5.4	0.98
563-58-6	1,1-Dichloropropene	1.1	U	5.4	1.1
87-61-6	1,2,3-Trichlorobenzene	7.5		5.4	0.62
96-18-4	1,2,3-Trichloropropane	1.7	U	5.4	1.7
526-73-8	1,2,3-Trimethylbenzene	2.0	U	5.4	2.0
120-82-1	1,2,4-Trichlorobenzene	31		5.4	0.62
95-63-6	1,2,4-Trimethylbenzene	1.1	U	5.4	1.1
96-12-8	1,2-Dibromo-3-Chloropropane	3.9	U	11	3.9
95-50-1	1,2-Dichlorobenzene	1.2	U	5.4	1.2
107-06-2	1,2-Dichloroethane	0.84	U	5.4	0.84
78-87-5	1,2-Dichloropropane	0.93	U	5.4	0.93
541-73-1	1,3-Dichlorobenzene	0.89	U	5.4	0.89
142-28-9	1,3-Dichloropropane	1.1	U	5.4	1.1
106-46-7	1,4-Dichlorobenzene	0.96	U	5.4	0.96
594-20-7	2,2-Dichloropropane	1.3	U	5.4	1.3
110-75-8	2-Chloroethyl vinyl ether	9.7	U	54	9.7
95-49-8	2-Chlorotoluene	1.0	U	5.4	1.0
591-78-6	2-Hexanone	4.4	U	22	4.4
108-86-1	Bromobenzene	1.3	U	5.4	1.3
74-97-5	Bromochloromethane	0.65	U	5.4	0.65
106-43-4	4-Chlorotoluene	0.94	U	5.4	0.94
99-87-6	p-Isopropyltoluene	3.2	U	5.4	3.2
67-64-1	Acetone	23	U	27	23
71-43-2	Benzene	0.76	U	5.4	0.76
75-25-2	Bromoform	2.6	U	5.4	2.6
74-83-9	Bromomethane	1.1	U	5.4	1.1
75-15-0	Carbon disulfide	1.3	U	5.4	1.3
56-23-5	Carbon tetrachloride	3.5	U	5.4	3.5
108-90-7	Chlorobenzene	1.0	U	5.4	1.0
75-00-3	Chloroethane	1.3	U	5.4	1.3

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: SB-MW135-15-20 | Lab Sample ID: 240-101689-5

Matrix: Solid | Lab File ID: 1415857.D

Analysis Method: 8260B | Date Collected: 09/20/2018 11:20

Sample wt/vol: 5.5636(g) | Date Analyzed: 09/25/2018 20:46

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 17.4 | Level: (low/med) Low

Analysis Batch No.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-66-3	Chloroform	0.86	U	5.4	0.86
74-87-3	Chloromethane	1.1	U	5.4	1.1
156-59-2	cis-1,2-Dichloroethene	0.71	U	5.4	0.71
10061-01-5	cis-1,3-Dichloropropene	1.6	U	5.4	1.6
87-68-3	Hexachlorobutadiene	4.1	U F2	5.4	4.1
74-95-3	Dibromomethane	0.73	U	5.4	0.73
75-27-4	Bromodichloromethane	0.74	U	5.4	0.74
75-71-8	Dichlorodifluoromethane	1.0	U	5.4	1.0
100-41-4	Ethylbenzene	1.1	U	5.4	1.1
106-93-4	1,2-Dibromoethane	0.84	U	5.4	0.84
108-20-3	Diisopropyl ether	0.82	U	11	0.82
91-20-3	Naphthalene	2.9	U	5.4	2.9
179601-23-1	m-Xylene & p-Xylene	0.85	U	11	0.85
104-51-8	n-Butylbenzene	3.8	U F2	5.4	3.8
98-82-8	Isopropylbenzene	0.91	U	5.4	0.91
103-65-1	N-Propylbenzene	0.80	U	5.4	0.80
78-93-3	2-Butanone (MEK)	3.9	U	22	3.9
108-10-1	4-Methyl-2-pentanone (MIBK)	4.0	U	22	4.0
135-98-8	sec-Butylbenzene	0.94	U	5.4	0.94
1634-04-4	Methyl tert-butyl ether	0.89	U	5.4	0.89
994-05-8	Tert-amyl methyl ether	2.4	U	5.4	2.4
75-09-2	Methylene Chloride	13	U	27	13
95-47-6	o-Xylene	0.94	U	5.4	0.94
100-42-5	Styrene	1.3	U	5.4	1.3
637-92-3	Ethyl t-butyl ether	2.5	U	5.4	2.5
98-06-6	tert-Butylbenzene	0.99	U	5.4	0.99
127-18-4	Tetrachloroethene	0.79	U	5.4	0.79
108-88-3	Toluene	0.84	U	5.4	0.84
156-60-5	trans-1,2-Dichloroethene	0.51	U	5.4	0.51
10061-02-6	trans-1,3-Dichloropropene	1.1	U	5.4	1.1
79-01-6	Trichloroethene	0.69	U	5.4	0.69
75-69-4	Trichlorofluoromethane	1.2	U	5.4	1.2
108-05-4	Vinyl acetate	2.3	U	11	2.3
75-01-4	Vinyl chloride	0.91	U	5.4	0.91
75-65-0	tert-Butyl alcohol	18	U	220	18
1330-20-7	Xylenes, Total	1.7	U	11	1.7

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: SB-MW135-15-20 | Lab Sample ID: 240-101689-5

Matrix: Solid | Lab File ID: 1415857.D

Analysis Method: 8260B | Date Collected: 09/20/2018 11:20

Sample wt/vol: 5.5636(g) | Date Analyzed: 09/25/2018 20:46

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 17.4 | Level: (low/med) Low

Analysis Batch No.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	3.0	U	5.4	3.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	92		48-123
460-00-4	4-Bromofluorobenzene (Surr)	91		49-141
2037-26-5	Toluene-d8 (Surr)	91		62-135
1868-53-7	Dibromofluoromethane (Surr)	89		49-132

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: SB-MW134-9-10 | Lab Sample ID: 240-101689-6

Matrix: Solid | Lab File ID: 1415861.D

Analysis Method: 8260B | Date Collected: 09/20/2018 13:40

Sample wt/vol: 5.5186(g) | Date Analyzed: 09/25/2018 22:12

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 16.2 | Level: (low/med) Low

Analysis Batch No.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	3.2	U	5.4	3.2
71-55-6	1,1,1-Trichloroethane	0.89	U	5.4	0.89
79-34-5	1,1,2,2-Tetrachloroethane	1.5	U	5.4	1.5
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.4	U	5.4	1.4
75-34-3	1,1-Dichloroethane	0.75	U	5.4	0.75
75-35-4	1,1-Dichloroethene	0.98	U	5.4	0.98
563-58-6	1,1-Dichloropropene	1.1	U	5.4	1.1
87-61-6	1,2,3-Trichlorobenzene	0.62	U	5.4	0.62
96-18-4	1,2,3-Trichloropropane	1.7	U	5.4	1.7
526-73-8	1,2,3-Trimethylbenzene	2.0	U	5.4	2.0
120-82-1	1,2,4-Trichlorobenzene	0.62	U	5.4	0.62
95-63-6	1,2,4-Trimethylbenzene	1.1	U	5.4	1.1
96-12-8	1,2-Dibromo-3-Chloropropane	3.9	U	11	3.9
95-50-1	1,2-Dichlorobenzene	1.2	U	5.4	1.2
107-06-2	1,2-Dichloroethane	0.83	U	5.4	0.83
78-87-5	1,2-Dichloropropane	0.92	U	5.4	0.92
541-73-1	1,3-Dichlorobenzene	0.88	U	5.4	0.88
142-28-9	1,3-Dichloropropane	1.1	U	5.4	1.1
106-46-7	1,4-Dichlorobenzene	0.95	U	5.4	0.95
594-20-7	2,2-Dichloropropane	1.3	U	5.4	1.3
110-75-8	2-Chloroethyl vinyl ether	9.6	U	54	9.6
95-49-8	2-Chlorotoluene	1.0	U	5.4	1.0
591-78-6	2-Hexanone	4.4	U	22	4.4
108-86-1	Bromobenzene	1.3	U	5.4	1.3
74-97-5	Bromochloromethane	0.64	U	5.4	0.64
106-43-4	4-Chlorotoluene	0.93	U	5.4	0.93
99-87-6	p-Isopropyltoluene	3.2	U	5.4	3.2
67-64-1	Acetone	24	J	27	23
71-43-2	Benzene	0.75	U	5.4	0.75
75-25-2	Bromoform	2.6	U	5.4	2.6
74-83-9	Bromomethane	1.1	U	5.4	1.1
75-15-0	Carbon disulfide	1.3	J	5.4	1.3
56-23-5	Carbon tetrachloride	3.5	U	5.4	3.5
108-90-7	Chlorobenzene	2.1	J	5.4	0.99
75-00-3	Chloroethane	1.3	U	5.4	1.3

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: SB-MW134-9-10 | Lab Sample ID: 240-101689-6

Matrix: Solid | Lab File ID: 1415861.D

Analysis Method: 8260B | Date Collected: 09/20/2018 13:40

Sample wt/vol: 5.5186(g) | Date Analyzed: 09/25/2018 22:12

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 16.2 | Level: (low/med) Low

Analysis Batch No.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-66-3	Chloroform	0.85	U	5.4	0.85
74-87-3	Chloromethane	1.1	U	5.4	1.1
156-59-2	cis-1,2-Dichloroethene	0.70	U	5.4	0.70
10061-01-5	cis-1,3-Dichloropropene	1.6	U	5.4	1.6
87-68-3	Hexachlorobutadiene	4.0	U	5.4	4.0
74-95-3	Dibromomethane	0.72	U	5.4	0.72
75-27-4	Bromodichloromethane	0.73	U	5.4	0.73
75-71-8	Dichlorodifluoromethane	1.0	U	5.4	1.0
100-41-4	Ethylbenzene	1.1	U	5.4	1.1
106-93-4	1,2-Dibromoethane	0.83	U	5.4	0.83
108-20-3	Diisopropyl ether	0.82	U	11	0.82
91-20-3	Naphthalene	2.9	U	5.4	2.9
179601-23-1	m-Xylene & p-Xylene	0.85	U	11	0.85
104-51-8	n-Butylbenzene	3.7	U	5.4	3.7
98-82-8	Isopropylbenzene	0.90	U	5.4	0.90
103-65-1	N-Propylbenzene	0.79	U	5.4	0.79
78-93-3	2-Butanone (MEK)	4.9	J	22	3.8
108-10-1	4-Methyl-2-pentanone (MIBK)	4.0	U	22	4.0
135-98-8	sec-Butylbenzene	0.93	U	5.4	0.93
1634-04-4	Methyl tert-butyl ether	0.89	U	5.4	0.89
994-05-8	Tert-amyl methyl ether	2.4	U	5.4	2.4
75-09-2	Methylene Chloride	13	U	27	13
95-47-6	o-Xylene	0.93	U	5.4	0.93
100-42-5	Styrene	1.3	U	5.4	1.3
637-92-3	Ethyl t-butyl ether	2.4	U	5.4	2.4
98-06-6	tert-Butylbenzene	0.98	U	5.4	0.98
127-18-4	Tetrachloroethene	0.79	U	5.4	0.79
108-88-3	Toluene	0.84	U	5.4	0.84
156-60-5	trans-1,2-Dichloroethene	0.50	U	5.4	0.50
10061-02-6	trans-1,3-Dichloropropene	1.1	U	5.4	1.1
79-01-6	Trichloroethene	0.68	U	5.4	0.68
75-69-4	Trichlorofluoromethane	1.2	U	5.4	1.2
108-05-4	Vinyl acetate	2.3	U	11	2.3
75-01-4	Vinyl chloride	0.90	U	5.4	0.90
75-65-0	tert-Butyl alcohol	18	U	220	18
1330-20-7	Xylenes, Total	1.7	U	11	1.7

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: SB-MW134-9-10 | Lab Sample ID: 240-101689-6

Matrix: Solid | Lab File ID: 1415861.D

Analysis Method: 8260B | Date Collected: 09/20/2018 13:40

Sample wt/vol: 5.5186(g) | Date Analyzed: 09/25/2018 22:12

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 16.2 | Level: (low/med) Low

Analysis Batch No.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	3.0	U	5.4	3.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		48-123
460-00-4	4-Bromofluorobenzene (Surr)	97		49-141
2037-26-5	Toluene-d8 (Surr)	89		62-135
1868-53-7	Dibromofluoromethane (Surr)	83		49-132

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: SB-MW134-15-20 | Lab Sample ID: 240-101689-7

Matrix: Solid | Lab File ID: 1415862.D

Analysis Method: 8260B | Date Collected: 09/20/2018 13:50

Sample wt/vol: 5.3713(g) | Date Analyzed: 09/25/2018 22:34

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 14.0 | Level: (low/med) Low

Analysis Batch No.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	3.2	U	5.4	3.2
71-55-6	1,1,1-Trichloroethane	0.89	U	5.4	0.89
79-34-5	1,1,2,2-Tetrachloroethane	1.5	U	5.4	1.5
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.4	U	5.4	1.4
75-34-3	1,1-Dichloroethane	0.75	U	5.4	0.75
75-35-4	1,1-Dichloroethene	0.98	U	5.4	0.98
563-58-6	1,1-Dichloropropene	1.1	U	5.4	1.1
87-61-6	1,2,3-Trichlorobenzene	0.62	U	5.4	0.62
96-18-4	1,2,3-Trichloropropane	1.7	U	5.4	1.7
526-73-8	1,2,3-Trimethylbenzene	2.0	U	5.4	2.0
120-82-1	1,2,4-Trichlorobenzene	0.62	U	5.4	0.62
95-63-6	1,2,4-Trimethylbenzene	1.1	U	5.4	1.1
96-12-8	1,2-Dibromo-3-Chloropropane	3.9	U	11	3.9
95-50-1	1,2-Dichlorobenzene	1.2	U	5.4	1.2
107-06-2	1,2-Dichloroethane	1.8	J	5.4	0.84
78-87-5	1,2-Dichloropropane	0.92	U	5.4	0.92
541-73-1	1,3-Dichlorobenzene	0.88	U	5.4	0.88
142-28-9	1,3-Dichloropropane	1.1	U	5.4	1.1
106-46-7	1,4-Dichlorobenzene	0.95	U	5.4	0.95
594-20-7	2,2-Dichloropropane	1.3	U	5.4	1.3
110-75-8	2-Chloroethyl vinyl ether	9.6	U	54	9.6
95-49-8	2-Chlorotoluene	1.0	U	5.4	1.0
591-78-6	2-Hexanone	4.4	U	22	4.4
108-86-1	Bromobenzene	1.3	U	5.4	1.3
74-97-5	Bromochloromethane	0.64	U	5.4	0.64
106-43-4	4-Chlorotoluene	0.93	U	5.4	0.93
99-87-6	p-Isopropyltoluene	3.2	U	5.4	3.2
67-64-1	Acetone	23	U	27	23
71-43-2	Benzene	0.76	U	5.4	0.76
75-25-2	Bromoform	2.6	U	5.4	2.6
74-83-9	Bromomethane	1.1	U	5.4	1.1
75-15-0	Carbon disulfide	1.3	U	5.4	1.3
56-23-5	Carbon tetrachloride	3.5	U	5.4	3.5
108-90-7	Chlorobenzene	4.5	J	5.4	0.99
75-00-3	Chloroethane	1.3	U	5.4	1.3

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: SB-MW134-15-20 | Lab Sample ID: 240-101689-7

Matrix: Solid | Lab File ID: 1415862.D

Analysis Method: 8260B | Date Collected: 09/20/2018 13:50

Sample wt/vol: 5.3713(g) | Date Analyzed: 09/25/2018 22:34

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 14.0 | Level: (low/med) Low

Analysis Batch No.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-66-3	Chloroform	0.85	U	5.4	0.85
74-87-3	Chloromethane	1.1	U	5.4	1.1
156-59-2	cis-1,2-Dichloroethene	0.70	U	5.4	0.70
10061-01-5	cis-1,3-Dichloropropene	1.6	U	5.4	1.6
87-68-3	Hexachlorobutadiene	4.0	U	5.4	4.0
74-95-3	Dibromomethane	0.72	U	5.4	0.72
75-27-4	Bromodichloromethane	0.74	U	5.4	0.74
75-71-8	Dichlorodifluoromethane	1.0	U	5.4	1.0
100-41-4	Ethylbenzene	1.1	U	5.4	1.1
106-93-4	1,2-Dibromoethane	0.83	U	5.4	0.83
108-20-3	Diisopropyl ether	0.82	U	11	0.82
91-20-3	Naphthalene	2.9	U	5.4	2.9
179601-23-1	m-Xylene & p-Xylene	0.85	U	11	0.85
104-51-8	n-Butylbenzene	3.8	U	5.4	3.8
98-82-8	Isopropylbenzene	0.90	U	5.4	0.90
103-65-1	N-Propylbenzene	0.79	U	5.4	0.79
78-93-3	2-Butanone (MEK)	3.8	U	22	3.8
108-10-1	4-Methyl-2-pentanone (MIBK)	4.0	U	22	4.0
135-98-8	sec-Butylbenzene	0.94	U	5.4	0.94
1634-04-4	Methyl tert-butyl ether	0.89	U	5.4	0.89
994-05-8	Tert-amyl methyl ether	2.4	U	5.4	2.4
75-09-2	Methylene Chloride	13	U	27	13
95-47-6	o-Xylene	0.93	U	5.4	0.93
100-42-5	Styrene	1.3	U	5.4	1.3
637-92-3	Ethyl t-butyl ether	2.4	U	5.4	2.4
98-06-6	tert-Butylbenzene	0.98	U	5.4	0.98
127-18-4	Tetrachloroethene	0.79	U	5.4	0.79
108-88-3	Toluene	0.84	U	5.4	0.84
156-60-5	trans-1,2-Dichloroethene	0.50	U	5.4	0.50
10061-02-6	trans-1,3-Dichloropropene	1.1	U	5.4	1.1
79-01-6	Trichloroethene	0.69	U	5.4	0.69
75-69-4	Trichlorofluoromethane	1.2	U	5.4	1.2
108-05-4	Vinyl acetate	2.3	U	11	2.3
75-01-4	Vinyl chloride	0.91	U	5.4	0.91
75-65-0	tert-Butyl alcohol	18	U	220	18
1330-20-7	Xylenes, Total	1.7	U	11	1.7

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: SB-MW134-15-20 | Lab Sample ID: 240-101689-7

Matrix: Solid | Lab File ID: 1415862.D

Analysis Method: 8260B | Date Collected: 09/20/2018 13:50

Sample wt/vol: 5.3713(g) | Date Analyzed: 09/25/2018 22:34

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 14.0 | Level: (low/med) Low

Analysis Batch No.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	3.0	U	5.4	3.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		48-123
460-00-4	4-Bromofluorobenzene (Surr)	94		49-141
2037-26-5	Toluene-d8 (Surr)	87		62-135
1868-53-7	Dibromofluoromethane (Surr)	88		49-132

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: SB-DUP01-092018 | Lab Sample ID: 240-101689-8

Matrix: Solid | Lab File ID: 1415863.D

Analysis Method: 8260B | Date Collected: 09/20/2018 00:00

Sample wt/vol: 5.5462(g) | Date Analyzed: 09/25/2018 22:55

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 15.5 | Level: (low/med) Low

Analysis Batch No.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	3.2	U	5.3	3.2
71-55-6	1,1,1-Trichloroethane	0.87	U	5.3	0.87
79-34-5	1,1,2,2-Tetrachloroethane	1.5	U	5.3	1.5
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.4	U	5.3	1.4
75-34-3	1,1-Dichloroethane	0.74	U	5.3	0.74
75-35-4	1,1-Dichloroethene	0.96	U	5.3	0.96
563-58-6	1,1-Dichloropropene	1.1	U	5.3	1.1
87-61-6	1,2,3-Trichlorobenzene	0.61	U	5.3	0.61
96-18-4	1,2,3-Trichloropropane	1.7	U	5.3	1.7
526-73-8	1,2,3-Trimethylbenzene	1.9	U	5.3	1.9
120-82-1	1,2,4-Trichlorobenzene	0.61	U	5.3	0.61
95-63-6	1,2,4-Trimethylbenzene	1.1	U	5.3	1.1
96-12-8	1,2-Dibromo-3-Chloropropane	3.8	U	11	3.8
95-50-1	1,2-Dichlorobenzene	1.2	U	5.3	1.2
107-06-2	1,2-Dichloroethane	0.82	U	5.3	0.82
78-87-5	1,2-Dichloropropane	0.91	U	5.3	0.91
541-73-1	1,3-Dichlorobenzene	0.87	U	5.3	0.87
142-28-9	1,3-Dichloropropane	1.1	U	5.3	1.1
106-46-7	1,4-Dichlorobenzene	1.1	J	5.3	0.94
594-20-7	2,2-Dichloropropane	1.3	U	5.3	1.3
110-75-8	2-Chloroethyl vinyl ether	9.5	U	53	9.5
95-49-8	2-Chlorotoluene	1.0	U	5.3	1.0
591-78-6	2-Hexanone	4.4	U	21	4.4
108-86-1	Bromobenzene	1.2	U	5.3	1.2
74-97-5	Bromochloromethane	0.63	U	5.3	0.63
106-43-4	4-Chlorotoluene	0.92	U	5.3	0.92
99-87-6	p-Isopropyltoluene	3.1	U	5.3	3.1
67-64-1	Acetone	30		27	22
71-43-2	Benzene	0.74	U	5.3	0.74
75-25-2	Bromoform	2.6	U	5.3	2.6
74-83-9	Bromomethane	1.1	U	5.3	1.1
75-15-0	Carbon disulfide	1.4	J	5.3	1.2
56-23-5	Carbon tetrachloride	3.5	U	5.3	3.5
108-90-7	Chlorobenzene	3.9	J	5.3	0.98
75-00-3	Chloroethane	1.3	U	5.3	1.3

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: SB-DUP01-092018 | Lab Sample ID: 240-101689-8

Matrix: Solid | Lab File ID: 1415863.D

Analysis Method: 8260B | Date Collected: 09/20/2018 00:00

Sample wt/vol: 5.5462(g) | Date Analyzed: 09/25/2018 22:55

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 15.5 | Level: (low/med) Low

Analysis Batch No.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-66-3	Chloroform	0.84	U	5.3	0.84
74-87-3	Chloromethane	1.1	U	5.3	1.1
156-59-2	cis-1,2-Dichloroethene	0.69	U	5.3	0.69
10061-01-5	cis-1,3-Dichloropropene	1.5	U	5.3	1.5
87-68-3	Hexachlorobutadiene	4.0	U	5.3	4.0
74-95-3	Dibromomethane	0.71	U	5.3	0.71
75-27-4	Bromodichloromethane	0.72	U	5.3	0.72
75-71-8	Dichlorodifluoromethane	1.0	U	5.3	1.0
100-41-4	Ethylbenzene	1.1	U	5.3	1.1
106-93-4	1,2-Dibromoethane	0.82	U	5.3	0.82
108-20-3	Diisopropyl ether	0.81	U	11	0.81
91-20-3	Naphthalene	2.9	U	5.3	2.9
179601-23-1	m-Xylene & p-Xylene	0.84	U	11	0.84
104-51-8	n-Butylbenzene	3.7	U	5.3	3.7
98-82-8	Isopropylbenzene	0.89	U	5.3	0.89
103-65-1	N-Propylbenzene	0.78	U	5.3	0.78
78-93-3	2-Butanone (MEK)	3.8	U	21	3.8
108-10-1	4-Methyl-2-pentanone (MIBK)	4.0	U	21	4.0
135-98-8	sec-Butylbenzene	0.92	U	5.3	0.92
1634-04-4	Methyl tert-butyl ether	0.87	U	5.3	0.87
994-05-8	Tert-amyl methyl ether	2.4	U	5.3	2.4
75-09-2	Methylene Chloride	13	U	27	13
95-47-6	o-Xylene	0.92	U	5.3	0.92
100-42-5	Styrene	1.2	U	5.3	1.2
637-92-3	Ethyl t-butyl ether	2.4	U	5.3	2.4
98-06-6	tert-Butylbenzene	0.97	U	5.3	0.97
127-18-4	Tetrachloroethene	0.78	U	5.3	0.78
108-88-3	Toluene	0.82	U	5.3	0.82
156-60-5	trans-1,2-Dichloroethene	0.50	U	5.3	0.50
10061-02-6	trans-1,3-Dichloropropene	1.1	U	5.3	1.1
79-01-6	Trichloroethene	0.68	U	5.3	0.68
75-69-4	Trichlorofluoromethane	1.1	U	5.3	1.1
108-05-4	Vinyl acetate	2.3	U	11	2.3
75-01-4	Vinyl chloride	0.89	U	5.3	0.89
75-65-0	tert-Butyl alcohol	18	U	210	18
1330-20-7	Xylenes, Total	1.7	U	11	1.7

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: SB-DUP01-092018 | Lab Sample ID: 240-101689-8

Matrix: Solid | Lab File ID: 1415863.D

Analysis Method: 8260B | Date Collected: 09/20/2018 00:00

Sample wt/vol: 5.5462(g) | Date Analyzed: 09/25/2018 22:55

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 15.5 | Level: (low/med) Low

Analysis Batch No.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	3.0	U	5.3	3.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	95		48-123
460-00-4	4-Bromofluorobenzene (Surr)	102		49-141
2037-26-5	Toluene-d8 (Surr)	88		62-135
1868-53-7	Dibromofluoromethane (Surr)	87		49-132

Appendix C

Support Documentation

ANALYTE	ORIGINAL MW134-9-10	DUPLICATE DUP01-092018	RL	RPD	RPD > 50% Soil	ORIGINAL SAMPLE CONC >2xRL	DUPLICATE SAMPLE CONC >2xRL	DIFFERENCE >2XRL
2-Butanone (MEK)	4.9	3.8	22	25.29	FALSE	FALSE	FALSE	FALSE
Acetone	24	30	27	22.22	FALSE	FALSE	FALSE	FALSE
Carbon disulfide	1.3	1.4	5.4	7.41	FALSE	FALSE	FALSE	FALSE
Chlorobenzene	2.1	3.9	5.4	60.00	TRUE	FALSE	FALSE	FALSE
1,4-Dichlorobenzene	0.95	1.1	5.4	14.63	FALSE	FALSE	FALSE	FALSE

TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9396 Fax (330) 497-0772

2.2/C21

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Josh Mullis	Lab PM: McFadden, John	Carrier Tracking No(s):	COC No: 240-53614-23066.5
Client Contact: Tony Apanavage / Mike Martin	Phone: 410-779-7700	E-Mail: john.mcfadden@testamericainc.com		Page: Page ~~5 of 16~~ 1 of 1
Company: Tetra Tech, Inc				Job #:
Address: 20251 Century Blvd Suite 200	Due Date Requested:	Analysis Requested		Preservation Codes:
City: Germantown	TAT Requested (days): STANDARD			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify) Other:
State, Zip: MD, 20874				
Phone: 301-233-8230(Tel)	PO #: ~~1105063~~			
Email: Tony.Apanavage@tetratech.com	WO #: ~~112IC08~~0255			
Project Name: ~~PCBs~~ Block F TCB DPT Soil	Project #: ~~24010126~~ 112-IC08667			
Site: MRC-Block F TCB	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C (VOCs, 8260C)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		
TB-092018	9/20/18	0000	G	~~Solid~~ NQ			X		
SB-MW136-23.8-25		1015		Solid			X		
SB-MW136-25-28		1020		Solid			X		
SB-MW135-10-15		1115		Solid			X		
SB-MW135-15-20		1120		Solid			X		
SB-MW134-9-10		1340		Solid			X		
SB-MW134-15-20		1350		Solid			X		
SB-DUP01-092018	↓	0000	↓	Solid			X		
				Solid					
				Solid					
				Solid					

240-101689 Chain of Custody

Possible Hazard Identification
(D) Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client (D) Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: Follow nomenclature on Chain

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		9/20/18 1530	Tetra Tech		9-21-18 930	TAL
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Ver: 08/04/2016

TestAmerica Canton Sample Receipt Form/Narrative **Login # :** 101687
Canton Facility

Client TETRA TECH Site Name —

Cooler unpacked by: POP

Cooler Received on 9-21-18 Opened on 9-21-18

FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other

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

TestAmerica Cooler # TA 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 +0.9 °C) Observed Cooler Temp. 2.2 °C Corrected Cooler Temp. 3.1 °C
   IR GUN #36 (CF +0.6°C) Observed Cooler Temp. ____ °C Corrected Cooler Temp. ____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 (Yes) No
   -Were the seals on the outside of the cooler(s) signed & dated? (Yes) No NA
   -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes (No)
   -Were tamper/custody seals intact and uncompromised? (Yes) No NA
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 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No (NA) pH Strip Lot# **HC849161**
13. Were VOAs on the COC? Yes (No)
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this. Yes No (NA)
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # ____ (Yes) No
16. Was a LL Hg or Me Hg trip blank present? ____ Yes (No)

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM ____ Date ____ by ____ via Verbal Voice Mail Other

Concerning ____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: POP

18. 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)

19. SAMPLE PRESERVATION

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

CASE NARRATIVE

Client: Tetra Tech, Inc.

Project: MRC Block F TCB DDT Soil

Report Number: 240-101689-1

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.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

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

RECEIPT
The samples were received on 9/21/2018 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.1º C.

VOLATILE ORGANIC COMPOUNDS (GCMS)
Samples SB-MW136-23.8-25 (240-101689-2), SB-MW136-25-28 (240-101689-3), SB-MW135-10-15 (240-101689-4), SB-MW135-15-20 (240-101689-5), SB-MW134-9-10 (240-101689-6), SB-MW134-15-20 (240-101689-7) and SB-DUP01-092018 (240-101689-8) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were prepared and analyzed on 09/25/2018.

trans-1,3-Dichloropropene was detected in method blank MB 240-347081/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

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

VOLATILE ORGANIC COMPOUNDS (GCMS)
Sample TB-092018 (240-101689-1) was analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The sample was analyzed on 10/03/2018.

2-Chloroethyl vinyl ether cannot be reliably recovered in an acid preserved sample. The following sample were received on hydrochloric preserved vials: TB-092018 (240-101689-1)

Method 8260 stipulates a 12 hour sequence for the analysis of samples. Due to an instrument error, the MS/MSD for sample in 240-348343 exceeded the 12 hour time limit. The MS/MSD was not reported for batch QC. TB-092018 (240-101689-1)

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

PERCENT SOLIDS
Samples SB-MW136-23.8-25 (240-101689-2), SB-MW136-25-28 (240-101689-3), SB-MW135-10-15 (240-101689-4), SB-MW135-15-20 (240-101689-5), SB-MW134-9-10 (240-101689-6), SB-MW134-15-20 (240-101689-7) and SB-DUP01-092018 (240-101689-8) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 09/25/2018.

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

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits

Glossary

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

Method Summary

Client: Tetra Tech, Inc.
Project/Site: MRC Block F TCB DDT Soil

TestAmerica Job ID: 240-101689-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030A	Purge and Trap	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

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

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: MRC Block F TCB DDT Soil

TestAmerica Job ID: 240-101689-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-101689-1	TB-092018	Water	09/20/18 00:00	09/21/18 09:30
240-101689-2	SB-MW136-23.8-25	Solid	09/20/18 10:15	09/21/18 09:30
240-101689-3	SB-MW136-25-28	Solid	09/20/18 10:20	09/21/18 09:30
240-101689-4	SB-MW135-10-15	Solid	09/20/18 11:15	09/21/18 09:30
240-101689-5	SB-MW135-15-20	Solid	09/20/18 11:20	09/21/18 09:30
240-101689-6	SB-MW134-9-10	Solid	09/20/18 13:40	09/21/18 09:30
240-101689-7	SB-MW134-15-20	Solid	09/20/18 13:50	09/21/18 09:30
240-101689-8	SB-DUP01-092018	Solid	09/20/18 00:00	09/21/18 09:30

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Matrix: Solid Level: Low

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

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
SB-MW136-23.8-25	240-101689-2	85	90	84	95
SB-MW136-25-28	240-101689-3	87	93	86	90
SB-MW135-10-15	240-101689-4	89	93	88	92
SB-MW135-15-20	240-101689-5	89	92	91	91
SB-MW134-9-10	240-101689-6	83	93	89	97
SB-MW134-15-20	240-101689-7	88	98	87	94
SB-DUP01-092018	240-101689-8	87	95	88	102
	MB 240-347081/6	88	88	86	97
	LCS 240-347081/5	88	84	84	94
SB-MW135-15-20 MS	240-101689-5 MS	87	89	90	93
SB-MW135-15-20 MSD	240-101689-5 MSD	89	87	89	91

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	49-132
DCA = 1,2-Dichloroethane-d4 (Surr)	48-123
TOL = Toluene-d8 (Surr)	62-135
BFB = 4-Bromofluorobenzene (Surr)	49-141

Column to be used to flag recovery values

FORM II 8260B

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-101689-1

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-092018	240-101689-1	107	108	97	90
	MB 240-348343/6	104	104	98	91
	LCS 240-348343/4	98	95	99	99

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	69-124
DCA = 1,2-Dichloroethane-d4 (Surr)	61-138
TOL = Toluene-d8 (Surr)	73-120
BFB = 4-Bromofluorobenzene (Surr)	69-120

Column to be used to flag recovery values

FORM II 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: 1415834.D

Lab ID: LCS 240-347081/5 Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	50.0	52.6	105	73-124	
1,1,1-Trichloroethane	50.0	54.5	109	64-135	
1,1,2,2-Tetrachloroethane	50.0	53.8	108	68-128	
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	40.2	80	56-138	
1,1-Dichloroethane	50.0	50.7	101	72-122	
1,1-Dichloroethene	50.0	43.5	87	57-139	
1,1-Dichloropropene	50.0	53.1	106	72-127	
1,2,3-Trichlorobenzene	50.0	43.4	87	59-120	
1,2,3-Trichloropropane	50.0	52.5	105	68-128	
1,2,4-Trichlorobenzene	50.0	43.5	87	54-120	
1,2,4-Trimethylbenzene	50.0	53.3	107	75-121	
1,2-Dibromo-3-Chloropropane	50.0	45.0	90	38-135	
1,2-Dichlorobenzene	50.0	48.6	97	73-120	
1,2-Dichloroethane	50.0	49.7	99	64-126	
1,2-Dichloropropane	50.0	52.5	105	78-122	
1,3-Dichlorobenzene	50.0	48.5	97	70-120	
1,3-Dichloropropane	50.0	51.4	103	76-120	
1,4-Dichlorobenzene	50.0	46.6	93	71-120	
2,2-Dichloropropane	50.0	52.4	105	42-143	
2-Chloroethyl vinyl ether	50.0	57.5	115	58-154	
2-Chlorotoluene	50.0	52.0	104	75-120	
2-Hexanone	100	125	125	52-145	
Bromobenzene	50.0	49.4	99	75-120	
Bromochloromethane	50.0	49.9	100	72-124	
4-Chlorotoluene	50.0	52.2	104	74-121	
p-Isopropyltoluene	50.0	56.4	113	74-124	
Acetone	100	93.6	94	43-159	
Benzene	50.0	50.9	102	74-123	
Bromoform	50.0	47.5	95	46-137	
Bromomethane	20.0	17.2	86	10-152	
Carbon disulfide	50.0	46.3	93	29-153	
Carbon tetrachloride	50.0	52.8	106	56-139	
Chlorobenzene	50.0	49.5	99	80-120	
Chloroethane	20.0	18.9	95	15-155	
Chloroform	50.0	51.6	103	72-124	
Chloromethane	20.0	16.8	84	45-128	
cis-1,2-Dichloroethene	50.0	49.8	100	74-123	
cis-1,3-Dichloropropene	50.0	55.5	111	63-137	
Hexachlorobutadiene	50.0	40.7	81	58-122	
Dibromomethane	50.0	48.8	98	71-122	
Bromodichloromethane	50.0	52.5	105	63-132	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: 1415834.D

Lab ID: LCS 240-347081/5 Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
Dichlorodifluoromethane	20.0	15.2	76	26-138	
Ethylbenzene	50.0	52.9	106	76-120	
1,2-Dibromoethane	50.0	51.8	104	76-120	
Naphthalene	50.0	49.2	98	51-120	
m-Xylene & p-Xylene	50.0	53.1	106	77-120	
n-Butylbenzene	50.0	52.7	105	64-133	
Isopropylbenzene	50.0	55.2	110	77-124	
N-Propylbenzene	50.0	56.0	112	73-129	
2-Butanone (MEK)	100	101	101	45-148	
4-Methyl-2-pentanone (MIBK)	100	114	114	53-139	
sec-Butylbenzene	50.0	56.6	113	73-126	
Methyl tert-butyl ether	50.0	52.7	105	66-127	
Methylene Chloride	50.0	49.8	100	62-137	
o-Xylene	50.0	53.7	107	79-120	
Styrene	50.0	54.9	110	76-121	
tert-Butylbenzene	50.0	55.2	110	73-122	
Tetrachloroethene	50.0	46.6	93	76-120	
Toluene	50.0	49.6	99	76-120	
trans-1,2-Dichloroethene	50.0	52.7	105	71-133	
trans-1,3-Dichloropropene	50.0	47.4	95	55-121	
Trichloroethene	50.0	50.2	100	73-126	
Trichlorofluoromethane	20.0	18.3	91	47-146	
Vinyl acetate	50.0	47.4	95	43-144	
Vinyl chloride	20.0	19.1	95	52-130	
tert-Butyl alcohol	500	547	109	41-139	
Xylenes, Total	100	107	107	79-120	
Dibromochloromethane	50.0	51.2	102	58-131	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Matrix: Water Level: Low Lab File ID: UXR6935.D

Lab ID: LCS 240-348343/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	10.0	9.84	98	73-136	
1,1,1-Trichloroethane	10.0	9.76	98	64-147	
1,1,2,2-Tetrachloroethane	10.0	9.48	95	58-122	
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	9.37	94	65-144	
1,1-Dichloroethane	10.0	9.52	95	74-120	
1,1-Dichloroethene	10.0	9.36	94	65-127	
1,1-Dichloropropene	10.0	9.48	95	80-122	
1,2,3-Trichlorobenzene	10.0	9.38	94	31-144	
1,2,3-Trichloropropane	10.0	9.41	94	53-134	
1,2,4-Trichlorobenzene	10.0	9.26	93	34-141	
1,2,4-Trimethylbenzene	10.0	9.79	98	80-120	
1,2-Dibromo-3-Chloropropane	10.0	8.88	89	50-130	
1,2-Dichlorobenzene	10.0	9.68	97	80-120	
1,2-Dichloroethane	10.0	9.51	95	68-133	
1,2-Dichloropropane	10.0	9.73	97	78-127	
1,3-Dichlorobenzene	10.0	9.75	98	80-120	
1,3-Dichloropropane	10.0	9.58	96	71-124	
1,4-Dichlorobenzene	10.0	9.56	96	80-120	
2,2-Dichloropropane	10.0	9.70	97	32-178	
2-Chloroethyl vinyl ether	10.0	9.10 J	91	58-123	
2-Chlorotoluene	10.0	9.77	98	80-120	
2-Hexanone	20.0	19.4	97	28-169	
Bromobenzene	10.0	9.74	97	73-120	
Bromochloromethane	10.0	9.45	95	78-120	
4-Chlorotoluene	10.0	9.89	99	79-120	
p-Isopropyltoluene	10.0	10.1	101	78-125	
Acetone	20.0	16.0	80	35-131	
Benzene	10.0	9.56	96	79-120	
Bromoform	10.0	9.61	96	55-145	
Bromomethane	10.0	9.64	96	17-158	
Carbon disulfide	10.0	9.15	91	49-141	
Carbon tetrachloride	10.0	9.67	97	55-171	
Chlorobenzene	10.0	9.72	97	80-120	
Chloroethane	10.0	9.41	94	10-149	
Chloroform	10.0	9.66	97	80-120	
Chloromethane	10.0	9.55	95	59-124	
cis-1,2-Dichloroethene	10.0	9.28	93	77-120	
cis-1,3-Dichloropropene	10.0	10.0	100	75-120	
Hexachlorobutadiene	10.0	8.66	87	36-146	
Dibromomethane	10.0	9.38	94	80-120	
Bromodichloromethane	10.0	9.61	96	79-125	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Matrix: Water Level: Low Lab File ID: UXR6935.D

Lab ID: LCS 240-348343/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Dichlorodifluoromethane	10.0	8.71	87	42-141	
Ethylbenzene	10.0	10.0	100	80-120	
1,2-Dibromoethane	10.0	9.64	96	80-120	
Naphthalene	10.0	9.35	94	31-127	
m-Xylene & p-Xylene	10.0	9.86	99	80-120	
n-Butylbenzene	10.0	9.67	97	60-137	
Isopropylbenzene	10.0	9.94	99	80-128	
N-Propylbenzene	10.0	10.1	101	76-120	
2-Butanone (MEK)	20.0	18.5	93	43-149	
4-Methyl-2-pentanone (MIBK)	20.0	19.4	97	53-144	
sec-Butylbenzene	10.0	9.80	98	76-124	
Methyl tert-butyl ether	10.0	9.45	94	73-120	
Methylene Chloride	10.0	9.46	95	64-140	
o-Xylene	10.0	9.92	99	80-120	
Styrene	10.0	9.91	99	80-121	
tert-Butylbenzene	10.0	9.91	99	79-120	
Tetrachloroethene	10.0	9.57	96	80-122	
Toluene	10.0	9.80	98	78-120	
trans-1,2-Dichloroethene	10.0	9.75	98	74-124	
trans-1,3-Dichloropropene	10.0	9.63	96	67-120	
Trichloroethene	10.0	9.53	95	76-124	
Trichlorofluoromethane	10.0	9.75	98	27-176	
Vinyl acetate	10.0	8.72	87	42-141	
Vinyl chloride	10.0	9.93	99	65-124	
tert-Butyl alcohol	100	94.0	94	52-136	
Xylenes, Total	20.0	19.8	99	80-120	
Dibromochloromethane	10.0	9.91	99	64-129	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: 1415858.D

Lab ID: 240-101689-5 MS Client ID: SB-MW135-15-20 MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	58.9	3.2 U	51.9	88	16-137	
1,1,1-Trichloroethane	58.9	0.89 U	56.8	96	38-143	
1,1,2,2-Tetrachloroethane	58.9	1.6 U	59.4	101	16-178	
1,1,2-Trichloro-1,2,2-trifluoroethane	58.9	1.4 U	42.8	73	37-147	
1,1-Dichloroethane	58.9	0.75 U	54.9	93	50-133	
1,1-Dichloroethene	58.9	0.98 U	47.2	80	36-150	
1,1-Dichloropropene	58.9	1.1 U	52.9	90	30-138	
1,2,3-Trichlorobenzene	58.9	7.5	39.5	54	10-120	
1,2,3-Trichloropropane	58.9	1.7 U	55.8	95	10-178	
1,2,4-Trichlorobenzene	58.9	31	64.7	57	10-120	
1,2,4-Trimethylbenzene	58.9	1.1 U	38.0	65	10-149	
1,2-Dibromo-3-Chloropropane	58.9	3.9 U	44.3	75	10-141	
1,2-Dichlorobenzene	58.9	1.2 U	38.1	65	10-130	
1,2-Dichloroethane	58.9	0.84 U	55.5	94	42-127	
1,2-Dichloropropane	58.9	0.93 U	57.4	98	51-128	
1,3-Dichlorobenzene	58.9	0.89 U	36.4	62	10-131	
1,3-Dichloropropane	58.9	1.1 U	54.4	92	34-121	
1,4-Dichlorobenzene	58.9	0.96 U	33.8	57	10-130	
2,2-Dichloropropane	58.9	1.3 U	52.2	89	20-141	
2-Chloroethyl vinyl ether	58.9	9.7 U	54.0 J	92	10-134	
2-Chlorotoluene	58.9	1.0 U	38.5	65	10-179	
2-Hexanone	118	4.4 U	142	120	15-147	
Bromobenzene	58.9	1.3 U	40.3	68	10-164	
Bromochloromethane	58.9	0.65 U	52.1	89	36-147	
4-Chlorotoluene	58.9	0.94 U	36.0	61	10-158	
p-Isopropyltoluene	58.9	3.2 U	37.0	63	10-142	
Acetone	118	23 U	99.2	84	10-160	
Benzene	58.9	0.76 U	53.0	90	39-133	
Bromoform	58.9	2.6 U	46.2	79	18-120	
Bromomethane	23.5	1.1 U	21.2	90	10-159	
Carbon disulfide	58.9	1.3 U	42.7	73	16-145	
Carbon tetrachloride	58.9	3.5 U	53.8	91	22-142	
Chlorobenzene	58.9	1.0 U	43.3	74	21-131	
Chloroethane	23.5	1.3 U	20.4	87	17-162	
Chloroform	58.9	0.86 U	53.7	91	51-130	
Chloromethane	23.5	1.1 U	19.3	82	26-149	
cis-1,2-Dichloroethene	58.9	0.71 U	51.1	87	50-128	
cis-1,3-Dichloropropene	58.9	1.6 U	55.1	94	15-132	
Hexachlorobutadiene	58.9	4.1 U	24.0	41	10-120	
Dibromomethane	58.9	0.73 U	52.6	89	37-138	
Bromodichloromethane	58.9	0.74 U	55.8	95	32-129	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: 1415858.D

Lab ID: 240-101689-5 MS Client ID: SB-MW135-15-20 MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
Dichlorodifluoromethane	23.5	1.0 U	15.2	65	15-150	
Ethylbenzene	58.9	1.1 U	42.6	72	20-135	
1,2-Dibromoethane	58.9	0.84 U	53.5	91	36-125	
Naphthalene	58.9	2.9 U	42.0	71	10-120	
m-Xylene & p-Xylene	58.9	0.85 U	42.3	72	16-137	
n-Butylbenzene	58.9	3.8 U	31.2	53	10-149	
Isopropylbenzene	58.9	0.91 U	42.5	72	20-138	
N-Propylbenzene	58.9	0.80 U	37.4	64	10-162	
2-Butanone (MEK)	118	3.9 U	113	96	20-148	
4-Methyl-2-pentanone (MIBK)	118	4.0 U	134	114	29-143	
sec-Butylbenzene	58.9	0.94 U	39.0	66	10-156	
Methyl tert-butyl ether	58.9	0.89 U	55.4	94	48-134	
Methylene Chloride	58.9	13 U	51.7	88	39-145	
o-Xylene	58.9	0.94 U	45.3	77	21-138	
Styrene	58.9	1.3 U	43.8	74	10-134	
tert-Butylbenzene	58.9	0.99 U	41.1	70	10-148	
Tetrachloroethene	58.9	0.79 U	40.6	69	20-151	
Toluene	58.9	0.84 U	48.9	83	29-141	
trans-1,2-Dichloroethene	58.9	0.51 U	52.6	89	44-141	
trans-1,3-Dichloropropene	58.9	1.1 U	46.9	80	15-120	
Trichloroethene	58.9	0.69 U	48.0	81	25-148	
Trichlorofluoromethane	23.5	1.2 U	19.4	82	38-149	
Vinyl acetate	58.9	2.3 U	54.0	92	10-120	
Vinyl chloride	23.5	0.91 U	20.5	87	31-148	
tert-Butyl alcohol	589	18 U	548	93	59-128	
Xylenes, Total	118	1.7 U	87.6	74	19-137	
Dibromochloromethane	58.9	3.0 U	52.4	89	27-126	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: 1415859.D

Lab ID: 240-101689-5 MSD Client ID: SB-MW135-15-20 MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	56.0	58.0	104	11	40	16-137	
1,1,1-Trichloroethane	56.0	57.8	103	2	40	38-143	
1,1,2,2-Tetrachloroethane	56.0	57.5	103	3	40	16-178	
1,1,2-Trichloro-1,2,2-trifluoroethane	56.0	40.8	73	5	37	37-147	
1,1-Dichloroethane	56.0	55.5	99	1	40	50-133	
1,1-Dichloroethene	56.0	42.5	76	11	40	36-150	
1,1-Dichloropropene	56.0	54.9	98	4	36	30-138	
1,2,3-Trichlorobenzene	56.0	52.1	79	27	40	10-120	
1,2,3-Trichloropropane	56.0	53.9	96	3	40	10-178	
1,2,4-Trichlorobenzene	56.0	84.0	94	26	40	10-120	
1,2,4-Trimethylbenzene	56.0	54.0	96	35	40	10-149	
1,2-Dibromo-3-Chloropropane	56.0	43.1	77	3	40	10-141	
1,2-Dichlorobenzene	56.0	49.3	88	26	40	10-130	
1,2-Dichloroethane	56.0	55.9	100	1	34	42-127	
1,2-Dichloropropane	56.0	58.0	103	1	36	51-128	
1,3-Dichlorobenzene	56.0	49.4	88	30	40	10-131	
1,3-Dichloropropane	56.0	54.9	98	1	40	34-121	
1,4-Dichlorobenzene	56.0	47.0	84	33	40	10-130	
2,2-Dichloropropane	56.0	54.1	97	4	40	20-141	
2-Chloroethyl vinyl ether	56.0	52.5 J	94	3	40	10-134	
2-Chlorotoluene	56.0	51.7	92	29	40	10-179	
2-Hexanone	112	134	120	6	40	15-147	
Bromobenzene	56.0	49.1	88	20	40	10-164	
Bromochloromethane	56.0	52.4	94	1	40	36-147	
4-Chlorotoluene	56.0	50.6	90	34	40	10-158	
p-Isopropyltoluene	56.0	54.4	97	38	40	10-142	
Acetone	112	95.9	86	3	39	10-160	
Benzene	56.0	54.4	97	2	40	39-133	
Bromoform	56.0	48.3	86	4	40	18-120	
Bromomethane	22.4	21.6	96	2	40	10-159	
Carbon disulfide	56.0	46.6	83	9	40	16-145	
Carbon tetrachloride	56.0	54.9	98	2	40	22-142	
Chlorobenzene	56.0	52.3	93	19	40	21-131	
Chloroethane	22.4	21.3	95	4	40	17-162	
Chloroform	56.0	55.2	99	3	32	51-130	
Chloromethane	22.4	20.1	90	4	37	26-149	
cis-1,2-Dichloroethene	56.0	53.9	96	5	40	50-128	
cis-1,3-Dichloropropene	56.0	57.4	103	4	40	15-132	
Hexachlorobutadiene	56.0	37.5	67	44	40	10-120	F2
Dibromomethane	56.0	52.1	93	1	30	37-138	
Bromodichloromethane	56.0	57.6	103	3	39	32-129	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: 1415859.D

Lab ID: 240-101689-5 MSD Client ID: SB-MW135-15-20 MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Dichlorodifluoromethane	22.4	15.8	70	3	31	15-150	
Ethylbenzene	56.0	53.7	96	23	40	20-135	
1,2-Dibromoethane	56.0	53.7	96	0	40	36-125	
Naphthalene	56.0	48.6	87	15	40	10-120	
m-Xylene & p-Xylene	56.0	54.2	97	25	40	16-137	
n-Butylbenzene	56.0	49.1	88	44	40	10-149	F2
Isopropylbenzene	56.0	57.2	102	29	40	20-138	
N-Propylbenzene	56.0	53.8	96	36	40	10-162	
2-Butanone (MEK)	112	105	93	8	36	20-148	
4-Methyl-2-pentanone (MIBK)	112	123	110	8	40	29-143	
sec-Butylbenzene	56.0	56.9	102	37	40	10-156	
Methyl tert-butyl ether	56.0	54.9	98	1	34	48-134	
Methylene Chloride	56.0	53.4	95	3	40	39-145	
o-Xylene	56.0	56.3	100	22	40	21-138	
Styrene	56.0	56.6	101	25	40	10-134	
tert-Butylbenzene	56.0	56.3	100	31	40	10-148	
Tetrachloroethene	56.0	48.5	87	18	40	20-151	
Toluene	56.0	53.5	95	9	40	29-141	
trans-1,2-Dichloroethene	56.0	55.3	99	5	40	44-141	
trans-1,3-Dichloropropene	56.0	48.5	87	3	40	15-120	
Trichloroethene	56.0	51.2	91	6	40	25-148	
Trichlorofluoromethane	22.4	19.3	86	0	39	38-149	
Vinyl acetate	56.0	55.5	99	3	40	10-120	
Vinyl chloride	22.4	20.7	92	1	37	31-148	
tert-Butyl alcohol	560	533	95	3	39	59-128	
Xylenes, Total	112	111	99	23	40	19-137	
Dibromochloromethane	56.0	54.7	98	4	40	27-126	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab File ID: 1415835.D Lab Sample ID: MB 240-347081/6

Matrix: Solid Heated Purge:(Y/N) Y

Instrument ID: A3UX14 Date Analyzed: 09/25/2018 12:53

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 240-347081/5	1415834.D	09/25/2018 12:32
SB-MW136-23.8-25	240-101689-2	1415854.D	09/25/2018 19:42
SB-MW136-25-28	240-101689-3	1415855.D	09/25/2018 20:03
SB-MW135-10-15	240-101689-4	1415856.D	09/25/2018 20:25
SB-MW135-15-20	240-101689-5	1415857.D	09/25/2018 20:46
SB-MW135-15-20 MS	240-101689-5 MS	1415858.D	09/25/2018 21:08
SB-MW135-15-20 MSD	240-101689-5 MSD	1415859.D	09/25/2018 21:29
SB-MW134-9-10	240-101689-6	1415861.D	09/25/2018 22:12
SB-MW134-15-20	240-101689-7	1415862.D	09/25/2018 22:34
SB-DUP01-092018	240-101689-8	1415863.D	09/25/2018 22:55

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-347081/6

Matrix: Solid | Lab File ID: 1415835.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(g) | Date Analyzed: 09/25/2018 12:53

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.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	3.0	U	5.0	3.0
71-55-6	1,1,1-Trichloroethane	0.82	U	5.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	1.4	U	5.0	1.4
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.3	U	5.0	1.3
75-34-3	1,1-Dichloroethane	0.69	U	5.0	0.69
75-35-4	1,1-Dichloroethene	0.90	U	5.0	0.90
563-58-6	1,1-Dichloropropene	0.99	U	5.0	0.99
87-61-6	1,2,3-Trichlorobenzene	0.57	U	5.0	0.57
96-18-4	1,2,3-Trichloropropane	1.6	U	5.0	1.6
526-73-8	1,2,3-Trimethylbenzene	1.8	U	5.0	1.8
120-82-1	1,2,4-Trichlorobenzene	0.57	U	5.0	0.57
95-63-6	1,2,4-Trimethylbenzene	1.0	U	5.0	1.0
96-12-8	1,2-Dibromo-3-Chloropropane	3.6	U	10	3.6
95-50-1	1,2-Dichlorobenzene	1.1	U	5.0	1.1
107-06-2	1,2-Dichloroethane	0.77	U	5.0	0.77
78-87-5	1,2-Dichloropropane	0.85	U	5.0	0.85
541-73-1	1,3-Dichlorobenzene	0.82	U	5.0	0.82
142-28-9	1,3-Dichloropropane	0.99	U	5.0	0.99
106-46-7	1,4-Dichlorobenzene	0.88	U	5.0	0.88
594-20-7	2,2-Dichloropropane	1.2	U	5.0	1.2
110-75-8	2-Chloroethyl vinyl ether	8.9	U	50	8.9
95-49-8	2-Chlorotoluene	0.95	U	5.0	0.95
591-78-6	2-Hexanone	4.1	U	20	4.1
108-86-1	Bromobenzene	1.2	U	5.0	1.2
74-97-5	Bromochloromethane	0.59	U	5.0	0.59
106-43-4	4-Chlorotoluene	0.86	U	5.0	0.86
99-87-6	p-Isopropyltoluene	2.9	U	5.0	2.9
67-64-1	Acetone	21	U	25	21
71-43-2	Benzene	0.70	U	5.0	0.70
75-25-2	Bromoform	2.4	U	5.0	2.4
74-83-9	Bromomethane	0.99	U	5.0	0.99
75-15-0	Carbon disulfide	1.2	U	5.0	1.2
56-23-5	Carbon tetrachloride	3.3	U	5.0	3.3
108-90-7	Chlorobenzene	0.92	U	5.0	0.92
75-00-3	Chloroethane	1.2	U	5.0	1.2

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-347081/6

Matrix: Solid | Lab File ID: 1415835.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(g) | Date Analyzed: 09/25/2018 12:53

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.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-66-3	Chloroform	0.79	U	5.0	0.79
74-87-3	Chloromethane	1.0	U	5.0	1.0
156-59-2	cis-1,2-Dichloroethene	0.65	U	5.0	0.65
10061-01-5	cis-1,3-Dichloropropene	1.4	U	5.0	1.4
87-68-3	Hexachlorobutadiene	3.7	U	5.0	3.7
74-95-3	Dibromomethane	0.67	U	5.0	0.67
75-27-4	Bromodichloromethane	0.68	U	5.0	0.68
75-71-8	Dichlorodifluoromethane	0.94	U	5.0	0.94
100-41-4	Ethylbenzene	1.0	U	5.0	1.0
106-93-4	1,2-Dibromoethane	0.77	U	5.0	0.77
108-20-3	Diisopropyl ether	0.76	U	10	0.76
91-20-3	Naphthalene	2.7	U	5.0	2.7
179601-23-1	m-Xylene & p-Xylene	0.78	U	10	0.78
104-51-8	n-Butylbenzene	3.5	U	5.0	3.5
98-82-8	Isopropylbenzene	0.83	U	5.0	0.83
103-65-1	N-Propylbenzene	0.73	U	5.0	0.73
78-93-3	2-Butanone (MEK)	3.6	U	20	3.6
108-10-1	4-Methyl-2-pentanone (MIBK)	3.7	U	20	3.7
135-98-8	sec-Butylbenzene	0.86	U	5.0	0.86
1634-04-4	Methyl tert-butyl ether	0.82	U	5.0	0.82
994-05-8	Tert-amyl methyl ether	2.2	U	5.0	2.2
75-09-2	Methylene Chloride	12	U	25	12
95-47-6	o-Xylene	0.86	U	5.0	0.86
100-42-5	Styrene	1.2	U	5.0	1.2
637-92-3	Ethyl t-butyl ether	2.3	U	5.0	2.3
98-06-6	tert-Butylbenzene	0.91	U	5.0	0.91
127-18-4	Tetrachloroethene	0.73	U	5.0	0.73
108-88-3	Toluene	0.77	U	5.0	0.77
156-60-5	trans-1,2-Dichloroethene	0.47	U	5.0	0.47
10061-02-6	trans-1,3-Dichloropropene	2.59	J	5.0	1.0
79-01-6	Trichloroethene	0.63	U	5.0	0.63
75-69-4	Trichlorofluoromethane	1.1	U	5.0	1.1
108-05-4	Vinyl acetate	2.1	U	10	2.1
75-01-4	Vinyl chloride	0.84	U	5.0	0.84
75-65-0	tert-Butyl alcohol	17	U	200	17
1330-20-7	Xylenes, Total	1.6	U	10	1.6

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-347081/6

Matrix: Solid | Lab File ID: 1415835.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(g) | Date Analyzed: 09/25/2018 12:53

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.: 347081 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	2.8	U	5.0	2.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	88		48-123
460-00-4	4-Bromofluorobenzene (Surr)	97		49-141
2037-26-5	Toluene-d8 (Surr)	86		62-135
1868-53-7	Dibromofluoromethane (Surr)	88		49-132

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab File ID: UXR6937.D Lab Sample ID: MB 240-348343/6

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: A3UX17 Date Analyzed: 10/03/2018 13:43

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 240-348343/4	UXR6935.D	10/03/2018 12:55
TB-092018	240-101689-1	UXR6944.D	10/03/2018 16:34

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-348343/6

Matrix: Water | Lab File ID: UXR6937.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 10/03/2018 13:43

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.: 348343 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	0.14	U	1.0	0.14
71-55-6	1,1,1-Trichloroethane	0.24	U	1.0	0.24
79-34-5	1,1,2,2-Tetrachloroethane	0.13	U	1.0	0.13
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.41	U	1.0	0.41
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19
563-58-6	1,1-Dichloropropene	0.14	U	1.0	0.14
87-61-6	1,2,3-Trichlorobenzene	0.54	U	1.0	0.54
96-18-4	1,2,3-Trichloropropane	0.24	U	1.0	0.24
526-73-8	1,2,3-Trimethylbenzene	0.14	U	5.0	0.14
120-82-1	1,2,4-Trichlorobenzene	0.26	U	1.0	0.26
95-63-6	1,2,4-Trimethylbenzene	0.070	U	1.0	0.070
96-12-8	1,2-Dibromo-3-Chloropropane	0.91	U	2.0	0.91
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
107-06-2	1,2-Dichloroethane	0.21	U	1.0	0.21
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.15	U	1.0	0.15
142-28-9	1,3-Dichloropropane	0.21	U	1.0	0.21
106-46-7	1,4-Dichlorobenzene	0.16	U	1.0	0.16
594-20-7	2,2-Dichloropropane	0.31	U	1.0	0.31
110-75-8	2-Chloroethyl vinyl ether	0.26	U	10	0.26
95-49-8	2-Chlorotoluene	0.15	U	1.0	0.15
591-78-6	2-Hexanone	0.54	U	10	0.54
108-86-1	Bromobenzene	0.12	U	1.0	0.12
74-97-5	Bromochloromethane	0.14	U	1.0	0.14
106-43-4	4-Chlorotoluene	0.090	U	1.0	0.090
99-87-6	p-Isopropyltoluene	0.13	U	1.0	0.13
67-64-1	Acetone	5.4	U	10	5.4
71-43-2	Benzene	0.13	U	1.0	0.13
75-25-2	Bromoform	0.76	U	1.0	0.76
74-83-9	Bromomethane	0.42	U	1.0	0.42
75-15-0	Carbon disulfide	0.28	U	1.0	0.28
56-23-5	Carbon tetrachloride	0.26	U	1.0	0.26
108-90-7	Chlorobenzene	0.14	U	1.0	0.14
75-00-3	Chloroethane	0.83	U	1.0	0.83

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-348343/6

Matrix: Water | Lab File ID: UXR6937.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 10/03/2018 13:43

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.: 348343 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-66-3	Chloroform	0.13	U	1.0	0.13
74-87-3	Chloromethane	0.20	U	1.0	0.20
156-59-2	cis-1,2-Dichloroethene	0.16	U	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	0.61	U	1.0	0.61
87-68-3	Hexachlorobutadiene	0.83	U	1.0	0.83
74-95-3	Dibromomethane	0.090	U	1.0	0.090
75-27-4	Bromodichloromethane	0.17	U	1.0	0.17
75-71-8	Dichlorodifluoromethane	0.35	U	1.0	0.35
100-41-4	Ethylbenzene	0.11	U	1.0	0.11
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12
108-20-3	Diisopropyl ether	0.17	U	10	0.17
91-20-3	Naphthalene	0.32	U	1.0	0.32
179601-23-1	m-Xylene & p-Xylene	0.080	U	2.0	0.080
104-51-8	n-Butylbenzene	0.14	U	1.0	0.14
98-82-8	Isopropylbenzene	0.090	U	1.0	0.090
103-65-1	N-Propylbenzene	0.15	U	1.0	0.15
78-93-3	2-Butanone (MEK)	1.2	U	10	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	0.42	U	10	0.42
135-98-8	sec-Butylbenzene	0.13	U	1.0	0.13
1634-04-4	Methyl tert-butyl ether	0.070	U	1.0	0.070
994-05-8	Tert-amyl methyl ether	0.11	U	5.0	0.11
75-09-2	Methylene Chloride	2.6	U	5.0	2.6
95-47-6	o-Xylene	0.090	U	1.0	0.090
100-42-5	Styrene	0.10	U	1.0	0.10
637-92-3	Ethyl t-butyl ether	0.15	U	5.0	0.15
98-06-6	tert-Butylbenzene	0.14	U	1.0	0.14
127-18-4	Tetrachloroethene	0.15	U	1.0	0.15
108-88-3	Toluene	0.14	U	1.0	0.14
156-60-5	trans-1,2-Dichloroethene	0.19	U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	0.67	U	1.0	0.67
79-01-6	Trichloroethene	0.10	U	1.0	0.10
75-69-4	Trichlorofluoromethane	0.45	U	1.0	0.45
108-05-4	Vinyl acetate	0.19	U	2.0	0.19
75-01-4	Vinyl chloride	0.20	U	1.0	0.20
75-65-0	tert-Butyl alcohol	1.7	U	50	1.7
1330-20-7	Xylenes, Total	0.15	U	2.0	0.15

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-101689-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-348343/6

Matrix: Water | Lab File ID: UXR6937.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 10/03/2018 13:43

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.: 348343 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	0.39	U	1.0	0.39

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		61-138
460-00-4	4-Bromofluorobenzene (Surr)	91		69-120
2037-26-5	Toluene-d8 (Surr)	98		73-120
1868-53-7	Dibromofluoromethane (Surr)	104		69-124

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab File ID: BFB14640.D BFB Injection Date: 12/20/2017

Instrument ID: A3UX14 BFB Injection Time: 15:27

Analysis Batch No.: 308538

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	23.1	
75	30.0 - 60.0 % of mass 95	42.2	
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	0.3	(0.3) 1
174	50.0 - 120.00 % of mass 95	77.1	
175	5.0 - 9.0 % of mass 174	5.3	(6.9) 1
176	95.0 - 101.0 % of mass 174	73.9	(95.9) 1
177	5.0 - 9.0 % of mass 176	4.8	(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
	IC 240-308538/13	1412545.D	12/20/2017	19:46
	IC 240-308538/14	1412546.D	12/20/2017	20:07
	IC 240-308538/15	1412547.D	12/20/2017	20:29
	IC 240-308538/16	1412548.D	12/20/2017	20:50
	IC 240-308538/17	1412549.D	12/20/2017	21:12
	IC 240-308538/18	1412550.D	12/20/2017	21:34
	IC 240-308538/19	1412551.D	12/20/2017	21:55
	IC 240-308538/20	1412552.D	12/20/2017	22:17
	IC 240-308538/21	1412553.D	12/20/2017	22:38

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1 Analy Batch No.: 308538

SDG No.:

Instrument ID: A3UX14 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 12/20/2017 19:46 Calibration End Date: 12/20/2017 22:38 Calibration ID: 42608

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 240-308538/21	1412553.D
Level 2	IC 240-308538/20	1412552.D
Level 3	IC 240-308538/19	1412551.D
Level 4	IC 240-308538/18	1412550.D
Level 5	IC 240-308538/17	1412549.D
Level 6	IC 240-308538/16	1412548.D
Level 7	IC 240-308538/15	1412547.D
Level 8	IC 240-308538/14	1412546.D
Level 9	IC 240-308538/13	1412545.D

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Acetonitrile	0.0519 0.0487	0.0553 0.0480	0.0527 0.0457	0.0440 0.0405	0.0418	Ave		0.0476				10.7		15.0			
2-Chloro-1,3-butadiene	0.4641 0.5678	0.4981 0.5585	0.4971 0.5908	0.5242 0.5266	0.5118	Ave		0.5266				7.6		15.0			
Diisopropyl ether	0.2350 0.2786	0.2624 0.2699	0.2458 0.2896	0.2557 0.2616	0.2509	Ave		0.2611				6.4		15.0			
Ethyl t-butyl ether	1.0866 1.2023	1.1314 1.1395	1.0497 1.2235	1.0563 1.0492	1.0565	Ave		1.1105				6.1		15.0			
Propionitrile	0.0499 0.0474	0.0537 0.0497	0.0551 0.0475	0.0483 0.0478	0.0445	Ave		0.0493				6.7		15.0			
Ethyl acetate	0.2687 0.2859	0.2994 0.3262	0.3330 0.2883	0.3281 0.3410	0.2997	Ave		0.3078				8.1		15.0			
Methacrylonitrile	0.2016 0.2274	0.2246 0.2434	0.2426 0.2254	0.2347 0.2245	0.2185	Ave		0.2270				5.6		15.0			
Tert-amyl methyl ether	0.9488 1.0682	0.9884 1.0438	0.9903 1.1189	0.9643 1.0058	0.9291	Ave		1.0064				6.0		15.0			
n-Butanol	0.0202 0.0146	0.0179 0.0170	0.0181 0.0168	0.0158 0.0175	0.0136	Ave		0.0168				11.7		15.0			
Ethyl acrylate	0.2957 0.3362	0.2976 0.3926	0.3782 0.3318	0.4092 0.4161	0.3736	Ave		0.3590				12.7		15.0			
Methyl methacrylate	0.2364 0.2773	0.2517 0.3151	0.3013 0.2735	0.3164 0.3190	0.2897	Ave		0.2867				10.3		15.0			
2-Nitropropane	0.0621 0.0779	0.0782 0.0902	0.0796 0.0838	0.0768 0.0927	0.0736	Ave		0.0794				11.4		15.0			
n-Butyl acetate	0.8955 0.7874	0.9037 0.8222	0.9415 0.7251	0.8653 0.8115	0.8057	Ave		0.8398				8.0		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.: 240-101689-1 Analy Batch No.: 308538

SDG No.:

Instrument ID: A3UX14 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 12/20/2017 19:46 Calibration End Date: 12/20/2017 22:38 Calibration ID: 42608

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
1-Chlorohexane	0.4611 0.4635	0.4609 0.4999	0.4500 0.4695	0.5073 0.5020	0.4724	Ave		0.4763				4.4		15.0			
Cyclohexanone	+++++ 0.0173	+++++ 0.0189	0.0227 0.0184	0.0197 0.0170	0.0156	Ave		0.0185				12.5		15.0			
Pentachloroethane	0.3804 0.5733	0.3987 0.5946	0.4236 +++++	0.4596 +++++	0.4735	Lin1	-0.771	0.5754				18.3			0.9940		0.9900
1,2,3-Trimethylbenzene	2.9583 3.4669	3.0923 3.5246	2.9220 3.7697	3.1745 3.2915	3.0001	Ave		3.2444				9.0		15.0			
Benzyl chloride	+++++ 0.3372	+++++ 0.3869	0.2499 0.3955	0.2768 0.4155	0.2850	Lin1	-1.250	0.4047				13.3			0.9970		0.9900
1,3,5-Trichlorobenzene	1.0213 1.1118	1.1124 1.2452	0.9777 1.3574	1.0338 1.1810	0.9446	Ave		1.1095				12.1		15.0			
2-Methylnaphthalene	2.2822 2.3081	2.4637 2.6887	2.1469 2.9955	2.0539 2.3560	1.8344	Ave		2.3477				14.6		15.0			
1-Chloro-1-fluoroethane TIC	0.2929 0.3019	0.3229 0.3106	0.2283 +++++	0.2148 +++++	0.1713	Qua	-0.331	0.2595	0.0005631			83.7			0.9950		0.9900

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

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1 Analy Batch No.: 308538

SDG No.:

Instrument ID: A3UX14 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 12/20/2017 19:46 Calibration End Date: 12/20/2017 22:38 Calibration ID: 42608

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 240-308538/21	1412553.D
Level 2	IC 240-308538/20	1412552.D
Level 3	IC 240-308538/19	1412551.D
Level 4	IC 240-308538/18	1412550.D
Level 5	IC 240-308538/17	1412549.D
Level 6	IC 240-308538/16	1412548.D
Level 7	IC 240-308538/15	1412547.D
Level 8	IC 240-308538/14	1412546.D
Level 9	IC 240-308538/13	1412545.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Acetonitrile	FB	Ave	14133 715253	29258 1334100	79276 2697502	132125 3545234	273715	10.0 500	20.0 1000	50.0 2000	100 2500	200
2-Chloro-1,3-butadiene	FB	Ave	12649 833911	26339 1552597	74783 3487244	157425 4611172	334946	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Diisopropyl ether	FB	Ave	6406 409180	13874 750408	36982 1709261	76791 2291028	164222	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Ethyl t-butyl ether	FB	Ave	29616 1765872	59826 3167803	157901 7221360	317228 9187785	691443	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Propionitrile	FB	Ave	13590 695556	28411 1382107	82826 2803456	145030 4186041	290937	10.0 500	20.0 1000	50.0 2000	100 2500	200
Ethyl acetate	FB	Ave	14648 839915	31665 1813789	100176 3402966	197080 5971946	392224	2.00 100	4.00 200	10.0 400	20.0 500	40.0
Methacrylonitrile	FB	Ave	54935 3340598	118752 6766265	364882 13301737	704884 19661227	1429650	10.0 500	20.0 1000	50.0 2000	100 2500	200
Tert-amyl methyl ether	FB	Ave	25861 1569005	52263 2901862	148965 6604045	289597 8807684	608058	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
n-Butanol	CBNZ d5	Ave	7995 320847	13644 724260	41457 1432038	79442 2375341	143033	25.0 1250	50.0 2500	125 5000	250 6250	500
Ethyl acrylate	FB	Ave	8060 493774	15739 1091418	56896 1958376	122891 3643332	244533	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Methyl methacrylate	FB	Ave	12886 814639	26616 1751913	90652 3228197	190017 5587320	379136	2.00 100	4.00 200	10.0 400	20.0 500	40.0
2-Nitropropane	FB	Ave	3385 228771	8265 501542	23937 989155	46152 1623632	96390	2.00 100	4.00 200	10.0 400	20.0 500	40.0
n-Butyl acetate	CBNZ d5	Ave	14168 692528	27576 1403820	86495 2475882	173646 4412710	339478	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
1-Chlorohexane	CBNZ d5	Ave	7295 407655	14064 853534	41340 1603258	101811 2729386	199030	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1 Analy Batch No.: 308538

SDG No.:

Instrument ID: A3UX14 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 12/20/2017 19:46 Calibration End Date: 12/20/2017 22:38 Calibration ID: 42608

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Cyclohexanone	CBNZ d5	Ave	+++++ 151771	+++++ 323270	20890 629155	39564 925806	65593	+++++ 500	+++++ 1000	50.0 2000	100 2500	200
Pentachloroethane	DCBd 4	Lin1	4912 410609	10091 859022	32353 +++++	75504 +++++	160726	2.00 100	4.00 200	10.0 +++++	20.0 +++++	40.0
1,2,3-Trimethylbenzene	DCBd 4	Ave	19100 1241598	39130 2546140	111591 4938651	260771 6882593	509186	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Benzyl chloride	DCBd 4	Lin1	+++++ 120752	+++++ 279504	9542 518165	22737 868836	48367	+++++ 50.0	+++++ 100	5.00 200	10.0 250	20.0
1,3,5-Trichlorobenzene	DCBd 4	Ave	6594 398170	14076 899527	37337 1778348	84927 2469537	160322	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
2-Methylnaphthalene	DCBd 4	Ave	29469 1653170	62351 3884633	163977 7848857	337434 9852801	622669	2.00 100	4.00 200	10.0 400	20.0 500	40.0
1-Chloro-1-fluoroethane TIC	FB	Qua	7983 443393	17075 863375	34345 +++++	64521 +++++	112081	1.00 50.0	2.00 100	5.00 +++++	10.0 +++++	20.0

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD
Qua = Quadratic ISTD

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab File ID: BFB14780.D BFB Injection Date: 08/27/2018

Instrument ID: A3UX14 BFB Injection Time: 13:20

Analysis Batch No.: 342675

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	25.7	
75	30.0 - 60.0 % of mass 95	41.0	
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	0.7	(0.8) 1
174	50.0 - 120.00 % of mass 95	88.1	
175	5.0 - 9.0 % of mass 174	6.6	(7.5) 1
176	95.0 - 101.0 % of mass 174	87.7	(99.6) 1
177	5.0 - 9.0 % of mass 176	5.5	(6.3) 2

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

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 240-342675/3	1415425.D	08/27/2018	14:03
	IC 240-342675/4	1415426.D	08/27/2018	14:24
	IC 240-342675/5	1415427.D	08/27/2018	14:46
	ICIS 240-342675/6	1415428.D	08/27/2018	15:07
	IC 240-342675/7	1415429.D	08/27/2018	15:29
	IC 240-342675/8	1415430.D	08/27/2018	15:50
	IC 240-342675/9	1415431.D	08/27/2018	16:12
	IC 240-342675/10	1415432.D	08/27/2018	16:33
	IC 240-342675/11	1415433.D	08/27/2018	16:55
	ICV 240-342675/13	1415435.D	08/27/2018	17:38

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1 Analy Batch No.: 342675

SDG No.:

Instrument ID: A3UX14 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 08/27/2018 14:03 Calibration End Date: 08/27/2018 16:55 Calibration ID: 46737

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 240-342675/11	1415433.D
Level 2	IC 240-342675/10	1415432.D
Level 3	IC 240-342675/9	1415431.D
Level 4	IC 240-342675/8	1415430.D
Level 5	IC 240-342675/7	1415429.D
Level 6	ICIS 240-342675/6	1415428.D
Level 7	IC 240-342675/5	1415427.D
Level 8	IC 240-342675/4	1415426.D
Level 9	IC 240-342675/3	1415425.D

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.1484 0.2279	0.1738 0.2192	0.2290 0.2118	0.2208 0.1890	0.2226	Ave		0.2047				13.8		15.0			
Chloromethane	0.4637 0.4516	0.4244 0.4208	0.4502 0.3998	0.4477 0.3634	0.4511	Ave		0.4303			0.1000	7.5		15.0			
Vinyl chloride	0.3395 0.3878	0.3083 0.3603	0.3769 0.3316	0.3715 0.3041	0.3785	Ave		0.3510				8.9		15.0			
Butadiene	0.3090 0.4101	0.3032 0.3897	0.3855 0.3618	0.3926 0.3379	0.3958	Ave		0.3651				10.8		15.0			
Bromomethane	0.2375 0.2295	0.2159 +++++	0.2345 +++++	0.2450 +++++	0.2438	Ave		0.2344				4.6		15.0			
Chloroethane	0.2012 0.2320	0.1968 0.1845	0.2192 +++++	0.2236 +++++	0.2249	Ave		0.2118				8.3		15.0			
Dichlorofluoromethane	0.3777 0.4406	0.3968 0.4416	0.4150 0.4580	0.4040 0.4531	0.4197	Ave		0.4230				6.4		15.0			
Trichlorofluoromethane	0.3097 0.4058	0.3257 0.4228	0.3740 0.4432	0.3826 0.4725	0.3855	Ave		0.3913				13.4		15.0			
Ethyl ether	0.3528 0.3573	0.3210 0.3504	0.3395 0.3591	0.3356 0.3401	0.3493	Ave		0.3450				3.5		15.0			
Acrolein	0.0731 0.0703	0.0635 0.0663	0.0664 0.0654	0.0600 0.0606	0.0735	Ave		0.0666				7.4		15.0			
1,1-Dichloroethene	+++++ 0.3087	+++++ 0.3048	0.2942 0.3089	0.2893 0.2729	0.2990	Ave		0.2968				4.3		15.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	+++++ 0.1977	+++++ 0.1985	0.1872 0.1998	0.1851 0.1988	0.1877	Ave		0.1935				3.4		15.0			
Acetone	+++++ 0.1227	+++++ 0.0993	0.1862 0.1124	0.1405 0.0959	0.1403	Lin1	0.9710	0.1012							0.9910		0.9900

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.: 240-101689-1 Analy Batch No.: 342675

SDG No.:

Instrument ID: A3UX14 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 08/27/2018 14:03 Calibration End Date: 08/27/2018 16:55 Calibration ID: 46737

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Iodomethane	+++++ 0.5888	+++++ 0.4549	0.5753 0.5698	0.4902 +++++	0.5817	Ave		0.5434				10.4		15.0			
Carbon disulfide	+++++ 0.9052	+++++ 0.7213	0.8127 0.8697	0.6547 +++++	0.8633	Ave		0.8045				12.1		15.0			
3-Chloro-1-propene	0.1172 0.1668	0.1394 0.1679	0.1541 0.1658	0.1625 0.1550	0.1613	Ave		0.1544				10.7		15.0			
Methyl acetate	0.3441 0.3080	0.3214 0.2986	0.3016 0.2866	0.2896 0.2940	0.3190	Ave		0.3070				6.0		15.0			
Methylene Chloride	0.3523 0.2915	0.3094 0.2855	0.3064 0.2727	0.2864 0.2424	0.2948	Ave		0.2935				10.1		15.0			
tert-Butyl alcohol	0.0282 0.0250	0.0274 0.0261	0.0251 0.0229	0.0228 0.0228	0.0275	Ave		0.0253				8.5		15.0			
trans-1,2-Dichloroethene	0.2657 0.3056	0.2925 0.3016	0.2946 0.2983	0.2869 0.2751	0.3010	Ave		0.2913				4.5		15.0			
Methyl tert-butyl ether	0.6441 0.6917	0.5779 0.6653	0.6560 0.6705	0.6518 0.6266	0.6918	Ave		0.6529				5.4		15.0			
Acrylonitrile	0.1420 0.1429	0.1390 0.1372	0.1404 0.1316	0.1311 0.1326	0.1454	Ave		0.1380				3.8		15.0			
Hexane	+++++ 0.0764	0.0581 0.0782	0.0654 0.0765	0.0698 0.0785	0.0744	Ave		0.0721				10.1		15.0			
1,1-Dichloroethane	0.4940 0.5501	0.5149 0.5488	0.5382 0.5431	0.5314 0.5184	0.5388	Ave		0.5309			0.1000	3.5		15.0			
Vinyl acetate	+++++ 0.0528	0.0452 0.0546	0.0403 0.0522	0.0462 0.0526	0.0495	Ave		0.0492				10.0		15.0			
2,2-Dichloropropane	0.0533 0.0722	0.0542 0.0694	0.0655 0.0673	0.0685 0.0601	0.0657	Ave		0.0640				10.5		15.0			
cis-1,2-Dichloroethene	0.3497 0.3543	0.3273 0.3489	0.3497 0.3396	0.3443 0.3205	0.3545	Ave		0.3432				3.5		15.0			
2-Butanone (MEK)	+++++ 0.1653	0.2021 0.1642	0.1631 0.1551	0.1552 0.1609	0.1724	Ave		0.1673				9.1		15.0			
Bromochloromethane	0.1809 0.1781	0.1566 0.1728	0.1637 0.1694	0.1651 0.1603	0.1739	Ave		0.1690				4.8		15.0			
Tetrahydrofuran	0.1336 0.1179	0.1227 0.1167	0.1038 0.1112	0.1087 0.1156	0.1203	Ave		0.1167				7.4		15.0			
Chloroform	0.3851 0.4160	0.3773 0.4097	0.3978 0.4030	0.3985 0.3895	0.4127	Ave		0.3988				3.3		15.0			
1,1,1-Trichloroethane	0.2094 0.3068	0.2233 0.3047	0.2675 0.3030	0.2933 0.2873	0.2985	Ave		0.2771				13.2		15.0			
Cyclohexane	+++++ 0.5949	0.4306 0.5870	0.5410 0.5813	0.5675 0.5711	0.5835	Ave		0.5571				9.6		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.: 240-101689-1 Analy Batch No.: 342675

SDG No.:

Instrument ID: A3UX14 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 08/27/2018 14:03 Calibration End Date: 08/27/2018 16:55 Calibration ID: 46737

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Carbon tetrachloride	+++++ 0.2830	0.2157 0.2854	0.2443 0.2869	0.2488 0.2753	0.2724	Ave		0.2639				9.6		15.0			
1,1-Dichloropropene	0.2644 0.3427	0.2834 0.3395	0.3073 0.3352	0.3295 0.3375	0.3314	Ave		0.3190				8.7		15.0			
Benzene	1.0713 1.1683	1.1333 1.1533	1.1121 1.1275	1.1358 1.1183	1.1447	Ave		1.1294				2.5		15.0			
1,2-Dichloroethane	0.3014 0.3184	0.3211 0.3110	0.3219 0.3019	0.3164 0.3043	0.3147	Ave		0.3123				2.6		15.0			
Isobutyl alcohol	0.0125 0.0114	0.0113 0.0108	0.0101 0.0095	0.0099 0.0104	0.0123	Ave		0.0109				9.7		15.0			
n-Heptane	+++++ 0.0804	0.0653 0.0836	0.0652 0.0812	0.0747 0.0871	0.0799	Ave		0.0772				10.6		15.0			
Trichloroethene	0.2828 0.3310	0.3193 0.3357	0.3122 0.3272	0.3163 0.3269	0.3191	Ave		0.3189				4.9		15.0			
Methylcyclohexane	+++++ 0.4969	0.3296 0.4970	0.4239 0.4849	0.4786 0.4816	0.4897	Ave		0.4603				12.5		15.0			
1,2-Dichloropropane	0.2867 0.3173	0.2970 0.3226	0.2997 0.3128	0.3124 0.3156	0.3126	Ave		0.3085				3.7		15.0			
Dibromomethane	0.1616 0.1650	0.1687 0.1636	0.1519 0.1576	0.1529 0.1599	0.1665	Ave		0.1608				3.6		15.0			
1,4-Dioxane	0.0030 0.0026	0.0025 0.0025	0.0023 0.0021	0.0024 0.0022	0.0028	Ave		0.0025				11.2		15.0			
Bromodichloromethane	+++++ 0.2827	0.2129 0.2944	0.2303 0.2916	0.2446 0.2959	0.2605	Ave		0.2641				12.1		15.0			
2-Chloroethyl vinyl ether	0.1249 0.1575	0.1433 0.1636	0.1319 0.1593	0.1340 0.1755	0.1527	Ave		0.1492				11.2		15.0			
cis-1,3-Dichloropropene	+++++ 0.3710	0.3103 0.3924	0.2918 0.3861	0.3207 0.3989	0.3511	Ave		0.3528				11.6		15.0			
4-Methyl-2-pentanone (MIBK)	0.3722 0.4621	0.3849 0.4463	0.3763 0.4331	0.3960 0.4410	0.4581	Ave		0.4189				8.7		15.0			
Toluene	1.4034 1.5543	1.4767 1.5771	1.4146 1.6151	1.4767 1.5844	1.4673	Ave		1.5077				5.1		15.0			
trans-1,3-Dichloropropene	+++++ 0.4102	+++++ 0.4329	0.2987 0.4519	0.3361 0.4647	0.3645	Lin1	-1.139	0.4575							0.9990		0.9900
Ethyl methacrylate	+++++ 0.3787	0.2894 0.3898	0.2988 0.3790	0.3052 0.3976	0.3575	Ave		0.3495				12.7		15.0			
1,1,2-Trichloroethane	0.2977 0.3048	0.3017 0.3099	0.2826 0.3105	0.2888 0.3153	0.2929	Ave		0.3005				3.6		15.0			
Tetrachloroethene	0.2717 0.3197	0.2969 0.3268	0.2907 0.3425	0.3132 0.3457	0.3041	Ave		0.3124				7.8		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.: 240-101689-1 Analy Batch No.: 342675

SDG No.:

Instrument ID: A3UX14 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 08/27/2018 14:03 Calibration End Date: 08/27/2018 16:55 Calibration ID: 46737

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
1,3-Dichloropropane	0.4606 0.4895	0.4981 0.5018	0.4647 0.5012	0.4688 0.5131	0.4947	Ave		0.4880				3.8		15.0			
2-Hexanone	0.2240 0.2789	0.2493 0.2721	0.2523 0.2550	0.2398 0.2827	0.2905	Ave		0.2605				8.4		15.0			
Dibromochloromethane	+++++ 0.3271	+++++ 0.3430	0.2447 0.3536	0.2636 0.3611	0.2956	Ave		0.3127				14.6		15.0			
1,2-Dibromoethane	0.2645 0.3045	0.3002 0.3014	0.2722 0.3021	0.2917 0.3071	0.3007	Ave		0.2938				5.2		15.0			
Chlorobenzene	1.0636 1.0679	1.1040 1.0722	1.0553 1.0667	1.0530 1.0733	1.0536	Ave		1.0677			0.3000	1.5		15.0			
1,1,1,2-Tetrachloroethane	0.2796 0.3787	0.2736 0.3780	0.3000 0.3698	0.3415 0.3571	0.3553	Ave		0.3371				12.4		15.0			
Ethylbenzene	0.4666 0.5748	0.5143 0.5710	0.5101 0.5770	0.5349 0.5862	0.5538	Ave		0.5432				7.3		15.0			
m-Xylene & p-Xylene	0.5385 0.6683	0.6375 0.6866	0.6072 0.6745	0.6522 0.6897	0.6652	Ave		0.6466				7.4		15.0			
o-Xylene	0.4959 0.6922	0.5678 0.6872	0.5974 0.6709	0.6329 0.6730	0.6675	Ave		0.6317				10.5		15.0			
Styrene	0.7611 1.1043	0.8324 1.1210	0.9187 1.1001	0.9694 1.1236	1.0575	Ave		0.9987				13.6		15.0			
Bromoform	+++++ 0.1864	+++++ 0.1947	0.1260 0.1937	0.1372 0.2036	0.1694	Lin1	-0.494	0.2004			0.1000				0.9990		0.9900
Isopropylbenzene	1.1008 1.5895	1.2788 1.5602	1.3855 1.4839	1.4857 1.4944	1.5623	Ave		1.4379				11.1		15.0			
Bromobenzene	0.9253 0.9318	0.9518 0.9311	0.8917 0.9088	0.9024 0.8787	0.9267	Ave		0.9165				2.5		15.0			
1,1,2,2-Tetrachloroethane	0.6913 0.7830	0.7438 0.7610	0.7069 0.7157	0.7148 0.7154	0.7768	Ave		0.7343			0.3000	4.5		15.0			
1,2,3-Trichloropropane	0.2170 0.2394	0.2562 0.2301	0.2422 0.2151	0.2344 0.2129	0.2496	Ave		0.2330				6.7		15.0			
trans-1,4-Dichloro-2-butene	0.2856 0.2562	0.2272 0.2577	0.2220 0.2539	0.2197 0.2637	0.2529	Ave		0.2488				8.7		15.0			
N-Propylbenzene	0.7746 1.0296	0.8729 1.0279	0.8858 1.0072	0.9798 0.9787	1.0068	Ave		0.9515				9.2		15.0			
2-Chlorotoluene	0.7699 0.9154	0.8218 0.9153	0.8543 0.8901	0.9076 0.8591	0.8905	Ave		0.8693				5.6		15.0			
1,3,5-Trimethylbenzene	1.7365 2.5736	2.0692 2.5978	2.1989 2.5923	2.4293 2.5524	2.4893	Ave		2.3599				12.7		15.0			
4-Chlorotoluene	0.7669 0.9296	0.8957 0.9562	0.9142 0.9526	0.9162 0.9471	0.9151	Ave		0.9104				6.3		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.: 240-101689-1 Analy Batch No.: 342675

SDG No.:

Instrument ID: A3UX14 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 08/27/2018 14:03 Calibration End Date: 08/27/2018 16:55 Calibration ID: 46737

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
tert-Butylbenzene	1.4841 2.3441	1.9716 2.3948	1.8358 2.3571	2.1351 2.3201	2.2197	Ave		2.1181				14.4		15.0			
1,2,4-Trimethylbenzene	2.0874 2.5759	2.2850 2.6093	2.2931 2.5729	2.4752 2.5489	2.5128	Ave		2.4401				7.3		15.0			
sec-Butylbenzene	2.2143 3.3654	2.7789 3.3706	2.8357 3.3915	3.2029 3.3244	3.3070	Ave		3.0879				13.0		15.0			
1,3-Dichlorobenzene	1.6636 1.6456	1.7421 1.6647	1.5790 1.6567	1.6679 1.6544	1.6591	Ave		1.6592				2.5		15.0			
p-Isopropyltoluene	1.8471 2.8893	2.2895 2.9024	2.3934 2.9536	2.7368 2.9518	2.8366	Ave		2.6445				14.6		15.0			
1,4-Dichlorobenzene	1.9494 1.6871	1.8728 1.6819	1.7007 1.7042	1.7466 1.6874	1.6918	Ave		1.7469				5.6		15.0			
n-Butylbenzene	+++++ 2.3886	+++++ 2.4422	1.9133 2.6396	2.2279 2.6944	2.2981	Ave		2.3720				11.1		15.0			
1,2-Dichlorobenzene	1.5843 1.6204	1.6274 1.6177	1.5539 1.6719	1.6019 1.7146	1.5915	Ave		1.6204				3.0		15.0			
1,2-Dibromo-3-Chloropropane	+++++ 0.1400	+++++ 0.1501	0.0995 0.1634	0.1159 0.1670	0.1349	Lin1	-0.450	0.1637							0.9980		0.9900
1,2,4-Trichlorobenzene	1.1230 1.0791	0.9841 1.1697	0.9281 1.2780	1.0011 1.2950	1.0174	Ave		1.0973				11.8		15.0			
Hexachlorobutadiene	+++++ 0.4546	+++++ 0.4838	0.3540 0.5603	0.4186 0.5597	0.4348	Lin1	-1.467	0.5481							0.9960		0.9900
Naphthalene	2.2870 2.6793	2.1827 2.8212	2.1012 2.9588	2.3209 2.9435	2.5836	Ave		2.5420				13.0		15.0			
1,2,3-Trichlorobenzene	1.0863 1.0525	0.9675 1.1418	0.9285 1.2163	1.0193 1.2205	1.0180	Ave		1.0723				9.6		15.0			
Dibromofluoromethane (Surr)	0.6489 0.2889	0.4211 0.2775	0.3610 0.2697	0.3236 0.2592	0.3022	Lin1	0.3999	0.2663							0.9990		0.9900
1,2-Dichloroethane-d4 (Surr)	0.8128 0.2610	0.4964 0.2525	0.3871 0.2432	0.3108 0.2420	0.2841	Lin1	0.5863	0.2425							0.9990		0.9900
Toluene-d8 (Surr)	4.7463 1.4396	2.8276 1.4095	2.1825 1.4552	1.7643 1.4149	1.5303	Lin1	3.2291	1.4078							1.0000		0.9900
4-Bromofluorobenzene (Surr)	3.4482 0.9440	2.1689 0.9201	1.5119 0.8788	1.1880 0.8557	1.0284	Lin1	2.7292	0.8654							0.9990		0.9900

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

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1 Analy Batch No.: 342675

SDG No.:

Instrument ID: A3UX14 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 08/27/2018 14:03 Calibration End Date: 08/27/2018 16:55 Calibration ID: 46737

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 240-342675/11	1415433.D
Level 2	IC 240-342675/10	1415432.D
Level 3	IC 240-342675/9	1415431.D
Level 4	IC 240-342675/8	1415430.D
Level 5	IC 240-342675/7	1415429.D
Level 6	ICIS 240-342675/6	1415428.D
Level 7	IC 240-342675/5	1415427.D
Level 8	IC 240-342675/4	1415426.D
Level 9	IC 240-342675/3	1415425.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Dichlorodifluoromethane	FB	Ave	5213 500937	14046 962364	46629 1812463	95757 1681471	197490	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Chloromethane	FB	Ave	16293 992461	34293 1847158	91672 3421972	194134 3232808	400139	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Vinyl chloride	FB	Ave	11929 852296	24915 1581909	76747 2838037	161095 2705087	335791	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Butadiene	FB	Ave	10856 901291	24498 1710968	78488 3096614	170242 3005665	351059	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Bromomethane	FB	Ave	8347 504469	17443 +++++	47745 +++++	106249 +++++	216255	1.00 50.0	2.00 +++++	5.00 +++++	10.0 +++++	20.0
Chloroethane	FB	Ave	7069 509798	15900 810075	44639 +++++	96979 +++++	199536	1.00 50.0	2.00 100	5.00 +++++	10.0 +++++	20.0
Dichlorofluoromethane	FB	Ave	13273 968362	32065 1938657	84505 3919318	175199 4030598	372268	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Trichlorofluoromethane	FB	Ave	10881 891926	26320 1855967	76143 3793235	165910 4203400	341944	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Ethyl ether	FB	Ave	12397 785228	25942 1538465	69125 3073336	145504 3025271	309811	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Acrolein	FB	Ave	12835 772629	25673 1455870	67613 2798360	130027 2693334	325963	5.00 250	10.0 500	25.0 1000	50.0 1250	100
1,1-Dichloroethene	FB	Ave	+++++ 678457	+++++ 1337995	59897 2643687	125430 2427341	265220	+++++ 50.0	+++++ 100	5.00 200	10.0 250	20.0
1,1,2-Trichloro-1,2,2-trifluoroetha ne	FB	Ave	+++++ 434389	+++++ 871415	38121 1710347	80251 1768347	166500	+++++ 50.0	+++++ 100	5.00 200	10.0 250	20.0
Acetone	FB	Lin1	+++++ 539474	+++++ 871756	75839 1924672	121864 1706684	248942	+++++ 100	+++++ 200	10.0 400	20.0 500	40.0
Iodomethane	FB	Ave	+++++ 1294029	+++++ 1996869	117125 4876403	212547 +++++	516015	+++++ 50.0	+++++ 100	5.00 200	10.0 +++++	20.0

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1 Analy Batch No.: 342675

SDG No.:

Instrument ID: A3UX14 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 08/27/2018 14:03 Calibration End Date: 08/27/2018 16:55 Calibration ID: 46737

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Carbon disulfide	FB	Ave	+++++ 1989485	+++++ 3166696	165475 7443395	283877 +++++	765793	+++++ 50.0	+++++ 100	5.00 200	10.0 +++++	20.0
3-Chloro-1-propene	FB	Ave	4117 366592	11262 736972	31376 1419046	70478 1378572	143087	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Methyl acetate	FB	Ave	24185 1353964	51937 2622011	122811 4905003	251158 5230693	566004	2.00 100	4.00 200	10.0 400	20.0 500	40.0
Methylene Chloride	FB	Ave	12380 640605	25001 1253371	62393 2333710	124191 2156673	261535	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
tert-Butyl alcohol	FB	Ave	9907 550156	22180 1147428	51087 1960190	99009 2027172	243777	10.0 500	20.0 1000	50.0 2000	100 2500	200
trans-1,2-Dichloroethene	FB	Ave	9337 671651	23639 1324194	59976 2553120	124414 2446862	267011	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Methyl tert-butyl ether	FB	Ave	22633 1520146	46702 2920521	133569 5738316	282620 5573791	613652	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Acrylonitrile	FB	Ave	49896 3139711	112287 6021686	285888 11261499	568679 11796264	1289838	10.0 500	20.0 1000	50.0 2000	100 2500	200
Hexane	FB	Ave	+++++ 167805	4691 343384	13309 654510	30271 697997	65955	+++++ 50.0	2.00 100	5.00 200	10.0 250	20.0
1,1-Dichloroethane	FB	Ave	17358 1209082	41608 2409237	109586 4648170	230437 4611495	477961	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Vinyl acetate	FB	Ave	+++++ 116114	3649 239660	8203 447150	20040 468141	43926	+++++ 50.0	2.00 100	5.00 200	10.0 250	20.0
2,2-Dichloropropane	FB	Ave	1872 158679	4381 304749	13341 575628	29708 534599	58298	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
cis-1,2-Dichloroethene	FB	Ave	12289 778611	26448 1531494	71211 2906324	149300 2850895	314472	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
2-Butanone (MEK)	FB	Ave	+++++ 726625	32663 1441751	66414 2654771	134559 2863093	305940	+++++ 100	4.00 200	10.0 400	20.0 500	40.0
Bromochloromethane	FB	Ave	6358 391386	12651 758641	33325 1450084	71601 1426191	154221	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Tetrahydrofuran	FB	Ave	9386 518447	19837 1025063	42257 1903979	94262 2056038	213422	2.00 100	4.00 200	10.0 400	20.0 500	40.0
Chloroform	FB	Ave	13531 914323	30485 1798431	80996 3448974	172784 3464986	366109	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
1,1,1-Trichloroethane	FB	Ave	7358 674190	18045 1337456	54475 2593081	127187 2555528	264810	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Cyclohexane	FB	Ave	+++++ 1307338	34799 2576855	110157 4975092	246089 5080029	517576	+++++ 50.0	2.00 100	5.00 200	10.0 250	20.0
Carbon tetrachloride	FB	Ave	+++++ 621864	17426 1252773	49740 2455360	107875 2448755	241607	+++++ 50.0	2.00 100	5.00 200	10.0 250	20.0
1,1-Dichloropropene	FB	Ave	9292 753172	22904 1490495	62568 2868793	142888 3001976	293985	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1 Analy Batch No.: 342675

SDG No.:

Instrument ID: A3UX14 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 08/27/2018 14:03 Calibration End Date: 08/27/2018 16:55 Calibration ID: 46737

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Benzene	FB	Ave	37644 2567621	91580 5063233	226431 9649785	492518 9947807	1015403	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
1,2-Dichloroethane	FB	Ave	10591 699875	25947 1365149	65532 2583569	137189 2707327	279171	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Isobutyl alcohol	FB	Ave	10989 629062	22728 1182293	51659 2023755	107784 2313894	273577	25.0 1250	50.0 2500	125 5000	250 6250	500
n-Heptane	FB	Ave	+++++ 176652	5276 367193	13278 694788	32372 775238	70867	+++++ 50.0	2.00 100	5.00 200	10.0 250	20.0
Trichloroethene	FB	Ave	9937 727469	25801 1473539	63562 2799946	137137 2908391	283048	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Methylcyclohexane	FB	Ave	+++++ 1092013	26637 2181890	86314 4149939	207523 4283922	434415	+++++ 50.0	2.00 100	5.00 200	10.0 250	20.0
1,2-Dichloropropane	FB	Ave	10073 697340	23996 1416383	61017 2676771	135467 2807125	277303	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Dibromomethane	FB	Ave	5679 362550	13629 718069	30919 1348562	66294 1422510	147698	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
1,4-Dioxane	FB	Ave	2083 116056	4114 216843	9379 362528	20479 389723	49562	20.0 1000	40.0 2000	100 4000	200 5000	400
Bromodichloromethane	FB	Ave	+++++ 621232	17200 1292299	46896 2495912	106057 2631917	231101	+++++ 50.0	2.00 100	5.00 200	10.0 250	20.0
2-Chloroethyl vinyl ether	FB	Ave	8776 692080	23164 1436843	53727 2726153	116223 3121609	270885	2.00 100	4.00 200	10.0 400	20.0 500	40.0
cis-1,3-Dichloropropene	FB	Ave	+++++ 815302	25075 1722605	59406 3304527	139078 3548530	311461	+++++ 50.0	2.00 100	5.00 200	10.0 250	20.0
4-Methyl-2-pentanone (MIBK)	CBNZ d5	Ave	18859 1453609	46446 2784302	112868 4930065	247288 5472696	602240	2.00 100	4.00 200	10.0 400	20.0 500	40.0
Toluene	CBNZ d5	Ave	35557 2444405	89107 4919207	212169 9191804	461027 9830931	964502	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
trans-1,3-Dichloropropene	CBNZ d5	Lin1	+++++ 645100	+++++ 1350296	44807 2572056	104942 2883578	239575	+++++ 50.0	+++++ 100	5.00 200	10.0 250	20.0
Ethyl methacrylate	CBNZ d5	Ave	+++++ 595586	17460 1215951	44821 2157073	95278 2466757	235010	+++++ 50.0	2.00 100	5.00 200	10.0 250	20.0
1,1,2-Trichloroethane	CBNZ d5	Ave	7542 479386	18205 966498	42387 1766988	90164 1956267	192566	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Tetrachloroethene	CBNZ d5	Ave	6883 502725	17916 1019182	43607 1949429	97784 2144715	199869	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
1,3-Dichloropropane	CBNZ d5	Ave	11670 769837	30056 1565098	69702 2852081	146362 3183424	325171	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
2-Hexanone	CBNZ d5	Ave	11352 877285	30088 1697302	75685 2902286	149737 3508314	381910	2.00 100	4.00 200	10.0 400	20.0 500	40.0
Dibromochloromethane	CBNZ d5	Ave	+++++ 514398	+++++ 1069952	36698 2012199	82290 2240430	194283	+++++ 50.0	+++++ 100	5.00 200	10.0 250	20.0

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1 Analy Batch No.: 342675

SDG No.:

Instrument ID: A3UX14 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 08/27/2018 14:03 Calibration End Date: 08/27/2018 16:55 Calibration ID: 46737

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
1,2-Dibromoethane	CBNZ d5	Ave	6702 478924	18115 939953	40823 1719504	91077 1905425	197641	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Chlorobenzene	CBNZ d5	Ave	26949 1679482	66616 3344232	158274 6070327	328759 6659465	692577	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	7083 595576	16512 1179064	44988 2104339	106631 2215897	233576	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Ethylbenzene	CBNZ d5	Ave	11822 903979	31036 1780968	76502 3283530	167014 3637072	364059	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
m-Xylene & p-Xylene	CBNZ d5	Ave	13643 1051035	38470 2141423	91072 3838407	203622 4279264	437249	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
o-Xylene	CBNZ d5	Ave	12565 1088653	34262 2143592	89608 3818144	197591 4176023	438767	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Styrene	CBNZ d5	Ave	19285 1736698	50228 3496555	137787 6260871	302650 6971900	695135	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Bromoform	CBNZ d5	Lin1	+++++ 293157	+++++ 607267	18895 1102313	42832 1263475	111350	+++++ 50.0	+++++ 100	5.00 200	10.0 250	20.0
Isopropylbenzene	CBNZ d5	Ave	27890 2499753	77163 4866285	207803 8445138	463828 9272475	1026949	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Bromobenzene	DCBd 4	Ave	11015 697521	26722 1345285	64279 2355257	133054 2683042	293562	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	8230 586191	20882 1099598	50955 1854776	105387 2184319	246085	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
1,2,3-Trichloropropane	DCBd 4	Ave	2583 179226	7192 332460	17457 557417	34559 650146	79055	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	3400 191800	6380 372378	16001 658024	32391 805102	80102	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
N-Propylbenzene	DCBd 4	Ave	9221 770776	24508 1485138	63850 2610316	144461 2988367	318943	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
2-Chlorotoluene	DCBd 4	Ave	9165 685293	23074 1322516	61583 2306669	133814 2623136	282109	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	20672 1926657	58095 3753409	158511 6718011	358184 7793376	788565	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
4-Chlorotoluene	DCBd 4	Ave	9130 695905	25148 1381590	65902 2468666	135082 2891998	289888	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
tert-Butylbenzene	DCBd 4	Ave	17668 1754804	55356 3460169	132337 6108464	314816 7084133	703176	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	24849 1928347	64156 3770020	165297 6667865	364954 7782822	796003	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
sec-Butylbenzene	DCBd 4	Ave	26360 2519361	78022 4870062	204411 8789045	472259 10150526	1047616	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
1,3-Dichlorobenzene	DCBd 4	Ave	19804 1231878	48912 2405278	113822 4293452	245917 5051482	525563	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1 Analy Batch No.: 342675

SDG No.:

Instrument ID: A3UX14 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 08/27/2018 14:03 Calibration End Date: 08/27/2018 16:55 Calibration ID: 46737

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
p-Isopropyltoluene	DCBd 4	Ave	21989 2162935	64281 4193538	172528 7654281	403530 9013053	898599	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
1,4-Dichlorobenzene	DCBd 4	Ave	23207 1262982	52582 2430171	122592 4416600	257529 5152368	535939	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
n-Butylbenzene	DCBd 4	Ave	+++++ 1788118	+++++ 3528663	137918 6840586	328492 8226934	727991	+++++ 50.0	+++++ 100	5.00 200	10.0 250	20.0
1,2-Dichlorobenzene	DCBd 4	Ave	18860 1213020	45691 2337314	112010 4332815	236194 5235287	504167	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Lin1	+++++ 104836	+++++ 216887	7172 423515	17093 510065	42735	+++++ 50.0	+++++ 100	5.00 200	10.0 250	20.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	13369 807839	27630 1690036	66904 3312023	147610 3954055	322281	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Hexachlorobutadiene	DCBd 4	Lin1	+++++ 340338	+++++ 698976	25520 1451904	61725 1709116	137736	+++++ 50.0	+++++ 100	5.00 200	10.0 250	20.0
Naphthalene	DCBd 4	Ave	27225 2005774	61284 4076258	151468 7667793	342203 8987460	818442	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	12932 787907	27164 1649797	66934 3152146	150295 3726659	322493	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Dibromofluoromethane (Surr)	FB	Lin1	22800 634926	34030 1218171	73507 2307972	140300 2305363	268043	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
1,2-Dichloroethane-d4 (Surr)	FB	Lin1	28561 573622	40109 1108381	78810 2081180	134755 2153163	251966	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
Toluene-d8 (Surr)	CBNZ d5	Lin1	120256 2264108	170621 4396500	327345 8281336	550838 8779114	1005936	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0
4-Bromofluorobenzene (Surr)	DCBd 4	Lin1	41049 706678	60896 1329455	108983 2277314	175168 2612734	325780	1.00 50.0	2.00 100	5.00 200	10.0 250	20.0

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab Sample ID: ICV 240-342675/13 Calibration Date: 08/27/2018 17:38

Instrument ID: A3UX14 Calib Start Date: 08/27/2018 14:03

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 16:55

Lab File ID: 1415435.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.2047	0.1341		0.0131	0.0200	-34.5	50.0
Chloromethane	Ave	0.4303	0.3622	0.1000	0.0168	0.0200	-15.8	50.0
Vinyl chloride	Ave	0.3510	0.3031		0.0173	0.0200	-13.6	20.0
Butadiene	Ave	0.3651	0.2959		0.0162	0.0200	-18.9	50.0
Bromomethane	Ave	0.2344	0.2184		0.0186	0.0200	-6.8	50.0
Chloroethane	Ave	0.2118	0.1855		0.0175	0.0200	-12.4	50.0
Dichlorofluoromethane	Ave	0.4230	0.3751		0.0177	0.0200	-11.3	50.0
Trichlorofluoromethane	Ave	0.3913	0.3318		0.0170	0.0200	-15.2	50.0
Ethyl ether	Ave	0.3450	0.3642		0.0528	0.0500	5.6	50.0
Acrolein	Ave	0.0666	0.0526		0.198	0.250	-20.9	50.0
1,1-Dichloroethene	Ave	0.2968	0.2722		0.0459	0.0500	-8.3	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1935	0.1852		0.0478	0.0500	-4.3	50.0
Acetone	Lin1		0.1082		0.0973	0.100	-2.7	50.0
Iodomethane	Ave	0.5434	0.4127		0.0380	0.0500	-24.1	50.0
Carbon disulfide	Ave	0.8045	0.6181		0.0384	0.0500	-23.2	50.0
3-Chloro-1-propene	Ave	0.1544	0.1639		0.0531	0.0500	6.2	50.0
Methyl acetate	Ave	0.3070	0.3091		0.101	0.100	0.7	50.0
Methylene Chloride	Ave	0.2935	0.2641		0.0450	0.0500	-10.0	50.0
tert-Butyl alcohol	Ave	0.0253	0.0269		0.531	0.500	6.1	50.0
trans-1,2-Dichloroethene	Ave	0.2913	0.2950		0.0506	0.0500	1.3	50.0
Methyl tert-butyl ether	Ave	0.6529	0.6700		0.0513	0.0500	2.6	50.0
Acrylonitrile	Ave	0.1380	0.1452		0.526	0.500	5.2	50.0
Hexane	Ave	0.0721	0.0782		0.0542	0.0500	8.3	20.0
1,1-Dichloroethane	Ave	0.5309	0.5367	0.1000	0.0505	0.0500	1.1	50.0
Vinyl acetate	Ave	0.0492	0.0587		0.0597	0.0500	19.3	50.0
2,2-Dichloropropane	Ave	0.0640	0.0642		0.0502	0.0500	0.3	50.0
cis-1,2-Dichloroethene	Ave	0.3432	0.3355		0.0489	0.0500	-2.2	50.0
2-Butanone (MEK)	Ave	0.1673	0.1779		0.106	0.100	6.3	50.0
Bromochloromethane	Ave	0.1690	0.1700		0.0503	0.0500	0.6	50.0
Tetrahydrofuran	Ave	0.1167	0.1297		0.111	0.100	11.1	50.0
Chloroform	Ave	0.3988	0.4039		0.0506	0.0500	1.3	20.0
1,1,1-Trichloroethane	Ave	0.2771	0.2944		0.0531	0.0500	6.3	50.0
Cyclohexane	Ave	0.5571	0.5718		0.0513	0.0500	2.6	50.0
Carbon tetrachloride	Ave	0.2639	0.2751		0.0521	0.0500	4.2	50.0
1,1-Dichloropropene	Ave	0.3190	0.3351		0.0525	0.0500	5.0	50.0
Benzene	Ave	1.129	1.154		0.0511	0.0500	2.2	50.0
1,2-Dichloroethane	Ave	0.3123	0.3279		0.0525	0.0500	5.0	50.0
Isobutyl alcohol	Ave	0.0109	0.0133		1.52	1.25	21.3	50.0
n-Heptane	Ave	0.0772	0.0865		0.0560	0.0500	12.0	50.0
Trichloroethene	Ave	0.3189	0.3292		0.0516	0.0500	3.2	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab Sample ID: ICV 240-342675/13 Calibration Date: 08/27/2018 17:38

Instrument ID: A3UX14 Calib Start Date: 08/27/2018 14:03

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 16:55

Lab File ID: 1415435.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	0.4603	0.4744		0.0515	0.0500	3.1	50.0
1,2-Dichloropropane	Ave	0.3085	0.3385		0.0549	0.0500	9.7	20.0
Dibromomethane	Ave	0.1608	0.1642		0.0510	0.0500	2.1	50.0
1,4-Dioxane	Ave	0.0025	0.0029		1.16	1.00	16.5	50.0
Bromodichloromethane	Ave	0.2641	0.2930		0.0555	0.0500	10.9	50.0
2-Chloroethyl vinyl ether	Ave	0.1492	0.1733		0.0581	0.0500	16.2	50.0
cis-1,3-Dichloropropene	Ave	0.3528	0.4149		0.0588	0.0500	17.6	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.4189	0.4973		0.119	0.100	18.7	50.0
Toluene	Ave	1.508	1.547		0.0513	0.0500	2.6	20.0
trans-1,3-Dichloropropene	Lin1		0.4310		0.0496	0.0500	-0.8	50.0
Ethyl methacrylate	Ave	0.3495	0.4058		0.0581	0.0500	16.1	50.0
1,1,2-Trichloroethane	Ave	0.3005	0.3235		0.0538	0.0500	7.7	50.0
Tetrachloroethene	Ave	0.3124	0.3119		0.0499	0.0500	-0.1	50.0
1,3-Dichloropropane	Ave	0.4880	0.5094		0.0522	0.0500	4.4	50.0
2-Hexanone	Ave	0.2605	0.3115		0.120	0.100	19.6	50.0
Dibromochloromethane	Ave	0.3127	0.3401		0.0544	0.0500	8.8	50.0
1,2-Dibromoethane	Ave	0.2938	0.3142		0.0535	0.0500	6.9	50.0
Chlorobenzene	Ave	1.068	1.068	0.3000	0.0500	0.0500	0.0	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3371	0.3682		0.0546	0.0500	9.2	50.0
Ethylbenzene	Ave	0.5432	0.5587		0.0514	0.0500	2.8	20.0
m-Xylene & p-Xylene	Ave	0.6466	0.6607		0.0511	0.0500	2.2	50.0
o-Xylene	Ave	0.6317	0.6810		0.0539	0.0500	7.8	50.0
Styrene	Ave	0.999	1.080		0.0541	0.0500	8.1	50.0
Bromoform	Lin1		0.1931	0.1000	0.0506	0.0500	1.2	50.0
Isopropylbenzene	Ave	1.438	1.558		0.0542	0.0500	8.4	50.0
Bromobenzene	Ave	0.9165	0.9176		0.0501	0.0500	0.1	50.0
1,1,2,2-Tetrachloroethane	Ave	0.7343	0.8315	0.3000	0.0566	0.0500	13.2	50.0
1,2,3-Trichloropropane	Ave	0.2330	0.2459		0.0528	0.0500	5.5	50.0
trans-1,4-Dichloro-2-butene	Ave	0.2488	0.2822		0.0567	0.0500	13.4	50.0
N-Propylbenzene	Ave	0.9515	0.996		0.0523	0.0500	4.7	50.0
2-Chlorotoluene	Ave	0.8693	0.8854		0.0509	0.0500	1.9	50.0
1,3,5-Trimethylbenzene	Ave	2.360	2.507		0.0531	0.0500	6.2	50.0
4-Chlorotoluene	Ave	0.9104	0.9277		0.0509	0.0500	1.9	50.0
tert-Butylbenzene	Ave	2.118	2.320		0.0548	0.0500	9.6	50.0
1,2,4-Trimethylbenzene	Ave	2.440	2.505		0.0513	0.0500	2.7	50.0
sec-Butylbenzene	Ave	3.088	3.296		0.0534	0.0500	6.7	50.0
1,3-Dichlorobenzene	Ave	1.659	1.597		0.0481	0.0500	-3.8	50.0
p-Isopropyltoluene	Ave	2.645	2.767		0.0523	0.0500	4.6	50.0
1,4-Dichlorobenzene	Ave	1.747	1.643		0.0470	0.0500	-5.9	50.0
n-Butylbenzene	Ave	2.372	2.238		0.0472	0.0500	-5.6	50.0
1,2-Dichlorobenzene	Ave	1.620	1.574		0.0486	0.0500	-2.9	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab Sample ID: ICV 240-342675/13 Calibration Date: 08/27/2018 17:38

Instrument ID: A3UX14 Calib Start Date: 08/27/2018 14:03

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 16:55

Lab File ID: 1415435.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Lin1		0.1472		0.0477	0.0500	-4.6	50.0
1,2,4-Trichlorobenzene	Ave	1.097	0.9935		0.0453	0.0500	-9.5	50.0
Hexachlorobutadiene	Lin1		0.4010		0.0393	0.0500	-21.5	50.0
Naphthalene	Ave	2.542	2.580		0.0508	0.0500	1.5	50.0
1,2,3-Trichlorobenzene	Ave	1.072	0.9860		0.0460	0.0500	-8.1	50.0
Dibromofluoromethane (Surr)	Lin1		0.2450		0.0445	0.0500	-11.0	50.0
1,2-Dichloroethane-d4 (Surr)	Lin1		0.2202		0.0430	0.0500	-14.0	50.0
Toluene-d8 (Surr)	Lin1		1.341		0.0453	0.0500	-9.4	50.0
4-Bromofluorobenzene (Surr)	Lin1		0.8289		0.0447	0.0500	-10.5	50.0

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab File ID: BFB14798.D BFB Injection Date: 09/25/2018

Instrument ID: A3UX14 BFB Injection Time: 11:07

Analysis Batch No.: 347081

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	23.0	
75	30.0 - 60.0 % of mass 95	39.9	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.9	
173	Less than 2.0 % of mass 174	0.2	(0.3) 1
174	50.0 - 120.00 % of mass 95	82.3	
175	5.0 - 9.0 % of mass 174	6.1	(7.4) 1
176	95.0 - 101.0 % of mass 174	78.8	(95.7) 1
177	5.0 - 9.0 % of mass 176	5.3	(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
	CCVIS 240-347081/3	1415832.D	09/25/2018	11:49
	CCV 240-347081/4	1415833.D	09/25/2018	12:10
	LCS 240-347081/5	1415834.D	09/25/2018	12:32
	MB 240-347081/6	1415835.D	09/25/2018	12:53
SB-MW136-23.8-25	240-101689-2	1415854.D	09/25/2018	19:42
SB-MW136-25-28	240-101689-3	1415855.D	09/25/2018	20:03
SB-MW135-10-15	240-101689-4	1415856.D	09/25/2018	20:25
SB-MW135-15-20	240-101689-5	1415857.D	09/25/2018	20:46
SB-MW135-15-20 MS	240-101689-5 MS	1415858.D	09/25/2018	21:08
SB-MW135-15-20 MSD	240-101689-5 MSD	1415859.D	09/25/2018	21:29
SB-MW134-9-10	240-101689-6	1415861.D	09/25/2018	22:12
SB-MW134-15-20	240-101689-7	1415862.D	09/25/2018	22:34
SB-DUP01-092018	240-101689-8	1415863.D	09/25/2018	22:55

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab Sample ID: CCVIS 240-347081/3 Calibration Date: 09/25/2018 11:49

Instrument ID: A3UX14 Calib Start Date: 08/27/2018 14:03

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 16:55

Lab File ID: 1415832.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.2047	0.1883		0.0184	0.0200	-8.1	50.0
Chloromethane	Ave	0.4303	0.3742	0.1000	0.0174	0.0200	-13.0	50.0
Vinyl chloride	Ave	0.3510	0.3337		0.0190	0.0200	-4.9	20.0
Butadiene	Ave	0.3651	0.3276		0.0179	0.0200	-10.3	50.0
Bromomethane	Ave	0.2344	0.2163		0.0185	0.0200	-7.7	50.0
Chloroethane	Ave	0.2118	0.2015		0.0190	0.0200	-4.9	50.0
Dichlorofluoromethane	Ave	0.4230	0.4053		0.0192	0.0200	-4.2	50.0
Trichlorofluoromethane	Ave	0.3913	0.3621		0.0185	0.0200	-7.5	50.0
Ethyl ether	Ave	0.3450	0.3045		0.0441	0.0500	-11.7	50.0
Acrolein	Ave	0.0666	0.0581		0.218	0.250	-12.7	50.0
1,1-Dichloroethene	Ave	0.2968	0.2909		0.0490	0.0500	-2.0	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1935	0.1849		0.0478	0.0500	-4.5	50.0
Acetone	Lin1		0.0944		0.0837	0.100	-16.3	50.0
Iodomethane	Ave	0.5434	0.4246		0.0391	0.0500	-21.9	50.0
Carbon disulfide	Ave	0.8045	0.7322		0.0455	0.0500	-9.0	50.0
3-Chloro-1-propene	Ave	0.1544	0.1675		0.0542	0.0500	8.5	50.0
Methyl acetate	Ave	0.3070	0.2786		0.0907	0.100	-9.3	50.0
Methylene Chloride	Ave	0.2935	0.2901		0.0494	0.0500	-1.2	50.0
tert-Butyl alcohol	Ave	0.0253	0.0237		0.467	0.500	-6.6	50.0
trans-1,2-Dichloroethene	Ave	0.2913	0.3002		0.0515	0.0500	3.1	50.0
Methyl tert-butyl ether	Ave	0.6529	0.6395		0.0490	0.0500	-2.0	50.0
Acrylonitrile	Ave	0.1380	0.1269		0.460	0.500	-8.0	50.0
Hexane	Ave	0.0721	0.0789		0.0547	0.0500	9.4	20.0
1,1-Dichloroethane	Ave	0.5309	0.5407	0.1000	0.0509	0.0500	1.8	50.0
Vinyl acetate	Ave	0.0492	0.0446		0.0453	0.0500	-9.3	50.0
2,2-Dichloropropane	Ave	0.0640	0.0711		0.0555	0.0500	11.1	50.0
cis-1,2-Dichloroethene	Ave	0.3432	0.3358		0.0489	0.0500	-2.2	50.0
2-Butanone (MEK)	Ave	0.1673	0.1537		0.0919	0.100	-8.1	50.0
Bromochloromethane	Ave	0.1690	0.1608		0.0476	0.0500	-4.8	50.0
Tetrahydrofuran	Ave	0.1167	0.1086		0.0931	0.100	-6.9	50.0
Chloroform	Ave	0.3988	0.4090		0.0513	0.0500	2.5	20.0
1,1,1-Trichloroethane	Ave	0.2771	0.3026		0.0546	0.0500	9.2	50.0
Cyclohexane	Ave	0.5571	0.5922		0.0531	0.0500	6.3	50.0
Carbon tetrachloride	Ave	0.2639	0.2859		0.0542	0.0500	8.3	50.0
1,1-Dichloropropene	Ave	0.3190	0.3485		0.0546	0.0500	9.2	50.0
Benzene	Ave	1.129	1.171		0.0519	0.0500	3.7	50.0
1,2-Dichloroethane	Ave	0.3123	0.3060		0.0490	0.0500	-2.0	50.0
Isobutyl alcohol	Ave	0.0109	0.0112		1.28	1.25	2.3	50.0
n-Heptane	Ave	0.0772	0.0859		0.0556	0.0500	11.3	50.0
Trichloroethene	Ave	0.3189	0.3170		0.0497	0.0500	-0.6	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab Sample ID: CCVIS 240-347081/3 Calibration Date: 09/25/2018 11:49

Instrument ID: A3UX14 Calib Start Date: 08/27/2018 14:03

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 16:55

Lab File ID: 1415832.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	0.4603	0.5250		0.0570	0.0500	14.1	50.0
1,2-Dichloropropane	Ave	0.3085	0.3164		0.0513	0.0500	2.5	20.0
Dibromomethane	Ave	0.1608	0.1573		0.0489	0.0500	-2.2	50.0
1,4-Dioxane	Ave	0.0025	0.0025		0.997	1.00	-0.3	50.0
Bromodichloromethane	Ave	0.2641	0.2805		0.0531	0.0500	6.2	50.0
2-Chloroethyl vinyl ether	Ave	0.1492	0.1635		0.110	0.100	9.6	50.0
cis-1,3-Dichloropropene	Ave	0.3528	0.3704		0.0525	0.0500	5.0	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.4189	0.4616		0.110	0.100	10.2	50.0
Toluene	Ave	1.508	1.594		0.0528	0.0500	5.7	20.0
trans-1,3-Dichloropropene	Lin1		0.4114		0.0475	0.0500	-5.1	50.0
Ethyl methacrylate	Ave	0.3495	0.4096		0.0586	0.0500	17.2	50.0
1,1,2-Trichloroethane	Ave	0.3005	0.3052		0.0508	0.0500	1.6	50.0
Tetrachloroethene	Ave	0.3124	0.3127		0.0501	0.0500	0.1	50.0
1,3-Dichloropropane	Ave	0.4880	0.5043		0.0517	0.0500	3.3	50.0
2-Hexanone	Ave	0.2605	0.2988		0.115	0.100	14.7	50.0
Dibromochloromethane	Ave	0.3127	0.3184		0.0509	0.0500	1.8	50.0
1,2-Dibromoethane	Ave	0.2938	0.2956		0.0503	0.0500	0.6	50.0
Chlorobenzene	Ave	1.068	1.073	0.3000	0.0502	0.0500	0.5	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3371	0.3724		0.0552	0.0500	10.5	50.0
Ethylbenzene	Ave	0.5432	0.5873		0.0541	0.0500	8.1	20.0
m-Xylene & p-Xylene	Ave	0.6466	0.7119		0.0550	0.0500	10.1	50.0
o-Xylene	Ave	0.6317	0.7182		0.0569	0.0500	13.7	50.0
Styrene	Ave	0.999	1.123		0.0562	0.0500	12.4	50.0
Bromoform	Lin1		0.1703	0.1000	0.0449	0.0500	-10.1	50.0
Isopropylbenzene	Ave	1.438	1.693		0.0589	0.0500	17.8	50.0
Bromobenzene	Ave	0.9165	0.8956		0.0489	0.0500	-2.3	50.0
1,1,2,2-Tetrachloroethane	Ave	0.7343	0.7879	0.3000	0.0537	0.0500	7.3	50.0
1,2,3-Trichloropropane	Ave	0.2330	0.2309		0.0496	0.0500	-0.9	50.0
trans-1,4-Dichloro-2-butene	Ave	0.2488	0.2555		0.0513	0.0500	2.7	50.0
N-Propylbenzene	Ave	0.9515	1.082		0.0568	0.0500	13.7	50.0
2-Chlorotoluene	Ave	0.8693	0.9412		0.0541	0.0500	8.3	50.0
1,3,5-Trimethylbenzene	Ave	2.360	2.760		0.0585	0.0500	17.0	50.0
4-Chlorotoluene	Ave	0.9104	0.9570		0.0526	0.0500	5.1	50.0
tert-Butylbenzene	Ave	2.118	2.538		0.0599	0.0500	19.8	50.0
1,2,4-Trimethylbenzene	Ave	2.440	2.784		0.0571	0.0500	14.1	50.0
sec-Butylbenzene	Ave	3.088	3.671		0.0594	0.0500	18.9	50.0
1,3-Dichlorobenzene	Ave	1.659	1.652		0.0498	0.0500	-0.5	50.0
p-Isopropyltoluene	Ave	2.645	3.113		0.0589	0.0500	17.7	50.0
1,4-Dichlorobenzene	Ave	1.747	1.665		0.0477	0.0500	-4.7	50.0
n-Butylbenzene	Ave	2.372	2.652		0.0559	0.0500	11.8	50.0
1,2-Dichlorobenzene	Ave	1.620	1.610		0.0497	0.0500	-0.6	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab Sample ID: CCVIS 240-347081/3 Calibration Date: 09/25/2018 11:49

Instrument ID: A3UX14 Calib Start Date: 08/27/2018 14:03

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/27/2018 16:55

Lab File ID: 1415832.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Lin1		0.1246		0.0408	0.0500	-18.4	50.0
1,2,4-Trichlorobenzene	Ave	1.097	0.996		0.0454	0.0500	-9.2	50.0
Hexachlorobutadiene	Lin1		0.4281		0.0417	0.0500	-16.5	50.0
Naphthalene	Ave	2.542	2.498		0.0491	0.0500	-1.7	50.0
1,2,3-Trichlorobenzene	Ave	1.072	0.9689		0.0452	0.0500	-9.6	50.0
Dibromofluoromethane (Surr)	Lin1		0.2418		0.0439	0.0500	-12.2	50.0
1,2-Dichloroethane-d4 (Surr)	Lin1		0.2195		0.0429	0.0500	-14.3	50.0
Toluene-d8 (Surr)	Lin1		1.347		0.0455	0.0500	-8.9	50.0
4-Bromofluorobenzene (Surr)	Lin1		0.8410		0.0454	0.0500	-9.1	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab Sample ID: CCV 240-347081/4 Calibration Date: 09/25/2018 12:10

Instrument ID: A3UX14 Calib Start Date: 12/20/2017 19:46

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 12/20/2017 22:38

Lab File ID: 1415833.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acetonitrile	Ave	0.0476	0.0460		0.483	0.500	-3.5	50.0
2-Chloro-1,3-butadiene	Ave	0.5266	0.4941		0.0469	0.0500	-6.2	50.0
Diisopropyl ether	Ave	0.2611	0.2596		0.0497	0.0500	-0.6	50.0
Ethyl t-butyl ether	Ave	1.111	0.9014		0.0406	0.0500	-18.8	50.0
Propionitrile	Ave	0.0493	0.0460		0.466	0.500	-6.8	50.0
Ethyl acetate	Ave	0.3078	0.3198		0.104	0.100	3.9	50.0
Methacrylonitrile	Ave	0.2270	0.2237		0.493	0.500	-1.4	50.0
Tert-amyl methyl ether	Ave	1.006	0.8100		0.0402	0.0500	-19.5	50.0
n-Butanol	Ave	0.0168	0.0115		0.855	1.25	-31.6	50.0
Ethyl acrylate	Ave	0.3590	0.3603		0.0502	0.0500	0.4	50.0
Methyl methacrylate	Ave	0.2867	0.2857		0.0996	0.100	-0.4	50.0
2-Nitropropane	Ave	0.0794	0.0571		0.0719	0.100	-28.1	50.0
n-Butyl acetate	Ave	0.8398	0.6975		0.0415	0.0500	-16.9	50.0
1-Chlorohexane	Ave	0.4763	0.5230		0.0549	0.0500	9.8	50.0
Cyclohexanone	Ave	0.0185	0.0120		0.324	0.500	-35.2	50.0
Pentachloroethane	Lin1		0.4323		0.0765	0.100	-23.5	50.0
1,2,3-Trimethylbenzene	Ave	3.244	2.855		0.0440	0.0500	-12.0	50.0
Benzyl chloride	Lin1		0.2953		0.0396	0.0500	-20.9	50.0
1,3,5-Trichlorobenzene	Ave	1.109	1.118		0.0504	0.0500	0.7	50.0
2-Methylnaphthalene	Ave	2.348	1.680		0.0716	0.100	-28.4	50.0

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab File ID: BFB2181.D BFB Injection Date: 10/02/2018

Instrument ID: A3UX17 BFB Injection Time: 11:05

Analysis Batch No.: 348143

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	17.7	
75	30.0 - 60.0 % of mass 95	49.4	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.0	
173	Less than 2.0 % of mass 174	0.2	(0.2) 1
174	50.0 - 120.00 % of mass 95	72.3	
175	5.0 - 9.0 % of mass 174	4.9	(6.8) 1
176	95.0 - 101.0 % of mass 174	69.8	(96.6) 1
177	5.0 - 9.0 % of mass 176	4.5	(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
	STD8260 240-348143/2	UXR6917.D	10/02/2018	11:47
	STD8260 240-348143/3	UXR6918.D	10/02/2018	12:10
	STD8260 240-348143/4	UXR6919.D	10/02/2018	12:34
	STD8260 240-348143/5	UXR6920.D	10/02/2018	12:58
	STD8260 240-348143/6	UXR6921.D	10/02/2018	13:22
	STD8260 240-348143/7	UXR6922.D	10/02/2018	13:46
	STD8260 240-348143/8	UXR6923.D	10/02/2018	14:10
	ICV 240-348143/9	UXR6924.D	10/02/2018	14:33
	STDA9 240-348143/10	UXR6925.D	10/02/2018	14:57
	STDA9 240-348143/11	UXR6926.D	10/02/2018	15:21
	STDA9 240-348143/12	UXR6927.D	10/02/2018	15:45
	STDA9 240-348143/13	UXR6928.D	10/02/2018	16:08
	STDA9 240-348143/14	UXR6929.D	10/02/2018	16:32
	STDA9 240-348143/15	UXR6930.D	10/02/2018	16:56
	STDA9 240-348143/16	UXR6931.D	10/02/2018	17:20
	ICV 240-348143/17	UXR6932.D	10/02/2018	17:56

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1 Analy Batch No.: 348143

SDG No.:

Instrument ID: A3UX17 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/02/2018 11:47 Calibration End Date: 10/02/2018 14:10 Calibration ID: 47192

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-348143/8	UXR6923.D
Level 2	STD8260 240-348143/7	UXR6922.D
Level 3	STD8260 240-348143/6	UXR6921.D
Level 4	STD8260 240-348143/5	UXR6920.D
Level 5	STD8260 240-348143/4	UXR6919.D
Level 6	STD8260 240-348143/3	UXR6918.D
Level 7	STD8260 240-348143/2	UXR6917.D

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.2797 0.3059	0.2846 0.2956	0.2808	0.3013	0.3097	Ave		0.2939				4.2		15.0			
Chloromethane	0.2555 0.2780	0.2604 0.2573	0.2535	0.2622	0.2834	Ave		0.2643			0.1000	4.4		15.0			
Vinyl chloride	0.2880 0.2935	0.2981 0.2830	0.2726	0.2958	0.2938	Ave		0.2893				3.1		15.0			
Butadiene	0.3083 0.3091	0.3102 0.2873	0.2841	0.3045	0.3143	Ave		0.3026				3.9		15.0			
Bromomethane	0.2152 0.1797	0.1936 0.1694	0.1757	0.1916	0.1813	Ave		0.1867				8.1		15.0			
Chloroethane	0.2069 0.1870	0.1936 0.1851	0.1705	0.1958	0.1866	Ave		0.1894				5.9		15.0			
Dichlorofluoromethane	0.4927 0.4365	0.4459 0.4274	0.4157	0.4495	0.4419	Ave		0.4442				5.5		15.0			
Trichlorofluoromethane	0.3792 0.3895	0.3548 0.3916	0.3539	0.3836	0.3851	Ave		0.3768				4.2		15.0			
Ethyl ether	0.1950 0.1984	0.2009 0.2035	0.1984	0.1947	0.1996	Ave		0.1986				1.6		15.0			
Acrolein	0.0214 0.0227	0.0217 0.0243	0.0235	0.0232	0.0226	Ave		0.0228				4.4		15.0			
1,1-Dichloroethene	0.2496 0.2413	0.2377 0.2557	0.2437	0.2344	0.2402	Ave		0.2432				3.0		15.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.1762 0.1883	0.1755 0.1909	0.1860	0.1856	0.1878	Ave		0.1843				3.3		15.0			
Acetone	0.0884 0.0555	0.0741 0.0555	0.0630	0.0579	0.0521	Lin1	0.0672	0.0536							0.9980		0.9900
Iodomethane	0.3594 0.3542	0.3717 0.3634	0.3585	0.3584	0.3526	Ave		0.3597				1.8		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.: 240-101689-1 Analy Batch No.: 348143

SDG No.:

Instrument ID: A3UX17 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/02/2018 11:47 Calibration End Date: 10/02/2018 14:10 Calibration ID: 47192

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon disulfide	0.6760 0.7315	0.6928 0.7667	0.7137	0.7028	0.7190	Ave		0.7146				4.1		15.0			
3-Chloro-1-propene	0.1345 0.1516	0.1348 0.1594	0.1412	0.1444	0.1482	Ave		0.1449				6.2		15.0			
Methyl acetate	0.1280 0.1290	0.1278 0.1285	0.1275	0.1239	0.1252	Ave		0.1271				1.5		15.0			
Methylene Chloride	0.2540 0.2452	0.2548 0.2529	0.2583	0.2563	0.2490	Ave		0.2529				1.8		15.0			
Acrylonitrile	0.0663 0.0721	0.0678 0.0737	0.0687	0.0675	0.0696	Ave		0.0694				3.8		15.0			
Methyl tert-butyl ether	0.5605 0.6420	0.6101 0.6344	0.6084	0.5941	0.6305	Ave		0.6114				4.6		15.0			
tert-Butyl alcohol	0.0010 0.0017	0.0016 0.0016	0.0016	0.0016	0.0015	Lin1	-0.004	0.0016							0.9960		0.9900
trans-1,2-Dichloroethene	0.2756 0.2693	0.2770 0.2750	0.2599	0.2642	0.2671	Ave		0.2697				2.4		15.0			
Hexane	0.0619 0.0796	0.0647 0.0826	0.0771	0.0738	0.0771	Ave		0.0738				10.4		15.0			
1,1-Dichloroethane	0.4163 0.4505	0.4563 0.4644	0.4488	0.4311	0.4417	Ave		0.4441			0.1000	3.6		15.0			
Vinyl acetate	0.3393 0.4163	0.3647 0.4351	0.3839	0.3765	0.3930	Ave		0.3870				8.2		15.0			
2,2-Dichloropropane	0.0538 0.0528	0.0506 0.0485	0.0516	0.0526	0.0495	Ave		0.0513				3.7		15.0			
cis-1,2-Dichloroethene	0.3002 0.2958	0.2929 0.3018	0.2958	0.2909	0.2864	Ave		0.2948				1.8		15.0			
2-Butanone (MEK)	0.0994 0.0790	0.0791 0.0769	0.0767	0.0769	0.0756	Ave		0.0805				10.5		15.0			
Bromochloromethane	0.1329 0.1330	0.1358 0.1339	0.1312	0.1316	0.1291	Ave		0.1325				1.6		15.0			
Tetrahydrofuran	0.0520 0.0472	0.0465 0.0482	0.0452	0.0431	0.0462	Ave		0.0469				5.9		15.0			
Chloroform	0.4438 0.4467	0.4558 0.4563	0.4537	0.4431	0.4482	Ave		0.4497				1.2		15.0			
1,1,1-Trichloroethane	0.3271 0.3444	0.3408 0.3363	0.3555	0.3483	0.3389	Ave		0.3416				2.7		15.0			
Cyclohexane	0.3585 0.4359	0.3815 0.4503	0.4037	0.4056	0.4212	Ave		0.4081				7.7		15.0			
1,1-Dichloropropene	0.3438 0.3716	0.3611 0.3805	0.3637	0.3545	0.3617	Ave		0.3624				3.2		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.: 240-101689-1 Analy Batch No.: 348143

SDG No.:

Instrument ID: A3UX17 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/02/2018 11:47 Calibration End Date: 10/02/2018 14:10 Calibration ID: 47192

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon tetrachloride	0.2954 0.3248	0.3078 0.3294	0.3183	0.3118	0.3159	Ave		0.3148				3.6		15.0			
Isobutyl alcohol	0.0052 0.0061	0.0059 0.0056	0.0062	0.0057	0.0058	Ave		0.0058				5.5		15.0			
Benzene	1.0526 1.1136	1.0992 1.1686	1.0723	1.0552	1.0714	Ave		1.0904				3.8		15.0			
1,2-Dichloroethane	0.3626 0.3534	0.3686 0.3553	0.3705	0.3512	0.3529	Ave		0.3592				2.2		15.0			
n-Heptane	0.0614 0.0782	0.0700 0.0820	0.0677	0.0717	0.0741	Ave		0.0722				9.4		15.0			
Trichloroethene	0.2847 0.2868	0.2847 0.2946	0.2886	0.2828	0.2776	Ave		0.2857				1.8		15.0			
Methylcyclohexane	0.3900 0.4694	0.4057 0.4879	0.4520	0.4264	0.4517	Ave		0.4404				7.9		15.0			
1,2-Dichloropropane	0.2546 0.2562	0.2614 0.2609	0.2556	0.2509	0.2509	Ave		0.2558				1.7		15.0			
Dibromomethane	0.1578 0.1464	0.1516 0.1484	0.1490	0.1437	0.1480	Ave		0.1493				3.0		15.0			
1,4-Dioxane	0.0020 0.0023	0.0023 0.0018	0.0020	0.0021	0.0025	Ave		0.0022				10.5		15.0			
Bromodichloromethane	0.3212 0.3404	0.3280 0.3516	0.3265	0.3231	0.3290	Ave		0.3314				3.3		15.0			
2-Chloroethyl vinyl ether	0.1184 0.1502	0.1287 0.1559	0.1349	0.1314	0.1438	Ave		0.1376				9.5		15.0			
cis-1,3-Dichloropropene	0.3226 0.3984	0.3352 0.4282	0.3574	0.3607	0.3798	Ave		0.3689				9.9		15.0			
4-Methyl-2-pentanone (MIBK)	0.1316 0.1616	0.1438 0.1664	0.1493	0.1485	0.1544	Ave		0.1508				7.7		15.0			
Toluene	1.4714 1.6361	1.5251 1.6890	1.5564	1.5279	1.5796	Ave		1.5694				4.7		15.0			
trans-1,3-Dichloropropene	0.3494 0.4712	0.3810 0.4994	0.4082	0.4160	0.4424	Ave		0.4240				12.2		15.0			
Ethyl methacrylate	0.2747 0.3840	0.2900 0.4004	0.3299	0.3244	0.3568	Ave		0.3372				13.8		15.0			
1,1,2-Trichloroethane	0.2745 0.2878	0.2682 0.2881	0.2809	0.2839	0.2864	Ave		0.2814				2.7		15.0			
Tetrachloroethene	0.2816 0.2947	0.2895 0.2990	0.2991	0.2925	0.2946	Ave		0.2930				2.1		15.0			
1,3-Dichloropropane	0.5077 0.5181	0.5055 0.5277	0.5067	0.5010	0.5046	Ave		0.5102				1.8		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.: 240-101689-1 Analy Batch No.: 348143

SDG No.:

Instrument ID: A3UX17 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/02/2018 11:47 Calibration End Date: 10/02/2018 14:10 Calibration ID: 47192

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
2-Hexanone	0.1125 0.1432	0.1212 0.1474	0.1305	0.1236	0.1368	Ave		0.1307				9.6		15.0			
Dibromochloromethane	0.2770 0.3228	0.2798 0.3366	0.2945	0.2917	0.3082	Ave		0.3015				7.4		15.0			
1,2-Dibromoethane	0.2612 0.2779	0.2522 0.2807	0.2759	0.2707	0.2731	Ave		0.2703				3.7		15.0			
Chlorobenzene	0.9924 1.0416	1.0148 1.0649	1.0234	0.9977	1.0228	Ave		1.0225			0.3000	2.4		15.0			
1,1,1,2-Tetrachloroethane	0.3159 0.3422	0.3162 0.3514	0.3287	0.3239	0.3317	Ave		0.3300				4.0		15.0			
Ethylbenzene	0.4866 0.5687	0.4988 0.5866	0.5403	0.5326	0.5574	Ave		0.5387				6.7		15.0			
m-Xylene & p-Xylene	0.5856 0.7101	0.6133 0.7256	0.6594	0.6486	0.6725	Ave		0.6593				7.5		15.0			
o-Xylene	0.5439 0.6817	0.5966 0.7079	0.6321	0.6285	0.6586	Ave		0.6356				8.6		15.0			
Styrene	0.9013 1.1893	0.9761 1.2471	1.0546	1.0538	1.1310	Ave		1.0790				11.1		15.0			
Bromoform	0.1351 0.1825	0.1509 0.1943	0.1578	0.1573	0.1665	Ave		0.1635			0.1000	12.1		15.0			
Isopropylbenzene	1.4207 1.8107	1.5202 1.9142	1.6665	1.6252	1.7089	Ave		1.6666				10.0		15.0			
1,1,2,2-Tetrachloroethane	0.5943 0.6284	0.5888 0.6220	0.5907	0.5942	0.6183	Ave		0.6053			0.3000	2.8		15.0			
Bromobenzene	0.7271 0.7935	0.7302 0.7872	0.7502	0.7700	0.7779	Ave		0.7623				3.5		15.0			
1,2,3-Trichloropropane	0.2069 0.2127	0.2032 0.2070	0.2141	0.2115	0.2142	Ave		0.2099				2.0		15.0			
trans-1,4-Dichloro-2-butene	0.1161 0.1719	0.1379 0.1818	0.1329	0.1402	0.1569	Lin1	-0.098	0.1779							0.9960		0.9900
N-Propylbenzene	0.7682 0.9533	0.8046 0.9642	0.8484	0.8756	0.9162	Ave		0.8758				8.4		15.0			
2-Chlorotoluene	0.6788 0.7961	0.7117 0.7944	0.7448	0.7565	0.7822	Ave		0.7521				5.9		15.0			
1,3,5-Trimethylbenzene	2.2852 2.8805	2.4383 2.9688	2.5647	2.6189	2.7664	Ave		2.6461				9.2		15.0			
4-Chlorotoluene	0.7777 0.8431	0.7735 0.8394	0.8179	0.8089	0.8241	Ave		0.8121				3.4		15.0			
tert-Butylbenzene	1.9870 2.4650	2.0325 2.4961	2.1758	2.2355	2.3635	Ave		2.2508				8.9		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.: 240-101689-1 Analy Batch No.: 348143

SDG No.:

Instrument ID: A3UX17 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/02/2018 11:47 Calibration End Date: 10/02/2018 14:10 Calibration ID: 47192

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,2,4-Trimethylbenzene	2.3972 3.0172	2.5318 3.0826	2.6717	2.7362	2.9097	Ave		2.7638				9.2		15.0			
sec-Butylbenzene	2.7679 3.5590	2.9183 3.5957	3.1532	3.2170	3.3984	Ave		3.2299				9.7		15.0			
1,3-Dichlorobenzene	1.4684 1.5783	1.4757 1.5685	1.4948	1.5172	1.5565	Ave		1.5228				3.0		15.0			
p-Isopropyltoluene	2.3351 3.0957	2.5344 3.0884	2.7039	2.7584	2.9564	Ave		2.7818				10.3		15.0			
1,4-Dichlorobenzene	1.5840 1.6088	1.5783 1.6086	1.5652	1.5550	1.6006	Ave		1.5858				1.3		15.0			
n-Butylbenzene	2.0651 2.6065	2.0758 2.6025	2.2171	2.3291	2.4800	Ave		2.3394				9.9		15.0			
1,2-Dichlorobenzene	1.4157 1.4725	1.3775 1.4559	1.4239	1.4228	1.4591	Ave		1.4325				2.3		15.0			
1,2-Dibromo-3-Chloropropane	0.0923 0.1062	0.0937 0.1047	0.0954	0.0873	0.1033	Ave		0.0976				7.4		15.0			
1,2,4-Trichlorobenzene	0.7796 0.8925	0.8418 0.8506	0.8351	0.8561	0.8909	Ave		0.8495				4.5		15.0			
Hexachlorobutadiene	0.4623 0.3665	0.4164 0.3289	0.3856	0.4022	0.3948	Ave		0.3938				10.5		15.0			
Naphthalene	1.4587 2.0114	1.5675 1.8752	1.7292	1.7558	1.9777	Ave		1.7679				11.6		15.0			
1,2,3-Trichlorobenzene	0.7661 0.7859	0.7691 0.7006	0.7846	0.7814	0.8300	Ave		0.7739				5.0		15.0			
Dibromofluoromethane (Surr)	0.2259 0.2380	0.2362 0.2383	0.2317	0.2299	0.2307	Ave		0.2330				2.0		15.0			
1,2-Dichloroethane-d4 (Surr)	0.3044 0.2904	0.2986 0.2879	0.3001	0.2927	0.2872	Ave		0.2945				2.2		15.0			
Toluene-d8 (Surr)	1.2307 1.3689	1.2686 1.3897	1.2725	1.2861	1.3039	Ave		1.3029				4.4		15.0			
4-Bromofluorobenzene (Surr)	0.4558 0.5144	0.4823 0.5124	0.4814	0.4694	0.4838	Ave		0.4856				4.4		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
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-101689-1 Analy Batch No.: 348143

SDG No.:

Instrument ID: A3UX17 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/02/2018 11:47 Calibration End Date: 10/02/2018 14:10 Calibration ID: 47192

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-348143/8	UXR6923.D
Level 2	STD8260 240-348143/7	UXR6922.D
Level 3	STD8260 240-348143/6	UXR6921.D
Level 4	STD8260 240-348143/5	UXR6920.D
Level 5	STD8260 240-348143/4	UXR6919.D
Level 6	STD8260 240-348143/3	UXR6918.D
Level 7	STD8260 240-348143/2	UXR6917.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	46548 1127991	95195 2177976	195941	267466	556831	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Chloromethane	FB	Ave	42521 1025177	87103 1895607	176907	232791	509634	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Vinyl chloride	FB	Ave	47925 1082159	99723 2085250	190220	262653	528340	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Butadiene	FB	Ave	51305 1139635	103762 2117248	198271	270373	565169	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Bromomethane	FB	Ave	35810 662541	64773 1248338	122606	170116	326060	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Chloroethane	FB	Ave	34428 689613	64773 1364046	119003	173875	335508	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Dichlorofluoromethane	FB	Ave	81979 1609597	149156 3149367	290055	399090	794579	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Trichlorofluoromethane	FB	Ave	63092 1436295	118692 2885382	246976	340590	692562	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Ethyl ether	FB	Ave	32441 731383	67195 1499556	138423	172819	358931	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Acrolein	FB	Ave	17815 418655	36315 896339	82106	102903	203603	5.00 100	10.0 200	20.0	25.0	50.0
1,1-Dichloroethene	FB	Ave	41534 889826	79498 1884027	170073	208071	431843	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,1,2-Trichloro-1,2,2-trifluoroetha ne	FB	Ave	29314 694502	58713 1406340	129785	164737	337722	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Acetone	FB	Lin1	29434 409535	49590 818130	87981	102722	187418	2.00 40.0	4.00 80.0	8.00	10.0	20.0
Iodomethane	FB	Ave	59797 1305879	124327 2677574	250188	318184	633992	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Carbon disulfide	FB	Ave	112494 2697436	231729 5649144	498011	623966	1292852	1.00 20.0	2.00 40.0	4.00	5.00	10.0

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1 Analy Batch No.: 348143

SDG No.:

Instrument ID: A3UX17 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/02/2018 11:47 Calibration End Date: 10/02/2018 14:10 Calibration ID: 47192

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
3-Chloro-1-propene	FB	Ave	22385 558852	45088 1174765	98562	128232	266519	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Methyl acetate	FB	Ave	42595 951490	85492 1893901	177930	220009	450284	2.00 40.0	4.00 80.0	8.00	10.0	20.0
Methylene Chloride	FB	Ave	42268 904010	85229 1863249	180251	227524	447679	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Acrylonitrile	FB	Ave	110259 2658555	226890 5430754	479628	599693	1250988	10.0 200	20.0 400	40.0	50.0	100
Methyl tert-butyl ether	FB	Ave	93266 2367158	204082 4674413	424570	527410	1133709	1.00 20.0	2.00 40.0	4.00	5.00	10.0
tert-Butyl alcohol	FB	Lin1	1592 63791	5434 116492	11372	14439	26779	10.0 200	20.0 400	40.0	50.0	100
trans-1,2-Dichloroethene	FB	Ave	45860 992903	92655 2026701	181391	234567	480260	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Hexane	FB	Ave	10308 293625	21637 608817	53795	65552	138615	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,1-Dichloroethane	FB	Ave	69275 1661001	152619 3422116	313145	382738	794196	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Vinyl acetate	FB	Ave	56457 1534918	121997 3206124	267914	334243	706680	1.00 20.0	2.00 40.0	4.00	5.00	10.0
2,2-Dichloropropane	FB	Ave	8952 194561	16931 357229	36034	46718	89015	1.00 20.0	2.00 40.0	4.00	5.00	10.0
cis-1,2-Dichloroethene	FB	Ave	49957 1090576	97963 2223513	206437	258246	515009	1.00 20.0	2.00 40.0	4.00	5.00	10.0
2-Butanone (MEK)	FB	Ave	33082 582874	52944 1133668	107008	136596	271837	2.00 40.0	4.00 80.0	8.00	10.0	20.0
Bromochloromethane	FB	Ave	22113 490384	45440 986486	91537	116796	232067	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Tetrahydrofuran	FB	Ave	17306 348224	31085 710201	63089	76477	165994	2.00 40.0	4.00 80.0	8.00	10.0	20.0
Chloroform	FB	Ave	73848 1647131	152468 3362434	316573	393376	805904	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,1,1-Trichloroethane	FB	Ave	54428 1269871	114015 2477899	248094	309219	609345	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Cyclohexane	FB	Ave	59656 1607291	127621 3318089	281684	360084	757466	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,1-Dichloropropene	FB	Ave	57204 1370250	120789 2803804	253822	314734	650479	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Carbon tetrachloride	FB	Ave	49160 1197815	102962 2427404	222135	276781	568046	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Isobutyl alcohol	CBNZ d5	Ave	16523 425833	38121 795057	81129	96768	197645	25.0 500	50.0 1000	100	125	250

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1 Analy Batch No.: 348143

SDG No.:

Instrument ID: A3UX17 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/02/2018 11:47 Calibration End Date: 10/02/2018 14:10 Calibration ID: 47192

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Benzene	FB	Ave	175147 4106247	367692 8610775	748233	936816	1926520	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,2-Dichloroethane	FB	Ave	60342 1303237	123309 2618249	258545	311821	634503	1.00 20.0	2.00 40.0	4.00	5.00	10.0
n-Heptane	FB	Ave	10221 288221	23430 604280	47274	63688	133265	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Trichloroethene	FB	Ave	47376 1057492	95245 2170441	201396	251109	499085	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Methylcyclohexane	FB	Ave	64893 1730663	135701 3595342	315427	378567	812238	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,2-Dichloropropane	FB	Ave	42363 944739	87450 1922801	178357	222732	451110	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Dibromomethane	FB	Ave	26256 539695	50725 1093601	103979	127584	266111	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,4-Dioxane	FB	Ave	6776 166869	15055 270728	27865	37939	91137	20.0 400	40.0 800	80.0	100	200
Bromodichloromethane	FB	Ave	53443 1255247	109708 2590894	227859	286880	591644	1.00 20.0	2.00 40.0	4.00	5.00	10.0
2-Chloroethyl vinyl ether	FB	Ave	39419 1107776	86100 2296891	188202	233243	517078	2.00 40.0	4.00 80.0	8.00	10.0	20.0
cis-1,3-Dichloropropene	FB	Ave	53678 1469131	112135 3155310	249413	320200	682984	1.00 20.0	2.00 40.0	4.00	5.00	10.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	43788 1191907	96178 2452127	208315	263674	555233	2.00 40.0	4.00 80.0	8.00	10.0	20.0
Toluene	CBNZ d5	Ave	185749 4574498	391708 9583549	818461	1030009	2147612	1.00 20.0	2.00 40.0	4.00	5.00	10.0
trans-1,3-Dichloropropene	CBNZ d5	Ave	44112 1317494	97871 2833639	214665	280460	601508	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Ethyl methacrylate	CBNZ d5	Ave	34675 1073657	74488 2271778	173471	218670	485134	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,1,2-Trichloroethane	CBNZ d5	Ave	34652 804749	68879 1635004	147698	191366	389343	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Tetrachloroethene	CBNZ d5	Ave	35544 823829	74359 1696590	157266	197164	400504	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,3-Dichloropropane	CBNZ d5	Ave	64097 1448480	129835 2994273	266448	337721	686057	1.00 20.0	2.00 40.0	4.00	5.00	10.0
2-Hexanone	CBNZ d5	Ave	28399 800509	62253 1672725	137216	166649	372100	2.00 40.0	4.00 80.0	8.00	10.0	20.0
Dibromochloromethane	CBNZ d5	Ave	34965 902395	71862 1910186	154847	196637	419061	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,2-Dibromoethane	CBNZ d5	Ave	32979 777078	64787 1592928	145067	182468	371308	1.00 20.0	2.00 40.0	4.00	5.00	10.0

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1 Analy Batch No.: 348143

SDG No.:

Instrument ID: A3UX17 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/02/2018 11:47 Calibration End Date: 10/02/2018 14:10 Calibration ID: 47192

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Chlorobenzene	CBNZ d5	Ave	125274 2912344	260647 6042654	538162	672592	1390557	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	39883 956886	81228 1993762	172855	218339	450940	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Ethylbenzene	CBNZ d5	Ave	61429 1590057	128105 3328616	284109	359025	757814	1.00 20.0	2.00 40.0	4.00	5.00	10.0
m-Xylene & p-Xylene	CBNZ d5	Ave	73929 1985306	157530 4116998	346755	437253	914240	1.00 20.0	2.00 40.0	4.00	5.00	10.0
o-Xylene	CBNZ d5	Ave	68662 1905966	153236 4016995	332390	423689	895414	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Styrene	CBNZ d5	Ave	113777 3325282	250715 7076177	554571	710364	1537658	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Bromoform	CBNZ d5	Ave	17050 510274	38748 1102513	82994	106011	226302	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Isopropylbenzene	CBNZ d5	Ave	179343 5062607	390467 10861494	876331	1095618	2323341	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	37934 916507	78939 1858286	164568	207969	436392	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Bromobenzene	DCBd 4	Ave	46412 1157238	97898 2351660	208986	269466	549082	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,2,3-Trichloropropane	DCBd 4	Ave	13206 310136	27240 618277	59659	74009	151189	1.00 20.0	2.00 40.0	4.00	5.00	10.0
trans-1,4-Dichloro-2-butene	DCBd 4	Lin1	7411 250737	18492 543061	37017	49076	110721	1.00 20.0	2.00 40.0	4.00	5.00	10.0
N-Propylbenzene	DCBd 4	Ave	49032 1390246	107875 2880312	236351	306437	646688	1.00 20.0	2.00 40.0	4.00	5.00	10.0
2-Chlorotoluene	DCBd 4	Ave	43328 1161063	95424 2373145	207480	264765	552091	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	145860 4200858	326914 8868946	714484	916539	1952614	1.00 20.0	2.00 40.0	4.00	5.00	10.0
4-Chlorotoluene	DCBd 4	Ave	49640 1229565	103712 2507554	227845	283079	581653	1.00 20.0	2.00 40.0	4.00	5.00	10.0
tert-Butylbenzene	DCBd 4	Ave	126831 3594854	272505 7456766	606151	782343	1668265	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	153010 4400235	339444 9208939	744293	957580	2053790	1.00 20.0	2.00 40.0	4.00	5.00	10.0
sec-Butylbenzene	DCBd 4	Ave	176670 5190321	391262 10741834	878432	1125849	2398761	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,3-Dichlorobenzene	DCBd 4	Ave	93726 2301729	197846 4685790	416423	530973	1098627	1.00 20.0	2.00 40.0	4.00	5.00	10.0
p-Isopropyltoluene	DCBd 4	Ave	149045 4514673	339796 9226265	753280	965365	2086778	1.00 20.0	2.00 40.0	4.00	5.00	10.0

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1 Analy Batch No.: 348143

SDG No.:

Instrument ID: A3UX17 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/02/2018 11:47 Calibration End Date: 10/02/2018 14:10 Calibration ID: 47192

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,4-Dichlorobenzene	DCBd 4	Ave	101103 2346245	211607 4805677	436044	544219	1129759	1.00 20.0	2.00 40.0	4.00	5.00	10.0
n-Butylbenzene	DCBd 4	Ave	131815 3801171	278312 7774725	617656	815101	1750464	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,2-Dichlorobenzene	DCBd 4	Ave	90363 2147486	184691 4349285	396673	497940	1029867	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	5892 154950	12569 312716	26585	30565	72922	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	49758 1301523	112860 2541043	232655	299599	628850	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Hexachlorobutadiene	DCBd 4	Ave	29506 534519	55831 982461	107434	140744	278632	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Naphthalene	DCBd 4	Ave	93107 2933343	210166 5602024	481731	614460	1395972	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	48902 1146073	103118 2093040	218567	273459	585817	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Dibromofluoromethane (Surr)	FB	Ave	37597 877536	79025 1755961	161650	204088	414915	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	50644 1070647	99878 2121278	209434	259873	516415	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Toluene-d8 (Surr)	CBNZ d5	Ave	155365 3827267	325828 7885550	669123	867002	1772728	1.00 20.0	2.00 40.0	4.00	5.00	10.0
4-Bromofluorobenzene (Surr)	CBNZ d5	Ave	57536 1438306	123874 2907557	253135	316440	657697	1.00 20.0	2.00 40.0	4.00	5.00	10.0

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1 Analy Batch No.: 348143

SDG No.:

Instrument ID: A3UX17 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/02/2018 14:57 Calibration End Date: 10/02/2018 17:20 Calibration ID: 47194

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDA9 240-348143/16	UXR6931.D
Level 2	STDA9 240-348143/15	UXR6930.D
Level 3	STDA9 240-348143/14	UXR6929.D
Level 4	STDA9 240-348143/13	UXR6928.D
Level 5	STDA9 240-348143/12	UXR6927.D
Level 6	STDA9 240-348143/11	UXR6926.D
Level 7	STDA9 240-348143/10	UXR6925.D

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Acetonitrile	0.0201 0.0197	0.0204 0.0192	0.0200	0.0206	0.0177	Ave		0.0197				5.0		15.0			
Diisopropyl ether	0.1863 0.2254	0.1955 0.2289	0.2181	0.2084	0.1942	Ave		0.2081				8.0		15.0			
2-Chloro-1,3-butadiene	0.3217 0.3770	0.3419 0.3864	0.3599	0.3582	0.3280	Ave		0.3533				6.8		15.0			
Ethyl t-butyl ether	0.5442 0.6456	0.5902 0.6709	0.6163	0.6233	0.5723	Ave		0.6089				7.1		15.0			
Ethyl acetate	0.1490 0.1593	0.1537 0.1659	0.1598	0.1548	0.1417	Ave		0.1549				5.1		15.0			
Propionitrile	0.0219 0.0240	0.0221 0.0247	0.0238	0.0234	0.0213	Ave		0.0230				5.4		15.0			
Methacrylonitrile	0.1020 0.1207	0.1095 0.1251	0.1141	0.1129	0.1036	Ave		0.1125				7.5		15.0			
Tert-amyl methyl ether	0.4698 0.6037	0.5278 0.6296	0.5649	0.5543	0.5171	Ave		0.5525				9.8		15.0			
n-Butanol	0.0034 0.0048	0.0040 0.0042	0.0037	0.0038	0.0040	Ave		0.0040				11.2		15.0			
Ethyl acrylate	0.1752 0.2368	0.1886 0.2496	0.2087	0.2080	0.1959	Ave		0.2090				12.6		15.0			
Methyl methacrylate	0.1386 0.1742	0.1452 0.1816	0.1532	0.1593	0.1480	Ave		0.1571				10.0		15.0			
2-Nitropropane	0.0332 0.0415	0.0344 0.0460	0.0364	0.0353	0.0344	Ave		0.0373				12.6		15.0			
n-Butyl acetate	0.0944 0.1443	0.1011 0.1573	0.1133	0.1147	0.1133	Qua	-0.073	0.1265	0.0008246						0.9990		0.9900
1-Chlorohexane	0.3628 0.4608	0.3878 0.4839	0.4019	0.4098	0.3797	Ave		0.4124				10.7		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.: 240-101689-1 Analy Batch No.: 348143

SDG No.:

Instrument ID: A3UX17 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/02/2018 14:57 Calibration End Date: 10/02/2018 17:20 Calibration ID: 47194

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Cyclohexanone	0.0078 0.0129	0.0109 0.0110	0.0103	0.0103	0.0106	Ave		0.0105				14.1		15.0			
Pentachloroethane	0.1514 0.1763	0.1139 0.2091	0.1458	0.1239	0.1681	Qua	-0.110	0.1498	0.0007580						1.0000		0.9900
1,2,3-Trimethylbenzene	2.1660 3.0545	2.3863 3.2621	2.6447	2.7002	2.5519	Ave		2.6808				14.0		15.0			
Benzyl chloride	0.1127 0.2094	0.1338 0.2448	0.1502	0.1582	0.1597	Qua	-0.105	0.1686	0.0019827						0.9990		0.9900
1,3,5-Trichlorobenzene	0.9092 1.0556	0.9763 1.0601	0.9889	1.0099	0.9341	Ave		0.9906				5.7		15.0			
2-Methylnaphthalene	0.6748 1.2772	0.7789 1.1388	0.9046	1.0061	1.0723	Lin1	-1.389	1.1898							0.9940		0.9900
1-Chloro-1-fluoroethane TIC	0.2064 0.2267	0.2162 0.2281	0.2065	0.2296	0.2048	None											

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

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1 Analy Batch No.: 348143

SDG No.:

Instrument ID: A3UX17 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/02/2018 14:57 Calibration End Date: 10/02/2018 17:20 Calibration ID: 47194

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDA9 240-348143/16	UXR6931.D
Level 2	STDA9 240-348143/15	UXR6930.D
Level 3	STDA9 240-348143/14	UXR6929.D
Level 4	STDA9 240-348143/13	UXR6928.D
Level 5	STDA9 240-348143/12	UXR6927.D
Level 6	STDA9 240-348143/11	UXR6926.D
Level 7	STDA9 240-348143/10	UXR6925.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Acetonitrile	FB	Ave	31862 701723	65732 1378725	131008	173961	302297	10.0 200	20.0 400	40.0	50.0	100
Diisopropyl ether	FB	Ave	29581 801792	63114 1640804	142984	175737	331580	1.00 20.0	2.00 40.0	4.00	5.00	10.0
2-Chloro-1,3-butadiene	FB	Ave	51080 1341109	110384 2769877	235928	302064	560114	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Ethyl t-butyl ether	FB	Ave	86407 2296492	190532 4809871	404020	525618	977316	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Ethyl acetate	FB	Ave	47317 1133133	99216 2379272	209523	261067	483910	2.00 40.0	4.00 80.0	8.00	10.0	20.0
Propionitrile	FB	Ave	34835 853319	71335 1769648	156079	197119	364472	10.0 200	20.0 400	40.0	50.0	100
Methacrylonitrile	FB	Ave	161910 4294582	353449 8966833	748059	952065	1768453	10.0 200	20.0 400	40.0	50.0	100
Tert-amyl methyl ether	FB	Ave	74590 2147501	170400 4513874	370361	467476	883132	1.00 20.0	2.00 40.0	4.00	5.00	10.0
n-Butanol	CBNZ d5	Ave	10218 324848	24698 575087	47262	62816	129967	25.0 500	50.0 1000	100	125	250
Ethyl acrylate	FB	Ave	27816 842355	60890 1789379	136787	175448	334550	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Methyl methacrylate	FB	Ave	44002 1239328	93772 2603235	200861	268614	505669	2.00 40.0	4.00 80.0	8.00	10.0	20.0
2-Nitropropane	FB	Ave	10551 295178	22185 659553	47672	59553	117573	2.00 40.0	4.00 80.0	8.00	10.0	20.0
n-Butyl acetate	CBNZ d5	Qua	11494 393099	25234 855246	58280	75101	148523	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1-Chlorohexane	CBNZ d5	Ave	44179 1255045	96824 2631777	206791	268233	497957	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Cyclohexanone	DCBd 4	Ave	4470 164957	12742 280959	24554	31403	64391	10.0 200	20.0 400	40.0	50.0	100

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1 Analy Batch No.: 348143

SDG No.:

Instrument ID: A3UX17 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/02/2018 14:57 Calibration End Date: 10/02/2018 17:20 Calibration ID: 47194

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Pentachloroethane	CBNZ d5	Qua	36860 960460	56887 2274692	149993	162224	440918	2.00 40.0	4.00 80.0	8.00	10.0	20.0
1,2,3-Trimethylbenzene	DCBd 4	Ave	123386 3907447	278319 8326172	631853	824354	1549011	1.00 20.0	2.00 40.0	4.00	5.00	10.0
Benzyl chloride	DCBd 4	Qua	6420 267813	15607 624866	35882	48304	96938	1.00 20.0	2.00 40.0	4.00	5.00	10.0
1,3,5-Trichlorobenzene	DCBd 4	Ave	51794 1350351	113863 2705839	236263	308307	566989	1.00 20.0	2.00 40.0	4.00	5.00	10.0
2-Methylnaphthalene	DCBd 4	Lin1	76879 3267814	181689 5813452	432245	614343	1301803	2.00 40.0	4.00 80.0	8.00	10.0	20.0
1-Chloro-1-fluoroethane TIC	FB	None	32780 806583	69800 1634978	135369	193653	349762	1.00 20.0	2.00 40.0	4.00	5.00	10.0

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD
None = No Calib Curve
Qua = Quadratic ISTD

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab Sample ID: ICV 240-348143/9 Calibration Date: 10/02/2018 14:33

Instrument ID: A3UX17 Calib Start Date: 10/02/2018 11:47

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/02/2018 14:10

Lab File ID: UXR6924.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	0.2939	0.2989		0.0102	0.0100	1.7	50.0
Chloromethane	Ave	0.2643	0.2617	0.1000	0.00990	0.0100	-1.0	50.0
Vinyl chloride	Ave	0.2893	0.2993		0.0103	0.0100	3.5	20.0
Butadiene	Ave	0.3026	0.2762		0.00913	0.0100	-8.7	50.0
Bromomethane	Ave	0.1867	0.1932		0.0103	0.0100	3.5	50.0
Chloroethane	Ave	0.1894	0.1931		0.0102	0.0100	2.0	50.0
Dichlorofluoromethane	Ave	0.4442	0.4597		0.0103	0.0100	3.5	50.0
Trichlorofluoromethane	Ave	0.3768	0.3828		0.0102	0.0100	1.6	50.0
Ethyl ether	Ave	0.1986	0.1978		0.00996	0.0100	-0.4	50.0
Acrolein	Ave	0.0228	0.0262		0.0574	0.0500	14.9	50.0
1,1-Dichloroethene	Ave	0.2432	0.2410		0.00991	0.0100	-0.9	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1843	0.1806		0.00980	0.0100	-2.0	50.0
Acetone	Lin1		0.0550		0.0193	0.0200	-3.6	50.0
Iodomethane	Ave	0.3597	0.3682		0.0102	0.0100	2.4	50.0
Carbon disulfide	Ave	0.7146	0.6913		0.00967	0.0100	-3.3	50.0
3-Chloro-1-propene	Ave	0.1449	0.1428		0.00986	0.0100	-1.4	50.0
Methyl acetate	Ave	0.1271	0.1244		0.0196	0.0200	-2.2	50.0
Methylene Chloride	Ave	0.2529	0.2477		0.00980	0.0100	-2.0	50.0
Acrylonitrile	Ave	0.0694	0.0682		0.0983	0.100	-1.7	50.0
Methyl tert-butyl ether	Ave	0.6114	0.5966		0.00976	0.0100	-2.4	50.0
tert-Butyl alcohol	Lin1		0.0016		0.0996	0.100	-0.4	50.0
trans-1,2-Dichloroethene	Ave	0.2697	0.2735		0.0101	0.0100	1.4	50.0
Hexane	Ave	0.0738	0.0744		0.0101	0.0100	0.8	20.0
1,1-Dichloroethane	Ave	0.4441	0.4347	0.1000	0.00979	0.0100	-2.1	50.0
Vinyl acetate	Ave	0.3870	0.3711		0.00959	0.0100	-4.1	50.0
2,2-Dichloropropane	Ave	0.0513	0.0508		0.00989	0.0100	-1.1	50.0
cis-1,2-Dichloroethene	Ave	0.2948	0.2856		0.00969	0.0100	-3.1	50.0
2-Butanone (MEK)	Ave	0.0805	0.0752		0.0187	0.0200	-6.6	50.0
Bromochloromethane	Ave	0.1325	0.1299		0.00980	0.0100	-2.0	50.0
Tetrahydrofuran	Ave	0.0469	0.0459		0.0196	0.0200	-2.2	50.0
Chloroform	Ave	0.4497	0.4437		0.00987	0.0100	-1.3	20.0
1,1,1-Trichloroethane	Ave	0.3416	0.3484		0.0102	0.0100	2.0	50.0
Cyclohexane	Ave	0.4081	0.4032		0.00988	0.0100	-1.2	50.0
1,1-Dichloropropene	Ave	0.3624	0.3527		0.00973	0.0100	-2.7	50.0
Carbon tetrachloride	Ave	0.3148	0.3097		0.00984	0.0100	-1.6	50.0
Isobutyl alcohol	Ave	0.0058	0.0049		0.210	0.250	-15.9	50.0
Benzene	Ave	1.090	1.065		0.00977	0.0100	-2.3	50.0
1,2-Dichloroethane	Ave	0.3592	0.3525		0.00981	0.0100	-1.9	50.0
n-Heptane	Ave	0.0722	0.0738		0.0102	0.0100	2.3	50.0
Trichloroethene	Ave	0.2857	0.2823		0.00988	0.0100	-1.2	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab Sample ID: ICV 240-348143/9 Calibration Date: 10/02/2018 14:33

Instrument ID: A3UX17 Calib Start Date: 10/02/2018 11:47

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/02/2018 14:10

Lab File ID: UXR6924.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	0.4404	0.4243		0.00963	0.0100	-3.7	50.0
1,2-Dichloropropane	Ave	0.2558	0.2540		0.00993	0.0100	-0.7	20.0
1,4-Dioxane	Ave	0.0022	0.0015		0.137	0.200	-31.3	50.0
Dibromomethane	Ave	0.1493	0.1453		0.00973	0.0100	-2.7	50.0
Bromodichloromethane	Ave	0.3314	0.3266		0.00985	0.0100	-1.5	50.0
2-Chloroethyl vinyl ether	Ave	0.1376	0.1325		0.00963	0.0100	-3.7	50.0
cis-1,3-Dichloropropene	Ave	0.3689	0.3793		0.0103	0.0100	2.8	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1508	0.1533		0.0203	0.0200	1.6	50.0
Toluene	Ave	1.569	1.534		0.00978	0.0100	-2.2	20.0
trans-1,3-Dichloropropene	Ave	0.4240	0.4199		0.00990	0.0100	-1.0	50.0
Ethyl methacrylate	Ave	0.3372	0.3424		0.0102	0.0100	1.6	50.0
1,1,2-Trichloroethane	Ave	0.2814	0.2814		0.0100	0.0100	0.0	50.0
Tetrachloroethene	Ave	0.2930	0.2912		0.00994	0.0100	-0.6	50.0
1,3-Dichloropropane	Ave	0.5102	0.4994		0.00979	0.0100	-2.1	50.0
2-Hexanone	Ave	0.1307	0.1326		0.0203	0.0200	1.5	50.0
Dibromochloromethane	Ave	0.3015	0.3040		0.0101	0.0100	0.8	50.0
1,2-Dibromoethane	Ave	0.2703	0.2658		0.00983	0.0100	-1.7	50.0
Chlorobenzene	Ave	1.023	1.001	0.3000	0.00979	0.0100	-2.1	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3300	0.3319		0.0101	0.0100	0.6	50.0
Ethylbenzene	Ave	0.5387	0.5397		0.0100	0.0100	0.2	20.0
m-Xylene & p-Xylene	Ave	0.6593	0.6637		0.0101	0.0100	0.7	50.0
o-Xylene	Ave	0.6356	0.6513		0.0102	0.0100	2.5	50.0
Styrene	Ave	1.079	1.090		0.0101	0.0100	1.1	50.0
Bromoform	Ave	0.1635	0.1636	0.1000	0.0100	0.0100	0.0	50.0
Isopropylbenzene	Ave	1.667	1.697		0.0102	0.0100	1.8	50.0
1,1,2,2-Tetrachloroethane	Ave	0.6053	0.5880	0.3000	0.00971	0.0100	-2.9	50.0
Bromobenzene	Ave	0.7623	0.7458		0.00978	0.0100	-2.2	50.0
1,2,3-Trichloropropane	Ave	0.2099	0.2029		0.00966	0.0100	-3.4	50.0
trans-1,4-Dichloro-2-butene	Lin1		0.1500		0.00898	0.0100	-10.2	50.0
N-Propylbenzene	Ave	0.8758	0.8879		0.0101	0.0100	1.4	50.0
2-Chlorotoluene	Ave	0.7521	0.7365		0.00979	0.0100	-2.1	50.0
1,3,5-Trimethylbenzene	Ave	2.646	2.622		0.00991	0.0100	-0.9	50.0
4-Chlorotoluene	Ave	0.8121	0.7994		0.00984	0.0100	-1.6	50.0
tert-Butylbenzene	Ave	2.251	2.256		0.0100	0.0100	0.2	50.0
1,2,4-Trimethylbenzene	Ave	2.764	2.748		0.00994	0.0100	-0.6	50.0
sec-Butylbenzene	Ave	3.230	3.187		0.00987	0.0100	-1.3	50.0
1,3-Dichlorobenzene	Ave	1.523	1.496		0.00983	0.0100	-1.7	50.0
p-Isopropyltoluene	Ave	2.782	2.811		0.0101	0.0100	1.0	50.0
1,4-Dichlorobenzene	Ave	1.586	1.521		0.00959	0.0100	-4.1	50.0
n-Butylbenzene	Ave	2.339	2.297		0.00982	0.0100	-1.8	50.0
1,2-Dichlorobenzene	Ave	1.432	1.409		0.00983	0.0100	-1.7	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab Sample ID: ICV 240-348143/9 Calibration Date: 10/02/2018 14:33

Instrument ID: A3UX17 Calib Start Date: 10/02/2018 11:47

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/02/2018 14:10

Lab File ID: UXR6924.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	0.0976	0.0899		0.00921	0.0100	-7.9	50.0
1,2,4-Trichlorobenzene	Ave	0.8495	0.7913		0.00931	0.0100	-6.9	50.0
Hexachlorobutadiene	Ave	0.3938	0.3504		0.00890	0.0100	-11.0	50.0
Naphthalene	Ave	1.768	1.697		0.00960	0.0100	-4.0	50.0
1,2,3-Trichlorobenzene	Ave	0.7739	0.7273		0.00940	0.0100	-6.0	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab Sample ID: ICV 240-348143/17 Calibration Date: 10/02/2018 17:56

Instrument ID: A3UX17 Calib Start Date: 10/02/2018 14:57

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/02/2018 17:20

Lab File ID: UXR6932.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	0.0197	0.0210		0.107	0.100	6.8	50.0
Diisopropyl ether	Ave	0.2081	0.2293		0.0110	0.0100	10.2	50.0
2-Chloro-1,3-butadiene	Ave	0.3533	0.3791		0.0107	0.0100	7.3	50.0
Ethyl t-butyl ether	Ave	0.6089	0.6354		0.0104	0.0100	4.3	50.0
Ethyl acetate	Ave	0.1549	0.1643		0.0212	0.0200	6.1	50.0
Propionitrile	Ave	0.0230	0.0247		0.107	0.100	7.0	50.0
Methacrylonitrile	Ave	0.1125	0.1208		0.107	0.100	7.4	50.0
Tert-amyl methyl ether	Ave	0.5525	0.5731		0.0104	0.0100	3.7	50.0
n-Butanol	Ave	0.0040	0.0035		0.218	0.250	-12.7	50.0
Ethyl acrylate	Ave	0.2090	0.2204		0.0105	0.0100	5.5	50.0
Methyl methacrylate	Ave	0.1571	0.1686		0.0215	0.0200	7.3	50.0
2-Nitropropane	Ave	0.0373	0.0382		0.0205	0.0200	2.3	50.0
n-Butyl acetate	Qua		0.1306		0.0102	0.0100	2.2	50.0
1-Chlorohexane	Ave	0.4124	0.4292		0.0104	0.0100	4.1	50.0
Cyclohexanone	Ave	0.0105	0.0078		0.0741	0.100	-25.9	50.0
Pentachloroethane	Qua		0.1253		0.0161	0.0200	-19.3	50.0
1,2,3-Trimethylbenzene	Ave	2.681	2.870		0.0107	0.0100	7.0	50.0
Benzyl chloride	Qua		0.1636		0.00931	0.0100	-6.9	50.0
1,3,5-Trichlorobenzene	Ave	0.9906	0.9875		0.00997	0.0100	-0.3	50.0
2-Methylnaphthalene	Lin1		0.8982		0.0163	0.0200	-18.7	50.0

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab File ID: BFB2182.D BFB Injection Date: 10/03/2018

Instrument ID: A3UX17 BFB Injection Time: 11:26

Analysis Batch No.: 348343

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	49.0	
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	0.5	(0.6) 1
174	50.0 - 120.00 % of mass 95	78.3	
175	5.0 - 9.0 % of mass 174	5.6	(7.2) 1
176	95.0 - 101.0 % of mass 174	76.5	(97.8) 1
177	5.0 - 9.0 % of mass 176	5.0	(6.5) 2

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

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 240-348343/2	UXR6933.D	10/03/2018	12:07
	CCV 240-348343/3	UXR6934.D	10/03/2018	12:31
	LCS 240-348343/4	UXR6935.D	10/03/2018	12:55
	MB 240-348343/6	UXR6937.D	10/03/2018	13:43
TB-092018	240-101689-1	UXR6944.D	10/03/2018	16:34

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab Sample ID: CCVIS 240-348343/2 Calibration Date: 10/03/2018 12:07

Instrument ID: A3UX17 Calib Start Date: 10/02/2018 11:47

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/02/2018 14:10

Lab File ID: UXR6933.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	0.2939	0.2989		0.0102	0.0100	1.7	50.0
Chloromethane	Ave	0.2643	0.2721	0.1000	0.0103	0.0100	2.9	50.0
Vinyl chloride	Ave	0.2893	0.2966		0.0103	0.0100	2.5	20.0
Butadiene	Ave	0.3026	0.2980		0.00985	0.0100	-1.5	50.0
Bromomethane	Ave	0.1867	0.1750		0.00938	0.0100	-6.2	50.0
Chloroethane	Ave	0.1894	0.1760		0.00929	0.0100	-7.1	50.0
Dichlorofluoromethane	Ave	0.4442	0.4382		0.00986	0.0100	-1.4	50.0
Trichlorofluoromethane	Ave	0.3768	0.3904		0.0104	0.0100	3.6	50.0
Ethyl ether	Ave	0.1986	0.1952		0.00983	0.0100	-1.7	50.0
Acrolein	Ave	0.0228	0.0220		0.0482	0.0500	-3.6	50.0
1,1-Dichloroethene	Ave	0.2432	0.2399		0.00986	0.0100	-1.4	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1843	0.1838		0.00997	0.0100	-0.3	50.0
Acetone	Lin1		0.0550		0.0193	0.0200	-3.6	50.0
Iodomethane	Ave	0.3597	0.3483		0.00968	0.0100	-3.2	50.0
Carbon disulfide	Ave	0.7146	0.7075		0.00990	0.0100	-1.0	50.0
3-Chloro-1-propene	Ave	0.1449	0.1460		0.0101	0.0100	0.8	50.0
Methyl acetate	Ave	0.1271	0.1272		0.0200	0.0200	0.0	50.0
Methylene Chloride	Ave	0.2529	0.2509		0.00992	0.0100	-0.8	50.0
Acrylonitrile	Ave	0.0694	0.0691		0.0996	0.100	-0.4	50.0
Methyl tert-butyl ether	Ave	0.6114	0.5997		0.00981	0.0100	-1.9	50.0
tert-Butyl alcohol	Lin1		0.0015		0.0941	0.100	-5.9	50.0
trans-1,2-Dichloroethene	Ave	0.2697	0.2612		0.00968	0.0100	-3.2	50.0
Hexane	Ave	0.0738	0.0740		0.0100	0.0100	0.1	20.0
1,1-Dichloroethane	Ave	0.4441	0.4475	0.1000	0.0101	0.0100	0.8	50.0
Vinyl acetate	Ave	0.3870	0.3634		0.00939	0.0100	-6.1	50.0
2,2-Dichloropropane	Ave	0.0513	0.0510		0.00993	0.0100	-0.7	50.0
cis-1,2-Dichloroethene	Ave	0.2948	0.2903		0.00985	0.0100	-1.5	50.0
2-Butanone (MEK)	Ave	0.0805	0.0776		0.0193	0.0200	-3.7	50.0
Bromochloromethane	Ave	0.1325	0.1297		0.00979	0.0100	-2.1	50.0
Tetrahydrofuran	Ave	0.0469	0.0451		0.0192	0.0200	-3.9	50.0
Chloroform	Ave	0.4497	0.4554		0.0101	0.0100	1.3	20.0
1,1,1-Trichloroethane	Ave	0.3416	0.3412		0.00999	0.0100	-0.1	50.0
Cyclohexane	Ave	0.4081	0.4088		0.0100	0.0100	0.2	50.0
1,1-Dichloropropene	Ave	0.3624	0.3621		0.00999	0.0100	-0.0	50.0
Carbon tetrachloride	Ave	0.3148	0.3142		0.00998	0.0100	-0.2	50.0
Isobutyl alcohol	Ave	0.0058	0.0052		0.224	0.250	-10.3	50.0
Benzene	Ave	1.090	1.102		0.0101	0.0100	1.1	50.0
1,2-Dichloroethane	Ave	0.3592	0.3584		0.00998	0.0100	-0.2	50.0
n-Heptane	Ave	0.0722	0.0719		0.00996	0.0100	-0.4	50.0
Trichloroethene	Ave	0.2857	0.2862		0.0100	0.0100	0.2	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab Sample ID: CCVIS 240-348343/2 Calibration Date: 10/03/2018 12:07

Instrument ID: A3UX17 Calib Start Date: 10/02/2018 11:47

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/02/2018 14:10

Lab File ID: UXR6933.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	0.4404	0.4321		0.00981	0.0100	-1.9	50.0
1,2-Dichloropropane	Ave	0.2558	0.2590		0.0101	0.0100	1.2	20.0
1,4-Dioxane	Ave	0.0022	0.0015		0.143	0.200	-28.6	50.0
Dibromomethane	Ave	0.1493	0.1474		0.00987	0.0100	-1.3	50.0
Bromodichloromethane	Ave	0.3314	0.3361		0.0101	0.0100	1.4	50.0
2-Chloroethyl vinyl ether	Ave	0.1376	0.1394		0.0203	0.0200	1.3	50.0
cis-1,3-Dichloropropene	Ave	0.3689	0.3833		0.0104	0.0100	3.9	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1508	0.1513		0.0201	0.0200	0.3	50.0
Toluene	Ave	1.569	1.620		0.0103	0.0100	3.2	20.0
trans-1,3-Dichloropropene	Ave	0.4240	0.4367		0.0103	0.0100	3.0	50.0
Ethyl methacrylate	Ave	0.3372	0.3435		0.0102	0.0100	1.9	50.0
1,1,2-Trichloroethane	Ave	0.2814	0.2891		0.0103	0.0100	2.8	50.0
Tetrachloroethene	Ave	0.2930	0.2975		0.0102	0.0100	1.5	50.0
1,3-Dichloropropane	Ave	0.5102	0.5143		0.0101	0.0100	0.8	50.0
2-Hexanone	Ave	0.1307	0.1288		0.0197	0.0200	-1.5	50.0
Dibromochloromethane	Ave	0.3015	0.3153		0.0105	0.0100	4.6	50.0
1,2-Dibromoethane	Ave	0.2703	0.2746		0.0102	0.0100	1.6	50.0
Chlorobenzene	Ave	1.023	1.032	0.3000	0.0101	0.0100	1.0	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3300	0.3386		0.0103	0.0100	2.6	50.0
Ethylbenzene	Ave	0.5387	0.5592		0.0104	0.0100	3.8	20.0
m-Xylene & p-Xylene	Ave	0.6593	0.6991		0.0106	0.0100	6.0	50.0
o-Xylene	Ave	0.6356	0.6616		0.0104	0.0100	4.1	50.0
Styrene	Ave	1.079	1.143		0.0106	0.0100	5.9	50.0
Bromoform	Ave	0.1635	0.1692	0.1000	0.0103	0.0100	3.5	50.0
Isopropylbenzene	Ave	1.667	1.730		0.0104	0.0100	3.8	50.0
1,1,2,2-Tetrachloroethane	Ave	0.6053	0.5870	0.3000	0.00970	0.0100	-3.0	50.0
Bromobenzene	Ave	0.7623	0.7617		0.00999	0.0100	-0.0	50.0
1,2,3-Trichloropropane	Ave	0.2099	0.2095		0.00998	0.0100	-0.2	50.0
trans-1,4-Dichloro-2-butene	Lin1		0.1582		0.00944	0.0100	-5.6	50.0
N-Propylbenzene	Ave	0.8758	0.8995		0.0103	0.0100	2.7	50.0
2-Chlorotoluene	Ave	0.7521	0.7706		0.0102	0.0100	2.5	50.0
1,3,5-Trimethylbenzene	Ave	2.646	2.712		0.0103	0.0100	2.5	50.0
4-Chlorotoluene	Ave	0.8121	0.8284		0.0102	0.0100	2.0	50.0
tert-Butylbenzene	Ave	2.251	2.297		0.0102	0.0100	2.1	50.0
1,2,4-Trimethylbenzene	Ave	2.764	2.888		0.0104	0.0100	4.5	50.0
sec-Butylbenzene	Ave	3.230	3.264		0.0101	0.0100	1.0	50.0
1,3-Dichlorobenzene	Ave	1.523	1.539		0.0101	0.0100	1.1	50.0
p-Isopropyltoluene	Ave	2.782	2.834		0.0102	0.0100	1.9	50.0
1,4-Dichlorobenzene	Ave	1.586	1.578		0.00995	0.0100	-0.5	50.0
n-Butylbenzene	Ave	2.339	2.332		0.00997	0.0100	-0.3	50.0
1,2-Dichlorobenzene	Ave	1.432	1.458		0.0102	0.0100	1.8	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab Sample ID: CCVIS 240-348343/2 Calibration Date: 10/03/2018 12:07

Instrument ID: A3UX17 Calib Start Date: 10/02/2018 11:47

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/02/2018 14:10

Lab File ID: UXR6933.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	0.0976	0.0882		0.00904	0.0100	-9.6	50.0
1,2,4-Trichlorobenzene	Ave	0.8495	0.8044		0.00947	0.0100	-5.3	50.0
Hexachlorobutadiene	Ave	0.3938	0.3397		0.00862	0.0100	-13.8	50.0
Naphthalene	Ave	1.768	1.720		0.00973	0.0100	-2.7	50.0
1,2,3-Trichlorobenzene	Ave	0.7739	0.7327		0.00947	0.0100	-5.3	50.0
Dibromofluoromethane (Surr)	Ave	0.2330	0.2339		0.0100	0.0100	0.4	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2945	0.2862		0.00972	0.0100	-2.8	50.0
Toluene-d8 (Surr)	Ave	1.303	1.315		0.0101	0.0100	0.9	50.0
4-Bromofluorobenzene (Surr)	Ave	0.4856	0.4931		0.0102	0.0100	1.5	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Lab Sample ID: CCV 240-348343/3 Calibration Date: 10/03/2018 12:31

Instrument ID: A3UX17 Calib Start Date: 10/02/2018 14:57

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/02/2018 17:20

Lab File ID: UXR6934.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	0.0197	0.0197		0.100	0.100	0.3	50.0
Diisopropyl ether	Ave	0.2081	0.2220		0.0107	0.0100	6.7	50.0
2-Chloro-1,3-butadiene	Ave	0.3533	0.3745		0.0106	0.0100	6.0	50.0
Ethyl t-butyl ether	Ave	0.6089	0.6355		0.0104	0.0100	4.4	50.0
Ethyl acetate	Ave	0.1549	0.1619		0.0209	0.0200	4.5	50.0
Propionitrile	Ave	0.0230	0.0248		0.108	0.100	7.5	50.0
Methacrylonitrile	Ave	0.1125	0.1194		0.106	0.100	6.1	50.0
Tert-amyl methyl ether	Ave	0.5525	0.5778		0.0105	0.0100	4.6	50.0
n-Butanol	Ave	0.0040	0.0035		0.221	0.250	-11.6	50.0
Ethyl acrylate	Ave	0.2090	0.2239		0.0107	0.0100	7.1	50.0
Methyl methacrylate	Ave	0.1571	0.1658		0.0211	0.0200	5.5	50.0
2-Nitropropane	Ave	0.0373	0.0394		0.0211	0.0200	5.7	50.0
n-Butyl acetate	Qua		0.1291		0.0101	0.0100	1.1	50.0
1-Chlorohexane	Ave	0.4124	0.4287		0.0104	0.0100	3.9	50.0
Cyclohexanone	Ave	0.0105	0.0092		0.0875	0.100	-12.5	50.0
Pentachloroethane	Qua		0.1956		0.0239	0.0200	19.7	50.0
1,2,3-Trimethylbenzene	Ave	2.681	2.828		0.0106	0.0100	5.5	50.0
Benzyl chloride	Qua		0.1944		0.0108	0.0100	7.8	50.0
1,3,5-Trichlorobenzene	Ave	0.9906	1.001		0.0101	0.0100	1.1	50.0
2-Methylnaphthalene	Lin1		0.9274		0.0168	0.0200	-16.2	50.0

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Sample No.: ICIS 240-342675/6 Date Analyzed: 08/27/2018 15:07

Instrument ID: A3UX14 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): 1415428.D Heated Purge: (Y/N) Y

Calibration ID: 46737

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		2197757	6.33	1572691	9.29	748609	11.29
UPPER LIMIT		4395514	6.83	3145382	9.79	1497218	11.79
LOWER LIMIT		1098879	5.83	786346	8.79	374305	10.79
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 240-342675/13		1968272	6.33	1455943	9.29	687482	11.29
CCVIS 240-347081/3		1782929	6.33	1251400	9.29	587686	11.28

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 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Sample No.: CCVIS 240-347081/3 Date Analyzed: 09/25/2018 11:49

Instrument ID: A3UX14 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): 1415832.D Heated Purge: (Y/N) Y

Calibration ID: 46737

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		1782929	6.33	1251400	9.29	587686	11.28
UPPER LIMIT		3565858	6.83	2502800	9.79	1175372	11.78
LOWER LIMIT		891465	5.83	625700	8.79	293843	10.78
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 240-347081/4		1854624	6.33	1361431	9.29	626366	11.28
LCS 240-347081/5		1848375	6.33	1389570	9.29	649267	11.29
MB 240-347081/6		1790056	6.33	1375525	9.29	594788	11.29
240-101689-2	SB-MW136-23.8-25	1252621	6.33	922997	9.29	401614	11.28
240-101689-3	SB-MW136-25-28	1151002	6.33	820105	9.29	371407	11.28
240-101689-4	SB-MW135-10-15	1105994	6.33	821716	9.29	363176	11.29
240-101689-5	SB-MW135-15-20	1065850	6.33	724429	9.29	336089	11.29
240-101689-5 MS	SB-MW135-15-20 MS	1188323	6.33	849917	9.29	398359	11.29
240-101689-5 MSD	SB-MW135-15-20 MSD	1233220	6.33	893992	9.29	432239	11.28
240-101689-6	SB-MW134-9-10	1186182	6.33	890290	9.29	386966	11.28
240-101689-7	SB-MW134-15-20	1153875	6.33	840806	9.29	376431	11.29
240-101689-8	SB-DUP01-092018	1116371	6.33	834353	9.29	335317	11.29

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 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Sample No.: STD8260 240-348143/4 Date Analyzed: 10/02/2018 12:34

Instrument ID: A3UX17 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): UXR6919.D Heated Purge: (Y/N) N

Calibration ID: 47192

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		1798169	5.78	1359565	8.47	705844	10.72
UPPER LIMIT		3596338	6.28	2719130	8.97	1411688	11.22
LOWER LIMIT		899085	5.28	679783	7.97	352922	10.22
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 240-348143/9		1724209	5.78	1311821	8.48	700255	10.72
ICV 240-348143/17		1656553	5.78	1279167	8.47	604202	10.72
CCVIS 240-348343/2		1730476	5.78	1307388	8.47	699913	10.72

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 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Sample No.: CCVIS 240-348343/2 Date Analyzed: 10/03/2018 12:07

Instrument ID: A3UX17 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): UXR6933.D Heated Purge: (Y/N) N

Calibration ID: 47194

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		1730476	5.78	1307388	8.47	699913	10.72
UPPER LIMIT		3460952	6.28	2614776	8.97	1399826	11.22
LOWER LIMIT		865238	5.28	653694	7.97	349957	10.22
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 240-348343/3		1708326	5.78	1354572	8.47	627694	10.72
LCS 240-348343/4		1757199	5.78	1333019	8.47	703861	10.72
MB 240-348343/6		1613900	5.78	1236445	8.47	608059	10.72
240-101689-1	TB-092018	1491738	5.78	1157536	8.47	552324	10.72

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 8260B

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Instrument ID: A3UX14 Start Date: 12/20/2017 15:27

Analysis Batch Number: 308538 End Date: 12/20/2017 23:00

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-308538/1		12/20/2017 15:27	1	BFB14640.D	DB-624 0.18(mm)
IC 240-308538/13		12/20/2017 19:46	1	1412545.D	DB-624 0.18(mm)
IC 240-308538/14		12/20/2017 20:07	1	1412546.D	DB-624 0.18(mm)
IC 240-308538/15		12/20/2017 20:29	1	1412547.D	DB-624 0.18(mm)
IC 240-308538/16		12/20/2017 20:50	1	1412548.D	DB-624 0.18(mm)
IC 240-308538/17		12/20/2017 21:12	1	1412549.D	DB-624 0.18(mm)
IC 240-308538/18		12/20/2017 21:34	1	1412550.D	DB-624 0.18(mm)
IC 240-308538/19		12/20/2017 21:55	1	1412551.D	DB-624 0.18(mm)
IC 240-308538/20		12/20/2017 22:17	1	1412552.D	DB-624 0.18(mm)
IC 240-308538/21		12/20/2017 22:38	1	1412553.D	DB-624 0.18(mm)
ICV 240-308538/22		12/20/2017 23:00	1		DB-624 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Instrument ID: A3UX14 Start Date: 08/27/2018 13:20

Analysis Batch Number: 342675 End Date: 08/27/2018 19:26

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-342675/20		08/27/2018 13:20	1	BFB14780.D	DB-624 0.18(mm)
IC 240-342675/3		08/27/2018 14:03	1	1415425.D	DB-624 0.18(mm)
IC 240-342675/4		08/27/2018 14:24	1	1415426.D	DB-624 0.18(mm)
IC 240-342675/5		08/27/2018 14:46	1	1415427.D	DB-624 0.18(mm)
ICIS 240-342675/6		08/27/2018 15:07	1	1415428.D	DB-624 0.18(mm)
IC 240-342675/7		08/27/2018 15:29	1	1415429.D	DB-624 0.18(mm)
IC 240-342675/8		08/27/2018 15:50	1	1415430.D	DB-624 0.18(mm)
IC 240-342675/9		08/27/2018 16:12	1	1415431.D	DB-624 0.18(mm)
IC 240-342675/10		08/27/2018 16:33	1	1415432.D	DB-624 0.18(mm)
IC 240-342675/11		08/27/2018 16:55	1	1415433.D	DB-624 0.18(mm)
CCV 240-342675/12		08/27/2018 17:16	1		DB-624 0.18(mm)
ICV 240-342675/13		08/27/2018 17:38	1	1415435.D	DB-624 0.18(mm)
ZZZZZ		08/27/2018 17:59	1		DB-624 0.18(mm)
ZZZZZ		08/27/2018 18:21	1		DB-624 0.18(mm)
ZZZZZ		08/27/2018 18:42	1		DB-624 0.18(mm)
ZZZZZ		08/27/2018 19:04	1		DB-624 0.18(mm)
ZZZZZ		08/27/2018 19:26	1		DB-624 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Instrument ID: A3UX14 Start Date: 09/25/2018 11:07

Analysis Batch Number: 347081 End Date: 09/25/2018 22:55

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-347081/1		09/25/2018 11:07	1	BFB14798.D	DB-624 0.18(mm)
CCVIS 240-347081/3		09/25/2018 11:49	1	1415832.D	DB-624 0.18(mm)
CCV 240-347081/4		09/25/2018 12:10	1	1415833.D	DB-624 0.18(mm)
LCS 240-347081/5		09/25/2018 12:32	1	1415834.D	DB-624 0.18(mm)
MB 240-347081/6		09/25/2018 12:53	1	1415835.D	DB-624 0.18(mm)
ZZZZZ		09/25/2018 13:15	1		DB-624 0.18(mm)
ZZZZZ		09/25/2018 13:36	1		DB-624 0.18(mm)
ZZZZZ		09/25/2018 15:02	1		DB-624 0.18(mm)
ZZZZZ		09/25/2018 15:24	1		DB-624 0.18(mm)
ZZZZZ		09/25/2018 15:45	1		DB-624 0.18(mm)
ZZZZZ		09/25/2018 16:07	1		DB-624 0.18(mm)
ZZZZZ		09/25/2018 16:28	1		DB-624 0.18(mm)
ZZZZZ		09/25/2018 16:50	1		DB-624 0.18(mm)
ZZZZZ		09/25/2018 17:12	1		DB-624 0.18(mm)
ZZZZZ		09/25/2018 17:33	1		DB-624 0.18(mm)
ZZZZZ		09/25/2018 17:55	1		DB-624 0.18(mm)
ZZZZZ		09/25/2018 18:16	1		DB-624 0.18(mm)
ZZZZZ		09/25/2018 18:38	1		DB-624 0.18(mm)
ZZZZZ		09/25/2018 18:59	1		DB-624 0.18(mm)
240-101689-2		09/25/2018 19:42	1	1415854.D	DB-624 0.18(mm)
240-101689-3		09/25/2018 20:03	1	1415855.D	DB-624 0.18(mm)
240-101689-4		09/25/2018 20:25	1	1415856.D	DB-624 0.18(mm)
240-101689-5		09/25/2018 20:46	1	1415857.D	DB-624 0.18(mm)
240-101689-5 MS		09/25/2018 21:08	1	1415858.D	DB-624 0.18(mm)
240-101689-5 MSD		09/25/2018 21:29	1	1415859.D	DB-624 0.18(mm)
240-101689-6		09/25/2018 22:12	1	1415861.D	DB-624 0.18(mm)
240-101689-7		09/25/2018 22:34	1	1415862.D	DB-624 0.18(mm)
240-101689-8		09/25/2018 22:55	1	1415863.D	DB-624 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Instrument ID: A3UX17 Start Date: 10/02/2018 11:05

Analysis Batch Number: 348143 End Date: 10/02/2018 17:56

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-348143/1		10/02/2018 11:05	1	BFB2181.D	DB-624 0.18(mm)
STD8260 240-348143/2 IC		10/02/2018 11:47	1	UXR6917.D	DB-624 0.18(mm)
STD8260 240-348143/3 IC		10/02/2018 12:10	1	UXR6918.D	DB-624 0.18(mm)
STD8260 240-348143/4 ICIS		10/02/2018 12:34	1	UXR6919.D	DB-624 0.18(mm)
STD8260 240-348143/5 IC		10/02/2018 12:58	1	UXR6920.D	DB-624 0.18(mm)
STD8260 240-348143/6 IC		10/02/2018 13:22	1	UXR6921.D	DB-624 0.18(mm)
STD8260 240-348143/7 IC		10/02/2018 13:46	1	UXR6922.D	DB-624 0.18(mm)
STD8260 240-348143/8 IC		10/02/2018 14:10	1	UXR6923.D	DB-624 0.18(mm)
ICV 240-348143/9		10/02/2018 14:33	1	UXR6924.D	DB-624 0.18(mm)
STDA9 240-348143/10 IC		10/02/2018 14:57	1	UXR6925.D	DB-624 0.18(mm)
STDA9 240-348143/11 IC		10/02/2018 15:21	1	UXR6926.D	DB-624 0.18(mm)
STDA9 240-348143/12 IC		10/02/2018 15:45	1	UXR6927.D	DB-624 0.18(mm)
STDA9 240-348143/13 IC		10/02/2018 16:08	1	UXR6928.D	DB-624 0.18(mm)
STDA9 240-348143/14 IC		10/02/2018 16:32	1	UXR6929.D	DB-624 0.18(mm)
STDA9 240-348143/15 IC		10/02/2018 16:56	1	UXR6930.D	DB-624 0.18(mm)
STDA9 240-348143/16 IC		10/02/2018 17:20	1	UXR6931.D	DB-624 0.18(mm)
ICV 240-348143/17		10/02/2018 17:56	1	UXR6932.D	DB-624 0.18(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Instrument ID: A3UX17 Start Date: 10/03/2018 11:26

Analysis Batch Number: 348343 End Date: 10/03/2018 23:29

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 240-348343/1		10/03/2018 11:26	1	BFB2182.D	DB-624 0.18(mm)
CCVIS 240-348343/2		10/03/2018 12:07	1	UXR6933.D	DB-624 0.18(mm)
CCV 240-348343/3		10/03/2018 12:31	1	UXR6934.D	DB-624 0.18(mm)
LCS 240-348343/4		10/03/2018 12:55	1	UXR6935.D	DB-624 0.18(mm)
MB 240-348343/6		10/03/2018 13:43	1	UXR6937.D	DB-624 0.18(mm)
ZZZZZ		10/03/2018 14:07	66.67		DB-624 0.18(mm)
ZZZZZ		10/03/2018 14:31	1		DB-624 0.18(mm)
ZZZZZ		10/03/2018 15:22	6.67		DB-624 0.18(mm)
ZZZZZ		10/03/2018 15:46	14.28		DB-624 0.18(mm)
ZZZZZ		10/03/2018 16:10	1		DB-624 0.18(mm)
240-101689-1		10/03/2018 16:34	1	UXR6944.D	DB-624 0.18(mm)
ZZZZZ		10/03/2018 16:58	1		DB-624 0.18(mm)
ZZZZZ		10/03/2018 17:22	1		DB-624 0.18(mm)
ZZZZZ		10/03/2018 17:46	1		DB-624 0.18(mm)
ZZZZZ		10/03/2018 18:10	1		DB-624 0.18(mm)
ZZZZZ		10/03/2018 19:14	1		DB-624 0.18(mm)
ZZZZZ		10/03/2018 19:54	1		DB-624 0.18(mm)
ZZZZZ		10/03/2018 20:18	13.33		DB-624 0.18(mm)
ZZZZZ		10/03/2018 20:42	1		DB-624 0.18(mm)
ZZZZZ		10/03/2018 21:06	1		DB-624 0.18(mm)
ZZZZZ		10/03/2018 21:30	1		DB-624 0.18(mm)
ZZZZZ		10/03/2018 21:54	1		DB-624 0.18(mm)
ZZZZZ		10/03/2018 22:17	20		DB-624 0.18(mm)
ZZZZZ		10/03/2018 22:41	1		DB-624 0.18(mm)
ZZZZZ		10/03/2018 23:05	1		DB-624 0.18(mm)
ZZZZZ		10/03/2018 23:29	1		DB-624 0.18(mm)

GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Batch Number: 347157 Batch Start Date: 09/25/18 13:06 Batch Analyst: Macenczak, Steven

Batch Method: 5030A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount				
240-101689-B-2	SB-MW136-23.8-25	5030A, 8260B	T	5.5210 g	5 mL				
240-101689-B-3	SB-MW136-25-28	5030A, 8260B	T	5.1148 g	5 mL				
240-101689-B-4	SB-MW135-10-15	5030A, 8260B	T	5.2772 g	5 mL				
240-101689-B-5	SB-MW135-15-20	5030A, 8260B	T	5.5636 g	5 mL				
240-101689-B-5 MS	SB-MW135-15-20	5030A, 8260B	T	5.1435 g	5 mL				
240-101689-B-5 MSD	SB-MW135-15-20	5030A, 8260B	T	5.4038 g	5 mL				
240-101689-B-6	SB-MW134-9-10	5030A, 8260B	T	5.5186 g	5 mL				
240-101689-B-7	SB-MW134-15-20	5030A, 8260B	T	5.3713 g	5 mL				
240-101689-B-8	SB-DUP01-092018	5030A, 8260B	T	5.5462 g	5 mL				

Batch Notes	
Balance ID	b051
Blank Matrix ID	178797
Vial Lot Number	3792725

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Batch Number: 348143 Batch Start Date: 10/02/18 11:05 Batch Analyst: Williams, Larry

Batch Method: 8260B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	VM50IS 00069	vm50ss 00337	VMAROLISTDW 00267	vmbfb 00020
BFB 240-348143/1		8260B		5 mL	5 mL				1 uL
STD8260 240-348143/2 IC		8260B		5 mL	5 mL	1 uL	32 uL	32 uL	
STD8260 240-348143/3 IC		8260B		5 mL	5 mL	1 uL	16 uL	16 uL	
STD8260 240-348143/4 ICIS		8260B		5 mL	5 mL	1 uL	8 uL	8 uL	
STD8260 240-348143/5 IC		8260B		5 mL	5 mL	1 uL	4 uL	4 uL	
STD8260 240-348143/6 IC		8260B		5 mL	5 mL	1 uL	3.2 uL	3.2 uL	
STD8260 240-348143/7 IC		8260B		5 mL	5 mL	1 uL	1.6 uL	1.6 uL	
STD8260 240-348143/8 IC		8260B		5 mL	5 mL	1 uL	0.8 uL	0.8 uL	
ICV 240-348143/9		8260B		5 mL	5 mL	1 uL			
STDA9 240-348143/10 IC		8260B		5 mL	5 mL	1 uL			
STDA9 240-348143/11 IC		8260B		5 mL	5 mL	1 uL			
STDA9 240-348143/12 IC		8260B		5 mL	5 mL	1 uL			
STDA9 240-348143/13 IC		8260B		5 mL	5 mL	1 uL			
STDA9 240-348143/14 IC		8260B		5 mL	5 mL	1 uL			
STDA9 240-348143/15 IC		8260B		5 mL	5 mL	1 uL			
STDA9 240-348143/16 IC		8260B		5 mL	5 mL	1 uL			
ICV 240-348143/17		8260B		5 mL	5 mL	1 uL			

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Batch Number: 348143 Batch Start Date: 10/02/18 11:05 Batch Analyst: Williams, Larry

Batch Method: 8260B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	VMFASA9W 00203	VMFASAW 00250	VMFASGW 00276	VMFASPW 00269	VMRA9W 00267	VMRGAS 00263
BFB 240-348143/1		8260B							
STD8260 240-348143/2 IC		8260B							32 uL
STD8260 240-348143/3 IC		8260B							16 uL
STD8260 240-348143/4 ICIS		8260B							8 uL
STD8260 240-348143/5 IC		8260B							4 uL
STD8260 240-348143/6 IC		8260B							3.2 uL
STD8260 240-348143/7 IC		8260B							1.6 uL
STD8260 240-348143/8 IC		8260B							0.8 uL
ICV 240-348143/9		8260B			8 uL	8 uL	8 uL		
STDA9 240-348143/10 IC		8260B						32 uL	
STDA9 240-348143/11 IC		8260B						16 uL	
STDA9 240-348143/12 IC		8260B						8 uL	
STDA9 240-348143/13 IC		8260B						4 uL	
STDA9 240-348143/14 IC		8260B						3.2 uL	
STDA9 240-348143/15 IC		8260B						1.6 uL	
STDA9 240-348143/16 IC		8260B						0.8 uL	
ICV 240-348143/17		8260B		8 uL					

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Batch Number: 348143 Batch Start Date: 10/02/18 11:05 Batch Analyst: Williams, Larry

Batch Method: 8260B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	VMRPRIMW 00303					
BFB 240-348143/1		8260B							
STD8260 240-348143/2 IC		8260B		32 uL					
STD8260 240-348143/3 IC		8260B		16 uL					
STD8260 240-348143/4 ICIS		8260B		8 uL					
STD8260 240-348143/5 IC		8260B		4 uL					
STD8260 240-348143/6 IC		8260B		3.2 uL					
STD8260 240-348143/7 IC		8260B		1.6 uL					
STD8260 240-348143/8 IC		8260B		0.8 uL					
ICV 240-348143/9		8260B							
STDA9 240-348143/10 IC		8260B							
STDA9 240-348143/11 IC		8260B							
STDA9 240-348143/12 IC		8260B							
STDA9 240-348143/13 IC		8260B							
STDA9 240-348143/14 IC		8260B							
STDA9 240-348143/15 IC		8260B							
STDA9 240-348143/16 IC		8260B							
ICV 240-348143/17		8260B							

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Batch Number: 348143 Batch Start Date: 10/02/18 11:05 Batch Analyst: Williams, Larry

Batch Method: 8260B Batch End Date:

Batch Notes	
pH Indicator ID	HC746949

Basis	Basis Description

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Batch Number: 348343 Batch Start Date: 10/03/18 11:26 Batch Analyst: Williams, Larry

Batch Method: 8260B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	VM50IS 00071	vm50ss_stk 00078	VMAROLISTDW 00267
BFB 240-348343/1		8260B		5 mL	5 mL				
CCVIS 240-348343/2		8260B		5 mL	5 mL		1 uL	1 uL	8 uL
CCV 240-348343/3		8260B		5 mL	5 mL		1 uL		
LCS 240-348343/4		8260B		5 mL	5 mL		1 uL	1 uL	
MB 240-348343/6		8260B		5 mL	5 mL		1 uL	1 uL	
240-101689-A-1	TB-092018	8260B	T	5 mL	5 mL	<2 SU	1 uL	1 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	VMBFB 00020	VMFASAW 00250	VMFASGW 00276	VMFASPW 00269	VMRA9W 00267	VMRGAS 00263
BFB 240-348343/1		8260B		1 uL					
CCVIS 240-348343/2		8260B							8 uL
CCV 240-348343/3		8260B						8 uL	
LCS 240-348343/4		8260B			8 uL	8 uL	8 uL		
MB 240-348343/6		8260B							
240-101689-A-1	TB-092018	8260B	T						

Lab Sample ID	Client Sample ID	Method Chain	Basis	VMRPRIMW 00303					
BFB 240-348343/1		8260B							
CCVIS 240-348343/2		8260B		8 uL					
CCV 240-348343/3		8260B							
LCS 240-348343/4		8260B							
MB 240-348343/6		8260B							
240-101689-A-1	TB-092018	8260B	T						

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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-101689-1

SDG No.:

Batch Number: 348343 Batch Start Date: 10/03/18 11:26 Batch Analyst: Williams, Larry

Batch Method: 8260B Batch End Date:

Batch Notes	
pH Indicator ID	HC746949

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.

VOA Calibration Calculations:

Initial Calibration 8/27/2018
Instrument A3UX14

Chlorobenzene

Analyte Concentration	Analyte Response	Internal Standard Response	Internal Standard Amount	RRF	Reported RRF
1	26949	1266838	50	1.0636	1.0636
2	66616	1508545	50	1.1040	1.104
5	158274	1499849	50	1.0553	1.0553
10	328759	1561025	50	1.0530	1.053
20	692577	1643361	50	1.0536	1.0536
50	1679482	1572691	50	1.0679	1.0679
100	3344232	1559553	50	1.0722	1.0722
200	6070327	1422755	50	1.0667	1.0667
250	6659465	1240954	50	1.0733	1.0733
			Average	1.0677	1.0677
			Standard Deviation	0.0156	
			RSD	0.0146	
			%RSD	1.4637	1.5

Continuing Calibration 09/25/2018@ 11:49
Instrument A3UX14

Chlorobenzene

Analyte Concentration	Analyte Response	Internal Standard Response	Internal Standard Amount	RRF	%D	Reported RRF	Reported %D
50	1342799	1251400	50	1.0730	0.500	1.073	0.5

MRC Block F
SDG 240-101689-1

SAMPLE IDENTIFICATION	SB-DUP01-092018
COMPOUND	Chlorobenzene
COMPOUND AREA	65264
INTERNAL STANDARD AMOUNT (ng)	50
DILUTION FACTOR	1
INTERNAL STANDARD AREA	834353
AVERAGE RRF	1.0677
% SOLIDS	0.845
WEIGHT OF SAMPLE (g)	5.5462
VOLUME EXTRACT (ml)	5
INJECTION VOLUME (µl)	1

CONCENTRATION = 3.91 ug/kg

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A3UX14\20180925-80208.b\1415863.D
Lims ID: 240-101689-B-8-A
Client ID: SB-DUP01-092018
Sample Type: Client
Inject. Date: 25-Sep-2018 22:55:30 ALS Bottle#: 33 Worklist Smp#: 34
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 240-101689-b-8-a
Misc. Info.: 240-0080208-034
Operator ID: 002808 Instrument ID: A3UX14

Method: \\ChromNA\Canton\ChromData\A3UX14\20180925-80208.b\8260_14.m
Limit Group: MSV 8260B ICAL
Last Update: 26-Sep-2018 10:13:17 Calib Date: 27-Aug-2018 16:55:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A3UX14\20180827-79294.b\1415433.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK024

First Level Reviewer: macenczaks Date: 26-Sep-2018 10:07:32

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	6.327	6.326	0.001	100	1116371	50.0	
* 2 Chlorobenzene-d5	117	9.285	9.285	0.000	94	834353	50.0	
* 3 1,4-Dichlorobenzene-d4	152	11.285	11.284	0.001	99	335317	50.0	
$ 4 Dibromofluoromethane (Surr	113	5.510	5.510	0.000	94	267650	43.5	
$ 5 1,2-Dichloroethane-d4 (Sur	65	5.924	5.924	0.000	88	270052	47.5	
$ 6 Toluene-d8 (Surr)	98	7.971	7.971	0.000	94	1085871	43.9	
$ 7 4-Bromofluorobenzene (Surr	95	10.314	10.314	0.000	0	313564	50.9	
9 Dichlorodifluoromethane	85		1.061				ND	
10 Chloromethane	50		1.203				ND	
11 Vinyl chloride	62		1.286				ND	
13 Bromomethane	94		1.534				ND	
15 Chloroethane	64		1.605				ND	
17 Trichlorofluoromethane	101		1.818				ND	
21 1,1-Dichloroethene	96		2.280				ND	
22 1,1,2-Trichloro-1,2,2-trif	151		2.303				ND	
24 Acetone	43	2.374	2.374	0.000	99	84801	27.9	
26 Carbon disulfide	76	2.469	2.469	0.000	100	22935	1.28	
30 Methylene Chloride	84	2.824	2.824	0.000	94	11589	1.77	
31 2-Methyl-2-propanol	59		3.061				ND	U
32 trans-1,2-Dichloroethene	96		3.143				ND	
33 Methyl tert-butyl ether	73		3.155				ND	
36 1,1-Dichloroethane	63		3.735				ND	
38 Isopropyl ether	87		3.889				ND	
39 Vinyl acetate	86		3.889				ND	
40 Tert-butyl ethyl ether	59		4.504				ND	
41 2,2-Dichloropropane	97		4.694				ND	
42 cis-1,2-Dichloroethene	96		4.729				ND	
43 2-Butanone (MEK)	43	4.847	4.836	0.011	99	9995	2.68	
46 Chlorobromomethane	128		5.108				ND	
49 Chloroform	83		5.273				ND	
50 1,1,1-Trichloroethane	97		5.451				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
52 Carbon tetrachloride	117		5.664				ND	
53 1,1-Dichloropropene	75		5.688				ND	
54 Benzene	78		5.948				ND	
56 1,2-Dichloroethane	62		6.019				ND	
57 Tert-amyl methyl ether	73		6.149				ND	
59 Trichloroethene	130		6.729				ND	
63 1,2-Dichloropropane	63		6.989				ND	
65 Dibromomethane	93		7.107				ND	
68 Dichlorobromomethane	83		7.297				ND	
70 2-Chloroethyl vinyl ether	63		7.640				ND	
71 cis-1,3-Dichloropropene	75		7.746				ND	
73 4-Methyl-2-pentanone (MIBK	43		7.924				ND	
74 Toluene	91	8.042	8.042	0.000	94	4766	0.1894	
75 trans-1,3-Dichloropropene	75		8.291				ND	
78 Tetrachloroethene	164		8.527				ND	
79 1,3-Dichloropropane	76		8.598				ND	
80 2-Hexanone	43		8.693				ND	
82 Chlorodibromomethane	129		8.800				ND	
83 Ethylene Dibromide	107		8.882				ND	
85 Chlorobenzene	112	9.309	9.308	0.000	97	65264	3.66	
86 1,1,1,2-Tetrachloroethane	131		9.391				ND	
87 Ethylbenzene	106		9.415				ND	
88 m-Xylene & p-Xylene	106	9.521	9.521	0.000	97	2229	0.2066	
89 o-Xylene	106		9.853				ND	
90 Styrene	104		9.876				ND	
91 Bromoform	173		10.042				ND	
92 Isopropylbenzene	105		10.172				ND	
94 Bromobenzene	156		10.433				ND	
95 1,1,2,2-Tetrachloroethane	83		10.456				ND	
96 1,2,3-Trichloropropane	110		10.492				ND	
98 N-Propylbenzene	120		10.527				ND	
99 2-Chlorotoluene	126		10.598				ND	
101 4-Chlorotoluene	126		10.693				ND	
103 tert-Butylbenzene	119		10.953				ND	
105 1,2,4-Trimethylbenzene	105	10.989	10.989	0.000	90	2554	0.1561	
107 sec-Butylbenzene	105		11.142				ND	
108 1,3-Dichlorobenzene	146	11.225	11.225	0.000	96	3009	0.2704	
109 4-Isopropyltoluene	119		11.261				ND	
110 1,4-Dichlorobenzene	146	11.308	11.308	0.000	93	12325	1.05	
111 1,2,3-Trimethylbenzene	105		11.344				ND	
113 n-Butylbenzene	91		11.604				ND	
114 1,2-Dichlorobenzene	146		11.616				ND	
115 1,2-Dibromo-3-Chloropropan	157		12.290				ND	
117 1,2,4-Trichlorobenzene	180	12.965	12.965	0.000	85	953	0.1295	
118 Hexachlorobutadiene	225		13.095				ND	
119 Naphthalene	128	13.166	13.166	0.000	93	2155	0.1264	
120 1,2,3-Trichlorobenzene	180		13.367				ND	
S 134 Xylenes, Total	106				0		0.2066	

TETRA TECH **INTERNAL CORRESPONDENCE**

TO: **S. BRENNER** **DATE:** **JANUARY 24, 2019**

FROM: **MICHELLE L. WOEBER** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC**
LOCKHEED MARTIN CORPORATION (LMC) – MIDDLE RIVER COMPLEX (MRC)
BLOCK F
SAMPLE DELIVERY GROUPS (SDGs) 240-103610-1 & 240-103714-1

SAMPLES: SDG 240-103610-1

3/Soil/VOC

SB-SEMW-10D-10-15 SB-SEMW-10D-20-28 SB-SEMW-10D-DUP

1/Aqueous/VOC

TB-102918

SDG 240-103714-1

4/Soil/VOC

SB-MW135A-2-5.5 SB-MW135B-12.5-18 SB-MW136A-1.2-2
SB-MW136B-15.8-18.5

1/Aqueous/VOC

TB-103018

Overview

The sample set for LMC-MRC Block F, SDGs 240-103610-1 & 240-103714-1 consisted of seven (7) aqueous environmental samples and two (2) trip blanks. All seven (7) soil samples and the two (2) trip blanks were analyzed for Volatile Organic Compounds (VOC). One field duplicate sample pair was included in SDG 240-103610-1: SB-SEMW-10D-DUP/SB-SEMW-10D-10-15.

The samples were collected by Tetra Tech, Inc. on October 29-31, 2018 and analyzed by TestAmerica, Inc. All analyses were conducted in accordance with SW-846 Methods 8260B analytical and reporting protocols.

The data contained in these SDGs were validated with regard to the following parameters: data completeness, holding times and sample preservation, initial/continuing calibrations, laboratory method blank and trip blank results, surrogate spike recoveries, laboratory control sample results, matrix spike/matrix spike duplicate results, internal standard areas, field duplicate precision, chromatographic resolution, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major

- As stated in the laboratory case narratives, 2-chloroethyl vinyl ether cannot be reliably recovered in an acid preserved samples. The non-detected results reported for this compound in the acid preserved trip blanks were qualified as rejected, (UR).

- A TIC identified as column bleed was detected in sample SB-MW135A-2-5.5. This TIC was qualified as rejected, (R).

Minor

- The continuing calibrations performed on instrument A3UX11 on 11/09/2018 @ 09:45 and 10:29 had Percent Differences for dichlorodifluoromethane, chloroethane, 1,1,2-trichlorotrifluoroethane, 2-butanone, bromochloromethane, 1,1,1-trichloroethane, carbon tetrachloride, 2-chloroethyl vinyl ether, 4-methyl-2-pentanone, tetrachloroethane, 2-hexanone, bromoform, n-propylbenzene, tert-butylbenzene, sec-butylbenzene, n-butylbenzene, naphthalene, tert-amyl methyl ether, and 1,2,3-trimethylbenzene and a Percent Drift (%Drift) for tert-butyl alcohol above the 20% quality control criteria. The detected and non-detected results reported for these compounds in the affected sample, TB-102918, were qualified as estimated, (J) and (UJ), respectively.

- The continuing calibration performed on instrument A3UX8 on 11/07/2018 @ 05:19 had a %D for naphthalene which exceeded the 20% quality control limit. Samples SB-SEMW-10D-10-15, SB-SEMW-10D-20-28, and SB-SEMW-10D-DUP were affected. The non-detected results reported for naphthalene in the affected samples were qualified as estimated, (UJ).

- The continuing calibration performed on instrument A3UX13 on 11/10/2018 @ 10:36 had %Ds for trichlorofluoromethane, 1,2-dibromo-3-chloropropane, 1,2,4-trichlorobenzene, hexachlorobutadiene, naphthalene, and 1,2,3-trichlorobenzene. Sample TB-103018 was affected. The non-detected results reported for these compounds in the trip blank were qualified as estimated, (UJ).

- The continuing calibrations performed on instrument A3UX8 on 11/13/2018 @ 22:52 and 23:15 had %Ds for ethyl tert-butyl ether, dichlorodifluoromethane, and chloromethane which exceeded the 20% quality control limit. Samples SB-MW135A-2-5.5, SB-MW135B-12.5-18, SB-MW136A-1.2-2, and SB-MW136B-15.8-18.5 were affected. The non-detected results, not rejected due to missed holding times, reported for these compounds in the affected samples were qualified as estimated, (UJ).

- Samples SB-MW135A-2-5.5 and SB-MW135B-12.5-18 were analyzed several hours outside the 14-day holding time but during the 14th day. This was due to instrument malfunction according to the laboratory's case narrative. The detected and non-detected results reported for the target compounds in these samples were qualified as estimated, (J) and (UJ), respectively.

- For SDG 240-103714-1, 1,2,3-trichlorobenzene and 1,2,4-trichlorobenzene were detected below the Reporting Limit (RL) in the soil laboratory method blank. The detected results reported below the RL for these compounds in the affected soil samples were qualified as non-detected, (U). The detected result for 1,2,4-trichlorobenzene which was greater than the RL was qualified as estimated, (J) because of its presence in the method blank.

- The Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses of sample SB-SEMW-10D-DUP had Percent Recoveries (%Rs) for trichloroethene above the upper quality control limit. The detected results reported for trichloroethene in the parent sample (field duplicate) and the sample associated with this field duplicate were qualified as estimated, (J).

- The Relative Percent Difference (RPD) for trichloroethene exceeded 50% for the field duplicate pair, SB-SEMW-10D-DUP/SB-SEMW-10D-10-15. The detected results reported for this compound in the field duplicate pair were qualified as estimated, (J).

- Tentatively Identified Compounds (TICs) were detected in the soil samples. The detected compounds were not included in the calibration. The TICs were qualified as presumptively present, (NJ).

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

Notes

Acetone and tert-butyl alcohol were detected in the trip blanks, TB-102918 and TB-103018. No action was taken because these compounds were not detected in the associated samples.

1,2,3-Trichlorobenzene was detected in the soil laboratory method blank below the RL in SDG 240-103610-1. No action was taken because this compound was not detected in the associated samples.

The aqueous Laboratory Control Sample (LCS) in SDG 240-103610-1 had a %R for bromochloromethane above the upper quality control limit. No action was taken because this compound was not detected in the associated trip blank.

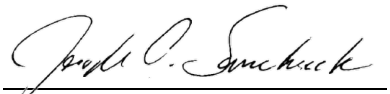
Non-detected results were reported to the MDL.

Executive Summary

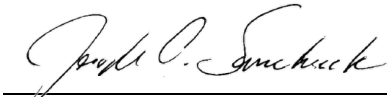
Laboratory Performance: Holding times were missed for two soil samples. Continuing calibration %Ds and %Drifts exceeded 20% for several compounds. Contaminants were detected the laboratory method blanks.

Other Factors Affecting Data Quality: The MS/MSD had high %Rs for trichloroethene. Field duplicate imprecision was noted for one compound. Results below the RL were estimated.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Organic Review" (January 2017). The text of this report has been formulated to address only those areas affecting data quality.



Tetra Tech, Inc.
for Michelle L. Woeber
Chemist/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

Data Qualifier Definitions

The following definitions provide brief explanations of the validation qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted detection limit.
J	The result is an estimated quantity. 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).
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
NJ	The analyte has been “tentatively identified” or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.
R	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.
UR	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.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team, but exclusion of the data is recommended.

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 x 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

PROJ_NO: 08667	NSAMPLE	SB-SEMW-10D-10-15			SB-SEMW-10D-20-28			SB-SEMW-10D-DUP		
SDG: 240-103610-1	LAB_ID	240-103610-2			240-103610-3			240-103610-4		
FRACTION: OV	SAMP_DATE	10/29/2018			10/29/2018			10/29/2018		
MEDIA: SOIL	QC_TYPE	NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	0.0			0.0			0.0		
	DUP_OF							SB-SEMW-10D-10-15		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		3.4	U		3.6	U		3.5	U	
1,1,1-TRICHLOROETHANE		0.93	U		0.98	U		0.96	U	
1,1,2,2-TETRACHLOROETHANE		1.6	U		1.7	U		1.7	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		1.5	U		1.5	U		1.5	U	
1,1-DICHLOROETHANE		0.79	U		0.83	U		0.81	U	
1,1-DICHLOROETHENE		1	U		1.1	U		1.1	U	
1,1-DICHLOROPROPENE		1.1	U		1.2	U		1.2	U	
1,2,3-TRICHLOROBENZENE		0.65	U		0.68	U		0.67	U	
1,2,3-TRICHLOROPROPANE		1.8	U		1.9	U		1.8	U	
1,2,3-TRIMETHYLBENZENE		2.1	U		2.2	U		2.1	U	
1,2,4-TRICHLOROBENZENE		0.65	U		0.68	U		0.67	U	
1,2,4-TRIMETHYLBENZENE		1.1	U		1.2	U		1.2	U	
1,2-DIBROMO-3-CHLOROPROPANE		4.1	U		4.3	U		4.2	U	
1,2-DIBROMOETHANE		0.87	U		0.92	U		0.9	U	
1,2-DICHLOROBENZENE		1.3	U		1.3	U		1.3	U	
1,2-DICHLOROETHANE		0.88	U		0.92	U		0.9	U	
1,2-DICHLOROPROPANE		0.97	U		1	U		0.99	U	
1,3-DICHLOROBENZENE		0.93	U		0.97	U		0.95	U	
1,3-DICHLOROPROPANE		1.1	U		1.2	U		1.2	U	
1,4-DICHLOROBENZENE		1	U		1.1	U		1	U	
2,2-DICHLOROPROPANE		1.4	U		1.4	U		1.4	U	
2-BUTANONE		4	U		4.2	U		4.2	U	
2-CHLOROETHYL VINYL ETHER		10	U		11	U		10	U	
2-CHLOROTOLUENE		1.1	U		1.1	U		1.1	U	
2-HEXANONE		4.6	U		4.9	U		4.8	U	
4-CHLOROTOLUENE		0.98	U		1	U		1	U	
4-ISOPROPYLTOLUENE		3.3	U		3.5	U		3.4	U	
4-METHYL-2-PENTANONE		4.2	U		4.4	U		4.3	U	
ACETONE		24	U		25	U		25	U	
BENZENE		0.79	U		0.83	U		0.82	U	
BROMOBENZENE		1.3	U		1.4	U		1.4	U	
BROMOCHLOROMETHANE		0.67	U		0.71	U		0.69	U	
BROMODICHLOROMETHANE		0.77	U		0.81	U		0.79	U	
BROMOFORM		2.7	U		2.9	U		2.8	U	
BROMOMETHANE		1.1	U		1.2	U		1.2	U	

PROJ_NO: 08667	NSAMPLE	SB-SEMW-10D-10-15			SB-SEMW-10D-20-28			SB-SEMW-10D-DUP		
SDG: 240-103610-1	LAB_ID	240-103610-2			240-103610-3			240-103610-4		
FRACTION: OV	SAMP_DATE	10/29/2018			10/29/2018			10/29/2018		
MEDIA: SOIL	QC_TYPE	NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	0.0			0.0			0.0		
	DUP_OF							SB-SEMW-10D-10-15		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON DISULFIDE		1.3	U		1.4	U		1.4	U	
CARBON TETRACHLORIDE		3.7	U		3.9	U		3.8	U	
CHLOROBENZENE		1	U		1.1	U		1.1	U	
CHLORODIBROMOMETHANE		3.2	U		3.3	U		3.2	U	
CHLOROETHANE		1.4	U		1.5	U		1.4	U	
CHLOROFORM		0.89	U		0.94	U		0.92	U	
CHLOROMETHANE		1.2	U		1.2	U		1.2	U	
CIS-1,2-DICHLOROETHENE		1.4	J	P	0.78	U		0.76	U	
CIS-1,3-DICHLOROPROPENE		1.6	U		1.7	U		1.7	U	
DIBROMOMETHANE		0.76	U		0.8	U		0.78	U	
DICHLORODIFLUOROMETHANE		1.1	U		1.1	U		1.1	U	
DIISOPROPYL ETHER		0.86	U		0.9	U		0.88	U	
ETHYL TERT-BUTYL ETHER		2.6	U		2.7	U		2.6	U	
ETHYLBENZENE		1.2	U		1.3	U		1.2	U	
HEXACHLOROBUTADIENE		4.2	U		4.5	U		4.4	U	
ISOPROPYLBENZENE		0.94	U		0.99	U		0.97	U	
M+P-XYLENES		0.89	U		0.94	U		0.91	U	
METHYL TERT-BUTYL ETHER		0.93	U		0.98	U		0.96	U	
METHYLENE CHLORIDE		14	U		14	U		14	U	
NAPHTHALENE		3.1	UJ	C	3.2	UJ	C	3.2	UJ	C
N-BUTYLBENZENE		3.9	U		4.1	U		4.1	U	
N-PROPYLBENZENE		0.83	U		0.87	U		0.86	U	
O-XYLENE		0.98	U		1	U		1	U	
SEC-BUTYLBENZENE		0.98	U		1	U		1	U	
STYRENE		1.3	U		1.4	U		1.4	U	
TERT-AMYL METHYL ETHER		2.6	U		2.7	U		2.6	U	
TERT-BUTYLBENZENE		1	U		1.1	U		1.1	U	
TERTIARY-BUTYL ALCOHOL		19	U		20	U		19	U	
TETRACHLOROETHENE		0.83	U		0.87	U		0.85	U	
TOLUENE		0.88	U		0.92	U		0.9	U	
TOTAL XYLENES		1.8	U		1.9	U		1.9	U	
TRANS-1,2-DICHLOROETHENE		0.53	U		0.56	U		0.54	U	
TRANS-1,3-DICHLOROPROPENE		1.2	U		1.2	U		1.2	U	
TRICHLOROETHENE		110	J	DG	7.3			49	J	DG
TRICHLOROFLUOROMETHANE		1.2	U		1.3	U		1.3	U	

PROJ_NO: 08667	NSAMPLE	SB-SEMW-10D-10-15			SB-SEMW-10D-20-28			SB-SEMW-10D-DUP		
SDG: 240-103610-1	LAB_ID	240-103610-2			240-103610-3			240-103610-4		
FRACTION: OV	SAMP_DATE	10/29/2018			10/29/2018			10/29/2018		
MEDIA: SOIL	QC_TYPE	NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	0.0			0.0			0.0		
	DUP_OF							SB-SEMW-10D-10-15		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
VINYL ACETATE		2.4	U		2.5	U		2.5	U	
VINYL CHLORIDE		0.95	U		1	U		0.98	U	

PROJ_NO: 08667	NSAMPLE	TB-102918		
SDG: 240-103610-1	LAB_ID	240-103610-1		
FRACTION: OV	SAMP_DATE	10/29/2018		
MEDIA: WATER	QC_TYPE	NM		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		0.14	U	
1,1,1-TRICHLOROETHANE		0.24	UJ	C
1,1,2,2-TETRACHLOROETHANE		0.13	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		0.41	UJ	C
1,1-DICHLOROETHANE		0.17	U	
1,1-DICHLOROETHENE		0.19	U	
1,1-DICHLOROPROPENE		0.14	U	
1,2,3-TRICHLOROBENZENE		0.54	U	
1,2,3-TRICHLOROPROPANE		0.24	U	
1,2,3-TRIMETHYLBENZENE		0.14	UJ	C
1,2,4-TRICHLOROBENZENE		0.26	U	
1,2,4-TRIMETHYLBENZENE		0.07	U	
1,2-DIBROMO-3-CHLOROPROPANE		0.91	U	
1,2-DIBROMOETHANE		0.12	U	
1,2-DICHLOROBENZENE		0.15	U	
1,2-DICHLOROETHANE		0.21	U	
1,2-DICHLOROPROPANE		0.15	U	
1,3-DICHLOROBENZENE		0.15	U	
1,3-DICHLOROPROPANE		0.21	U	
1,4-DICHLOROBENZENE		0.16	U	
2,2-DICHLOROPROPANE		0.31	U	
2-BUTANONE		1.2	UJ	C
2-CHLOROETHYL VINYL ETHER		0.26	UR	CM
2-CHLOROTOLUENE		0.15	U	
2-HEXANONE		0.54	UJ	C
4-CHLOROTOLUENE		0.09	U	
4-ISOPROPYLTOLUENE		0.13	U	
4-METHYL-2-PENTANONE		0.42	UJ	C
ACETONE		20		
BENZENE		0.13	U	
BROMOBENZENE		0.12	U	
BROMOCHLOROMETHANE		0.14	UJ	C
BROMODICHLOROMETHANE		0.17	U	
BROMOFORM		0.76	UJ	C
BROMOMETHANE		0.42	U	

PROJ_NO: 08667	NSAMPLE	TB-102918		
SDG: 240-103610-1	LAB_ID	240-103610-1		
FRACTION: OV	SAMP_DATE	10/29/2018		
MEDIA: WATER	QC_TYPE	NM		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
CARBON DISULFIDE		0.28	U	
CARBON TETRACHLORIDE		0.26	UJ	C
CHLOROBENZENE		0.14	U	
CHLORODIBROMOMETHANE		0.39	U	
CHLOROETHANE		0.83	UJ	C
CHLOROFORM		0.13	U	
CHLOROMETHANE		0.2	U	
CIS-1,2-DICHLOROETHENE		0.16	U	
CIS-1,3-DICHLOROPROPENE		0.61	U	
DIBROMOMETHANE		0.09	U	
DICHLORODIFLUOROMETHANE		0.35	UJ	C
DIISOPROPYL ETHER		0.17	U	
ETHYL TERT-BUTYL ETHER		0.15	U	
ETHYLBENZENE		0.11	U	
HEXACHLOROBUTADIENE		0.83	U	
ISOPROPYLBENZENE		0.09	U	
METHYL TERT-BUTYL ETHER		0.07	U	
METHYLENE CHLORIDE		2.6	U	
NAPHTHALENE		0.32	UJ	C
N-BUTYLBENZENE		0.14	UJ	C
N-PROPYLBENZENE		0.15	UJ	C
SEC-BUTYLBENZENE		0.13	UJ	C
STYRENE		0.1	U	
TERT-AMYL METHYL ETHER		0.11	UJ	C
TERT-BUTYLBENZENE		0.14	UJ	C
TERTIARY-BUTYL ALCOHOL		38	J	CP
TETRACHLOROETHENE		0.15	UJ	C
TOLUENE		0.14	U	
TOTAL XYLENES		0.15	U	
TRANS-1,2-DICHLOROETHENE		0.19	U	
TRANS-1,3-DICHLOROPROPENE		0.67	U	
TRICHLOROETHENE		0.1	U	
TRICHLOROFLUOROMETHANE		0.45	U	
VINYL ACETATE		0.19	U	
VINYL CHLORIDE		0.2	U	

PROJ_NO: 08667	NSAMPLE	SB-SEMW-10D-10-15			SB-SEMW-10D-20-28			SB-SEMW-10D-DUP		
SDG: 240-103610-1	LAB_ID	240-103610-2			240-103610-3			240-103610-4		
FRACTION: TICOV	SAMP_DATE	10/29/2018			10/29/2018			10/29/2018		
MEDIA: SOIL	QC_TYPE	NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	0.0			0.0			0.0		
	DUP_OF							SB-SEMW-10D-10-15		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
UNKNOWN [3.31]					19	NJ	Z1			
UNKNOWN [3.32]		17	NJ	Z1				18	NJ	Z1
UNKNOWN [4.23]					21	NJ	Z1			

PROJ_NO: 08667	NSAMPLE	TB-103018		
SDG: 240-103714-1	LAB_ID	240-103714-1		
FRACTION: OV	SAMP_DATE	10/30/2018		
MEDIA: WATER	QC_TYPE	TB		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		0.14	U	
1,1,1-TRICHLOROETHANE		0.24	U	
1,1,2,2-TETRACHLOROETHANE		0.13	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		0.41	U	
1,1-DICHLOROETHANE		0.17	U	
1,1-DICHLOROETHENE		0.19	U	
1,1-DICHLOROPROPENE		0.14	U	
1,2,3-TRICHLOROBENZENE		0.54	U	
1,2,3-TRICHLOROPROPANE		0.24	U	
1,2,3-TRIMETHYLBENZENE		0.14	UJ	C
1,2,4-TRICHLOROBENZENE		0.26	UJ	C
1,2,4-TRIMETHYLBENZENE		0.07	U	
1,2-DIBROMO-3-CHLOROPROPANE		0.91	UJ	C
1,2-DIBROMOETHANE		0.12	U	
1,2-DICHLOROBENZENE		0.15	U	
1,2-DICHLOROETHANE		0.21	U	
1,2-DICHLOROPROPANE		0.15	U	
1,3-DICHLOROBENZENE		0.15	U	
1,3-DICHLOROPROPANE		0.21	U	
1,4-DICHLOROBENZENE		0.16	U	
2,2-DICHLOROPROPANE		0.31	U	
2-BUTANONE		1.2	U	
2-CHLOROETHYL VINYL ETHER		0.26	UR	M
2-CHLOROTOLUENE		0.15	U	
2-HEXANONE		0.54	U	
4-CHLOROTOLUENE		0.09	U	
4-ISOPROPYLTOLUENE		0.13	U	
4-METHYL-2-PENTANONE		0.42	U	
ACETONE		5.7	J	P
BENZENE		0.13	U	
BROMOBENZENE		0.12	U	
BROMOCHLOROMETHANE		0.14	U	
BROMODICHLOROMETHANE		0.17	U	
BROMOFORM		0.76	U	
BROMOMETHANE		0.42	U	

PROJ_NO: 08667	NSAMPLE	TB-103018		
SDG: 240-103714-1	LAB_ID	240-103714-1		
FRACTION: OV	SAMP_DATE	10/30/2018		
MEDIA: WATER	QC_TYPE	TB		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
CARBON DISULFIDE		0.28	U	
CARBON TETRACHLORIDE		0.26	U	
CHLOROBENZENE		0.14	U	
CHLORODIBROMOMETHANE		0.39	U	
CHLOROETHANE		0.83	U	
CHLOROFORM		0.13	U	
CHLOROMETHANE		0.2	U	
CIS-1,2-DICHLOROETHENE		0.16	U	
CIS-1,3-DICHLOROPROPENE		0.61	U	
DIBROMOMETHANE		0.09	U	
DICHLORODIFLUOROMETHANE		0.35	U	
DIISOPROPYL ETHER		0.17	U	
ETHYL TERT-BUTYL ETHER		0.15	U	
ETHYLBENZENE		0.11	U	
HEXACHLOROBUTADIENE		0.83	UJ	C
ISOPROPYLBENZENE		0.09	U	
METHYL TERT-BUTYL ETHER		0.07	U	
METHYLENE CHLORIDE		2.6	U	
NAPHTHALENE		0.32	UJ	C
N-BUTYLBENZENE		0.14	U	
N-PROPYLBENZENE		0.15	U	
SEC-BUTYLBENZENE		0.13	U	
STYRENE		0.1	U	
TERT-AMYL METHYL ETHER		0.11	U	
TERT-BUTYLBENZENE		0.14	U	
TERTIARY-BUTYL ALCOHOL		12	J	P
TETRACHLOROETHENE		0.15	U	
TOLUENE		0.14	U	
TOTAL XYLENES		0.15	U	
TRANS-1,2-DICHLOROETHENE		0.19	U	
TRANS-1,3-DICHLOROPROPENE		0.67	U	
TRICHLOROETHENE		0.1	U	
TRICHLOROFLUOROMETHANE		0.45	U	
VINYL ACETATE		0.19	U	
VINYL CHLORIDE		0.2	U	

PROJ_NO: 08667	NSAMPLE	SB-MW135A-2-5.5			SB-MW135B-12.5-18			SB-MW136A-1.2-2			SB-MW136B-15.8-18.5		
SDG: 240-103714-1	LAB_ID	240-103714-2			240-103714-3			240-103714-4			240-103714-5		
FRACTION: OV	SAMP_DATE	10/30/2018			10/30/2018			10/31/2018			10/31/2018		
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	85.0			83.1			87.0			84.8		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		3.3	UJ	H	3.5	UJ	H	3.4	U		3.4	U	
1,1,1-TRICHLOROETHANE		0.92	UJ	H	0.96	UJ	H	0.94	U		0.93	U	
1,1,2,2-TETRACHLOROETHANE		1.6	UJ	H	1.7	UJ	H	1.6	U		1.6	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		1.4	UJ	H	1.5	UJ	H	1.5	U		1.4	U	
1,1-DICHLOROETHANE		0.78	UJ	H	0.81	UJ	H	0.8	U		0.78	U	
1,1-DICHLOROETHENE		1	UJ	H	1.1	UJ	H	1	U		1	U	
1,1-DICHLOROPROPENE		1.1	UJ	H	1.2	UJ	H	1.1	U		1.1	U	
1,2,3-TRICHLOROBENZENE		0.64	UJ	H	4	U	A	0.66	U		0.65	U	
1,2,3-TRICHLOROPROPANE		1.8	UJ	H	1.8	UJ	H	1.8	U		1.8	U	
1,2,3-TRIMETHYLBENZENE		2	UJ	H	2.1	UJ	H	2.1	U		2.1	U	
1,2,4-TRICHLOROBENZENE		0.64	UJ	H	17	J	AH	0.66	U		0.65	U	
1,2,4-TRIMETHYLBENZENE		1.1	UJ	H	1.2	UJ	H	1.2	U		1.1	U	
1,2-DIBROMO-3-CHLOROPROPANE		4	UJ	H	4.2	UJ	H	4.1	U		4.1	U	
1,2-DIBROMOETHANE		0.86	UJ	H	0.9	UJ	H	0.88	U		0.87	U	
1,2-DICHLOROBENZENE		1.2	UJ	H	1.3	UJ	H	1.3	U		1.3	U	
1,2-DICHLOROETHANE		0.86	UJ	H	0.9	UJ	H	0.89	U		0.87	U	
1,2-DICHLOROPROPANE		0.95	UJ	H	0.99	UJ	H	0.98	U		0.96	U	
1,3-DICHLOROBENZENE		0.91	UJ	H	0.95	UJ	H	0.94	U		0.92	U	
1,3-DICHLOROPROPANE		1.1	UJ	H	1.2	UJ	H	1.1	U		1.1	U	
1,4-DICHLOROBENZENE		0.99	UJ	H	1	UJ	H	1	U		1	U	
2,2-DICHLOROPROPANE		1.3	UJ	H	1.4	UJ	H	1.4	U		1.3	U	
2-BUTANONE		4	UJ	H	4.2	UJ	H	4.1	U		4	U	
2-CHLOROETHYL VINYL ETHER		10	UJ	H	10	UJ	H	10	U		10	U	
2-CHLOROTOLUENE		1.1	UJ	H	1.1	UJ	H	1.1	U		1.1	U	
2-HEXANONE		4.6	UJ	H	4.8	UJ	H	4.7	U		4.6	U	
4-CHLOROTOLUENE		0.97	UJ	H	1	UJ	H	0.99	U		0.97	U	
4-ISOPROPYLTOLUENE		3.3	UJ	H	3.4	UJ	H	3.4	U		3.3	U	
4-METHYL-2-PENTANONE		4.2	UJ	H	4.3	UJ	H	4.3	U		4.2	U	
ACETONE		24	UJ	H	25	UJ	H	24	U		24	U	
BENZENE		0.78	UJ	H	0.82	UJ	H	0.8	U		0.79	U	
BROMOBENZENE		1.3	UJ	H	1.4	UJ	H	1.3	U		1.3	U	
BROMOCHLOROMETHANE		0.67	UJ	H	0.69	UJ	H	0.68	U		0.67	U	
BROMODICHLOROMETHANE		0.76	UJ	H	0.79	UJ	H	0.78	U		0.77	U	
BROMOFORM		2.7	UJ	H	2.8	UJ	H	2.8	U		2.7	U	
BROMOMETHANE		1.1	UJ	H	1.2	UJ	H	1.1	U		1.1	U	

PROJ_NO: 08667	NSAMPLE	SB-MW135A-2-5.5			SB-MW135B-12.5-18			SB-MW136A-1.2-2			SB-MW136B-15.8-18.5		
SDG: 240-103714-1	LAB_ID	240-103714-2			240-103714-3			240-103714-4			240-103714-5		
FRACTION: OV	SAMP_DATE	10/30/2018			10/30/2018			10/31/2018			10/31/2018		
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	85.0			83.1			87.0			84.8		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON DISULFIDE		1.3	UJ	H	1.4	UJ	H	1.3	U		1.3	U	
CARBON TETRACHLORIDE		3.6	UJ	H	3.8	UJ	H	3.7	U		3.7	U	
CHLOROBENZENE		1	UJ	H	1.1	UJ	H	1.1	U		1	U	
CHLORODIBROMOMETHANE		3.1	UJ	H	3.3	UJ	H	3.2	U		3.1	U	
CHLOROETHANE		1.4	UJ	H	1.4	UJ	H	1.4	U		1.4	U	
CHLOROFORM		0.88	UJ	H	0.92	UJ	H	0.91	U		0.89	U	
CHLOROMETHANE		1.2	UJ	H	1.2	UJ	H	1.2	UJ	C	1.2	UJ	C
CIS-1,2-DICHLOROETHENE		0.73	UJ	H	0.76	UJ	H	0.75	U		0.74	U	
CIS-1,3-DICHLOROPROPENE		1.6	UJ	H	1.7	UJ	H	1.7	U		1.6	U	
DIBROMOMETHANE		0.75	UJ	H	0.78	UJ	H	0.77	U		0.76	U	
DICHLORODIFLUOROMETHANE		1.1	UJ	H	1.1	UJ	H	1.1	UJ	C	1.1	UJ	C
DIISOPROPYL ETHER		0.85	UJ	H	0.88	UJ	H	0.87	U		0.86	U	
ETHYL TERT-BUTYL ETHER		2.5	UJ	H	2.6	UJ	H	2.6	UJ	C	2.5	UJ	C
ETHYLBENZENE		1.2	UJ	H	1.2	UJ	H	1.2	U		1.2	U	
HEXACHLOROBUTADIENE		4.2	UJ	H	4.4	UJ	H	4.3	U		4.2	U	
ISOPROPYLBENZENE		0.93	UJ	H	0.97	UJ	H	0.96	U		0.94	U	
M+P-XYLENES		0.88	UJ	H	0.91	UJ	H	0.9	U		0.88	U	
METHYL TERT-BUTYL ETHER		0.92	UJ	H	0.96	UJ	H	0.94	U		0.93	U	
METHYLENE CHLORIDE		13	UJ	H	14	UJ	H	14	U		14	U	
NAPHTHALENE		3	UJ	H	3.2	UJ	H	3.1	U		3	U	
N-BUTYLBENZENE		3.9	UJ	H	4.1	UJ	H	4	U		3.9	U	
N-PROPYLBENZENE		0.82	UJ	H	0.86	UJ	H	0.84	U		0.83	U	
O-XYLENE		0.96	UJ	H	1	UJ	H	0.99	U		0.97	U	
SEC-BUTYLBENZENE		0.97	UJ	H	1	UJ	H	0.99	U		0.98	U	
STYRENE		1.3	UJ	H	1.4	UJ	H	1.3	U		1.3	U	
TERT-AMYL METHYL ETHER		2.5	UJ	H	2.6	UJ	H	2.6	U		2.5	U	
TERT-BUTYLBENZENE		1	UJ	H	1.1	UJ	H	1	U		1	U	
TERTIARY-BUTYL ALCOHOL		18	UJ	H	19	UJ	H	19	U		19	U	
TETRACHLOROETHENE		0.82	UJ	H	0.85	UJ	H	0.84	U		0.82	U	
TOLUENE		0.87	UJ	H	0.9	UJ	H	0.89	U		0.87	U	
TOTAL XYLENES		1.8	UJ	H	1.9	UJ	H	1.8	U		1.8	U	
TRANS-1,2-DICHLOROETHENE		0.52	UJ	H	0.54	UJ	H	0.53	U		0.53	U	
TRANS-1,3-DICHLOROPROPENE		1.2	UJ	H	1.2	UJ	H	1.2	U		1.2	U	
TRICHLOROETHENE		0.71	UJ	H	0.74	UJ	H	0.73	U		0.72	U	
TRICHLOROFLUOROMETHANE		1.2	UJ	H	1.3	UJ	H	1.2	U		1.2	U	

PROJ_NO: 08667	NSAMPLE	SB-MW135A-2-5.5			SB-MW135B-12.5-18			SB-MW136A-1.2-2			SB-MW136B-15.8-18.5		
SDG: 240-103714-1	LAB_ID	240-103714-2			240-103714-3			240-103714-4			240-103714-5		
FRACTION: OV	SAMP_DATE	10/30/2018			10/30/2018			10/31/2018			10/31/2018		
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	85.0			83.1			87.0			84.8		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
VINYL ACETATE		2.4	UJ	H	2.5	UJ	H	2.4	U		2.4	U	
VINYL CHLORIDE		0.94	UJ	H	0.98	UJ	H	0.96	U		0.95	U	

Appendix B

Results as Reported by the Laboratory

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103610-1

SDG No.:

Client Sample ID: TB-102918 | Lab Sample ID: 240-103610-1

Matrix: Water | Lab File ID: UXJ6226.D

Analysis Method: 8260B | Date Collected: 10/29/2018 00:00

Sample wt/vol: 5(mL) | Date Analyzed: 11/09/2018 17:52

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.: 354546 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	20		10	5.4
630-20-6	1,1,1,2-Tetrachloroethane	0.14	U	1.0	0.14
71-43-2	Benzene	0.13	U	1.0	0.13
75-27-4	Bromodichloromethane	0.17	U	1.0	0.17
75-25-2	Bromoform	0.76	U	1.0	0.76
74-83-9	Bromomethane	0.42	U	1.0	0.42
78-93-3	2-Butanone (MEK)	1.2	U	10	1.2
75-15-0	Carbon disulfide	0.28	U	1.0	0.28
56-23-5	Carbon tetrachloride	0.26	U	1.0	0.26
108-90-7	Chlorobenzene	0.14	U	1.0	0.14
75-00-3	Chloroethane	0.83	U	1.0	0.83
67-66-3	Chloroform	0.13	U	1.0	0.13
563-58-6	1,1-Dichloropropene	0.14	U	1.0	0.14
74-87-3	Chloromethane	0.20	U	1.0	0.20
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17
87-61-6	1,2,3-Trichlorobenzene	0.54	U	1.0	0.54
96-18-4	1,2,3-Trichloropropane	0.24	U	1.0	0.24
107-06-2	1,2-Dichloroethane	0.21	U	1.0	0.21
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19
526-73-8	1,2,3-Trimethylbenzene	0.14	U	5.0	0.14
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15
95-63-6	1,2,4-Trimethylbenzene	0.070	U	1.0	0.070
10061-01-5	cis-1,3-Dichloropropene	0.61	U	1.0	0.61
10061-02-6	trans-1,3-Dichloropropene	0.67	U	1.0	0.67
100-41-4	Ethylbenzene	0.11	U	1.0	0.11
591-78-6	2-Hexanone	0.54	U	10	0.54
75-09-2	Methylene Chloride	2.6	U	5.0	2.6
108-10-1	4-Methyl-2-pentanone (MIBK)	0.42	U	10	0.42
100-42-5	Styrene	0.10	U	1.0	0.10
79-34-5	1,1,2,2-Tetrachloroethane	0.13	U	1.0	0.13
127-18-4	Tetrachloroethene	0.15	U	1.0	0.15
108-88-3	Toluene	0.14	U	1.0	0.14
79-01-6	Trichloroethene	0.10	U	1.0	0.10
75-01-4	Vinyl chloride	0.20	U	1.0	0.20
1330-20-7	Xylenes, Total	0.15	U	2.0	0.15
71-55-6	1,1,1-Trichloroethane	0.24	U	1.0	0.24

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103610-1

SDG No.:

Client Sample ID: TB-102918 | Lab Sample ID: 240-103610-1

Matrix: Water | Lab File ID: UXJ6226.D

Analysis Method: 8260B | Date Collected: 10/29/2018 00:00

Sample wt/vol: 5(mL) | Date Analyzed: 11/09/2018 17:52

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.: 354546 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.21	U	1.0	0.21
96-12-8	1,2-Dibromo-3-Chloropropane	0.91	U	2.0	0.91
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12
75-71-8	Dichlorodifluoromethane	0.35	U	1.0	0.35
156-59-2	cis-1,2-Dichloroethene	0.16	U	1.0	0.16
156-60-5	trans-1,2-Dichloroethene	0.19	U	1.0	0.19
98-82-8	Isopropylbenzene	0.090	U	1.0	0.090
1634-04-4	Methyl tert-butyl ether	0.070	U	1.0	0.070
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
120-82-1	1,2,4-Trichlorobenzene	0.26	U	1.0	0.26
594-20-7	2,2-Dichloropropane	0.31	U	1.0	0.31
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.15	U	1.0	0.15
106-46-7	1,4-Dichlorobenzene	0.16	U	1.0	0.16
110-75-8	2-Chloroethyl vinyl ether	0.26	U	10	0.26
75-69-4	Trichlorofluoromethane	0.45	U	1.0	0.45
95-49-8	2-Chlorotoluene	0.15	U	1.0	0.15
124-48-1	Chlorodibromomethane	0.39	U	1.0	0.39
108-86-1	Bromobenzene	0.12	U	1.0	0.12
74-97-5	Bromochloromethane	0.14	U *	1.0	0.14
106-43-4	4-Chlorotoluene	0.090	U	1.0	0.090
99-87-6	4-Isopropyltoluene	0.13	U	1.0	0.13
87-68-3	Hexachlorobutadiene	0.83	U	1.0	0.83
74-95-3	Dibromomethane	0.090	U	1.0	0.090
108-20-3	Diisopropyl ether	0.17	U	10	0.17
91-20-3	Naphthalene	0.32	U	1.0	0.32
104-51-8	n-Butylbenzene	0.14	U	1.0	0.14
103-65-1	N-Propylbenzene	0.15	U	1.0	0.15
135-98-8	sec-Butylbenzene	0.13	U	1.0	0.13
994-05-8	Tert-amyl methyl ether	0.11	U	5.0	0.11
637-92-3	Ethyl tert-butyl ether	0.15	U	5.0	0.15
98-06-6	tert-Butylbenzene	0.14	U	1.0	0.14
108-05-4	Vinyl acetate	0.19	U	2.0	0.19
75-65-0	tert-Butyl alcohol	38	J	50	1.7

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103610-1

SDG No.:

Client Sample ID: TB-102918 | Lab Sample ID: 240-103610-1

Matrix: Water | Lab File ID: UXJ6226.D

Analysis Method: 8260B | Date Collected: 10/29/2018 00:00

Sample wt/vol: 5(mL) | Date Analyzed: 11/09/2018 17:52

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.: 354546 | Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	108		70-121
460-00-4	4-Bromofluorobenzene (Surr)	79		59-120
2037-26-5	Toluene-d8 (Surr)	77		70-123
1868-53-7	Dibromofluoromethane (Surr)	123		75-128

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103610-1

SDG No.:

Client Sample ID: SB-SEMW-10D-10-15 | Lab Sample ID: 240-103610-2

Matrix: Solid | Lab File ID: UX80652.D

Analysis Method: 8260B | Date Collected: 10/29/2018 11:20

Sample wt/vol: 5.33(g) | Date Analyzed: 11/07/2018 15:12

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 17.3 | Level: (low/med) Low

Analysis Batch No.: 354032 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	3.4	U	5.7	3.4
71-55-6	1,1,1-Trichloroethane	0.93	U	5.7	0.93
79-34-5	1,1,2,2-Tetrachloroethane	1.6	U	5.7	1.6
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.5	U	5.7	1.5
75-34-3	1,1-Dichloroethane	0.79	U	5.7	0.79
75-35-4	1,1-Dichloroethene	1.0	U	5.7	1.0
563-58-6	1,1-Dichloropropene	1.1	U	5.7	1.1
87-61-6	1,2,3-Trichlorobenzene	0.65	U	5.7	0.65
96-18-4	1,2,3-Trichloropropane	1.8	U	5.7	1.8
526-73-8	1,2,3-Trimethylbenzene	2.1	U	5.7	2.1
120-82-1	1,2,4-Trichlorobenzene	0.65	U	5.7	0.65
95-63-6	1,2,4-Trimethylbenzene	1.1	U	5.7	1.1
96-12-8	1,2-Dibromo-3-Chloropropane	4.1	U	11	4.1
95-50-1	1,2-Dichlorobenzene	1.3	U	5.7	1.3
107-06-2	1,2-Dichloroethane	0.88	U	5.7	0.88
78-87-5	1,2-Dichloropropane	0.97	U	5.7	0.97
541-73-1	1,3-Dichlorobenzene	0.93	U	5.7	0.93
142-28-9	1,3-Dichloropropane	1.1	U	5.7	1.1
106-46-7	1,4-Dichlorobenzene	1.0	U	5.7	1.0
594-20-7	2,2-Dichloropropane	1.4	U	5.7	1.4
110-75-8	2-Chloroethyl vinyl ether	10	U	57	10
95-49-8	2-Chlorotoluene	1.1	U	5.7	1.1
591-78-6	2-Hexanone	4.6	U	23	4.6
108-86-1	Bromobenzene	1.3	U	5.7	1.3
74-97-5	Bromochloromethane	0.67	U	5.7	0.67
106-43-4	4-Chlorotoluene	0.98	U	5.7	0.98
99-87-6	p-Isopropyltoluene	3.3	U	5.7	3.3
67-64-1	Acetone	24	U	28	24
71-43-2	Benzene	0.79	U	5.7	0.79
75-25-2	Bromoform	2.7	U	5.7	2.7
74-83-9	Bromomethane	1.1	U	5.7	1.1
75-15-0	Carbon disulfide	1.3	U	5.7	1.3
56-23-5	Carbon tetrachloride	3.7	U	5.7	3.7
108-90-7	Chlorobenzene	1.0	U	5.7	1.0
75-00-3	Chloroethane	1.4	U	5.7	1.4

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103610-1

SDG No.:

Client Sample ID: SB-SEMW-10D-10-15 | Lab Sample ID: 240-103610-2

Matrix: Solid | Lab File ID: UX80652.D

Analysis Method: 8260B | Date Collected: 10/29/2018 11:20

Sample wt/vol: 5.33(g) | Date Analyzed: 11/07/2018 15:12

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 17.3 | Level: (low/med) Low

Analysis Batch No.: 354032 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-66-3	Chloroform	0.89	U	5.7	0.89
74-87-3	Chloromethane	1.2	U	5.7	1.2
156-59-2	cis-1,2-Dichloroethene	1.4	J	5.7	0.74
10061-01-5	cis-1,3-Dichloropropene	1.6	U	5.7	1.6
87-68-3	Hexachlorobutadiene	4.2	U	5.7	4.2
74-95-3	Dibromomethane	0.76	U	5.7	0.76
75-27-4	Bromodichloromethane	0.77	U	5.7	0.77
75-71-8	Dichlorodifluoromethane	1.1	U	5.7	1.1
100-41-4	Ethylbenzene	1.2	U	5.7	1.2
106-93-4	1,2-Dibromoethane	0.87	U	5.7	0.87
108-20-3	Diisopropyl ether	0.86	U	11	0.86
91-20-3	Naphthalene	3.1	U	5.7	3.1
179601-23-1	m-Xylene & p-Xylene	0.89	U	11	0.89
104-51-8	n-Butylbenzene	3.9	U	5.7	3.9
98-82-8	Isopropylbenzene	0.94	U	5.7	0.94
103-65-1	N-Propylbenzene	0.83	U	5.7	0.83
78-93-3	2-Butanone (MEK)	4.0	U	23	4.0
108-10-1	4-Methyl-2-pentanone (MIBK)	4.2	U	23	4.2
135-98-8	sec-Butylbenzene	0.98	U	5.7	0.98
1634-04-4	Methyl tert-butyl ether	0.93	U	5.7	0.93
994-05-8	Tert-amyl methyl ether	2.6	U	5.7	2.6
75-09-2	Methylene Chloride	14	U	28	14
95-47-6	o-Xylene	0.98	U	5.7	0.98
100-42-5	Styrene	1.3	U	5.7	1.3
637-92-3	Ethyl tert-butyl ether	2.6	U	5.7	2.6
98-06-6	tert-Butylbenzene	1.0	U	5.7	1.0
127-18-4	Tetrachloroethene	0.83	U	5.7	0.83
108-88-3	Toluene	0.88	U	5.7	0.88
156-60-5	trans-1,2-Dichloroethene	0.53	U	5.7	0.53
10061-02-6	trans-1,3-Dichloropropene	1.2	U	5.7	1.2
79-01-6	Trichloroethene	110		5.7	0.72
75-69-4	Trichlorofluoromethane	1.2	U	5.7	1.2
108-05-4	Vinyl acetate	2.4	U	11	2.4
75-01-4	Vinyl chloride	0.95	U	5.7	0.95
75-65-0	tert-Butyl alcohol	19	U	230	19
1330-20-7	Xylenes, Total	1.8	U	11	1.8

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103610-1

SDG No.:

Client Sample ID: SB-SEMW-10D-10-15 | Lab Sample ID: 240-103610-2

Matrix: Solid | Lab File ID: UX80652.D

Analysis Method: 8260B | Date Collected: 10/29/2018 11:20

Sample wt/vol: 5.33(g) | Date Analyzed: 11/07/2018 15:12

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 17.3 | Level: (low/med) Low

Analysis Batch No.: 354032 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	3.2	U	5.7	3.2

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	82		48-123
460-00-4	4-Bromofluorobenzene (Surr)	75		49-141
2037-26-5	Toluene-d8 (Surr)	88		62-135
1868-53-7	Dibromofluoromethane (Surr)	84		49-132

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

Lab Name: TestAmerica Canton | Job No.: 240-103610-1

SDG No.:

Client Sample ID: SB-SEMW-10D-10-15 | Lab Sample ID: 240-103610-2

Matrix: Solid | Lab File ID: UX80652.D

Analysis Method: 8260B | Date Collected: 10/29/2018 11:20

Sample wt/vol: 5.33(g) | Date Analyzed: 11/07/2018 15:12

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 17.3 | Level: (low/med) Low

Analysis Batch No.: 354032 | Units: ug/Kg

Number TICs Found: 1 | TIC Result Total: 17

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Unknown	3.32	17	T J	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103610-1

SDG No.:

Client Sample ID: SB-SEMW-10D-20-28 | Lab Sample ID: 240-103610-3

Matrix: Solid | Lab File ID: UX80653.D

Analysis Method: 8260B | Date Collected: 10/29/2018 12:30

Sample wt/vol: 5.07(g) | Date Analyzed: 11/07/2018 15:33

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 17.4 | Level: (low/med) Low

Analysis Batch No.: 354032 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	3.6	U	6.0	3.6
71-55-6	1,1,1-Trichloroethane	0.98	U	6.0	0.98
79-34-5	1,1,2,2-Tetrachloroethane	1.7	U	6.0	1.7
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.5	U	6.0	1.5
75-34-3	1,1-Dichloroethane	0.83	U	6.0	0.83
75-35-4	1,1-Dichloroethene	1.1	U	6.0	1.1
563-58-6	1,1-Dichloropropene	1.2	U	6.0	1.2
87-61-6	1,2,3-Trichlorobenzene	0.68	U	6.0	0.68
96-18-4	1,2,3-Trichloropropane	1.9	U	6.0	1.9
526-73-8	1,2,3-Trimethylbenzene	2.2	U	6.0	2.2
120-82-1	1,2,4-Trichlorobenzene	0.68	U	6.0	0.68
95-63-6	1,2,4-Trimethylbenzene	1.2	U	6.0	1.2
96-12-8	1,2-Dibromo-3-Chloropropane	4.3	U	12	4.3
95-50-1	1,2-Dichlorobenzene	1.3	U	6.0	1.3
107-06-2	1,2-Dichloroethane	0.92	U	6.0	0.92
78-87-5	1,2-Dichloropropane	1.0	U	6.0	1.0
541-73-1	1,3-Dichlorobenzene	0.97	U	6.0	0.97
142-28-9	1,3-Dichloropropane	1.2	U	6.0	1.2
106-46-7	1,4-Dichlorobenzene	1.1	U	6.0	1.1
594-20-7	2,2-Dichloropropane	1.4	U	6.0	1.4
110-75-8	2-Chloroethyl vinyl ether	11	U	60	11
95-49-8	2-Chlorotoluene	1.1	U	6.0	1.1
591-78-6	2-Hexanone	4.9	U	24	4.9
108-86-1	Bromobenzene	1.4	U	6.0	1.4
74-97-5	Bromochloromethane	0.71	U	6.0	0.71
106-43-4	4-Chlorotoluene	1.0	U	6.0	1.0
99-87-6	p-Isopropyltoluene	3.5	U	6.0	3.5
67-64-1	Acetone	25	U	30	25
71-43-2	Benzene	0.83	U	6.0	0.83
75-25-2	Bromoform	2.9	U	6.0	2.9
74-83-9	Bromomethane	1.2	U	6.0	1.2
75-15-0	Carbon disulfide	1.4	U	6.0	1.4
56-23-5	Carbon tetrachloride	3.9	U	6.0	3.9
108-90-7	Chlorobenzene	1.1	U	6.0	1.1
75-00-3	Chloroethane	1.5	U	6.0	1.5

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103610-1

SDG No.:

Client Sample ID: SB-SEMW-10D-20-28 | Lab Sample ID: 240-103610-3

Matrix: Solid | Lab File ID: UX80653.D

Analysis Method: 8260B | Date Collected: 10/29/2018 12:30

Sample wt/vol: 5.07(g) | Date Analyzed: 11/07/2018 15:33

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 17.4 | Level: (low/med) Low

Analysis Batch No.: 354032 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-66-3	Chloroform	0.94	U	6.0	0.94
74-87-3	Chloromethane	1.2	U	6.0	1.2
156-59-2	cis-1,2-Dichloroethene	0.78	U	6.0	0.78
10061-01-5	cis-1,3-Dichloropropene	1.7	U	6.0	1.7
87-68-3	Hexachlorobutadiene	4.5	U	6.0	4.5
74-95-3	Dibromomethane	0.80	U	6.0	0.80
75-27-4	Bromodichloromethane	0.81	U	6.0	0.81
75-71-8	Dichlorodifluoromethane	1.1	U	6.0	1.1
100-41-4	Ethylbenzene	1.3	U	6.0	1.3
106-93-4	1,2-Dibromoethane	0.92	U	6.0	0.92
108-20-3	Diisopropyl ether	0.90	U	12	0.90
91-20-3	Naphthalene	3.2	U	6.0	3.2
179601-23-1	m-Xylene & p-Xylene	0.94	U	12	0.94
104-51-8	n-Butylbenzene	4.1	U	6.0	4.1
98-82-8	Isopropylbenzene	0.99	U	6.0	0.99
103-65-1	N-Propylbenzene	0.87	U	6.0	0.87
78-93-3	2-Butanone (MEK)	4.2	U	24	4.2
108-10-1	4-Methyl-2-pentanone (MIBK)	4.4	U	24	4.4
135-98-8	sec-Butylbenzene	1.0	U	6.0	1.0
1634-04-4	Methyl tert-butyl ether	0.98	U	6.0	0.98
994-05-8	Tert-amyl methyl ether	2.7	U	6.0	2.7
75-09-2	Methylene Chloride	14	U	30	14
95-47-6	o-Xylene	1.0	U	6.0	1.0
100-42-5	Styrene	1.4	U	6.0	1.4
637-92-3	Ethyl tert-butyl ether	2.7	U	6.0	2.7
98-06-6	tert-Butylbenzene	1.1	U	6.0	1.1
127-18-4	Tetrachloroethene	0.87	U	6.0	0.87
108-88-3	Toluene	0.92	U	6.0	0.92
156-60-5	trans-1,2-Dichloroethene	0.56	U	6.0	0.56
10061-02-6	trans-1,3-Dichloropropene	1.2	U	6.0	1.2
79-01-6	Trichloroethene	7.3		6.0	0.76
75-69-4	Trichlorofluoromethane	1.3	U	6.0	1.3
108-05-4	Vinyl acetate	2.5	U	12	2.5
75-01-4	Vinyl chloride	1.0	U	6.0	1.0
75-65-0	tert-Butyl alcohol	20	U	240	20
1330-20-7	Xylenes, Total	1.9	U	12	1.9

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103610-1

SDG No.:

Client Sample ID: SB-SEMW-10D-20-28 | Lab Sample ID: 240-103610-3

Matrix: Solid | Lab File ID: UX80653.D

Analysis Method: 8260B | Date Collected: 10/29/2018 12:30

Sample wt/vol: 5.07(g) | Date Analyzed: 11/07/2018 15:33

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 17.4 | Level: (low/med) Low

Analysis Batch No.: 354032 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	3.3	U	6.0	3.3

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	84		48-123
460-00-4	4-Bromofluorobenzene (Surr)	80		49-141
2037-26-5	Toluene-d8 (Surr)	89		62-135
1868-53-7	Dibromofluoromethane (Surr)	86		49-132

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

Lab Name: TestAmerica Canton | Job No.: 240-103610-1

SDG No.:

Client Sample ID: SB-SEMW-10D-20-28 | Lab Sample ID: 240-103610-3

Matrix: Solid | Lab File ID: UX80653.D

Analysis Method: 8260B | Date Collected: 10/29/2018 12:30

Sample wt/vol: 5.07(g) | Date Analyzed: 11/07/2018 15:33

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 17.4 | Level: (low/med) Low

Analysis Batch No.: 354032 | Units: ug/Kg

Number TICs Found: 2 | TIC Result Total: 40

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Unknown	3.31	19	T J	
	Unknown	4.23	21	T J	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103610-1

SDG No.:

Client Sample ID: SB-SEMW-10D-DUP | Lab Sample ID: 240-103610-4

Matrix: Solid | Lab File ID: UX80654.D

Analysis Method: 8260B | Date Collected: 10/29/2018 00:00

Sample wt/vol: 5.18(g) | Date Analyzed: 11/07/2018 15:54

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 17.4 | Level: (low/med) Low

Analysis Batch No.: 354032 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	3.5	U	5.8	3.5
71-55-6	1,1,1-Trichloroethane	0.96	U	5.8	0.96
79-34-5	1,1,2,2-Tetrachloroethane	1.7	U	5.8	1.7
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.5	U	5.8	1.5
75-34-3	1,1-Dichloroethane	0.81	U	5.8	0.81
75-35-4	1,1-Dichloroethene	1.1	U	5.8	1.1
563-58-6	1,1-Dichloropropene	1.2	U	5.8	1.2
87-61-6	1,2,3-Trichlorobenzene	0.67	U	5.8	0.67
96-18-4	1,2,3-Trichloropropane	1.8	U	5.8	1.8
526-73-8	1,2,3-Trimethylbenzene	2.1	U	5.8	2.1
120-82-1	1,2,4-Trichlorobenzene	0.67	U	5.8	0.67
95-63-6	1,2,4-Trimethylbenzene	1.2	U	5.8	1.2
96-12-8	1,2-Dibromo-3-Chloropropane	4.2	U	12	4.2
95-50-1	1,2-Dichlorobenzene	1.3	U	5.8	1.3
107-06-2	1,2-Dichloroethane	0.90	U	5.8	0.90
78-87-5	1,2-Dichloropropane	0.99	U	5.8	0.99
541-73-1	1,3-Dichlorobenzene	0.95	U	5.8	0.95
142-28-9	1,3-Dichloropropane	1.2	U	5.8	1.2
106-46-7	1,4-Dichlorobenzene	1.0	U	5.8	1.0
594-20-7	2,2-Dichloropropane	1.4	U	5.8	1.4
110-75-8	2-Chloroethyl vinyl ether	10	U	58	10
95-49-8	2-Chlorotoluene	1.1	U	5.8	1.1
591-78-6	2-Hexanone	4.8	U	23	4.8
108-86-1	Bromobenzene	1.4	U	5.8	1.4
74-97-5	Bromochloromethane	0.69	U	5.8	0.69
106-43-4	4-Chlorotoluene	1.0	U	5.8	1.0
99-87-6	p-Isopropyltoluene	3.4	U	5.8	3.4
67-64-1	Acetone	25	U	29	25
71-43-2	Benzene	0.82	U	5.8	0.82
75-25-2	Bromoform	2.8	U	5.8	2.8
74-83-9	Bromomethane	1.2	U	5.8	1.2
75-15-0	Carbon disulfide	1.4	U	5.8	1.4
56-23-5	Carbon tetrachloride	3.8	U	5.8	3.8
108-90-7	Chlorobenzene	1.1	U	5.8	1.1
75-00-3	Chloroethane	1.4	U	5.8	1.4

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103610-1

SDG No.:

Client Sample ID: SB-SEMW-10D-DUP | Lab Sample ID: 240-103610-4

Matrix: Solid | Lab File ID: UX80654.D

Analysis Method: 8260B | Date Collected: 10/29/2018 00:00

Sample wt/vol: 5.18(g) | Date Analyzed: 11/07/2018 15:54

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 17.4 | Level: (low/med) Low

Analysis Batch No.: 354032 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-66-3	Chloroform	0.92	U	5.8	0.92
74-87-3	Chloromethane	1.2	U	5.8	1.2
156-59-2	cis-1,2-Dichloroethene	0.76	U	5.8	0.76
10061-01-5	cis-1,3-Dichloropropene	1.7	U	5.8	1.7
87-68-3	Hexachlorobutadiene	4.4	U	5.8	4.4
74-95-3	Dibromomethane	0.78	U	5.8	0.78
75-27-4	Bromodichloromethane	0.79	U	5.8	0.79
75-71-8	Dichlorodifluoromethane	1.1	U	5.8	1.1
100-41-4	Ethylbenzene	1.2	U	5.8	1.2
106-93-4	1,2-Dibromoethane	0.90	U	5.8	0.90
108-20-3	Diisopropyl ether	0.88	U	12	0.88
91-20-3	Naphthalene	3.2	U	5.8	3.2
179601-23-1	m-Xylene & p-Xylene	0.91	U	12	0.91
104-51-8	n-Butylbenzene	4.1	U	5.8	4.1
98-82-8	Isopropylbenzene	0.97	U	5.8	0.97
103-65-1	N-Propylbenzene	0.86	U	5.8	0.86
78-93-3	2-Butanone (MEK)	4.2	U	23	4.2
108-10-1	4-Methyl-2-pentanone (MIBK)	4.3	U	23	4.3
135-98-8	sec-Butylbenzene	1.0	U	5.8	1.0
1634-04-4	Methyl tert-butyl ether	0.96	U	5.8	0.96
994-05-8	Tert-amyl methyl ether	2.6	U	5.8	2.6
75-09-2	Methylene Chloride	14	U	29	14
95-47-6	o-Xylene	1.0	U	5.8	1.0
100-42-5	Styrene	1.4	U	5.8	1.4
637-92-3	Ethyl tert-butyl ether	2.6	U	5.8	2.6
98-06-6	tert-Butylbenzene	1.1	U	5.8	1.1
127-18-4	Tetrachloroethene	0.85	U	5.8	0.85
108-88-3	Toluene	0.90	U	5.8	0.90
156-60-5	trans-1,2-Dichloroethene	0.54	U	5.8	0.54
10061-02-6	trans-1,3-Dichloropropene	1.2	U	5.8	1.2
79-01-6	Trichloroethene	49	F1	5.8	0.74
75-69-4	Trichlorofluoromethane	1.3	U	5.8	1.3
108-05-4	Vinyl acetate	2.5	U	12	2.5
75-01-4	Vinyl chloride	0.98	U	5.8	0.98
75-65-0	tert-Butyl alcohol	19	U	230	19
1330-20-7	Xylenes, Total	1.9	U	12	1.9

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103610-1

SDG No.:

Client Sample ID: SB-SEMW-10D-DUP | Lab Sample ID: 240-103610-4

Matrix: Solid | Lab File ID: UX80654.D

Analysis Method: 8260B | Date Collected: 10/29/2018 00:00

Sample wt/vol: 5.18(g) | Date Analyzed: 11/07/2018 15:54

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 17.4 | Level: (low/med) Low

Analysis Batch No.: 354032 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	3.2	U	5.8	3.2

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	83		48-123
460-00-4	4-Bromofluorobenzene (Surr)	78		49-141
2037-26-5	Toluene-d8 (Surr)	87		62-135
1868-53-7	Dibromofluoromethane (Surr)	85		49-132

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

Lab Name: TestAmerica Canton | Job No.: 240-103610-1

SDG No.:

Client Sample ID: SB-SEMW-10D-DUP | Lab Sample ID: 240-103610-4

Matrix: Solid | Lab File ID: UX80654.D

Analysis Method: 8260B | Date Collected: 10/29/2018 00:00

Sample wt/vol: 5.18(g) | Date Analyzed: 11/07/2018 15:54

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 17.4 | Level: (low/med) Low

Analysis Batch No.: 354032 | Units: ug/Kg

Number TICs Found: 1 | TIC Result Total: 18

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Unknown	3.32	18	T J	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: TB-103018 | Lab Sample ID: 240-103714-1

Matrix: Water | Lab File ID: UXM15513.D

Analysis Method: 8260B | Date Collected: 10/30/2018 00:00

Sample wt/vol: 5(mL) | Date Analyzed: 11/10/2018 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.: 354712 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	5.7	J	10	5.4
630-20-6	1,1,1,2-Tetrachloroethane	0.14	U	1.0	0.14
71-43-2	Benzene	0.13	U	1.0	0.13
75-27-4	Bromodichloromethane	0.17	U	1.0	0.17
75-25-2	Bromoform	0.76	U	1.0	0.76
74-83-9	Bromomethane	0.42	U	1.0	0.42
78-93-3	2-Butanone (MEK)	1.2	U	10	1.2
75-15-0	Carbon disulfide	0.28	U	1.0	0.28
56-23-5	Carbon tetrachloride	0.26	U	1.0	0.26
108-90-7	Chlorobenzene	0.14	U	1.0	0.14
75-00-3	Chloroethane	0.83	U	1.0	0.83
67-66-3	Chloroform	0.13	U	1.0	0.13
563-58-6	1,1-Dichloropropene	0.14	U	1.0	0.14
74-87-3	Chloromethane	0.20	U	1.0	0.20
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17
87-61-6	1,2,3-Trichlorobenzene	0.54	U	1.0	0.54
96-18-4	1,2,3-Trichloropropane	0.24	U	1.0	0.24
107-06-2	1,2-Dichloroethane	0.21	U	1.0	0.21
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19
526-73-8	1,2,3-Trimethylbenzene	0.14	U	5.0	0.14
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15
95-63-6	1,2,4-Trimethylbenzene	0.070	U	1.0	0.070
10061-01-5	cis-1,3-Dichloropropene	0.61	U	1.0	0.61
10061-02-6	trans-1,3-Dichloropropene	0.67	U	1.0	0.67
100-41-4	Ethylbenzene	0.11	U	1.0	0.11
591-78-6	2-Hexanone	0.54	U	10	0.54
75-09-2	Methylene Chloride	2.6	U	5.0	2.6
108-10-1	4-Methyl-2-pentanone (MIBK)	0.42	U	10	0.42
100-42-5	Styrene	0.10	U	1.0	0.10
79-34-5	1,1,2,2-Tetrachloroethane	0.13	U	1.0	0.13
127-18-4	Tetrachloroethene	0.15	U	1.0	0.15
108-88-3	Toluene	0.14	U	1.0	0.14
79-01-6	Trichloroethene	0.10	U	1.0	0.10
75-01-4	Vinyl chloride	0.20	U	1.0	0.20
1330-20-7	Xylenes, Total	0.15	U	2.0	0.15
71-55-6	1,1,1-Trichloroethane	0.24	U	1.0	0.24

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: TB-103018 | Lab Sample ID: 240-103714-1

Matrix: Water | Lab File ID: UXM15513.D

Analysis Method: 8260B | Date Collected: 10/30/2018 00:00

Sample wt/vol: 5(mL) | Date Analyzed: 11/10/2018 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.: 354712 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
142-28-9	1,3-Dichloropropane	0.21	U	1.0	0.21
96-12-8	1,2-Dibromo-3-Chloropropane	0.91	U	2.0	0.91
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12
75-71-8	Dichlorodifluoromethane	0.35	U	1.0	0.35
156-59-2	cis-1,2-Dichloroethene	0.16	U	1.0	0.16
156-60-5	trans-1,2-Dichloroethene	0.19	U	1.0	0.19
98-82-8	Isopropylbenzene	0.090	U	1.0	0.090
1634-04-4	Methyl tert-butyl ether	0.070	U	1.0	0.070
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
120-82-1	1,2,4-Trichlorobenzene	0.26	U	1.0	0.26
594-20-7	2,2-Dichloropropane	0.31	U	1.0	0.31
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.15	U	1.0	0.15
106-46-7	1,4-Dichlorobenzene	0.16	U	1.0	0.16
110-75-8	2-Chloroethyl vinyl ether	0.26	U	10	0.26
75-69-4	Trichlorofluoromethane	0.45	U	1.0	0.45
95-49-8	2-Chlorotoluene	0.15	U	1.0	0.15
124-48-1	Chlorodibromomethane	0.39	U	1.0	0.39
108-86-1	Bromobenzene	0.12	U	1.0	0.12
74-97-5	Bromochloromethane	0.14	U	1.0	0.14
106-43-4	4-Chlorotoluene	0.090	U	1.0	0.090
99-87-6	4-Isopropyltoluene	0.13	U	1.0	0.13
87-68-3	Hexachlorobutadiene	0.83	U	1.0	0.83
74-95-3	Dibromomethane	0.090	U	1.0	0.090
108-20-3	Diisopropyl ether	0.17	U	10	0.17
91-20-3	Naphthalene	0.32	U	1.0	0.32
104-51-8	n-Butylbenzene	0.14	U	1.0	0.14
103-65-1	N-Propylbenzene	0.15	U	1.0	0.15
135-98-8	sec-Butylbenzene	0.13	U	1.0	0.13
994-05-8	Tert-amyl methyl ether	0.11	U	5.0	0.11
637-92-3	Ethyl tert-butyl ether	0.15	U	5.0	0.15
98-06-6	tert-Butylbenzene	0.14	U	1.0	0.14
108-05-4	Vinyl acetate	0.19	U	2.0	0.19
75-65-0	tert-Butyl alcohol	12	J	50	1.7

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Client Sample ID: TB-103018 Lab Sample ID: 240-103714-1

Matrix: Water Lab File ID: UXM15513.D

Analysis Method: 8260B Date Collected: 10/30/2018 00:00

Sample wt/vol: 5(mL) Date Analyzed: 11/10/2018 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.: 354712 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	94		70-121
460-00-4	4-Bromofluorobenzene (Surr)	85		59-120
2037-26-5	Toluene-d8 (Surr)	87		70-123
1868-53-7	Dibromofluoromethane (Surr)	93		75-128

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: SB-MW135A-2-5.5 | Lab Sample ID: 240-103714-2

Matrix: Solid | Lab File ID: UX80903.D

Analysis Method: 8260B | Date Collected: 10/30/2018 15:30

Sample wt/vol: 5.25(g) | Date Analyzed: 11/14/2018 00:50

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 15.0 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	3.3	U H	5.6	3.3
71-55-6	1,1,1-Trichloroethane	0.92	U H	5.6	0.92
79-34-5	1,1,2,2-Tetrachloroethane	1.6	U H	5.6	1.6
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.4	U H	5.6	1.4
75-34-3	1,1-Dichloroethane	0.78	U H	5.6	0.78
75-35-4	1,1-Dichloroethene	1.0	U H	5.6	1.0
563-58-6	1,1-Dichloropropene	1.1	U H	5.6	1.1
87-61-6	1,2,3-Trichlorobenzene	0.64	U H	5.6	0.64
96-18-4	1,2,3-Trichloropropane	1.8	U H	5.6	1.8
526-73-8	1,2,3-Trimethylbenzene	2.0	U H	5.6	2.0
120-82-1	1,2,4-Trichlorobenzene	0.64	U H	5.6	0.64
95-63-6	1,2,4-Trimethylbenzene	1.1	U H	5.6	1.1
96-12-8	1,2-Dibromo-3-Chloropropane	4.0	U H	11	4.0
95-50-1	1,2-Dichlorobenzene	1.2	U H	5.6	1.2
107-06-2	1,2-Dichloroethane	0.86	U H	5.6	0.86
78-87-5	1,2-Dichloropropane	0.95	U H	5.6	0.95
541-73-1	1,3-Dichlorobenzene	0.91	U H	5.6	0.91
142-28-9	1,3-Dichloropropane	1.1	U H	5.6	1.1
106-46-7	1,4-Dichlorobenzene	0.99	U H	5.6	0.99
594-20-7	2,2-Dichloropropane	1.3	U H	5.6	1.3
110-75-8	2-Chloroethyl vinyl ether	10	U H	56	10
95-49-8	2-Chlorotoluene	1.1	U H	5.6	1.1
591-78-6	2-Hexanone	4.6	U H	22	4.6
108-86-1	Bromobenzene	1.3	U H	5.6	1.3
74-97-5	Bromochloromethane	0.67	U H	5.6	0.67
106-43-4	4-Chlorotoluene	0.97	U H	5.6	0.97
99-87-6	p-Isopropyltoluene	3.3	U H	5.6	3.3
67-64-1	Acetone	24	U H	28	24
71-43-2	Benzene	0.78	U H	5.6	0.78
75-25-2	Bromoform	2.7	U H	5.6	2.7
74-83-9	Bromomethane	1.1	U H	5.6	1.1
75-15-0	Carbon disulfide	1.3	U H	5.6	1.3
56-23-5	Carbon tetrachloride	3.6	U H	5.6	3.6
108-90-7	Chlorobenzene	1.0	U H	5.6	1.0
75-00-3	Chloroethane	1.4	U H	5.6	1.4

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: SB-MW135A-2-5.5 | Lab Sample ID: 240-103714-2

Matrix: Solid | Lab File ID: UX80903.D

Analysis Method: 8260B | Date Collected: 10/30/2018 15:30

Sample wt/vol: 5.25(g) | Date Analyzed: 11/14/2018 00:50

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 15.0 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-66-3	Chloroform	0.88	U H	5.6	0.88
74-87-3	Chloromethane	1.2	U H	5.6	1.2
156-59-2	cis-1,2-Dichloroethene	0.73	U H	5.6	0.73
10061-01-5	cis-1,3-Dichloropropene	1.6	U H	5.6	1.6
87-68-3	Hexachlorobutadiene	4.2	U H	5.6	4.2
74-95-3	Dibromomethane	0.75	U H	5.6	0.75
75-27-4	Bromodichloromethane	0.76	U H	5.6	0.76
75-71-8	Dichlorodifluoromethane	1.1	U H	5.6	1.1
100-41-4	Ethylbenzene	1.2	U H	5.6	1.2
106-93-4	1,2-Dibromoethane	0.86	U H	5.6	0.86
108-20-3	Diisopropyl ether	0.85	U H	11	0.85
91-20-3	Naphthalene	3.0	U H	5.6	3.0
179601-23-1	m-Xylene & p-Xylene	0.88	U H	11	0.88
104-51-8	n-Butylbenzene	3.9	U H	5.6	3.9
98-82-8	Isopropylbenzene	0.93	U H	5.6	0.93
103-65-1	N-Propylbenzene	0.82	U H	5.6	0.82
78-93-3	2-Butanone (MEK)	4.0	U H	22	4.0
108-10-1	4-Methyl-2-pentanone (MIBK)	4.2	U H	22	4.2
135-98-8	sec-Butylbenzene	0.97	U H	5.6	0.97
1634-04-4	Methyl tert-butyl ether	0.92	U H	5.6	0.92
994-05-8	Tert-amyl methyl ether	2.5	U H	5.6	2.5
75-09-2	Methylene Chloride	13	U H	28	13
95-47-6	o-Xylene	0.96	U H	5.6	0.96
100-42-5	Styrene	1.3	U H	5.6	1.3
637-92-3	Ethyl tert-butyl ether	2.5	U H	5.6	2.5
98-06-6	tert-Butylbenzene	1.0	U H	5.6	1.0
127-18-4	Tetrachloroethene	0.82	U H	5.6	0.82
108-88-3	Toluene	0.87	U H	5.6	0.87
156-60-5	trans-1,2-Dichloroethene	0.52	U H	5.6	0.52
10061-02-6	trans-1,3-Dichloropropene	1.2	U H	5.6	1.2
79-01-6	Trichloroethene	0.71	U H	5.6	0.71
75-69-4	Trichlorofluoromethane	1.2	U H	5.6	1.2
108-05-4	Vinyl acetate	2.4	U H	11	2.4
75-01-4	Vinyl chloride	0.94	U H	5.6	0.94
75-65-0	tert-Butyl alcohol	18	U H	220	18
1330-20-7	Xylenes, Total	1.8	U H	11	1.8

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: SB-MW135A-2-5.5 | Lab Sample ID: 240-103714-2

Matrix: Solid | Lab File ID: UX80903.D

Analysis Method: 8260B | Date Collected: 10/30/2018 15:30

Sample wt/vol: 5.25(g) | Date Analyzed: 11/14/2018 00:50

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 15.0 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	3.1	U H	5.6	3.1

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	86		48-123
460-00-4	4-Bromofluorobenzene (Surr)	81		49-141
2037-26-5	Toluene-d8 (Surr)	85		62-135
1868-53-7	Dibromofluoromethane (Surr)	85		49-132

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

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: SB-MW135A-2-5.5 | Lab Sample ID: 240-103714-2

Matrix: Solid | Lab File ID: UX80903.D

Analysis Method: 8260B | Date Collected: 10/30/2018 15:30

Sample wt/vol: 5.25(g) | Date Analyzed: 11/14/2018 00:50

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 15.0 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

Number TICs Found: 3 | TIC Result Total: 39.7

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Unknown	3.32	16	T H J	
	Unknown	4.24	17	T H J	
27750-45-4	Benzenepropanoic acid, .alpha.-[(trimethylsilyl)oxy]-, trime	12.58	6.7	T H J N	32%

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: SB-MW135B-12.5-18 | Lab Sample ID: 240-103714-3

Matrix: Solid | Lab File ID: UX80904.D

Analysis Method: 8260B | Date Collected: 10/30/2018 16:00

Sample wt/vol: 5.15(g) | Date Analyzed: 11/14/2018 01:13

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 16.9 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	3.5	U H	5.8	3.5
71-55-6	1,1,1-Trichloroethane	0.96	U H	5.8	0.96
79-34-5	1,1,2,2-Tetrachloroethane	1.7	U H	5.8	1.7
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.5	U H	5.8	1.5
75-34-3	1,1-Dichloroethane	0.81	U H	5.8	0.81
75-35-4	1,1-Dichloroethene	1.1	U H	5.8	1.1
563-58-6	1,1-Dichloropropene	1.2	U H	5.8	1.2
87-61-6	1,2,3-Trichlorobenzene	4.0	J H B	5.8	0.67
96-18-4	1,2,3-Trichloropropane	1.8	U H	5.8	1.8
526-73-8	1,2,3-Trimethylbenzene	2.1	U H	5.8	2.1
120-82-1	1,2,4-Trichlorobenzene	17	H B	5.8	0.67
95-63-6	1,2,4-Trimethylbenzene	1.2	U H	5.8	1.2
96-12-8	1,2-Dibromo-3-Chloropropane	4.2	U H	12	4.2
95-50-1	1,2-Dichlorobenzene	1.3	U H	5.8	1.3
107-06-2	1,2-Dichloroethane	0.90	U H	5.8	0.90
78-87-5	1,2-Dichloropropane	0.99	U H	5.8	0.99
541-73-1	1,3-Dichlorobenzene	0.95	U H	5.8	0.95
142-28-9	1,3-Dichloropropane	1.2	U H	5.8	1.2
106-46-7	1,4-Dichlorobenzene	1.0	U H	5.8	1.0
594-20-7	2,2-Dichloropropane	1.4	U H	5.8	1.4
110-75-8	2-Chloroethyl vinyl ether	10	U H	58	10
95-49-8	2-Chlorotoluene	1.1	U H	5.8	1.1
591-78-6	2-Hexanone	4.8	U H	23	4.8
108-86-1	Bromobenzene	1.4	U H	5.8	1.4
74-97-5	Bromochloromethane	0.69	U H	5.8	0.69
106-43-4	4-Chlorotoluene	1.0	U H	5.8	1.0
99-87-6	p-Isopropyltoluene	3.4	U H	5.8	3.4
67-64-1	Acetone	25	U H	29	25
71-43-2	Benzene	0.82	U H	5.8	0.82
75-25-2	Bromoform	2.8	U H	5.8	2.8
74-83-9	Bromomethane	1.2	U H	5.8	1.2
75-15-0	Carbon disulfide	1.4	U H	5.8	1.4
56-23-5	Carbon tetrachloride	3.8	U H	5.8	3.8
108-90-7	Chlorobenzene	1.1	U H	5.8	1.1
75-00-3	Chloroethane	1.4	U H	5.8	1.4

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: SB-MW135B-12.5-18 | Lab Sample ID: 240-103714-3

Matrix: Solid | Lab File ID: UX80904.D

Analysis Method: 8260B | Date Collected: 10/30/2018 16:00

Sample wt/vol: 5.15(g) | Date Analyzed: 11/14/2018 01:13

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 16.9 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-66-3	Chloroform	0.92	U H	5.8	0.92
74-87-3	Chloromethane	1.2	U H	5.8	1.2
156-59-2	cis-1,2-Dichloroethene	0.76	U H	5.8	0.76
10061-01-5	cis-1,3-Dichloropropene	1.7	U H	5.8	1.7
87-68-3	Hexachlorobutadiene	4.4	U H	5.8	4.4
74-95-3	Dibromomethane	0.78	U H	5.8	0.78
75-27-4	Bromodichloromethane	0.79	U H	5.8	0.79
75-71-8	Dichlorodifluoromethane	1.1	U H	5.8	1.1
100-41-4	Ethylbenzene	1.2	U H	5.8	1.2
106-93-4	1,2-Dibromoethane	0.90	U H	5.8	0.90
108-20-3	Diisopropyl ether	0.88	U H	12	0.88
91-20-3	Naphthalene	3.2	U H	5.8	3.2
179601-23-1	m-Xylene & p-Xylene	0.91	U H	12	0.91
104-51-8	n-Butylbenzene	4.1	U H	5.8	4.1
98-82-8	Isopropylbenzene	0.97	U H	5.8	0.97
103-65-1	N-Propylbenzene	0.86	U H	5.8	0.86
78-93-3	2-Butanone (MEK)	4.2	U H	23	4.2
108-10-1	4-Methyl-2-pentanone (MIBK)	4.3	U H	23	4.3
135-98-8	sec-Butylbenzene	1.0	U H	5.8	1.0
1634-04-4	Methyl tert-butyl ether	0.96	U H	5.8	0.96
994-05-8	Tert-amyl methyl ether	2.6	U H	5.8	2.6
75-09-2	Methylene Chloride	14	U H	29	14
95-47-6	o-Xylene	1.0	U H	5.8	1.0
100-42-5	Styrene	1.4	U H	5.8	1.4
637-92-3	Ethyl tert-butyl ether	2.6	U H	5.8	2.6
98-06-6	tert-Butylbenzene	1.1	U H	5.8	1.1
127-18-4	Tetrachloroethene	0.85	U H	5.8	0.85
108-88-3	Toluene	0.90	U H	5.8	0.90
156-60-5	trans-1,2-Dichloroethene	0.54	U H	5.8	0.54
10061-02-6	trans-1,3-Dichloropropene	1.2	U H	5.8	1.2
79-01-6	Trichloroethene	0.74	U H	5.8	0.74
75-69-4	Trichlorofluoromethane	1.3	U H	5.8	1.3
108-05-4	Vinyl acetate	2.5	U H	12	2.5
75-01-4	Vinyl chloride	0.98	U H	5.8	0.98
75-65-0	tert-Butyl alcohol	19	U H	230	19
1330-20-7	Xylenes, Total	1.9	U H	12	1.9

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: SB-MW135B-12.5-18 | Lab Sample ID: 240-103714-3

Matrix: Solid | Lab File ID: UX80904.D

Analysis Method: 8260B | Date Collected: 10/30/2018 16:00

Sample wt/vol: 5.15(g) | Date Analyzed: 11/14/2018 01:13

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 16.9 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	3.3	U H	5.8	3.3

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	85		48-123
460-00-4	4-Bromofluorobenzene (Surr)	80		49-141
2037-26-5	Toluene-d8 (Surr)	83		62-135
1868-53-7	Dibromofluoromethane (Surr)	84		49-132

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

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: SB-MW135B-12.5-18 | Lab Sample ID: 240-103714-3

Matrix: Solid | Lab File ID: UX80904.D

Analysis Method: 8260B | Date Collected: 10/30/2018 16:00

Sample wt/vol: 5.15(g) | Date Analyzed: 11/14/2018 01:13

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 16.9 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

Number TICs Found: 2 | TIC Result Total: 36

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Unknown	3.33	18	T H J	
	Unknown	4.24	18	T H J	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: SB-MW136A-1.2-2 | Lab Sample ID: 240-103714-4

Matrix: Solid | Lab File ID: UX80905.D

Analysis Method: 8260B | Date Collected: 10/31/2018 10:20

Sample wt/vol: 5.00(g) | Date Analyzed: 11/14/2018 01:35

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 13.0 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	3.4	U	5.7	3.4
71-55-6	1,1,1-Trichloroethane	0.94	U	5.7	0.94
79-34-5	1,1,2,2-Tetrachloroethane	1.6	U	5.7	1.6
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.5	U	5.7	1.5
75-34-3	1,1-Dichloroethane	0.80	U	5.7	0.80
75-35-4	1,1-Dichloroethene	1.0	U	5.7	1.0
563-58-6	1,1-Dichloropropene	1.1	U	5.7	1.1
87-61-6	1,2,3-Trichlorobenzene	0.66	U	5.7	0.66
96-18-4	1,2,3-Trichloropropane	1.8	U	5.7	1.8
526-73-8	1,2,3-Trimethylbenzene	2.1	U	5.7	2.1
120-82-1	1,2,4-Trichlorobenzene	0.66	U	5.7	0.66
95-63-6	1,2,4-Trimethylbenzene	1.2	U	5.7	1.2
96-12-8	1,2-Dibromo-3-Chloropropane	4.1	U	11	4.1
95-50-1	1,2-Dichlorobenzene	1.3	U	5.7	1.3
107-06-2	1,2-Dichloroethane	0.89	U	5.7	0.89
78-87-5	1,2-Dichloropropane	0.98	U	5.7	0.98
541-73-1	1,3-Dichlorobenzene	0.94	U	5.7	0.94
142-28-9	1,3-Dichloropropane	1.1	U	5.7	1.1
106-46-7	1,4-Dichlorobenzene	1.0	U	5.7	1.0
594-20-7	2,2-Dichloropropane	1.4	U	5.7	1.4
110-75-8	2-Chloroethyl vinyl ether	10	U	57	10
95-49-8	2-Chlorotoluene	1.1	U	5.7	1.1
591-78-6	2-Hexanone	4.7	U	23	4.7
108-86-1	Bromobenzene	1.3	U	5.7	1.3
74-97-5	Bromochloromethane	0.68	U	5.7	0.68
106-43-4	4-Chlorotoluene	0.99	U	5.7	0.99
99-87-6	p-Isopropyltoluene	3.4	U	5.7	3.4
67-64-1	Acetone	24	U	29	24
71-43-2	Benzene	0.80	U	5.7	0.80
75-25-2	Bromoform	2.8	U	5.7	2.8
74-83-9	Bromomethane	1.1	U	5.7	1.1
75-15-0	Carbon disulfide	1.3	U	5.7	1.3
56-23-5	Carbon tetrachloride	3.7	U	5.7	3.7
108-90-7	Chlorobenzene	1.1	U	5.7	1.1
75-00-3	Chloroethane	1.4	U	5.7	1.4

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: SB-MW136A-1.2-2 | Lab Sample ID: 240-103714-4

Matrix: Solid | Lab File ID: UX80905.D

Analysis Method: 8260B | Date Collected: 10/31/2018 10:20

Sample wt/vol: 5.00(g) | Date Analyzed: 11/14/2018 01:35

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 13.0 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-66-3	Chloroform	0.91	U	5.7	0.91
74-87-3	Chloromethane	1.2	U	5.7	1.2
156-59-2	cis-1,2-Dichloroethene	0.75	U	5.7	0.75
10061-01-5	cis-1,3-Dichloropropene	1.7	U	5.7	1.7
87-68-3	Hexachlorobutadiene	4.3	U	5.7	4.3
74-95-3	Dibromomethane	0.77	U	5.7	0.77
75-27-4	Bromodichloromethane	0.78	U	5.7	0.78
75-71-8	Dichlorodifluoromethane	1.1	U	5.7	1.1
100-41-4	Ethylbenzene	1.2	U	5.7	1.2
106-93-4	1,2-Dibromoethane	0.88	U	5.7	0.88
108-20-3	Diisopropyl ether	0.87	U	11	0.87
91-20-3	Naphthalene	3.1	U	5.7	3.1
179601-23-1	m-Xylene & p-Xylene	0.90	U	11	0.90
104-51-8	n-Butylbenzene	4.0	U	5.7	4.0
98-82-8	Isopropylbenzene	0.96	U	5.7	0.96
103-65-1	N-Propylbenzene	0.84	U	5.7	0.84
78-93-3	2-Butanone (MEK)	4.1	U	23	4.1
108-10-1	4-Methyl-2-pentanone (MIBK)	4.3	U	23	4.3
135-98-8	sec-Butylbenzene	0.99	U	5.7	0.99
1634-04-4	Methyl tert-butyl ether	0.94	U	5.7	0.94
994-05-8	Tert-amyl methyl ether	2.6	U	5.7	2.6
75-09-2	Methylene Chloride	14	U	29	14
95-47-6	o-Xylene	0.99	U	5.7	0.99
100-42-5	Styrene	1.3	U	5.7	1.3
637-92-3	Ethyl tert-butyl ether	2.6	U	5.7	2.6
98-06-6	tert-Butylbenzene	1.0	U	5.7	1.0
127-18-4	Tetrachloroethene	0.84	U	5.7	0.84
108-88-3	Toluene	0.89	U	5.7	0.89
156-60-5	trans-1,2-Dichloroethene	0.53	U	5.7	0.53
10061-02-6	trans-1,3-Dichloropropene	1.2	U	5.7	1.2
79-01-6	Trichloroethene	0.73	U	5.7	0.73
75-69-4	Trichlorofluoromethane	1.2	U	5.7	1.2
108-05-4	Vinyl acetate	2.4	U	11	2.4
75-01-4	Vinyl chloride	0.96	U	5.7	0.96
75-65-0	tert-Butyl alcohol	19	U	230	19
1330-20-7	Xylenes, Total	1.8	U	11	1.8

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: SB-MW136A-1.2-2 | Lab Sample ID: 240-103714-4

Matrix: Solid | Lab File ID: UX80905.D

Analysis Method: 8260B | Date Collected: 10/31/2018 10:20

Sample wt/vol: 5.00(g) | Date Analyzed: 11/14/2018 01:35

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 13.0 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	3.2	U	5.7	3.2

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	85		48-123
460-00-4	4-Bromofluorobenzene (Surr)	81		49-141
2037-26-5	Toluene-d8 (Surr)	85		62-135
1868-53-7	Dibromofluoromethane (Surr)	84		49-132

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

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: SB-MW136A-1.2-2 | Lab Sample ID: 240-103714-4

Matrix: Solid | Lab File ID: UX80905.D

Analysis Method: 8260B | Date Collected: 10/31/2018 10:20

Sample wt/vol: 5.00(g) | Date Analyzed: 11/14/2018 01:35

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 13.0 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

Number TICs Found: 2 | TIC Result Total: 35

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Unknown	3.33	18	T J	
	Unknown	4.24	17	T J	

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: SB-MW136B-15.8-18.5 | Lab Sample ID: 240-103714-5

Matrix: Solid | Lab File ID: UX80906.D

Analysis Method: 8260B | Date Collected: 10/31/2018 10:40

Sample wt/vol: 5.22(g) | Date Analyzed: 11/14/2018 01:57

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 15.2 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	3.4	U	5.6	3.4
71-55-6	1,1,1-Trichloroethane	0.93	U	5.6	0.93
79-34-5	1,1,2,2-Tetrachloroethane	1.6	U	5.6	1.6
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.4	U	5.6	1.4
75-34-3	1,1-Dichloroethane	0.78	U	5.6	0.78
75-35-4	1,1-Dichloroethene	1.0	U	5.6	1.0
563-58-6	1,1-Dichloropropene	1.1	U	5.6	1.1
87-61-6	1,2,3-Trichlorobenzene	0.65	U	5.6	0.65
96-18-4	1,2,3-Trichloropropane	1.8	U	5.6	1.8
526-73-8	1,2,3-Trimethylbenzene	2.1	U	5.6	2.1
120-82-1	1,2,4-Trichlorobenzene	0.65	U	5.6	0.65
95-63-6	1,2,4-Trimethylbenzene	1.1	U	5.6	1.1
96-12-8	1,2-Dibromo-3-Chloropropane	4.1	U	11	4.1
95-50-1	1,2-Dichlorobenzene	1.3	U	5.6	1.3
107-06-2	1,2-Dichloroethane	0.87	U	5.6	0.87
78-87-5	1,2-Dichloropropane	0.96	U	5.6	0.96
541-73-1	1,3-Dichlorobenzene	0.92	U	5.6	0.92
142-28-9	1,3-Dichloropropane	1.1	U	5.6	1.1
106-46-7	1,4-Dichlorobenzene	1.0	U	5.6	1.0
594-20-7	2,2-Dichloropropane	1.3	U	5.6	1.3
110-75-8	2-Chloroethyl vinyl ether	10	U	56	10
95-49-8	2-Chlorotoluene	1.1	U	5.6	1.1
591-78-6	2-Hexanone	4.6	U	23	4.6
108-86-1	Bromobenzene	1.3	U	5.6	1.3
74-97-5	Bromochloromethane	0.67	U	5.6	0.67
106-43-4	4-Chlorotoluene	0.97	U	5.6	0.97
99-87-6	p-Isopropyltoluene	3.3	U	5.6	3.3
67-64-1	Acetone	24	U	28	24
71-43-2	Benzene	0.79	U	5.6	0.79
75-25-2	Bromoform	2.7	U	5.6	2.7
74-83-9	Bromomethane	1.1	U	5.6	1.1
75-15-0	Carbon disulfide	1.3	U	5.6	1.3
56-23-5	Carbon tetrachloride	3.7	U	5.6	3.7
108-90-7	Chlorobenzene	1.0	U	5.6	1.0
75-00-3	Chloroethane	1.4	U	5.6	1.4

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: SB-MW136B-15.8-18.5 | Lab Sample ID: 240-103714-5

Matrix: Solid | Lab File ID: UX80906.D

Analysis Method: 8260B | Date Collected: 10/31/2018 10:40

Sample wt/vol: 5.22(g) | Date Analyzed: 11/14/2018 01:57

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 15.2 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-66-3	Chloroform	0.89	U	5.6	0.89
74-87-3	Chloromethane	1.2	U	5.6	1.2
156-59-2	cis-1,2-Dichloroethene	0.74	U	5.6	0.74
10061-01-5	cis-1,3-Dichloropropene	1.6	U	5.6	1.6
87-68-3	Hexachlorobutadiene	4.2	U	5.6	4.2
74-95-3	Dibromomethane	0.76	U	5.6	0.76
75-27-4	Bromodichloromethane	0.77	U	5.6	0.77
75-71-8	Dichlorodifluoromethane	1.1	U	5.6	1.1
100-41-4	Ethylbenzene	1.2	U	5.6	1.2
106-93-4	1,2-Dibromoethane	0.87	U	5.6	0.87
108-20-3	Diisopropyl ether	0.86	U	11	0.86
91-20-3	Naphthalene	3.0	U	5.6	3.0
179601-23-1	m-Xylene & p-Xylene	0.88	U	11	0.88
104-51-8	n-Butylbenzene	3.9	U	5.6	3.9
98-82-8	Isopropylbenzene	0.94	U	5.6	0.94
103-65-1	N-Propylbenzene	0.83	U	5.6	0.83
78-93-3	2-Butanone (MEK)	4.0	U	23	4.0
108-10-1	4-Methyl-2-pentanone (MIBK)	4.2	U	23	4.2
135-98-8	sec-Butylbenzene	0.98	U	5.6	0.98
1634-04-4	Methyl tert-butyl ether	0.93	U	5.6	0.93
994-05-8	Tert-amyl methyl ether	2.5	U	5.6	2.5
75-09-2	Methylene Chloride	14	U	28	14
95-47-6	o-Xylene	0.97	U	5.6	0.97
100-42-5	Styrene	1.3	U	5.6	1.3
637-92-3	Ethyl tert-butyl ether	2.5	U	5.6	2.5
98-06-6	tert-Butylbenzene	1.0	U	5.6	1.0
127-18-4	Tetrachloroethene	0.82	U	5.6	0.82
108-88-3	Toluene	0.87	U	5.6	0.87
156-60-5	trans-1,2-Dichloroethene	0.53	U	5.6	0.53
10061-02-6	trans-1,3-Dichloropropene	1.2	U	5.6	1.2
79-01-6	Trichloroethene	0.72	U	5.6	0.72
75-69-4	Trichlorofluoromethane	1.2	U	5.6	1.2
108-05-4	Vinyl acetate	2.4	U	11	2.4
75-01-4	Vinyl chloride	0.95	U	5.6	0.95
75-65-0	tert-Butyl alcohol	19	U	230	19
1330-20-7	Xylenes, Total	1.8	U	11	1.8

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: SB-MW136B-15.8-18.5 | Lab Sample ID: 240-103714-5

Matrix: Solid | Lab File ID: UX80906.D

Analysis Method: 8260B | Date Collected: 10/31/2018 10:40

Sample wt/vol: 5.22(g) | Date Analyzed: 11/14/2018 01:57

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 15.2 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	3.1	U	5.6	3.1

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	87		48-123
460-00-4	4-Bromofluorobenzene (Surr)	80		49-141
2037-26-5	Toluene-d8 (Surr)	87		62-135
1868-53-7	Dibromofluoromethane (Surr)	84		49-132

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

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: SB-MW136B-15.8-18.5 | Lab Sample ID: 240-103714-5

Matrix: Solid | Lab File ID: UX80906.D

Analysis Method: 8260B | Date Collected: 10/31/2018 10:40

Sample wt/vol: 5.22(g) | Date Analyzed: 11/14/2018 01:57

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 ID: 0.18(mm)

% Moisture: 15.2 | Level: (low/med) Low

Analysis Batch No.: 355270 | Units: ug/Kg

Number TICs Found: 2 | TIC Result Total: 35

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Unknown	3.33	18	T J	
	Unknown	4.23	17	T J	

Appendix C

Support Documentation

ANALYTE	ORIGINAL	DUPLICATE	RL	RPD	RPD > 30%
CIS-1,2-DICHLOROETHENE	1.4	0.76	5.7	59.26	TRUE
TRICHLOROETHENE	110	49	5.7	76.73	TRUE

ORIGINAL SAMPLE CONC >2xRL	DUPLICATE SAMPLE CONC >2xRL	DIFFERENCE >2xRL
FALSE	FALSE	FALSE
TRUE	TRUE	TRUE

SDG 240-103610-1
SB-SEMW-10D-DUP/SB-SEMW-10D-10-15

LMC - BLOCK F
SDG 240-103610-1

SAMPLE IDENTIFICATION	SB-SEMW-10D-10-15
COMPOUND	TRICHLOROETHENE
COMPOUND AREA	602288
INTERNAL STANDARD AMOUNT (ng)	250
DILUTION FACTOR	1
INTERNAL STANDARD AREA	938949
AVERAGE RRF	0.328
% SOLIDS	0.827
WEIGHT OF SAMPLE (g)	5.33
ng to µg	1000
g to Kg	1000
CONCENTRATION =	110.92 ng/g OR µg/Kg

602288 x 250ng x 1µg x 1000g x 1/(938949 x 0.328 x 5.33g x 0.827 x 1000ng)

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A3UX8\20181107-81653.b\UX80652.D
Lims ID: 240-103610-B-2-A
Client ID: SB-SEMW-10D-10-15
Sample Type: Client
Inject. Date: 07-Nov-2018 15:12:30 ALS Bottle#: 29 Worklist Smp#: 31
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 240-0081653-031
Operator ID: 402279 Instrument ID: A3UX8

Method: \\ChromNA\Canton\ChromData\A3UX8\20181107-81653.b\8260_8.m
Limit Group: MSV 8260B ICAL
Last Update: 08-Nov-2018 03:43:30 Calib Date: 06-Nov-2018 09:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A3UX8\20181106-81611.b\UX80603.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: XAWRK007

First Level Reviewer: latat Date: 08-Nov-2018 03:33:50

	Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
*	1 Fluorobenzene	96	5.157	5.158	-0.001	98	938949	50.0	
*	2 Chlorobenzene-d5	117	7.689	7.690	-0.001	96	684823	50.0	
*	3 1,4-Dichlorobenzene-d4	152	9.879	9.879	0.000	93	299825	50.0	
$	4 Dibromofluoromethane (Surr	113	4.625	4.637	-0.012	93	195196	42.0	
$	5 1,2-Dichloroethane-d4 (Sur	65	4.897	4.897	0.000	91	263867	40.8	
$	6 Toluene-d8 (Surr)	98	6.435	6.436	-0.001	96	865254	44.2	
$	7 4-Bromofluorobenzene (Surr	95	8.766	8.767	-0.001	83	277981	37.7	
	9 Dichlorodifluoromethane	85		1.596				ND	
	10 Chloromethane	50		1.773				ND	
	11 Vinyl chloride	62		1.880				ND	
	13 Bromomethane	94		2.188				ND	
	14 Chloroethane	64		2.282				ND	
	16 Trichlorofluoromethane	101		2.507				ND	
	19 1,1-Dichloroethene	96		2.933				ND	
	20 1,1,2-Trichloro-1,2,2-trif	151		2.945				ND	
	21 Acetone	43	2.956	2.969	-0.013	98	12811	1.64	
	24 Carbon disulfide	76		3.122				ND	
	28 Methylene Chloride	84		3.312				ND	
	29 2-Methyl-2-propanol	59		3.383				ND	
	31 trans-1,2-Dichloroethene	96		3.525				ND	
	32 Methyl tert-butyl ether	73		3.525				ND	
	34 1,1-Dichloroethane	63		3.844				ND	
	35 Vinyl acetate	43		3.868				ND	
	36 Isopropyl ether	87		3.891				ND	
	38 Tert-butyl ethyl ether	59		4.163				ND	
	39 cis-1,2-Dichloroethene	96	4.282	4.282	0.000	87	8164	1.21	
	40 2-Butanone (MEK)	43		4.282				ND	
	41 2,2-Dichloropropane	77		4.282				ND	
	45 Chlorobromomethane	128		4.460				ND	
	47 Chloroform	83		4.507				ND	
	48 1,1,1-Trichloroethane	97		4.673				ND	
	50 1,1-Dichloropropene	75		4.791				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
51 Carbon tetrachloride	117		4.803				ND	
53 1,2-Dichloroethane	62		4.957				ND	
54 Benzene	78		4.957				ND	
55 Tert-amyl methyl ether	73		5.027				ND	
58 Trichloroethene	130	5.453	5.453	0.000	95	602288	97.8	
61 1,2-Dichloropropane	63		5.619				ND	
63 Dibromomethane	93		5.714				ND	
65 Dichlorobromomethane	83		5.832				ND	
67 2-Chloroethyl vinyl ether	63		6.057				ND	
68 cis-1,3-Dichloropropene	75		6.199				ND	
69 4-Methyl-2-pentanone (MIBK	43		6.305				ND	
70 Toluene	91		6.495				ND	
71 trans-1,3-Dichloropropene	75		6.649				ND	
74 1,3-Dichloropropane	76		6.968				ND	
75 Tetrachloroethene	164		6.968				ND	
76 2-Hexanone	43		7.015				ND	
78 Chlorodibromomethane	129		7.169				ND	
80 Ethylene Dibromide	107		7.276				ND	
82 Chlorobenzene	112		7.714				ND	
83 1,1,1,2-Tetrachloroethane	131		7.785				ND	
84 Ethylbenzene	106		7.808				ND	
85 m-Xylene & p-Xylene	106		7.915				ND	
87 Styrene	104		8.282				ND	
86 o-Xylene	106		8.282				ND	
88 Bromoform	173		8.459				ND	
89 Isopropylbenzene	105		8.625				ND	
92 1,1,2,2-Tetrachloroethane	83		8.873				ND	
93 Bromobenzene	156		8.920				ND	
94 1,2,3-Trichloropropane	110		8.932				ND	
96 N-Propylbenzene	120		9.015				ND	
97 2-Chlorotoluene	126		9.098				ND	
99 4-Chlorotoluene	126		9.204				ND	
100 tert-Butylbenzene	119		9.488				ND	
102 1,2,4-Trimethylbenzene	105		9.536				ND	
103 sec-Butylbenzene	105		9.701				ND	
104 1,3-Dichlorobenzene	146		9.820				ND	
105 4-Isopropyltoluene	119		9.843				ND	
106 1,4-Dichlorobenzene	146		9.903				ND	
107 1,2,3-Trimethylbenzene	105		9.949				ND	
109 n-Butylbenzene	91		10.246				ND	
110 1,2-Dichlorobenzene	146		10.269				ND	
111 1,2-Dibromo-3-Chloropropan	157		11.027				ND	
113 1,2,4-Trichlorobenzene	180		11.867				ND	
114 Hexachlorobutadiene	225		12.033				ND	
115 Naphthalene	128		12.115				ND	
116 1,2,3-Trichlorobenzene	180		12.364				ND	
S 128 Xylenes, Total	106		16.530				ND	

TestAmerica Baltimore
7526 Connelley Drive
Suite F
Hanover, MD 21076
Phone: 410.766.2516 Fax:

1.2/2.1

Chain of Custody Record

000439

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

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

Client Contact	Project Manager: Mike Martin	Site Contact: J. Mullis	Date: 10/29/18	COC No:
Company Name: TETRA TECH INC	Tel/Fax: 301-528-3021	Lab Contact: J. Metcalfe	Carrier: FedEx	of 1 COCs
Address: 10451 Century Blvd. Ste. 202	Analysis Turnaround Time			Sampler:
City/State/Zip: Germantown, MD, 20874	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 301-528-3021	TAT if different from Below			Walk-in Client:
Fax:	☐ 2 weeks STANDARD			Lab Sampling:
Project Name: MDE Glade F Deepwell	☐ 1 week			
Site: MDE SEMW-10D	☐ 2 days			Job / SDG No.:
P O # 117ILC08667	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	VOCs 8260B	Sample Specific Notes:
TB-102918	10/29/18	0000	G	Aq	2			X	
SB-SEMW-10D-10-15	↓	1120	↓	Soil	1			X	
SB-SEMW-10D-20-28		1230			1			X	
SB-SEMW-10D-DUP		0000			1			X	

10/30/18

240-103610 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

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

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

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

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

Special Instructions/QC Requirements & Comments: Soil samples from SB-SEMW-10D possible well installation

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: _____ Corr'd: _____		Therm ID No.: _____
Relinquished by:	Company: Tetra Tech Inc	Date/Time: 10/30/18 1350	Received by:	Company:	Date/Time: 10/30/18 1750
Relinquished by:	Company: 10/30/18	Date/Time:	Received by:	Company: TA	Date/Time: 10-31-18 1000
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

TestAmerica Canton Sample Receipt Form/Narrative **Login # : 103610**
Canton Facility

Client Tetra Tech Site Name _____ Cooler unpacked by:

Cooler Received on 10-31-18 Opened on 10-31-18

FedEx: 1st Grd Exp UPS FAS Clipper 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 ☐ See Multiple Cooler Form
   IR GUN# IR-8 (CF +0.9 °C) Observed Cooler Temp. 1.2 °C Corrected Cooler Temp. 2.1 °C
   IR GUN #36 (CF +0.6°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
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 12-16 have been checked at the originating laboratory.		
12. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC849161
13. Were VOAs on the COC?	Yes	No
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes	No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes	No
16. Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by: NS

18. 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)

19. SAMPLE PRESERVATION

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

CASE NARRATIVE

Client: Tetra Tech, Inc.

Project: MRC Block F Deepwell

Report Number: 240-103610-1

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.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

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

RECEIPT
The samples were received on 10/31/2018 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.1º C.

VOLATILE ORGANIC COMPOUNDS (GCMS)
Samples SB-SEMW-10D-10-15 (240-103610-2), SB-SEMW-10D-20-28 (240-103610-3) and SB-SEMW-10D-DUP (240-103610-4) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were prepared and analyzed on 11/07/2018.

1,2,3-Trichlorobenzene was detected in method blank MB 240-354032/7 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

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

VOLATILE ORGANIC COMPOUNDS (GCMS)
Sample TB-102918 (240-103610-1) was analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The sample was analyzed on 11/09/2018.

The laboratory control sample (LCS) for 354546 recovered outside control limits for the following analytes: Chlorobromomethane. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.TB-102918 (240-103610-1) and (LCS 240-354546/4)

2-Chloroethyl vinyl ether cannot be reliably recovered in an acid preserved sample. The following sample was received in hydrochloric preserved vials: TB-102918 (240-103610-1)

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

PERCENT SOLIDS
Samples SB-SEMW-10D-10-15 (240-103610-2), SB-SEMW-10D-20-28 (240-103610-3) and SB-SEMW-10D-DUP (240-103610-4) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 11/01/2018.

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

Qualifiers

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.
F1	MS and/or MSD Recovery is outside acceptance limits.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

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

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: MRC Block F Deepwell

TestAmerica Job ID: 240-103610-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-103610-1	TB-102918	Water	10/29/18 00:00	10/31/18 10:00
240-103610-2	SB-SEMW-10D-10-15	Solid	10/29/18 11:20	10/31/18 10:00
240-103610-3	SB-SEMW-10D-20-28	Solid	10/29/18 12:30	10/31/18 10:00
240-103610-4	SB-SEMW-10D-DUP	Solid	10/29/18 00:00	10/31/18 10:00

Method Summary

Client: Tetra Tech, Inc.
Project/Site: MRC Block F Deepwell

TestAmerica Job ID: 240-103610-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030A	Purge and Trap	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

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

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Matrix: Solid Level: Low

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

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
SB-SEMW-10D-10-15	240-103610-2	84	82	88	75
SB-SEMW-10D-20-28	240-103610-3	86	84	89	80
SB-SEMW-10D-DUP	240-103610-4	85	83	87	78
	MB 240-354032/7	89	87	86	80
	LCS 240-354032/6	91	82	88	82
SB-SEMW-10D-DUP MS	240-103610-4 MS	83	79	88	83
SB-SEMW-10D-DUP MSD	240-103610-4 MSD	88	81	87	83

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	49-132
DCA = 1,2-Dichloroethane-d4 (Surr)	48-123
TOL = Toluene-d8 (Surr)	62-135
BFB = 4-Bromofluorobenzene (Surr)	49-141

Column to be used to flag recovery values

FORM II 8260B

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103610-1

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-102918	240-103610-1	123	108	77	79
	MB 240-354546/6	120	111	79	78
	LCS 240-354546/4	113	98	84	89

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	75-128
DCA = 1,2-Dichloroethane-d4 (Surr)	70-121
TOL = Toluene-d8 (Surr)	70-123
BFB = 4-Bromofluorobenzene (Surr)	59-120

Column to be used to flag recovery values

FORM II 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Sample No.: STD8260 240-339715/4 Date Analyzed: 08/07/2018 11:03

Instrument ID: A3UX11 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): UXJ3442.D Heated Purge: (Y/N) N

Calibration ID: 46381

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		1108911	4.66	694915	7.31	334003	9.52
UPPER LIMIT		2217822	5.16	1389830	7.81	668006	10.02
LOWER LIMIT		554456	4.16	347458	6.81	167002	9.02
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 240-339715/14		1156749	4.66	715134	7.31	341994	9.52
ICV 240-339715/15		1010902	4.66	619828	7.31	295366	9.52
CCVIS 240-354546/2		1258794	4.66	905486	7.31	484931	9.52

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 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Sample No.: CCVIS 240-354546/2 Date Analyzed: 11/09/2018 09:45

Instrument ID: A3UX11 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): UXJ6204.D Heated Purge: (Y/N) N

Calibration ID: 46387

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		1258794	4.66	905486	7.31	484931	9.52
UPPER LIMIT		2517588	5.16	1810972	7.81	969862	10.02
LOWER LIMIT		629397	4.16	452743	6.81	242466	9.02
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 240-354546/4		1142627	4.66	773686	7.31	437831	9.52
CCV 240-354546/3		1166212	4.65	783553	7.31	381641	9.52
MB 240-354546/6		1017945	4.66	774169	7.31	383985	9.52
240-103610-1	TB-102918	966019	4.66	675826	7.31	350352	9.52

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 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Sample No.: ICIS 240-353820/7 Date Analyzed: 11/06/2018 08:18

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): UX80599.D Heated Purge: (Y/N) Y

Calibration ID: 47798

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		897987	5.16	657341	7.69	317330	9.88
UPPER LIMIT		1795974	5.66	1314682	8.19	634660	10.38
LOWER LIMIT		448994	4.66	328671	7.19	158665	9.38
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 240-353820/13		976104	5.16	701529	7.69	328898	9.88
CCVIS 240-354032/4		997625	5.16	660321	7.69	324155	9.88

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 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Sample No.: CCVIS 240-354032/4 Date Analyzed: 11/07/2018 05:19

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): UX80625.D Heated Purge: (Y/N) Y

Calibration ID: 47798

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		997625	5.16	660321	7.69	324155	9.88
UPPER LIMIT		1995250	5.66	1320642	8.19	648310	10.38
LOWER LIMIT		498813	4.66	330161	7.19	162078	9.38
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 240-354032/5		928987	5.16	659366	7.69	312615	9.88
LCS 240-354032/6		939438	5.16	686648	7.69	325317	9.88
MB 240-354032/7		917081	5.16	690483	7.69	310846	9.88
240-103610-2	SB-SEMW-10D-10-15	938949	5.16	684823	7.69	299825	9.88
240-103610-3	SB-SEMW-10D-20-28	806309	5.16	583771	7.69	270882	9.88
240-103610-4	SB-SEMW-10D-DUP	917001	5.16	674708	7.69	291158	9.88
240-103610-4 MS	SB-SEMW-10D-DUP MS	1007292	5.16	725258	7.69	335879	9.88
240-103610-4 MSD	SB-SEMW-10D-DUP MSD	910864	5.16	659852	7.69	314995	9.88

FB = Fluorobenzene
FB = Fluorobenzene
CBNZd5 = Chlorobenzene-d5
CBNZd5 = Chlorobenzene-d5
Area Limit = 50%-200% of internal standard area
DCBd4 = 1,4-Dichlorobenzene-d4
RT Limit = ± 0.5 minutes of internal standard RT
DCBd4 = 1,4-Dichlorobenzene-d4

Column used to flag values outside QC limits

FORM VIII 8260B

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Lab File ID: UX80628.D Lab Sample ID: MB 240-354032/7

Matrix: Solid Heated Purge:(Y/N) Y

Instrument ID: A3UX8 Date Analyzed: 11/07/2018 06:24

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 240-354032/6	UX80627.D	11/07/2018 06:02
SB-SEMW-10D-10-15	240-103610-2	UX80652.D	11/07/2018 15:12
SB-SEMW-10D-20-28	240-103610-3	UX80653.D	11/07/2018 15:33
SB-SEMW-10D-DUP	240-103610-4	UX80654.D	11/07/2018 15:54
SB-SEMW-10D-DUP MS	240-103610-4 MS	UX80655.D	11/07/2018 16:16
SB-SEMW-10D-DUP MSD	240-103610-4 MSD	UX80656.D	11/07/2018 16:38

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103610-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-354032/7

Matrix: Solid | Lab File ID: UX80628.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(g) | Date Analyzed: 11/07/2018 06:24

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.: 354032 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	3.0	U	5.0	3.0
563-58-6	1,1-Dichloropropene	0.99	U	5.0	0.99
75-34-3	1,1-Dichloroethane	0.69	U	5.0	0.69
87-61-6	1,2,3-Trichlorobenzene	0.581	J	5.0	0.57
96-18-4	1,2,3-Trichloropropane	1.6	U	5.0	1.6
107-06-2	1,2-Dichloroethane	0.77	U	5.0	0.77
75-35-4	1,1-Dichloroethene	0.90	U	5.0	0.90
526-73-8	1,2,3-Trimethylbenzene	1.8	U	5.0	1.8
78-87-5	1,2-Dichloropropane	0.85	U	5.0	0.85
95-63-6	1,2,4-Trimethylbenzene	1.0	U	5.0	1.0
591-78-6	2-Hexanone	4.1	U	20	4.1
79-34-5	1,1,2,2-Tetrachloroethane	1.4	U	5.0	1.4
67-64-1	Acetone	21	U	25	21
71-43-2	Benzene	0.70	U	5.0	0.70
75-25-2	Bromoform	2.4	U	5.0	2.4
74-83-9	Bromomethane	0.99	U	5.0	0.99
75-15-0	Carbon disulfide	1.2	U	5.0	1.2
56-23-5	Carbon tetrachloride	3.3	U	5.0	3.3
71-55-6	1,1,1-Trichloroethane	0.82	U	5.0	0.82
108-90-7	Chlorobenzene	0.92	U	5.0	0.92
142-28-9	1,3-Dichloropropane	0.99	U	5.0	0.99
75-00-3	Chloroethane	1.2	U	5.0	1.2
96-12-8	1,2-Dibromo-3-Chloropropane	3.6	U	10	3.6
67-66-3	Chloroform	0.79	U	5.0	0.79
74-87-3	Chloromethane	1.0	U	5.0	1.0
156-59-2	cis-1,2-Dichloroethene	0.65	U	5.0	0.65
10061-01-5	cis-1,3-Dichloropropene	1.4	U	5.0	1.4
75-27-4	Bromodichloromethane	0.68	U	5.0	0.68
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.3	U	5.0	1.3
75-71-8	Dichlorodifluoromethane	0.94	U	5.0	0.94
120-82-1	1,2,4-Trichlorobenzene	0.57	U	5.0	0.57
100-41-4	Ethylbenzene	1.0	U	5.0	1.0
106-93-4	1,2-Dibromoethane	0.77	U	5.0	0.77
594-20-7	2,2-Dichloropropane	1.2	U	5.0	1.2
95-50-1	1,2-Dichlorobenzene	1.1	U	5.0	1.1

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103610-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-354032/7

Matrix: Solid | Lab File ID: UX80628.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(g) | Date Analyzed: 11/07/2018 06:24

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.: 354032 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
541-73-1	1,3-Dichlorobenzene	0.82	U	5.0	0.82
106-46-7	1,4-Dichlorobenzene	0.88	U	5.0	0.88
110-75-8	2-Chloroethyl vinyl ether	8.9	U	50	8.9
98-82-8	Isopropylbenzene	0.83	U	5.0	0.83
95-49-8	2-Chlorotoluene	0.95	U	5.0	0.95
78-93-3	2-Butanone (MEK)	3.6	U	20	3.6
108-10-1	4-Methyl-2-pentanone (MIBK)	3.7	U	20	3.7
108-86-1	Bromobenzene	1.2	U	5.0	1.2
1634-04-4	Methyl tert-butyl ether	0.82	U	5.0	0.82
74-97-5	Bromochloromethane	0.59	U	5.0	0.59
75-09-2	Methylene Chloride	12	U	25	12
106-43-4	4-Chlorotoluene	0.86	U	5.0	0.86
99-87-6	p-Isopropyltoluene	2.9	U	5.0	2.9
100-42-5	Styrene	1.2	U	5.0	1.2
179601-23-1	m-Xylene & p-Xylene	0.78	U	10	0.78
95-47-6	o-Xylene	0.86	U	5.0	0.86
87-68-3	Hexachlorobutadiene	3.7	U	5.0	3.7
127-18-4	Tetrachloroethene	0.73	U	5.0	0.73
74-95-3	Dibromomethane	0.67	U	5.0	0.67
108-88-3	Toluene	0.77	U	5.0	0.77
108-20-3	Diisopropyl ether	0.76	U	10	0.76
91-20-3	Naphthalene	2.7	U	5.0	2.7
156-60-5	trans-1,2-Dichloroethene	0.47	U	5.0	0.47
104-51-8	n-Butylbenzene	3.5	U	5.0	3.5
10061-02-6	trans-1,3-Dichloropropene	1.0	U	5.0	1.0
103-65-1	N-Propylbenzene	0.73	U	5.0	0.73
79-01-6	Trichloroethene	0.63	U	5.0	0.63
135-98-8	sec-Butylbenzene	0.86	U	5.0	0.86
75-69-4	Trichlorofluoromethane	1.1	U	5.0	1.1
994-05-8	Tert-amyl methyl ether	2.2	U	5.0	2.2
637-92-3	Ethyl tert-butyl ether	2.3	U	5.0	2.3
98-06-6	tert-Butylbenzene	0.91	U	5.0	0.91
75-01-4	Vinyl chloride	0.84	U	5.0	0.84
108-05-4	Vinyl acetate	2.1	U	10	2.1
75-65-0	tert-Butyl alcohol	17	U	200	17
1330-20-7	Xylenes, Total	1.6	U	10	1.6

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103610-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-354032/7

Matrix: Solid | Lab File ID: UX80628.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(g) | Date Analyzed: 11/07/2018 06:24

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.: 354032 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	2.8	U	5.0	2.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	87		48-123
460-00-4	4-Bromofluorobenzene (Surr)	80		49-141
2037-26-5	Toluene-d8 (Surr)	86		62-135
1868-53-7	Dibromofluoromethane (Surr)	89		49-132

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

Lab Name: TestAmerica Canton | Job No.: 240-103610-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-354032/7

Matrix: Solid | Lab File ID: UX80628.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(g) | Date Analyzed: 11/07/2018 06:24

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.: 354032 | Units: ug/Kg

Number TICs Found: 0 | TIC Result Total: 0

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Tentatively Identified Compound		None		

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: UX80627.D

Lab ID: LCS 240-354032/6 Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	25.0	26.1	104	73-124	
1,1-Dichloropropene	25.0	24.8	99	72-127	
1,1-Dichloroethane	25.0	25.2	101	72-122	
1,2,3-Trichlorobenzene	25.0	22.4	90	59-120	
1,2,3-Trichloropropane	25.0	24.2	97	68-128	
1,2-Dichloroethane	25.0	24.0	96	64-126	
1,1-Dichloroethene	25.0	27.6	110	57-139	
1,2-Dichloropropane	25.0	24.3	97	78-122	
1,2,4-Trimethylbenzene	25.0	24.6	98	75-121	
2-Hexanone	50.0	48.1	96	52-145	
1,1,2,2-Tetrachloroethane	25.0	24.2	97	68-128	
Acetone	50.0	54.2	108	43-159	
Benzene	25.0	23.7	95	74-123	
Bromoform	25.0	20.9	83	46-137	
Bromomethane	25.0	24.7	99	10-152	
Carbon disulfide	25.0	26.5	106	29-153	
Carbon tetrachloride	25.0	26.6	106	56-139	
1,1,1-Trichloroethane	25.0	27.7	111	64-135	
Chlorobenzene	25.0	23.4	94	80-120	
1,3-Dichloropropane	25.0	23.4	94	76-120	
Chloroethane	25.0	25.5	102	15-155	
1,2-Dibromo-3-Chloropropane	25.0	21.9	88	38-135	
Chloroform	25.0	25.1	101	72-124	
Chloromethane	25.0	25.1	100	45-128	
cis-1,2-Dichloroethene	25.0	24.6	98	74-123	
cis-1,3-Dichloropropene	25.0	24.1	97	63-137	
Bromodichloromethane	25.0	24.3	97	63-132	
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	26.3	105	56-138	
Dichlorodifluoromethane	25.0	22.8	91	26-138	
1,2,4-Trichlorobenzene	25.0	20.5	82	54-120	
Ethylbenzene	25.0	23.6	94	76-120	
1,2-Dibromoethane	25.0	24.1	96	76-120	
2,2-Dichloropropane	25.0	25.5	102	42-143	
1,2-Dichlorobenzene	25.0	23.0	92	73-120	
1,3-Dichlorobenzene	25.0	22.9	92	70-120	
1,4-Dichlorobenzene	25.0	22.4	89	71-120	
2-Chloroethyl vinyl ether	25.0	22.3 J	89	58-154	
Isopropylbenzene	25.0	25.3	101	77-124	
2-Chlorotoluene	25.0	24.0	96	75-120	
2-Butanone (MEK)	50.0	48.7	97	45-148	
4-Methyl-2-pentanone (MIBK)	50.0	49.5	99	53-139	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: UX80627.D

Lab ID: LCS 240-354032/6 Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
Bromobenzene	25.0	22.7	91	75-120	
Methyl tert-butyl ether	25.0	25.1	101	66-127	
Bromochloromethane	25.0	26.5	106	72-124	
Methylene Chloride	25.0	27.2	109	62-137	
4-Chlorotoluene	25.0	24.5	98	74-121	
p-Isopropyltoluene	25.0	25.4	101	74-124	
Styrene	25.0	24.2	97	76-121	
m-Xylene & p-Xylene	25.0	24.2	97	77-120	
o-Xylene	25.0	24.6	98	79-120	
Hexachlorobutadiene	25.0	23.2	93	58-122	
Tetrachloroethene	25.0	23.3	93	76-120	
Dibromomethane	25.0	23.7	95	71-122	
Toluene	25.0	23.9	95	76-120	
Naphthalene	25.0	21.3	85	51-120	
trans-1,2-Dichloroethene	25.0	26.5	106	71-133	
n-Butylbenzene	25.0	25.0	100	64-133	
trans-1,3-Dichloropropene	25.0	20.3	81	55-121	
N-Propylbenzene	25.0	24.7	99	73-129	
Trichloroethene	25.0	23.4	94	73-126	
sec-Butylbenzene	25.0	24.6	98	73-126	
Trichlorofluoromethane	25.0	26.4	106	47-146	
tert-Butylbenzene	25.0	24.2	97	73-122	
Vinyl chloride	25.0	28.8	115	52-130	
Vinyl acetate	25.0	24.4	98	43-144	
tert-Butyl alcohol	250	231	92	41-139	
Xylenes, Total	50.0	48.8	98	79-120	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: UX80655.D

Lab ID: 240-103610-4 MS Client ID: SB-SEMW-10D-DUP MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	27.9	3.5 U	23.1	83	16-137	
1,1-Dichloropropene	27.9	1.2 U	22.4	80	30-138	
1,1-Dichloroethane	27.9	0.81 U	23.3	84	50-133	
1,2,3-Trichlorobenzene	27.9	0.67 U	16.6	59	10-120	
1,2,3-Trichloropropane	27.9	1.8 U	22.8	82	10-178	
1,2-Dichloroethane	27.9	0.90 U	22.7	81	42-127	
1,1-Dichloroethene	27.9	1.1 U	23.7	85	36-150	
1,2-Dichloropropane	27.9	0.99 U	24.7	88	51-128	
1,2,4-Trimethylbenzene	27.9	1.2 U	22.0	79	10-149	
2-Hexanone	55.8	4.8 U	43.5	78	15-147	
1,1,2,2-Tetrachloroethane	27.9	1.7 U	23.2	83	16-178	
Acetone	55.8	25 U	46.0	82	10-160	
Benzene	27.9	0.82 U	23.3	84	39-133	
Bromoform	27.9	2.8 U	17.2	62	18-120	
Bromomethane	27.9	1.2 U	21.7	78	10-159	
Carbon disulfide	27.9	1.4 U	22.0	79	16-145	
Carbon tetrachloride	27.9	3.8 U	22.1	79	22-142	
1,1,1-Trichloroethane	27.9	0.96 U	24.3	87	38-143	
Chlorobenzene	27.9	1.1 U	22.6	81	21-131	
1,3-Dichloropropane	27.9	1.2 U	23.3	83	34-121	
Chloroethane	27.9	1.4 U	21.5	77	17-162	
1,2-Dibromo-3-Chloropropane	27.9	4.2 U	15.9	57	10-141	
Chloroform	27.9	0.92 U	23.0	82	51-130	
Chloromethane	27.9	1.2 U	22.8	82	26-149	
cis-1,2-Dichloroethene	27.9	0.76 U	24.6	88	50-128	
cis-1,3-Dichloropropene	27.9	1.7 U	22.3	80	15-132	
Bromodichloromethane	27.9	0.79 U	22.7	81	32-129	
1,1,2-Trichloro-1,2,2-trifluoroethane	27.9	1.5 U	23.3	83	37-147	
Dichlorodifluoromethane	27.9	1.1 U	19.5	70	15-150	
1,2,4-Trichlorobenzene	27.9	0.67 U	14.8	53	10-120	
Ethylbenzene	27.9	1.2 U	22.5	81	20-135	
1,2-Dibromoethane	27.9	0.90 U	22.9	82	36-125	
2,2-Dichloropropane	27.9	1.4 U	19.7	71	20-141	
1,2-Dichlorobenzene	27.9	1.3 U	20.6	74	10-130	
1,3-Dichlorobenzene	27.9	0.95 U	20.6	74	10-131	
1,4-Dichlorobenzene	27.9	1.0 U	19.9	71	10-130	
2-Chloroethyl vinyl ether	27.9	10 U	17.9 J	64	10-134	
Isopropylbenzene	27.9	0.97 U	22.6	81	20-138	
2-Chlorotoluene	27.9	1.1 U	22.4	80	10-179	
2-Butanone (MEK)	55.8	4.2 U	43.8	78	20-148	
4-Methyl-2-pentanone (MIBK)	55.8	4.3 U	44.2	79	29-143	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: UX80655.D

Lab ID: 240-103610-4 MS Client ID: SB-SEMW-10D-DUP MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
Bromobenzene	27.9	1.4 U	22.0	79	10-164	
Methyl tert-butyl ether	27.9	0.96 U	22.3	80	48-134	
Bromochloromethane	27.9	0.69 U	23.4	84	36-147	
Methylene Chloride	27.9	14 U	24.5 J	88	39-145	
4-Chlorotoluene	27.9	1.0 U	22.6	81	10-158	
p-Isopropyltoluene	27.9	3.4 U	21.4	77	10-142	
Styrene	27.9	1.4 U	22.8	82	10-134	
m-Xylene & p-Xylene	27.9	0.91 U	22.1	79	16-137	
o-Xylene	27.9	1.0 U	23.0	82	21-138	
Hexachlorobutadiene	27.9	4.4 U	15.7	56	10-120	
Tetrachloroethene	27.9	0.85 U	21.9	78	20-151	
Dibromomethane	27.9	0.78 U	22.5	80	37-138	
Toluene	27.9	0.90 U	23.6	85	29-141	
Naphthalene	27.9	3.2 U	15.3	55	10-120	
trans-1,2-Dichloroethene	27.9	0.54 U	24.1	86	44-141	
n-Butylbenzene	27.9	4.1 U	19.4	69	10-149	
trans-1,3-Dichloropropene	27.9	1.2 U	18.4	66	15-120	
N-Propylbenzene	27.9	0.86 U	22.3	80	10-162	
Trichloroethene	27.9	49	129	288	25-148	F1
sec-Butylbenzene	27.9	1.0 U	21.5	77	10-156	
Trichlorofluoromethane	27.9	1.3 U	21.9	78	38-149	
tert-Butylbenzene	27.9	1.1 U	22.0	79	10-148	
Vinyl chloride	27.9	0.98 U	24.3	87	31-148	
Vinyl acetate	27.9	2.5 U	22.7	81	10-120	
tert-Butyl alcohol	279	19 U	201 J	72	59-128	
Xylenes, Total	55.8	1.9 U	45.1	81	19-137	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: UX80656.D

Lab ID: 240-103610-4 MSD Client ID: SB-SEMW-10D-DUP MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	30.1	27.2	90	16	40	16-137	
1,1-Dichloropropene	30.1	26.3	87	16	36	30-138	
1,1-Dichloroethane	30.1	27.7	92	17	40	50-133	
1,2,3-Trichlorobenzene	30.1	16.7	56	1	40	10-120	
1,2,3-Trichloropropane	30.1	27.8	92	20	40	10-178	
1,2-Dichloroethane	30.1	26.0	86	13	34	42-127	
1,1-Dichloroethene	30.1	28.8	96	20	40	36-150	
1,2-Dichloropropane	30.1	27.5	91	11	36	51-128	
1,2,4-Trimethylbenzene	30.1	25.3	84	14	40	10-149	
2-Hexanone	60.3	50.2	83	14	40	15-147	
1,1,2,2-Tetrachloroethane	30.1	26.7	89	14	40	16-178	
Acetone	60.3	60.0	100	26	39	10-160	
Benzene	30.1	26.8	89	14	40	39-133	
Bromoform	30.1	20.8	69	19	40	18-120	
Bromomethane	30.1	27.3	91	23	40	10-159	
Carbon disulfide	30.1	28.1	93	24	40	16-145	
Carbon tetrachloride	30.1	27.4	91	21	40	22-142	
1,1,1-Trichloroethane	30.1	28.9	96	17	40	38-143	
Chlorobenzene	30.1	25.6	85	12	40	21-131	
1,3-Dichloropropane	30.1	25.8	85	10	40	34-121	
Chloroethane	30.1	29.8	99	32	40	17-162	
1,2-Dibromo-3-Chloropropane	30.1	18.4	61	14	40	10-141	
Chloroform	30.1	28.1	93	20	32	51-130	
Chloromethane	30.1	29.2	97	24	37	26-149	
cis-1,2-Dichloroethene	30.1	29.6	98	18	40	50-128	
cis-1,3-Dichloropropene	30.1	25.9	86	15	40	15-132	
Bromodichloromethane	30.1	26.0	86	13	39	32-129	
1,1,2-Trichloro-1,2,2-trifluoroethane	30.1	27.7	92	17	37	37-147	
Dichlorodifluoromethane	30.1	23.7	79	19	31	15-150	
1,2,4-Trichlorobenzene	30.1	15.1	50	2	40	10-120	
Ethylbenzene	30.1	26.1	87	15	40	20-135	
1,2-Dibromoethane	30.1	25.4	84	10	40	36-125	
2,2-Dichloropropane	30.1	25.0	83	24	40	20-141	
1,2-Dichlorobenzene	30.1	20.4	68	1	40	10-130	
1,3-Dichlorobenzene	30.1	23.9	79	15	40	10-131	
1,4-Dichlorobenzene	30.1	22.9	76	14	40	10-130	
2-Chloroethyl vinyl ether	30.1	20.3 J	67	13	40	10-134	
Isopropylbenzene	30.1	26.8	89	17	40	20-138	
2-Chlorotoluene	30.1	24.6	82	9	40	10-179	
2-Butanone (MEK)	60.3	50.8	84	15	36	20-148	
4-Methyl-2-pentanone (MIBK)	60.3	51.5	85	15	40	29-143	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: UX80656.D

Lab ID: 240-103610-4 MSD Client ID: SB-SEMW-10D-DUP MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Bromobenzene	30.1	23.9	79	8	40	10-164	
Methyl tert-butyl ether	30.1	26.9	89	19	34	48-134	
Bromochloromethane	30.1	28.7	95	20	40	36-147	
Methylene Chloride	30.1	30.7	102	22	40	39-145	
4-Chlorotoluene	30.1	24.9	83	9	40	10-158	
p-Isopropyltoluene	30.1	25.1	83	16	40	10-142	
Styrene	30.1	26.6	88	16	40	10-134	
m-Xylene & p-Xylene	30.1	25.4	84	14	40	16-137	
o-Xylene	30.1	26.8	89	15	40	21-138	
Hexachlorobutadiene	30.1	16.0	53	2	40	10-120	
Tetrachloroethene	30.1	24.8	82	13	40	20-151	
Dibromomethane	30.1	26.7	89	17	30	37-138	
Toluene	30.1	25.5	85	8	40	29-141	
Naphthalene	30.1	15.9	53	4	40	10-120	
trans-1,2-Dichloroethene	30.1	29.1	96	19	40	44-141	
n-Butylbenzene	30.1	20.2	67	4	40	10-149	
trans-1,3-Dichloropropene	30.1	19.7	65	7	40	15-120	
N-Propylbenzene	30.1	24.9	83	11	40	10-162	
Trichloroethene	30.1	171	404	28	40	25-148	F1
sec-Butylbenzene	30.1	25.3	84	16	40	10-156	
Trichlorofluoromethane	30.1	28.6	95	26	39	38-149	
tert-Butylbenzene	30.1	25.1	83	13	40	10-148	
Vinyl chloride	30.1	31.8	105	27	37	31-148	
Vinyl acetate	30.1	25.5	85	12	40	10-120	
tert-Butyl alcohol	301	244	81	19	39	59-128	
Xylenes, Total	60.3	52.2	87	15	40	19-137	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Lab File ID: UXJ6208.D Lab Sample ID: MB 240-354546/6

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: A3UX11 Date Analyzed: 11/09/2018 11:14

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 240-354546/4	UXJ6205.D	11/09/2018 10:07
TB-102918	240-103610-1	UXJ6226.D	11/09/2018 17:52

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103610-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-354546/6

Matrix: Water | Lab File ID: UXJ6208.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 11/09/2018 11:14

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.: 354546 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	0.14	U	1.0	0.14
563-58-6	1,1-Dichloropropene	0.14	U	1.0	0.14
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17
87-61-6	1,2,3-Trichlorobenzene	0.54	U	1.0	0.54
96-18-4	1,2,3-Trichloropropane	0.24	U	1.0	0.24
107-06-2	1,2-Dichloroethane	0.21	U	1.0	0.21
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19
526-73-8	1,2,3-Trimethylbenzene	0.14	U	5.0	0.14
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15
95-63-6	1,2,4-Trimethylbenzene	0.070	U	1.0	0.070
591-78-6	2-Hexanone	0.54	U	10	0.54
79-34-5	1,1,2,2-Tetrachloroethane	0.13	U	1.0	0.13
67-64-1	Acetone	5.4	U	10	5.4
71-43-2	Benzene	0.13	U	1.0	0.13
75-25-2	Bromoform	0.76	U	1.0	0.76
74-83-9	Bromomethane	0.42	U	1.0	0.42
75-15-0	Carbon disulfide	0.28	U	1.0	0.28
56-23-5	Carbon tetrachloride	0.26	U	1.0	0.26
71-55-6	1,1,1-Trichloroethane	0.24	U	1.0	0.24
108-90-7	Chlorobenzene	0.14	U	1.0	0.14
142-28-9	1,3-Dichloropropane	0.21	U	1.0	0.21
75-00-3	Chloroethane	0.83	U	1.0	0.83
96-12-8	1,2-Dibromo-3-Chloropropane	0.91	U	2.0	0.91
67-66-3	Chloroform	0.13	U	1.0	0.13
74-87-3	Chloromethane	0.20	U	1.0	0.20
156-59-2	cis-1,2-Dichloroethene	0.16	U	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	0.61	U	1.0	0.61
75-27-4	Bromodichloromethane	0.17	U	1.0	0.17
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
75-71-8	Dichlorodifluoromethane	0.35	U	1.0	0.35
120-82-1	1,2,4-Trichlorobenzene	0.26	U	1.0	0.26
100-41-4	Ethylbenzene	0.11	U	1.0	0.11
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12
594-20-7	2,2-Dichloropropane	0.31	U	1.0	0.31
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.15	U	1.0	0.15

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103610-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-354546/6

Matrix: Water | Lab File ID: UXJ6208.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 11/09/2018 11:14

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.: 354546 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
106-46-7	1,4-Dichlorobenzene	0.16	U	1.0	0.16
110-75-8	2-Chloroethyl vinyl ether	0.26	U	10	0.26
98-82-8	Isopropylbenzene	0.090	U	1.0	0.090
95-49-8	2-Chlorotoluene	0.15	U	1.0	0.15
78-93-3	2-Butanone (MEK)	1.2	U	10	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	0.42	U	10	0.42
108-86-1	Bromobenzene	0.12	U	1.0	0.12
1634-04-4	Methyl tert-butyl ether	0.070	U	1.0	0.070
74-97-5	Bromochloromethane	0.14	U	1.0	0.14
75-09-2	Methylene Chloride	2.6	U	5.0	2.6
106-43-4	4-Chlorotoluene	0.090	U	1.0	0.090
99-87-6	4-Isopropyltoluene	0.13	U	1.0	0.13
100-42-5	Styrene	0.10	U	1.0	0.10
179601-23-1	m-Xylene & p-Xylene	0.080	U	2.0	0.080
95-47-6	o-Xylene	0.090	U	1.0	0.090
87-68-3	Hexachlorobutadiene	0.83	U	1.0	0.83
127-18-4	Tetrachloroethene	0.15	U	1.0	0.15
74-95-3	Dibromomethane	0.090	U	1.0	0.090
108-88-3	Toluene	0.14	U	1.0	0.14
108-20-3	Diisopropyl ether	0.17	U	10	0.17
91-20-3	Naphthalene	0.32	U	1.0	0.32
156-60-5	trans-1,2-Dichloroethene	0.19	U	1.0	0.19
104-51-8	n-Butylbenzene	0.14	U	1.0	0.14
10061-02-6	trans-1,3-Dichloropropene	0.67	U	1.0	0.67
103-65-1	N-Propylbenzene	0.15	U	1.0	0.15
79-01-6	Trichloroethene	0.10	U	1.0	0.10
135-98-8	sec-Butylbenzene	0.13	U	1.0	0.13
75-69-4	Trichlorofluoromethane	0.45	U	1.0	0.45
994-05-8	Tert-amyl methyl ether	0.11	U	5.0	0.11
637-92-3	Ethyl tert-butyl ether	0.15	U	5.0	0.15
98-06-6	tert-Butylbenzene	0.14	U	1.0	0.14
75-01-4	Vinyl chloride	0.20	U	1.0	0.20
108-05-4	Vinyl acetate	0.19	U	2.0	0.19
75-65-0	tert-Butyl alcohol	1.7	U	50	1.7
1330-20-7	Xylenes, Total	0.15	U	2.0	0.15
124-48-1	Chlorodibromomethane	0.39	U	1.0	0.39

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 240-354546/6

Matrix: Water Lab File ID: UXJ6208.D

Analysis Method: 8260B Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 11/09/2018 11:14

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.: 354546 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	111		70-121
460-00-4	4-Bromofluorobenzene (Surr)	78		59-120
2037-26-5	Toluene-d8 (Surr)	79		70-123
1868-53-7	Dibromofluoromethane (Surr)	120		75-128

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Matrix: Water Level: Low Lab File ID: UXJ6205.D

Lab ID: LCS 240-354546/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	10.0	11.5	115	80-124	
1,1-Dichloropropene	10.0	10.0	100	78-126	
1,1-Dichloroethane	10.0	10.2	102	75-133	
1,2,3-Trichlorobenzene	10.0	9.81	98	39-138	
1,2,3-Trichloropropane	10.0	8.70	87	66-139	
1,2-Dichloroethane	10.0	10.3	103	71-135	
1,1-Dichloroethene	10.0	9.84	98	65-139	
1,2-Dichloropropane	10.0	9.09	91	78-133	
1,2,4-Trimethylbenzene	10.0	7.79	78	74-120	
2-Hexanone	20.0	13.3	67	43-148	
1,1,2,2-Tetrachloroethane	10.0	7.50	75	65-139	
Acetone	20.0	19.7	99	21-162	
Benzene	10.0	9.37	94	80-123	
Bromoform	10.0	12.1	121	49-141	
Bromomethane	10.0	8.42	84	41-175	
Carbon disulfide	10.0	9.49	95	60-138	
Carbon tetrachloride	10.0	12.4	124	63-140	
1,1,1-Trichloroethane	10.0	11.8	118	69-134	
Chlorobenzene	10.0	9.76	98	80-121	
1,3-Dichloropropane	10.0	8.19	82	72-134	
Chloroethane	10.0	7.26	73	33-173	
1,2-Dibromo-3-Chloropropane	10.0	8.63	86	46-132	
Chloroform	10.0	11.6	116	79-127	
Chloromethane	10.0	8.56	86	54-143	
cis-1,2-Dichloroethene	10.0	10.5	105	76-128	
cis-1,3-Dichloropropene	10.0	8.17	82	64-132	
Bromodichloromethane	10.0	10.3	103	77-125	
1,1,2-Trichlorotrifluoroethane	10.0	11.8	118	50-156	
Dichlorodifluoromethane	10.0	13.0	130	29-148	
1,2,4-Trichlorobenzene	10.0	9.07	91	42-133	
Ethylbenzene	10.0	9.01	90	80-120	
1,2-Dibromoethane	10.0	8.65	87	77-123	
2,2-Dichloropropane	10.0	10.6	106	42-150	
1,2-Dichlorobenzene	10.0	9.54	95	78-120	
1,3-Dichlorobenzene	10.0	9.54	95	78-120	
1,4-Dichlorobenzene	10.0	9.35	93	78-120	
2-Chloroethyl vinyl ether	10.0	5.89 J	59	55-137	
Isopropylbenzene	10.0	9.10	91	74-120	
2-Chlorotoluene	10.0	9.42	94	78-123	
2-Butanone (MEK)	20.0	13.3	66	39-163	
4-Methyl-2-pentanone (MIBK)	20.0	14.6	73	49-143	
Bromobenzene	10.0	9.88	99	74-129	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Matrix: Water Level: Low Lab File ID: UXJ6205.D

Lab ID: LCS 240-354546/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Methyl tert-butyl ether	10.0	9.55	95	51-133	
Bromochloromethane	10.0	13.3	133	74-130	*
Methylene Chloride	10.0	11.5	115	70-134	
4-Chlorotoluene	10.0	8.99	90	77-125	
4-Isopropyltoluene	10.0	7.86	79	69-122	
Styrene	10.0	9.03	90	79-120	
m-Xylene & p-Xylene	10.0	9.16	92	80-120	
o-Xylene	10.0	9.22	92	80-120	
Hexachlorobutadiene	10.0	8.59	86	38-136	
Tetrachloroethene	10.0	11.3	113	74-130	
Dibromomethane	10.0	9.53	95	74-124	
Toluene	10.0	8.72	87	78-129	
Naphthalene	10.0	6.89	69	28-141	
trans-1,2-Dichloroethene	10.0	10.8	108	78-133	
n-Butylbenzene	10.0	6.96	70	57-126	
trans-1,3-Dichloropropene	10.0	7.76	78	55-128	
N-Propylbenzene	10.0	8.02	80	77-123	
Trichloroethene	10.0	10.9	109	76-125	
sec-Butylbenzene	10.0	7.37	74	68-123	
Trichlorofluoromethane	10.0	9.84	98	51-164	
tert-Butylbenzene	10.0	7.25	72	70-121	
Vinyl chloride	10.0	8.62	86	58-143	
Vinyl acetate	10.0	6.74	67	45-151	
tert-Butyl alcohol	100	110	110	10-161	
Xylenes, Total	20.0	18.4	92	80-120	

Column to be used to flag recovery and RPD values

FORM III 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Lab File ID: J80807A.D BFB Injection Date: 08/07/2018

Instrument ID: A3UX11 BFB Injection Time: 09:44

Analysis Batch No.: 339715

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	20.7	
75	30.0 - 60.0 % of mass 95	52.7	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	5.8	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	83.4	
175	5.0 - 9.0 % of mass 174	6.5	(7.8) 1
176	95.0 - 101.0 % of mass 174	80.3	(96.3) 1
177	5.0 - 9.0 % of mass 176	5.3	(6.6) 2

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

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD8260 240-339715/2	UXJ3440.D	08/07/2018	10:19
	STD8260 240-339715/3	UXJ3441.D	08/07/2018	10:41
	STD8260 240-339715/4	UXJ3442.D	08/07/2018	11:03
	STD8260 240-339715/5	UXJ3443.D	08/07/2018	11:26
	STD8260 240-339715/6	UXJ3444.D	08/07/2018	11:48
	STD8260 240-339715/7	UXJ3445.D	08/07/2018	12:10
	ICV 240-339715/14	UXJ3446.D	08/07/2018	12:33
	STD6 240-339715/8	UXJ3447.D	08/07/2018	12:55
	STD5 240-339715/9	UXJ3448.D	08/07/2018	13:17
	STD4 240-339715/10	UXJ3449.D	08/07/2018	13:39
	STD3 240-339715/11	UXJ3450.D	08/07/2018	14:02
	STD2 240-339715/12	UXJ3451.D	08/07/2018	14:24
	STD1 240-339715/13	UXJ3452.D	08/07/2018	14:46
	ICV 240-339715/15	UXJ3453.D	08/07/2018	15:08

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

Lab Name: TestAmerica Canton Job No.: 240-103610-1 Analy Batch No.: 339715

SDG No.:

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

Calibration Start Date: 08/07/2018 10:19 Calibration End Date: 08/07/2018 12:10 Calibration ID: 46381

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-339715/7	UXJ3445.D
Level 2	STD8260 240-339715/6	UXJ3444.D
Level 3	STD8260 240-339715/5	UXJ3443.D
Level 4	STD8260 240-339715/4	UXJ3442.D
Level 5	STD8260 240-339715/3	UXJ3441.D
Level 6	STD8260 240-339715/2	UXJ3440.D

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								
Dichlorodifluoromethane	0.2113 0.2754	0.2205	0.2514	0.2701	0.2552	Ave		0.2473				10.5		15.0			
Chloromethane	0.2966 0.2658	0.2669	0.2369	0.2642	0.2510	Ave		0.2636			0.1000	7.5		15.0			
Butadiene	0.2900 0.2983	0.2996	0.2687	0.3063	0.2906	Ave		0.2922				4.5		15.0			
Vinyl chloride	0.3410 0.3462	0.2906	0.2962	0.3301	0.3303	Ave		0.3224				7.3		15.0			
Bromomethane	0.2143 0.2276	0.2109	0.1862	0.2232	0.2234	Ave		0.2143				7.0		15.0			
Chloroethane	0.2081 0.2175	0.1820	0.1874	0.2169	0.2056	Ave		0.2029				7.4		15.0			
Dichlorofluoromethane	0.4987 0.4862	0.4843	0.4363	0.4824	0.4794	Ave		0.4779				4.5		15.0			
Trichlorofluoromethane	0.4391 0.4677	0.4073	0.4077	0.4518	0.4481	Ave		0.4369				5.6		15.0			
Ethyl ether	0.2465 0.2533	0.2557	0.2353	0.2364	0.2339	Ave		0.2435				4.0		15.0			
Acrolein	0.0759 0.0704	0.0703	0.0643	0.0544	0.0664	Ave		0.0670				10.9		15.0			
1,1-Dichloroethene	0.2835 0.2705	0.2694	0.2278	0.2497	0.2218	Ave		0.2538				9.8		15.0			
1,1,2-Trichlorotrifluoroethane	0.1886 0.2004	0.1793	0.1651	0.1792	0.1891	Ave		0.1836				6.5		15.0			
Acetone	+++++ 0.1256	0.1097	0.1140	0.0844	0.1085	Ave		0.1084				13.9		15.0			
Iodomethane	0.3765 0.3938	0.3974	0.3709	0.3713	0.3649	Ave		0.3791				3.5		15.0			
Carbon disulfide	0.7838 0.8002	0.8291	0.7111	0.7182	0.7157	Ave		0.7597				6.7		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.: 240-103610-1 Analy Batch No.: 339715

SDG No.:

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

Calibration Start Date: 08/07/2018 10:19 Calibration End Date: 08/07/2018 12:10 Calibration ID: 46381

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	0.1842 0.1931	0.1799	0.1853	0.1883	0.1745	Ave		0.1842				3.5		15.0			
Methyl acetate	0.3120 0.2718	0.3005	0.2764	0.2441	0.2852	Ave		0.2816				8.4		15.0			
Methylene Chloride	0.2465 0.2541	0.2600	0.2384	0.2463	0.2371	Ave		0.2471				3.6		15.0			
tert-Butyl alcohol	0.0449 0.0482	0.0271	0.0375	0.0294	0.0406	Qua	0.0221	0.0298	0.0000460						0.9980		0.9900
Acrylonitrile	0.1530 0.1402	0.1434	0.1325	0.1156	0.1393	Ave		0.1373				9.2		15.0			
trans-1,2-Dichloroethene	0.3173 0.2799	0.2938	0.2593	0.2627	0.2556	Ave		0.2781				8.6		15.0			
Methyl tert-butyl ether	0.7025 0.7293	0.7524	0.6521	0.7053	0.7147	Ave		0.7094				4.7		15.0			
Hexane	0.0938 0.0874	0.0868	0.0886	0.0782	0.0870	Ave		0.0870				5.8		15.0			
1,1-Dichloroethane	0.4671 0.4860	0.5026	0.4549	0.4627	0.4600	Ave		0.4722			0.1000	3.9		15.0			
Vinyl acetate	0.6550 0.5994	0.6109	0.5939	0.5414	0.6173	Ave		0.6030				6.1		15.0			
cis-1,2-Dichloroethene	0.3206 0.2886	0.3118	0.2909	0.2867	0.2694	Ave		0.2947				6.3		15.0			
2,2-Dichloropropane	0.3140 0.3009	0.3134	0.2669	0.2887	0.2881	Ave		0.2953				6.1		15.0			
2-Butanone (MEK)	0.2472 0.1771	0.2101	0.2018	0.1738	0.2098	Ave		0.2033				13.2		15.0			
Bromochloromethane	0.1318 0.1289	0.1340	0.1263	0.1173	0.1214	Ave		0.1266				5.0		15.0			
Tetrahydrofuran	0.1508 0.1185	0.1488	0.1299	0.1111	0.1419	Ave		0.1335				12.3		15.0			
Chloroform	0.4501 0.4385	0.4667	0.4153	0.4412	0.4277	Ave		0.4399				4.0		15.0			
1,1,1-Trichloroethane	0.3505 0.3769	0.3912	0.3364	0.3638	0.3835	Ave		0.3670				5.7		15.0			
Cyclohexane	0.4465 0.4693	0.4545	0.4480	0.4464	0.4630	Ave		0.4546				2.1		15.0			
1,1-Dichloropropene	0.3360 0.3907	0.4134	0.3824	0.3708	0.3879	Ave		0.3802				6.8		15.0			
Carbon tetrachloride	0.3518 0.3442	0.3644	0.3271	0.3395	0.3353	Ave		0.3437				3.8		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.: 240-103610-1 Analy Batch No.: 339715

SDG No.:

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

Calibration Start Date: 08/07/2018 10:19 Calibration End Date: 08/07/2018 12:10 Calibration ID: 46381

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	0.0232 0.0262	0.0226	0.0234	0.0215	0.0234	Ave		0.0234				6.6		15.0			
Benzene	1.1222 1.0686	1.1019	1.0204	1.0205	1.0586	Ave		1.0654				3.9		15.0			
1,2-Dichloroethane	0.3988 0.3589	0.3944	0.3421	0.3584	0.3661	Ave		0.3698				6.0		15.0			
n-Heptane	0.0871 0.0904	0.0824	0.0879	0.0817	0.0951	Ave		0.0874				5.8		15.0			
Trichloroethene	0.3118 0.2724	0.2870	0.2668	0.2668	0.2765	Ave		0.2802				6.1		15.0			
Methylcyclohexane	0.4796 0.5195	0.4976	0.4828	0.4753	0.4956	Ave		0.4917				3.3		15.0			
1,2-Dichloropropane	0.2481 0.2339	0.2676	0.2413	0.2322	0.2578	Ave		0.2468				5.6		15.0			
Dibromomethane	0.1916 0.1495	0.1735	0.1559	0.1491	0.1584	Ave		0.1630				10.2		15.0			
1,4-Dioxane	0.0018 0.0033	0.0024	0.0024	0.0031	0.0033	Lin1	-0.039	0.0033							0.9970		0.9900
Bromodichloromethane	0.3350 0.3199	0.3431	0.3269	0.3198	0.3511	Ave		0.3326				3.8		15.0			
2-Chloroethyl vinyl ether	0.1977 0.1548	0.1743	0.1871	0.1596	0.2016	Ave		0.1792				10.9		15.0			
cis-1,3-Dichloropropene	0.4612 0.3848	0.4081	0.4004	0.3785	0.4269	Ave		0.4100				7.4		15.0			
4-Methyl-2-pentanone (MIBK)	0.4093 0.3080	0.3605	0.3540	0.3413	0.3856	Ave		0.3598				9.8		15.0			
Toluene	1.7043 1.7429	1.6573	1.5865	1.5729	1.6036	Ave		1.6446				4.2		15.0			
trans-1,3-Dichloropropene	0.5821 0.5592	0.5801	0.5507	0.5256	0.5622	Ave		0.5600				3.7		15.0			
Ethyl methacrylate	0.5398 0.5010	0.4957	0.4938	0.4974	0.5240	Ave		0.5086				3.7		15.0			
1,1,2-Trichloroethane	0.3576 0.3110	0.3495	0.3053	0.3019	0.3142	Ave		0.3232				7.4		15.0			
Tetrachloroethene	0.3108 0.3162	0.3056	0.3023	0.2968	0.3015	Ave		0.3055				2.3		15.0			
1,3-Dichloropropane	0.6243 0.5618	0.5686	0.5628	0.5497	0.5759	Ave		0.5738				4.6		15.0			
2-Hexanone	0.4399 0.3405	0.4417	0.4008	0.4080	0.4290	Ave		0.4100				9.2		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.: 240-103610-1 Analy Batch No.: 339715

SDG No.:

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

Calibration Start Date: 08/07/2018 10:19 Calibration End Date: 08/07/2018 12:10 Calibration ID: 46381

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	0.3603 0.3658	0.3663	0.3459	0.3625	0.3623	Ave		0.3605				2.1		15.0			
1,2-Dibromoethane	0.3783 0.3173	0.3326	0.3203	0.3113	0.3285	Ave		0.3314				7.3		15.0			
Chlorobenzene	1.0540 0.9885	1.0242	0.9549	0.9534	0.9623	Ave		0.9896			0.3000	4.2		15.0			
1,1,1,2-Tetrachloroethane	0.3479 0.3526	0.3676	0.3148	0.3480	0.3192	Ave		0.3417				6.0		15.0			
Ethylbenzene	0.5165 0.5598	0.5941	0.5439	0.5446	0.5431	Ave		0.5503				4.7		15.0			
m-Xylene & p-Xylene	0.6867 0.6950	0.6556	0.6501	0.6526	0.6632	Ave		0.6672				2.8		15.0			
o-Xylene	0.5987 0.6716	0.6053	0.5917	0.6313	0.6267	Ave		0.6209				4.7		15.0			
Styrene	1.0210 1.1055	1.0931	1.0019	1.0434	1.0703	Ave		1.0559				3.9		15.0			
Bromoform	0.2735 0.2509	0.2607	0.2468	0.2535	0.2508	Ave		0.2560			0.1000	3.8		15.0			
Isopropylbenzene	1.7319 1.8318	1.7227	1.6269	1.6508	1.6772	Ave		1.7069				4.3		15.0			
1,1,2,2-Tetrachloroethane	1.1031 0.9672	1.0518	0.9569	0.9397	0.9566	Ave		0.9959			0.3000	6.6		15.0			
Bromobenzene	0.7755 0.7728	0.8428	0.7858	0.7561	0.7689	Ave		0.7837				3.9		15.0			
1,2,3-Trichloropropane	0.3314 0.3089	0.4042	0.3343	0.3161	0.3211	Ave		0.3360				10.3		15.0			
trans-1,4-Dichloro-2-butene	0.3422 0.2837	0.3748	0.3406	0.3053	0.3210	Ave		0.3279				9.7		15.0			
N-Propylbenzene	0.9682 0.9979	1.0752	0.9566	0.9342	0.9606	Ave		0.9821				5.1		15.0			
2-Chlorotoluene	0.8084 0.8069	0.8134	0.7783	0.7502	0.7658	Ave		0.7872				3.3		15.0			
1,3,5-Trimethylbenzene	2.8352 3.0005	2.8313	2.6946	2.6857	2.7266	Ave		2.7957				4.3		15.0			
4-Chlorotoluene	0.8308 0.8083	0.8444	0.7792	0.7838	0.8006	Ave		0.8078				3.2		15.0			
tert-Butylbenzene	2.4727 2.6589	2.3455	2.3803	2.2804	2.5152	Ave		2.4422				5.6		15.0			
1,2,4-Trimethylbenzene	2.9497 2.9942	2.9370	2.7123	2.7345	2.8285	Ave		2.8593				4.2		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.: 240-103610-1 Analy Batch No.: 339715

SDG No.:

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

Calibration Start Date: 08/07/2018 10:19 Calibration End Date: 08/07/2018 12:10 Calibration ID: 46381

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	3.4706 4.0032	3.6555	3.5136	3.4874	3.7065	Ave		3.6395				5.6		15.0			
1,3-Dichlorobenzene	1.4827 1.4294	1.5563	1.4178	1.3884	1.4512	Ave		1.4543				4.1		15.0			
4-Isopropyltoluene	3.0208 3.2959	2.9682	2.9564	2.9783	3.0893	Ave		3.0515				4.2		15.0			
1,4-Dichlorobenzene	1.6181 1.4192	1.5822	1.4416	1.3856	1.4486	Ave		1.4826				6.4		15.0			
1,2-Dichlorobenzene	1.4461 1.3943	1.3583	1.2761	1.3011	1.3169	Ave		1.3488				4.7		15.0			
n-Butylbenzene	2.7917 2.9438	2.8420	2.6351	2.6422	2.8208	Ave		2.7793				4.3		15.0			
1,2-Dibromo-3-Chloropropane	0.3099 0.2581	0.3427	0.2561	0.2752	0.2727	Ave		0.2858				11.9		15.0			
1,2,4-Trichlorobenzene	1.0343 0.9847	0.9843	0.7977	0.9054	0.8895	Ave		0.9327				9.2		15.0			
Hexachlorobutadiene	0.4843 0.4537	0.4398	0.3857	0.4171	0.4414	Ave		0.4370				7.6		15.0			
Naphthalene	3.4842 3.3259	3.4926	2.6724	2.9660	3.0196	Ave		3.1601				10.4		15.0			
1,2,3-Trichlorobenzene	1.0474 0.9738	0.9604	0.7324	0.8501	0.8838	Ave		0.9080				12.2		15.0			
Dibromofluoromethane (Surr)	0.2447 0.2301	0.2304	0.2188	0.2371	0.2276	Ave		0.2315				3.8		15.0			
1,2-Dichloroethane-d4 (Surr)	0.3450 0.2970	0.3032	0.3004	0.2852	0.2919	Ave		0.3038				7.0		15.0			
Toluene-d8 (Surr)	1.4697 1.5033	1.4153	1.3785	1.4367	1.3796	Ave		1.4305				3.5		15.0			
4-Bromofluorobenzene (Surr)	0.4653 0.4235	0.4605	0.4377	0.4361	0.4275	Ave		0.4418				3.9		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.: 240-103610-1

SDG No.:

Lab Sample ID: ICV 240-339715/14 Calibration Date: 08/07/2018 12:33

Instrument ID: A3UX11 Calib Start Date: 08/07/2018 10:19

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/07/2018 12:10

Lab File ID: UXJ3446.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	0.2473	0.2531		0.0102	0.0100	2.3	50.0
Chloromethane	Ave	0.2636	0.2421	0.1000	0.00919	0.0100	-8.1	50.0
Butadiene	Ave	0.2922	0.2582		0.00883	0.0100	-11.7	50.0
Vinyl chloride	Ave	0.3224	0.3029		0.00940	0.0100	-6.0	20.0
Bromomethane	Ave	0.2143	0.1941		0.00906	0.0100	-9.4	50.0
Chloroethane	Ave	0.2029	0.1980		0.00976	0.0100	-2.4	50.0
Dichlorofluoromethane	Ave	0.4779	0.4509		0.00943	0.0100	-5.7	50.0
Trichlorofluoromethane	Ave	0.4369	0.4246		0.00972	0.0100	-2.8	50.0
Ethyl ether	Ave	0.2435	0.2553		0.0105	0.0100	4.9	50.0
Acrolein	Ave	0.0670	0.0382		0.0285	0.0500	-42.9	50.0
1,1-Dichloroethene	Ave	0.2538	0.2622		0.0103	0.0100	3.3	20.0
1,1,2-Trichlorotrifluoroethane	Ave	0.1836	0.1904		0.0104	0.0100	3.7	50.0
Acetone	Ave	0.1084	0.0853		0.0174	0.0200	-21.4	50.0
Iodomethane	Ave	0.3791	0.3949		0.0104	0.0100	4.2	50.0
Carbon disulfide	Ave	0.7597	0.7656		0.0101	0.0100	0.8	50.0
3-Chloro-1-propene	Ave	0.1842	0.1988		0.0108	0.0100	7.9	50.0
Methyl acetate	Ave	0.2816	0.2330		0.0165	0.0200	-17.3	50.0
Methylene Chloride	Ave	0.2471	0.2557		0.0103	0.0100	3.5	50.0
tert-Butyl alcohol	Qua		0.0268		0.0795	0.100	-20.5	50.0
Acrylonitrile	Ave	0.1373	0.1135		0.0827	0.100	-17.3	50.0
trans-1,2-Dichloroethene	Ave	0.2781	0.2923		0.0105	0.0100	5.1	50.0
Methyl tert-butyl ether	Ave	0.7094	0.7342		0.0104	0.0100	3.5	50.0
Hexane	Ave	0.0870	0.0882		0.0101	0.0100	1.5	20.0
1,1-Dichloroethane	Ave	0.4722	0.5009	0.1000	0.0106	0.0100	6.1	50.0
Vinyl acetate	Ave	0.6030	0.5266		0.00873	0.0100	-12.7	50.0
2,2-Dichloropropane	Ave	0.2953	0.2889		0.00978	0.0100	-2.2	50.0
cis-1,2-Dichloroethene	Ave	0.2947	0.2913		0.00989	0.0100	-1.1	50.0
2-Butanone (MEK)	Ave	0.2033	0.1491		0.0147	0.0200	-26.6	50.0
Bromochloromethane	Ave	0.1266	0.1362		0.0108	0.0100	7.5	50.0
Tetrahydrofuran	Ave	0.1335	0.1084		0.0162	0.0200	-18.8	50.0
Chloroform	Ave	0.4399	0.4597		0.0104	0.0100	4.5	20.0
1,1,1-Trichloroethane	Ave	0.3670	0.3888		0.0106	0.0100	5.9	50.0
Cyclohexane	Ave	0.4546	0.4751		0.0105	0.0100	4.5	50.0
1,1-Dichloropropene	Ave	0.3802	0.3927		0.0103	0.0100	3.3	50.0
Carbon tetrachloride	Ave	0.3437	0.3680		0.0107	0.0100	7.1	50.0
Isobutyl alcohol	Ave	0.0234	0.0188		0.201	0.250	-19.4	50.0
Benzene	Ave	1.065	1.076		0.0101	0.0100	1.0	50.0
1,2-Dichloroethane	Ave	0.3698	0.3676		0.00994	0.0100	-0.6	50.0
n-Heptane	Ave	0.0874	0.0887		0.0101	0.0100	1.5	50.0
Trichloroethene	Ave	0.2802	0.2827		0.0101	0.0100	0.9	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Lab Sample ID: ICV 240-339715/14 Calibration Date: 08/07/2018 12:33

Instrument ID: A3UX11 Calib Start Date: 08/07/2018 10:19

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/07/2018 12:10

Lab File ID: UXJ3446.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	0.4917	0.4942		0.0101	0.0100	0.5	50.0
1,2-Dichloropropane	Ave	0.2468	0.2525		0.0102	0.0100	2.3	20.0
Dibromomethane	Ave	0.1630	0.1515		0.00929	0.0100	-7.1	50.0
1,4-Dioxane	Lin1		0.0024		0.153	0.200	-23.6	50.0
Bromodichloromethane	Ave	0.3326	0.3375		0.0101	0.0100	1.4	50.0
2-Chloroethyl vinyl ether	Ave	0.1792	0.1585		0.00885	0.0100	-11.5	50.0
cis-1,3-Dichloropropene	Ave	0.4100	0.4046		0.00987	0.0100	-1.3	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3598	0.2976		0.0165	0.0200	-17.3	50.0
Toluene	Ave	1.645	1.713		0.0104	0.0100	4.1	20.0
trans-1,3-Dichloropropene	Ave	0.5600	0.5330		0.00952	0.0100	-4.8	50.0
Ethyl methacrylate	Ave	0.5086	0.5175		0.0102	0.0100	1.7	50.0
1,1,2-Trichloroethane	Ave	0.3232	0.3355		0.0104	0.0100	3.8	50.0
Tetrachloroethene	Ave	0.3055	0.3233		0.0106	0.0100	5.8	50.0
1,3-Dichloropropane	Ave	0.5738	0.5544		0.00966	0.0100	-3.4	50.0
2-Hexanone	Ave	0.4100	0.3457		0.0169	0.0200	-15.7	50.0
Chlorodibromomethane	Ave	0.3605	0.3794		0.0105	0.0100	5.2	50.0
1,2-Dibromoethane	Ave	0.3314	0.3225		0.00973	0.0100	-2.7	50.0
Chlorobenzene	Ave	0.9896	0.997	0.3000	0.0101	0.0100	0.8	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3417	0.3525		0.0103	0.0100	3.2	50.0
Ethylbenzene	Ave	0.5503	0.5639		0.0102	0.0100	2.5	20.0
m-Xylene & p-Xylene	Ave	0.6672	0.6995		0.0105	0.0100	4.8	50.0
o-Xylene	Ave	0.6209	0.6635		0.0107	0.0100	6.9	50.0
Styrene	Ave	1.056	1.090		0.0103	0.0100	3.2	50.0
Bromoform	Ave	0.2560	0.2510	0.1000	0.00980	0.0100	-2.0	50.0
Isopropylbenzene	Ave	1.707	1.780		0.0104	0.0100	4.3	50.0
1,1,2,2-Tetrachloroethane	Ave	0.996	0.9709	0.3000	0.00975	0.0100	-2.5	50.0
Bromobenzene	Ave	0.7837	0.7974		0.0102	0.0100	1.8	50.0
1,2,3-Trichloropropane	Ave	0.3360	0.3229		0.00961	0.0100	-3.9	50.0
trans-1,4-Dichloro-2-butene	Ave	0.3279	0.3185		0.00971	0.0100	-2.9	50.0
N-Propylbenzene	Ave	0.9821	1.034		0.0105	0.0100	5.3	50.0
2-Chlorotoluene	Ave	0.7872	0.8272		0.0105	0.0100	5.1	50.0
1,3,5-Trimethylbenzene	Ave	2.796	2.874		0.0103	0.0100	2.8	50.0
4-Chlorotoluene	Ave	0.8078	0.7903		0.00978	0.0100	-2.2	50.0
tert-Butylbenzene	Ave	2.442	2.520		0.0103	0.0100	3.2	50.0
1,2,4-Trimethylbenzene	Ave	2.859	2.894		0.0101	0.0100	1.2	50.0
sec-Butylbenzene	Ave	3.639	3.786		0.0104	0.0100	4.0	50.0
1,3-Dichlorobenzene	Ave	1.454	1.448		0.00996	0.0100	-0.4	50.0
4-Isopropyltoluene	Ave	3.051	3.147		0.0103	0.0100	3.1	50.0
1,4-Dichlorobenzene	Ave	1.483	1.508		0.0102	0.0100	1.7	50.0
1,2-Dichlorobenzene	Ave	1.349	1.403		0.0104	0.0100	4.0	50.0
n-Butylbenzene	Ave	2.779	2.781		0.0100	0.0100	0.0	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Lab Sample ID: ICV 240-339715/14 Calibration Date: 08/07/2018 12:33

Instrument ID: A3UX11 Calib Start Date: 08/07/2018 10:19

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/07/2018 12:10

Lab File ID: UXJ3446.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	0.2858	0.2452		0.00858	0.0100	-14.2	50.0
1,2,4-Trichlorobenzene	Ave	0.9327	0.8708		0.00934	0.0100	-6.6	50.0
Hexachlorobutadiene	Ave	0.4370	0.4181		0.00957	0.0100	-4.3	50.0
Naphthalene	Ave	3.160	2.756		0.00872	0.0100	-12.8	50.0
1,2,3-Trichlorobenzene	Ave	0.9080	0.8430		0.00928	0.0100	-7.2	50.0
Dibromofluoromethane (Surr)	Ave	0.2315	0.2470		0.0213	0.0200	6.7	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3038	0.3037		0.0200	0.0200	-0.0	50.0
Toluene-d8 (Surr)	Ave	1.431	1.484		0.0208	0.0200	3.8	50.0
4-Bromofluorobenzene (Surr)	Ave	0.4418	0.4465		0.0202	0.0200	1.1	50.0

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

Lab Name: TestAmerica Canton Job No.: 240-103610-1 Analy Batch No.: 339715

SDG No.:

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

Calibration Start Date: 08/07/2018 12:55 Calibration End Date: 08/07/2018 14:46 Calibration ID: 46384

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 240-339715/13	UXJ3452.D
Level 2	STD2 240-339715/12	UXJ3451.D
Level 3	STD3 240-339715/11	UXJ3450.D
Level 4	STD4 240-339715/10	UXJ3449.D
Level 5	STD5 240-339715/9	UXJ3448.D
Level 6	STD6 240-339715/8	UXJ3447.D

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								
Acetonitrile	0.0504 0.0338	0.0225	0.0412	0.0369	0.0398	Qua	-0.219	0.0451	-0.000027						0.9980		0.9900
2-Chloro-1,3-butadiene	0.4031 0.4070	0.4129	0.4184	0.4459	0.4336	Ave		0.4202				3.9		15.0			
Diisopropyl ether	0.2076 0.2133	0.2205	0.2186	0.2234	0.2226	Ave		0.2177				2.8		15.0			
Ethyl tert-butyl ether	0.6780 0.6534	0.6925	0.6983	0.6895	0.7178	Ave		0.6883				3.1		15.0			
Propionitrile	0.0592 0.0508	0.0616	0.0631	0.0547	0.0601	Ave		0.0583				7.9		15.0			
Ethyl acetate	0.3997 0.3455	0.3384	0.3311	0.3182	0.3412	Ave		0.3457				8.1		15.0			
Methacrylonitrile	0.2199 0.2139	0.2003	0.2005	0.2025	0.2141	Ave		0.2085				4.1		15.0			
Tert-amyl methyl ether	0.8494 0.7274	0.7941	0.7968	0.7870	0.7877	Ave		0.7904				4.9		15.0			
n-Butanol	0.0224 0.0191	0.0206	0.0232	0.0211	0.0253	Ave		0.0220				9.9		15.0			
Ethyl acrylate	0.4425 0.4331	0.3506	0.3690	0.3745	0.3787	Ave		0.3914				9.5		15.0			
Methyl methacrylate	0.2765 0.2861	0.2395	0.2436	0.2468	0.2551	Ave		0.2579				7.4		15.0			
2-Nitropropane	0.1202 0.1120	0.1061	0.1059	0.1047	0.1112	Ave		0.1100				5.3		15.0			
n-Butyl acetate	0.4934 0.4597	0.4116	0.4118	0.4058	0.4258	Ave		0.4347				8.0		15.0			
1-Chlorohexane	0.5927 0.5351	0.5084	0.4904	0.5382	0.5407	Ave		0.5342				6.5		15.0			
Cyclohexanone	0.0623 0.0494	0.0662	0.0591	0.0576	0.0718	Ave		0.0611				12.6		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.: 240-103610-1 Analy Batch No.: 339715

SDG No.:

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

Calibration Start Date: 08/07/2018 12:55 Calibration End Date: 08/07/2018 14:46 Calibration ID: 46384

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	0.2149 0.2210	0.2243	0.2152	0.2259	0.2345	Ave		0.2226				3.3		15.0			
1,2,3-Trimethylbenzene	2.7583 2.9261	2.7403	2.7042	2.8828	3.0256	Ave		2.8395				4.4		15.0			
Benzyl chloride	0.3040 0.4246	0.3146	0.3526	0.3957	0.4116	Ave		0.3672				13.9		15.0			
1,3,5-Trichlorobenzene	1.1377 1.0486	1.0259	1.0232	1.0488	1.1163	Ave		1.0668				4.5		15.0			
2-Methylnaphthalene	2.2775 1.8631	2.3102	2.2390	1.9982	2.2702	Ave		2.1597				8.5		15.0			
1-Chloro-1-fluoroethane TIC	0.2557 0.2668	0.2672	0.2782	0.2489	0.2713	None											

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.: 240-103610-1

SDG No.:

Lab Sample ID: ICV 240-339715/15 Calibration Date: 08/07/2018 15:08

Instrument ID: A3UX11 Calib Start Date: 08/07/2018 10:19

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/07/2018 12:10

Lab File ID: UXJ3453.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
Dibromofluoromethane (Surr)	Ave	0.2315	0.2532		0.0219	0.0200	9.4	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3038	0.3257		0.0214	0.0200	7.2	50.0
Toluene-d8 (Surr)	Ave	1.431	1.510		0.0211	0.0200	5.6	50.0
4-Bromofluorobenzene (Surr)	Ave	0.4418	0.4573		0.0207	0.0200	3.5	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Lab Sample ID: ICV 240-339715/15 Calibration Date: 08/07/2018 15:08

Instrument ID: A3UX11 Calib Start Date: 08/07/2018 12:55

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/07/2018 14:46

Lab File ID: UXJ3453.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	Qua		0.0408		0.102	0.100	1.5	50.0
2-Chloro-1,3-butadiene	Ave	0.4202	0.4117		0.00980	0.0100	-2.0	50.0
Diisopropyl ether	Ave	0.2177	0.2091		0.00961	0.0100	-3.9	50.0
Ethyl tert-butyl ether	Ave	0.6883	0.6814		0.00990	0.0100	-1.0	50.0
Propionitrile	Ave	0.0583	0.0539		0.0925	0.100	-7.5	50.0
Ethyl acetate	Ave	0.3457	0.2992		0.0173	0.0200	-13.4	50.0
Methacrylonitrile	Ave	0.2085	0.1939		0.0930	0.100	-7.0	50.0
Tert-amyl methyl ether	Ave	0.7904	0.7617		0.00964	0.0100	-3.6	50.0
n-Butanol	Ave	0.0220	0.0168		0.191	0.250	-23.7	50.0
Ethyl acrylate	Ave	0.3914	0.3507		0.00896	0.0100	-10.4	50.0
Methyl methacrylate	Ave	0.2579	0.2382		0.0185	0.0200	-7.7	50.0
2-Nitropropane	Ave	0.1100	0.0996		0.0181	0.0200	-9.5	50.0
n-Butyl acetate	Ave	0.4347	0.4016		0.00924	0.0100	-7.6	50.0
1-Chlorohexane	Ave	0.5342	0.5239		0.00981	0.0100	-1.9	50.0
Cyclohexanone	Ave	0.0611	0.0386		0.0631	0.100	-36.9	50.0
Pentachloroethane	Ave	0.2226	0.1821		0.0164	0.0200	-18.2	50.0
1,2,3-Trimethylbenzene	Ave	2.840	2.866		0.0101	0.0100	0.9	50.0
Benzyl chloride	Ave	0.3672	0.3176		0.00865	0.0100	-13.5	50.0
1,3,5-Trichlorobenzene	Ave	1.067	1.015		0.00952	0.0100	-4.8	50.0
2-Methylnaphthalene	Ave	2.160	1.857		0.0172	0.0200	-14.0	50.0

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

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Lab File ID: BFB1109A.D BFB Injection Date: 11/09/2018

Instrument ID: A3UX11 BFB Injection Time: 09:19

Analysis Batch No.: 354546

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	17.9	
75	30.0 - 60.0 % of mass 95	49.2	
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	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	105.8	
175	5.0 - 9.0 % of mass 174	8.3	(7.8) 1
176	95.0 - 101.0 % of mass 174	102.4	(96.7) 1
177	5.0 - 9.0 % of mass 176	6.5	(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 240-354546/2	UXJ6204.D	11/09/2018	09:45
	LCS 240-354546/4	UXJ6205.D	11/09/2018	10:07
	CCV 240-354546/3	UXJ6206.D	11/09/2018	10:29
	MB 240-354546/6	UXJ6208.D	11/09/2018	11:14
TB-102918	240-103610-1	UXJ6226.D	11/09/2018	17:52

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Lab Sample ID: CCVIS 240-354546/2 Calibration Date: 11/09/2018 09:45

Instrument ID: A3UX11 Calib Start Date: 08/07/2018 10:19

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/07/2018 12:10

Lab File ID: UXJ6204.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	0.2473	0.3496		0.0141	0.0100	41.4	50.0
Chloromethane	Ave	0.2636	0.2505	0.1000	0.00950	0.0100	-5.0	50.0
Butadiene	Ave	0.2922	0.2319		0.00794	0.0100	-20.6	50.0
Vinyl chloride	Ave	0.3224	0.2695		0.00836	0.0100	-16.4	20.0
Bromomethane	Ave	0.2143	0.1911		0.00892	0.0100	-10.8	50.0
Chloroethane	Ave	0.2029	0.1610		0.00794	0.0100	-20.6	50.0
Dichlorofluoromethane	Ave	0.4779	0.3938		0.00824	0.0100	-17.6	50.0
Trichlorofluoromethane	Ave	0.4369	0.4625		0.0106	0.0100	5.9	50.0
Ethyl ether	Ave	0.2435	0.1946		0.00799	0.0100	-20.1	50.0
Acrolein	Ave	0.0670	0.0555		0.0414	0.0500	-17.2	50.0
1,1-Dichloroethene	Ave	0.2538	0.2590		0.0102	0.0100	2.1	20.0
1,1,2-Trichlorotrifluoroethane	Ave	0.1836	0.2256		0.0123	0.0100	22.9	50.0
Acetone	Ave	0.1084	0.1298		0.0239	0.0200	19.7	50.0
Iodomethane	Ave	0.3791	0.4998		0.0132	0.0100	31.8	50.0
Carbon disulfide	Ave	0.7597	0.7857		0.0103	0.0100	3.4	50.0
3-Chloro-1-propene	Ave	0.1842	0.1688		0.00917	0.0100	-8.3	50.0
Methyl acetate	Ave	0.2816	0.2485		0.0176	0.0200	-11.8	50.0
Methylene Chloride	Ave	0.2471	0.2875		0.0116	0.0100	16.4	50.0
tert-Butyl alcohol	Qua		0.0431		0.121	0.100	21.3	50.0
Acrylonitrile	Ave	0.1373	0.1288		0.0938	0.100	-6.2	50.0
trans-1,2-Dichloroethene	Ave	0.2781	0.3000		0.0108	0.0100	7.9	50.0
Methyl tert-butyl ether	Ave	0.7094	0.6805		0.00959	0.0100	-4.1	50.0
Hexane	Ave	0.0870	0.0744		0.00856	0.0100	-14.4	20.0
1,1-Dichloroethane	Ave	0.4722	0.4904	0.1000	0.0104	0.0100	3.8	50.0
Vinyl acetate	Ave	0.6030	0.4829		0.00801	0.0100	-19.9	50.0
2,2-Dichloropropane	Ave	0.2953	0.3177		0.0108	0.0100	7.6	50.0
cis-1,2-Dichloroethene	Ave	0.2947	0.3214		0.0109	0.0100	9.1	50.0
2-Butanone (MEK)	Ave	0.2033	0.1494		0.0147	0.0200	-26.5	50.0
Bromochloromethane	Ave	0.1266	0.1692		0.0134	0.0100	33.6	50.0
Tetrahydrofuran	Ave	0.1335	0.0951		0.0142	0.0200	-28.8	50.0
Chloroform	Ave	0.4399	0.5103		0.0116	0.0100	16.0	20.0
1,1,1-Trichloroethane	Ave	0.3670	0.4446		0.0121	0.0100	21.1	50.0
Cyclohexane	Ave	0.4546	0.3764		0.00828	0.0100	-17.2	50.0
1,1-Dichloropropene	Ave	0.3802	0.3862		0.0102	0.0100	1.6	50.0
Carbon tetrachloride	Ave	0.3437	0.4199		0.0122	0.0100	22.2	50.0
Isobutyl alcohol	Ave	0.0234	0.0177		0.190	0.250	-24.1	50.0
Benzene	Ave	1.065	1.055		0.00990	0.0100	-1.0	50.0
1,2-Dichloroethane	Ave	0.3698	0.3962		0.0107	0.0100	7.1	50.0
n-Heptane	Ave	0.0874	0.0702		0.00803	0.0100	-19.7	50.0
Trichloroethene	Ave	0.2802	0.3328		0.0119	0.0100	18.8	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Lab Sample ID: CCVIS 240-354546/2 Calibration Date: 11/09/2018 09:45

Instrument ID: A3UX11 Calib Start Date: 08/07/2018 10:19

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/07/2018 12:10

Lab File ID: UXJ6204.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	0.4917	0.4372		0.00889	0.0100	-11.1	50.0
1,2-Dichloropropane	Ave	0.2468	0.2186		0.00886	0.0100	-11.4	20.0
Dibromomethane	Ave	0.1630	0.1735		0.0106	0.0100	6.4	50.0
1,4-Dioxane	Lin1		0.0036		0.225	0.200	12.5	50.0
Bromodichloromethane	Ave	0.3326	0.3628		0.0109	0.0100	9.1	50.0
2-Chloroethyl vinyl ether	Ave	0.1792	0.1353		0.0151	0.0200	-24.5	50.0
cis-1,3-Dichloropropene	Ave	0.4100	0.3769		0.00919	0.0100	-8.1	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3598	0.2763		0.0154	0.0200	-23.2	50.0
Toluene	Ave	1.645	1.505		0.00915	0.0100	-8.5	20.0
trans-1,3-Dichloropropene	Ave	0.5600	0.4733		0.00845	0.0100	-15.5	50.0
Ethyl methacrylate	Ave	0.5086	0.4003		0.00787	0.0100	-21.3	50.0
1,1,2-Trichloroethane	Ave	0.3232	0.2968		0.00918	0.0100	-8.2	50.0
Tetrachloroethene	Ave	0.3055	0.3791		0.0124	0.0100	24.1	50.0
1,3-Dichloropropane	Ave	0.5738	0.4938		0.00860	0.0100	-14.0	50.0
2-Hexanone	Ave	0.4100	0.2638		0.0129	0.0200	-35.7	50.0
Chlorodibromomethane	Ave	0.3605	0.3932		0.0109	0.0100	9.1	50.0
1,2-Dibromoethane	Ave	0.3314	0.3228		0.00974	0.0100	-2.6	50.0
Chlorobenzene	Ave	0.9896	0.9540	0.3000	0.00964	0.0100	-3.6	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3417	0.3850		0.0113	0.0100	12.7	50.0
Ethylbenzene	Ave	0.5503	0.4892		0.00889	0.0100	-11.1	20.0
m-Xylene & p-Xylene	Ave	0.6672	0.6170		0.00925	0.0100	-7.5	50.0
o-Xylene	Ave	0.6209	0.5601		0.00902	0.0100	-9.8	50.0
Styrene	Ave	1.056	1.004		0.00951	0.0100	-4.9	50.0
Bromoform	Ave	0.2560	0.3176	0.1000	0.0124	0.0100	24.0	50.0
Isopropylbenzene	Ave	1.707	1.506		0.00883	0.0100	-11.7	50.0
1,1,2,2-Tetrachloroethane	Ave	0.996	0.7983	0.3000	0.00802	0.0100	-19.8	50.0
Bromobenzene	Ave	0.7837	0.7843		0.0100	0.0100	0.0	50.0
1,2,3-Trichloropropane	Ave	0.3360	0.2855		0.00850	0.0100	-15.0	50.0
trans-1,4-Dichloro-2-butene	Ave	0.3279	0.2171		0.00662	0.0100	-33.8	50.0
N-Propylbenzene	Ave	0.9821	0.7815		0.00796	0.0100	-20.4	50.0
2-Chlorotoluene	Ave	0.7872	0.7438		0.00945	0.0100	-5.5	50.0
1,3,5-Trimethylbenzene	Ave	2.796	2.267		0.00811	0.0100	-18.9	50.0
4-Chlorotoluene	Ave	0.8078	0.7532		0.00932	0.0100	-6.8	50.0
tert-Butylbenzene	Ave	2.442	1.907		0.00781	0.0100	-21.9	50.0
1,2,4-Trimethylbenzene	Ave	2.859	2.343		0.00819	0.0100	-18.1	50.0
sec-Butylbenzene	Ave	3.639	2.841		0.00781	0.0100	-21.9	50.0
1,3-Dichlorobenzene	Ave	1.454	1.429		0.00983	0.0100	-1.7	50.0
4-Isopropyltoluene	Ave	3.051	2.462		0.00807	0.0100	-19.3	50.0
1,4-Dichlorobenzene	Ave	1.483	1.480		0.00998	0.0100	-0.2	50.0
1,2-Dichlorobenzene	Ave	1.349	1.363		0.0101	0.0100	1.0	50.0
n-Butylbenzene	Ave	2.779	1.939		0.00698	0.0100	-30.2	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Lab Sample ID: CCVIS 240-354546/2 Calibration Date: 11/09/2018 09:45

Instrument ID: A3UX11 Calib Start Date: 08/07/2018 10:19

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/07/2018 12:10

Lab File ID: UXJ6204.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	0.2858	0.2589		0.00906	0.0100	-9.4	50.0
1,2,4-Trichlorobenzene	Ave	0.9327	0.8571		0.00919	0.0100	-8.1	50.0
Hexachlorobutadiene	Ave	0.4370	0.3911		0.00895	0.0100	-10.5	50.0
Naphthalene	Ave	3.160	2.247		0.00711	0.0100	-28.9	50.0
1,2,3-Trichlorobenzene	Ave	0.9080	0.8929		0.00983	0.0100	-1.7	50.0
Dibromofluoromethane (Surr)	Ave	0.2315	0.2601		0.0225	0.0200	12.4	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3038	0.3285		0.0216	0.0200	8.1	50.0
Toluene-d8 (Surr)	Ave	1.431	1.201		0.0168	0.0200	-16.0	50.0
4-Bromofluorobenzene (Surr)	Ave	0.4418	0.3933		0.0178	0.0200	-11.0	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Lab Sample ID: CCV 240-354546/3 Calibration Date: 11/09/2018 10:29

Instrument ID: A3UX11 Calib Start Date: 08/07/2018 12:55

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/07/2018 14:46

Lab File ID: UXJ6206.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	Qua		0.0302		0.0751	0.100	-24.9	50.0
2-Chloro-1,3-butadiene	Ave	0.4202	0.3780		0.00900	0.0100	-10.0	50.0
Diisopropyl ether	Ave	0.2177	0.1950		0.00896	0.0100	-10.4	50.0
Ethyl tert-butyl ether	Ave	0.6883	0.5673		0.00824	0.0100	-17.6	50.0
Propionitrile	Ave	0.0583	0.0405		0.0696	0.100	-30.4	50.0
Ethyl acetate	Ave	0.3457	0.2340		0.0135	0.0200	-32.3	50.0
Methacrylonitrile	Ave	0.2085	0.1618		0.0776	0.100	-22.4	50.0
Tert-amyl methyl ether	Ave	0.7904	0.5922		0.00749	0.0100	-25.1	50.0
n-Butanol	Ave	0.0220	0.0136		0.155	0.250	-37.9	50.0
Ethyl acrylate	Ave	0.3914	0.2615		0.00668	0.0100	-33.2	50.0
Methyl methacrylate	Ave	0.2579	0.1755		0.0136	0.0200	-32.0	50.0
2-Nitropropane	Ave	0.1100	0.0800		0.0145	0.0200	-27.3	50.0
n-Butyl acetate	Ave	0.4347	0.2768		0.00637	0.0100	-36.3	50.0
1-Chlorohexane	Ave	0.5342	0.3987		0.00746	0.0100	-25.4	50.0
Cyclohexanone	Ave	0.0611	0.0296		0.0484	0.100	-51.6*	50.0
Pentachloroethane	Ave	0.2226	0.2346		0.0211	0.0200	5.4	50.0
1,2,3-Trimethylbenzene	Ave	2.840	2.073		0.00730	0.0100	-27.0	50.0
Benzyl chloride	Ave	0.3672	0.3674		0.0100	0.0100	0.0	50.0
1,3,5-Trichlorobenzene	Ave	1.067	0.9755		0.00914	0.0100	-8.6	50.0
2-Methylnaphthalene	Ave	2.160	0.9654		0.00894	0.0200	-55.3*	50.0

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

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Lab File ID: BFB8753.D BFB Injection Date: 10/18/2018

Instrument ID: A3UX8 BFB Injection Time: 01:59

Analysis Batch No.: 350647

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	36.8	
75	30.0 - 60.0 % of mass 95	51.3	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.5	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	65.6	
175	5.0 - 9.0 % of mass 174	4.9	(7.5) 1
176	95.0 - 101.0 % of mass 174	64.5	(98.3) 1
177	5.0 - 9.0 % of mass 176	4.0	(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
	STDA9 240-350647/4	UX80006.D	10/18/2018	02:52
	STDA9 240-350647/5	UX80007.D	10/18/2018	03:14
	STDA9 240-350647/6	UX80008.D	10/18/2018	03:37
	STDA9 240-350647/7	UX80009.D	10/18/2018	04:00
	STDA9 240-350647/8	UX80010.D	10/18/2018	04:21
	STDA9 240-350647/9	UX80011.D	10/18/2018	04:43
	STDA9 240-350647/10	UX80012.D	10/18/2018	05:05
	STDA9 240-350647/11	UX80013.D	10/18/2018	05:27
	STDA9 240-350647/12	UX80014.D	10/18/2018	05:49

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

Lab Name: TestAmerica Canton Job No.: 240-103610-1 Analy Batch No.: 350647

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 10/18/2018 02:52 Calibration End Date: 10/18/2018 05:49 Calibration ID: 47539

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDA9 240-350647/12	UX80014.D
Level 2	STDA9 240-350647/11	UX80013.D
Level 3	STDA9 240-350647/10	UX80012.D
Level 4	STDA9 240-350647/9	UX80011.D
Level 5	STDA9 240-350647/8	UX80010.D
Level 6	STDA9 240-350647/7	UX80009.D
Level 7	STDA9 240-350647/6	UX80008.D
Level 8	STDA9 240-350647/5	UX80007.D
Level 9	STDA9 240-350647/4	UX80006.D

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Acetonitrile	0.0659 0.0524	0.0585 0.0505	0.0667 0.0482	0.0624 0.0472	0.0562	Ave		0.0564				13.1		15.0			
Diisopropyl ether	0.2104 0.2465	0.2128 0.2517	0.2652 0.2429	0.2705 0.2297	0.2674	Ave		0.2441				9.2		15.0			
2-Chloro-1,3-butadiene	0.7281 0.8227	0.6733 0.8636	0.8699 0.8631	0.8586 0.8358	0.8564	Ave		0.8191				8.6		15.0			
Ethyl tert-butyl ether	1.0204 1.1113	1.0102 1.1142	1.2137 1.1062	1.1919 1.0158	1.1443	Ave		1.1031				6.8		15.0			
Ethyl acetate	0.4472 0.3456	0.4509 0.3591	0.4428 0.3481	0.3995 0.3449	0.3828	Ave		0.3912				11.7		15.0			
Propionitrile	0.0522 0.0477	0.0511 0.0478	0.0622 0.0460	0.0559 0.0437	0.0520	Ave		0.0510				11.0		15.0			
Methacrylonitrile	0.2598 0.2485	0.2458 0.2532	0.3002 0.2450	0.2799 0.2373	0.2748	Ave		0.2605				7.9		15.0			
Tert-amyl methyl ether	0.5374 0.6368	0.5318 0.6409	0.6989 0.6260	0.6746 0.5747	0.6512	Ave		0.6191				9.5		15.0			
n-Butanol	+++++ 0.0078	+++++ 0.0083	0.0151 0.0083	0.0091 0.0078	0.0075	Lin1	0.5793	0.0078							0.9960		0.9900
Ethyl acrylate	0.3022 0.3622	0.3199 0.3783	0.4075 0.3636	0.3824 0.3686	0.3911	Ave		0.3640				9.2		15.0			
Methyl methacrylate	0.2925 0.3311	0.3125 0.3447	0.3829 0.3255	0.3644 0.3274	0.3685	Ave		0.3388				8.6		15.0			
2-Nitropropane	0.0299 0.0485	0.0393 0.0596	0.0555 0.0686	0.0522 +++++	0.0479	Qua	-0.036	0.0478	0.0000526						1.0000		0.9900
n-Butyl acetate	+++++ 0.5208	+++++ 0.5380	0.7420 0.5055	0.5741 0.5174	0.5316	Ave		0.5613				14.7		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.: 240-103610-1 Analy Batch No.: 350647

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 10/18/2018 02:52 Calibration End Date: 10/18/2018 05:49 Calibration ID: 47539

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
1-Chlorohexane	0.3943 0.4521	0.3936 0.4872	0.4454 0.4786	0.4530 0.4782	0.4748	Ave		0.4508				7.8		15.0			
Cyclohexanone	+++++ 0.0137	+++++ 0.0151	0.0238 0.0156	0.0149 0.0143	0.0121	Lin1	0.1864	0.0146							0.9930		0.9900
Pentachloroethane	0.2309 0.3683	0.2693 0.4224	0.5213 0.4442	0.3558 0.4051	0.3424	Lin1	-0.423	0.4177							0.9950		0.9900
1,2,3-Trimethylbenzene	3.3780 3.4782	3.1998 3.6509	4.9367 3.4477	3.9795 3.1789	3.6771	Ave		3.6585				14.8		15.0			
Benzyl chloride	+++++ 0.1192	+++++ 0.1625	0.1439 0.1932	0.0968 0.1911	0.0927	Qua	-0.965	0.1570	0.0001663						0.9970		0.9900
1,3,5-Trichlorobenzene	+++++ 1.2467	+++++ 1.3061	2.0755 1.2098	1.4281 1.1029	1.3188	Lin1	4.1420	1.1538							0.9960		0.9900
2-Methylnaphthalene	+++++ 1.4067	+++++ 1.4942	2.2722 1.3322	1.4840 +++++	1.3574	Lin1	6.4375	1.3512							0.9950		0.9900
1-Chloro-1-fluoroethane TIC	0.6254 0.5744	0.5656 0.5624	0.7066 0.5413	0.6740 0.5249	0.6179	None											

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

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

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Lab File ID: BFB8776.D BFB Injection Date: 11/06/2018

Instrument ID: A3UX8 BFB Injection Time: 06:11

Analysis Batch No.: 353820

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	33.3	
75	30.0 - 60.0 % of mass 95	50.5	
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	74.8	
175	5.0 - 9.0 % of mass 174	5.6	(7.5) 1
176	95.0 - 101.0 % of mass 174	72.6	(97.0) 1
177	5.0 - 9.0 % of mass 176	4.3	(6.0) 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
	STD8260 240-353820/3	UX80595.D	11/06/2018	06:49
	STD8260 240-353820/4	UX80596.D	11/06/2018	07:11
	STD8260 240-353820/5	UX80597.D	11/06/2018	07:34
	STD8260 240-353820/6	UX80598.D	11/06/2018	07:56
	ICIS 240-353820/7	UX80599.D	11/06/2018	08:18
	STD8260 240-353820/8	UX80600.D	11/06/2018	08:40
	STD8260 240-353820/9	UX80601.D	11/06/2018	09:02
	STD8260 240-353820/10	UX80602.D	11/06/2018	09:24
	STD8260 240-353820/11	UX80603.D	11/06/2018	09:45
	ICV 240-353820/13	UX80605.D	11/06/2018	10:30

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

Lab Name: TestAmerica Canton Job No.: 240-103610-1 Analy Batch No.: 353820

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 11/06/2018 06:49 Calibration End Date: 11/06/2018 09:45 Calibration ID: 47798

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-353820/11	UX80603.D
Level 2	STD8260 240-353820/10	UX80602.D
Level 3	STD8260 240-353820/9	UX80601.D
Level 4	STD8260 240-353820/8	UX80600.D
Level 5	ICIS 240-353820/7	UX80599.D
Level 6	STD8260 240-353820/6	UX80598.D
Level 7	STD8260 240-353820/5	UX80597.D
Level 8	STD8260 240-353820/4	UX80596.D
Level 9	STD8260 240-353820/3	UX80595.D

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.3664 0.3475	0.4353 0.3350	0.3768 0.3095	0.4143 0.3233	0.3804	Ave		0.3654				11.4		15.0			
Chloromethane	0.7187 0.6261	0.7217 0.6052	0.7097 0.5775	0.7412 0.5865	0.6995	Ave		0.6651			0.1000	9.8		15.0			
Vinyl chloride	0.4368 0.3685	0.4318 0.3529	0.4007 0.3368	0.4289 0.3492	0.4087	Ave		0.3905				10.0		15.0			
Butadiene	0.6116 0.5367	0.6182 0.5197	0.5808 0.5027	0.6380 0.5183	0.5998	Ave		0.5695				8.9		15.0			
Bromomethane	0.2481 0.1886	0.2297 0.1609	0.2332 +++++	0.2358 +++++	0.2205	Ave		0.2167				14.2		15.0			
Chloroethane	0.2958 0.2482	0.2842 0.2301	0.2788 0.2028	0.2971 +++++	0.2734	Ave		0.2638				12.8		15.0			
Dichlorofluoromethane	0.5733 0.5013	0.6076 0.4816	0.5591 0.4563	0.5942 0.4577	0.5602	Ave		0.5324				11.0		15.0			
Trichlorofluoromethane	0.5051 0.4367	0.4821 0.4296	0.5114 0.4097	0.5241 0.4142	0.4896	Ave		0.4669				9.5		15.0			
Ethyl ether	0.3406 0.3208	0.3449 0.2771	0.3598 0.2745	0.3337 0.2726	0.3282	Ave		0.3169				10.6		15.0			
Acrolein	0.0502 0.0529	0.0586 0.0508	0.0593 0.0481	0.0598 0.0478	0.0606	Ave		0.0542				9.8		15.0			
1,1-Dichloroethene	0.2906 0.3059	0.3201 0.2599	0.3282 0.2539	0.3387 0.2567	0.3086	Ave		0.2958				10.9		15.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.2181 0.2193	0.2522 0.1900	0.2295 0.1859	0.2436 0.1935	0.2325	Ave		0.2183				11.0		15.0			
Acetone	0.3264 0.1190	0.2145 0.1056	0.1620 0.1030	0.1492 0.1047	0.1406	Lin1	0.5104	0.1048							0.9970		0.9900

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.: 240-103610-1 Analy Batch No.: 353820

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 11/06/2018 06:49 Calibration End Date: 11/06/2018 09:45 Calibration ID: 47798

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Iodomethane	0.5119 0.4732	0.5002 0.4074	0.4885 0.4052	0.5363 0.4056	0.4997	Ave		0.4698				10.8		15.0			
Carbon disulfide	0.7553 0.9415	0.8388 0.8249	0.8500 0.8452	0.9296 0.8558	0.9371	Ave		0.8642				7.1		15.0			
3-Chloro-1-propene	0.1464 0.1859	0.1467 0.1690	0.1695 0.1674	0.1826 0.1692	0.1866	Ave		0.1693				8.8		15.0			
Methyl acetate	0.3303 0.2772	0.3251 0.2631	0.3115 0.2587	0.3318 0.2632	0.3247	Ave		0.2984				10.7		15.0			
Methylene Chloride	+++++ 0.3340	0.6410 0.2839	0.4476 0.2758	0.4126 0.2725	0.3693	Lin1	0.9302	0.2762							0.9960		0.9900
tert-Butyl alcohol	0.0244 0.0234	0.0222 0.0213	0.0245 0.0211	0.0257 0.0209	0.0289	Ave		0.0236				11.1		15.0			
Acrylonitrile	0.1478 0.1242	0.1388 0.1124	0.1366 0.1116	0.1452 0.1121	0.1440	Ave		0.1303				11.7		15.0			
Methyl tert-butyl ether	0.7282 0.6666	0.6756 0.6054	0.6994 0.5961	0.7592 0.5682	0.7296	Ave		0.6698				10.0		15.0			
trans-1,2-Dichloroethene	0.3588 0.3349	0.3517 0.2913	0.3669 0.2881	0.3819 0.2850	0.3565	Ave		0.3350				11.1		15.0			
Hexane	0.0720 0.0848	0.0981 0.0845	0.0910 0.0812	0.0994 0.0876	0.0966	Ave		0.0883				10.1		15.0			
1,1-Dichloroethane	0.7962 0.7024	0.7470 0.6320	0.7665 0.6283	0.7903 0.6284	0.7332	Ave		0.7138			0.1000	9.7		15.0			
Vinyl acetate	0.5807 0.6541	0.5605 0.6477	0.6112 0.6581	0.6326 0.6663	0.6453	Ave		0.6285				5.9		15.0			
2-Butanone (MEK)	+++++ 0.1596	+++++ 0.1532	0.2063 0.1514	0.1975 0.1524	0.1967	Ave		0.1739				14.3		15.0			
cis-1,2-Dichloroethene	0.4221 0.3556	0.3743 0.3152	0.3783 0.3083	0.3993 0.3036	0.3753	Ave		0.3591				11.7		15.0			
2,2-Dichloropropane	0.3928 0.3567	0.3817 0.3217	0.3535 0.3231	0.3983 0.3135	0.3644	Ave		0.3562				8.8		15.0			
Bromochloromethane	0.1326 0.1416	0.1083 0.1274	0.1419 0.1246	0.1519 0.1237	0.1464	Ave		0.1331				10.2		15.0			
Tetrahydrofuran	0.3787 0.1081	0.2380 0.1006	0.1476 0.0982	0.1339 0.0991	0.1288	Lin1	0.5794	0.0984							0.9990		0.9900
Chloroform	0.5765 0.5260	0.5489 0.4752	0.5581 0.4770	0.5830 0.4712	0.5527	Ave		0.5298				8.4		15.0			
1,1,1-Trichloroethane	0.3711 0.4733	0.3937 0.4239	0.4495 0.4257	0.5002 0.4231	0.4903	Ave		0.4390				9.9		15.0			
Cyclohexane	0.9909 0.9153	0.8858 0.8154	0.9822 0.8112	1.0097 0.8231	0.9952	Ave		0.9143				9.1		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.: 240-103610-1 Analy Batch No.: 353820

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 11/06/2018 06:49 Calibration End Date: 11/06/2018 09:45 Calibration ID: 47798

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
1,1-Dichloropropene	0.4248 0.4267	0.4194 0.4014	0.4634 0.3974	0.4929 0.3970	0.4328	Ave		0.4284				7.5		15.0			
Carbon tetrachloride	0.3159 0.4041	0.3297 0.3645	0.3768 0.3713	0.4060 0.3722	0.4045	Ave		0.3717				8.6		15.0			
Isobutyl alcohol	0.0135 0.0122	0.0120 0.0109	0.0116 0.0109	0.0135 0.0110	0.0142	Ave		0.0122				10.3		15.0			
1,2-Dichloroethane	0.5365 0.4658	0.4928 0.4272	0.5363 0.4287	0.5080 0.4260	0.4980	Ave		0.4799				9.4		15.0			
Benzene	1.4341 1.2505	1.2912 1.1485	1.4171 1.1341	1.3767 1.1282	1.3052	Ave		1.2762				9.4		15.0			
n-Heptane	0.0701 0.0906	0.0876 0.0879	0.0940 0.0876	0.1011 0.0916	0.0966	Ave		0.0897				9.6		15.0			
Trichloroethene	0.4245 0.3159	0.3310 0.2929	0.3558 0.2904	0.3320 0.2915	0.3175	Ave		0.3280				12.9		15.0			
Methylcyclohexane	0.4948 0.6088	0.5769 0.5367	0.6316 0.5256	0.6586 0.5312	0.6392	Ave		0.5781				10.2		15.0			
1,2-Dichloropropane	0.3855 0.3579	0.3301 0.3330	0.3876 0.3269	0.3863 0.3260	0.3595	Ave		0.3548				7.6		15.0			
Dibromomethane	0.1380 0.1404	0.1280 0.1286	0.1514 0.1283	0.1463 0.1294	0.1457	Ave		0.1373				6.6		15.0			
1,4-Dioxane	+++++ 0.0019	0.0016 0.0018	0.0021 0.0018	0.0021 0.0018	0.0022	Ave		0.0019				11.1		15.0			
Bromodichloromethane	0.2946 0.3328	0.2571 0.3175	0.2909 0.3310	0.3106 0.3295	0.3185	Ave		0.3092				8.0		15.0			
2-Chloroethyl vinyl ether	0.1095 0.1286	0.1072 0.1293	0.1237 0.1288	0.1248 0.1288	0.1349	Ave		0.1240				7.6		15.0			
cis-1,3-Dichloropropene	0.3137 0.3806	0.2334 0.3707	0.3185 0.3801	0.3374 0.3824	0.3598	Ave		0.3419				14.2		15.0			
4-Methyl-2-pentanone (MIBK)	0.2995 0.3348	0.3147 0.3123	0.3354 0.3055	0.3615 0.3087	0.3762	Ave		0.3276				8.1		15.0			
Toluene	1.9927 1.7689	1.7824 1.6272	1.9104 1.6700	1.8497 1.6638	1.8141	Ave		1.7866				6.8		15.0			
trans-1,3-Dichloropropene	0.2772 0.4161	0.2491 0.4172	0.3305 0.4463	0.3716 0.4421	0.3739	Lin1	-0.323	0.4370							0.9990		0.9900
Ethyl methacrylate	0.2774 0.3681	0.2870 0.3646	0.3275 0.3646	0.3550 0.3513	0.3739	Ave		0.3411				10.6		15.0			
1,1,2-Trichloroethane	0.3464 0.2732	0.2692 0.2523	0.2754 0.2507	0.2899 0.2494	0.2849	Ave		0.2768				10.8		15.0			
1,3-Dichloropropane	0.5234 0.4824	0.4909 0.4548	0.5187 0.4553	0.5349 0.4513	0.5174	Ave		0.4921				6.7		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.: 240-103610-1 Analy Batch No.: 353820

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 11/06/2018 06:49 Calibration End Date: 11/06/2018 09:45 Calibration ID: 47798

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Tetrachloroethene	0.4142 0.3280	0.3524 0.3088	0.3458 0.3099	0.3585 0.3096	0.3320	Ave		0.3399				9.9		15.0			
2-Hexanone	0.2337 0.3124	0.2538 0.2980	0.3094 0.2938	0.3441 0.2892	0.3564	Ave		0.2990				13.0		15.0			
Dibromochloromethane	0.1395 0.2687	0.1639 0.2676	0.2164 0.2837	0.2372 0.2827	0.2548	Lin1	-0.214	0.2799							0.9990		0.9900
1,2-Dibromoethane	0.2306 0.2553	0.2189 0.2419	0.2600 0.2420	0.2679 0.2421	0.2551	Ave		0.2460				6.2		15.0			
Chlorobenzene	1.2386 1.0989	1.1532 1.0096	1.2529 1.0203	1.2460 1.0156	1.1408	Ave		1.1306			0.3000	8.9		15.0			
1,1,1,2-Tetrachloroethane	0.2539 0.3665	0.2571 0.3352	0.3481 0.3470	0.3587 0.3417	0.3651	Ave		0.3304				13.2		15.0			
Ethylbenzene	0.6614 0.6132	0.5976 0.5712	0.6552 0.5773	0.6658 0.5711	0.6241	Ave		0.6152				6.3		15.0			
m-Xylene & p-Xylene	0.7759 0.7631	0.7836 0.6995	0.8211 0.7008	0.8099 0.6923	0.7695	Ave		0.7573				6.4		15.0			
o-Xylene	0.7202 0.7486	0.6317 0.6639	0.7862 0.6603	0.8170 0.6421	0.7754	Ave		0.7162				9.6		15.0			
Styrene	0.9270 1.1781	0.8974 1.0966	1.1695 1.1010	1.2244 1.0664	1.1838	Ave		1.0938				10.5		15.0			
Bromoform	+++++ 0.1292	0.0841 0.1333	0.0901 0.1451	0.1060 0.1462	0.1209	Lin1	-0.214	0.1431			0.1000				0.9980		0.9900
Isopropylbenzene	1.6366 2.0169	1.7801 1.8248	2.1084 1.8179	2.1090 1.8059	2.0896	Ave		1.9099				9.1		15.0			
1,1,2,2-Tetrachloroethane	0.5751 0.6495	0.5904 0.6068	0.6468 0.6116	0.7043 0.6088	0.6913	Ave		0.6316			0.3000	7.0		15.0			
Bromobenzene	1.1104 0.8541	0.8439 0.8242	0.9291 0.8221	0.9351 0.8059	0.8810	Ave		0.8895				10.6		15.0			
1,2,3-Trichloropropane	0.2072 0.2040	0.2261 0.1938	0.2571 0.1939	0.2400 0.1892	0.2341	Ave		0.2162				11.1		15.0			
trans-1,4-Dichloro-2-butene	0.1800 0.2825	0.2295 0.2860	0.2758 0.3020	0.2942 0.3030	0.2848	Ave		0.2709				14.9		15.0			
N-Propylbenzene	0.9893 1.1369	0.9999 1.0634	1.1884 1.0810	1.1802 1.0518	1.1888	Ave		1.0977				7.2		15.0			
2-Chlorotoluene	0.9069 0.9373	0.9278 0.9018	1.0143 0.8970	1.0740 0.8828	1.0013	Ave		0.9492				6.9		15.0			
1,3,5-Trimethylbenzene	3.2078 3.5524	2.9287 3.3254	3.7053 3.3220	3.7535 3.2855	3.5808	Ave		3.4068				7.7		15.0			
4-Chlorotoluene	0.9080 0.9484	0.9454 0.9172	1.0556 0.9076	1.0628 0.8846	0.9801	Ave		0.9566				6.7		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.: 240-103610-1 Analy Batch No.: 353820

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 11/06/2018 06:49 Calibration End Date: 11/06/2018 09:45 Calibration ID: 47798

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
tert-Butylbenzene	3.0682 3.1279	2.7070 2.9233	3.2686 2.9225	3.2425 2.8702	3.1766	Ave		3.0341				6.2		15.0			
1,2,4-Trimethylbenzene	3.0198 3.5662	3.0614 3.3391	3.8105 3.3561	3.8620 3.2707	3.7031	Ave		3.4432				9.0		15.0			
sec-Butylbenzene	4.1781 4.6382	4.3421 4.2584	4.9121 4.2401	5.0382 4.1702	4.7060	Ave		4.4982				7.4		15.0			
1,3-Dichlorobenzene	2.0244 1.6962	1.9514 1.5935	1.9356 1.5992	1.9768 1.5596	1.8298	Ave		1.7963				10.3		15.0			
p-Isopropyltoluene	3.2018 3.7311	3.5929 3.5439	3.8787 3.5227	4.0470 3.4539	3.9068	Ave		3.6532				7.2		15.0			
1,4-Dichlorobenzene	2.3535 1.7117	2.0534 1.6170	1.9515 1.6154	1.9964 1.5583	1.8176	Ave		1.8528				14.0		15.0			
n-Butylbenzene	3.0374 3.3593	3.1236 3.1679	3.4494 3.1536	3.5708 3.1245	3.4639	Ave		3.2723				5.8		15.0			
1,2-Dichlorobenzene	2.0627 1.5858	1.7884 1.4342	1.8879 1.4241	1.8575 1.3890	1.6785	Ave		1.6787				14.2		15.0			
1,2-Dibromo-3-Chloropropane	+++++ 0.0821	+++++ 0.0775	0.0512 0.0850	0.0771 0.0883	0.0749	Lin1	-0.171	0.0861							0.9980		0.9900
1,2,4-Trichlorobenzene	1.3241 1.0196	1.1884 0.9362	1.1356 0.9520	1.1047 0.9314	1.0852	Ave		1.0752				12.2		15.0			
Hexachlorobutadiene	+++++ 0.5828	+++++ 0.5231	0.6794 0.5338	0.7315 0.5167	0.6512	Ave		0.6026				14.2		15.0			
Naphthalene	2.2190 2.1136	1.9473 1.9145	1.9824 1.9382	2.2202 1.8484	2.2344	Ave		2.0464				7.4		15.0			
1,2,3-Trichlorobenzene	+++++ 0.9285	+++++ 0.8150	1.0921 0.8370	1.1088 0.8009	1.0355	Ave		0.9454				14.1		15.0			
Dibromofluoromethane (Surr)	0.2333 0.2250	0.2605 0.2364	0.2694 0.2363	0.2595 0.2388	0.2657	Ave		0.2472				6.6		15.0			
1,2-Dichloroethane-d4 (Surr)	0.3962 0.2799	0.3756 0.3024	0.4161 0.3045	0.3566 0.3103	0.3572	Ave		0.3443				13.7		15.0			
Toluene-d8 (Surr)	1.4502 1.3143	1.4983 1.3251	1.5808 1.3784	1.4646 1.3735	1.4755	Ave		1.4290				6.1		15.0			
4-Bromofluorobenzene (Surr)	0.5861 0.4570	0.6093 0.4755	0.6154 0.4838	0.5821 0.4723	0.5667	Ave		0.5387				12.1		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.: 240-103610-1

SDG No.:

Lab Sample ID: ICV 240-353820/13 Calibration Date: 11/06/2018 10:30

Instrument ID: A3UX8 Calib Start Date: 11/06/2018 06:49

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/06/2018 09:45

Lab File ID: UX80605.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3654	0.3269		0.0224	0.0250	-10.5	50.0
Chloromethane	Ave	0.6651	0.5914	0.1000	0.0222	0.0250	-11.1	50.0
Vinyl chloride	Ave	0.3905	0.3639		0.0233	0.0250	-6.8	20.0
Butadiene	Ave	0.5695	0.4600		0.0202	0.0250	-19.2	50.0
Bromomethane	Ave	0.2167	0.1809		0.0209	0.0250	-16.5	50.0
Chloroethane	Ave	0.2638	0.2306		0.0219	0.0250	-12.6	50.0
Dichlorofluoromethane	Ave	0.5324	0.4860		0.0228	0.0250	-8.7	50.0
Trichlorofluoromethane	Ave	0.4669	0.3980		0.0213	0.0250	-14.8	50.0
Ethyl ether	Ave	0.3169	0.2892		0.0228	0.0250	-8.7	50.0
Acrolein	Ave	0.0542	0.0507		0.117	0.125	-6.6	50.0
1,1-Dichloroethene	Ave	0.2958	0.2590		0.0219	0.0250	-12.4	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2183	0.1896		0.0217	0.0250	-13.2	50.0
Acetone	Lin1		0.1046		0.0451	0.0500	-9.9	50.0
Iodomethane	Ave	0.4698	0.4102		0.0218	0.0250	-12.7	50.0
Carbon disulfide	Ave	0.8642	0.7476		0.0216	0.0250	-13.5	50.0
3-Chloro-1-propene	Ave	0.1693	0.1547		0.0228	0.0250	-8.6	50.0
Methyl acetate	Ave	0.2984	0.2402		0.0402	0.0500	-19.5	50.0
Methylene Chloride	Lin1		0.2989		0.0237	0.0250	-5.3	50.0
tert-Butyl alcohol	Ave	0.0236	0.0223		0.236	0.250	-5.5	50.0
Acrylonitrile	Ave	0.1303	0.1143		0.219	0.250	-12.3	50.0
Methyl tert-butyl ether	Ave	0.6698	0.5832		0.0218	0.0250	-12.9	50.0
trans-1,2-Dichloroethene	Ave	0.3350	0.3015		0.0225	0.0250	-10.0	50.0
Hexane	Ave	0.0883	0.0739		0.0209	0.0250	-16.3	20.0
1,1-Dichloroethane	Ave	0.7138	0.6265	0.1000	0.0219	0.0250	-12.2	50.0
Vinyl acetate	Ave	0.6285	0.6863		0.0273	0.0250	9.2	50.0
2-Butanone (MEK)	Ave	0.1739	0.1582		0.0455	0.0500	-9.0	50.0
cis-1,2-Dichloroethene	Ave	0.3591	0.3147		0.0219	0.0250	-12.4	50.0
2,2-Dichloropropane	Ave	0.3562	0.2852		0.0200	0.0250	-19.9	50.0
Bromochloromethane	Ave	0.1331	0.1279		0.0240	0.0250	-4.0	50.0
Chloroform	Ave	0.5298	0.4763		0.0225	0.0250	-10.1	20.0
Tetrahydrofuran	Lin1		0.1072		0.0485	0.0500	-2.9	50.0
1,1,1-Trichloroethane	Ave	0.4390	0.3995		0.0228	0.0250	-9.0	50.0
Cyclohexane	Ave	0.9143	0.7786		0.0213	0.0250	-14.8	50.0
1,1-Dichloropropene	Ave	0.4284	0.3703		0.0216	0.0250	-13.6	50.0
Carbon tetrachloride	Ave	0.3717	0.3304		0.0222	0.0250	-11.1	50.0
Isobutyl alcohol	Ave	0.0122	0.0115		0.587	0.625	-6.0	50.0
1,2-Dichloroethane	Ave	0.4799	0.4323		0.0225	0.0250	-9.9	50.0
Benzene	Ave	1.276	1.109		0.0217	0.0250	-13.1	50.0
n-Heptane	Ave	0.0897	0.0818		0.0228	0.0250	-8.8	50.0
Trichloroethene	Ave	0.3280	0.2825		0.0215	0.0250	-13.9	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Lab Sample ID: ICV 240-353820/13 Calibration Date: 11/06/2018 10:30

Instrument ID: A3UX8 Calib Start Date: 11/06/2018 06:49

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/06/2018 09:45

Lab File ID: UX80605.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	0.5781	0.4885		0.0211	0.0250	-15.5	50.0
1,2-Dichloropropane	Ave	0.3548	0.3267		0.0230	0.0250	-7.9	20.0
Dibromomethane	Ave	0.1373	0.1237		0.0225	0.0250	-10.0	50.0
1,4-Dioxane	Ave	0.0019	0.0018		0.479	0.500	-4.2	50.0
Bromodichloromethane	Ave	0.3092	0.2752		0.0223	0.0250	-11.0	50.0
2-Chloroethyl vinyl ether	Ave	0.1240	0.1153		0.0233	0.0250	-7.0	50.0
cis-1,3-Dichloropropene	Ave	0.3419	0.3264		0.0239	0.0250	-4.5	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3276	0.3130		0.0478	0.0500	-4.5	50.0
Toluene	Ave	1.787	1.571		0.0220	0.0250	-12.1	20.0
trans-1,3-Dichloropropene	Lin1		0.3367		0.0200	0.0250	-20.0	50.0
Ethyl methacrylate	Ave	0.3411	0.3304		0.0242	0.0250	-3.1	50.0
1,1,2-Trichloroethane	Ave	0.2768	0.2582		0.0233	0.0250	-6.7	50.0
1,3-Dichloropropane	Ave	0.4921	0.4540		0.0231	0.0250	-7.7	50.0
Tetrachloroethene	Ave	0.3399	0.2909		0.0214	0.0250	-14.4	50.0
2-Hexanone	Ave	0.2990	0.2877		0.0481	0.0500	-3.8	50.0
Dibromochloromethane	Lin1		0.2278		0.0211	0.0250	-15.5	50.0
1,2-Dibromoethane	Ave	0.2460	0.2350		0.0239	0.0250	-4.5	50.0
Chlorobenzene	Ave	1.131	0.996	0.3000	0.0220	0.0250	-11.9	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3304	0.3157		0.0239	0.0250	-4.5	50.0
Ethylbenzene	Ave	0.6152	0.5455		0.0222	0.0250	-11.3	20.0
m-Xylene & p-Xylene	Ave	0.7573	0.6701		0.0221	0.0250	-11.5	50.0
o-Xylene	Ave	0.7162	0.6412		0.0224	0.0250	-10.5	50.0
Styrene	Ave	1.094	1.030		0.0235	0.0250	-5.8	50.0
Bromoform	Lin1		0.1077	0.1000	0.0203	0.0250	-18.8	50.0
Isopropylbenzene	Ave	1.910	1.763		0.0231	0.0250	-7.7	50.0
1,1,2,2-Tetrachloroethane	Ave	0.6316	0.6097	0.3000	0.0241	0.0250	-3.5	50.0
Bromobenzene	Ave	0.8895	0.7776		0.0219	0.0250	-12.6	50.0
1,2,3-Trichloropropane	Ave	0.2162	0.1977		0.0229	0.0250	-8.6	50.0
trans-1,4-Dichloro-2-butene	Ave	0.2709	0.2705		0.0250	0.0250	-0.1	50.0
N-Propylbenzene	Ave	1.098	0.9770		0.0222	0.0250	-11.0	50.0
2-Chlorotoluene	Ave	0.9492	0.8543		0.0225	0.0250	-10.0	50.0
1,3,5-Trimethylbenzene	Ave	3.407	3.047		0.0224	0.0250	-10.6	50.0
4-Chlorotoluene	Ave	0.9566	0.8685		0.0227	0.0250	-9.2	50.0
tert-Butylbenzene	Ave	3.034	2.680		0.0221	0.0250	-11.7	50.0
1,2,4-Trimethylbenzene	Ave	3.443	3.122		0.0227	0.0250	-9.3	50.0
sec-Butylbenzene	Ave	4.498	3.970		0.0221	0.0250	-11.7	50.0
1,3-Dichlorobenzene	Ave	1.796	1.523		0.0212	0.0250	-15.2	50.0
p-Isopropyltoluene	Ave	3.653	3.248		0.0222	0.0250	-11.1	50.0
1,4-Dichlorobenzene	Ave	1.853	1.554		0.0210	0.0250	-16.1	50.0
n-Butylbenzene	Ave	3.272	2.676		0.0204	0.0250	-18.2	50.0
1,2-Dichlorobenzene	Ave	1.679	1.430		0.0213	0.0250	-14.8	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Lab Sample ID: ICV 240-353820/13 Calibration Date: 11/06/2018 10:30

Instrument ID: A3UX8 Calib Start Date: 11/06/2018 06:49

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/06/2018 09:45

Lab File ID: UX80605.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Lin1		0.0632		0.0203	0.0250	-18.6	50.0
1,2,4-Trichlorobenzene	Ave	1.075	0.7711		0.0179	0.0250	-28.3	50.0
Hexachlorobutadiene	Ave	0.6026	0.4807		0.0199	0.0250	-20.2	50.0
Naphthalene	Ave	2.046	1.591		0.0194	0.0250	-22.2	50.0
1,2,3-Trichlorobenzene	Ave	0.9454	0.7476		0.0198	0.0250	-20.9	50.0
Dibromofluoromethane (Surr)	Ave	0.2472	0.2157		0.0436	0.0500	-12.7	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3443	0.2764		0.0401	0.0500	-19.7	50.0
Toluene-d8 (Surr)	Ave	1.429	1.248		0.0437	0.0500	-12.7	50.0
4-Bromofluorobenzene (Surr)	Ave	0.5387	0.4366		0.0405	0.0500	-19.0	50.0

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

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Lab File ID: BFB8777.D BFB Injection Date: 11/07/2018

Instrument ID: A3UX8 BFB Injection Time: 04:45

Analysis Batch No.: 354032

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	34.4	
75	30.0 - 60.0 % of mass 95	49.6	
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	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	73.8	
175	5.0 - 9.0 % of mass 174	5.4	(7.3) 1
176	95.0 - 101.0 % of mass 174	70.2	(95.1) 1
177	5.0 - 9.0 % of mass 176	4.5	(6.3) 2

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

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 240-354032/4	UX80625.D	11/07/2018	05:19
	CCV 240-354032/5	UX80626.D	11/07/2018	05:41
	LCS 240-354032/6	UX80627.D	11/07/2018	06:02
	MB 240-354032/7	UX80628.D	11/07/2018	06:24
SB-SEMW-10D-10-15	240-103610-2	UX80652.D	11/07/2018	15:12
SB-SEMW-10D-20-28	240-103610-3	UX80653.D	11/07/2018	15:33
SB-SEMW-10D-DUP	240-103610-4	UX80654.D	11/07/2018	15:54
SB-SEMW-10D-DUP MS	240-103610-4 MS	UX80655.D	11/07/2018	16:16
SB-SEMW-10D-DUP MSD	240-103610-4 MSD	UX80656.D	11/07/2018	16:38

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Lab Sample ID: CCVIS 240-354032/4 Calibration Date: 11/07/2018 05:19

Instrument ID: A3UX8 Calib Start Date: 11/06/2018 06:49

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/06/2018 09:45

Lab File ID: UX80625.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3654	0.3738		0.0205	0.0200	2.3	50.0
Chloromethane	Ave	0.6651	0.6471	0.1000	0.0195	0.0200	-2.7	50.0
Vinyl chloride	Ave	0.3905	0.4247		0.0218	0.0200	8.8	20.0
Butadiene	Ave	0.5695	0.6322		0.0222	0.0200	11.0	50.0
Bromomethane	Ave	0.2167	0.1955		0.0180	0.0200	-9.8	50.0
Chloroethane	Ave	0.2638	0.2527		0.0192	0.0200	-4.2	50.0
Dichlorofluoromethane	Ave	0.5324	0.5231		0.0197	0.0200	-1.7	50.0
Trichlorofluoromethane	Ave	0.4669	0.4836		0.0207	0.0200	3.6	50.0
Ethyl ether	Ave	0.3169	0.3076		0.0194	0.0200	-3.0	50.0
Acrolein	Ave	0.0542	0.0496		0.0914	0.100	-8.6	50.0
1,1-Dichloroethene	Ave	0.2958	0.3059		0.0207	0.0200	3.4	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2183	0.2249		0.0206	0.0200	3.0	50.0
Acetone	Lin1		0.1179		0.0401	0.0400	0.3	50.0
Iodomethane	Ave	0.4698	0.4511		0.0192	0.0200	-4.0	50.0
Carbon disulfide	Ave	0.8642	0.8873		0.0205	0.0200	2.7	50.0
3-Chloro-1-propene	Ave	0.1693	0.1815		0.0214	0.0200	7.2	50.0
Methyl acetate	Ave	0.2984	0.2667		0.0357	0.0400	-10.6	50.0
Methylene Chloride	Lin1		0.3239		0.0201	0.0200	0.4	50.0
tert-Butyl alcohol	Ave	0.0236	0.0198		0.168	0.200	-16.1	50.0
Acrylonitrile	Ave	0.1303	0.1167		0.179	0.200	-10.5	50.0
Methyl tert-butyl ether	Ave	0.6698	0.6200		0.0185	0.0200	-7.4	50.0
trans-1,2-Dichloroethene	Ave	0.3350	0.3381		0.0202	0.0200	0.9	50.0
Hexane	Ave	0.0883	0.0937		0.0212	0.0200	6.0	20.0
1,1-Dichloroethane	Ave	0.7138	0.6856	0.1000	0.0192	0.0200	-3.9	50.0
Vinyl acetate	Ave	0.6285	0.5754		0.0183	0.0200	-8.4	50.0
2,2-Dichloropropane	Ave	0.3562	0.3473		0.0195	0.0200	-2.5	50.0
2-Butanone (MEK)	Ave	0.1739	0.1631		0.0375	0.0400	-6.2	50.0
cis-1,2-Dichloroethene	Ave	0.3591	0.3475		0.0194	0.0200	-3.2	50.0
Bromochloromethane	Ave	0.1331	0.1392		0.0209	0.0200	4.6	50.0
Chloroform	Ave	0.5298	0.5141		0.0194	0.0200	-3.0	20.0
Tetrahydrofuran	Lin1		0.1093		0.0385	0.0400	-3.7	50.0
1,1,1-Trichloroethane	Ave	0.4390	0.4614		0.0210	0.0200	5.1	50.0
Cyclohexane	Ave	0.9143	0.9297		0.0203	0.0200	1.7	50.0
1,1-Dichloropropene	Ave	0.4284	0.4295		0.0201	0.0200	0.3	50.0
Carbon tetrachloride	Ave	0.3717	0.3916		0.0211	0.0200	5.4	50.0
Isobutyl alcohol	Ave	0.0122	0.0102		0.417	0.500	-16.6	50.0
1,2-Dichloroethane	Ave	0.4799	0.4600		0.0192	0.0200	-4.2	50.0
Benzene	Ave	1.276	1.235		0.0194	0.0200	-3.2	50.0
n-Heptane	Ave	0.0897	0.0877		0.0196	0.0200	-2.2	50.0
Trichloroethene	Ave	0.3280	0.3093		0.0189	0.0200	-5.7	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Lab Sample ID: CCVIS 240-354032/4 Calibration Date: 11/07/2018 05:19

Instrument ID: A3UX8 Calib Start Date: 11/06/2018 06:49

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/06/2018 09:45

Lab File ID: UX80625.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dichloropropane	Ave	0.3548	0.3330		0.0188	0.0200	-6.1	20.0
Methylcyclohexane	Ave	0.5781	0.6005		0.0208	0.0200	3.9	50.0
1,4-Dioxane	Ave	0.0019	0.0018		0.367	0.400	-8.3	50.0
Dibromomethane	Ave	0.1373	0.1274		0.0186	0.0200	-7.2	50.0
Bromodichloromethane	Ave	0.3092	0.2943		0.0190	0.0200	-4.8	50.0
2-Chloroethyl vinyl ether	Ave	0.1240	0.1008		0.0325	0.0400	-18.7	50.0
cis-1,3-Dichloropropene	Ave	0.3419	0.3093		0.0181	0.0200	-9.5	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3276	0.2862		0.0349	0.0400	-12.6	50.0
Toluene	Ave	1.787	1.786		0.0200	0.0200	-0.0	20.0
trans-1,3-Dichloropropene	Lin1		0.3459		0.0166	0.0200	-17.2	50.0
Ethyl methacrylate	Ave	0.3411	0.3076		0.0180	0.0200	-9.8	50.0
1,1,2-Trichloroethane	Ave	0.2768	0.2630		0.0190	0.0200	-5.0	50.0
1,3-Dichloropropane	Ave	0.4921	0.4650		0.0189	0.0200	-5.5	50.0
Tetrachloroethene	Ave	0.3399	0.3505		0.0206	0.0200	3.1	50.0
2-Hexanone	Ave	0.2990	0.2807		0.0376	0.0400	-6.1	50.0
Dibromochloromethane	Lin1		0.2394		0.0179	0.0200	-10.6	50.0
1,2-Dibromoethane	Ave	0.2460	0.2431		0.0198	0.0200	-1.2	50.0
Chlorobenzene	Ave	1.131	1.109	0.3000	0.0196	0.0200	-1.9	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3304	0.3482		0.0211	0.0200	5.4	50.0
Ethylbenzene	Ave	0.6152	0.6125		0.0199	0.0200	-0.4	20.0
m-Xylene & p-Xylene	Ave	0.7573	0.7324		0.0193	0.0200	-3.3	50.0
o-Xylene	Ave	0.7162	0.7375		0.0206	0.0200	3.0	50.0
Styrene	Ave	1.094	1.106		0.0202	0.0200	1.1	50.0
Bromoform	Lin1		0.1048	0.1000	0.0161	0.0200	-19.3	50.0
Isopropylbenzene	Ave	1.910	2.064		0.0216	0.0200	8.1	50.0
1,1,2,2-Tetrachloroethane	Ave	0.6316	0.5907	0.3000	0.0187	0.0200	-6.5	50.0
Bromobenzene	Ave	0.8895	0.8234		0.0185	0.0200	-7.4	50.0
1,2,3-Trichloropropane	Ave	0.2162	0.1969		0.0182	0.0200	-8.9	50.0
trans-1,4-Dichloro-2-butene	Ave	0.2709	0.2427		0.0179	0.0200	-10.4	50.0
N-Propylbenzene	Ave	1.098	1.101		0.0201	0.0200	0.3	50.0
2-Chlorotoluene	Ave	0.9492	0.9304		0.0196	0.0200	-2.0	50.0
1,3,5-Trimethylbenzene	Ave	3.407	3.538		0.0208	0.0200	3.9	50.0
4-Chlorotoluene	Ave	0.9566	0.9390		0.0196	0.0200	-1.8	50.0
tert-Butylbenzene	Ave	3.034	3.081		0.0203	0.0200	1.5	50.0
1,2,4-Trimethylbenzene	Ave	3.443	3.580		0.0208	0.0200	4.0	50.0
sec-Butylbenzene	Ave	4.498	4.654		0.0207	0.0200	3.5	50.0
1,3-Dichlorobenzene	Ave	1.796	1.671		0.0186	0.0200	-6.9	50.0
p-Isopropyltoluene	Ave	3.653	3.827		0.0210	0.0200	4.8	50.0
1,4-Dichlorobenzene	Ave	1.853	1.700		0.0183	0.0200	-8.3	50.0
n-Butylbenzene	Ave	3.272	3.501		0.0214	0.0200	7.0	50.0
1,2-Dichlorobenzene	Ave	1.679	1.561		0.0186	0.0200	-7.0	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Lab Sample ID: CCVIS 240-354032/4 Calibration Date: 11/07/2018 05:19

Instrument ID: A3UX8 Calib Start Date: 11/06/2018 06:49

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/06/2018 09:45

Lab File ID: UX80625.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Lin1		0.0626		0.0165	0.0200	-17.3	50.0
1,2,4-Trichlorobenzene	Ave	1.075	0.9030		0.0168	0.0200	-16.0	50.0
Hexachlorobutadiene	Ave	0.6026	0.5552		0.0184	0.0200	-7.9	50.0
Naphthalene	Ave	2.046	1.514		0.0148	0.0200	-26.0	50.0
1,2,3-Trichlorobenzene	Ave	0.9454	0.7870		0.0166	0.0200	-16.8	50.0
Dibromofluoromethane (Surr)	Ave	0.2472	0.2232		0.0451	0.0500	-9.7	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3443	0.2823		0.0410	0.0500	-18.0	50.0
Toluene-d8 (Surr)	Ave	1.429	1.291		0.0452	0.0500	-9.6	50.0
4-Bromofluorobenzene (Surr)	Ave	0.5387	0.4607		0.0428	0.0500	-14.5	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103610-1

SDG No.:

Lab Sample ID: CCV 240-354032/5 Calibration Date: 11/07/2018 05:41

Instrument ID: A3UX8 Calib Start Date: 10/18/2018 02:52

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/18/2018 05:49

Lab File ID: UX80626.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acetonitrile	Ave	0.0564	0.0477		0.169	0.200	-15.5	50.0
Diisopropyl ether	Ave	0.2441	0.2463		0.0202	0.0200	0.9	50.0
2-Chloro-1,3-butadiene	Ave	0.8191	0.8547		0.0209	0.0200	4.4	50.0
Ethyl tert-butyl ether	Ave	1.103	1.068		0.0194	0.0200	-3.2	50.0
Ethyl acetate	Ave	0.3912	0.2963		0.0303	0.0400	-24.3	50.0
Propionitrile	Ave	0.0510	0.0409		0.161	0.200	-19.7	50.0
Methacrylonitrile	Ave	0.2605	0.2142		0.164	0.200	-17.8	50.0
Tert-amyl methyl ether	Ave	0.6191	0.6178		0.0200	0.0200	-0.2	50.0
n-Butanol	Lin1		0.0062		0.324	0.500	-35.3	50.0
Ethyl acrylate	Ave	0.3640	0.2828		0.0155	0.0200	-22.3	50.0
Methyl methacrylate	Ave	0.3388	0.2720		0.0321	0.0400	-19.7	50.0
2-Nitropropane	Qua		0.0388		0.0321	0.0400	-19.9	50.0
n-Butyl acetate	Ave	0.5613	0.4308		0.0153	0.0200	-23.3	50.0
1-Chlorohexane	Ave	0.4508	0.4925		0.0219	0.0200	9.3	50.0
Cyclohexanone	Lin1		0.0113		0.142	0.200	-28.8	50.0
Pentachloroethane	Lin1		0.3529		0.0348	0.0400	-13.0	50.0
1,2,3-Trimethylbenzene	Ave	3.659	3.368		0.0184	0.0200	-8.0	50.0
Benzyl chloride	Qua		0.0953		0.0179	0.0200	-10.3	50.0
1,3,5-Trichlorobenzene	Lin1		1.209		0.0174	0.0200	-13.2	50.0
2-Methylnaphthalene	Lin1		0.7973		0.0188	0.0400	-52.9*	50.0

COC No. A 48622

TA North Canton, OH

~~158 Starlite Drive~~ JAN

~~Marietta, OH 45750~~ JAN 2.0 | 29

~~MICROBAC~~ JAN TESTAMERICA

CHAIN-OF-CUSTODY RECORD

Phone: 740-373-4071

Toll Free: 800-373-4071

Company Name: Tetra Tech Inc.	
Project Contact: J. Mills	Contact Phone #: 410-279-7700
Turn Around Requirements: STANDARD	Location: MRC Block F
Project ID: Block F TCB 112IC08667	
Sampler (print): Josh Mills	Signature:

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	VOCs 8260
TB-103018		K	10/30/18	0000	water	2		K
SB-MW135A-2-5.5		K	10/30/18	1530	SOIL	1		K
SB-MW135B-12.5-18		K	10/30/18	1600	SOIL	1		K
SB-MW136A-1.2-2		K	10/31/18	1020	SOIL	1		K
SB-MW136B-15.8-18.5		K	10/31/18	1040	SOIL	1		K

180325

240-103714 Chain of Custody

TOTAL # (LAB USE)

Program
- ☐ CWA
- ☐ RCRA
- ☐ DOD
- ☐ AFCEE
- ☐ Other

ADDITIONAL REQUIREMENTS

10/31/18

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
	10/31/18	1410			10/31/18		~~JAN~~ TAL 11-1-18 1050
Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Remarks: VOC samples during Block F TCB well Installation	

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

Page 1 of 1

TestAmerica Canton Sample Receipt Form/Narrative **Login # : 103714**
Canton Facility

Client TETRA TECH, Site Name —

Cooler Received on 11-1-18 Opened on 11-1-18

Cooler unpacked by: ROP

FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other

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

TestAmerica Cooler # TA 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 +0.9 °C) Observed Cooler Temp. 2.0 °C Corrected Cooler Temp. 2.9 °C
   IR GUN #36 (CF +0.6°C) Observed Cooler Temp. ____ °C Corrected Cooler Temp. ____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 (Yes) No
   -Were the seals on the outside of the cooler(s) signed & dated? (Yes) No NA
   -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes (No)
   -Were tamper/custody seals intact and uncompromised? (Yes) No NA
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 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No (NA) pH Strip Lot# **HC849161**
13. Were VOAs on the COC? Yes (No)
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this. Yes No (NA)
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 0 (Yes) No
16. Was a LL Hg or Me Hg trip blank present? ____ Yes (No)

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM ____ Date ____ by ____ via Verbal Voice Mail Other

Concerning ____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: ROP

18. 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)

19. SAMPLE PRESERVATION

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

CASE NARRATIVE

Client: Tetra Tech, Inc.

Project: MRC Block F TCB Well Installation

Report Number: 240-103714-1

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 11/1/2018 10:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.9º C.

VOLATILE ORGANIC COMPOUNDS (GCMS)
Samples SB-MW135A-2-5.5 (240-103714-2), SB-MW135B-12.5-18 (240-103714-3), SB-MW136A-1.2-2 (240-103714-4) and SB-MW136B-15.8-18.5 (240-103714-5) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were prepared and analyzed on 11/14/2018.

1,2,3-Trichlorobenzene and 1,2,4-Trichlorobenzene were detected in method blank MB 240-355270/8 at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

The following samples were analyzed outside of analytical holding time due to instrument malfunction: SB-MW135A-2-5.5 (240-103714-2) and SB-MW135B-12.5-18 (240-103714-3). The samples were initially run within hold time, but due the laboratory's backlog the samples were analyzed on the day they were expiring. Since the instrument malfunctioned the samples were analyzed the following day outside of hold time.

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

VOLATILE ORGANIC COMPOUNDS (GCMS)
Sample TB-103018 (240-103714-1) was analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The sample was analyzed on 11/10/2018.

The following sample was received preserved with hydrochloric acid: TB-103018 (240-103714-1). The requested target analyte list includes 2-Chloroethyl vinyl ether, an acid-labile compound that degrades in an acidic medium.

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

PERCENT SOLIDS
Samples SB-MW135A-2-5.5 (240-103714-2), SB-MW135B-12.5-18 (240-103714-3), SB-MW136A-1.2-2 (240-103714-4) and SB-MW136B-15.8-18.5 (240-103714-5) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 11/02/2018.

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

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
H	Sample was prepped or analyzed beyond the specified holding time
B	Compound was found in the blank and sample.

GC/MS VOA TICs

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Indicates an Estimated Value for TICs
N	This flag indicates the presumptive evidence of a compound.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

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

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: MRC Block F TCB Well Installation

TestAmerica Job ID: 240-103714-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-103714-1	TB-103018	Water	10/30/18 00:00	11/01/18 10:50
240-103714-2	SB-MW135A-2-5.5	Solid	10/30/18 15:30	11/01/18 10:50
240-103714-3	SB-MW135B-12.5-18	Solid	10/30/18 16:00	11/01/18 10:50
240-103714-4	SB-MW136A-1.2-2	Solid	10/31/18 10:20	11/01/18 10:50
240-103714-5	SB-MW136B-15.8-18.5	Solid	10/31/18 10:40	11/01/18 10:50

Method Summary

Client: Tetra Tech, Inc. TestAmerica Job ID: 240-103714-1
Project/Site: MRC Block F TCB Well Installation

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030A	Purge and Trap	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

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

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Matrix: Solid Level: Low

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

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
SB-MW135A-2-5.5	240-103714-2	85	86	85	81
SB-MW135B-12.5-18	240-103714-3	84	85	83	80
SB-MW136A-1.2-2	240-103714-4	84	85	85	81
SB-MW136B-15.8-18.5	240-103714-5	84	87	87	80
	MB 240-355270/8	86	87	82	82
	LCS 240-355270/7	91	84	88	88

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	49-132
DCA = 1,2-Dichloroethane-d4 (Surr)	48-123
TOL = Toluene-d8 (Surr)	62-135
BFB = 4-Bromofluorobenzene (Surr)	49-141

Column to be used to flag recovery values

FORM II 8260B

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103714-1

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-103018	240-103714-1	93	94	87	85
	MB 240-354712/8	89	91	85	82
	LCS 240-354712/6	91	92	89	86

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	75-128
DCA = 1,2-Dichloroethane-d4 (Surr)	70-121
TOL = Toluene-d8 (Surr)	70-123
BFB = 4-Bromofluorobenzene (Surr)	59-120

Column to be used to flag recovery values

FORM II 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Sample No.: ICIS 240-339529/11 Date Analyzed: 08/06/2018 13:30

Instrument ID: A3UX16 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): UXM13047.D Heated Purge: (Y/N) N

Calibration ID: 46373

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		1045549	5.81	764520	8.50	398215	10.74
UPPER LIMIT		2091098	6.31	1529040	9.00	796430	11.24
LOWER LIMIT		522775	5.31	382260	8.00	199108	10.24
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 240-339529/15		925042	5.81	672047	8.50	357513	10.74
ICV 240-339529/24		1015570	5.81	741308	8.50	394696	10.74
CCVIS 240-354712/4		715441	5.81	601267	8.50	296450	10.74

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 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Sample No.: CCVIS 240-354712/4 Date Analyzed: 11/10/2018 10:36

Instrument ID: A3UX16 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): UXM15490.D Heated Purge: (Y/N) N

Calibration ID: 46377

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		715441	5.81	601267	8.50	296450	10.74
UPPER LIMIT		1430882	6.31	1202534	9.00	592900	11.24
LOWER LIMIT		357721	5.31	300634	8.00	148225	10.24
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 240-354712/5		748652	5.81	616014	8.50	304664	10.74
LCS 240-354712/6		764167	5.81	649365	8.50	322784	10.74
MB 240-354712/8		751373	5.81	631400	8.50	300498	10.74
240-103714-1	TB-103018	670608	5.81	577266	8.50	278682	10.74

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 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Sample No.: ICIS 240-353820/7 Date Analyzed: 11/06/2018 08:18

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): UX80599.D Heated Purge: (Y/N) Y

Calibration ID: 47798

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		897987	5.16	657341	7.69	317330	9.88
UPPER LIMIT		1795974	5.66	1314682	8.19	634660	10.38
LOWER LIMIT		448994	4.66	328671	7.19	158665	9.38
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 240-353820/13		976104	5.16	701529	7.69	328898	9.88
CCVIS 240-355270/6		717882	5.16	489980	7.69	248943	9.88

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 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Sample No.: CCVIS 240-355270/6 Date Analyzed: 11/13/2018 23:15

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): UX80899.D Heated Purge: (Y/N) Y

Calibration ID: 47798

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		717882	5.16	489980	7.69	248943	9.88
UPPER LIMIT		1435764	5.66	979960	8.19	497886	10.38
LOWER LIMIT		358941	4.66	244990	7.19	124472	9.38
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 240-355270/5		750737	5.16	520749	7.69	246524	9.88
LCS 240-355270/7		694543	5.16	480921	7.69	242337	9.88
MB 240-355270/8		665880	5.16	471537	7.69	232592	9.88
240-103714-2	SB-MW135A-2-5.5	646287	5.16	455925	7.69	219585	9.88
240-103714-3	SB-MW135B-12.5-18	670402	5.16	452866	7.69	221406	9.88
240-103714-4	SB-MW136A-1.2-2	660127	5.16	453901	7.69	218916	9.88
240-103714-5	SB-MW136B-15.8-18.5	622564	5.16	430789	7.69	201286	9.88

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 8260B

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Lab File ID: UX80901.D Lab Sample ID: MB 240-355270/8

Matrix: Solid Heated Purge:(Y/N) Y

Instrument ID: A3UX8 Date Analyzed: 11/13/2018 23:59

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 240-355270/7	UX80900.D	11/13/2018 23:37
SB-MW135A-2-5.5	240-103714-2	UX80903.D	11/14/2018 00:50
SB-MW135B-12.5-18	240-103714-3	UX80904.D	11/14/2018 01:13
SB-MW136A-1.2-2	240-103714-4	UX80905.D	11/14/2018 01:35
SB-MW136B-15.8-18.5	240-103714-5	UX80906.D	11/14/2018 01:57

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-355270/8

Matrix: Solid | Lab File ID: UX80901.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(g) | Date Analyzed: 11/13/2018 23:59

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.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	3.0	U	5.0	3.0
563-58-6	1,1-Dichloropropene	0.99	U	5.0	0.99
75-34-3	1,1-Dichloroethane	0.69	U	5.0	0.69
87-61-6	1,2,3-Trichlorobenzene	0.818	J	5.0	0.57
96-18-4	1,2,3-Trichloropropane	1.6	U	5.0	1.6
107-06-2	1,2-Dichloroethane	0.77	U	5.0	0.77
75-35-4	1,1-Dichloroethene	0.90	U	5.0	0.90
526-73-8	1,2,3-Trimethylbenzene	1.8	U	5.0	1.8
78-87-5	1,2-Dichloropropane	0.85	U	5.0	0.85
95-63-6	1,2,4-Trimethylbenzene	1.0	U	5.0	1.0
591-78-6	2-Hexanone	4.1	U	20	4.1
79-34-5	1,1,2,2-Tetrachloroethane	1.4	U	5.0	1.4
67-64-1	Acetone	21	U	25	21
71-43-2	Benzene	0.70	U	5.0	0.70
75-25-2	Bromoform	2.4	U	5.0	2.4
74-83-9	Bromomethane	0.99	U	5.0	0.99
75-15-0	Carbon disulfide	1.2	U	5.0	1.2
56-23-5	Carbon tetrachloride	3.3	U	5.0	3.3
71-55-6	1,1,1-Trichloroethane	0.82	U	5.0	0.82
108-90-7	Chlorobenzene	0.92	U	5.0	0.92
142-28-9	1,3-Dichloropropane	0.99	U	5.0	0.99
75-00-3	Chloroethane	1.2	U	5.0	1.2
96-12-8	1,2-Dibromo-3-Chloropropane	3.6	U	10	3.6
67-66-3	Chloroform	0.79	U	5.0	0.79
74-87-3	Chloromethane	1.0	U	5.0	1.0
156-59-2	cis-1,2-Dichloroethene	0.65	U	5.0	0.65
10061-01-5	cis-1,3-Dichloropropene	1.4	U	5.0	1.4
75-27-4	Bromodichloromethane	0.68	U	5.0	0.68
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.3	U	5.0	1.3
75-71-8	Dichlorodifluoromethane	0.94	U	5.0	0.94
120-82-1	1,2,4-Trichlorobenzene	1.36	J	5.0	0.57
100-41-4	Ethylbenzene	1.0	U	5.0	1.0
106-93-4	1,2-Dibromoethane	0.77	U	5.0	0.77
594-20-7	2,2-Dichloropropane	1.2	U	5.0	1.2
95-50-1	1,2-Dichlorobenzene	1.1	U	5.0	1.1

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-355270/8

Matrix: Solid | Lab File ID: UX80901.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(g) | Date Analyzed: 11/13/2018 23:59

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.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
541-73-1	1,3-Dichlorobenzene	0.82	U	5.0	0.82
106-46-7	1,4-Dichlorobenzene	0.88	U	5.0	0.88
110-75-8	2-Chloroethyl vinyl ether	8.9	U	50	8.9
98-82-8	Isopropylbenzene	0.83	U	5.0	0.83
95-49-8	2-Chlorotoluene	0.95	U	5.0	0.95
78-93-3	2-Butanone (MEK)	3.6	U	20	3.6
108-10-1	4-Methyl-2-pentanone (MIBK)	3.7	U	20	3.7
108-86-1	Bromobenzene	1.2	U	5.0	1.2
1634-04-4	Methyl tert-butyl ether	0.82	U	5.0	0.82
74-97-5	Bromochloromethane	0.59	U	5.0	0.59
75-09-2	Methylene Chloride	12	U	25	12
106-43-4	4-Chlorotoluene	0.86	U	5.0	0.86
99-87-6	p-Isopropyltoluene	2.9	U	5.0	2.9
100-42-5	Styrene	1.2	U	5.0	1.2
179601-23-1	m-Xylene & p-Xylene	0.78	U	10	0.78
95-47-6	o-Xylene	0.86	U	5.0	0.86
87-68-3	Hexachlorobutadiene	3.7	U	5.0	3.7
127-18-4	Tetrachloroethene	0.73	U	5.0	0.73
74-95-3	Dibromomethane	0.67	U	5.0	0.67
108-88-3	Toluene	0.77	U	5.0	0.77
108-20-3	Diisopropyl ether	0.76	U	10	0.76
91-20-3	Naphthalene	2.7	U	5.0	2.7
156-60-5	trans-1,2-Dichloroethene	0.47	U	5.0	0.47
104-51-8	n-Butylbenzene	3.5	U	5.0	3.5
10061-02-6	trans-1,3-Dichloropropene	1.0	U	5.0	1.0
103-65-1	N-Propylbenzene	0.73	U	5.0	0.73
79-01-6	Trichloroethene	0.63	U	5.0	0.63
135-98-8	sec-Butylbenzene	0.86	U	5.0	0.86
75-69-4	Trichlorofluoromethane	1.1	U	5.0	1.1
994-05-8	Tert-amyl methyl ether	2.2	U	5.0	2.2
637-92-3	Ethyl tert-butyl ether	2.3	U	5.0	2.3
98-06-6	tert-Butylbenzene	0.91	U	5.0	0.91
75-01-4	Vinyl chloride	0.84	U	5.0	0.84
108-05-4	Vinyl acetate	2.1	U	10	2.1
75-65-0	tert-Butyl alcohol	17	U	200	17
1330-20-7	Xylenes, Total	1.6	U	10	1.6

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-355270/8

Matrix: Solid | Lab File ID: UX80901.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(g) | Date Analyzed: 11/13/2018 23:59

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.: 355270 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-48-1	Dibromochloromethane	2.8	U	5.0	2.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	87		48-123
460-00-4	4-Bromofluorobenzene (Surr)	82		49-141
2037-26-5	Toluene-d8 (Surr)	82		62-135
1868-53-7	Dibromofluoromethane (Surr)	86		49-132

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

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 240-355270/8

Matrix: Solid Lab File ID: UX80901.D

Analysis Method: 8260B Date Collected:

Sample wt/vol: 5(g) Date Analyzed: 11/13/2018 23:59

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.: 355270 Units: ug/Kg

Number TICs Found: 0 TIC Result Total: 0

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
	Tentatively Identified Compound		None		

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: UX80900.D

Lab ID: LCS 240-355270/7 Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	25.0	29.0	116	73-124	
1,1-Dichloropropene	25.0	27.3	109	72-127	
1,1-Dichloroethane	25.0	23.9	96	72-122	
1,2,3-Trichlorobenzene	25.0	25.2	101	59-120	
1,2,3-Trichloropropane	25.0	27.0	108	68-128	
1,2-Dichloroethane	25.0	25.8	103	64-126	
1,1-Dichloroethene	25.0	26.7	107	57-139	
1,2-Dichloropropane	25.0	23.8	95	78-122	
1,2,4-Trimethylbenzene	25.0	27.6	111	75-121	
2-Hexanone	50.0	50.7	101	52-145	
1,1,2,2-Tetrachloroethane	25.0	25.8	103	68-128	
Acetone	50.0	53.0	106	43-159	
Benzene	25.0	26.0	104	74-123	
Bromoform	25.0	24.6	98	46-137	
Bromomethane	25.0	20.1	80	10-152	
Carbon disulfide	25.0	26.9	108	29-153	
Carbon tetrachloride	25.0	31.1	124	56-139	
1,1,1-Trichloroethane	25.0	31.4	125	64-135	
Chlorobenzene	25.0	26.7	107	80-120	
1,3-Dichloropropane	25.0	28.5	114	76-120	
Chloroethane	25.0	19.9	79	15-155	
1,2-Dibromo-3-Chloropropane	25.0	21.5	86	38-135	
Chloroform	25.0	28.4	114	72-124	
Chloromethane	25.0	17.3	69	45-128	
cis-1,2-Dichloroethene	25.0	25.9	104	74-123	
cis-1,3-Dichloropropene	25.0	27.1	108	63-137	
Bromodichloromethane	25.0	28.3	113	63-132	
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	30.9	123	56-138	
Dichlorodifluoromethane	25.0	22.0	88	26-138	
1,2,4-Trichlorobenzene	25.0	23.8	95	54-120	
Ethylbenzene	25.0	27.7	111	76-120	
1,2-Dibromoethane	25.0	28.3	113	76-120	
2,2-Dichloropropane	25.0	28.3	113	42-143	
1,2-Dichlorobenzene	25.0	26.3	105	73-120	
1,3-Dichlorobenzene	25.0	26.8	107	70-120	
1,4-Dichlorobenzene	25.0	25.7	103	71-120	
2-Chloroethyl vinyl ether	25.0	21.9 J	87	58-154	
Isopropylbenzene	25.0	29.2	117	77-124	
2-Chlorotoluene	25.0	26.2	105	75-120	
2-Butanone (MEK)	50.0	44.8	90	45-148	
4-Methyl-2-pentanone (MIBK)	50.0	46.5	93	53-139	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: UX80900.D

Lab ID: LCS 240-355270/7 Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
Bromobenzene	25.0	27.1	109	75-120	
Methyl tert-butyl ether	25.0	28.1	113	66-127	
Bromochloromethane	25.0	27.2	109	72-124	
Methylene Chloride	25.0	27.4	110	62-137	
4-Chlorotoluene	25.0	25.9	103	74-121	
p-Isopropyltoluene	25.0	28.0	112	74-124	
Styrene	25.0	28.3	113	76-121	
m-Xylene & p-Xylene	25.0	26.8	107	77-120	
o-Xylene	25.0	27.9	112	79-120	
Hexachlorobutadiene	25.0	26.4	106	58-122	
Tetrachloroethene	25.0	28.3	113	76-120	
Dibromomethane	25.0	28.0	112	71-122	
Toluene	25.0	27.0	108	76-120	
Naphthalene	25.0	22.8	91	51-120	
trans-1,2-Dichloroethene	25.0	27.5	110	71-133	
n-Butylbenzene	25.0	27.1	108	64-133	
trans-1,3-Dichloropropene	25.0	23.7	95	55-121	
N-Propylbenzene	25.0	27.0	108	73-129	
Trichloroethene	25.0	25.3	101	73-126	
sec-Butylbenzene	25.0	26.8	107	73-126	
Trichlorofluoromethane	25.0	23.4	94	47-146	
tert-Butylbenzene	25.0	26.8	107	73-122	
Vinyl chloride	25.0	21.2	85	52-130	
Vinyl acetate	25.0	21.7	87	43-144	
tert-Butyl alcohol	250	207	83	41-139	
Xylenes, Total	50.0	54.7	109	79-120	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Lab File ID: UXM15494.D Lab Sample ID: MB 240-354712/8

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: A3UX16 Date Analyzed: 11/10/2018 12:11

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 240-354712/6	UXM15492.D	11/10/2018 11:23
TB-103018	240-103714-1	UXM15513.D	11/10/2018 19:46

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-354712/8

Matrix: Water | Lab File ID: UXM15494.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 11/10/2018 12:11

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.: 354712 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	0.14	U	1.0	0.14
563-58-6	1,1-Dichloropropene	0.14	U	1.0	0.14
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17
87-61-6	1,2,3-Trichlorobenzene	0.54	U	1.0	0.54
96-18-4	1,2,3-Trichloropropane	0.24	U	1.0	0.24
107-06-2	1,2-Dichloroethane	0.21	U	1.0	0.21
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19
526-73-8	1,2,3-Trimethylbenzene	0.14	U	5.0	0.14
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15
95-63-6	1,2,4-Trimethylbenzene	0.070	U	1.0	0.070
591-78-6	2-Hexanone	0.54	U	10	0.54
79-34-5	1,1,2,2-Tetrachloroethane	0.13	U	1.0	0.13
67-64-1	Acetone	5.4	U	10	5.4
71-43-2	Benzene	0.13	U	1.0	0.13
75-25-2	Bromoform	0.76	U	1.0	0.76
74-83-9	Bromomethane	0.42	U	1.0	0.42
75-15-0	Carbon disulfide	0.28	U	1.0	0.28
56-23-5	Carbon tetrachloride	0.26	U	1.0	0.26
71-55-6	1,1,1-Trichloroethane	0.24	U	1.0	0.24
108-90-7	Chlorobenzene	0.14	U	1.0	0.14
142-28-9	1,3-Dichloropropane	0.21	U	1.0	0.21
75-00-3	Chloroethane	0.83	U	1.0	0.83
96-12-8	1,2-Dibromo-3-Chloropropane	0.91	U	2.0	0.91
67-66-3	Chloroform	0.13	U	1.0	0.13
74-87-3	Chloromethane	0.20	U	1.0	0.20
156-59-2	cis-1,2-Dichloroethene	0.16	U	1.0	0.16
10061-01-5	cis-1,3-Dichloropropene	0.61	U	1.0	0.61
75-27-4	Bromodichloromethane	0.17	U	1.0	0.17
76-13-1	1,1,2-Trichlorotrifluoroethane	0.41	U	1.0	0.41
75-71-8	Dichlorodifluoromethane	0.35	U	1.0	0.35
120-82-1	1,2,4-Trichlorobenzene	0.26	U	1.0	0.26
100-41-4	Ethylbenzene	0.11	U	1.0	0.11
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12
594-20-7	2,2-Dichloropropane	0.31	U	1.0	0.31
95-50-1	1,2-Dichlorobenzene	0.15	U	1.0	0.15
541-73-1	1,3-Dichlorobenzene	0.15	U	1.0	0.15

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-103714-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-354712/8

Matrix: Water | Lab File ID: UXM15494.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 5(mL) | Date Analyzed: 11/10/2018 12:11

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.: 354712 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
106-46-7	1,4-Dichlorobenzene	0.16	U	1.0	0.16
110-75-8	2-Chloroethyl vinyl ether	0.26	U	10	0.26
98-82-8	Isopropylbenzene	0.090	U	1.0	0.090
95-49-8	2-Chlorotoluene	0.15	U	1.0	0.15
78-93-3	2-Butanone (MEK)	1.2	U	10	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	0.42	U	10	0.42
108-86-1	Bromobenzene	0.12	U	1.0	0.12
1634-04-4	Methyl tert-butyl ether	0.070	U	1.0	0.070
74-97-5	Bromochloromethane	0.14	U	1.0	0.14
75-09-2	Methylene Chloride	2.6	U	5.0	2.6
106-43-4	4-Chlorotoluene	0.090	U	1.0	0.090
99-87-6	4-Isopropyltoluene	0.13	U	1.0	0.13
100-42-5	Styrene	0.10	U	1.0	0.10
179601-23-1	m-Xylene & p-Xylene	0.080	U	2.0	0.080
95-47-6	o-Xylene	0.090	U	1.0	0.090
87-68-3	Hexachlorobutadiene	0.83	U	1.0	0.83
127-18-4	Tetrachloroethene	0.15	U	1.0	0.15
74-95-3	Dibromomethane	0.090	U	1.0	0.090
108-88-3	Toluene	0.14	U	1.0	0.14
108-20-3	Diisopropyl ether	0.17	U	10	0.17
91-20-3	Naphthalene	0.32	U	1.0	0.32
156-60-5	trans-1,2-Dichloroethene	0.19	U	1.0	0.19
104-51-8	n-Butylbenzene	0.14	U	1.0	0.14
10061-02-6	trans-1,3-Dichloropropene	0.67	U	1.0	0.67
103-65-1	N-Propylbenzene	0.15	U	1.0	0.15
79-01-6	Trichloroethene	0.10	U	1.0	0.10
135-98-8	sec-Butylbenzene	0.13	U	1.0	0.13
75-69-4	Trichlorofluoromethane	0.45	U	1.0	0.45
994-05-8	Tert-amyl methyl ether	0.11	U	5.0	0.11
637-92-3	Ethyl tert-butyl ether	0.15	U	5.0	0.15
98-06-6	tert-Butylbenzene	0.14	U	1.0	0.14
75-01-4	Vinyl chloride	0.20	U	1.0	0.20
108-05-4	Vinyl acetate	0.19	U	2.0	0.19
75-65-0	tert-Butyl alcohol	1.7	U	50	1.7
1330-20-7	Xylenes, Total	0.15	U	2.0	0.15
124-48-1	Chlorodibromomethane	0.39	U	1.0	0.39

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 240-354712/8

Matrix: Water Lab File ID: UXM15494.D

Analysis Method: 8260B Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 11/10/2018 12:11

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.: 354712 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	91		70-121
460-00-4	4-Bromofluorobenzene (Surr)	82		59-120
2037-26-5	Toluene-d8 (Surr)	85		70-123
1868-53-7	Dibromofluoromethane (Surr)	89		75-128

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Matrix: Water Level: Low Lab File ID: UXM15492.D

Lab ID: LCS 240-354712/6 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	20.0	18.2	91	80-124	
1,1-Dichloropropene	20.0	21.1	106	78-126	
1,1-Dichloroethane	20.0	21.2	106	75-133	
1,2,3-Trichlorobenzene	20.0	12.9	65	39-138	
1,2,3-Trichloropropane	20.0	23.1	115	66-139	
1,2-Dichloroethane	20.0	22.1	111	71-135	
1,1-Dichloroethene	20.0	23.4	117	65-139	
1,2-Dichloropropane	20.0	23.1	115	78-133	
1,2,4-Trimethylbenzene	20.0	17.8	89	74-120	
2-Hexanone	40.0	42.2	105	43-148	
1,1,2,2-Tetrachloroethane	20.0	20.9	105	65-139	
Acetone	40.0	43.8	109	21-162	
Benzene	20.0	21.6	108	80-123	
Bromoform	20.0	18.2	91	49-141	
Bromomethane	20.0	22.2	111	41-175	
Carbon disulfide	20.0	21.7	109	60-138	
Carbon tetrachloride	20.0	22.1	111	63-140	
1,1,1-Trichloroethane	20.0	21.4	107	69-134	
Chlorobenzene	20.0	19.3	97	80-121	
1,3-Dichloropropane	20.0	19.8	99	72-134	
Chloroethane	20.0	21.3	106	33-173	
1,2-Dibromo-3-Chloropropane	20.0	16.7	83	46-132	
Chloroform	20.0	22.0	110	79-127	
Chloromethane	20.0	18.8	94	54-143	
cis-1,2-Dichloroethene	20.0	21.2	106	76-128	
cis-1,3-Dichloropropene	20.0	23.0	115	64-132	
Bromodichloromethane	20.0	21.8	109	77-125	
1,1,2-Trichlorotrifluoroethane	20.0	23.0	115	50-156	
Dichlorodifluoromethane	20.0	21.7	109	29-148	
1,2,4-Trichlorobenzene	20.0	13.9	70	42-133	
Ethylbenzene	20.0	18.2	91	80-120	
1,2-Dibromoethane	20.0	20.1	100	77-123	
2,2-Dichloropropane	20.0	21.2	106	42-150	
1,2-Dichlorobenzene	20.0	18.2	91	78-120	
1,3-Dichlorobenzene	20.0	17.6	88	78-120	
1,4-Dichlorobenzene	20.0	17.8	89	78-120	
2-Chloroethyl vinyl ether	20.0	23.9	119	55-137	
Isopropylbenzene	20.0	17.8	89	74-120	
2-Chlorotoluene	20.0	19.0	95	78-123	
2-Butanone (MEK)	40.0	45.6	114	39-163	
4-Methyl-2-pentanone (MIBK)	40.0	47.9	120	49-143	
Bromobenzene	20.0	18.9	95	74-129	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Matrix: Water Level: Low Lab File ID: UXM15492.D

Lab ID: LCS 240-354712/6 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Methyl tert-butyl ether	20.0	20.5	103	51-133	
Bromochloromethane	20.0	22.1	111	74-130	
Methylene Chloride	20.0	21.6	108	70-134	
4-Chlorotoluene	20.0	18.9	95	77-125	
4-Isopropyltoluene	20.0	16.7	83	69-122	
Styrene	20.0	19.2	96	79-120	
m-Xylene & p-Xylene	20.0	18.3	92	80-120	
o-Xylene	20.0	18.3	92	80-120	
Hexachlorobutadiene	20.0	10.7	54	38-136	
Tetrachloroethene	20.0	17.5	88	74-130	
Dibromomethane	20.0	21.2	106	74-124	
Toluene	20.0	19.7	99	78-129	
Naphthalene	20.0	13.9	69	28-141	
trans-1,2-Dichloroethene	20.0	22.4	112	78-133	
n-Butylbenzene	20.0	16.7	83	57-126	
trans-1,3-Dichloropropene	20.0	19.3	96	55-128	
N-Propylbenzene	20.0	18.5	92	77-123	
Trichloroethene	20.0	20.9	105	76-125	
sec-Butylbenzene	20.0	16.9	85	68-123	
Trichlorofluoromethane	20.0	23.7	118	51-164	
tert-Butylbenzene	20.0	17.6	88	70-121	
Vinyl chloride	20.0	21.4	107	58-143	
Vinyl acetate	20.0	21.0	105	45-151	
tert-Butyl alcohol	200	242	121	10-161	
Xylenes, Total	40.0	36.6	92	80-120	

Column to be used to flag recovery and RPD values

FORM III 8260B

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

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Lab File ID: BFB5706.D BFB Injection Date: 08/06/2018

Instrument ID: A3UX16 BFB Injection Time: 11:19

Analysis Batch No.: 339529

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	15.7	
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	6.5	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	74.7	
175	5.0 - 9.0 % of mass 174	5.6	(7.4) 1
176	95.0 - 101.0 % of mass 174	72.1	(96.6) 1
177	5.0 - 9.0 % of mass 176	4.7	(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
	STD8260 240-339529/8	UXM13044.D	08/06/2018	12:19
	STD8260 240-339529/9	UXM13045.D	08/06/2018	12:43
	STD8260 240-339529/10	UXM13046.D	08/06/2018	13:06
	ICIS 240-339529/11	UXM13047.D	08/06/2018	13:30
	STD8260 240-339529/12	UXM13048.D	08/06/2018	13:54
	STD8260 240-339529/13	UXM13049.D	08/06/2018	14:18
	STD8260 240-339529/14	UXM13050.D	08/06/2018	14:42
	ICV 240-339529/15	UXM13051.D	08/06/2018	15:24
	STDA9 240-339529/18	UXM13054.D	08/06/2018	16:36
	STDA9 240-339529/19	UXM13055.D	08/06/2018	17:00
	STDA9 240-339529/20	UXM13056.D	08/06/2018	17:24
	STDA9 240-339529/21	UXM13057.D	08/06/2018	17:48
	STDA9 240-339529/22	UXM13058.D	08/06/2018	18:12
	STDA9 240-339529/23	UXM13059.D	08/06/2018	18:36
	ICV 240-339529/24	UXM13060.D	08/06/2018	19:00

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

Lab Name: TestAmerica Canton Job No.: 240-103714-1 Analy Batch No.: 339529

SDG No.:

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

Calibration Start Date: 08/06/2018 12:19 Calibration End Date: 08/06/2018 14:42 Calibration ID: 46373

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-339529/14	UXM13050.D
Level 2	STD8260 240-339529/13	UXM13049.D
Level 3	STD8260 240-339529/12	UXM13048.D
Level 4	ICIS 240-339529/11	UXM13047.D
Level 5	STD8260 240-339529/10	UXM13046.D
Level 6	STD8260 240-339529/9	UXM13045.D
Level 7	STD8260 240-339529/8	UXM13044.D

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	+++++ 0.2648	0.1902 0.2620	0.2363	0.2482	0.2917	Ave		0.2489				13.7		15.0			
Chloromethane	+++++ 0.2253	0.2100 0.2104	0.2364	0.2208	0.2347	Ave		0.2229			0.1000	5.1		15.0			
Butadiene	+++++ 0.2431	0.2172 0.2339	0.2268	0.2421	0.2671	Ave		0.2384				7.2		15.0			
Vinyl chloride	0.1379 0.2720	0.2379 0.2609	0.2653	0.2598	0.2895	Lin1	-0.054	0.2710							0.9980		0.9900
Bromomethane	0.1566 0.2341	0.1931 0.2501	0.2107	0.2092	0.2288	Ave		0.2118				14.5		15.0			
Chloroethane	0.1810 0.1862	0.1572 0.2057	0.1836	0.1795	0.1939	Ave		0.1839				8.1		15.0			
Dichlorofluoromethane	0.4692 0.4417	0.4284 0.4447	0.4418	0.4343	0.4693	Ave		0.4471				3.6		15.0			
Trichlorofluoromethane	0.2993 0.4064	0.3363 0.4094	0.3859	0.3997	0.4495	Ave		0.3838				13.1		15.0			
Ethyl ether	+++++ 0.1938	0.1714 0.1927	0.1948	0.1886	0.2003	Ave		0.1903				5.3		15.0			
Acrolein	0.0469 0.0491	0.0411 0.0482	0.0477	0.0458	0.0525	Ave		0.0474				7.3		15.0			
1,1-Dichloroethene	0.1979 0.2422	0.2097 0.2381	0.2360	0.2340	0.2582	Ave		0.2309				8.8		15.0			
1,1,2-Trichlorotrifluoroethane	0.1273 0.1661	0.1427 0.1691	0.1657	0.1677	0.1921	Ave		0.1615				12.9		15.0			
Acetone	+++++ 0.0229	0.0320 0.0228	0.0245	0.0228	0.0239	Ave		0.0248				14.5		15.0			
Iodomethane	0.3998 0.4377	0.3922 0.4173	0.4214	0.4242	0.4533	Ave		0.4209				5.0		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.: 240-103714-1 Analy Batch No.: 339529

SDG No.:

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

Calibration Start Date: 08/06/2018 12:19 Calibration End Date: 08/06/2018 14:42 Calibration ID: 46373

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon disulfide	0.6221 0.7296	0.6991 0.7227	0.7143	0.7181	0.7896	Ave		0.7136				6.9		15.0			
3-Chloro-1-propene	0.4340 0.3186	0.3587 0.3123	0.3161	0.3082	0.3384	Ave		0.3409				13.1		15.0			
Methyl acetate	0.1665 0.1627	0.1775 0.1600	0.1636	0.1667	0.1752	Ave		0.1674				3.9		15.0			
Methylene Chloride	0.2849 0.2638	0.2346 0.2571	0.2609	0.2541	0.2742	Ave		0.2614				6.1		15.0			
tert-Butyl alcohol	0.0222 0.0244	0.0251 0.0249	0.0273	0.0263	0.0256	Ave		0.0251				6.4		15.0			
Acrylonitrile	0.0854 0.0907	0.0918 0.0914	0.0926	0.0910	0.0966	Ave		0.0913				3.6		15.0			
trans-1,2-Dichloroethene	0.2324 0.2762	0.2501 0.2702	0.2644	0.2665	0.2843	Ave		0.2635				6.6		15.0			
Methyl tert-butyl ether	0.7287 0.7867	0.7701 0.7926	0.7963	0.7859	0.8344	Ave		0.7850				4.0		15.0			
Hexane	0.1735 0.1578	0.1588 0.1593	0.1640	0.1593	0.1728	Ave		0.1637				4.1		15.0			
1,1-Dichloroethane	0.3500 0.3989	0.3779 0.3962	0.4007	0.3904	0.4157	Ave		0.3900			0.1000	5.4		15.0			
Vinyl acetate	0.3887 0.4673	0.3734 0.4676	0.4622	0.4612	0.4752	Ave		0.4422				9.6		15.0			
cis-1,2-Dichloroethene	0.2922 0.2965	0.2849 0.2960	0.2954	0.2965	0.3084	Ave		0.2957				2.4		15.0			
2,2-Dichloropropane	+++++ 0.0623	0.0602 0.0615	0.0628	0.0650	0.0681	Ave		0.0633				4.4		15.0			
2-Butanone (MEK)	+++++ 0.0322	0.0296 0.0339	0.0347	0.0335	0.0348	Ave		0.0331				5.9		15.0			
Bromochloromethane	0.1040 0.1452	0.1402 0.1432	0.1430	0.1412	0.1505	Ave		0.1382				11.2		15.0			
Tetrahydrofuran	0.0477 0.0608	0.0623 0.0628	0.0629	0.0622	0.0659	Ave		0.0607				9.7		15.0			
Chloroform	0.3727 0.4436	0.4118 0.4427	0.4421	0.4331	0.4581	Ave		0.4292				6.7		15.0			
1,1,1-Trichloroethane	0.3380 0.4078	0.3487 0.4053	0.3980	0.3913	0.4224	Ave		0.3874				8.2		15.0			
Cyclohexane	0.2362 0.2623	0.2571 0.2698	0.2625	0.2549	0.2891	Ave		0.2617				6.1		15.0			
1,1-Dichloropropene	0.3051 0.3416	0.3283 0.3459	0.3375	0.3287	0.3518	Ave		0.3341				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.: 240-103714-1 Analy Batch No.: 339529

SDG No.:

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

Calibration Start Date: 08/06/2018 12:19 Calibration End Date: 08/06/2018 14:42 Calibration ID: 46373

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon tetrachloride	0.2631 0.3280	0.2945 0.3376	0.3131	0.3170	0.3467	Ave		0.3143				9.0		15.0			
Isobutyl alcohol	0.0052 0.0068	0.0061 0.0072	0.0073	0.0073	0.0072	Ave		0.0067				11.8		15.0			
Benzene	0.9445 1.0211	0.9328 1.0137	0.9933	0.9866	1.0423	Ave		0.9906				4.0		15.0			
1,2-Dichloroethane	0.3565 0.3499	0.3028 0.3527	0.3478	0.3416	0.3549	Ave		0.3437				5.4		15.0			
n-Heptane	1.2158 0.0814	0.6626 0.0741	0.1279	0.1004	0.0893	Lin1	0.5802	0.0703							0.9980		0.9900
Trichloroethene	0.2682 0.2906	0.2763 0.2913	0.2927	0.2843	0.3019	Ave		0.2865				3.9		15.0			
Methylcyclohexane	0.2602 0.2470	0.2683 0.2469	0.2483	0.2431	0.2675	Ave		0.2545				4.2		15.0			
1,2-Dichloropropane	0.1570 0.2093	0.2040 0.2122	0.2034	0.2067	0.2108	Ave		0.2005				9.7		15.0			
Dibromomethane	0.1719 0.1617	0.1440 0.1612	0.1572	0.1568	0.1671	Ave		0.1600				5.5		15.0			
1,4-Dioxane	+++++ 0.0033	0.0035 0.0037	0.0034	0.0034	0.0030	Ave		0.0034				6.7		15.0			
Bromodichloromethane	0.2951 0.3402	0.2899 0.3488	0.3257	0.3316	0.3452	Ave		0.3252				7.3		15.0			
2-Chloroethyl vinyl ether	0.1172 0.1398	0.1270 0.1459	0.1398	0.1417	0.1397	Ave		0.1359				7.4		15.0			
cis-1,3-Dichloropropene	0.3007 0.3898	0.3522 0.3948	0.3686	0.3721	0.3922	Ave		0.3672				9.0		15.0			
4-Methyl-2-pentanone (MIBK)	0.1681 0.1894	0.1791 0.1962	0.1968	0.1944	0.2014	Ave		0.1894				6.2		15.0			
Toluene	1.3395 1.4565	1.3237 1.4793	1.4267	1.4241	1.4897	Ave		1.4199				4.6		15.0			
trans-1,3-Dichloropropene	0.4127 0.4944	0.4235 0.5070	0.4782	0.4824	0.5000	Ave		0.4712				8.0		15.0			
Ethyl methacrylate	0.3848 0.4039	0.3763 0.4212	0.4097	0.4217	0.4169	Ave		0.4049				4.4		15.0			
1,1,2-Trichloroethane	0.2766 0.2942	0.2604 0.3036	0.2938	0.2935	0.3011	Ave		0.2890				5.3		15.0			
Tetrachloroethene	0.2750 0.2589	0.2523 0.2658	0.2636	0.2595	0.2736	Ave		0.2641				3.1		15.0			
1,3-Dichloropropane	0.4588 0.5037	0.4986 0.5183	0.5154	0.5036	0.5129	Ave		0.5016				4.0		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.: 240-103714-1 Analy Batch No.: 339529

SDG No.:

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

Calibration Start Date: 08/06/2018 12:19 Calibration End Date: 08/06/2018 14:42 Calibration ID: 46373

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
2-Hexanone	0.1723 0.1626	0.1724 0.1759	0.1837	0.1837	0.1807	Ave		0.1759				4.3		15.0			
Chlorodibromomethane	0.2493 0.3554	0.2750 0.3691	0.3362	0.3454	0.3632	Ave		0.3277				14.2		15.0			
1,2-Dibromoethane	0.2714 0.3167	0.2775 0.3282	0.3275	0.3160	0.3299	Ave		0.3096				8.0		15.0			
Chlorobenzene	0.9068 0.9597	0.9166 0.9636	0.9541	0.9572	0.9824	Ave		0.9486			0.3000	2.8		15.0			
1,1,1,2-Tetrachloroethane	0.3386 0.3602	0.3375 0.3629	0.3402	0.3544	0.3738	Ave		0.3525				4.0		15.0			
Ethylbenzene	0.4870 0.5054	0.4924 0.5213	0.5021	0.5008	0.5286	Ave		0.5054				2.9		15.0			
m-Xylene & p-Xylene	0.6067 0.6331	0.5895 0.6478	0.6265	0.6080	0.6612	Ave		0.6247				4.0		15.0			
o-Xylene	0.6165 0.6322	0.6532 0.6470	0.6189	0.6198	0.6584	Ave		0.6351				2.8		15.0			
Styrene	0.9641 1.0810	0.9259 1.1166	1.0633	1.0558	1.1117	Ave		1.0455				7.0		15.0			
Bromoform	0.1767 0.2320	0.1861 0.2461	0.2165	0.2253	0.2475	Ave		0.2186			0.1000	12.7		15.0			
Isopropylbenzene	1.3123 1.3748	1.4013 1.4068	1.3728	1.3674	1.4344	Ave		1.3814				2.8		15.0			
1,1,2,2-Tetrachloroethane	0.6525 0.7666	0.7036 0.7650	0.7688	0.7711	0.8106	Ave		0.7483			0.3000	7.0		15.0			
Bromobenzene	0.7367 0.7806	0.7562 0.7710	0.7605	0.7735	0.8123	Ave		0.7701				3.0		15.0			
1,2,3-Trichloropropane	0.2026 0.2847	0.2429 0.2836	0.2859	0.2947	0.2959	Ave		0.2700				12.8		15.0			
trans-1,4-Dichloro-2-butene	0.1389 0.2122	0.1614 0.2236	0.2064	0.2193	0.2241	Lin1	-0.049	0.2204							0.9990		0.9900
N-Propylbenzene	0.6851 0.7137	0.7232 0.7003	0.6893	0.7069	0.7317	Ave		0.7072				2.4		15.0			
2-Chlorotoluene	0.6593 0.6892	0.6360 0.6811	0.6644	0.6868	0.7032	Ave		0.6743				3.3		15.0			
1,3,5-Trimethylbenzene	2.0536 2.1813	2.1103 2.1758	2.0970	2.1329	2.2162	Ave		2.1382				2.6		15.0			
4-Chlorotoluene	0.6949 0.7277	0.7002 0.7095	0.7153	0.7261	0.7404	Ave		0.7163				2.3		15.0			
tert-Butylbenzene	1.8145 1.9984	2.1515 1.9835	1.9415	1.9799	2.0330	Ave		1.9860				5.1		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.: 240-103714-1 Analy Batch No.: 339529

SDG No.:

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

Calibration Start Date: 08/06/2018 12:19 Calibration End Date: 08/06/2018 14:42 Calibration ID: 46373

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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,2,4-Trimethylbenzene	2.2322 2.3233	2.2597 2.3136	2.2352	2.2846	2.3610	Ave		2.2871				2.1		15.0			
sec-Butylbenzene	2.2474 2.2651	2.5914 2.2163	2.2062	2.2348	2.2952	Ave		2.2938				5.9		15.0			
1,3-Dichlorobenzene	1.3067 1.3767	1.5029 1.3515	1.3457	1.3577	1.3946	Ave		1.3765				4.5		15.0			
4-Isopropyltoluene	2.1056 2.0862	2.4082 2.0547	2.0143	2.0374	2.0958	Ave		2.1146				6.3		15.0			
1,4-Dichlorobenzene	1.4704 1.4210	1.4770 1.3935	1.4201	1.3925	1.4359	Ave		1.4300				2.4		15.0			
n-Butylbenzene	1.9059 1.6036	2.3851 1.5437	1.6299	1.6229	1.6497	Lin1	0.3905	1.5842							0.9990		0.9900
1,2-Dichlorobenzene	1.3766 1.3590	1.4326 1.3549	1.3462	1.3501	1.3940	Ave		1.3733				2.3		15.0			
1,2-Dibromo-3-Chloropropane	+++++ 0.2006	0.1601 0.2073	0.1929	0.1960	0.2102	Ave		0.1945				9.3		15.0			
1,2,4-Trichlorobenzene	0.9208 0.6985	1.0524 0.7149	0.7058	0.7350	0.6981	Lin1	0.1854	0.7045							0.9990		0.9900
Hexachlorobutadiene	+++++ 0.2426	0.8400 0.2432	0.3099	0.2891	0.2581	Lin1	0.6248	0.2384							0.9990		0.9900
Naphthalene	2.7201 2.5652	2.9631 2.6938	2.5582	2.6526	2.6380	Ave		2.6844				5.1		15.0			
1,2,3-Trichlorobenzene	0.8633 0.6534	0.9721 0.6731	0.6886	0.6805	0.6439	Lin1	0.1743	0.6595							0.9990		0.9900
Dibromofluoromethane (Surr)	0.2291 0.2535	0.2214 0.2420	0.2402	0.2476	0.2589	Ave		0.2418				5.4		15.0			
1,2-Dichloroethane-d4 (Surr)	0.2758 0.2990	0.2819 0.2936	0.3150	0.3019	0.3072	Ave		0.2963				4.7		15.0			
Toluene-d8 (Surr)	1.1311 1.2727	1.1448 1.2739	1.2399	1.2730	1.3233	Ave		1.2369				5.8		15.0			
4-Bromofluorobenzene (Surr)	0.4774 0.4571	0.4920 0.4552	0.4588	0.4620	0.4712	Ave		0.4677				2.9		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.: 240-103714-1

SDG No.:

Lab Sample ID: ICV 240-339529/15 Calibration Date: 08/06/2018 15:24

Instrument ID: A3UX16 Calib Start Date: 08/06/2018 12:19

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/06/2018 14:42

Lab File ID: UXM13051.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	0.2489	0.3087		0.0248	0.0200	24.0	50.0
Chloromethane	Ave	0.2229	0.2507	0.1000	0.0225	0.0200	12.4	50.0
Butadiene	Ave	0.2384	0.2518		0.0211	0.0200	5.6	50.0
Vinyl chloride	Lin1		0.3027		0.0225	0.0200	12.7	20.0
Bromomethane	Ave	0.2118	0.2316		0.0219	0.0200	9.3	50.0
Chloroethane	Ave	0.1839	0.2013		0.0219	0.0200	9.5	50.0
Dichlorofluoromethane	Ave	0.4471	0.4991		0.0223	0.0200	11.6	50.0
Trichlorofluoromethane	Ave	0.3838	0.4585		0.0239	0.0200	19.5	50.0
Ethyl ether	Ave	0.1903	0.2184		0.0230	0.0200	14.8	50.0
Acrolein	Ave	0.0474	0.0338		0.0715	0.100	-28.5	50.0
1,1-Dichloroethene	Ave	0.2309	0.2687		0.0233	0.0200	16.4	20.0
1,1,2-Trichlorotrifluoroethane	Ave	0.1615	0.1992		0.0247	0.0200	23.3	50.0
Acetone	Ave	0.0248	0.0240		0.0387	0.0400	-3.3	50.0
Iodomethane	Ave	0.4209	0.4701		0.0223	0.0200	11.7	50.0
Carbon disulfide	Ave	0.7136	0.8124		0.0228	0.0200	13.8	50.0
3-Chloro-1-propene	Ave	0.3409	0.3538		0.0208	0.0200	3.8	50.0
Methyl acetate	Ave	0.1674	0.1812		0.0433	0.0400	8.2	50.0
Methylene Chloride	Ave	0.2614	0.2834		0.0217	0.0200	8.4	50.0
tert-Butyl alcohol	Ave	0.0251	0.0266		0.212	0.200	5.9	50.0
Acrylonitrile	Ave	0.0913	0.0978		0.214	0.200	7.1	50.0
Methyl tert-butyl ether	Ave	0.7850	0.8569		0.0218	0.0200	9.2	50.0
trans-1,2-Dichloroethene	Ave	0.2635	0.3127		0.0237	0.0200	18.7	50.0
Hexane	Ave	0.1637	0.1871		0.0229	0.0200	14.3	20.0
1,1-Dichloroethane	Ave	0.3900	0.4462	0.1000	0.0229	0.0200	14.4	50.0
Vinyl acetate	Ave	0.4422	0.4541		0.0205	0.0200	2.7	50.0
2,2-Dichloropropane	Ave	0.0633	0.0686		0.0217	0.0200	8.3	50.0
2-Butanone (MEK)	Ave	0.0331	0.0335		0.0404	0.0400	1.0	50.0
cis-1,2-Dichloroethene	Ave	0.2957	0.3290		0.0222	0.0200	11.2	50.0
Bromochloromethane	Ave	0.1382	0.1550		0.0224	0.0200	12.2	50.0
Tetrahydrofuran	Ave	0.0607	0.0640		0.0422	0.0400	5.5	50.0
Chloroform	Ave	0.4292	0.4910		0.0229	0.0200	14.4	20.0
1,1,1-Trichloroethane	Ave	0.3874	0.4506		0.0233	0.0200	16.3	50.0
Cyclohexane	Ave	0.2617	0.3025		0.0231	0.0200	15.6	50.0
1,1-Dichloropropene	Ave	0.3341	0.3705		0.0222	0.0200	10.9	50.0
Carbon tetrachloride	Ave	0.3143	0.3674		0.0234	0.0200	16.9	50.0
Isobutyl alcohol	Ave	0.0067	0.0074		0.548	0.500	9.5	50.0
1,2-Dichloroethane	Ave	0.3437	0.3806		0.0221	0.0200	10.7	50.0
Benzene	Ave	0.9906	1.092		0.0220	0.0200	10.2	50.0
n-Heptane	Lin1		0.1067		0.0221	0.0200	10.4	50.0
Trichloroethene	Ave	0.2865	0.3147		0.0220	0.0200	9.9	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Lab Sample ID: ICV 240-339529/15 Calibration Date: 08/06/2018 15:24

Instrument ID: A3UX16 Calib Start Date: 08/06/2018 12:19

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/06/2018 14:42

Lab File ID: UXM13051.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	0.2545	0.2777		0.0218	0.0200	9.1	50.0
1,2-Dichloropropane	Ave	0.2005	0.2308		0.0230	0.0200	15.1	20.0
1,4-Dioxane	Ave	0.0034	0.0038		0.443	0.400	10.8	50.0
Dibromomethane	Ave	0.1600	0.1705		0.0213	0.0200	6.6	50.0
Bromodichloromethane	Ave	0.3252	0.3622		0.0223	0.0200	11.4	50.0
2-Chloroethyl vinyl ether	Ave	0.1359	0.1475		0.0217	0.0200	8.5	50.0
cis-1,3-Dichloropropene	Ave	0.3672	0.4255		0.0232	0.0200	15.9	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1894	0.1963		0.0415	0.0400	3.6	50.0
Toluene	Ave	1.420	1.577		0.0222	0.0200	11.1	20.0
trans-1,3-Dichloropropene	Ave	0.4712	0.5141		0.0218	0.0200	9.1	50.0
Ethyl methacrylate	Ave	0.4049	0.4388		0.0217	0.0200	8.4	50.0
1,1,2-Trichloroethane	Ave	0.2890	0.3286		0.0227	0.0200	13.7	50.0
Tetrachloroethene	Ave	0.2641	0.2866		0.0217	0.0200	8.5	50.0
1,3-Dichloropropane	Ave	0.5016	0.5515		0.0220	0.0200	9.9	50.0
2-Hexanone	Ave	0.1759	0.1756		0.0399	0.0400	-0.2	50.0
Chlorodibromomethane	Ave	0.3277	0.3832		0.0234	0.0200	16.9	50.0
1,2-Dibromoethane	Ave	0.3096	0.3431		0.0222	0.0200	10.8	50.0
Chlorobenzene	Ave	0.9486	1.052	0.3000	0.0222	0.0200	10.9	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3525	0.3923		0.0223	0.0200	11.3	50.0
Ethylbenzene	Ave	0.5054	0.5456		0.0216	0.0200	8.0	20.0
m-Xylene & p-Xylene	Ave	0.6247	0.6780		0.0217	0.0200	8.5	50.0
o-Xylene	Ave	0.6351	0.6992		0.0220	0.0200	10.1	50.0
Styrene	Ave	1.045	1.141		0.0218	0.0200	9.1	50.0
Bromoform	Ave	0.2186	0.2375	0.1000	0.0217	0.0200	8.6	50.0
Isopropylbenzene	Ave	1.381	1.527		0.0221	0.0200	10.5	50.0
1,1,2,2-Tetrachloroethane	Ave	0.7483	0.8079	0.3000	0.0216	0.0200	8.0	50.0
Bromobenzene	Ave	0.7701	0.8322		0.0216	0.0200	8.1	50.0
1,2,3-Trichloropropane	Ave	0.2700	0.3000		0.0222	0.0200	11.1	50.0
trans-1,4-Dichloro-2-butene	Lin1		0.2242		0.0206	0.0200	2.8	50.0
N-Propylbenzene	Ave	0.7072	0.7597		0.0215	0.0200	7.4	50.0
2-Chlorotoluene	Ave	0.6743	0.7413		0.0220	0.0200	9.9	50.0
1,3,5-Trimethylbenzene	Ave	2.138	2.288		0.0214	0.0200	7.0	50.0
4-Chlorotoluene	Ave	0.7163	0.7573		0.0211	0.0200	5.7	50.0
tert-Butylbenzene	Ave	1.986	2.135		0.0215	0.0200	7.5	50.0
1,2,4-Trimethylbenzene	Ave	2.287	2.439		0.0213	0.0200	6.6	50.0
sec-Butylbenzene	Ave	2.294	2.397		0.0209	0.0200	4.5	50.0
1,3-Dichlorobenzene	Ave	1.377	1.456		0.0212	0.0200	5.8	50.0
4-Isopropyltoluene	Ave	2.115	2.177		0.0206	0.0200	3.0	50.0
1,4-Dichlorobenzene	Ave	1.430	1.502		0.0210	0.0200	5.0	50.0
n-Butylbenzene	Lin1		1.671		0.0209	0.0200	4.3	50.0
1,2-Dichlorobenzene	Ave	1.373	1.467		0.0214	0.0200	6.8	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Lab Sample ID: ICV 240-339529/15 Calibration Date: 08/06/2018 15:24

Instrument ID: A3UX16 Calib Start Date: 08/06/2018 12:19

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/06/2018 14:42

Lab File ID: UXM13051.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	0.1945	0.2001		0.0206	0.0200	2.9	50.0
1,2,4-Trichlorobenzene	Lin1		0.7526		0.0211	0.0200	5.5	50.0
Hexachlorobutadiene	Lin1		0.2738		0.0203	0.0200	1.7	50.0
Naphthalene	Ave	2.684	2.742		0.0204	0.0200	2.2	50.0
1,2,3-Trichlorobenzene	Lin1		0.7131		0.0214	0.0200	6.8	50.0
Dibromofluoromethane (Surr)	Ave	0.2418	0.2346		0.0194	0.0200	-3.0	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2963	0.2813		0.0190	0.0200	-5.1	50.0
Toluene-d8 (Surr)	Ave	1.237	1.216		0.0197	0.0200	-1.7	50.0
4-Bromofluorobenzene (Surr)	Ave	0.4677	0.4558		0.0195	0.0200	-2.6	50.0

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

Lab Name: TestAmerica Canton Job No.: 240-103714-1 Analy Batch No.: 339529

SDG No.:

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

Calibration Start Date: 08/06/2018 16:36 Calibration End Date: 08/06/2018 18:36 Calibration ID: 46377

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDA9 240-339529/23	UXM13059.D
Level 2	STDA9 240-339529/22	UXM13058.D
Level 3	STDA9 240-339529/21	UXM13057.D
Level 4	STDA9 240-339529/20	UXM13056.D
Level 5	STDA9 240-339529/19	UXM13055.D
Level 6	STDA9 240-339529/18	UXM13054.D

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								
Acetonitrile	0.0367 0.0290	0.0339	0.0297	0.0292	0.0307	Ave		0.0315				9.8		15.0			
Diisopropyl ether	0.2225 0.2538	0.2207	0.2439	0.2507	0.2563	Ave		0.2413				6.6		15.0			
2-Chloro-1,3-butadiene	0.3104 0.3735	0.3235	0.3510	0.3590	0.3804	Ave		0.3496				7.9		15.0			
Ethyl tert-butyl ether	0.6480 0.7637	0.6705	0.7244	0.7417	0.7760	Ave		0.7207				7.1		15.0			
Ethyl acetate	0.1837 0.1974	0.1989	0.1948	0.1973	0.1983	Ave		0.1951				3.0		15.0			
Propionitrile	0.0319 0.0351	0.0346	0.0347	0.0355	0.0353	Ave		0.0345				3.8		15.0			
Methacrylonitrile	0.1241 0.1415	0.1265	0.1343	0.1377	0.1410	Ave		0.1342				5.5		15.0			
Tert-amyl methyl ether	0.7155 0.8358	0.7097	0.7760	0.8104	0.8378	Ave		0.7809				7.4		15.0			
n-Butanol	0.0059 0.0072	0.0059	0.0072	0.0072	0.0071	Ave		0.0068				9.9		15.0			
Ethyl acrylate	0.2541 0.2737	0.2619	0.2613	0.2693	0.2715	Ave		0.2653				2.8		15.0			
Methyl methacrylate	0.1624 0.1822	0.1545	0.1762	0.1817	0.1854	Ave		0.1737				7.2		15.0			
2-Nitropropane	0.0585 0.0663	0.0488	0.0595	0.0639	0.0652	Ave		0.0604				10.7		15.0			
n-Butyl acetate	0.2600 0.2913	0.2867	0.2898	0.2937	0.2935	Ave		0.2858				4.5		15.0			
1-Chlorohexane	0.3964 0.3542	0.3624	0.3255	0.3493	0.3586	Ave		0.3577				6.4		15.0			
Cyclohexanone	+++++ 0.0308	0.0297	0.0288	0.0360	0.0349	Ave		0.0320				10.0		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.: 240-103714-1 Analy Batch No.: 339529

SDG No.:

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

Calibration Start Date: 08/06/2018 16:36 Calibration End Date: 08/06/2018 18:36 Calibration ID: 46377

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	+++++ 0.2457	0.1760	0.2023	0.2214	0.2386	Ave		0.2168				13.1		15.0			
1,2,3-Trimethylbenzene	2.1293 2.7666	2.4223	2.4405	2.5578	2.6989	Ave		2.5026				9.1		15.0			
Benzyl chloride	+++++ 0.4354	0.2429	0.3082	0.3599	0.3936	Lin1	-0.277	0.4138							0.9930		0.9900
1,3,5-Trichlorobenzene	0.9097 0.8294	0.9581	0.7640	0.8119	0.8427	Ave		0.8526				8.2		15.0			
2-Methylnaphthalene	+++++ 1.3766	1.8895	1.2393	1.3841	1.4820	Lin1	0.7290	1.3877							0.9970		0.9900

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.: 240-103714-1

SDG No.:

Lab Sample ID: ICV 240-339529/24 Calibration Date: 08/06/2018 19:00

Instrument ID: A3UX16 Calib Start Date: 08/06/2018 12:19

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/06/2018 14:42

Lab File ID: UXM13060.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
Dibromofluoromethane (Surr)	Ave	0.2418	0.2071		0.0171	0.0200	-14.4	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2963	0.2420		0.0163	0.0200	-18.3	50.0
Toluene-d8 (Surr)	Ave	1.237	1.096		0.0177	0.0200	-11.4	50.0
4-Bromofluorobenzene (Surr)	Ave	0.4677	0.4121		0.0176	0.0200	-11.9	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Lab Sample ID: ICV 240-339529/24 Calibration Date: 08/06/2018 19:00

Instrument ID: A3UX16 Calib Start Date: 08/06/2018 16:36

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/06/2018 18:36

Lab File ID: UXM13060.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	0.0315	0.0267		0.169	0.200	-15.4	50.0
Diisopropyl ether	Ave	0.2413	0.2311		0.0192	0.0200	-4.2	50.0
2-Chloro-1,3-butadiene	Ave	0.3496	0.3217		0.0184	0.0200	-8.0	50.0
Ethyl tert-butyl ether	Ave	0.7207	0.6792		0.0188	0.0200	-5.8	50.0
Ethyl acetate	Ave	0.1951	0.1848		0.0379	0.0400	-5.3	50.0
Propionitrile	Ave	0.0345	0.0326		0.189	0.200	-5.7	50.0
Methacrylonitrile	Ave	0.1342	0.1282		0.191	0.200	-4.5	50.0
Tert-amyl methyl ether	Ave	0.7809	0.7379		0.0189	0.0200	-5.5	50.0
n-Butanol	Ave	0.0068	0.0064		0.472	0.500	-5.6	50.0
Ethyl acrylate	Ave	0.2653	0.2503		0.0189	0.0200	-5.7	50.0
Methyl methacrylate	Ave	0.1737	0.1695		0.0390	0.0400	-2.4	50.0
2-Nitropropane	Ave	0.0604	0.0582		0.0385	0.0400	-3.7	50.0
n-Butyl acetate	Ave	0.2858	0.2734		0.0191	0.0200	-4.4	50.0
1-Chlorohexane	Ave	0.3577	0.3078		0.0172	0.0200	-14.0	50.0
Cyclohexanone	Ave	0.0320	0.0213		0.133	0.200	-33.6	50.0
Pentachloroethane	Ave	0.2168	0.1681		0.0310	0.0400	-22.4	50.0
1,2,3-Trimethylbenzene	Ave	2.503	2.307		0.0184	0.0200	-7.8	50.0
Benzyl chloride	Lin1		0.2721		0.0138	0.0200	-30.9	50.0
1,3,5-Trichlorobenzene	Ave	0.8526	0.6423		0.0151	0.0200	-24.7	50.0
2-Methylnaphthalene	Lin1		0.9538		0.0270	0.0400	-32.6	50.0

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

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Lab File ID: BFB5877.D BFB Injection Date: 11/10/2018

Instrument ID: A3UX16 BFB Injection Time: 10:08

Analysis Batch No.: 354712

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	18.9	
75	30.0 - 60.0 % of mass 95	55.7	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.9	
173	Less than 2.0 % of mass 174	0.6	(0.8) 1
174	50.0 - 120.00 % of mass 95	73.5	
175	5.0 - 9.0 % of mass 174	5.7	(7.8) 1
176	95.0 - 101.0 % of mass 174	72.8	(99.0) 1
177	5.0 - 9.0 % of mass 176	4.8	(6.5) 2

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

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 240-354712/4	UXM15490.D	11/10/2018	10:36
	CCV 240-354712/5	UXM15491.D	11/10/2018	10:59
	LCS 240-354712/6	UXM15492.D	11/10/2018	11:23
	MB 240-354712/8	UXM15494.D	11/10/2018	12:11
TB-103018	240-103714-1	UXM15513.D	11/10/2018	19:46

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Lab Sample ID: CCVIS 240-354712/4 Calibration Date: 11/10/2018 10:36

Instrument ID: A3UX16 Calib Start Date: 08/06/2018 12:19

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/06/2018 14:42

Lab File ID: UXM15490.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	0.2489	0.2585		0.0208	0.0200	3.9	50.0
Chloromethane	Ave	0.2229	0.1980	0.1000	0.0178	0.0200	-11.2	50.0
Butadiene	Ave	0.2384	0.2513		0.0211	0.0200	5.4	50.0
Vinyl chloride	Lin1		0.2725		0.0203	0.0200	1.5	20.0
Bromomethane	Ave	0.2118	0.2439		0.0230	0.0200	15.2	50.0
Chloroethane	Ave	0.1839	0.1963		0.0213	0.0200	6.7	50.0
Dichlorofluoromethane	Ave	0.4471	0.4737		0.0212	0.0200	6.0	50.0
Trichlorofluoromethane	Ave	0.3838	0.4701		0.0245	0.0200	22.5	50.0
Ethyl ether	Ave	0.1903	0.2080		0.0219	0.0200	9.3	50.0
Acrolein	Ave	0.0474	0.0498		0.105	0.100	5.1	50.0
1,1-Dichloroethene	Ave	0.2309	0.2648		0.0229	0.0200	14.7	20.0
1,1,2-Trichlorotrifluoroethane	Ave	0.1615	0.1886		0.0233	0.0200	16.7	50.0
Acetone	Ave	0.0248	0.0257		0.0414	0.0400	3.4	50.0
Iodomethane	Ave	0.4209	0.4425		0.0210	0.0200	5.1	50.0
Carbon disulfide	Ave	0.7136	0.7626		0.0214	0.0200	6.9	50.0
3-Chloro-1-propene	Ave	0.3409	0.3183		0.0187	0.0200	-6.6	50.0
Methyl acetate	Ave	0.1674	0.1747		0.0417	0.0400	4.3	50.0
Methylene Chloride	Ave	0.2614	0.2883		0.0221	0.0200	10.3	50.0
tert-Butyl alcohol	Ave	0.0251	0.0243		0.193	0.200	-3.3	50.0
Acrylonitrile	Ave	0.0913	0.0921		0.202	0.200	0.8	50.0
Methyl tert-butyl ether	Ave	0.7850	0.7762		0.0198	0.0200	-1.1	50.0
trans-1,2-Dichloroethene	Ave	0.2635	0.2813		0.0214	0.0200	6.8	50.0
Hexane	Ave	0.1637	0.1700		0.0208	0.0200	3.9	20.0
1,1-Dichloroethane	Ave	0.3900	0.4106	0.1000	0.0211	0.0200	5.3	50.0
Vinyl acetate	Ave	0.4422	0.3758		0.0170	0.0200	-15.0	50.0
cis-1,2-Dichloroethene	Ave	0.2957	0.3070		0.0208	0.0200	3.8	50.0
2,2-Dichloropropane	Ave	0.0633	0.0626		0.0198	0.0200	-1.2	50.0
2-Butanone (MEK)	Ave	0.0331	0.0354		0.0427	0.0400	6.8	50.0
Bromochloromethane	Ave	0.1382	0.1449		0.0210	0.0200	4.9	50.0
Tetrahydrofuran	Ave	0.0607	0.0619		0.0408	0.0400	2.1	50.0
Chloroform	Ave	0.4292	0.4700		0.0219	0.0200	9.5	20.0
1,1,1-Trichloroethane	Ave	0.3874	0.4211		0.0217	0.0200	8.7	50.0
Cyclohexane	Ave	0.2617	0.2825		0.0216	0.0200	7.9	50.0
1,1-Dichloropropene	Ave	0.3341	0.3610		0.0216	0.0200	8.0	50.0
Carbon tetrachloride	Ave	0.3143	0.3475		0.0221	0.0200	10.6	50.0
Isobutyl alcohol	Ave	0.0067	0.0070		0.521	0.500	4.1	50.0
Benzene	Ave	0.9906	1.068		0.0216	0.0200	7.8	50.0
1,2-Dichloroethane	Ave	0.3437	0.3820		0.0222	0.0200	11.1	50.0
n-Heptane	Lin1		0.1063		0.0220	0.0200	9.9	50.0
Trichloroethene	Ave	0.2865	0.2957		0.0206	0.0200	3.2	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Lab Sample ID: CCVIS 240-354712/4 Calibration Date: 11/10/2018 10:36

Instrument ID: A3UX16 Calib Start Date: 08/06/2018 12:19

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/06/2018 14:42

Lab File ID: UXM15490.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	0.2545	0.2662		0.0209	0.0200	4.6	50.0
1,2-Dichloropropane	Ave	0.2005	0.2262		0.0226	0.0200	12.8	20.0
Dibromomethane	Ave	0.1600	0.1676		0.0209	0.0200	4.7	50.0
1,4-Dioxane	Ave	0.0034	0.0032		0.372	0.400	-7.1	50.0
Bromodichloromethane	Ave	0.3252	0.3575		0.0220	0.0200	9.9	50.0
2-Chloroethyl vinyl ether	Ave	0.1359	0.1571		0.0462	0.0400	15.6	50.0
cis-1,3-Dichloropropene	Ave	0.3672	0.4063		0.0221	0.0200	10.6	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1894	0.2081		0.0440	0.0400	9.9	50.0
Toluene	Ave	1.420	1.400		0.0197	0.0200	-1.4	20.0
trans-1,3-Dichloropropene	Ave	0.4712	0.4571		0.0194	0.0200	-3.0	50.0
Ethyl methacrylate	Ave	0.4049	0.4012		0.0198	0.0200	-0.9	50.0
1,1,2-Trichloroethane	Ave	0.2890	0.2917		0.0202	0.0200	0.9	50.0
1,3-Dichloropropane	Ave	0.5016	0.5024		0.0200	0.0200	0.2	50.0
Tetrachloroethene	Ave	0.2641	0.2263		0.0171	0.0200	-14.3	50.0
2-Hexanone	Ave	0.1759	0.1689		0.0384	0.0400	-4.0	50.0
Chlorodibromomethane	Ave	0.3277	0.3152		0.0192	0.0200	-3.8	50.0
1,2-Dibromoethane	Ave	0.3096	0.3111		0.0201	0.0200	0.5	50.0
Chlorobenzene	Ave	0.9486	0.9303	0.3000	0.0196	0.0200	-1.9	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3525	0.3243		0.0184	0.0200	-8.0	50.0
Ethylbenzene	Ave	0.5054	0.4784		0.0189	0.0200	-5.3	20.0
m-Xylene & p-Xylene	Ave	0.6247	0.5832		0.0187	0.0200	-6.6	50.0
o-Xylene	Ave	0.6351	0.5880		0.0185	0.0200	-7.4	50.0
Styrene	Ave	1.045	1.025		0.0196	0.0200	-2.0	50.0
Bromoform	Ave	0.2186	0.1975	0.1000	0.0181	0.0200	-9.7	50.0
Isopropylbenzene	Ave	1.381	1.283		0.0186	0.0200	-7.2	50.0
1,1,2,2-Tetrachloroethane	Ave	0.7483	0.7573	0.3000	0.0202	0.0200	1.2	50.0
Bromobenzene	Ave	0.7701	0.7582		0.0197	0.0200	-1.5	50.0
1,2,3-Trichloropropane	Ave	0.2700	0.2887		0.0214	0.0200	6.9	50.0
trans-1,4-Dichloro-2-butene	Lin1		0.2143		0.0197	0.0200	-1.7	50.0
N-Propylbenzene	Ave	0.7072	0.6646		0.0188	0.0200	-6.0	50.0
2-Chlorotoluene	Ave	0.6743	0.6582		0.0195	0.0200	-2.4	50.0
1,3,5-Trimethylbenzene	Ave	2.138	2.065		0.0193	0.0200	-3.4	50.0
4-Chlorotoluene	Ave	0.7163	0.6847		0.0191	0.0200	-4.4	50.0
tert-Butylbenzene	Ave	1.986	1.715		0.0173	0.0200	-13.7	50.0
1,2,4-Trimethylbenzene	Ave	2.287	2.232		0.0195	0.0200	-2.4	50.0
sec-Butylbenzene	Ave	2.294	2.107		0.0184	0.0200	-8.1	50.0
1,3-Dichlorobenzene	Ave	1.377	1.261		0.0183	0.0200	-8.4	50.0
4-Isopropyltoluene	Ave	2.115	1.877		0.0177	0.0200	-11.3	50.0
1,4-Dichlorobenzene	Ave	1.430	1.353		0.0189	0.0200	-5.4	50.0
n-Butylbenzene	Lin1		1.471		0.0183	0.0200	-8.4	50.0
1,2-Dichlorobenzene	Ave	1.373	1.272		0.0185	0.0200	-7.3	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Lab Sample ID: CCVIS 240-354712/4 Calibration Date: 11/10/2018 10:36

Instrument ID: A3UX16 Calib Start Date: 08/06/2018 12:19

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/06/2018 14:42

Lab File ID: UXM15490.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	0.1945	0.1513		0.0156	0.0200	-22.2	50.0
1,2,4-Trichlorobenzene	Lin1		0.5627		0.0157	0.0200	-21.4	50.0
Hexachlorobutadiene	Lin1		0.1795		0.0124	0.0200	-37.8	50.0
Naphthalene	Ave	2.684	1.857		0.0138	0.0200	-30.8	50.0
1,2,3-Trichlorobenzene	Lin1		0.4383		0.0130	0.0200	-34.9	50.0
Dibromofluoromethane (Surr)	Ave	0.2418	0.2263		0.0187	0.0200	-6.4	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2963	0.2764		0.0187	0.0200	-6.7	50.0
Toluene-d8 (Surr)	Ave	1.237	1.119		0.0181	0.0200	-9.5	50.0
4-Bromofluorobenzene (Surr)	Ave	0.4677	0.4124		0.0176	0.0200	-11.8	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Lab Sample ID: CCV 240-354712/5 Calibration Date: 11/10/2018 10:59

Instrument ID: A3UX16 Calib Start Date: 08/06/2018 16:36

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 08/06/2018 18:36

Lab File ID: UXM15491.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	0.0315	0.0274		0.174	0.200	-13.0	50.0
Diisopropyl ether	Ave	0.2413	0.2534		0.0210	0.0200	5.0	50.0
2-Chloro-1,3-butadiene	Ave	0.3496	0.3682		0.0211	0.0200	5.3	50.0
Ethyl tert-butyl ether	Ave	0.7207	0.7305		0.0203	0.0200	1.4	50.0
Ethyl acetate	Ave	0.1951	0.2055		0.0421	0.0400	5.3	50.0
Propionitrile	Ave	0.0345	0.0350		0.203	0.200	1.4	50.0
Methacrylonitrile	Ave	0.1342	0.1350		0.201	0.200	0.6	50.0
Tert-amyl methyl ether	Ave	0.7809	0.8032		0.0206	0.0200	2.9	50.0
n-Butanol	Ave	0.0068	0.0071		0.523	0.500	4.7	50.0
Ethyl acrylate	Ave	0.2653	0.2875		0.0217	0.0200	8.4	50.0
Methyl methacrylate	Ave	0.1737	0.1900		0.0437	0.0400	9.4	50.0
2-Nitropropane	Ave	0.0604	0.0640		0.0424	0.0400	6.1	50.0
n-Butyl acetate	Ave	0.2858	0.3089		0.0216	0.0200	8.1	50.0
1-Chlorohexane	Ave	0.3577	0.3113		0.0174	0.0200	-13.0	50.0
Cyclohexanone	Ave	0.0320	0.0229		0.143	0.200	-28.7	50.0
Pentachloroethane	Ave	0.2168	0.1718		0.0317	0.0400	-20.7	50.0
1,2,3-Trimethylbenzene	Ave	2.503	2.290		0.0183	0.0200	-8.5	50.0
Benzyl chloride	Lin1		0.2863		0.0145	0.0200	-27.5	50.0
1,3,5-Trichlorobenzene	Ave	0.8526	0.5964		0.0140	0.0200	-30.0	50.0
2-Methylnaphthalene	Lin1		0.3290		0.00896	0.0400	-77.6*	50.0

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

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Lab File ID: BFB8753.D BFB Injection Date: 10/18/2018

Instrument ID: A3UX8 BFB Injection Time: 01:59

Analysis Batch No.: 350647

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	36.8	
75	30.0 - 60.0 % of mass 95	51.3	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.5	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	65.6	
175	5.0 - 9.0 % of mass 174	4.9	(7.5) 1
176	95.0 - 101.0 % of mass 174	64.5	(98.3) 1
177	5.0 - 9.0 % of mass 176	4.0	(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
	STDA9 240-350647/4	UX80006.D	10/18/2018	02:52
	STDA9 240-350647/5	UX80007.D	10/18/2018	03:14
	STDA9 240-350647/6	UX80008.D	10/18/2018	03:37
	STDA9 240-350647/7	UX80009.D	10/18/2018	04:00
	STDA9 240-350647/8	UX80010.D	10/18/2018	04:21
	STDA9 240-350647/9	UX80011.D	10/18/2018	04:43
	STDA9 240-350647/10	UX80012.D	10/18/2018	05:05
	STDA9 240-350647/11	UX80013.D	10/18/2018	05:27
	STDA9 240-350647/12	UX80014.D	10/18/2018	05:49

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

Lab Name: TestAmerica Canton Job No.: 240-103714-1 Analy Batch No.: 350647

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 10/18/2018 02:52 Calibration End Date: 10/18/2018 05:49 Calibration ID: 47539

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDA9 240-350647/12	UX80014.D
Level 2	STDA9 240-350647/11	UX80013.D
Level 3	STDA9 240-350647/10	UX80012.D
Level 4	STDA9 240-350647/9	UX80011.D
Level 5	STDA9 240-350647/8	UX80010.D
Level 6	STDA9 240-350647/7	UX80009.D
Level 7	STDA9 240-350647/6	UX80008.D
Level 8	STDA9 240-350647/5	UX80007.D
Level 9	STDA9 240-350647/4	UX80006.D

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Acetonitrile	0.0659 0.0524	0.0585 0.0505	0.0667 0.0482	0.0624 0.0472	0.0562	Ave		0.0564				13.1		15.0			
Diisopropyl ether	0.2104 0.2465	0.2128 0.2517	0.2652 0.2429	0.2705 0.2297	0.2674	Ave		0.2441				9.2		15.0			
2-Chloro-1,3-butadiene	0.7281 0.8227	0.6733 0.8636	0.8699 0.8631	0.8586 0.8358	0.8564	Ave		0.8191				8.6		15.0			
Ethyl tert-butyl ether	1.0204 1.1113	1.0102 1.1142	1.2137 1.1062	1.1919 1.0158	1.1443	Ave		1.1031				6.8		15.0			
Ethyl acetate	0.4472 0.3456	0.4509 0.3591	0.4428 0.3481	0.3995 0.3449	0.3828	Ave		0.3912				11.7		15.0			
Propionitrile	0.0522 0.0477	0.0511 0.0478	0.0622 0.0460	0.0559 0.0437	0.0520	Ave		0.0510				11.0		15.0			
Methacrylonitrile	0.2598 0.2485	0.2458 0.2532	0.3002 0.2450	0.2799 0.2373	0.2748	Ave		0.2605				7.9		15.0			
Tert-amyl methyl ether	0.5374 0.6368	0.5318 0.6409	0.6989 0.6260	0.6746 0.5747	0.6512	Ave		0.6191				9.5		15.0			
n-Butanol	+++++ 0.0078	+++++ 0.0083	0.0151 0.0083	0.0091 0.0078	0.0075	Lin1	0.5793	0.0078							0.9960		0.9900
Ethyl acrylate	0.3022 0.3622	0.3199 0.3783	0.4075 0.3636	0.3824 0.3686	0.3911	Ave		0.3640				9.2		15.0			
Methyl methacrylate	0.2925 0.3311	0.3125 0.3447	0.3829 0.3255	0.3644 0.3274	0.3685	Ave		0.3388				8.6		15.0			
2-Nitropropane	0.0299 0.0485	0.0393 0.0596	0.0555 0.0686	0.0522 +++++	0.0479	Qua	-0.036	0.0478	0.0000526						1.0000		0.9900
n-Butyl acetate	+++++ 0.5208	+++++ 0.5380	0.7420 0.5055	0.5741 0.5174	0.5316	Ave		0.5613				14.7		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.: 240-103714-1 Analy Batch No.: 350647

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 10/18/2018 02:52 Calibration End Date: 10/18/2018 05:49 Calibration ID: 47539

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
1-Chlorohexane	0.3943 0.4521	0.3936 0.4872	0.4454 0.4786	0.4530 0.4782	0.4748	Ave		0.4508				7.8		15.0			
Cyclohexanone	+++++ 0.0137	+++++ 0.0151	0.0238 0.0156	0.0149 0.0143	0.0121	Lin1	0.1864	0.0146							0.9930		0.9900
Pentachloroethane	0.2309 0.3683	0.2693 0.4224	0.5213 0.4442	0.3558 0.4051	0.3424	Lin1	-0.423	0.4177							0.9950		0.9900
1,2,3-Trimethylbenzene	3.3780 3.4782	3.1998 3.6509	4.9367 3.4477	3.9795 3.1789	3.6771	Ave		3.6585				14.8		15.0			
Benzyl chloride	+++++ 0.1192	+++++ 0.1625	0.1439 0.1932	0.0968 0.1911	0.0927	Qua	-0.965	0.1570	0.0001663						0.9970		0.9900
1,3,5-Trichlorobenzene	+++++ 1.2467	+++++ 1.3061	2.0755 1.2098	1.4281 1.1029	1.3188	Lin1	4.1420	1.1538							0.9960		0.9900
2-Methylnaphthalene	+++++ 1.4067	+++++ 1.4942	2.2722 1.3322	1.4840 +++++	1.3574	Lin1	6.4375	1.3512							0.9950		0.9900
1-Chloro-1-fluoroethane TIC	0.6254 0.5744	0.5656 0.5624	0.7066 0.5413	0.6740 0.5249	0.6179	None											

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

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

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Lab File ID: BFB8776.D BFB Injection Date: 11/06/2018

Instrument ID: A3UX8 BFB Injection Time: 06:11

Analysis Batch No.: 353820

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	33.3	
75	30.0 - 60.0 % of mass 95	50.5	
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	74.8	
175	5.0 - 9.0 % of mass 174	5.6	(7.5) 1
176	95.0 - 101.0 % of mass 174	72.6	(97.0) 1
177	5.0 - 9.0 % of mass 176	4.3	(6.0) 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
	STD8260 240-353820/3	UX80595.D	11/06/2018	06:49
	STD8260 240-353820/4	UX80596.D	11/06/2018	07:11
	STD8260 240-353820/5	UX80597.D	11/06/2018	07:34
	STD8260 240-353820/6	UX80598.D	11/06/2018	07:56
	ICIS 240-353820/7	UX80599.D	11/06/2018	08:18
	STD8260 240-353820/8	UX80600.D	11/06/2018	08:40
	STD8260 240-353820/9	UX80601.D	11/06/2018	09:02
	STD8260 240-353820/10	UX80602.D	11/06/2018	09:24
	STD8260 240-353820/11	UX80603.D	11/06/2018	09:45
	ICV 240-353820/13	UX80605.D	11/06/2018	10:30

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

Lab Name: TestAmerica Canton Job No.: 240-103714-1 Analy Batch No.: 353820

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 11/06/2018 06:49 Calibration End Date: 11/06/2018 09:45 Calibration ID: 47798

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD8260 240-353820/11	UX80603.D
Level 2	STD8260 240-353820/10	UX80602.D
Level 3	STD8260 240-353820/9	UX80601.D
Level 4	STD8260 240-353820/8	UX80600.D
Level 5	ICIS 240-353820/7	UX80599.D
Level 6	STD8260 240-353820/6	UX80598.D
Level 7	STD8260 240-353820/5	UX80597.D
Level 8	STD8260 240-353820/4	UX80596.D
Level 9	STD8260 240-353820/3	UX80595.D

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.3664 0.3475	0.4353 0.3350	0.3768 0.3095	0.4143 0.3233	0.3804	Ave		0.3654				11.4		15.0			
Chloromethane	0.7187 0.6261	0.7217 0.6052	0.7097 0.5775	0.7412 0.5865	0.6995	Ave		0.6651			0.1000	9.8		15.0			
Vinyl chloride	0.4368 0.3685	0.4318 0.3529	0.4007 0.3368	0.4289 0.3492	0.4087	Ave		0.3905				10.0		15.0			
Butadiene	0.6116 0.5367	0.6182 0.5197	0.5808 0.5027	0.6380 0.5183	0.5998	Ave		0.5695				8.9		15.0			
Bromomethane	0.2481 0.1886	0.2297 0.1609	0.2332 +++++	0.2358 +++++	0.2205	Ave		0.2167				14.2		15.0			
Chloroethane	0.2958 0.2482	0.2842 0.2301	0.2788 0.2028	0.2971 +++++	0.2734	Ave		0.2638				12.8		15.0			
Dichlorofluoromethane	0.5733 0.5013	0.6076 0.4816	0.5591 0.4563	0.5942 0.4577	0.5602	Ave		0.5324				11.0		15.0			
Trichlorofluoromethane	0.5051 0.4367	0.4821 0.4296	0.5114 0.4097	0.5241 0.4142	0.4896	Ave		0.4669				9.5		15.0			
Ethyl ether	0.3406 0.3208	0.3449 0.2771	0.3598 0.2745	0.3337 0.2726	0.3282	Ave		0.3169				10.6		15.0			
Acrolein	0.0502 0.0529	0.0586 0.0508	0.0593 0.0481	0.0598 0.0478	0.0606	Ave		0.0542				9.8		15.0			
1,1-Dichloroethene	0.2906 0.3059	0.3201 0.2599	0.3282 0.2539	0.3387 0.2567	0.3086	Ave		0.2958				10.9		15.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.2181 0.2193	0.2522 0.1900	0.2295 0.1859	0.2436 0.1935	0.2325	Ave		0.2183				11.0		15.0			
Acetone	0.3264 0.1190	0.2145 0.1056	0.1620 0.1030	0.1492 0.1047	0.1406	Lin1	0.5104	0.1048							0.9970		0.9900

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.: 240-103714-1 Analy Batch No.: 353820

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 11/06/2018 06:49 Calibration End Date: 11/06/2018 09:45 Calibration ID: 47798

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Iodomethane	0.5119 0.4732	0.5002 0.4074	0.4885 0.4052	0.5363 0.4056	0.4997	Ave		0.4698				10.8		15.0			
Carbon disulfide	0.7553 0.9415	0.8388 0.8249	0.8500 0.8452	0.9296 0.8558	0.9371	Ave		0.8642				7.1		15.0			
3-Chloro-1-propene	0.1464 0.1859	0.1467 0.1690	0.1695 0.1674	0.1826 0.1692	0.1866	Ave		0.1693				8.8		15.0			
Methyl acetate	0.3303 0.2772	0.3251 0.2631	0.3115 0.2587	0.3318 0.2632	0.3247	Ave		0.2984				10.7		15.0			
Methylene Chloride	+++++ 0.3340	0.6410 0.2839	0.4476 0.2758	0.4126 0.2725	0.3693	Lin1	0.9302	0.2762							0.9960		0.9900
tert-Butyl alcohol	0.0244 0.0234	0.0222 0.0213	0.0245 0.0211	0.0257 0.0209	0.0289	Ave		0.0236				11.1		15.0			
Acrylonitrile	0.1478 0.1242	0.1388 0.1124	0.1366 0.1116	0.1452 0.1121	0.1440	Ave		0.1303				11.7		15.0			
Methyl tert-butyl ether	0.7282 0.6666	0.6756 0.6054	0.6994 0.5961	0.7592 0.5682	0.7296	Ave		0.6698				10.0		15.0			
trans-1,2-Dichloroethene	0.3588 0.3349	0.3517 0.2913	0.3669 0.2881	0.3819 0.2850	0.3565	Ave		0.3350				11.1		15.0			
Hexane	0.0720 0.0848	0.0981 0.0845	0.0910 0.0812	0.0994 0.0876	0.0966	Ave		0.0883				10.1		15.0			
1,1-Dichloroethane	0.7962 0.7024	0.7470 0.6320	0.7665 0.6283	0.7903 0.6284	0.7332	Ave		0.7138			0.1000	9.7		15.0			
Vinyl acetate	0.5807 0.6541	0.5605 0.6477	0.6112 0.6581	0.6326 0.6663	0.6453	Ave		0.6285				5.9		15.0			
2-Butanone (MEK)	+++++ 0.1596	+++++ 0.1532	0.2063 0.1514	0.1975 0.1524	0.1967	Ave		0.1739				14.3		15.0			
cis-1,2-Dichloroethene	0.4221 0.3556	0.3743 0.3152	0.3783 0.3083	0.3993 0.3036	0.3753	Ave		0.3591				11.7		15.0			
2,2-Dichloropropane	0.3928 0.3567	0.3817 0.3217	0.3535 0.3231	0.3983 0.3135	0.3644	Ave		0.3562				8.8		15.0			
Bromochloromethane	0.1326 0.1416	0.1083 0.1274	0.1419 0.1246	0.1519 0.1237	0.1464	Ave		0.1331				10.2		15.0			
Tetrahydrofuran	0.3787 0.1081	0.2380 0.1006	0.1476 0.0982	0.1339 0.0991	0.1288	Lin1	0.5794	0.0984							0.9990		0.9900
Chloroform	0.5765 0.5260	0.5489 0.4752	0.5581 0.4770	0.5830 0.4712	0.5527	Ave		0.5298				8.4		15.0			
1,1,1-Trichloroethane	0.3711 0.4733	0.3937 0.4239	0.4495 0.4257	0.5002 0.4231	0.4903	Ave		0.4390				9.9		15.0			
Cyclohexane	0.9909 0.9153	0.8858 0.8154	0.9822 0.8112	1.0097 0.8231	0.9952	Ave		0.9143				9.1		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.: 240-103714-1 Analy Batch No.: 353820

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 11/06/2018 06:49 Calibration End Date: 11/06/2018 09:45 Calibration ID: 47798

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
1,1-Dichloropropene	0.4248 0.4267	0.4194 0.4014	0.4634 0.3974	0.4929 0.3970	0.4328	Ave		0.4284				7.5		15.0			
Carbon tetrachloride	0.3159 0.4041	0.3297 0.3645	0.3768 0.3713	0.4060 0.3722	0.4045	Ave		0.3717				8.6		15.0			
Isobutyl alcohol	0.0135 0.0122	0.0120 0.0109	0.0116 0.0109	0.0135 0.0110	0.0142	Ave		0.0122				10.3		15.0			
1,2-Dichloroethane	0.5365 0.4658	0.4928 0.4272	0.5363 0.4287	0.5080 0.4260	0.4980	Ave		0.4799				9.4		15.0			
Benzene	1.4341 1.2505	1.2912 1.1485	1.4171 1.1341	1.3767 1.1282	1.3052	Ave		1.2762				9.4		15.0			
n-Heptane	0.0701 0.0906	0.0876 0.0879	0.0940 0.0876	0.1011 0.0916	0.0966	Ave		0.0897				9.6		15.0			
Trichloroethene	0.4245 0.3159	0.3310 0.2929	0.3558 0.2904	0.3320 0.2915	0.3175	Ave		0.3280				12.9		15.0			
Methylcyclohexane	0.4948 0.6088	0.5769 0.5367	0.6316 0.5256	0.6586 0.5312	0.6392	Ave		0.5781				10.2		15.0			
1,2-Dichloropropane	0.3855 0.3579	0.3301 0.3330	0.3876 0.3269	0.3863 0.3260	0.3595	Ave		0.3548				7.6		15.0			
Dibromomethane	0.1380 0.1404	0.1280 0.1286	0.1514 0.1283	0.1463 0.1294	0.1457	Ave		0.1373				6.6		15.0			
1,4-Dioxane	+++++ 0.0019	0.0016 0.0018	0.0021 0.0018	0.0021 0.0018	0.0022	Ave		0.0019				11.1		15.0			
Bromodichloromethane	0.2946 0.3328	0.2571 0.3175	0.2909 0.3310	0.3106 0.3295	0.3185	Ave		0.3092				8.0		15.0			
2-Chloroethyl vinyl ether	0.1095 0.1286	0.1072 0.1293	0.1237 0.1288	0.1248 0.1288	0.1349	Ave		0.1240				7.6		15.0			
cis-1,3-Dichloropropene	0.3137 0.3806	0.2334 0.3707	0.3185 0.3801	0.3374 0.3824	0.3598	Ave		0.3419				14.2		15.0			
4-Methyl-2-pentanone (MIBK)	0.2995 0.3348	0.3147 0.3123	0.3354 0.3055	0.3615 0.3087	0.3762	Ave		0.3276				8.1		15.0			
Toluene	1.9927 1.7689	1.7824 1.6272	1.9104 1.6700	1.8497 1.6638	1.8141	Ave		1.7866				6.8		15.0			
trans-1,3-Dichloropropene	0.2772 0.4161	0.2491 0.4172	0.3305 0.4463	0.3716 0.4421	0.3739	Lin1	-0.323	0.4370							0.9990		0.9900
Ethyl methacrylate	0.2774 0.3681	0.2870 0.3646	0.3275 0.3646	0.3550 0.3513	0.3739	Ave		0.3411				10.6		15.0			
1,1,2-Trichloroethane	0.3464 0.2732	0.2692 0.2523	0.2754 0.2507	0.2899 0.2494	0.2849	Ave		0.2768				10.8		15.0			
1,3-Dichloropropane	0.5234 0.4824	0.4909 0.4548	0.5187 0.4553	0.5349 0.4513	0.5174	Ave		0.4921				6.7		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.: 240-103714-1 Analy Batch No.: 353820

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 11/06/2018 06:49 Calibration End Date: 11/06/2018 09:45 Calibration ID: 47798

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Tetrachloroethene	0.4142 0.3280	0.3524 0.3088	0.3458 0.3099	0.3585 0.3096	0.3320	Ave		0.3399				9.9		15.0			
2-Hexanone	0.2337 0.3124	0.2538 0.2980	0.3094 0.2938	0.3441 0.2892	0.3564	Ave		0.2990				13.0		15.0			
Dibromochloromethane	0.1395 0.2687	0.1639 0.2676	0.2164 0.2837	0.2372 0.2827	0.2548	Lin1	-0.214	0.2799							0.9990		0.9900
1,2-Dibromoethane	0.2306 0.2553	0.2189 0.2419	0.2600 0.2420	0.2679 0.2421	0.2551	Ave		0.2460				6.2		15.0			
Chlorobenzene	1.2386 1.0989	1.1532 1.0096	1.2529 1.0203	1.2460 1.0156	1.1408	Ave		1.1306			0.3000	8.9		15.0			
1,1,1,2-Tetrachloroethane	0.2539 0.3665	0.2571 0.3352	0.3481 0.3470	0.3587 0.3417	0.3651	Ave		0.3304				13.2		15.0			
Ethylbenzene	0.6614 0.6132	0.5976 0.5712	0.6552 0.5773	0.6658 0.5711	0.6241	Ave		0.6152				6.3		15.0			
m-Xylene & p-Xylene	0.7759 0.7631	0.7836 0.6995	0.8211 0.7008	0.8099 0.6923	0.7695	Ave		0.7573				6.4		15.0			
o-Xylene	0.7202 0.7486	0.6317 0.6639	0.7862 0.6603	0.8170 0.6421	0.7754	Ave		0.7162				9.6		15.0			
Styrene	0.9270 1.1781	0.8974 1.0966	1.1695 1.1010	1.2244 1.0664	1.1838	Ave		1.0938				10.5		15.0			
Bromoform	+++++ 0.1292	0.0841 0.1333	0.0901 0.1451	0.1060 0.1462	0.1209	Lin1	-0.214	0.1431			0.1000				0.9980		0.9900
Isopropylbenzene	1.6366 2.0169	1.7801 1.8248	2.1084 1.8179	2.1090 1.8059	2.0896	Ave		1.9099				9.1		15.0			
1,1,2,2-Tetrachloroethane	0.5751 0.6495	0.5904 0.6068	0.6468 0.6116	0.7043 0.6088	0.6913	Ave		0.6316			0.3000	7.0		15.0			
Bromobenzene	1.1104 0.8541	0.8439 0.8242	0.9291 0.8221	0.9351 0.8059	0.8810	Ave		0.8895				10.6		15.0			
1,2,3-Trichloropropane	0.2072 0.2040	0.2261 0.1938	0.2571 0.1939	0.2400 0.1892	0.2341	Ave		0.2162				11.1		15.0			
trans-1,4-Dichloro-2-butene	0.1800 0.2825	0.2295 0.2860	0.2758 0.3020	0.2942 0.3030	0.2848	Ave		0.2709				14.9		15.0			
N-Propylbenzene	0.9893 1.1369	0.9999 1.0634	1.1884 1.0810	1.1802 1.0518	1.1888	Ave		1.0977				7.2		15.0			
2-Chlorotoluene	0.9069 0.9373	0.9278 0.9018	1.0143 0.8970	1.0740 0.8828	1.0013	Ave		0.9492				6.9		15.0			
1,3,5-Trimethylbenzene	3.2078 3.5524	2.9287 3.3254	3.7053 3.3220	3.7535 3.2855	3.5808	Ave		3.4068				7.7		15.0			
4-Chlorotoluene	0.9080 0.9484	0.9454 0.9172	1.0556 0.9076	1.0628 0.8846	0.9801	Ave		0.9566				6.7		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.: 240-103714-1 Analy Batch No.: 353820

SDG No.:

Instrument ID: A3UX8 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 11/06/2018 06:49 Calibration End Date: 11/06/2018 09:45 Calibration ID: 47798

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
tert-Butylbenzene	3.0682 3.1279	2.7070 2.9233	3.2686 2.9225	3.2425 2.8702	3.1766	Ave		3.0341				6.2		15.0			
1,2,4-Trimethylbenzene	3.0198 3.5662	3.0614 3.3391	3.8105 3.3561	3.8620 3.2707	3.7031	Ave		3.4432				9.0		15.0			
sec-Butylbenzene	4.1781 4.6382	4.3421 4.2584	4.9121 4.2401	5.0382 4.1702	4.7060	Ave		4.4982				7.4		15.0			
1,3-Dichlorobenzene	2.0244 1.6962	1.9514 1.5935	1.9356 1.5992	1.9768 1.5596	1.8298	Ave		1.7963				10.3		15.0			
p-Isopropyltoluene	3.2018 3.7311	3.5929 3.5439	3.8787 3.5227	4.0470 3.4539	3.9068	Ave		3.6532				7.2		15.0			
1,4-Dichlorobenzene	2.3535 1.7117	2.0534 1.6170	1.9515 1.6154	1.9964 1.5583	1.8176	Ave		1.8528				14.0		15.0			
n-Butylbenzene	3.0374 3.3593	3.1236 3.1679	3.4494 3.1536	3.5708 3.1245	3.4639	Ave		3.2723				5.8		15.0			
1,2-Dichlorobenzene	2.0627 1.5858	1.7884 1.4342	1.8879 1.4241	1.8575 1.3890	1.6785	Ave		1.6787				14.2		15.0			
1,2-Dibromo-3-Chloropropane	+++++ 0.0821	+++++ 0.0775	0.0512 0.0850	0.0771 0.0883	0.0749	Lin1	-0.171	0.0861							0.9980		0.9900
1,2,4-Trichlorobenzene	1.3241 1.0196	1.1884 0.9362	1.1356 0.9520	1.1047 0.9314	1.0852	Ave		1.0752				12.2		15.0			
Hexachlorobutadiene	+++++ 0.5828	+++++ 0.5231	0.6794 0.5338	0.7315 0.5167	0.6512	Ave		0.6026				14.2		15.0			
Naphthalene	2.2190 2.1136	1.9473 1.9145	1.9824 1.9382	2.2202 1.8484	2.2344	Ave		2.0464				7.4		15.0			
1,2,3-Trichlorobenzene	+++++ 0.9285	+++++ 0.8150	1.0921 0.8370	1.1088 0.8009	1.0355	Ave		0.9454				14.1		15.0			
Dibromofluoromethane (Surr)	0.2333 0.2250	0.2605 0.2364	0.2694 0.2363	0.2595 0.2388	0.2657	Ave		0.2472				6.6		15.0			
1,2-Dichloroethane-d4 (Surr)	0.3962 0.2799	0.3756 0.3024	0.4161 0.3045	0.3566 0.3103	0.3572	Ave		0.3443				13.7		15.0			
Toluene-d8 (Surr)	1.4502 1.3143	1.4983 1.3251	1.5808 1.3784	1.4646 1.3735	1.4755	Ave		1.4290				6.1		15.0			
4-Bromofluorobenzene (Surr)	0.5861 0.4570	0.6093 0.4755	0.6154 0.4838	0.5821 0.4723	0.5667	Ave		0.5387				12.1		15.0			

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

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

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Lab File ID: BFB8793.D BFB Injection Date: 11/13/2018

Instrument ID: A3UX8 BFB Injection Time: 21:56

Analysis Batch No.: 355270

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	30.4	
75	30.0 - 60.0 % of mass 95	54.4	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.8	
173	Less than 2.0 % of mass 174	0.2	(0.3) 1
174	50.0 - 120.00 % of mass 95	79.6	
175	5.0 - 9.0 % of mass 174	5.8	(7.3) 1
176	95.0 - 101.0 % of mass 174	75.7	(95.1) 1
177	5.0 - 9.0 % of mass 176	4.9	(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
	CCV 240-355270/5	UX80898.D	11/13/2018	22:52
	CCVIS 240-355270/6	UX80899.D	11/13/2018	23:15
	LCS 240-355270/7	UX80900.D	11/13/2018	23:37
	MB 240-355270/8	UX80901.D	11/13/2018	23:59
SB-MW135A-2-5.5	240-103714-2	UX80903.D	11/14/2018	00:50
SB-MW135B-12.5-18	240-103714-3	UX80904.D	11/14/2018	01:13
SB-MW136A-1.2-2	240-103714-4	UX80905.D	11/14/2018	01:35
SB-MW136B-15.8-18.5	240-103714-5	UX80906.D	11/14/2018	01:57

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Lab Sample ID: CCV 240-355270/5 Calibration Date: 11/13/2018 22:52

Instrument ID: A3UX8 Calib Start Date: 10/18/2018 02:52

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/18/2018 05:49

Lab File ID: UX80898.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acetonitrile	Ave	0.0564	0.0345		0.122	0.200	-38.9	50.0
Diisopropyl ether	Ave	0.2441	0.2327		0.0191	0.0200	-4.7	50.0
2-Chloro-1,3-butadiene	Ave	0.8191	0.6702		0.0164	0.0200	-18.2	50.0
Ethyl tert-butyl ether	Ave	1.103	0.8277		0.0150	0.0200	-25.0	50.0
Ethyl acetate	Ave	0.3912	0.2774		0.0284	0.0400	-29.1	50.0
Propionitrile	Ave	0.0510	0.0319		0.125	0.200	-37.5	50.0
Methacrylonitrile	Ave	0.2605	0.1929		0.148	0.200	-26.0	50.0
Tert-amyl methyl ether	Ave	0.6191	0.5672		0.0183	0.0200	-8.4	50.0
n-Butanol	Lin1		0.0044		0.208	0.500	-58.3*	50.0
Ethyl acrylate	Ave	0.3640	0.2734		0.0150	0.0200	-24.9	50.0
Methyl methacrylate	Ave	0.3388	0.2640		0.0312	0.0400	-22.1	50.0
2-Nitropropane	Qua		0.0381		0.0316	0.0400	-21.1	50.0
n-Butyl acetate	Ave	0.5613	0.3457		0.0123	0.0200	-38.4	50.0
1-Chlorohexane	Ave	0.4508	0.4787		0.0212	0.0200	6.2	50.0
Cyclohexanone	Lin1		0.0073		0.0874	0.200	-56.3*	50.0
Pentachloroethane	Lin1		0.3821		0.0376	0.0400	-6.0	50.0
1,2,3-Trimethylbenzene	Ave	3.659	3.220		0.0176	0.0200	-12.0	50.0
Benzyl chloride	Qua		0.0823		0.0163	0.0200	-18.3	50.0
1,3,5-Trichlorobenzene	Lin1		1.133		0.0161	0.0200	-19.7	50.0
2-Methylnaphthalene	Lin1		0.7973		0.0188	0.0400	-52.9*	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Lab Sample ID: CCVIS 240-355270/6 Calibration Date: 11/13/2018 23:15

Instrument ID: A3UX8 Calib Start Date: 11/06/2018 06:49

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/06/2018 09:45

Lab File ID: UX80899.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3654	0.4679		0.0256	0.0200	28.1	50.0
Chloromethane	Ave	0.6651	0.5270	0.1000	0.0158	0.0200	-20.8	50.0
Vinyl chloride	Ave	0.3905	0.3588		0.0184	0.0200	-8.1	20.0
Butadiene	Ave	0.5695	0.4911		0.0172	0.0200	-13.8	50.0
Bromomethane	Ave	0.2167	0.1880		0.0173	0.0200	-13.3	50.0
Chloroethane	Ave	0.2638	0.2247		0.0170	0.0200	-14.8	50.0
Dichlorofluoromethane	Ave	0.5324	0.4776		0.0179	0.0200	-10.3	50.0
Trichlorofluoromethane	Ave	0.4669	0.4635		0.0199	0.0200	-0.7	50.0
Ethyl ether	Ave	0.3169	0.2606		0.0164	0.0200	-17.8	50.0
Acrolein	Ave	0.0542	0.0339		0.0625	0.100	-37.5	50.0
1,1-Dichloroethene	Ave	0.2958	0.2887		0.0195	0.0200	-2.4	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2183	0.2319		0.0212	0.0200	6.2	50.0
Acetone	Lin1		0.1084		0.0365	0.0400	-8.7	50.0
Iodomethane	Ave	0.4698	0.4690		0.0200	0.0200	-0.2	50.0
Carbon disulfide	Ave	0.8642	0.8228		0.0190	0.0200	-4.8	50.0
3-Chloro-1-propene	Ave	0.1693	0.1588		0.0188	0.0200	-6.2	50.0
Methyl acetate	Ave	0.2984	0.2108		0.0283	0.0400	-29.3	50.0
Methylene Chloride	Lin1		0.3207		0.0198	0.0200	-0.8	50.0
tert-Butyl alcohol	Ave	0.0236	0.0190		0.161	0.200	-19.4	50.0
Acrylonitrile	Ave	0.1303	0.0928		0.142	0.200	-28.8	50.0
Methyl tert-butyl ether	Ave	0.6698	0.6520		0.0195	0.0200	-2.7	50.0
trans-1,2-Dichloroethene	Ave	0.3350	0.3234		0.0193	0.0200	-3.5	50.0
Hexane	Ave	0.0883	0.0925		0.0209	0.0200	4.7	20.0
1,1-Dichloroethane	Ave	0.7138	0.6290	0.1000	0.0176	0.0200	-11.9	50.0
Vinyl acetate	Ave	0.6285	0.6041		0.0192	0.0200	-3.9	50.0
2-Butanone (MEK)	Ave	0.1739	0.1541		0.0354	0.0400	-11.4	50.0
2,2-Dichloropropane	Ave	0.3562	0.3446		0.0194	0.0200	-3.2	50.0
cis-1,2-Dichloroethene	Ave	0.3591	0.3384		0.0188	0.0200	-5.8	50.0
Bromochloromethane	Ave	0.1331	0.1274		0.0191	0.0200	-4.3	50.0
Chloroform	Ave	0.5298	0.5532		0.0209	0.0200	4.4	20.0
Tetrahydrofuran	Lin1		0.0817		0.0273	0.0400	-31.7	50.0
1,1,1-Trichloroethane	Ave	0.4390	0.4856		0.0221	0.0200	10.6	50.0
Cyclohexane	Ave	0.9143	0.7637		0.0167	0.0200	-16.5	50.0
1,1-Dichloropropene	Ave	0.4284	0.4526		0.0211	0.0200	5.6	50.0
Carbon tetrachloride	Ave	0.3717	0.4049		0.0218	0.0200	8.9	50.0
Isobutyl alcohol	Ave	0.0122	0.0108		0.441	0.500	-11.7	50.0
1,2-Dichloroethane	Ave	0.4799	0.4708		0.0196	0.0200	-1.9	50.0
Benzene	Ave	1.276	1.257		0.0197	0.0200	-1.5	50.0
n-Heptane	Ave	0.0897	0.1013		0.0226	0.0200	13.0	50.0
Trichloroethene	Ave	0.3280	0.3123		0.0190	0.0200	-4.8	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Lab Sample ID: CCVIS 240-355270/6 Calibration Date: 11/13/2018 23:15

Instrument ID: A3UX8 Calib Start Date: 11/06/2018 06:49

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/06/2018 09:45

Lab File ID: UX80899.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dichloropropane	Ave	0.3548	0.3109		0.0175	0.0200	-12.4	20.0
Methylcyclohexane	Ave	0.5781	0.6064		0.0210	0.0200	4.9	50.0
1,4-Dioxane	Ave	0.0019	0.0022		0.462	0.400	15.4	50.0
Dibromomethane	Ave	0.1373	0.1387		0.0202	0.0200	1.0	50.0
Bromodichloromethane	Ave	0.3092	0.3205		0.0207	0.0200	3.7	50.0
2-Chloroethyl vinyl ether	Ave	0.1240	0.1004		0.0324	0.0400	-19.0	50.0
cis-1,3-Dichloropropene	Ave	0.3419	0.3293		0.0193	0.0200	-3.7	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.3276	0.2714		0.0331	0.0400	-17.2	50.0
Toluene	Ave	1.787	1.887		0.0211	0.0200	5.6	20.0
trans-1,3-Dichloropropene	Lin1		0.3814		0.0182	0.0200	-9.0	50.0
Ethyl methacrylate	Ave	0.3411	0.3533		0.0207	0.0200	3.6	50.0
1,1,2-Trichloroethane	Ave	0.2768	0.2777		0.0201	0.0200	0.3	50.0
1,3-Dichloropropane	Ave	0.4921	0.5244		0.0213	0.0200	6.5	50.0
Tetrachloroethene	Ave	0.3399	0.3915		0.0230	0.0200	15.2	50.0
2-Hexanone	Ave	0.2990	0.2674		0.0358	0.0400	-10.6	50.0
Dibromochloromethane	Lin1		0.2418		0.0180	0.0200	-9.8	50.0
1,2-Dibromoethane	Ave	0.2460	0.2489		0.0202	0.0200	1.2	50.0
Chlorobenzene	Ave	1.131	1.133	0.3000	0.0200	0.0200	0.2	50.0
1,1,1,2-Tetrachloroethane	Ave	0.3304	0.3537		0.0214	0.0200	7.1	50.0
Ethylbenzene	Ave	0.6152	0.6383		0.0208	0.0200	3.8	20.0
m-Xylene & p-Xylene	Ave	0.7573	0.8150		0.0215	0.0200	7.6	50.0
o-Xylene	Ave	0.7162	0.7469		0.0209	0.0200	4.3	50.0
Styrene	Ave	1.094	1.181		0.0216	0.0200	8.0	50.0
Bromoform	Lin1		0.1112	0.1000	0.0170	0.0200	-14.8	50.0
Isopropylbenzene	Ave	1.910	2.151		0.0225	0.0200	12.6	50.0
1,1,2,2-Tetrachloroethane	Ave	0.6316	0.5975	0.3000	0.0189	0.0200	-5.4	50.0
Bromobenzene	Ave	0.8895	0.9136		0.0205	0.0200	2.7	50.0
1,2,3-Trichloropropane	Ave	0.2162	0.2143		0.0198	0.0200	-0.9	50.0
trans-1,4-Dichloro-2-butene	Ave	0.2709	0.2060		0.0152	0.0200	-23.9	50.0
N-Propylbenzene	Ave	1.098	1.160		0.0211	0.0200	5.6	50.0
2-Chlorotoluene	Ave	0.9492	0.9513		0.0200	0.0200	0.2	50.0
1,3,5-Trimethylbenzene	Ave	3.407	3.611		0.0212	0.0200	6.0	50.0
4-Chlorotoluene	Ave	0.9566	0.9776		0.0204	0.0200	2.2	50.0
tert-Butylbenzene	Ave	3.034	3.510		0.0231	0.0200	15.7	50.0
1,2,4-Trimethylbenzene	Ave	3.443	3.670		0.0213	0.0200	6.6	50.0
sec-Butylbenzene	Ave	4.498	4.573		0.0203	0.0200	1.7	50.0
1,3-Dichlorobenzene	Ave	1.796	1.860		0.0207	0.0200	3.5	50.0
p-Isopropyltoluene	Ave	3.653	3.925		0.0215	0.0200	7.5	50.0
1,4-Dichlorobenzene	Ave	1.853	1.880		0.0203	0.0200	1.5	50.0
n-Butylbenzene	Ave	3.272	3.481		0.0213	0.0200	6.4	50.0
1,2-Dichlorobenzene	Ave	1.679	1.669		0.0199	0.0200	-0.6	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-103714-1

SDG No.:

Lab Sample ID: CCVIS 240-355270/6 Calibration Date: 11/13/2018 23:15

Instrument ID: A3UX8 Calib Start Date: 11/06/2018 06:49

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/06/2018 09:45

Lab File ID: UX80899.D Conc. Units: ng/uL Heated Purge: (Y/N) Y

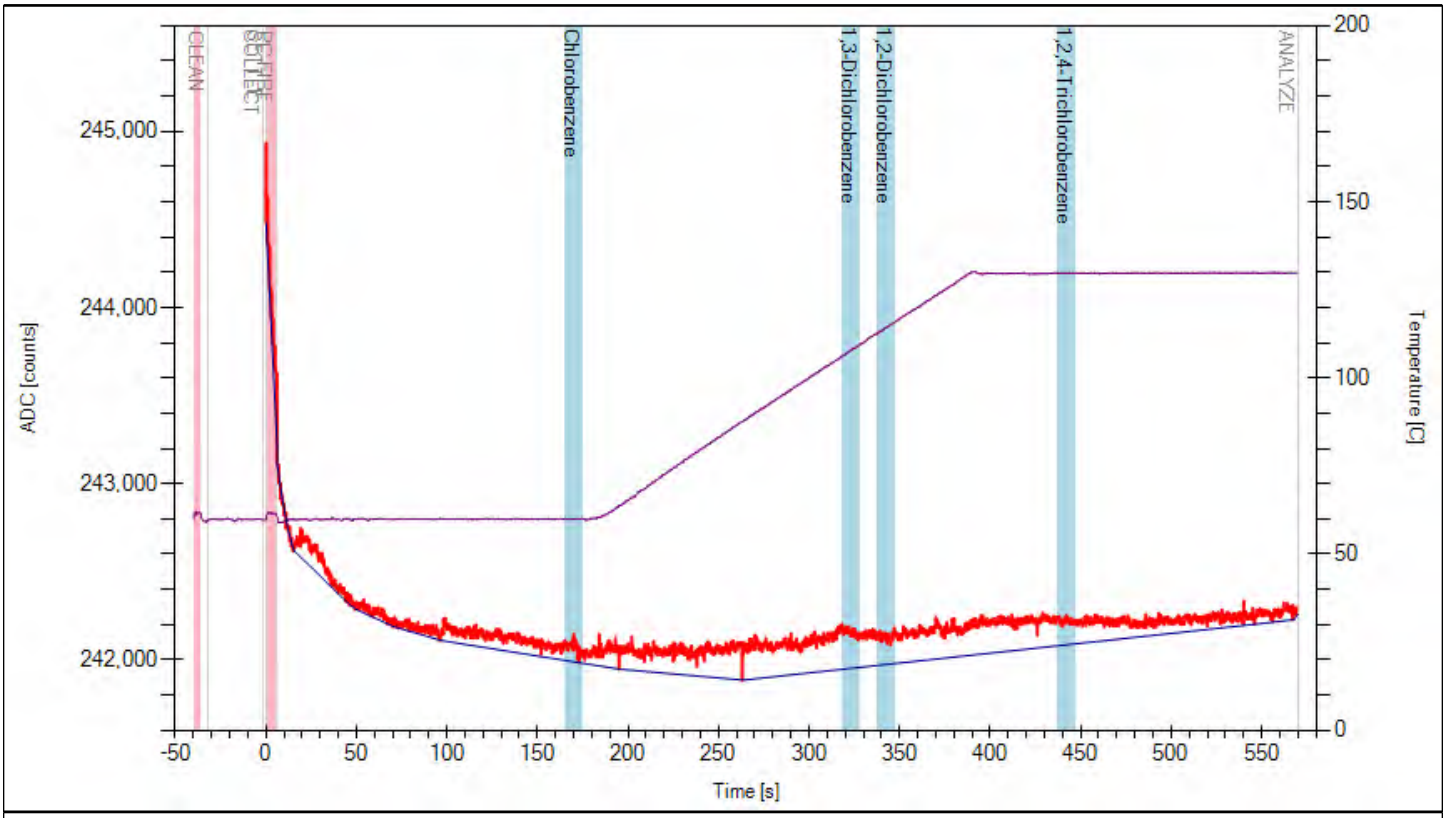
ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Lin1		0.0524		0.0142	0.0200	-29.2	50.0
1,2,4-Trichlorobenzene	Ave	1.075	0.9867		0.0184	0.0200	-8.2	50.0
Hexachlorobutadiene	Ave	0.6026	0.5997		0.0199	0.0200	-0.5	50.0
Naphthalene	Ave	2.046	1.576		0.0154	0.0200	-23.0	50.0
1,2,3-Trichlorobenzene	Ave	0.9454	0.8485		0.0179	0.0200	-10.3	50.0
Dibromofluoromethane (Surr)	Ave	0.2472	0.2230		0.0451	0.0500	-9.8	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3443	0.2981		0.0433	0.0500	-13.4	50.0
Toluene-d8 (Surr)	Ave	1.429	1.317		0.0461	0.0500	-7.9	50.0
4-Bromofluorobenzene (Surr)	Ave	0.5387	0.5014		0.0465	0.0500	-6.9	50.0

APPENDIX I—FROG 4000™ FIELD GRAPHS

F-GWS-1A-5-9

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.

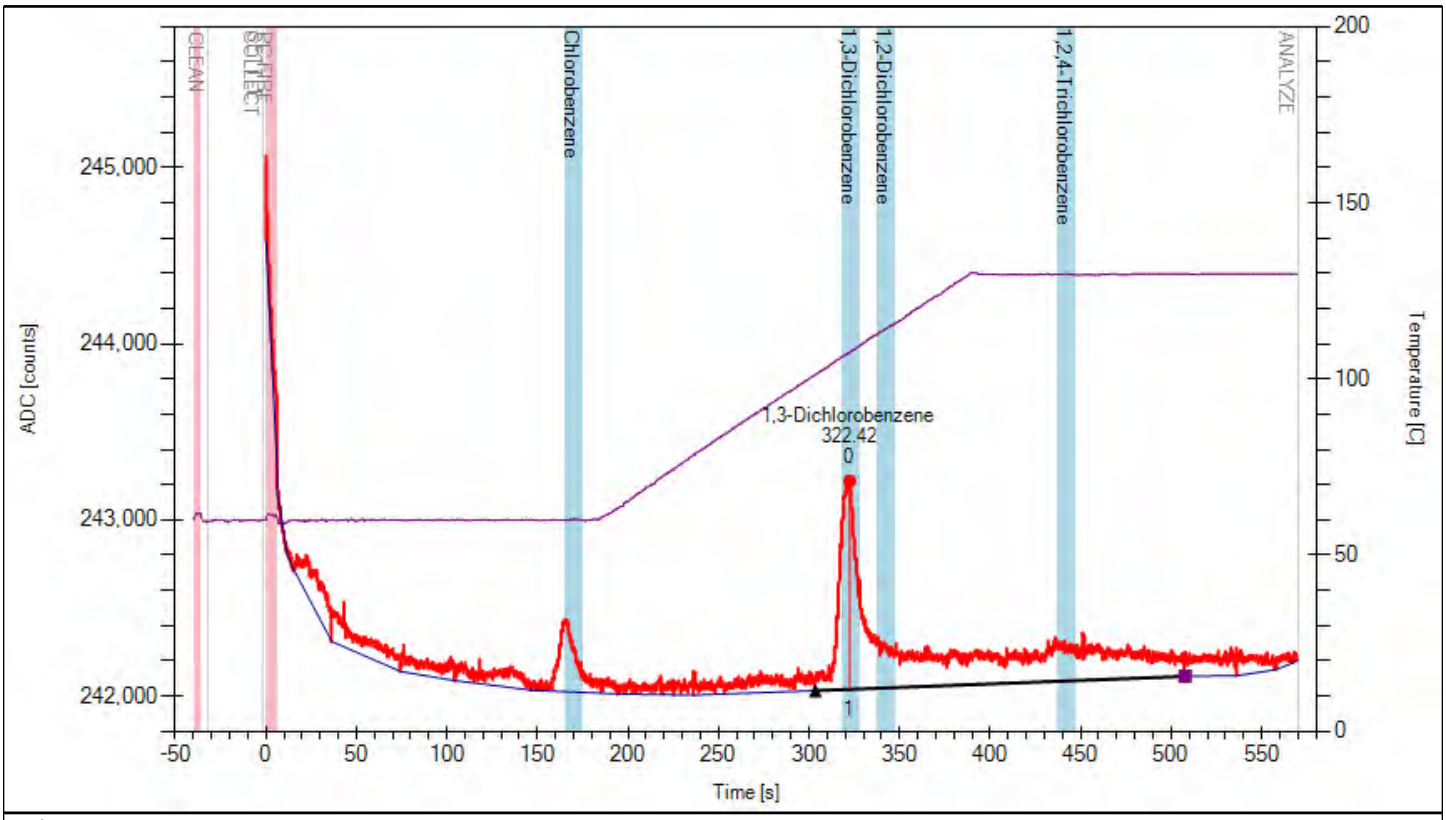


Red:

F-GWS-1A-9-13

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.
1	1,3-Dichlorobenzene	322.42	1180	42459	0	0

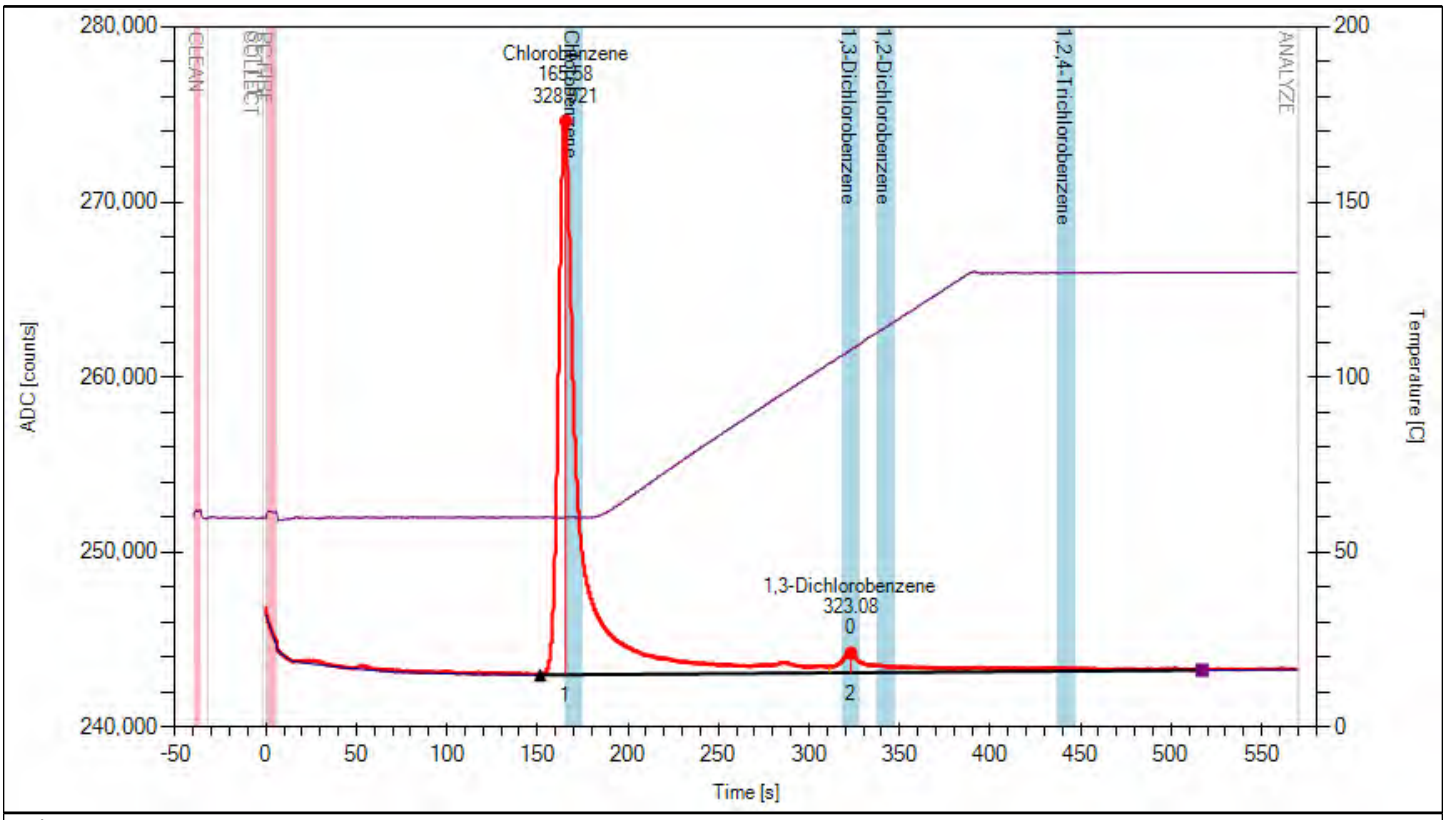


Red:

F-GWS-1B-5-9

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.
1	Chlorobenzene	165.58	31612	441885	328.921	328.921
2	1,3-Dichlorobenzene	323.08	1110	46318	0	0

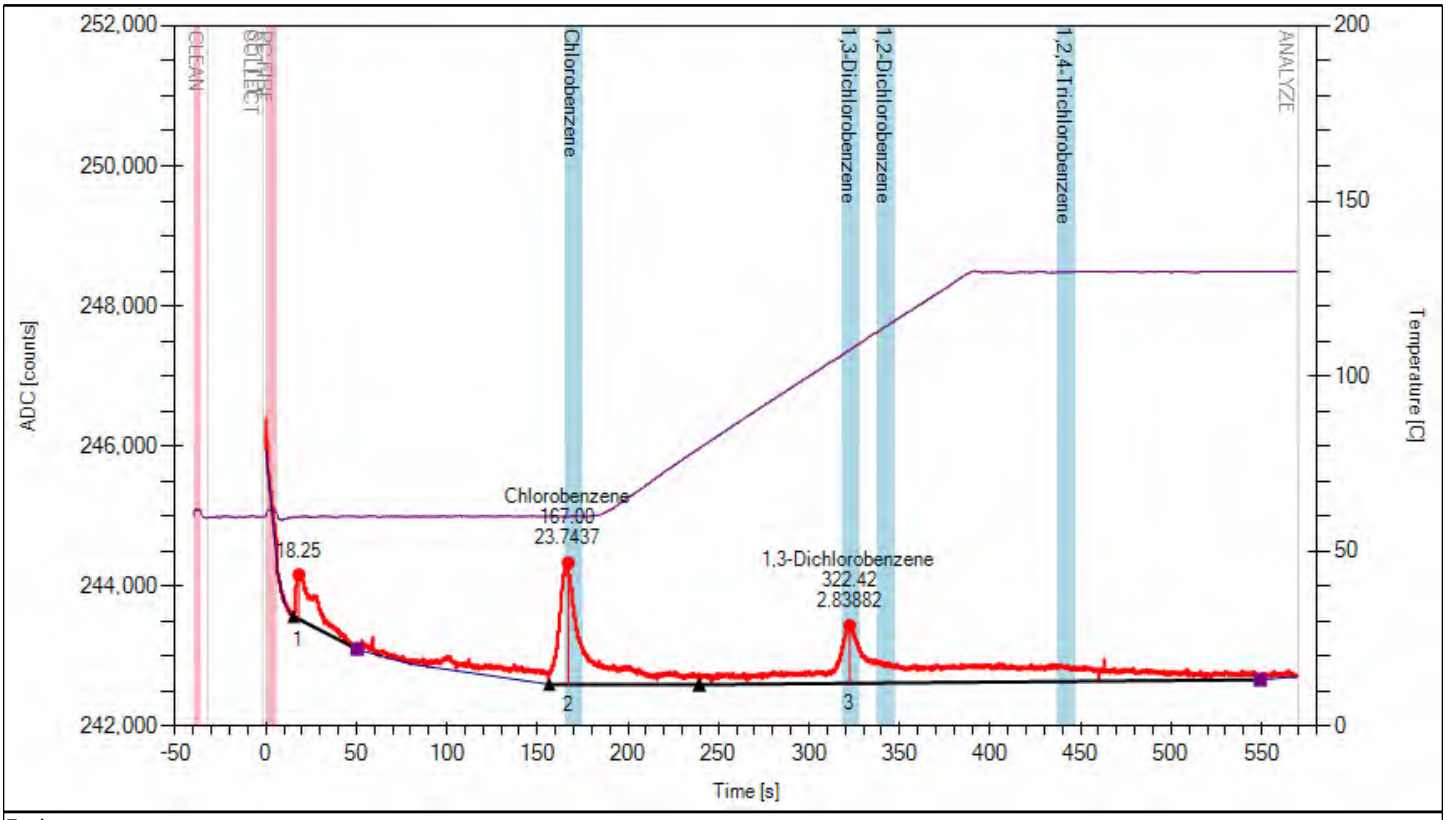


Red:

F-GWS-1B-9-13

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.
1		18.25	635	8805		
2	Chlorobenzene	167	1734	29678	23.7437	23.7437
3	1,3-Dichlorobenzene	322.42	823	56255	2.83882	2.83882

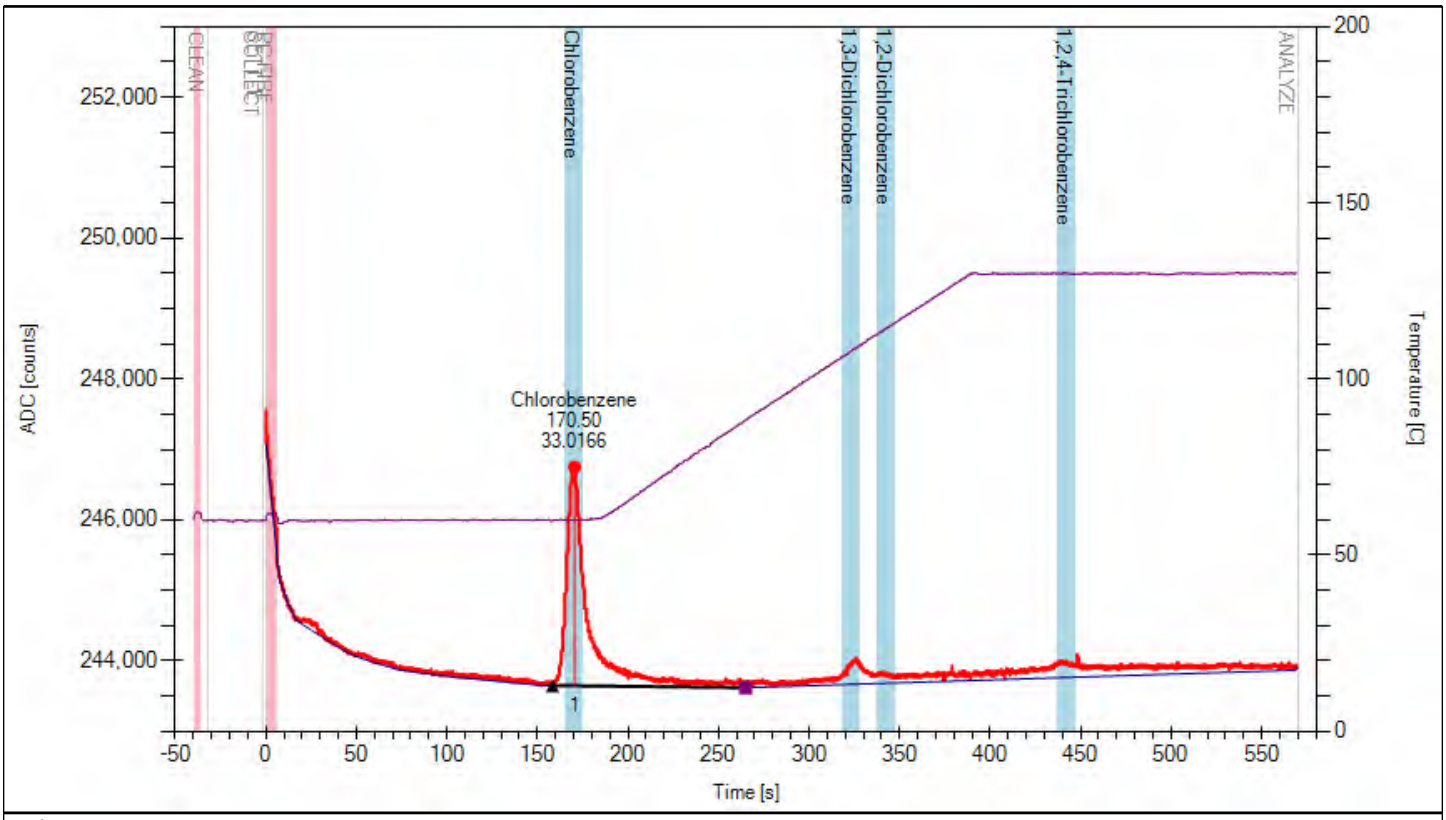


Red:

F-GWS-1C-10-14

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.
1	Chlorobenzene	170.5	3105	42203	33.0166	33.0166

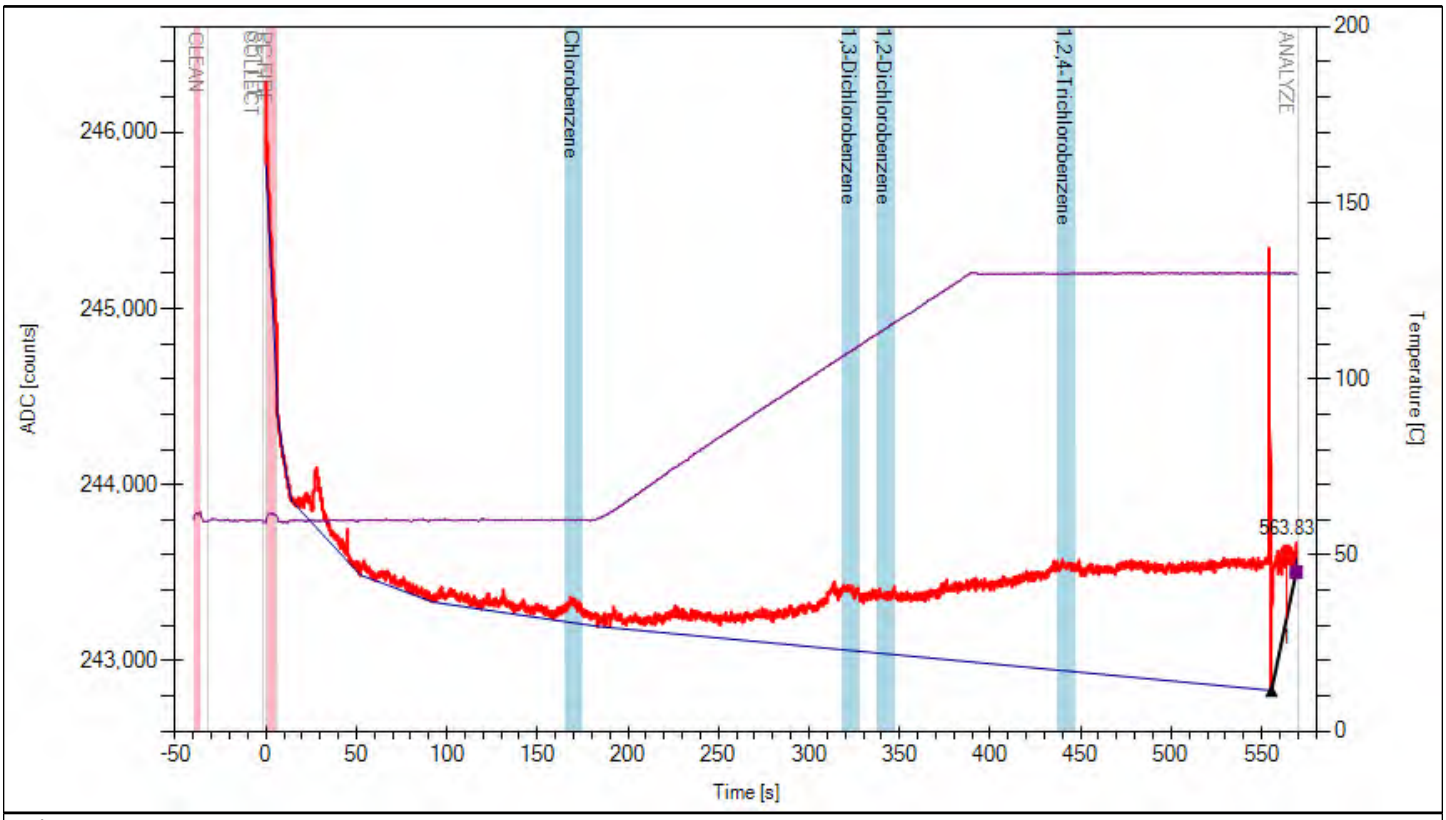


Red:

F-GWS-1C-34-38

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.
1		563.83	378	4987		

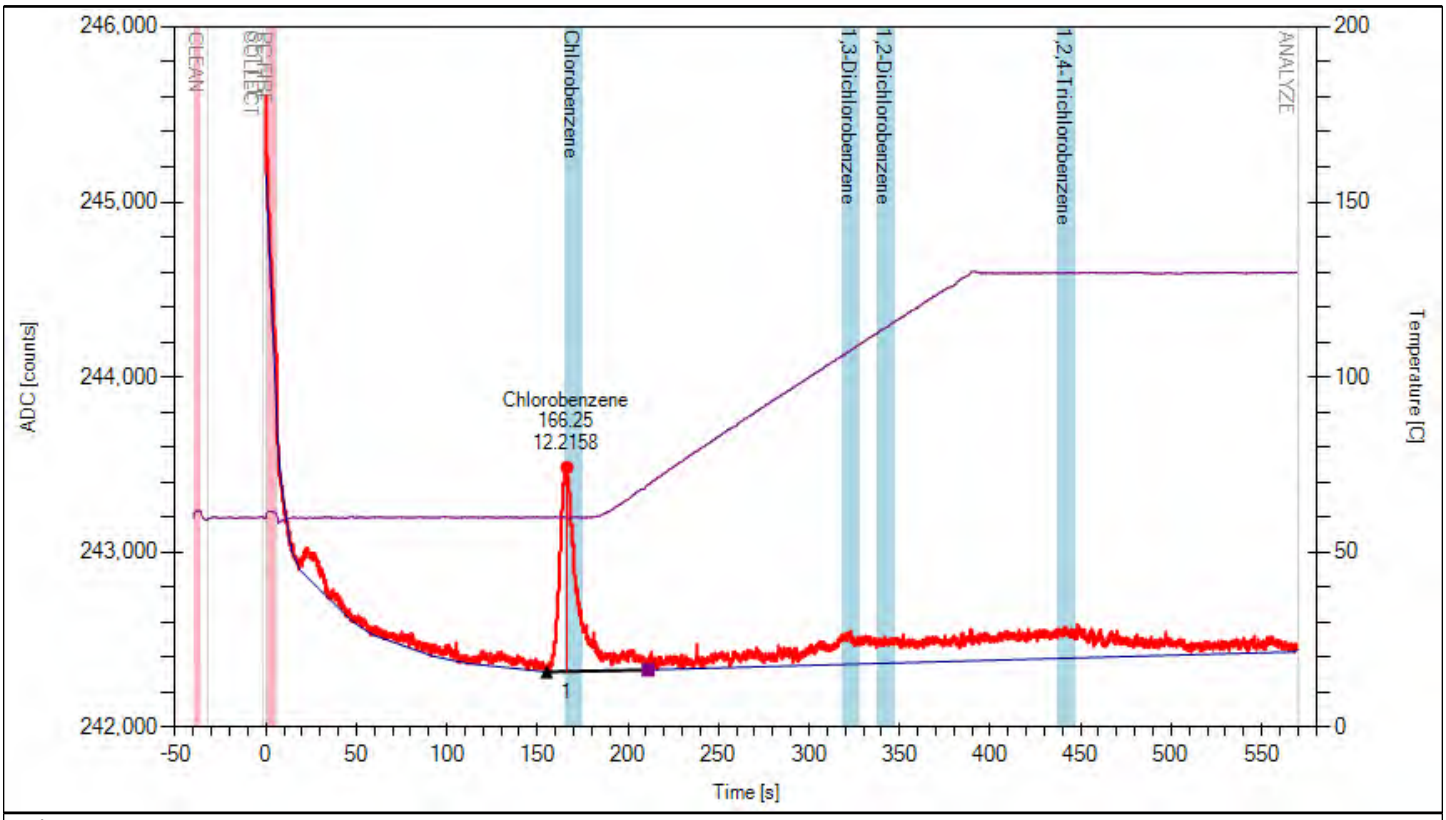


Red:

F-GWS-1D-14-18

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.
1	Chlorobenzene	166.25	1165	14107	12.2158	12.2158

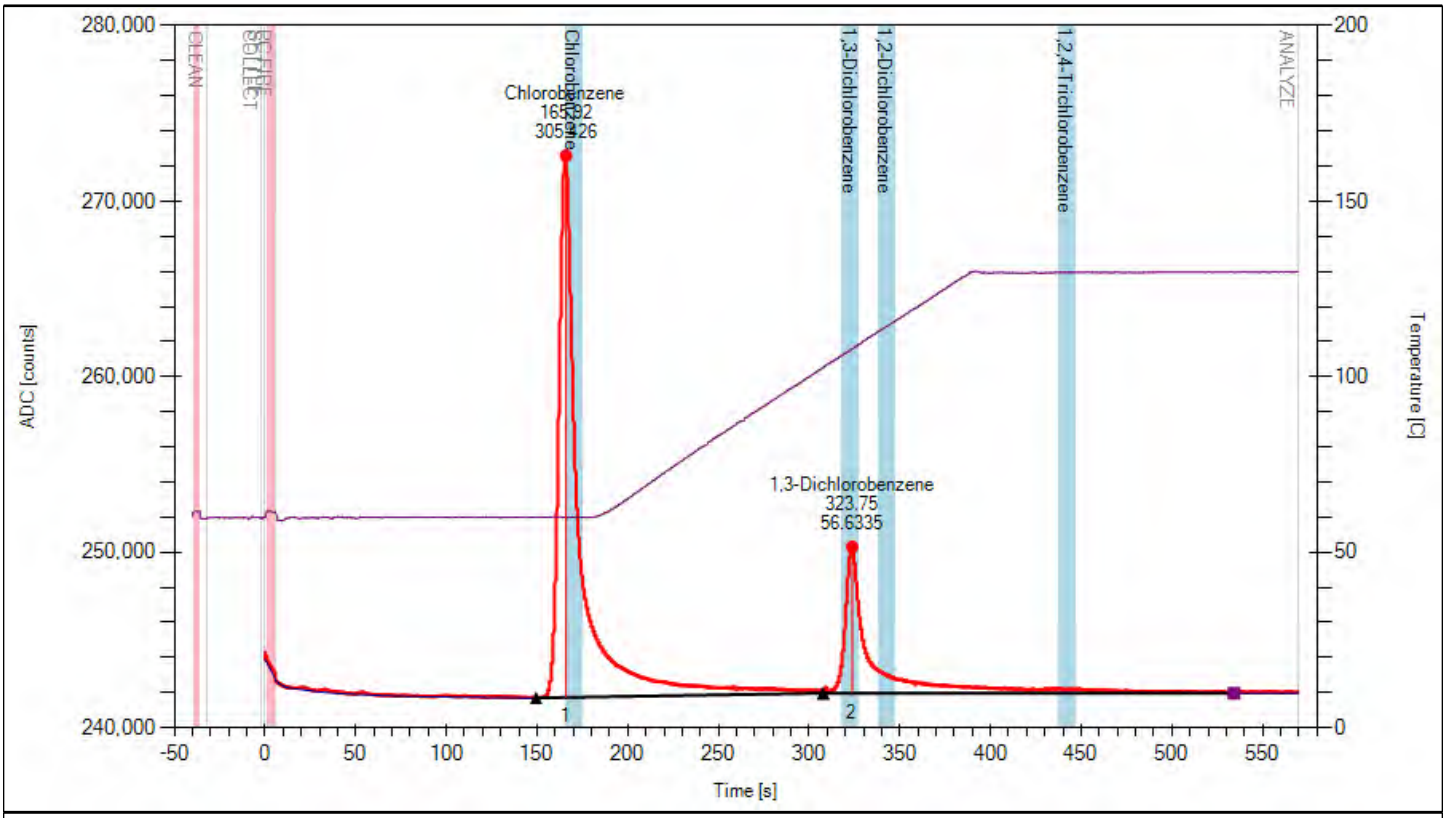


Red:

F-GWS-1F-7-11

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.
1	Chlorobenzene	165.92	30877	410150	305.426	305.426
2	1,3-Dichlorobenzene	323.75	8340	141354	56.6335	56.6335

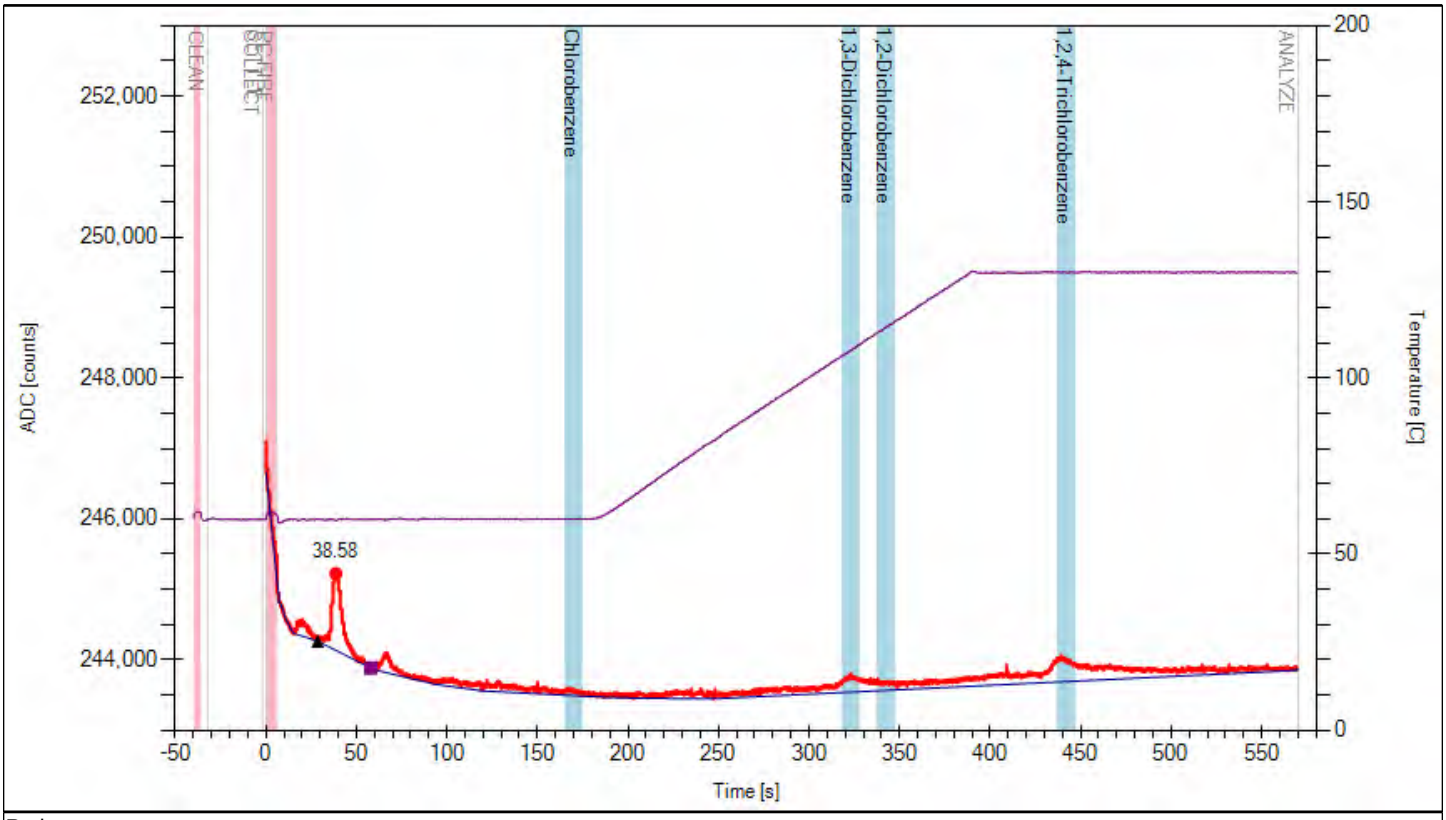


Red:

F-GWS-2A1-14-18

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.

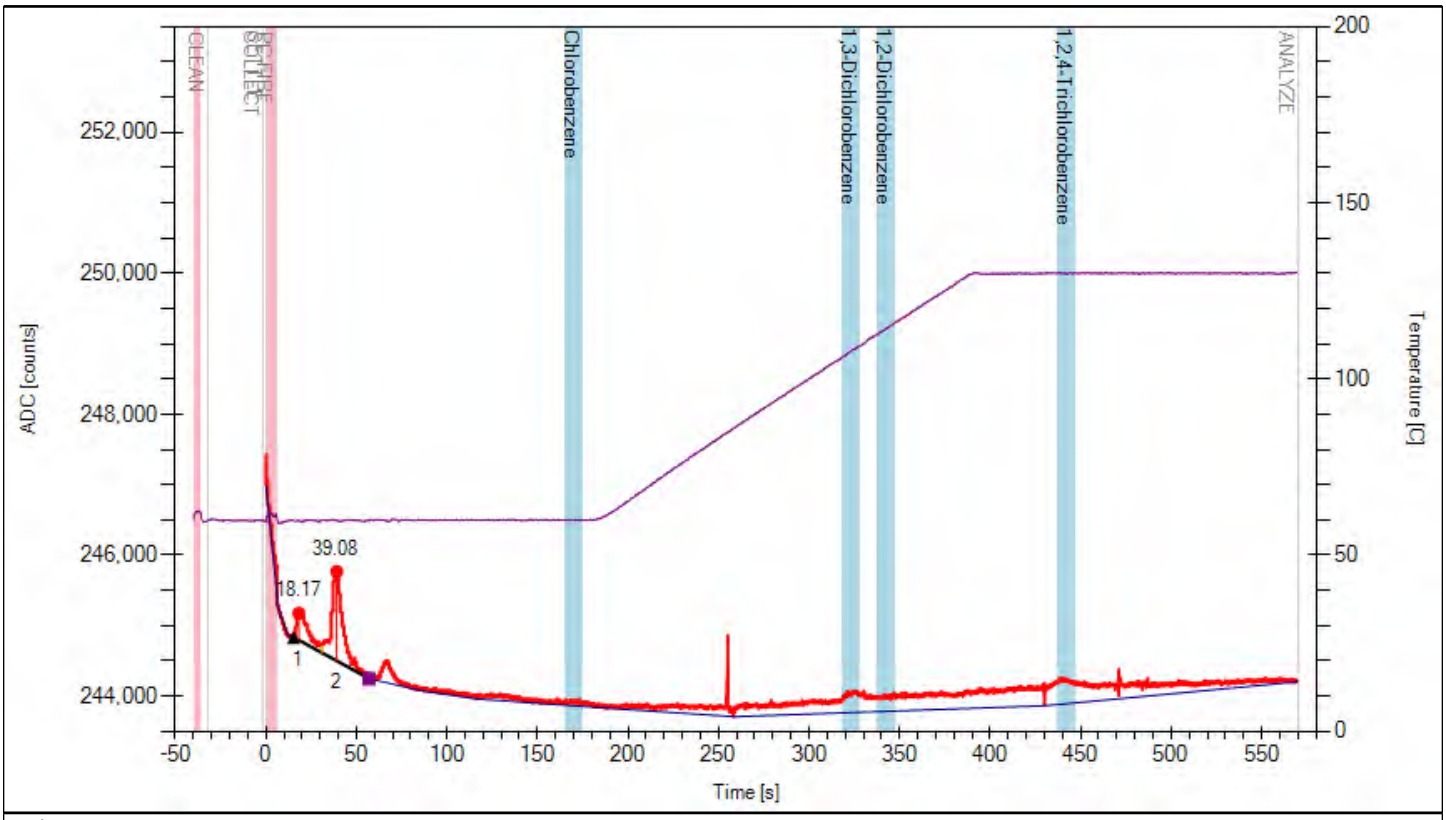


Red:

F-GWS-2A1-18-22

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.
1		18.17	380	3203		
2		39.08	1267	9318		

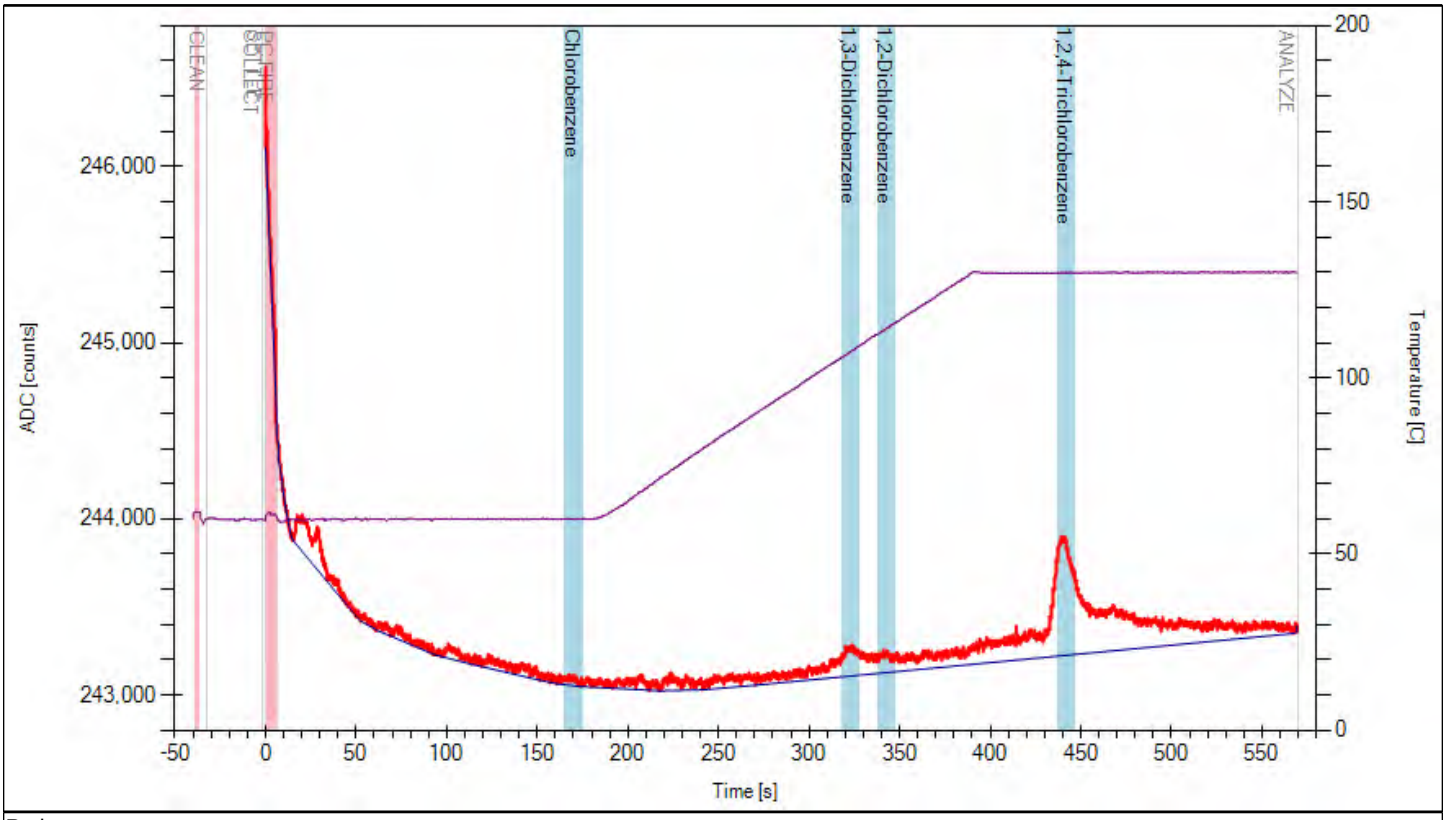


Red:

F-GWS-2A-3-7

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.

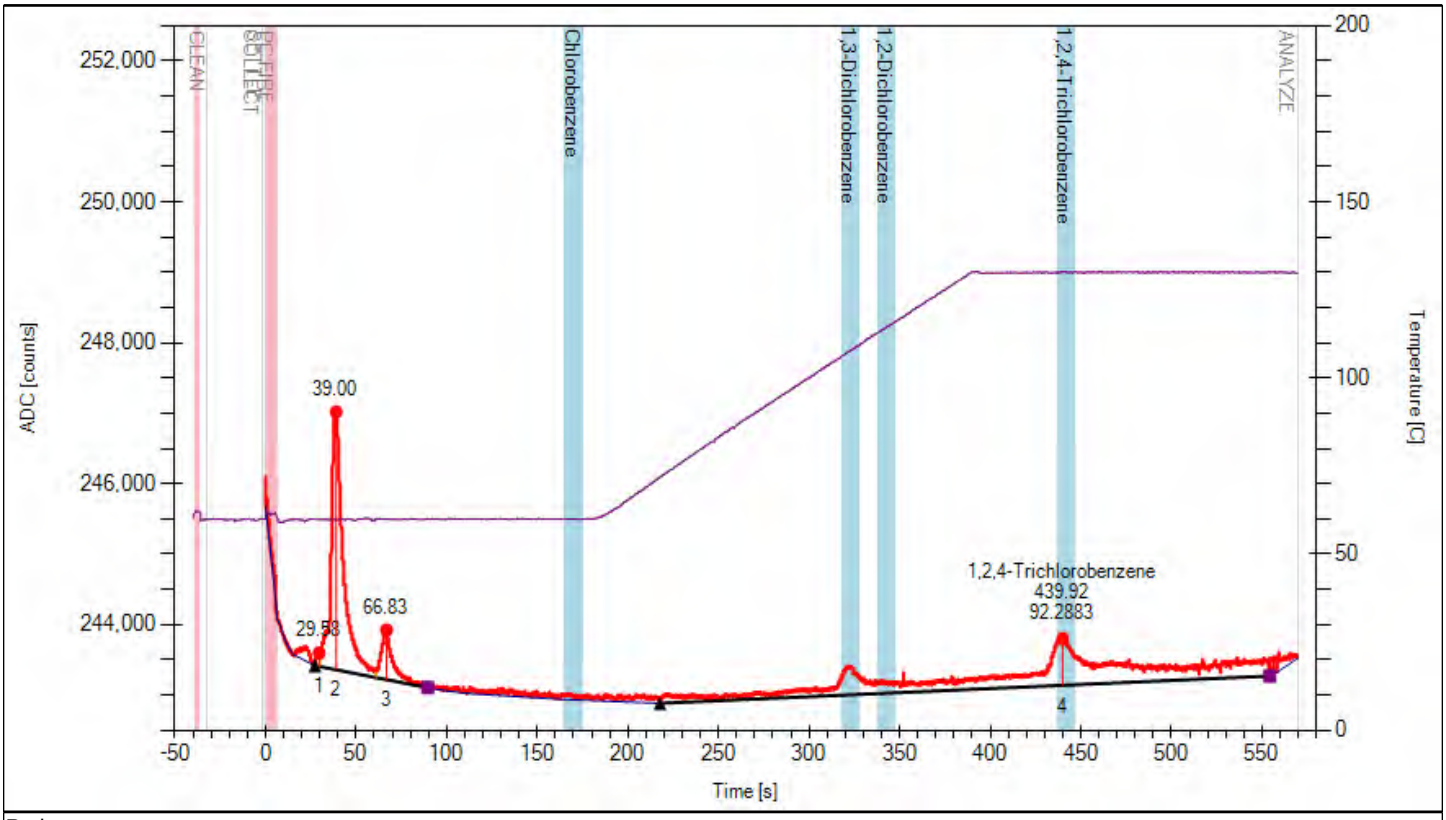


Red:

F-GWS-2A-13-17

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.
1		29.58	191	339		
2		39	3662	28748		
3		66.83	705	5412		
4	1,2,4-Trichlorobenzene	439.92	664	57520	92.2883	92.2883

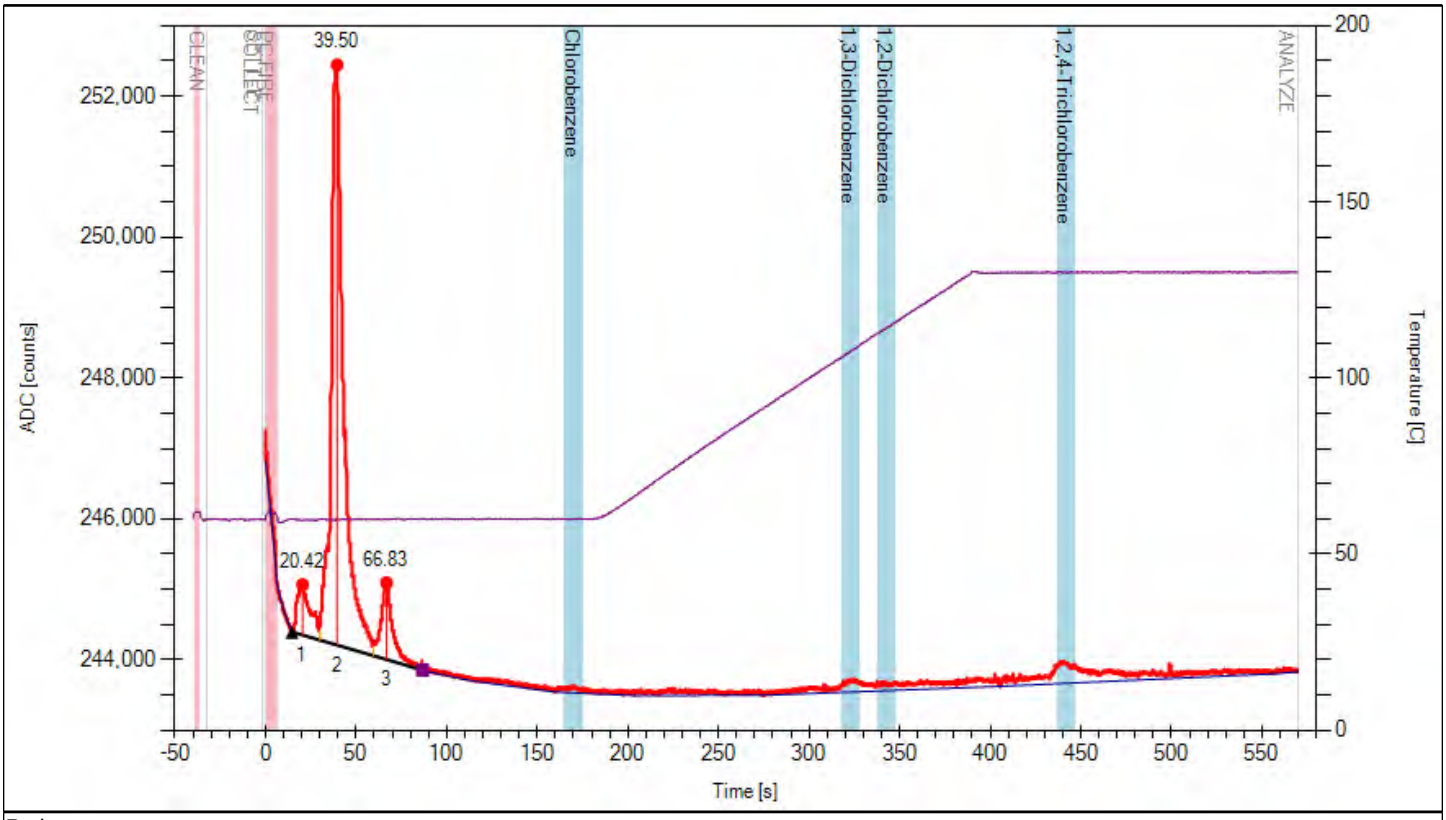


Red:

F-GWS-2A-17-21

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.
1		20.42	714	6059		
2		39.5	8237	66541		
3		66.83	1090	8459		

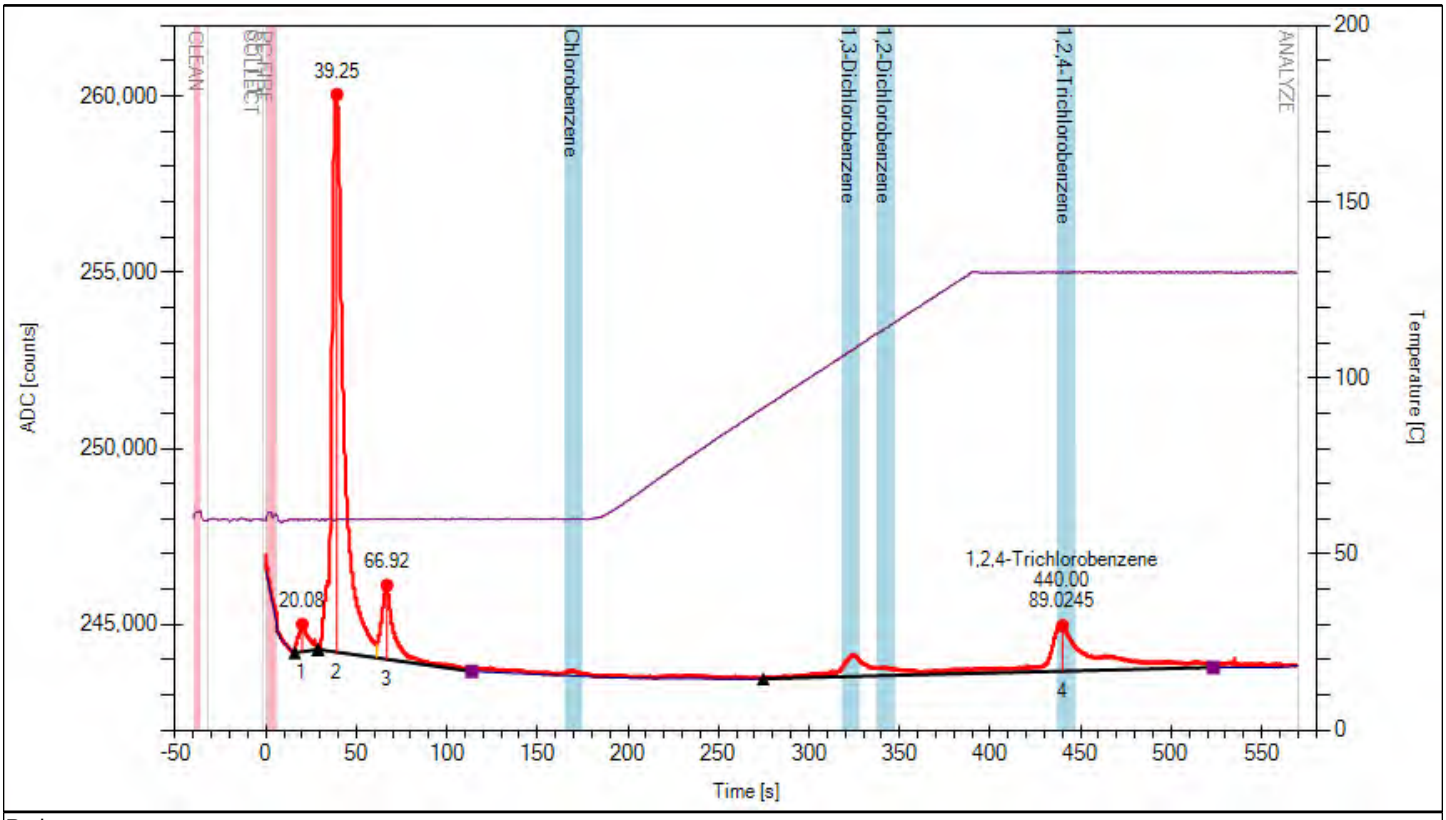


Red:

F-GWS-2A-21-25

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.
1		20.08	771	4804		
2		39.25	15835	125793		
3		66.92	2099	18556		
4	1,2,4-Trichlorobenzene	440	1289	55546	89.0245	89.0245

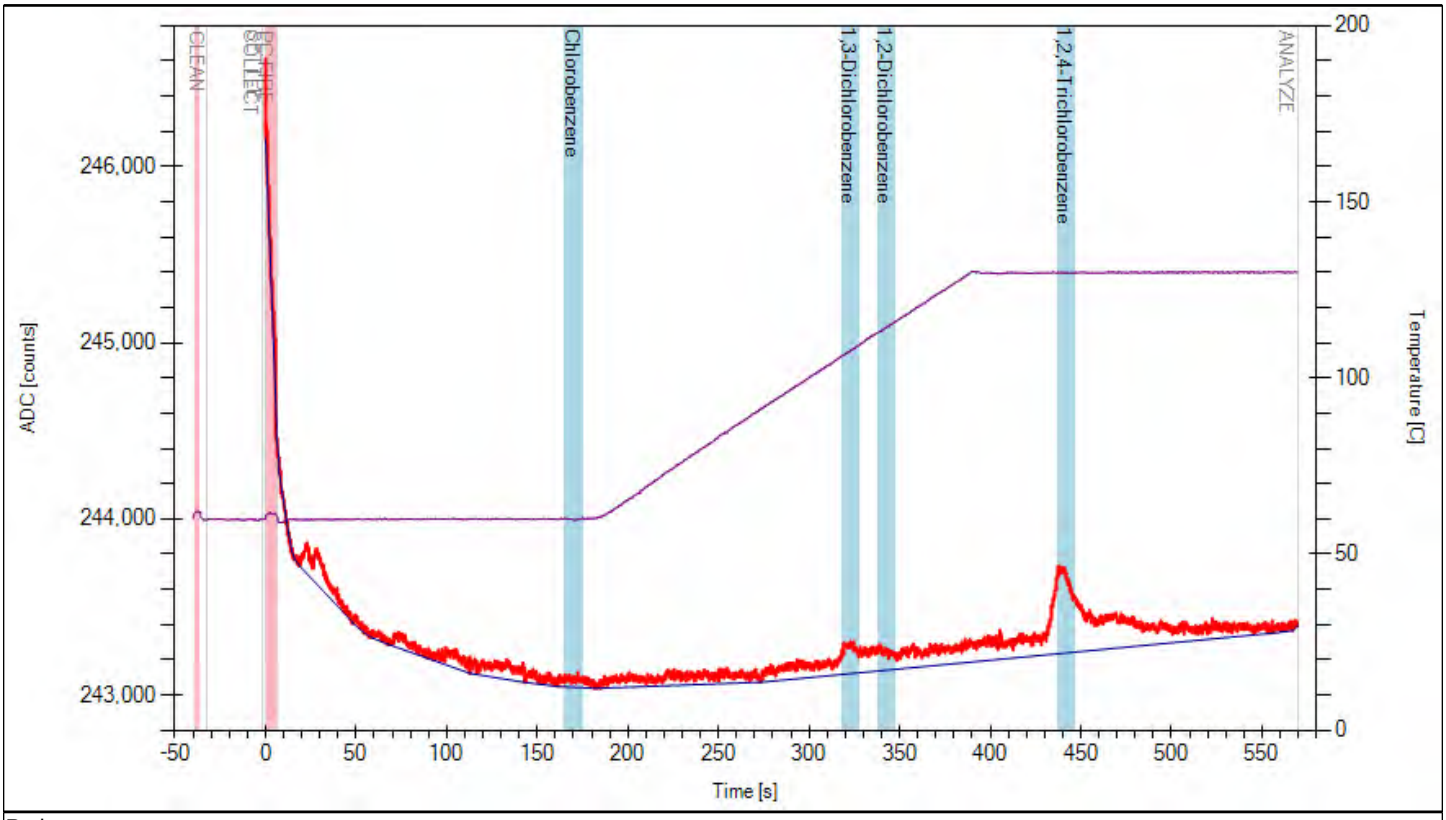


Red:

F-GWS-2B-3-7

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.

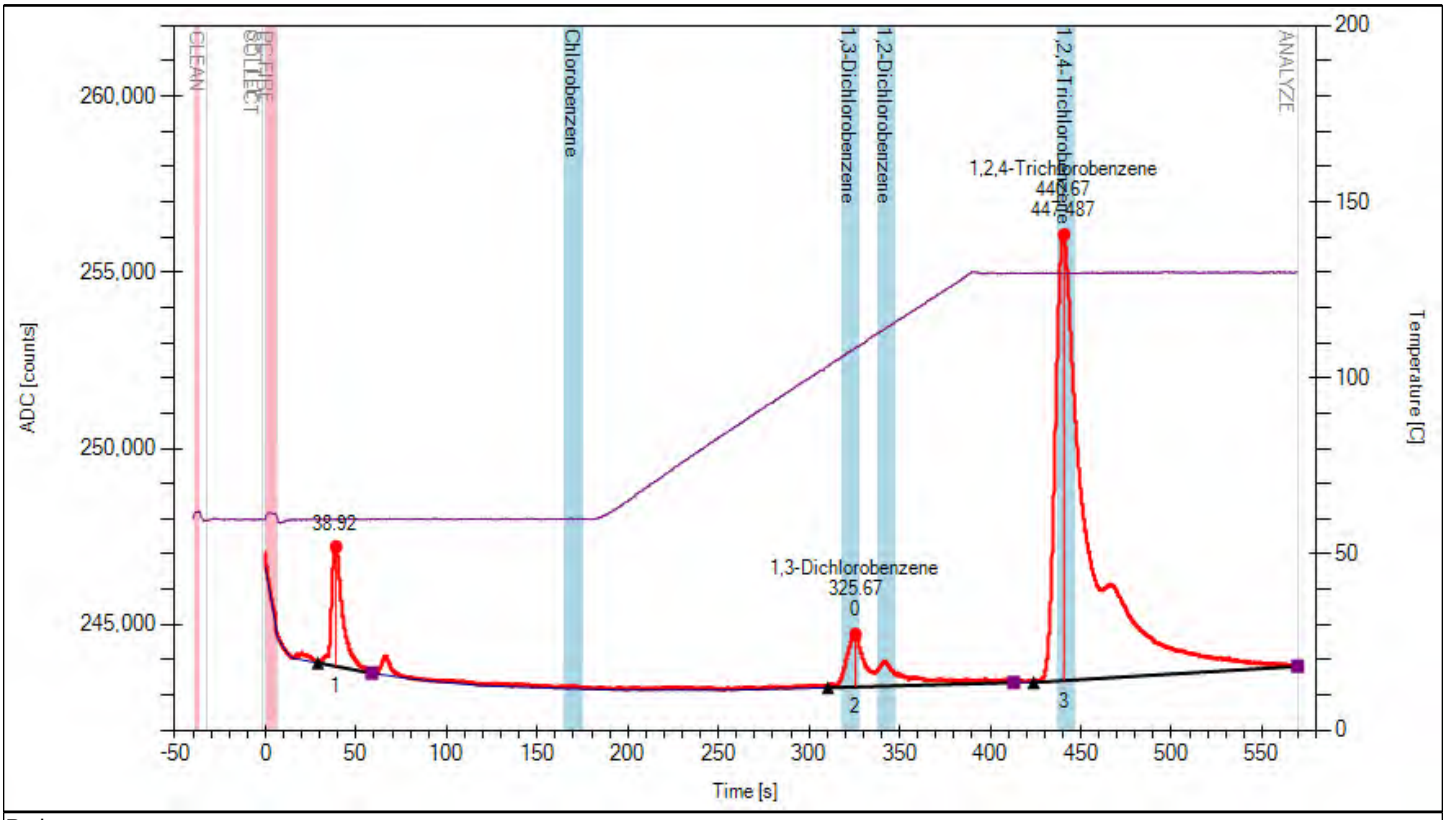


Red:

F-GWS-2B-14-18

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.
1		38.92	3398	25055		
2	1,3-Dichlorobenzene	325.67	1494	30704	0	0
3	1,2,4-Trichlorobenzene	440.67	12654	272350	447.487	447.487

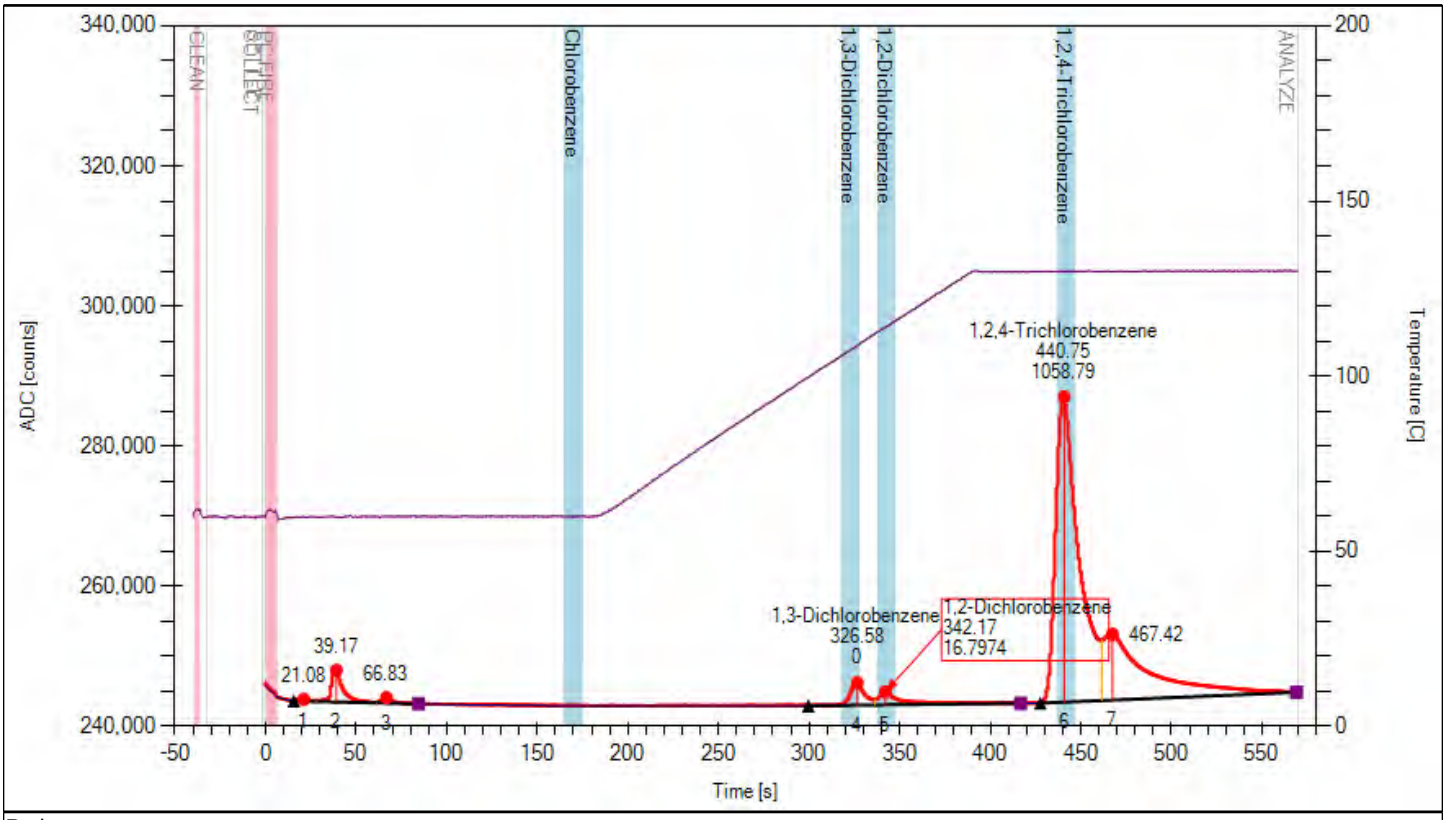


Red:

F-GWS-2B-18-22

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.
1		21.08	269	2195		
2		39.17	4529	34285		
3		66.83	803	5510		
4	1,3-Dichlorobenzene	326.58	3191	29289	0	0
5	1,2-Dichlorobenzene	342.17	1846	30045	16.7974	16.7974
6	1,2,4-Trichlorobenzene	440.75	43583	642073	1058.79	1058.79
7		467.42	9420	288276		



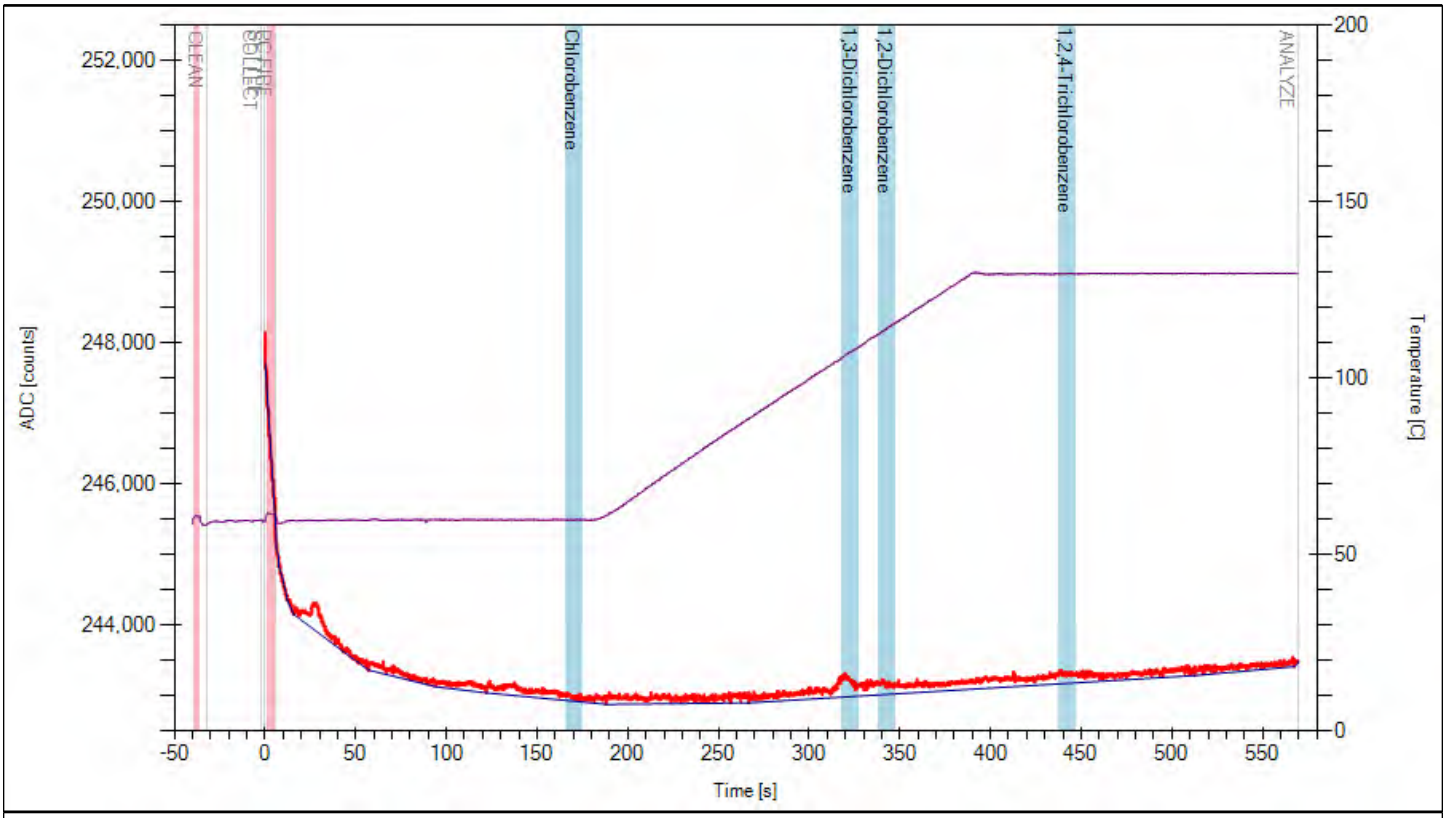
Red:

F-GWS-2C-3-7

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

RUN CANCELED!

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.



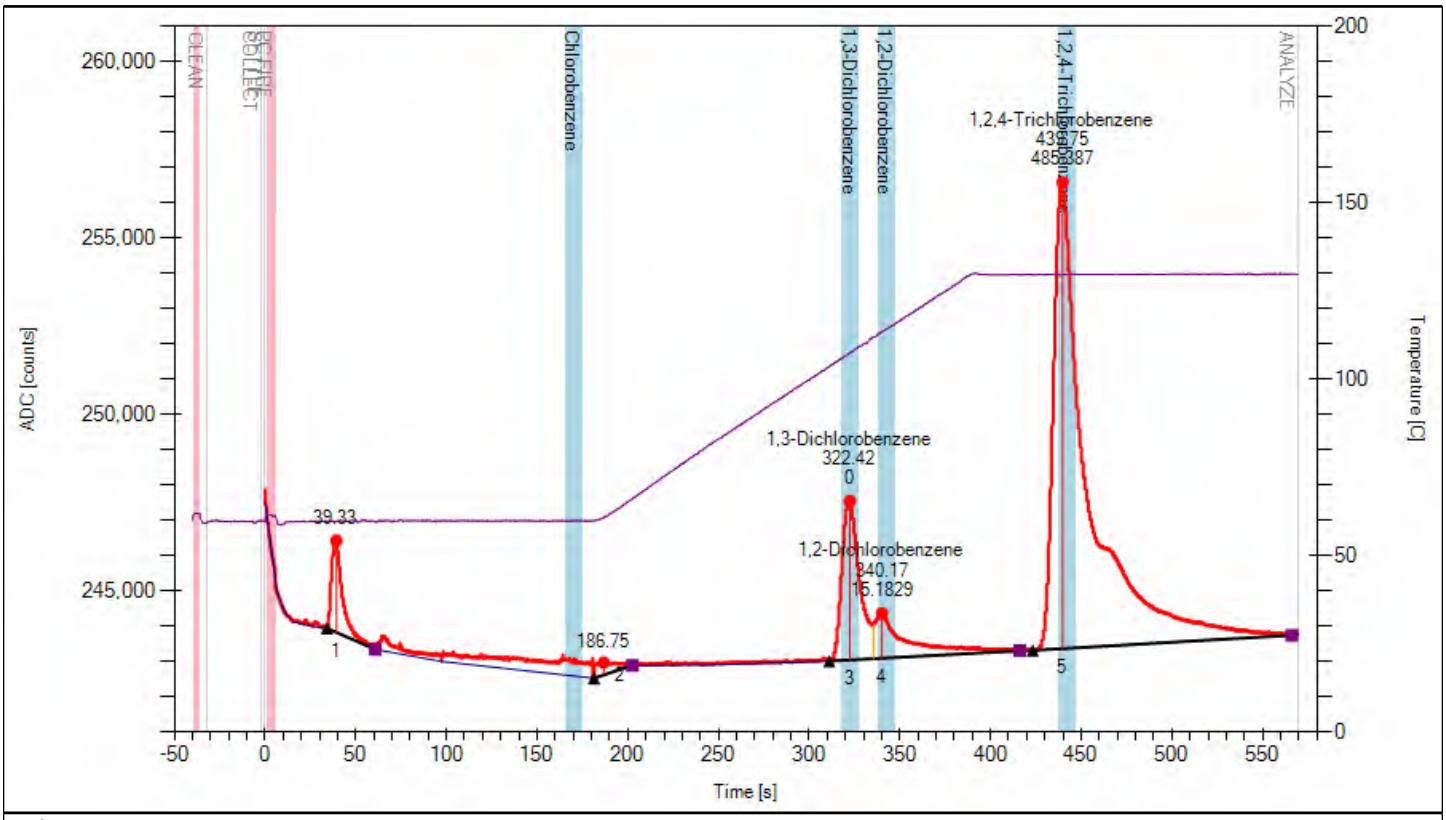
Red:

F-GWS-2C-13-17

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

RUN CANCELED!

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.
1		39.33	2606	18704		
2		186.75	350	4618		
3	1,3-Dichlorobenzene	322.42	4501	50943	0	0
4	1,2-Dichlorobenzene	340.17	1275	26814	15.1829	15.1829
5	1,2,4-Trichlorobenzene	439.75	13207	295272	485.387	485.387

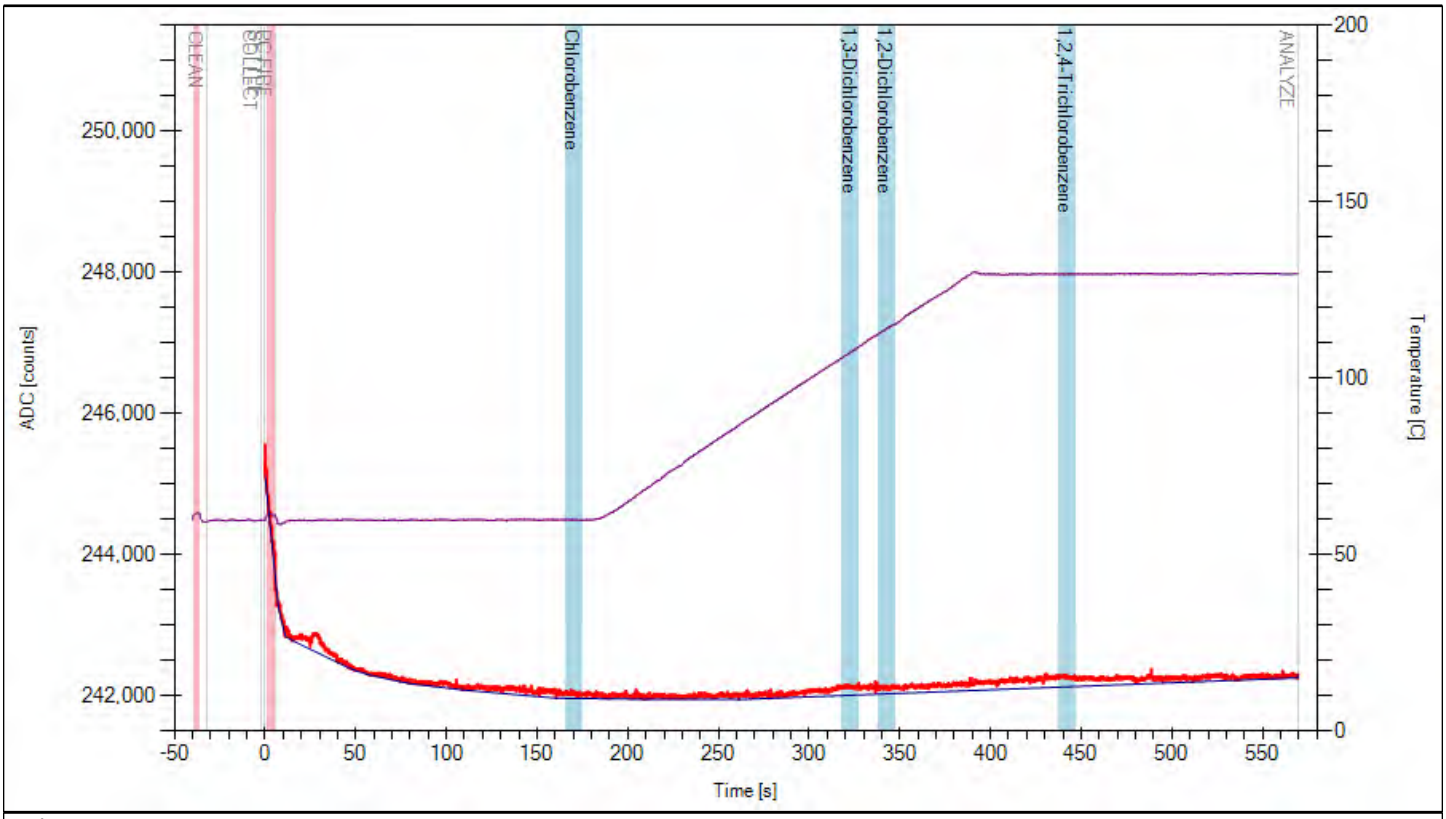


Red:

F-GWS-3A-4-8

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.

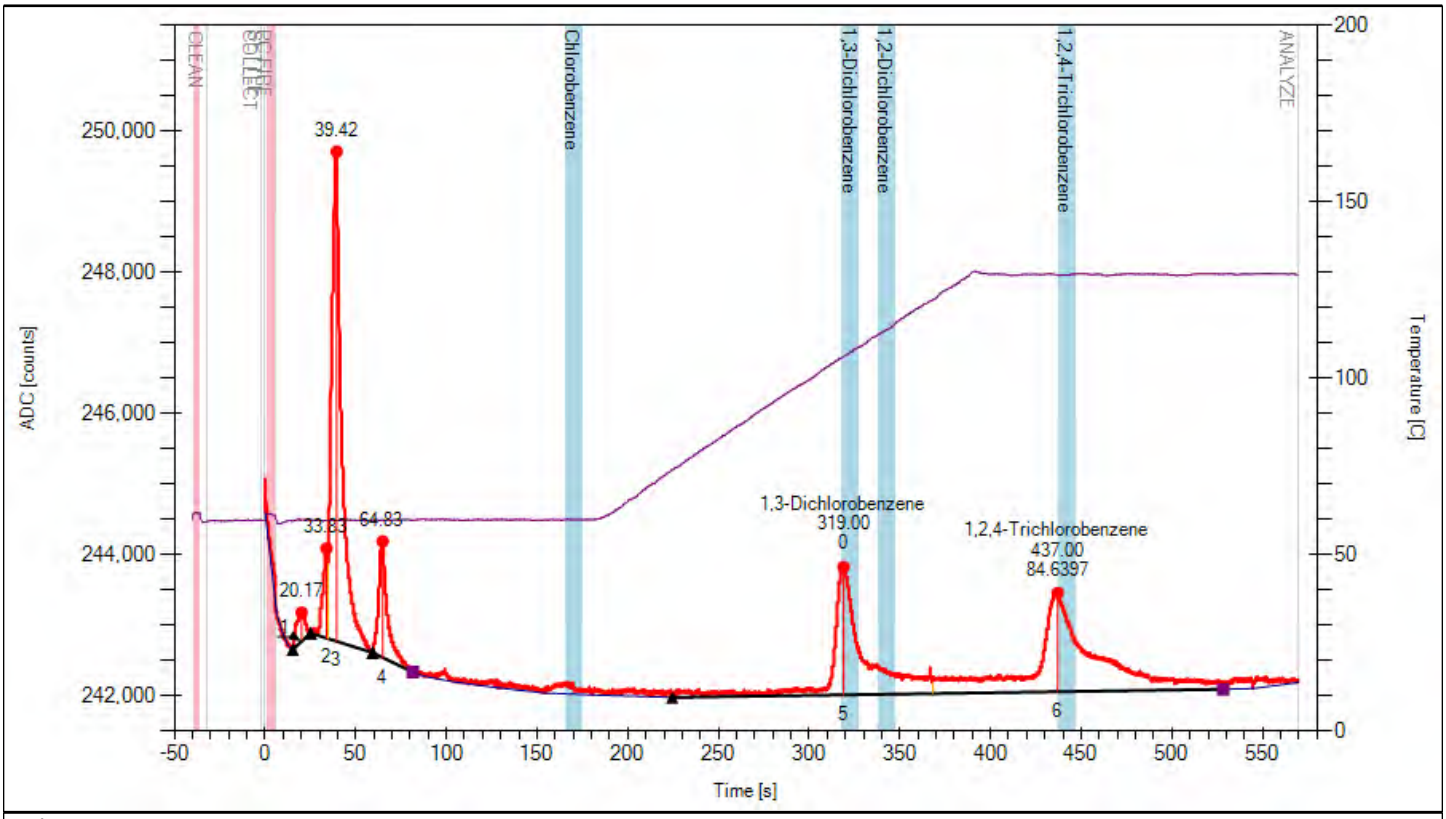


Red:

F-GWS-3A-14-18

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.
1		20.17	406	2207		
2		33.83	1269	3654		
3		39.42	6938	45299		
4		64.83	1645	9414		
5	1,3-Dichlorobenzene	319	1810	35878	0	0
6	1,2,4-Trichlorobenzene	437	1398	52894	84.6397	84.6397

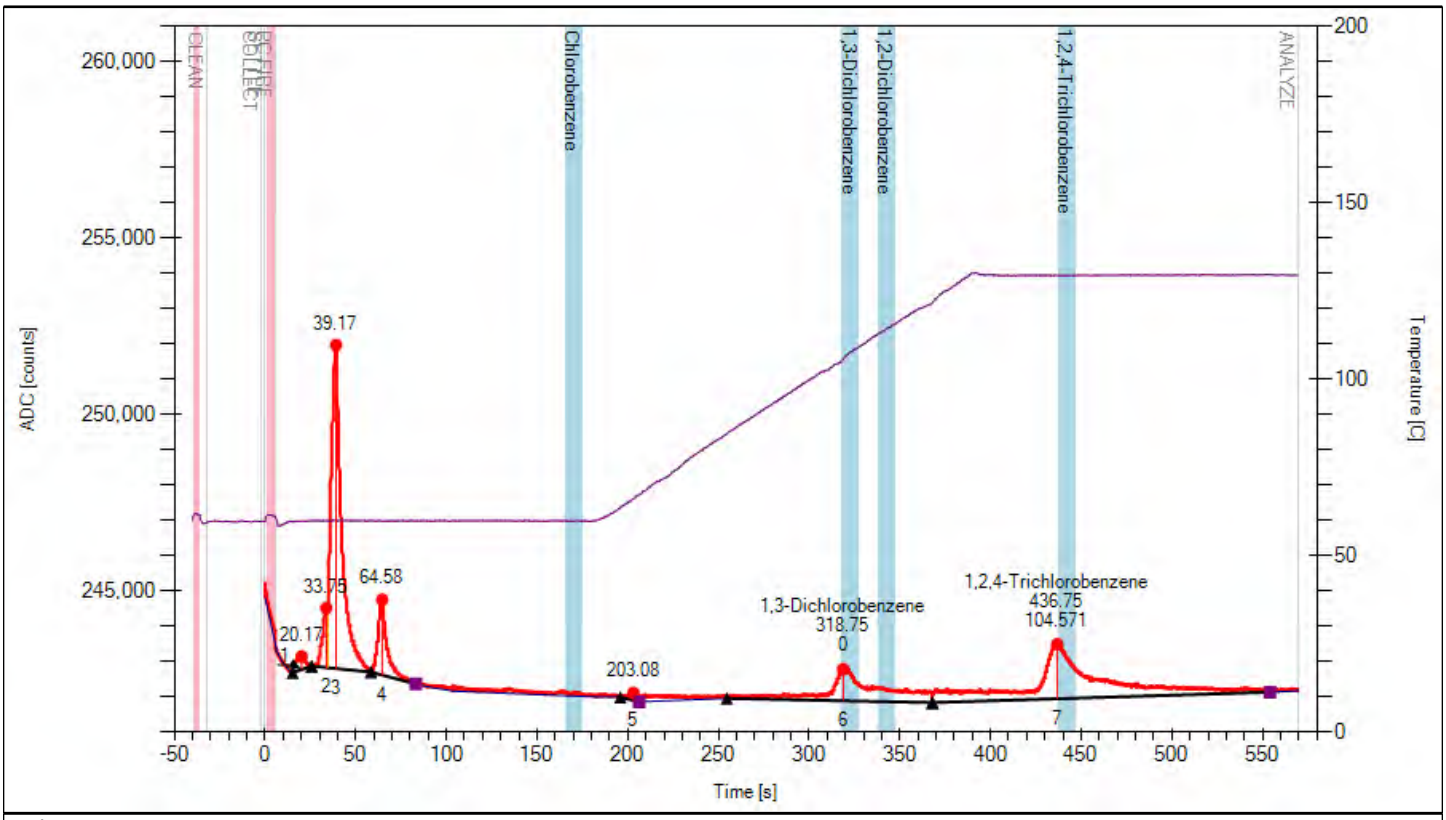


Red:

F-GWS-3A-18-22

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.
1		20.17	371	2041		
2		33.75	1685	4746		
3		39.17	9169	62184		
4		64.58	2138	12474		
5		203.08	215	988		
6	1,3-Dichlorobenzene	318.75	897	29353	0	0
7	1,2,4-Trichlorobenzene	436.75	1543	64949	104.571	104.571

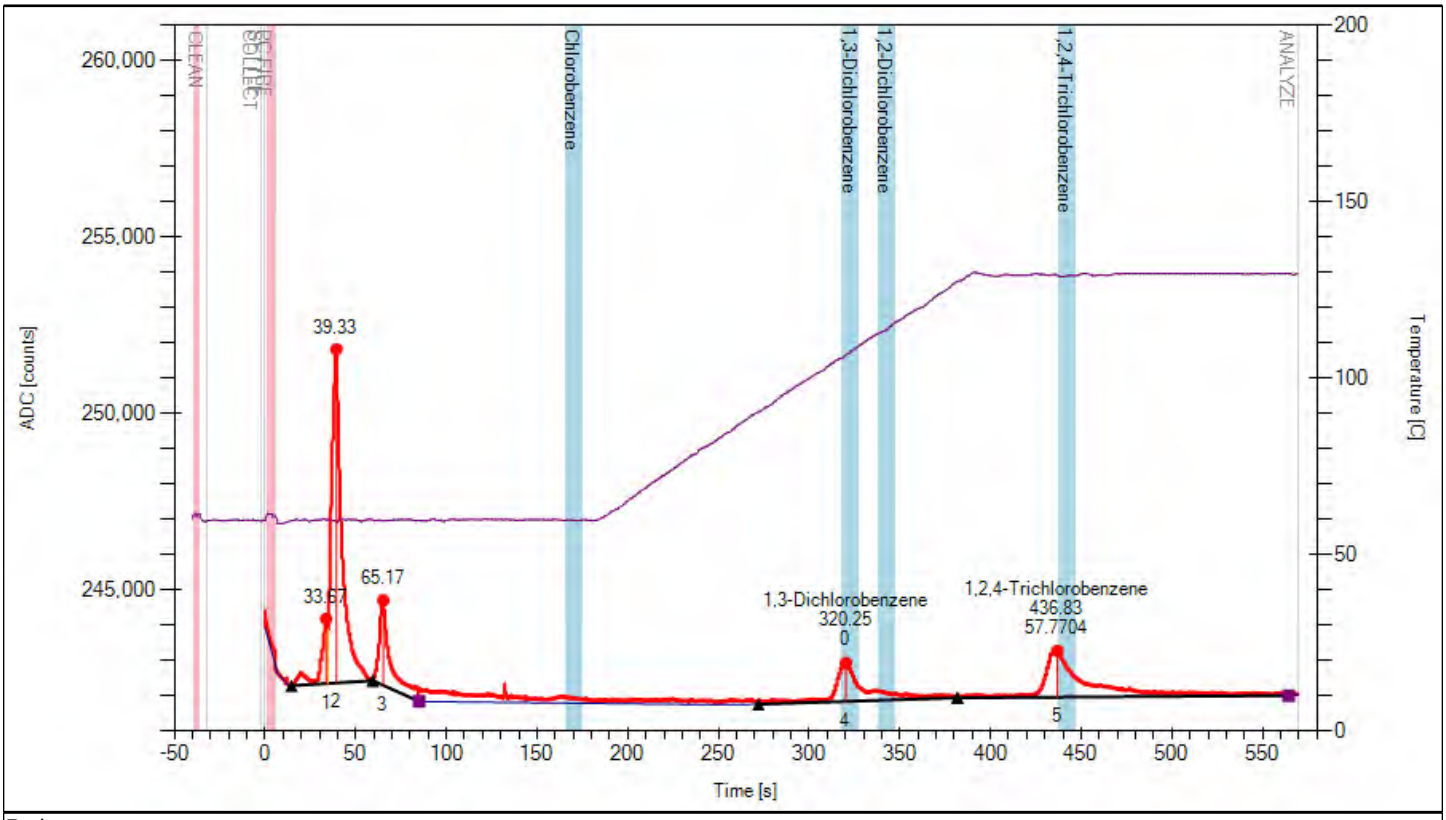


Red:

F-GWS-3A-22-26

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.
1		33.67	1828	7598		
2		39.33	9448	63292		
3		65.17	2407	17511		
4	1,3-Dichlorobenzene	320.25	1085	21319	0	0
5	1,2,4-Trichlorobenzene	436.83	1307	36643	57.7704	57.7704

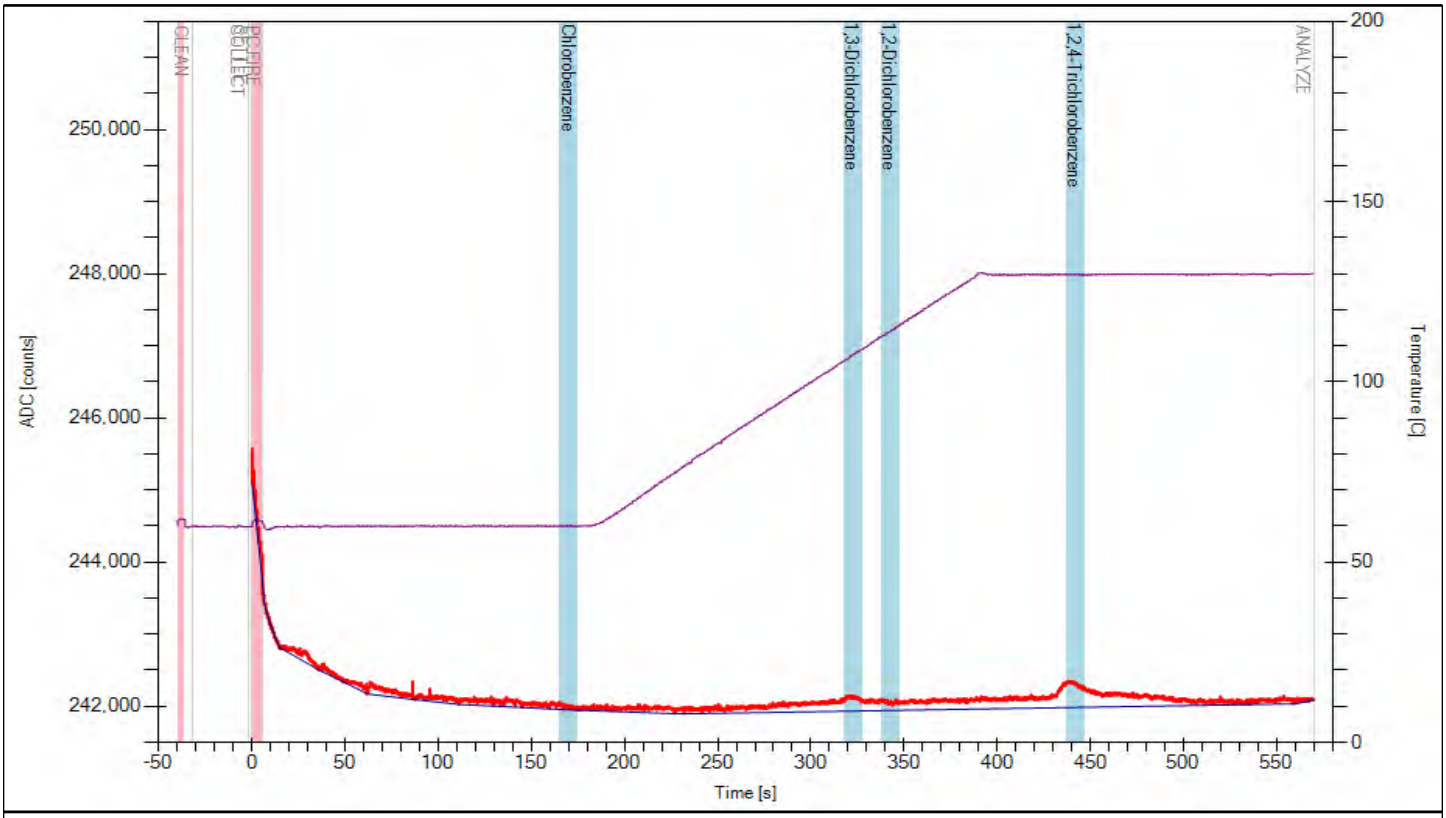


Red:

F-GWS-3B-10-14

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.

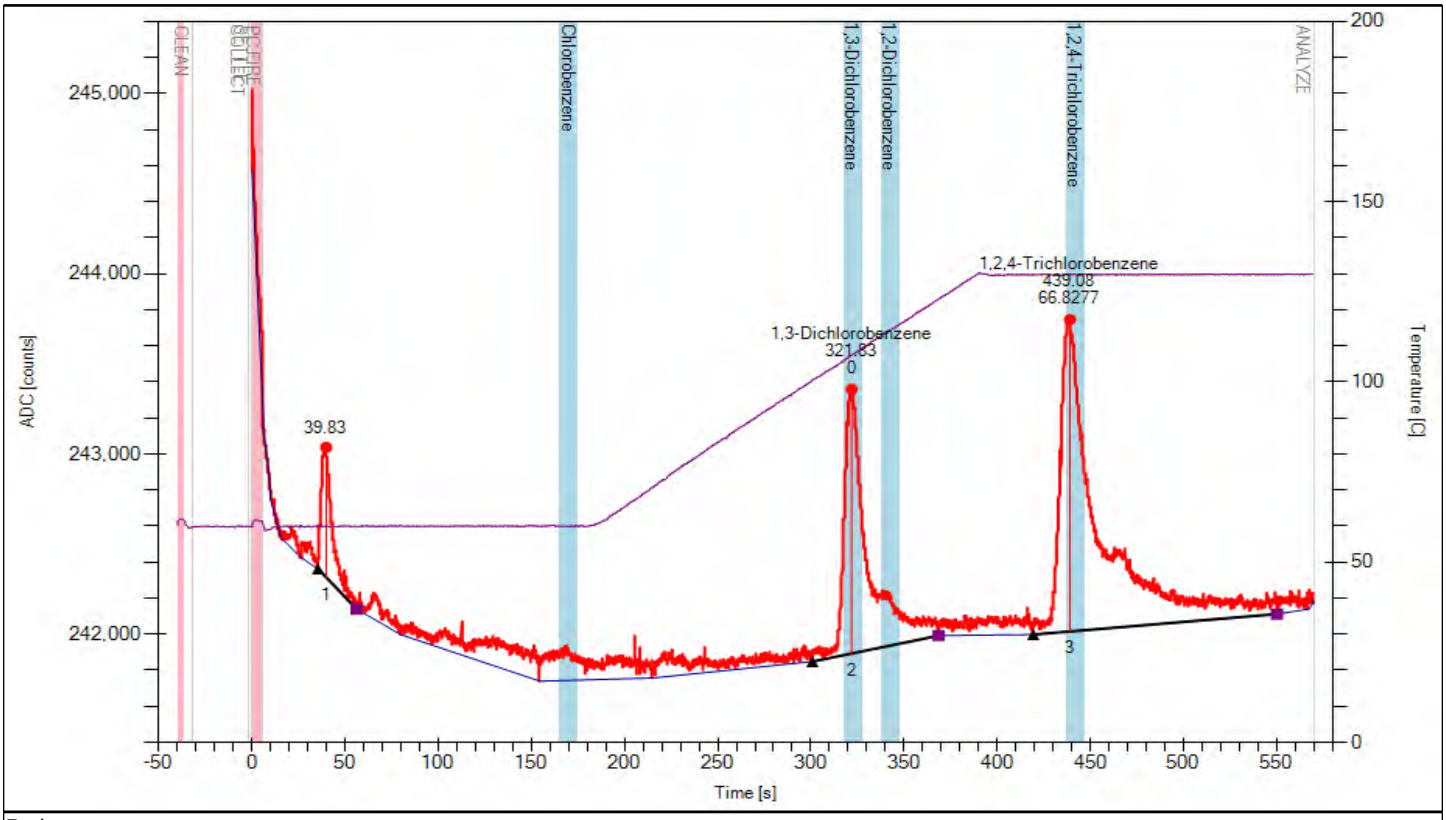


Red:

F-GWS-3B-14-18

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.
1		39.83	722	5108		
2	1,3-Dichlorobenzene	321.83	1466	21767	0	0
3	1,2,4-Trichlorobenzene	439.08	1731	42121	66.8277	66.8277

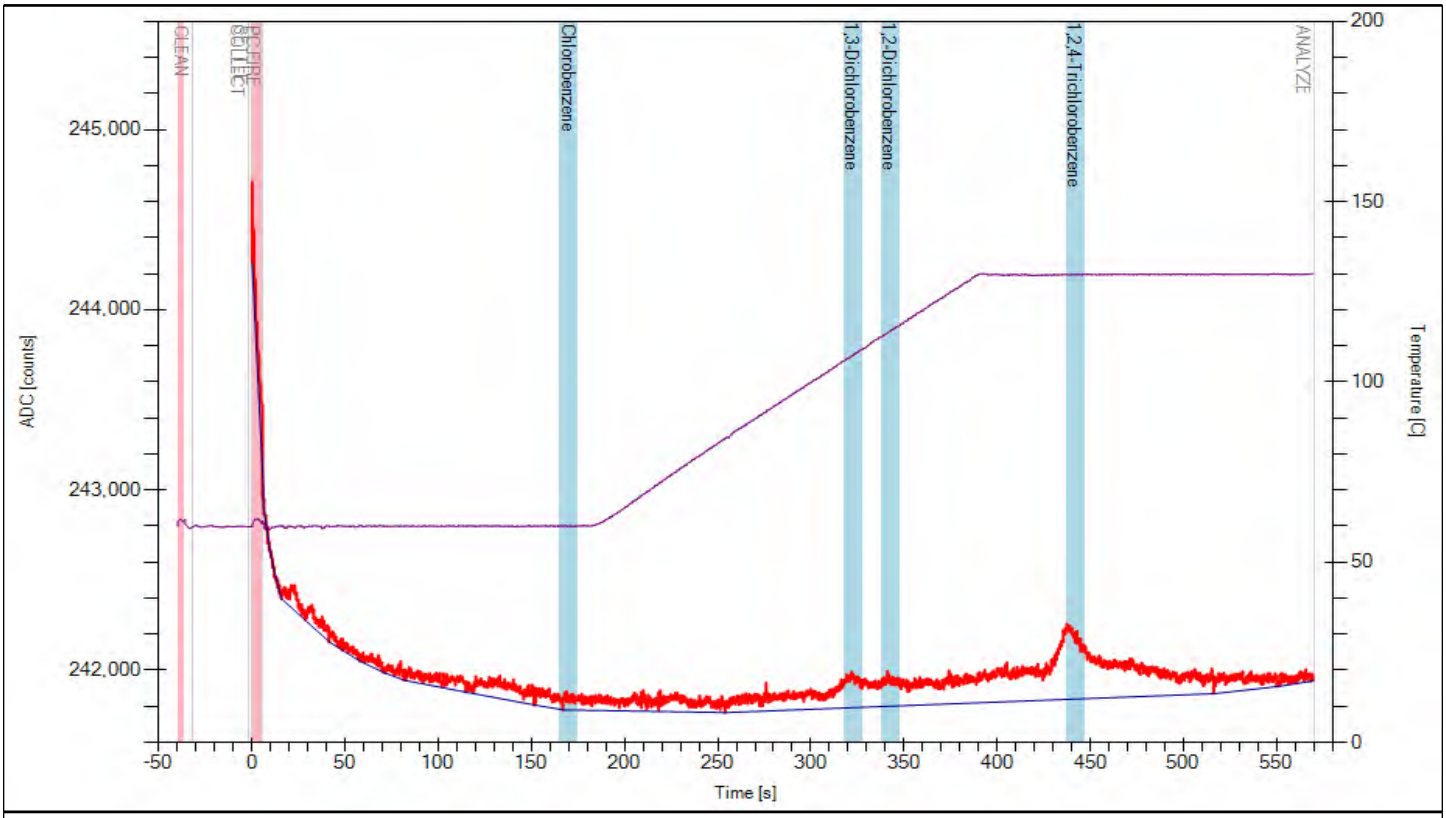


Red:

F-GWS-3B-18-22

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.

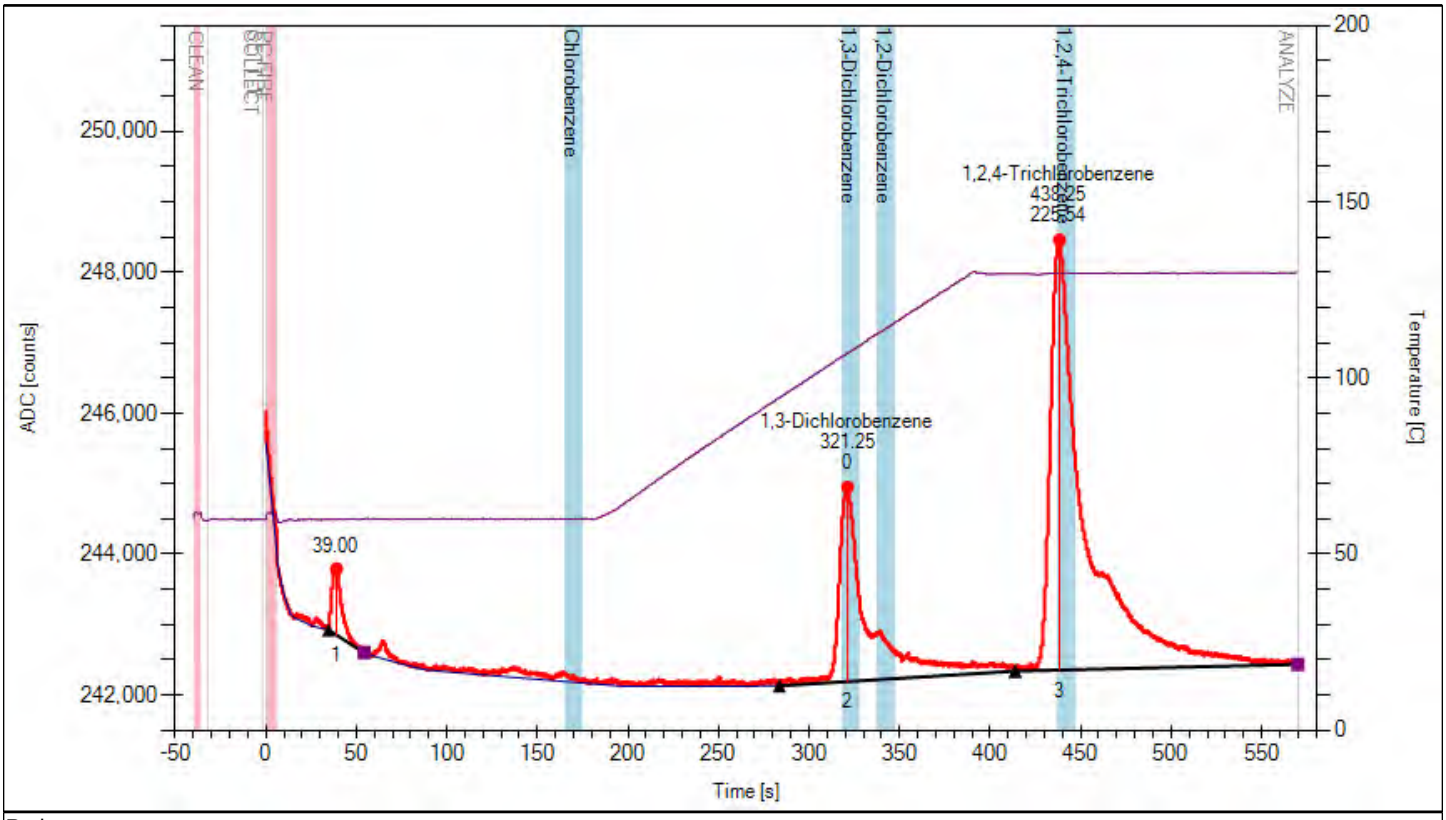


Red:

F-GWS-3C-14-18

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.
1		39	942	6070		
2	1,3-Dichlorobenzene	321.25	2755	51653	0	0
3	1,2,4-Trichlorobenzene	438.25	6107	138113	225.54	225.54

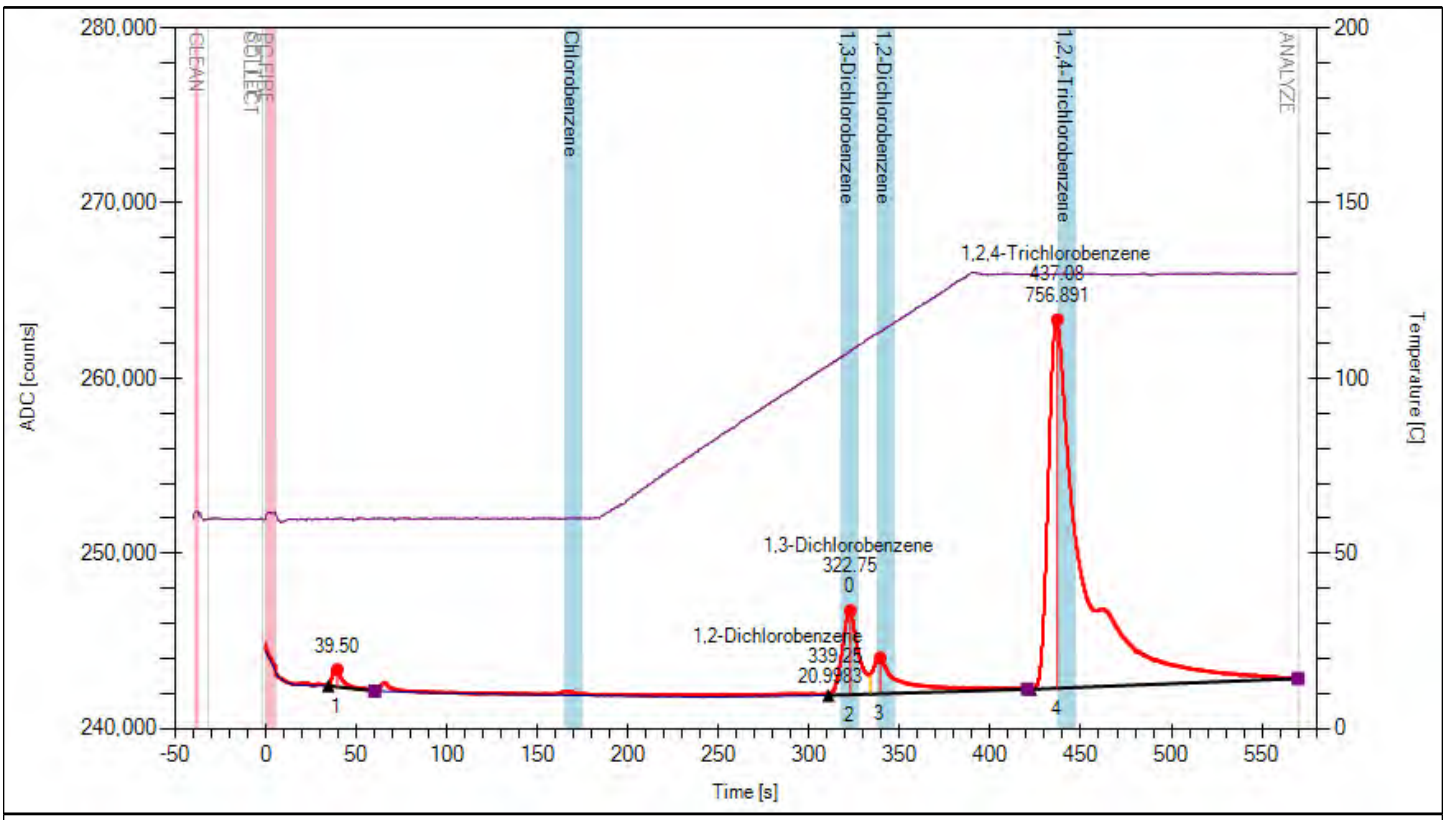


Red:

F-GWS-3C-18-22

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.
1		39.5	982	6833		
2	1,3-Dichlorobenzene	322.75	4785	49555	0	0
3	1,2-Dichlorobenzene	339.25	2047	38452	20.9983	20.9983
4	1,2,4-Trichlorobenzene	437.08	21016	459482	756.891	756.891

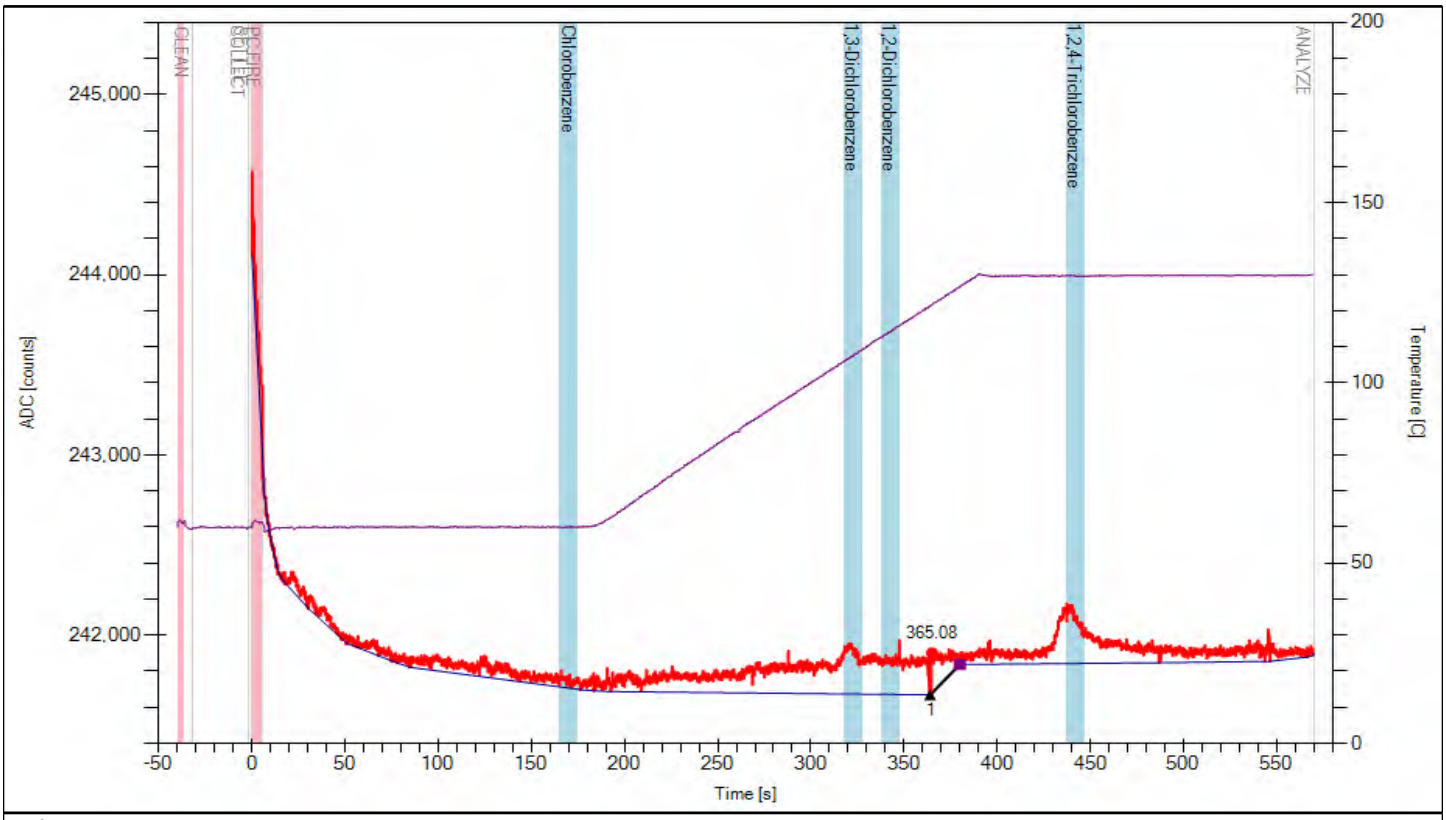


Red:

F-GWS-3D-14-18

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.
1		365.08	221	1919		

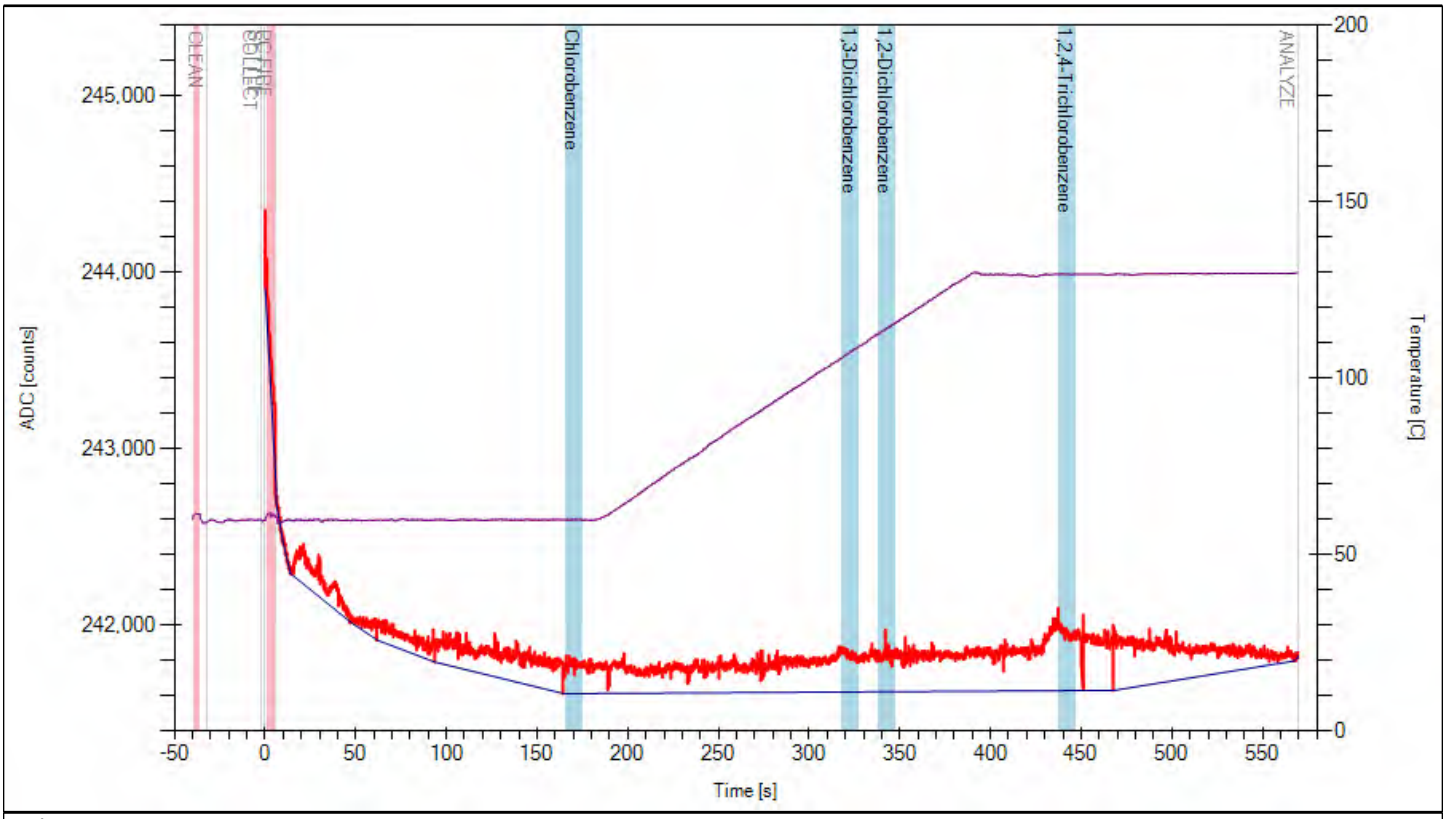


Red:

F-GWS-3F-14-18

FROG-0077:Ta=180, Tb=210, Tc=180, Ct=60, Ht=130, collect=30, clean=4, presettle=4, settle=2, fire=6
Dilution = 1.0

Peak	Analyte Name	Time	Height	Area	Concentration	Final Conc.



Red: