Technical Memorandum: September 2013 Surface Water Sampling Results for Frog Mortar Creek Martin State Airport 701 Wilson Point Road Middle River, Maryland

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ACRONYMS

AWQC	ambient water quality criteria
BTAG	Biological Technical Advisory Group
BTEX	benzene, toluene, ethylbenzene, and xylenes
cis-1,2-DCE	*cis*-1,2-dichloroethene
COC	chain(s) of custody
cVOC	chlorinated volatile organic compound
DRA	Dump Road Area
EL	Edwards Lane
GIS	geographic information system
IDW	investigation-derived waste
Lockheed Martin	Lockheed Martin Corporation
MDE	Maryland Department of the Environment
mg/L	milligram(s) per liter
MSA	Martin State Airport
µg/L	microgram(s) per liter
NRWQC	National Recommended Water Quality Criteria
PDF	portable document format
PPE	personal protective equipment
RI	remedial investigation
SVOC	semivolatile organic compound
TCE	trichloroethene (also known as trichloroethylene)
TB	trip blank
Tetra Tech	Tetra Tech, Inc.
USEPA	United States Environmental Protection Agency
VC	vinyl chloride
VOC	volatile organic compound

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Section 1
Introduction

On behalf of Lockheed Martin Corporation (Lockheed Martin), Tetra Tech, Inc. (Tetra Tech) has prepared this technical memorandum to detail work conducted according to the *2013 Surface Water Sampling Work Plan* (Tetra Tech, 2013a) for the Dump Road Area (DRA) at Martin State Airport (MSA) in Middle River, Maryland (see Figure 1-1). This technical memorandum presents the analytical results for surface water samples collected from Frog Mortar Creek on September 18, 2013. The sampling objectives were to:

- provide additional surface-water-quality data to determine the concentrations and spatial distributions of volatile organic compounds (VOCs) and other chemicals of potential concern in Frog Mortar Creek that may emanate from a groundwater plume at the Dump Road Area of Martin State Airport
- provide surface-water-quality data from Frog Mortar Creek during a summer month when increased water-based recreational use and biological activity occur.

The results of the sampling are screened against the human-health and ecological water-quality criteria in this memorandum. These data will be used in future efforts to:

- evaluate the interaction between Dump Road Area shallow groundwater and Frog Mortar Creek
- provide information to assess human health risks for recreational users of Frog Mortar Creek
- provide information to update modeling for shallow-groundwater flow patterns and discharge to Frog Mortar Creek

This technical memorandum is organized as follows:

Section 2—Site Background and Previous Investigations: Briefly describes the site and references where summaries of previous Frog Mortar Creek investigations are available for review.

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

Section 4—Results: Presents the investigation findings.

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

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

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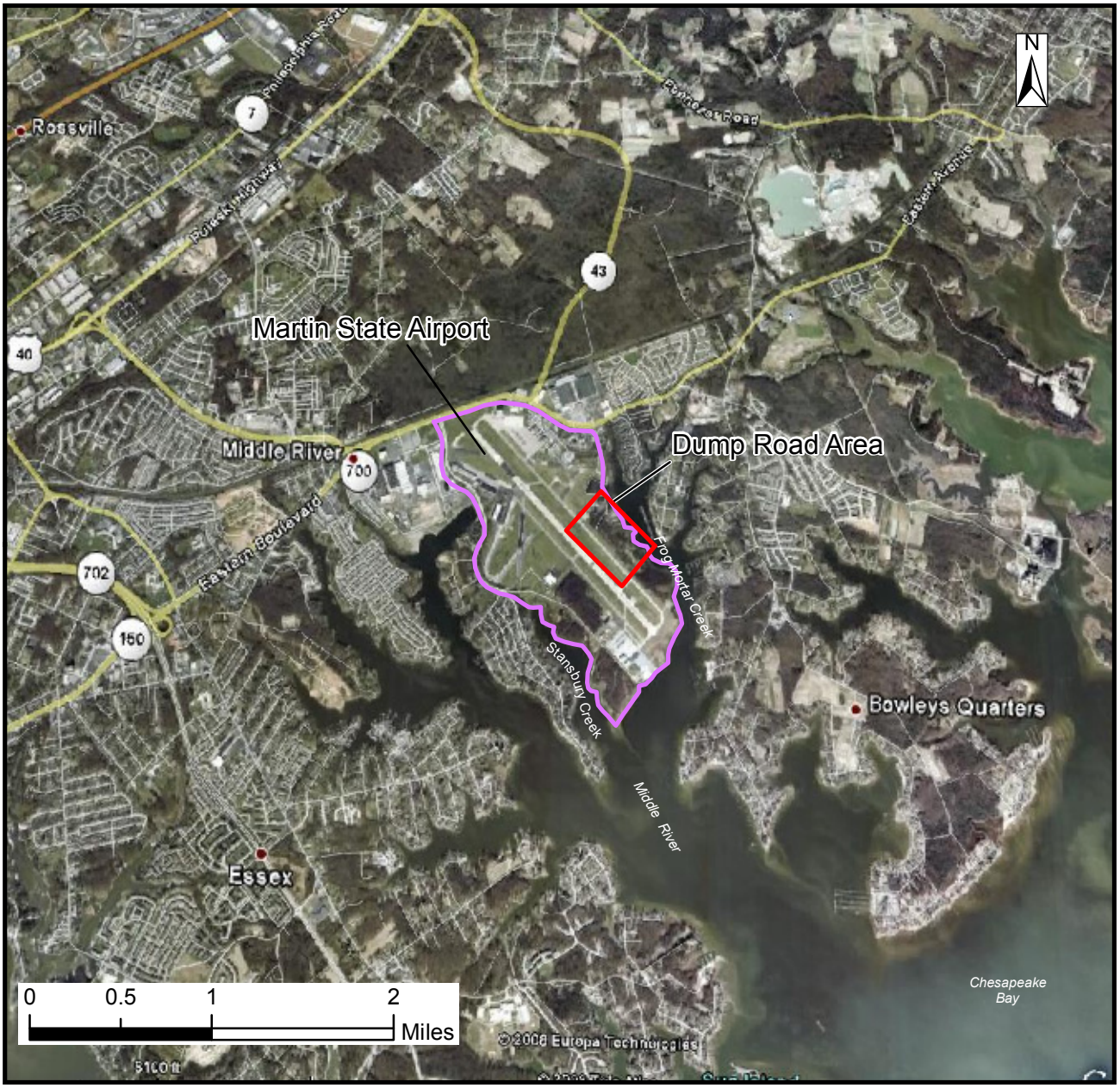

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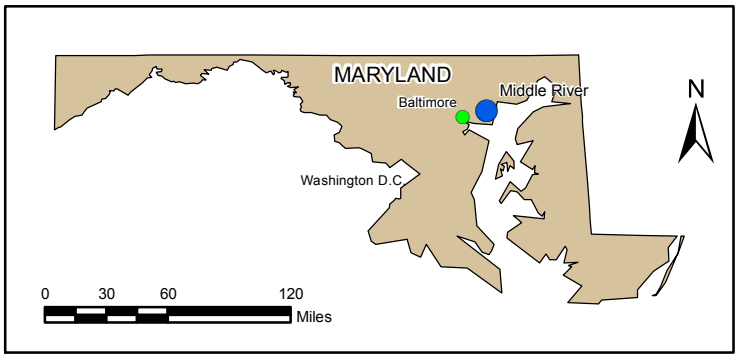

FIGURE 1-1

MARTIN STATE AIRPORT, DUMP ROAD AREA, AND FROG MORTAR CREEK LOCATION MAP

Frog Mortar Creek
Lockheed Martin, Martin State Airport
Middle River, Maryland

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Section 2
Site Background and Previous Investigations

Martin State Airport (MSA) is at 701 Wilson Point Road in Middle River, Maryland. It is bounded by Frog Mortar Creek to the east and Stansbury Creek to the west (Figure 2-1), both of which are tidal tributaries of Chesapeake Bay. The area under investigation is Frog Mortar Creek, which is east of and adjacent to the Dump Road Area (DRA) site at MSA (Figures 2-1 and 2-2).

Detailed environmental studies have been conducted at the DRA since the early 1990s, when the Maryland Aviation Administration removed drums discovered near Taxiway Tango in 1991 (Figure 2-2). The DRA currently consists mostly of open meadows, mowed grass, and heavily wooded areas; however, the DRA also includes a portion of Taxiway Tango and extends to the airport runway. Taxiway Tango is a concrete and asphalt taxiway currently used by the Maryland Air National Guard for military aircraft operations. The airport runway is used by the Maryland Air National Guard as well as state-owned and private aircraft.

Previous environmental studies at MSA demonstrate that soil, pond sediment, and groundwater at the DRA have been impacted by volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals resulting from prior dumping and backfilling. The primary constituents that have been detected in DRA groundwater at concentrations exceeding state groundwater standards are the chlorinated VOCs (cVOCs) trichloroethene (TCE; also known as trichloroethylene), *cis*-1,2-dichloroethene (*cis*-1,2-DCE), and vinyl chloride (VC); petroleum-related VOCs such as benzene, toluene, ethylbenzene, and xylenes (BTEX); as well as several metals.

Frog Mortar Creek is hydraulically downgradient of the DRA and directly receives groundwater discharging from the DRA. TCE, *cis*-1,2-DCE, VC, benzene, toluene, xylenes, and several

metals have been detected in surface water samples collected from Frog Mortar Creek. Surface water samples have been collected from Frog Mortar Creek since 1997, and multiple rounds of samples have been collected annually since 2010. Summaries of Frog Mortar Creek studies conducted from 1997–2012, and details of the area's physical setting, land use, physiography, and surface and subsurface conditions (i.e., soils, hydrology, and geology) are in the *2012 Surface Water Sampling Report for Frog Mortar Creek* (Tetra Tech, 2013*b*), and are not repeated herein.

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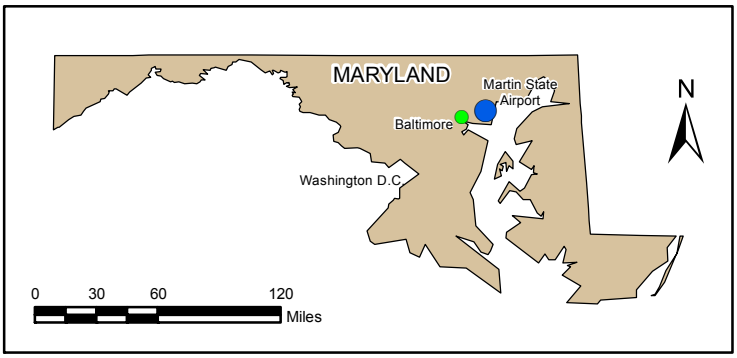

FIGURE 2-1

MARTIN STATE AIRPORT AND SURROUNDING FEATURES

Frog Mortar Creek
Lockheed Martin, Martin State Airport
Middle River, Maryland

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FIGURE 2-2

SITE FEATURES AND AREAS OF CONCERN DUMP ROAD AREA

LEGEND

- GROUNDWATER MONITORING WELL (MW) AND PIEZOMETER (PZ), 1994 - 1996
- OUTLINE OF FORMER COVE
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- EARTHEN BERM
- EXTENT OF UNSATURATED CONTAMINATED SOIL AND LANDFILL MATERIAL
- POND

Lockheed Martin, Martin State Airport
Middle River, Maryland

0 60 120 240 Feet

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DATE MODIFIED: 3/25/13

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Section 3
Investigation Approach and Methodology

A review of previous surface water sampling data for Frog Mortar Creek supported the need for additional investigations to assess the extent to which surface water is affected by groundwater discharged from the Dump Road Area (DRA). The volatile organic compounds (VOCs) trichloroethene (TCE), *cis*-1,2-dichloroethene (*cis*-1,2-DCE), and vinyl chloride (VC) have previously been detected in Frog Mortar Creek surface water samples at concentrations exceeding ecological and/or human health screening criteria; these analytes have also been detected in groundwater at the DRA. Surface water data obtained from Frog Mortar Creek were used to evaluate chemical concentrations with respect to United States Environmental Protection Agency (USEPA) or Maryland screening levels. Screening criteria include USEPA national recommended water quality criteria (NRWQC), Maryland ambient water quality criteria (AWQC), USEPA Biological Technical Advisory Group (BTAG) surface water screening benchmarks, and site-specific screening levels developed by Lockheed Martin Corporation (Lockheed Martin).

The September 2013 sampling event is the fifth of six surface-water sampling rounds in 2013. The September sampling round assessed water quality in late summer, when increased water-based recreational use and biological activity in Frog Mortar Creek was expected. The next sampling round was scheduled for December 2013, however, weather conditions have caused a postponement. This postponed round will be conducted in mid-January.

3.1 SURFACE WATER SAMPLING

3.1.1 Surface Water Sampling and Chemical Analyses

Forty surface water samples were collected from Frog Mortar Creek near the DRA site on September 18, 2013. Sampling locations are shown in Figure 3-1. Four samples were collected

along each of nine transects, spaced approximately 350 feet apart along the western shoreline of Frog Mortar Creek; these transects are designated MSA-SW37, MSA-SW38, MSA-SW39, MSA-SW40, MSA-SW41, MSA-SW42, MSA-SW43, MSA-SW44, and MSA-SW45. Four samples were also collected along a transect extending out from the eastern shoreline of the creek at 3301 Edwards Lane (EL); this transect is designated EL-SW01 (see Figure 3-1). Along each transect, one sample was collected near the shoreline ("A" sample), one was collected approximately 50 feet from the shoreline ("B" sample), one was collected approximately 100 feet from the shoreline ("C" sample), and one was collected approximately 200 feet from the shoreline ("D" sample). Each sample was collected approximately one foot below the water surface. All surface water sampling locations were surveyed in the Maryland State Plane North American Datum 1983 (in feet) using a handheld global positioning system receiver.

Frog Mortar Creek western-shoreline-transect samples (MSA-SW37 through MSA-SW45) were analyzed for VOCs by SW846 Method 8260B (including Freon 113, Freon 22 [chlorodifluoromethane], and tentatively identified compounds), for metals (filtered in the field) by SW846 Methods 6010A/7470A, for hardness by Standard Method SM 2340B, and for hexavalent chromium by USEPA Method 218.6. The eastern-shoreline-transect samples (i.e., EL-SW01) were analyzed for VOCs only. Analytical parameters for the Frog Mortar Creek samples are in Table 3-1. Water quality parameters (including temperature, pH, specific conductance, salinity, turbidity, dissolved oxygen, and oxidation-reduction potential) were measured and recorded at the time of sampling, along with the depth of water at all surface water sampling locations. Tidal-gauge water measurements were also obtained from the staff gauge at 3301 Edwards Lane before and at the completion of the sampling event. Sampling information was documented on the sample log sheets, provided in Appendix A.

Surface water samples were collected as grab samples using direct-fill sampling techniques from approximately one foot below the water surface. The VOC samples were collected using a stainless steel discrete-interval sampler (also known as a "bacon bomb" sampler). The sampler was lowered to approximately one foot below the water surface, the check valve was engaged to allow the sampler to fill, the sampler was then brought to the surface, and the water was removed through a valve to fill three laboratory-cleaned, hydrochloric-acid-preserved, 40-milliliter sample vials. The discrete-interval sampler was cleaned after each use by rinsing with potable water.

Equipment was cleaned after each sample was collected. No decontamination fluids were collected during this sampling event.

Hexavalent chromium samples were collected using a different method in pre-cleaned bottles containing no sample preservatives (e.g., no nitric acid for preserving metal samples, etc.). Each bottle was submerged approximately one foot below the water surface and allowed to fill. Hexavalent chromium samples must be analyzed within 24 hours of collection; therefore, these samples were expedited to the laboratory so they could be analyzed within the prescribed holding time. Field-filtered metals samples (i.e., samples for metals other than hexavalent chromium) were preserved in the field with nitric acid to the appropriate pH level, and were collected using a peristaltic pump. No duplicates were collected during the September 2013 sampling round. A trip blank (one per cooler containing VOC samples) was submitted for VOC analysis for quality assurance/quality control purposes.

3.1.2 Documentation

A master site logbook was maintained as an overall record of field activities for the site. Sample documentation includes completed chain of custody (COC) forms and surface-water-specific sample log sheets. COC forms are standardized to summarize and document pertinent sample information, such as sample identification and type, matrix, date and time of collection, preservation, and the analysis requested. Sample-custody procedures document sample acquisition and integrity. Surface water sample log sheets are in Appendix A. COC forms are provided along with the data validation reports in Appendix B.

3.1.3 Sample Nomenclature and Handling

Surface water samples collected from transects SW37 through SW45 are identified with a unique sample identification tag. Surface water samples are labeled with an “MSA-SW” prefix, followed by the sample number, the profile location (“A,” “B,” “C,” or “D”), and the six-digit sampling date. Similarly, surface water samples collected from Edwards Lane transects are identified with an “EL-SW” prefix, the profile location (“A,” “B,” “C,” or “D”), and the six-digit sampling date. For example, the surface water sample collected on September 18, 2013 from MSA-SW37A was labeled as MSA-SW37A-091813. The trip blank was labeled with a “TB” prefix followed by the sample’s six-digit submittal date (e.g., TB-091813).

Sample handling includes field-related considerations concerning the selection of sample containers, preservatives, allowable holding times, and analyses requested. Proper custody procedures were followed throughout all phases of sample collection and handling. COC protocols were used throughout sample handling to assure the evidentiary integrity of sample containers. These protocols demonstrate that the samples were handled and transferred in a manner that would prevent or detect possible tampering.

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

3.1.4 Equipment Decontamination

This project required minimal equipment decontamination. Both dedicated and disposable equipment were used for surface water sampling to reduce decontamination activities and eliminate potential sample cross-contamination. The discrete-interval sampler was cleaned after each use by rinsing with potable water. Equipment was cleaned over the (creek) water after each sample had been collected. No decontamination fluids were collected during this sampling event.

3.1.5 Waste Management

Investigation-derived waste (IDW) consisted of personal protective equipment (PPE) and disposable equipment (filters, tubing, etc.) generated during field sampling. PPE IDW was brushed off, placed in trash bags along with the disposable equipment, and disposed of in a facility trash receptacle designated by facility personnel.

3.2 DATA MANAGEMENT

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

3.2.1 Data Tracking and Control

A cradle-to-grave sample tracking system was used from the beginning to the end of the sampling event. The field operations leader began and coordinated sample tracking before mobilizing the sampling team to the field. Preprinted sample-container labels generated before fieldwork began were reviewed to ensure that they were accurate and adhered to work plan requirements. The project manager coordinated with the analytical laboratory to ensure that the laboratory was aware of the number and type of samples and analyses that would be submitted that day.

During field sampling, the field operations leader forwarded the COC to a designated project assistant and to the laboratory. The project assistant confirmed that the COC provided the information required by the work plan. This allowed early detection of errors made in the field so that adjustments could be made before sample analyses. After successful completion of all requested analyses, the laboratory submitted an electronic deliverable for each sample delivery group. When all electronic deliverables had been received from the laboratory, the project assistant checked the laboratory submittal to determine whether the laboratory had performed all analyses requested. All requested analyses were performed for this project.

3.2.2 Sample Information

Data from field measurements were recorded using appropriate sample log sheets and then summarized in tabular form, as were the raw instrument-data from the laboratory. The field operations leader verified field data daily; laboratory data were verified by the group supervisor and then by the laboratory's quality control/documentation department. Sample log sheets are in Appendix A.

3.2.3 Project Data Compilation

The analytical laboratory generated an Adobe *Acrobat*® portable document format (PDF) file of the analytical data package, as well as an electronic database deliverable. The electronic database was checked against the PDF file provided by the laboratory and updated as required, based on data-qualifier flags applied during data validation. All data, such as units of measure and chemical nomenclature, were corrected as necessary to be consistent with the project database.

3.2.4 Geographic Information System

Data management systems for this investigation consist of a relational database and geographic information system (GIS) to manage environmental information pertaining to Martin State Airport (MSA). The relational database stores chemical, geological, hydrogeologic, and other environmental data collected during environmental investigations. The GIS is created from the relational database and contains subsets of the larger data pool. The GIS allows environmental data to be posted onto base maps to graphically represent project information. Compiled sampling, chemical, and positional data were incorporated into the GIS.

3.3 DATA REVIEW

Data from the laboratory were entered into a sample database and evaluated against risk-based criteria. Data validation (to evaluate data completeness, holding times, calibrations, precision, accuracy, laboratory and field-blank contamination, and detection limits) was completed concurrent with the data evaluation. These reviews were based on the *USEPA Region III Modifications to the National Functional Guidelines for Data Review* (USEPA, 1993 and 1994) and the specifics of the analytical methods used. Data from this sampling event consist of surface-water-sample chemical results. Data validation reports and COC are in Appendix B (on compact disc) as PDF files. Appendix C includes a table of all September 2013 Frog Mortar Creek surface water sample analytical data, including non-detects.

Collectively, these data are acceptable for their intended uses (site characterization and risk assessment), except for data qualified as unreliable (UR flag). For this validation, the data qualifiers (i.e., flags) below were applied to the chemical results presented in this report. The first three flags appear on the chemical-results tables in Section 4, and all flags appear in Appendices B and C:

B The analyte was not detected substantially above the level reported in the laboratory or field blank (i.e., the result is considered an artifact of the laboratory analysis and is not considered a site contaminant).

J The analyte is considered present in the sample, but the value is estimated and may not meet highest accuracy or precision standards. In this program, samples were qualified with "*J*" because quantitation was above the method detection limit but below the laboratory reporting limit.

L The analyte is considered present in the sample. However, the value is biased low and the actual value is expected to be higher than the reported value.

U Not detected; the analyte is considered not detected at the reported value.

UL The analyte is not detected. However, the quantitation or detection limit is likely greater than the reported value.

UR The result is considered qualitatively or quantitatively unreliable.

UJ The analyte is not detected. However, the quantitation or detection limit may be inaccurate or imprecise.

Tertiary butyl-alcohol and vinyl acetate are the only chemicals with (non-detected) results flagged with the "UR" data qualifier. All hexavalent chromium results are flagged with the "*L*" qualifier.

Occasionally, common laboratory or field contaminants may be detected in samples. Analysis of quality control blanks and other internal laboratory blanks (e.g., method blanks, etc.) determines the significance of the analytical results versus possible laboratory or field contaminants. Common laboratory contaminants associated with VOC analyses include acetone, methylene chloride, and 2-butanone. The *National Functional Guidelines* for contract laboratories (USEPA, 1993 and 1994) require that any compound (other than common laboratory contaminants) detected in both the sample and an associated blank must be qualified as such (i.e., with a "*B*" flag) when the sample concentration is less than five times the blank concentration. For the common laboratory contaminants listed above, results must be qualified with a "*B*" flag when the sample concentration is less than 10 times the blank concentration. Data for this investigation flagged with "*B*" qualifiers include several instances of metals.

Table 3-1

List of Samples and Chemical Analyses for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

	Analyses Performed[1] (Method)			
	Volatile Organic Compounds[2]	Dissolved Metals	Hexavalent Chromium	Hardness
Sample Location ID	(USEPA 8260B)	(USEPA 6020A/7470A)	(USEPA 218.6)	(SM 2340B)
MSA-SW37A	X	X	X	X
MSA-SW37B	X	X	X	X
MSA-SW37C	X	X	X	X
MSA-SW37D	X	X	X	X
MSA-SW38A	X	X	X	X
MSA-SW38B	X	X	X	X
MSA-SW38C	X	X	X	X
MSA-SW38D	X	X	X	X
MSA-SW39A	X	X	X	X
MSA-SW39B	X	X	X	X
MSA-SW39C	X	X	X	X
MSA-SW39D	X	X	X	X
MSA-SW40A	X	X	X	X
MSA-SW40B	X	X	X	X
MSA-SW40C	X	X	X	X
MSA-SW40D	X	X	X	X
MSA-SW41A	X	X	X	X
MSA-SW41B	X	X	X	X
MSA-SW41C	X	X	X	X
MSA-SW41D	X	X	X	X
MSA-SW42A	X	X	X	X
MSA-SW42B	X	X	X	X
MSA-SW42C	X	X	X	X
MSA-SW42D	X	X	X	X
MSA-SW43A	X	X	X	X
MSA-SW43B	X	X	X	X
MSA-SW43C	X	X	X	X
MSA-SW43D	X	X	X	X
MSA-SW44A	X	X	X	X
MSA-SW44B	X	X	X	X
MSA-SW44C	X	X	X	X
MSA-SW44D	X	X	X	X
MSA-SW45A	X	X	X	X
MSA-SW45B	X	X	X	X
MSA-SW45C	X	X	X	X
MSA-SW45D	X	X	X	X
EL-SW01A	X			
EL-SW01B	X			
EL-SW01C	X			
EL-SW01D	X			

1 Temperature, pH, specific conductance, salinity, turbidity, dissolved oxygen, and oxidation-reduction potential were measured and recorded for each sample in the field

2 Included Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane), Freon 22 (chlorodifluoromethane), and tentatively identified compounds

SM - standard method

USEPA - United States Environmental Protection Agency

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA Surface Water Samples September 2013.mxd)
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FIGURE 3-1

SURFACE WATER SAMPLING LOCATIONS, SEPTEMBER 2013 FROG MORTAR CREEK

LEGEND

- SEPTEMBER 2013 SURFACE WATER SAMPLE LOCATION (1 FOOT BELOW WATER SURFACE)
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- OUTLINE OF FORMER COVE
- EXTENT OF UNSATURATED CONTAMINATED SOIL AND LANDFILL MATERIAL
- POND

Frog Mortar Creek
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 75 150 300 Feet

N

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Section 4
Results

4.1 SURFACE WATER DATA AND SCREENING CRITERIA

Validated chemical data from the Frog Mortar Creek surface water samples collected in September 2013 were used to generate a statistical summary table (Table 4-1) and a table summarizing positive detections of chemical analytes (Table 4-2). Samples were analyzed for volatile organic compounds (VOCs), dissolved (i.e., filtered) metals, hexavalent chromium, and hardness. Table 4-2 compares surface water sampling results to several applicable screening criteria, including:

- United States Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG) freshwater screening-benchmarks (USEPA, 2006)
- USEPA National Recommended Water Quality Criteria (NRWQC) for acute and chronic aquatic-organism exposures, and NRWQC for human health aquatic-organism-consumption (USEPA, 2009)
- Maryland Ambient Water Quality Criteria (AWQC) for acute and chronic aquatic-organism exposures, and AWQC for human health aquatic-organism-consumption (*Code of Maryland Regulations*, 2013)
- site-specific screening levels for swimming developed for trichloroethene (TCE), *cis*-1,2-dichloroethene (*cis*-1,2-DCE), and vinyl chloride (VC)

The NRWQC, AWQC, and most BTAG screening levels for metals represent concentrations of dissolved metals in the water column; these criteria are therefore used to screen against filtered (dissolved) metals results. However, the BTAG screening levels for arsenic, mercury, molybdenum, selenium, and thallium are based on the total metals concentration in the water column. During the current surface water sampling round, only dissolved metals in surface water were analyzed; therefore, the results for these five dissolved metals are not directly comparable to BTAG criteria (which were developed for total metals). The NRWQC screening values for select dissolved metals (cadmium, chromium, copper, lead, nickel, silver, and zinc) were

adjusted for hardness using a site-specific hardness value of 600 milligrams per liter (mg/L) (the lowest and most protective site value for September results) using the methodology in *National Recommended Water Quality Criteria: 2009* (USEPA, 2009).

Site-specific screening levels were developed by Lockheed Martin Corporation (Lockheed Martin) for TCE, *cis*-1,2-DCE, and VC for recreational users of Frog Mortar Creek. These screening levels were developed to protect the health of swimmers near the Dump Road Area (DRA) shoreline. September sampling results are compared to these swimming criteria, in addition to comparison to the USEPA and Maryland criteria in Table 4-2, because they provide the most conservative (i.e., most protective) screening levels for Frog Mortar Creek.

Gray shading in Table 4-2 indicates a result that exceeds one or more of its surface water screening criteria. Figures 4-1 through 4-3 show the respective concentrations of TCE, *cis*-1,2-DCE, and VC detected in the September 2013 Frog Mortar Creek samples. Appendix C presents the September 2013 analytical data, including non-detect results and detection limits.

4.2 SURFACE WATER SAMPLING RESULTS

As shown in Tables 4-1 and 4-2, several VOCs and metals were detected in the September surface water samples. All data discussed herein share the “MSA” prefix; therefore, for purposes of this discussion and to increase readability, this prefix is dropped when referring to transects or samples (e.g., “SW39” refers to transect MSA-SW39).

4.2.1 Volatile Organic Compounds

Several VOCs and metals were detected in the surface water samples. The most frequently detected chlorinated VOCs (cVOCs) detected in the samples were TCE, *cis*-1,2-DCE, and VC; these three VOCs are also the primary cVOCs detected in the DRA groundwater plume. Toluene, a VOC detected in DRA groundwater, was detected in six samples at low concentrations during the current sampling event. Acetone was also detected in two samples. However, acetone is a common laboratory contaminant, and its presence is considered an artifact of the laboratory analyses, even though acetone was not reported as detected in laboratory blanks.

In September 2013, all surface water cVOCs (except VC at one sampling location) were detected at concentrations less than the human health and ecological screening levels. VC was detected at

SW38A at a concentration (0.96 micrograms per liter [µg/L]) exceeding its site-specific screening level (0.7 µg/L) for swimming.

TCE was detected in all 40 samples, at concentrations ranging from 0.20 µg/L to 2.3 µg/L (Table 4-1 and Figure 4-1). *cis*-1,2-DCE was detected in four of 40 samples (Table 4-1 and Figure 4-2) at concentrations ranging from 0.45 µg/L to 0.80 µg/L. VC was detected more frequently than *cis*-1,2-DCE (in nine of 40 samples), at concentrations ranging from 0.22 µg/L to 0.96 µg/L (Figure 4-3).

Toluene, a common volatile component of petroleum fuels, is also a site groundwater chemical of concern. Toluene was detected at six locations at low concentrations ranging from 0.14 µg/L to 0.54 µg/L, which is less than half of toluene's lowest screening criterion (2 µg/L, established by BTAG).

In prior sampling episodes, surface water samples from transects east of the DRA (SW38, SW40, and SW41) have had the highest TCE concentrations. In September 2013, only one location, SW38D (2.3 µg/L), exhibited a slightly higher concentration than the surrounding sampling locations. The remaining TCE concentrations for September are relatively similar throughout the sampling area and range from 0.20–0.85 µg/L. Consistent with previous sampling rounds, TCE concentrations along the eastern shoreline transect (EL-SW01) were typically lower than samples along the western shoreline transects. Eastern shoreline concentrations were nearly half of the August concentrations. The September results show a lower maximum TCE concentration (2.3 µg/L) as compared to the results for August 2013, when the highest TCE concentrations were 4.9 µg/L and 3.2 µg/L. TCE concentrations at 37 of the 40 sampling locations were lower than those for August 2013.

September 2013 TCE concentrations detected on the western shore of Frog Mortar Creek vary by slightly more than one order of magnitude (i.e., a power of 10) over the sampling area (Figure 4-1), ranging from 0.26 µg/L (SW37D, SW37C, and SW42A) to 2.3 µg/L (SW38D). Samples from the two northernmost transects (SW37 and SW42), the two southernmost transects (SW39 and SW45), the eastern shoreline transect (SW01), and SW41 have the lowest TCE concentrations overall. TCE concentrations for all samples except SW38D were less than 1 µg/L (range is 0.26–0.71 µg/L). TCE concentrations are highest in samples collected east of the DRA

at transect SW38, with concentrations increasing with increasing distance from the shore; this trend is opposite of what typically occurs, based on previous rounds. Strong patterns are not apparent in the TCE concentrations distributed along the remaining transects (SW37, and SW40 through SW45), except that the highest concentrations in any given transect are detected in either the "A" or "B" sample).

September 2013 detections of *cis*-1,2-DCE were infrequent, with *cis*-1,2-DCE detected at four of 40 sampling locations (Figure 4-2). The highest September *cis*-1,2-DCE concentrations were detected in samples collected at transect SW38, at SW38A (0.8 µg/L) and at the SW38D (0.66 µg/L). The remaining two detected concentrations of *cis*-1,2-DCE were 0.6*J* µg/L (SW40A) and 0.45 µg/L (SW38C). Similar to TCE, most of the September *cis*-1,2-DCE concentrations (31 of 40) are less than the concentrations detected in August 2013; seven are the same (i.e., not detected in August and September). The only higher concentration occurred in sample SW38D, with a September concentration of 0.66 µg/L, which is slightly higher than the August concentration of 0.57 µg/L.

VC was detected in nine of 40 samples collected in September 2013 (Figure 4-3). The highest concentration detected, also the only exceedance, was at SW38A (0.96 µg/L); this concentration exceeds the site-specific screening level for swimming (0.7 µg/L). In general, VC concentrations in September 2013 are less than those detected in the August 2013 sampling round, in which the highest detected VC concentration was 3.2 µg/L (at SW38A). The maximum VC concentration in September (0.96 µg/L) was less than one-third the August 2013 concentration (3.2 µg/L). The spatial patterns of September VC concentrations are similar to those for TCE: the highest VC concentrations are in the western shoreline "A" or "B" sampling locations. Three VC concentrations are in transect SW38, at single locations in transects SW40 through SW43, and at two locations in transect SW44.

4.2.2 Metals

All dissolved barium concentrations (39 µg/L to 52 µg/L) exceed the BTAG ecological screening level (4 µg/L) in all samples. Barium concentrations are higher in this round as compared to those detected in August 2013 (15 µg/L to 19 µg/L).

4.2.3 Hexavalent Chromium

Hexavalent chromium was detected in six of 36 samples at low concentrations (0.04 µg/L to 0.051 µg/L), more than 100 times below its lowest screening level (11 µg/L).

4.3 UPCOMING 2013 SAMPLING ROUNDS

Lockheed Martin Corporation will monitor surface water at the same 40 locations on Frog Mortar Creek in January 2014, if possible (i.e., sampling may be delayed if the creek is frozen), since the previously scheduled sampling event for December 2013 has been postponed due to weather conditions.

Table 4-1

Statistical Summary of Analytes Detected in Surface Water Samples—September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

Chemical	Frequency of detection		Mininum non-detected concentration	Maximum non-detected concentration	Mininum detected concentration	Maximim detected concentration	Sample(s) with maximum detected concentration	Mean of all samples	Mean of positive detects	Standard Deviation
	Number	Percent								
Volatile organic compounds (µg/L)										
TRICHLOROETHENE	40/40	100	--	--	0.2 J	2.3	MSA-SW38D-091813	0.44	0.44	0.33
VINYL CHLORIDE	9/40	23	0.22 U	0.22 U	0.22 J	0.96	MSA-SW38A-091813	0.17	0.36	0.15
TOLUENE	6/40	15	0.13 U	0.48 B	0.14 J	0.54 J	MSA-SW42D-091813	0.10	0.28	0.10
CIS-1,2-DICHLOROETHENE	4/40	10	0.17 U	0.17 U	0.45 J	0.8 J	MSA-SW38A-091813	0.14	0.63	0.17
ACETONE	2/40	5	1.1 U	1.1 U	1.2 J	1.4 J	EL-SW01D-091813	0.59	1.30	0.17
Filtered metals (µg/L)										
ARSENIC	36/36	100	--	--	0.99 J	1.4 J	MSA-SW37A,42B,42C-091813	1.19	1.19	0.11
BARIUM	36/36	100	--	--	39	52	MSA-SW42A-093013	42.61	42.61	2.05
MOLYBDENUM	36/36	100	--	--	1.6 J	2.2 J	MSA-SW40D-091813	1.78	1.78	0.13
NICKEL	36/36	100	--	--	1.5 J	3.4	MSA-SW37A,41B-091813	2.16	2.16	0.56
VANADIUM	36/36	100	--	--	0.61 J	1.1 J	MSA-SW37A,40A,42B,43C-091813	0.96	0.96	0.09
COPPER	35/36	97	3.1 B	3.1 B	2.6	3.7	MSA-SW38A-091813	2.92	2.96	0.34
CHROMIUM	34/36	94	0.13 U	0.13 U	0.15 J	0.9 J	MSA-SW41C-091813	0.25	0.27	0.14
ANTIMONY	20/36	56	0.24 B	0.4 B	0.25 J	0.33 J	MSA-SW43B-091813	0.22	0.27	0.06
ZINC	15/36	42	3.2 B	5.8 B	2.7 J	5.2 J	MSA-SW37D-091813	2.77	3.67	0.93
BERYLLIUM	9/36	25	0.031 U	0.031 UL	0.043 J	0.15 J	MSA-SW42B-091813	0.03	0.09	0.04
SELENIUM	5/36	14	0.34 U	0.34 U	0.34 J	0.59 J	MSA-SW42B-091813	0.21	0.44	0.10
LEAD	3/36	8	0.14 U	0.14 U	0.15 J	0.2 J	MSA-SW40A-091813	0.08	0.18	0.03
MERCURY	3/36	8	0.12 UL	0.12 UL	0.13 J	0.17 J	MSA-SW45B-091813	0.07	0.14	0.02
Miscellaneous (µg/L)										
HEXAVALENT CHROMIUM	6/36	17	0.04 UL	0.04 UL	0.04 L	0.051 L	MSA-SW45A-091813	0.02	0.04	0.01
Miscellaneous (mg/L)										
CALCIUM HARDNESS as $CaCO_3$	36/36	100	--	--	130	200	MSA-SW42A-093013	144.17	144.17	11.31
HARDNESS as $CaCO_3$	36/36	100	--	--	600	830	MSA-SW42A-093013	660.28	660.28	37.45
MAGNESIUM HARDNESS as $CaCO_3$	36/36	100	--	--	470	630	MSA-SW42A-093013	515.00	515.00	27.83

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

1/2 the detection limit was used for B qualified data in statistical caluclations.

-- non-detected concentration not available because the detection rate is 100%

B - analyte detected in laboratory blank

$CaCO_3$ - calcium carbonate

EL - Edwards Lane

J - estimated concentration

L - result biased low; actual value may be higher

mg/L - milligrams per liter

SW - surface water

U - not detected

µg/L - micrograms per liter

Associated Samples:

EL-SW01A-091813	MSA-SW39C-091813	MSA-SW42D-091813
EL-SW01B-091813	MSA-SW39D-091813	MSA-SW43A-091813
EL-SW01C-091813	MSA-SW40A-091813	MSA-SW43B-091813
EL-SW01D-091813	MSA-SW40B-091813	MSA-SW43C-091813
MSA-SW37A-091813	MSA-SW40C-091813	MSA-SW43D-091813
MSA-SW37B-091813	MSA-SW40D-091813	MSA-SW44A-091813
MSA-SW37C-091813	MSA-SW41A-091813	MSA-SW44B-091813
MSA-SW37D-091813	MSA-SW41B-091813	MSA-SW44C-091813
MSA-SW38A-091813	MSA-SW41C-091813	MSA-SW44D-091813
MSA-SW38B-091813	MSA-SW41D-091813	MSA-SW45A-091813
MSA-SW38C-091813	MSA-SW42A-091813	MSA-SW45B-091813
MSA-SW38D-091813	MSA-SW42A-93013	MSA-SW45C-091813
MSA-SW39A-091813	MSA-SW42B-091813	MSA-SW45D-091813
MSA-SW39B-091813	MSA-SW42C-091813	

Table 4-2

Detected Analytes and Screening Level Exceedances for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

Location Sample ID Sample Date	EL-SW01A EL-SW01A-091813 20130918	EL-SW01B EL-SW01B-091813 20130918	EL-SW01C EL-SW01C-091813 20130918	EL-SW01D EL-SW01D-091813 20130918	MSA-SW-37A MSA-SW37A-091813 20130918	MSA-SW-37B MSA-SW37B-091813 20130918	MSA-SW-37C MSA-SW37C-091813 20130918	MSA-SW-37D MSA-SW37D-091813 20130918
Volatile organic compounds (µg/L)								
ACETONE	--	--	--	1.4 J	--	--	--	--
CIS-1,2-DICHLOROETHENE	--	--	--	--	--	--	--	--
TOLUENE	--	--	--	--	--	--	--	--
TRICHLOROETHENE	0.2 J	0.24 J	0.26 J	0.24 J	0.31 J	0.3 J	0.26 J	0.26 J
VINYL CHLORIDE	--	--	--	--	--	--	--	--
Dissolved metals (µg/L)								
ANTIMONY	NA	NA	NA	NA	0.34 B	0.32 B	0.33 B	0.3 B
ARSENIC	NA	NA	NA	NA	1.4 J	1.3 J	1.3 J	1.3 J
BARIUM	NA	NA	NA	NA	43	43	42	43
BERYLLIUM	NA	NA	NA	NA	0.043 J	--	--	--
CHROMIUM	NA	NA	NA	NA	0.29 J	0.24 J	0.19 J	0.28 J
COPPER	NA	NA	NA	NA	2.8	3.1	2.8	3.2
LEAD	NA	NA	NA	NA	--	--	--	--
MERCURY	NA	NA	NA	NA	--	--	--	--
MOLYBDENUM	NA	NA	NA	NA	1.8 J	1.7 J	1.8 J	1.7 J
NICKEL	NA	NA	NA	NA	3.4	2.2	2.3	3.2
SELENIUM	NA	NA	NA	NA	--	--	--	--
VANADIUM	NA	NA	NA	NA	1.1 J	0.95 J	0.88 J	1 J
ZINC	NA	NA	NA	NA	4.3 J	3.7 J	3.4 J	5.2 J
Miscellaneous parameters (µg/L)								
HEXAVALENT CHROMIUM	NA	NA	NA	NA	0.042 L	--	--	--
Miscellaneous parameters (mg/L)								
CALCIUM HARDNESS as $CaCO_3$	NA	NA	NA	NA	140	140	140	140
HARDNESS as $CaCO_3$	NA	NA	NA	NA	640	630	640	640
MAGNESIUM HARDNESS as $CsCO_3$	NA	NA	NA	NA	500	500	500	500

Table 4-2

Detected Analytes and Screening Level Exceedances for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

Location	MSA-SW-38A	MSA-SW-38B	MSA-SW-38C	MSA-SW-38D	MSA-SW-39A	MSA-SW-39B	MSA-SW-39C	MSA-SW-39D
Sample ID	MSA-SW38A-091813	MSA-SW38B-091813	MSA-SW38C-091813	MSA-SW38D-091813	MSA-SW39A-091813	MSA-SW39B-091813	MSA-SW39C-091813	MSA-SW39D-091813
Sample Date	20130918	20130918	20130918	20130918	20130918	20130918	20130918	20130918
Volatile organic compounds (µg/L)								
ACETONE	--	--	--	--	--	--	--	--
CIS-1,2-DICHLOROETHENE	0.8 J	--	0.45 J	0.66 J	--	--	--	--
TOLUENE	--	--	--	0.14 J	--	--	--	--
TRICHLOROETHENE	0.44 J	0.66 J	0.85 J	2.3	0.27 J	0.3 J	0.35 J	0.29 J
VINYL CHLORIDE	0.96	--	0.35 J	0.36 J	--	--	--	--
Dissolved metals (µg/L)								
ANTIMONY	0.29 B	0.3 B	0.31 B	0.28 B	0.24 B	0.25 B	0.26 B	0.27 B
ARSENIC	1.2 J	1.3 J	1.2 J	1.2 J	0.99 J	0.99 J	1 J	1 J
BARIUM	42	43	43	43	41	41	43	43
BERYLLIUM	--	--	--	--	--	--	--	--
CHROMIUM	0.29 J	0.53 J	0.18 J	0.18 J	0.16 J	0.28 J	0.2 J	0.18 J
COPPER	3.7	2.7	3.4	2.6	2.6	2.6	2.6	2.8
LEAD	--	--	--	--	--	--	--	--
MERCURY	--	--	--	--	--	--	--	--
MOLYBDENUM	1.7 J	1.7 J	1.7 J	1.7 J	1.7 J	1.8 J	1.7 J	1.9 J
NICKEL	1.6 J	1.8 J	2.7	2.2	1.7 J	1.6 J	1.6 J	2.3
SELENIUM	--	--	--	--	--	--	--	--
VANADIUM	1 J	1 J	0.98 J	0.96 J	0.89 J	0.86 J	0.93 J	0.89 J
ZINC	3 J	3.3 J	4.5 J	2.7 J	3.3 J	3.6 J	4 J	4 J
Miscellaneous parameters (µg/L)								
HEXAVALENT CHROMIUM	--	--	--	--	--	--	--	--
Miscellaneous parameters (mg/L)								
CALCIUM HARDNESS as $CaCO_3$	140	140	140	140	150	140	150	150
HARDNESS as $CaCO_3$	660	650	660	660	680	680	700	700
MAGNESIUM HARDNESS as $CsCO_3$	510	510	520	510	540	530	550	550

Table 4-2

Detected Analytes and Screening Level Exceedances for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

Location	MSA-SW-40A	MSA-SW-40B	MSA-SW-40C	MSA-SW-40D	MSA-SW-41A	MSA-SW-41B	MSA-SW-41C	MSA-SW-41D
Sample ID	MSA-SW40A-091813	MSA-SW40B-091813	MSA-SW40C-091813	MSA-SW40D-091813	MSA-SW41A-091813	MSA-SW41B-091813	MSA-SW41C-091813	MSA-SW41D-091813
Sample Date	20130918	20130918	20130918	20130918	20130918	20130918	20130918	20130918
Volatile organic compounds (µg/L)								
ACETONE	--	--	--	--	--	1.2 J	--	--
CIS-1,2-DICHLOROETHENE	0.6 J	--	--	--	--	--	--	--
TOLUENE	--	0.48 B	0.25 J	0.33 B	--	0.18 J	0.16 J	0.4 J
TRICHLOROETHENE	0.71 J	0.4 J	0.44 J	0.35 J	0.48 J	0.37 J	0.36 J	0.36 J
VINYL CHLORIDE	0.42 J	--	--	--	0.22 J	--	--	--
Dissolved metals (µg/L)								
ANTIMONY	0.25 J	0.26 J	0.26 J	0.3 J	0.28 J	0.26 J	0.29 J	0.29 J
ARSENIC	1.3 J	1.2 J	1.2 J	1.2 J	1.2 J	1.2 J	1.2 J	1.2 J
BARIUM	42	43	44	44	42	44	43	42
BERYLLIUM	--	--	--	--	--	--	--	--
CHROMIUM	0.34 J	0.2 J	0.15 J	0.18 J	0.17 J	0.3 J	0.9 J	0.25 J
COPPER	2.8	2.9	2.9	2.8 L	2.9	2.9	2.9	2.9
LEAD	0.2 J	--	--	--	--	--	--	--
MERCURY	--	0.13 J	--	--	--	--	--	--
MOLYBDENUM	1.6 J	1.7 J	1.7 J	2.2 J	1.9 J	2 J	1.9 J	1.8 J
NICKEL	1.5 J	2.2	3.2	2.2 L	1.6 J	3.4	2.6	2
SELENIUM	--	--	--	--	--	--	--	--
VANADIUM	1.1 J	0.98 J	1 J	0.98 J	0.95 J	0.92 J	0.91 J	0.96 J
ZINC	3.5 B	4.3 B	3.7 B	3.2 B	4.2 B	5.4 B	5.3 B	3.8 B
Miscellaneous parameters (µg/L)								
HEXAVALENT CHROMIUM	--	--	--	--	--	--	--	--
Miscellaneous parameters (mg/L)								
CALCIUM HARDNESS as $CaCO_3$	150	150	150	150	150	150	140	140
HARDNESS as $CaCO_3$	650	660	660	660	670	690	650	660
MAGNESIUM HARDNESS as $CsCO_3$	500	510	520	520	520	530	510	510

Table 4-2

Detected Analytes and Screening Level Exceedances for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

Location	MSA-SW-42A	MSA-SW-42B	MSA-SW-42C	MSA-SW-42D	MSA-SW-43A	MSA-SW-43B	MSA-SW-43C	MSA-SW-43D
Sample ID	MSA-SW42A-091813	MSA-SW42B-091813	MSA-SW42C-091813	MSA-SW42D-091813	MSA-SW43A-091813	MSA-SW43B-091813	MSA-SW43C-091813	MSA-SW43D-091813
Sample Date	20130918	20130918	20130918	20130918	20130918	20130918	20130918	20130918
Volatile organic compounds (µg/L)								
ACETONE	--	--	--	--	--	--	--	--
CIS-1,2-DICHLOROETHENE	--	--	--	--	--	--	--	--
TOLUENE	--	--	--	0.54 J	--	--	--	--
TRICHLOROETHENE	0.26 J	0.45 J	0.34 J	0.37 J	0.43 J	0.53 J	0.46 J	0.36 J
VINYL CHLORIDE	--	0.24 J	--	--	--	0.22 J	--	--
Dissolved metals (µg/L)								
ANTIMONY	0.27 B	0.4 B	0.33 B	0.3 B	0.27 J	0.33 J	0.27 J	0.29 J
ARSENIC	1.1 J	1.4 J	1.4 J	1.2 J	1.1 J	1.3 J	1.3 J	1.2 J
BARIUM	52	43	41	41	39	43	39	41
BERYLLIUM	--	0.15 J	0.087 J	0.061 J	0.14 J	0.13 J	0.083 J	0.055 J
CHROMIUM	--	0.31 J	0.3 J	0.3 J	0.22 J	0.23 J	0.29 J	0.27 J
COPPER	3.1 B	3	2.7	3.4	2.9 L	3	2.9	2.9
LEAD	--	0.15 J	--	--	--	--	0.18 J	--
MERCURY	--	--	--	--	--	--	--	--
MOLYBDENUM	1.8 J	2.1 J	1.8 J	1.7 J	1.7 J	2 J	1.7 J	1.7 J
NICKEL	2.3	2.3	1.6 J	2.1	2.1 L	2.3	2.1	1.6 J
SELENIUM	--	0.59 J	0.34 J	--	0.34 J	0.53 J	0.42 J	--
VANADIUM	0.61 J	1.1 J	1 J	1 J	0.97 J	1 J	1.1 J	1 J
ZINC	5.2 B	3.8 J	2.7 J	3.5 J	4.2 B	4.6 B	3.2 B	3.4 B
Miscellaneous parameters (µg/L)								
HEXAVALENT CHROMIUM	0.04 L	--	--	--	0.043 L	--	--	0.049 L
Miscellaneous parameters (mg/L)								
CALCIUM HARDNESS as $CaCO_3$	200	140	130	130	140	140	130	140
HARDNESS as $CaCO_3$	830	650	620	620	610	640	600	630
MAGNESIUM HARDNESS as $CsCO_3$	630	510	480	480	470	500	470	490

Table 4-2

Detected Analytes and Screening Level Exceedances for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

Location Sample ID Sample Date	MSA-SW-44A MSA-SW44A-091813 20130918	MSA-SW-44B MSA-SW44B-091813 20130918	MSA-SW-44C MSA-SW44C-091813 20130918	MSA-SW-44D MSA-SW44D-091813 20130918	MSA-SW-45A MSA-SW45A-091813 20130918	MSA-SW-45B MSA-SW45B-091813 20130918	MSA-SW-45C MSA-SW45C-091813 20130918	MSA-SW-45D MSA-SW45D-091813 20130918
Volatile organic compounds (µg/L)								
ACETONE	--	--	--	--	--	--	--	--
CIS-1,2-DICHLOROETHENE	--	--	--	--	--	--	--	--
TOLUENE	--	--	--	--	--	--	--	--
TRICHLOROETHENE	0.47 J	0.57 J	0.52 J	0.46 J	0.35 J	0.44 J	0.42 J	0.32 J
VINYL CHLORIDE	--	0.23 J	0.22 J	--	--	--	--	--
Dissolved metals (µg/L)								
ANTIMONY	0.27 J	0.27 J	0.27 J	0.26 J	0.25 J	0.27 J	0.25 J	0.26 J
ARSENIC	1.1 J	1.2 J	1.1 J	1.1 J	1.1 J	1.1 J	1.1 J	1.1 J
BARIUM	42	43	43	40	43	44	43	43
BERYLLIUM	0.045 J	--	--	--	--	--	--	--
CHROMIUM	0.27 J	0.19 J	--	0.26 J	0.41 J	0.18 J	0.15 J	0.17 J
COPPER	3.1	3.1	2.9	2.9	3.4	3.1	3.3	3.1
LEAD	--	--	--	--	--	--	--	--
MERCURY	0.13 J	--	--	--	--	0.17 J	--	--
MOLYBDENUM	1.7 J	1.8 J	1.8 J	1.6 J	1.7 J	1.7 J	1.8 J	1.7 J
NICKEL	3.3	2.3	1.6 J	2	1.6 J	1.6 J	2.1	1.6 J
SELENIUM	--	--	--	--	--	--	--	--
VANADIUM	0.92 J	1 J	0.91 J	0.88 J	0.9 J	0.96 J	0.95 J	0.87 J
ZINC	4.8 B	5.8 B	3.8 B	3.4 B	3.8 B	4.2 B	5.2 B	4.4 B
Miscellaneous parameters (µg/L)								
HEXAVALENT CHROMIUM	--	--	--	--	0.051 L	--	0.04 L	--
Miscellaneous parameters (mg/L)								
CALCIUM HARDNESS as $CaCO_3$	140	150	140	140	140	150	140	150
HARDNESS as $CaCO_3$	660	670	670	630	670	680	670	680
MAGNESIUM HARDNESS as $CsCO_3$	520	520	520	490	530	530	530	530

Table 4-2

Detected Analytes and Screening Level Exceedances for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

1 National Recommended Water Quality Criteria, http://water.epa.gov/scitech/swguidance/standards/current/index.cfm;
and Maryland Numerical Criteria for Toxic Substances in Surface Waters, Code of Maryland Regulations (COMAR) 26.08.02.03,
http://www.dsd.state.md.us./comar/comarhtml/26/26.08.02.03-2.htm
2 United State Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG) Freshwater Screening Benchmarks
3 For carcinogens, criterion is for incremental cancer risk of $1x10^{-5}$.
4 Site-specific swimming screening levels were developed for trichloroethene, *cis*-1,2-dichloroethene, and vinyl chloride only.
5 The BTAG screening benchmark for 1,2-dichloroethene (590 µg/L) is used as a surrogate screenng level for cis-1,2-dichloroethene.
6 The BTAG screening benchmark is based on total metal concentration for this analyte. Therefore, the dissolved metals result
for this metal is not screened against the BTAG screening benchmark.
7 In accordance with USEPA (2002), screening criteria are adjusted using a site-specific hardness value of 600 mg/L (lowest and most protective site value for September results), rather than the standard 100 mg/L .
Criteria for trivalent chromium are used as surrogate values for total chromium sample concentrations because trivalent chromium criteria are lower and therefore more
protective to the environment, and hexavalent chomium was analyzed/screened separately.

Gray shading indicates a result that exceeds screening criteria.
-- not detected
$CaCO_3$ - calcium carbonate
EL - Edwards Lane
J - estimated concentration
L - result biased low; actual value may be higher
mg/L - milligrams per liter
NA - not analyzed or not available
SW - surface water
µg/L - micrograms per liter

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA Surface Water Samples TCE concentration September 2013.mxd)
11/14/2013 -- 1:35:12 PM

FIGURE 4-1

CONCENTRATIONS OF TRICHLOROETHENE IN SURFACE WATER SAMPLES, SEPTEMBER 2013 FROG MORTAR CREEK

LEGEND

- SEPTEMBER 2013 SURFACE WATER SAMPLE LOCATION
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- OUTLINE OF FORMER COVE
- EXTENT OF UNSATURATED CONTAMINATED SOIL AND LANDFILL MATERIAL
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

(0.6) = TRICHLOROETHENE CONCENTRATION
J = ESTIMATED VALUE
- - = NOT DETECTED

CONCENTRATION IN MICROGRAMS PER LITER (UG/L)

Frog Mortar Creek
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 75 150 300 Feet

N

DATE MODIFIED: 11/14/13

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA Surface Water Samples CIS 1-2 Dichloroethene September 2013.mxd)
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FIGURE 4-2

CONCENTRATIONS OF CIS-1,2-DICHLOROETHENE IN SURFACE WATER SAMPLES, SEPTEMBER 2013 FROG MORTAR CREEK

LEGEND

- SEPTEMBER 2013 SURFACE WATER SAMPLE LOCATION
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- OUTLINE OF FORMER COVE
- EXTENT OF UNSATURATED CONTAMINATED SOIL AND LANDFILL MATERIAL
- POND

(1.7) = CIS-1,2-DICHLOROETHENE CONCENTRATION
J = ESTIMATED VALUE
- - = NOT DETECTED

CONCENTRATION IN MICROGRAMS PER LITER (UG/L)

Frog Mortar Creek
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 75 150 300 Feet

N

DATE MODIFIED: 11/14/13

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA Surface Water Samples Vinyl Chloride concentration September 2013.mxd)
11/14/2013 -- 2:15:21 PM

FIGURE 4-3

CONCENTRATIONS OF VINYL CHLORIDE IN SURFACE WATER SAMPLES, SEPTEMBER 2013 FROG MORTAR CREEK

LEGEND

- SEPTEMBER 2013 SURFACE WATER SAMPLE LOCATION
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- OUTLINE OF FORMER COVE
- EXTENT OF UNSATURATED CONTAMINATED SOIL AND LANDFILL MATERIAL
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

(1.7) = VINYL CHLORIDE CONCENTRATION
J = ESTIMATED VALUE
- - = NOT DETECTED

CONCENTRATION IN MICROGRAMS PER LITER (UG/L)

Frog Mortar Creek
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 75 150 300 Feet

N

DATE MODIFIED: 11/14/13

CREATED BY: MP

TETRA TECH

Section 5
Summary

The following summarizes Lockheed Martin Corporation's (Lockheed Martin's) September 2013 Frog Mortar Creek surface water investigation and findings:

- Forty surface water samples were collected from Frog Mortar Creek on September 18, 2013 and chemically analyzed to assess concentrations of chemical constituents previously detected in Frog Mortar Creek, and to assess creek surface-water quality near the Dump Road Area (DRA).

- Four samples were collected along each of nine transects (transects are spaced approximately 350 feet apart) along the western shoreline of Frog Mortar Creek. The transects are designated MSA-SW37, MSA-SW38, MSA-SW39, MSA-SW40, MSA-SW41, MSA-SW42, MSA-SW43, MSA-SW44, and MSA-SW45. In addition, four samples were collected on the eastern shoreline along a transect extending out from a property (3301 Edwards Lane) across Frog Mortar Creek; this transect is designated EL-SW01. Along each transect, one sample was collected near the shoreline ("A" sample), one was collected approximately 50 feet from the shoreline ("B" sample), one was collected approximately 100 feet from the shoreline ("C" sample), and one was collected approximately 200 feet from the shoreline ("D" sample). Each sample was collected approximately one foot below the water surface.

- All western shoreline samples from Frog Mortar Creek were analyzed for volatile organic compounds (VOCs), filtered metals, filtered hexavalent chromium, and hardness. The four surface water samples from the Edwards Lane transect were analyzed for volatile organic compounds only.

- The data were validated in accordance with the *United States Environmental Protection Agency (USEPA) Region III Modifications to the National Functional Guidelines for Data Review* (United States Environmental Protection Agency, 1993 and 1994) and the specific requirements of the analytical methods used.

- Sampling results were screened against United States Environmental Protection Agency Region 3 Biological Technical Advisory Group (BTAG) ecological freshwater screening-benchmarks; United States Environmental Protection Agency National Recommended Water Quality Criteria (NRWQC) for acute and chronic aquatic-organism exposures and for human health aquatic-organism-consumption; Maryland Ambient Water Quality Criteria (AWQC) for acute and chronic aquatic-organism exposures and for human health aquatic-organism-consumption; and site-specific screening levels

developed to evaluate risks to recreational swimmers from exposure to three volatile organic compounds (trichloroethene [TCE], *cis*-1,2-dichloroethene [*cis*-1,2-DCE], and vinyl chloride [VC]) in surface water.

- Volatile organic compounds (primarily trichloroethene, *cis*-1,2-dichloroethene, and vinyl chloride) and metals were detected in the September 2013 surface water samples.

- In September 2013, all volatile organic compounds, except vinyl chloride at one location, were detected at concentrations less than the screening levels. Vinyl chloride exceeded its site-specific swimming screening level (0.7 micrograms per liter [µg/L]) at SW38A (0.96 µg/L).

- Detected concentrations of chlorinated volatile organic compounds were highest at sampling locations SW38A (*cis*-1,2-dichloroethene and vinyl chloride) and SW38D (trichloroethene), which are east of the Dump Road Area monitoring wells that contain some of the highest concentrations of site-related constituents in groundwater.

- Volatile organic compound concentrations detected in September 2013 are generally lower than concentrations detected in August 2013. In September 2013, the highest trichloroethene concentration was 2.3 µg/L, while in August 2013 the highest trichloroethene concentration was 4.9 µg/L; the maximum TCE concentration occurred in September at SW38D, and in August at SW43A, located south of SW38. In September 2013, the highest *cis*-1,2-dichloroethene concentrations were detected at SW38A (0.8 µg/L) and SW38D (0.66 µg/L); in August 2013, the two highest *cis*-1,2-dichloroethene concentrations (3.4 and 1.8 µg/L) were detected at locations SW43A and SW41A, respectively. The highest vinyl chloride concentrations for September and August 2013 were detected at SW38A (0.96 µg/L and 3.2 µg/L).

- Only one location, SW38D (2.3 µg/L), exhibited a higher trichloroethene concentration than the surrounding sampling locations. The remaining trichloroethene concentrations for September are relatively similar throughout the sampling area and range from 0.20–0.85 µg/L.

- Volatile organic compound concentrations detected in samples collected from the eastern shore of Frog Mortar Creek (locations EL-SW01A–D) during the September 2013 sampling round are all less than screening levels and less than the August 2013 levels.

- Benzene, ethylbenzene, and xylenes (all of which are petroleum-related volatile organic compounds) detected in the Dump Road Area groundwater were not detected in the September sampling event. Toluene was detected at six locations at low concentrations during the current sampling event. The detection frequency for toluene in September is less than in the August round.

- Dissolved barium exceeded its screening level in all 36 samples.

- Dissolved hexavalent chromium was detected in six of 36 samples at trace concentrations ranging from 0.04 µg/L to 0.051 µg/L. These concentrations are well below its lowest screening criterion (11 µg/L).

Section 6
References

1. *Code of Maryland Regulations* (COMAR), 2013. "Numerical Criteria for Toxic Substances in Surface Waters." COMAR Title 26, Subtitle 08, Chapter 02, Regulation 03. http://www.dsd.state.md.us/comar/comarhtml/26/26.08.02.03-2.htm.

2. Tetra Tech (Tetra Tech, Inc.), 2013a. *2013 Surface Water Sampling Work Plan, Martin State Airport, 701 Wilson Point Road, Middle River, Maryland*. Report prepared by Tetra Tech, Inc., Germantown, Maryland for Lockheed Martin Corporation, Bethesda, Maryland. January.

3. Tetra Tech (Tetra Tech, Inc.), 2013b. *2012 Surface Water Sampling Report for Frog Mortar Creek, Martin State Airport, 701 Wilson Point Road, Middle River, Maryland*. Report prepared by Tetra Tech, Inc., Germantown, Maryland for Lockheed Martin Corporation, Bethesda, Maryland. May.

4. USEPA (U.S. Environmental Protection Agency), Region 3, 1993. *Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses*. April.

5. USEPA (U.S. Environmental Protection Agency), Region 3, 1994. *Region III Modifications to the National Functional Guidelines for Organic Data Review*. September.

6. USEPA (U.S. Environmental Protection Agency) 2006. *Region III Biological Technical Advisory Group Freshwater Screening Benchmarks*. July.

7. USEPA (U.S. Environmental Protection Agency) 2009. *National Recommended Water Quality Criteria*. U.S. Environmental Protection Agency, Office of Water, Office of Science and Technology. http://water.epa.gov/scitech/swguidance/standards/current/index.cfm or http://water.epa.gov/scitech/swguidance/standards/current/upload/nrwqc-2009.p.

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APPENDIX A—SURFACE WATER SAMPLE LOG SHEETS

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-01A-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date: 9/18/2013								
Time: 1103								
Depth: 1 foot	Clear	6.05	6.51	22.07	23.8	8.19	3.6	90
Method: Grab								

SAMPLE COLLECTION INFORMATION:

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

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-01B-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013	Clear	7.02	6.73	21.25	11.48	6.32	3.7	83
Time:	1112								
Depth:	1 foot								
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

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

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-01C-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1117								
Depth:	1 foot	Clear	7.8	3.6	21.27	9.75	6.31	3.6	90
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

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

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-010-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1121								
Depth:	1 foot	Clear	7.24	6.67	21.41	9.48	6.48	3.7	94
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

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

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-77A-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1422								
Depth:	1 foot	Clear	7.83	6.46	22.77	11.06	7.45	3.5	109
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-37B-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1426								
Depth:	1 foot	Clear	7.85	6.43	22.65	10.70	7.28	3.5	109
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-37C-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1430								
Depth:	1 foot	Clear	7.91	6.52	22.68	8.89	7.79	26	108
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-TID-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1434								
Depth:	1 foot	Clear	7.94	6.52	22.54	8.97	7.19	3.6	108
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-78A-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1727								
Depth:	1 foot	Clear	7.83	6.61	22.46	~~12.8~~ 13.8	8.38	3.6	100
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-38B-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013	Clear	7.81	6.54	21.34	9.67	7.28	3.6	104
Time:	1331								
Depth:	1 foot								
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-38C-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1335								
Depth:	1 foot	Clear	7.77	6.58	21.41	8.22	6.66	3.6	108
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-380-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1339								
Depth:	1 foot	Clear	7.75	6.46	21.13	8.87	6.53	3.5	106
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-39A-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1130								
Depth:	1 foot	Clear	7.21	6.44	21.45	11.38	5.95	3.8	101
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-39B-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1136								
Depth:	1 foot	Clear	7.29	6.45	21.49	12.31	6.46	3.8	108
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-39C-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013	Clear	7.30	6.99	21.35	11.78	5.97	3.8	109
Time:	1141								
Depth:	1 foot								
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-390-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1146								
Depth:	1 foot	Clear	7.35	6.95	21.54	10.90	6.38	3.8	107
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-40A-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1344								
Depth:	1 foot	Clear	7.70	6.50	22.00	15.9	7.39	3.5	94
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-40B-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1351								
Depth:	1 foot	Clear	7.75	6.56	21.96	12.53	7.41	3.6	95
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-40C-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1356								
Depth:	1 foot	Clear	7.76	6.58	21.54	10.91	7.26	3.6	100
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered In field

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-400-001813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	~~1314~~ 1400								
Depth:	1 foot	Clear	7.79	6.60	21.47	11.02	6.74	7.6	103
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-41A-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1750								
Depth:	1 foot	Clear	7.74	661	22.14	15.7	7.23	36	107
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-41B-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1255								
Depth:	1 foot	Clear	7.74	6.57	21.40	9.61	650	3.6	NB
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-WC-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1300								
Depth:	1 foot	Clear	7.79	6.54	21.65	9.06	7.46	3.6	106
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-410-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1304								
Depth:	1 foot	Clear	7.80	6.47	21.79	9.16	6.99	36	101
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-42A-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1405								
Depth:	1 foot	Clear	7.77	6.52	23.23	15.4	7.06	3.5	104
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-GW-42B-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013	Clear	7.79	6.52	22.05	10.68	6.84	3.6	107
Time:	1409								
Depth:	1 foot								
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-42C-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date: 9/18/2013 Time: 1413 Depth: 1 foot Method: Grab	Clear	7.81	6.53	22.04 ~~107~~	10.20	7.25	3.6	107

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MA-SW-42D-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013	Clear	7.85	6.56	21.64	10.10	7.58	3.6	107
Time:	1417								
Depth:	1 foot								
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-43A-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1231								
Depth:	1 foot	Clear	7.70	6.64	22.13	8.16	6.74	7.6	102
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-43B-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1237								
Depth:	1 foot	Clear	7.70	6.53	21.98	9.48	7.84	36	105
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-43[illegible]-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013	Clear	7.74	6.57	21.82	8.95	7.33	3.6	106
Time:	1240								
Depth:	1 foot								
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-43D-09/8/13
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1244								
Depth:	1 foot	Clear	7.77	6.55	21.69	9.42	7.48	3.6	105
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-44A-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013	Clear	7.63	6.70	21.78	172	6.57	3.7	99
Time:	1217								
Depth:	1 foot								
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-44B-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1218								
Depth:	1 foot	Clear	7.65	6.63	21.52	10.02	7.29	3.6	101
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-FMC-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1222								
Depth:	1 foot	Clear	7.67	6.71	21.06	9.07	7.02	3.7	103
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-440-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1226								
Depth:	1 foot	Clear	7.69	6.67	21.59	10.71	7.25	7.6	103
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-45A-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1153								
Depth:	1 foot	Clear	7.45	6.77	21.50	8.69	6.79	3.7	87
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-45B-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1157								
Depth:	1 foot	Clear	7.57	6.68	21.33	10.61	7.12	3.7	93
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-45C-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013								
Time:	1202								
Depth:	1 foot	Clear	7.62	6.74	21.38	10.11	7.20	3.7	72
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Frog Mortar Creek, Martin State Airport
Project No.: 112IC04793.08

[] Stream
[] Spring
[] Pond
[] Lake
[x] Other: Tidal creek - estuarine
[] QA Sample Type:

Sample ID No.: MSA-SW-450-091813
Sample Location: FMC SW
Sampled By: JAM
C.O.C. No.:

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

SAMPLING DATA:

		Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Date:	9/18/2013	Clear	7.61	6.78	21.43	9.69	6.91	3.7	97
Time:	1706								
Depth:	1 foot								
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl pH<2	3 - 40 mL glass vials	Y
Dissolved Metals	HNO^3 pH<2	1 - 500 mL plastic bottle	Y
Hexavalent Chromium	<4° C	1 - 250 mL plastic bottle	Y

OBSERVATIONS / NOTES:

Dissolved Metals filtered in field

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

APPENDIX B—DATA-VALIDATION REPORTS (ON CD)

Tetra Tech **INTERNAL CORRESPONDENCE**

TO:	**T. APANAVAGE**	**DATE:**	**October 11, 2013**
FROM:	**MEGAN CARSON**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION- DISSOLVED METALS AND HARDNESS**
LOCKHEED-MARTIN STATE AIRPORT (MSA)
SDG 240-29166-1

SAMPLES: 35/Aqueous/

MSA-SW37A-091813	MSA-SW37B-091813
MSA-SW37C-091813	MSA-SW37D-091813
MSA-SW38A-091813	MSA-SW38B-091813
MSA-SW38C-091813	MSA-SW38D-091813
MSA-SW39A-091813	MSA-SW39B-091813
MSA-SW39C-091813	MSA-SW39D-091813
MSA-SW40A-091813	MSA-SW40B-091813
MSA-SW40C-091813	MSA-SW40D-091813
MSA-SW41A-091813	MSA-SW41B-091813
MSA-SW41C-091813	MSA-SW41D-091813
MSA-SW42B-091813	MSA-SW42C-091813
MSA-SW42D-091813	MSA-SW43A-091813
MSA-SW43B-091813	MSA-SW43C-091813
MSA-SW43D-091813	MSA-SW44A-091813
MSA-SW44B-091813	MSA-SW44C-091813
MSA-SW44D-091813	MSA-SW45A-091813
MSA-SW45B-091813	MSA-SW45C-091813
MSA-SW45D-091813	

Overview

The sample set for Lockheed MSA, SDG 240-29166-1 consists of thirty five (35) aqueous environmental samples. These SDGs contained no field duplicate pairs.

All samples were analyzed for dissolved metals. Hardness was determined by the laboratory via calculation. The samples were collected by Tetra Tech September 18th, 2013 and analyzed by TestAmerica. Metals analyses were conducted using SW-846 method 6020A. Mercury analyses were conducted using SW-846 method 7470A. Hardness analyses were conducted using method 2340B.

The findings offered in this report are based upon a general review of all available data. The data review was based on data completeness, holding times, initial and continuing calibration verification results, laboratory method / preparation blank results, laboratory control sample recoveries, matrix spike recoveries, and detection limits.

Areas of concern with respect to data quality are listed below.

Major Problems-

- None.

Minor Problems-

- The following contaminants were detected in method and calibration blanks at the following maximum concentrations:

Analyte	Maximum Concentration	Action Level
Zinc (1)	2.68 ug/L	13.4 ug/L
Antimony (2)	0.21 ug/L	1.05 ug/L
Tungsten (2)	0.026 ug/L	0.13 ug/L
Mercury (3)	0.18 ug/L	0.9 ug/L
Arsenic (4)	0.13 ug/L	0.65 ug/L
Cadmium (4)	0.076 ug/L	0.38 ug/L
Cobalt (4)	0.082 ug/L	0.41 ug/L
Nickel (4)	0.089 ug/L	0.44 ug/L
Silver (4)	0.092 ug/L	0.46 ug/L
Thallium (4)	0.432 ug/L	2.2 ug/L
Tungsten (4)	0.22 ug/L	1.1 ug/L

(1) Maximum concentration found in a preparation blank affecting samples in 240-102209.
(2) Maximum concentration found in a preparation blank affecting samples in 240-102212.
(3) Maximum concentration found in a calibration blank affecting samples MSA-SW41A-091813, MSA-SW41B-091813, MSA-SW41C-091813, and MSA-SW41D-091813.
(4) Maximum concentration found in a calibration blank affecting samples analyzed on 9/24/13.

An action level of 5X the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. Detected antimony, cadmium, cobalt, silver, thallium, tungsten, and zinc results less than the blank action level were qualified (B) for blank contamination.

- The matrix spike for preparation batch 240-102209 had a percent recovery greater than the upper QC limit for molybdenum and the matrix spike duplicate had percent recoveries less than the lower QC limit for cadmium and lead. Positive molybdenum results were qualified as estimated (J). Positive and non-detected cadmium and lead results were qualified as estimated (J and UJ), respectively. No directional bias was applied because the non-compliances were not present in both the MS and MSD.

- The CRDL standard analyzed on 9/23/13 had a percent recovery < 80% for mercury. Samples MSA-SW37A-091813, MSA-SW37B-091813, MSA-SW37C-091813, MSA-SW37D-091813, MSA-SW38A-091813, MSA-SW38B-091813, MSA-SW38C-091813, MSA-SW38D-091813, MSA-SW39A-091813, MSA-SW39B-091813, MSA-SW39C-091813, MSA-SW39D-091813, MSA-SW42B-091813, MSA-SW42C-091813, and MSA-SW42D-091813 were affected. Non-detected results were qualified as biased low (UL).

- The following samples had percent recoveries <60% for internal standards and were qualified as biased low (L, UL) or estimated (J) due to conflicting directional bias:

Sample ID	Internal Standard	Analytes affected
MSA-SW38A-091813	Li-6	beryllium
MSA-SW38B-091813	Li-6	beryllium
MSA-SW39A-091813	Li-6	beryllium
MSA-SW39B-091813	Li-6	beryllium

MSA-SW39C-091813	Li-6	beryllium
MSA-SW45A-091813	Li-6	beryllium
MSA-SW45B-091813	Li-6	beryllium
MSA-SW45C-091813	Li-6	beryllium
MSA-SW45D-091813	Li-6	beryllium
MSA-SW41B-091813	Li-6	beryllium
MSA-SW41D-091813	Li-6	beryllium
MSA-SW43A-091813	Ge-72	vanadium, chromium, cobalt, nickel, copper, zinc, arsenic, selenium, molybdenum
MSA-SW40D-091813	Sc-45	vanadium, chromium, cobalt, nickel, copper, zinc

Notes

Non-detected results were reported to the limit of quantitation (LOQ).

Sample MSA-SW42A-091813 was received by the lab broken and due to a lack of volume was not analyzed.

Executive Summary

Laboratory Performance: Preparation and calibration blank contamination resulted in the qualification of cadmium, cobalt, silver, tungsten, and zinc results. CRDL standard non-compliances for mercury resulted in the qualification of sample results

Other Factors Affecting Data Quality: MS/MSD non-compliances for molybdenum, cadmium and lead resulted in the qualification of sample results.

The data for these analyses were reviewed with reference to the Region III modifications to the National Functional Guidelines for Inorganic Data Validation (April 1993).

Tetra Tech
Megan Carson
Chemist/Data Validator

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

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 sigma deviation is less than sample activity
Z1	=	Tentatively Identified Compound considered presumptively present
Z2	=	Tentatively Identified Compound column bleed

PROJ_NO: 04793	NSAMPLE	MSA-SW37A-091813			MSA-SW37B-091813			MSA-SW37C-091813			MSA-SW37D-091813		
SDG: 240-29166-1	LAB_ID	240-29166-30			240-29166-31			240-29166-32			240-29166-33		
FRACTION: MF	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
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
ANTIMONY		0.34	B	A	0.32	B	A	0.33	B	A	0.3	B	A
ARSENIC		1.4	J	P	1.3	J	P	1.3	J	P	1.3	J	P
BARIUM		43			43			42			43		
BERYLLIUM		0.043	J	P	0.031	U		0.031	U		0.031	U	
CADMIUM		0.063	B	A	0.026	U		0.029	B	A	0.026	U	
CHROMIUM		0.29	J	P	0.24	J	P	0.19	J	P	0.28	J	P
COBALT		0.3	B	A	0.22	B	A	0.22	B	A	0.28	B	A
COPPER		2.8			3.1			2.8			3.2		
LEAD		0.14	U		0.14	U		0.14	U		0.14	U	
MERCURY		0.12	UL	C	0.12	UL	C	0.12	UL	C	0.12	UL	C
MOLYBDENUM		1.8	J	P	1.7	J	P	1.8	J	P	1.7	J	P
NICKEL		3.4			2.2			2.3			3.2		
SELENIUM		0.34	U		0.34	U		0.34	U		0.34	U	
SILVER		0.0083	U		0.0083	U		0.0083	U		0.0083	U	
THALLIUM		0.4	U		0.4	U		0.4	U		0.4	U	
TUNGSTEN		0.091	B	A	0.11	B	A	0.078	B	A	0.059	B	A
VANADIUM		1.1	J	P	0.95	J	P	0.88	J	P	1	J	P
ZINC		4.3	J	P	3.7	J	P	3.4	J	P	5.2	J	P

PROJ_NO: 04793	NSAMPLE	MSA-SW38A-091813			MSA-SW38B-091813			MSA-SW38C-091813			MSA-SW38D-091813		
SDG: 240-29166-1	LAB_ID	240-29166-34			240-29166-35			240-29166-36			240-29166-37		
FRACTION: MF	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
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
ANTIMONY		0.29	B	A	0.3	B	A	0.31	B	A	0.28	B	A
ARSENIC		1.2	J	P	1.3	J	P	1.2	J	P	1.2	J	P
BARIUM		42			43			43			43		
BERYLLIUM		0.031	UL	N	0.031	UL	N	0.031	U		0.031	U	
CADMIUM		0.051	B	A	0.042	B	A	0.046	B	A	0.032	B	A
CHROMIUM		0.29	J	P	0.53	J	P	0.18	J	P	0.18	J	P
COBALT		0.19	B	A	0.19	B	A	0.23	B	A	0.22	B	A
COPPER		3.7			2.7			3.4			2.6		
LEAD		0.14	U		0.14	U		0.14	U		0.14	U	
MERCURY		0.12	UL	C	0.12	UL	C	0.12	UL	C	0.12	UL	C
MOLYBDENUM		1.7	J	P	1.7	J	P	1.7	J	P	1.7	J	P
NICKEL		1.6	J	P	1.8	J	P	2.7			2.2		
SELENIUM		0.34	U		0.34	U		0.34	U		0.34	U	
SILVER		0.0083	U		0.022	B	A	0.0083	U		0.0083	U	
THALLIUM		0.4	U		0.4	U		0.4	U		0.4	U	
TUNGSTEN		0.044	B	A	0.042	B	A	0.032	B	A	0.031	B	A
VANADIUM		1	J	P	1	J	P	0.98	J	P	0.96	J	P
ZINC		3	J	P	3.3	J	P	4.5	J	P	2.7	J	P

PROJ_NO: 04793	NSAMPLE	MSA-SW39A-091813			MSA-SW39B-091813			MSA-SW39C-091813			MSA-SW39D-091813		
SDG: 240-29166-1	LAB_ID	240-29166-38			240-29166-39			240-29166-40			240-29166-41		
FRACTION: MF	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
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
ANTIMONY		0.24	B	A	0.25	B	A	0.26	B	A	0.27	B	A
ARSENIC		0.99	J	P	0.99	J	P	1	J	P	1	J	P
BARIUM		41			41			43			43		
BERYLLIUM		0.031	UL	N	0.031	UL	N	0.031	UL	N	0.031	U	
CADMIUM		0.037	B	A	0.044	B	A	0.03	B	A	0.04	B	A
CHROMIUM		0.16	J	P	0.28	J	P	0.2	J	P	0.18	J	P
COBALT		0.095	B	A	0.1	B	A	0.1	B	A	0.11	B	A
COPPER		2.6			2.6			2.6			2.8		
LEAD		0.14	U		0.14	U		0.14	U		0.14	U	
MERCURY		0.12	UL	C	0.12	UL	C	0.12	UL	C	0.12	UL	C
MOLYBDENUM		1.7	J	P	1.8	J	P	1.7	J	P	1.9	J	P
NICKEL		1.7	J	P	1.6	J	P	1.6	J	P	2.3		
SELENIUM		0.34	U		0.34	U		0.34	U		0.34	U	
SILVER		0.0083	U		0.0083	U		0.0083	U		0.0083	U	
THALLIUM		0.4	U		0.4	U		0.4	U		0.4	U	
TUNGSTEN		0.017	U		0.022	B	A	0.017	U		0.059	B	A
VANADIUM		0.89	J	P	0.86	J	P	0.93	J	P	0.89	J	P
ZINC		3.3	J	P	3.6	J	P	4	J	P	4	J	P

PROJ_NO: 04793	NSAMPLE	MSA-SW40A-091813			MSA-SW40B-091813			MSA-SW40C-091813			MSA-SW40D-091813		
SDG: 240-29166-1	LAB_ID	240-29166-18			240-29166-19			240-29166-20			240-29166-21		
FRACTION: MF	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
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
ANTIMONY		0.25	J	P	0.26	J	P	0.26	J	P	0.3	J	P
ARSENIC		1.3	J	P	1.2	J	P	1.2	J	P	1.2	J	P
BARIUM		42			43			44			44		
BERYLLIUM		0.031	U		0.031	U		0.031	U		0.031	U	
CADMIUM		0.046	B	A	0.044	B	A	0.041	B	A	0.033	B	A
CHROMIUM		0.34	J	P	0.2	J	P	0.15	J	P	0.18	J	NP
COBALT		0.29	B	A	0.21	B	A	0.23	B	A	0.21	B	A
COPPER		2.8			2.9			2.9			2.8	L	N
LEAD		0.2	J	DP	0.14	UJ	D	0.14	UJ	D	0.14	UJ	D
MERCURY		0.12	U		0.13	J	P	0.12	U		0.12	U	
MOLYBDENUM		1.6	J	DP	1.7	J	DP	1.7	J	DP	2.2	J	DP
NICKEL		1.5	J	P	2.2			3.2			2.2	L	N
SELENIUM		0.34	U		0.34	U		0.34	U		0.34	U	
SILVER		0.0083	U		0.0083	U		0.0083	U		0.0083	U	
THALLIUM		0.4	U		0.4	U		0.4	U		0.4	U	
TUNGSTEN		0.024	B	A	0.017	U		0.017	B	A	0.099	B	A
VANADIUM		1.1	J	P	0.98	J	P	1	J	P	0.98	J	NP
ZINC		3.5	B	A	4.3	B	A	3.7	B	A	3.2	B	A

PROJ_NO: 04793	NSAMPLE	MSA-SW41A-091813			MSA-SW41B-091813			MSA-SW41C-091813			MSA-SW41D-091813		
SDG: 240-29166-1	LAB_ID	240-29166-22			240-29166-23			240-29166-24			240-29166-25		
FRACTION: MF	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
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
ANTIMONY		0.28	J	P	0.26	J	P	0.29	J	P	0.29	J	P
ARSENIC		1.2	J	P	1.2	J	P	1.2	J	P	1.2	J	P
BARIUM		42			44			43			42		
BERYLLIUM		0.031	U		0.031	UL	N	0.031	U		0.031	UL	N
CADMIUM		0.038	B	A	0.026	UJ	D	0.026	UJ	D	0.026	UJ	D
CHROMIUM		0.17	J	P	0.3	J	P	0.9	J	P	0.25	J	P
COBALT		0.16	B	A	0.24	B	A	0.2	B	A	0.18	B	A
COPPER		2.9			2.9			2.9			2.9		
LEAD		0.14	UJ	D	0.14	UJ	D	0.14	UJ	D	0.14	UJ	D
MERCURY		0.12	U		0.12	U		0.12	U		0.12	U	
MOLYBDENUM		1.9	J	DP	2	J	DP	1.9	J	DP	1.8	J	DP
NICKEL		1.6	J	P	3.4			2.6			2		
SELENIUM		0.34	U		0.34	U		0.34	U		0.34	U	
SILVER		0.0083	U		0.0083	U		0.0083	U		0.0083	U	
THALLIUM		0.4	U		0.4	U		0.4	U		0.4	U	
TUNGSTEN		0.066	B	A	0.056	B	A	0.037	B	A	0.03	B	A
VANADIUM		0.95	J	P	0.92	J	P	0.91	J	P	0.96	J	P
ZINC		4.2	B	A	5.4	B	A	5.3	B	A	3.8	B	A

PROJ_NO: 04793	NSAMPLE	MSA-SW42B-091813			MSA-SW42C-091813			MSA-SW42D-091813			MSA-SW43A-091813		
SDG: 240-29166-1	LAB_ID	240-29166-27			240-29166-28			240-29166-29			240-29166-6		
FRACTION: MF	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
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
ANTIMONY		0.4	B	A	0.33	B	A	0.3	B	A	0.27	J	P
ARSENIC		1.4	J	P	1.4	J	P	1.2	J	P	1.1	J	NP
BARIUM		43			41			41			39		
BERYLLIUM		0.15	J	P	0.087	J	P	0.061	J	P	0.14	J	P
CADMIUM		0.093	B	A	0.15	B	A	0.045	B	A	0.11	B	A
CHROMIUM		0.31	J	P	0.3	J	P	0.3	J	P	0.22	J	NP
COBALT		0.29	B	A	0.3	B	A	0.23	B	A	0.22	B	A
COPPER		3			2.7			3.4			2.9	L	N
LEAD		0.15	J	P	0.14	U		0.14	U		0.14	UJ	D
MERCURY		0.12	UL	C	0.12	UL	C	0.12	UL	C	0.12	U	
MOLYBDENUM		2.1	J	P	1.8	J	P	1.7	J	P	1.7	J	DNP
NICKEL		2.3			1.6	J	P	2.1			2.1	L	N
SELENIUM		0.59	J	P	0.34	J	P	0.34	U		0.34	J	NP
SILVER		0.009	B	A	0.013	B	A	0.0083	U		0.009	B	A
THALLIUM		1.1	B	A	0.54	B	A	0.4	U		0.9	B	A
TUNGSTEN		0.36	B	A	0.19	B	A	0.12	B	A	0.21	B	A
VANADIUM		1.1	J	P	1	J	P	1	J	P	0.97	J	NP
ZINC		3.8	J	P	2.7	J	P	3.5	J	P	4.2	B	A

PROJ_NO: 04793	NSAMPLE	MSA-SW43B-091813			MSA-SW43C-091813			MSA-SW43D-091813			MSA-SW44A-091813		
SDG: 240-29166-1	LAB_ID	240-29166-7			240-29166-8			240-29166-9			240-29166-10		
FRACTION: MF	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
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
ANTIMONY		0.33	J	P	0.27	J	P	0.29	J	P	0.27	J	P
ARSENIC		1.3	J	P	1.3	J	P	1.2	J	P	1.1	J	P
BARIUM		43			39			41			42		
BERYLLIUM		0.13	J	P	0.083	J	P	0.055	J	P	0.045	J	P
CADMIUM		0.088	B	A	0.21	B	A	0.12	B	A	0.046	B	A
CHROMIUM		0.23	J	P	0.29	J	P	0.27	J	P	0.27	J	P
COBALT		0.24	B	A	0.34	B	A	0.24	B	A	0.2	B	A
COPPER		3			2.9			2.9			3.1		
LEAD		0.14	UJ	D	0.18	J	DP	0.14	UJ	D	0.14	UJ	D
MERCURY		0.12	U		0.12	U		0.12	U		0.13	J	P
MOLYBDENUM		2	J	DP	1.7	J	DP	1.7	J	DP	1.7	J	DP
NICKEL		2.3			2.1			1.6	J	P	3.3		
SELENIUM		0.53	J	P	0.42	J	P	0.34	U		0.34	U	
SILVER		0.0083	U		0.016	B	A	0.01	B	A	0.0083	U	
THALLIUM		1.2	B	A	0.57	B	A	0.4	U		0.4	U	
TUNGSTEN		0.28	B	A	0.16	B	A	0.093	B	A	0.069	B	A
VANADIUM		1	J	P	1.1	J	P	1	J	P	0.92	J	P
ZINC		4.6	B	A	3.2	B	A	3.4	B	A	4.8	B	A

PROJ_NO: 04793	NSAMPLE	MSA-SW44B-091813			MSA-SW44C-091813			MSA-SW44D-091813			MSA-SW45A-091813		
SDG: 240-29166-1	LAB_ID	240-29166-11			240-29166-12			240-29166-13			240-29166-14		
FRACTION: MF	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
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
ANTIMONY		0.27	J	P	0.27	J	P	0.26	J	P	0.25	J	P
ARSENIC		1.2	J	P	1.1	J	P	1.1	J	P	1.1	J	P
BARIUM		43			43			40			43		
BERYLLIUM		0.031	U		0.031	U		0.031	U		0.031	UL	N
CADMIUM		0.04	B	A	0.026	UJ	D	0.026	UJ	D	0.035	B	A
CHROMIUM		0.19	J	P	0.13	U		0.26	J	P	0.41	J	P
COBALT		0.15	B	A	0.13	B	A	0.13	B	A	0.11	B	A
COPPER		3.1			2.9			2.9			3.4		
LEAD		0.14	UJ	D	0.14	UJ	D	0.14	UJ	D	0.14	UJ	D
MERCURY		0.12	U		0.12	U		0.12	U		0.12	U	
MOLYBDENUM		1.8	J	DP	1.8	J	DP	1.6	J	DP	1.7	J	DP
NICKEL		2.3			1.6	J	P	2			1.6	J	P
SELENIUM		0.34	U		0.34	U		0.34	U		0.34	U	
SILVER		0.0083	U		0.0083	U		0.0083	U		0.0083	U	
THALLIUM		0.4	U		0.4	U		0.4	U		0.4	U	
TUNGSTEN		0.091	B	A	0.059	B	A	0.041	B	A	0.033	B	A
VANADIUM		1	J	P	0.91	J	P	0.88	J	P	0.9	J	P
ZINC		5.8	B	A	3.8	B	A	3.4	B	A	3.8	B	A

PROJ_NO: 04793	NSAMPLE	MSA-SW45B-091813			MSA-SW45C-091813			MSA-SW45D-091813		
SDG: 240-29166-1	LAB_ID	240-29166-15			240-29166-16			240-29166-17		
FRACTION: MF	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013		
MEDIA: WATER	QC_TYPE	NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0		
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ANTIMONY		0.27	J	P	0.25	J	P	0.26	J	P
ARSENIC		1.1	J	P	1.1	J	P	1.1	J	P
BARIUM		44			43			43		
BERYLLIUM		0.031	UL	N	0.031	UL	N	0.031	UL	N
CADMIUM		0.048	B	A	0.032	B	A	0.027	B	A
CHROMIUM		0.18	J	P	0.15	J	P	0.17	J	P
COBALT		0.11	B	A	0.11	B	A	0.1	B	A
COPPER		3.1			3.3			3.1		
LEAD		0.14	UJ	D	0.14	UJ	D	0.14	UJ	D
MERCURY		0.17	J	P	0.12	U		0.12	U	
MOLYBDENUM		1.7	J	DP	1.8	J	DP	1.7	J	DP
NICKEL		1.6	J	P	2.1			1.6	J	P
SELENIUM		0.34	U		0.34	U		0.34	U	
SILVER		0.011	B	A	0.0083	U		0.0083	U	
THALLIUM		0.4	U		0.4	U		0.4	U	
TUNGSTEN		0.03	B	A	0.018	B	A	0.019	B	A
VANADIUM		0.96	J	P	0.95	J	P	0.87	J	P
ZINC		4.2	B	A	5.2	B	A	4.4	B	A

PROJ_NO: 04793	NSAMPLE	MSA-SW37A-091813			MSA-SW37B-091813			MSA-SW37C-091813			MSA-SW37D-091813		
SDG: 240-29166-1	LAB_ID	240-29166-30			240-29166-31			240-29166-32			240-29166-33		
FRACTION: MF	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
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
ANTIMONY		0.34	B	A	0.32	B	A	0.33	B	A	0.3	B	A
ARSENIC		1.4	J	P	1.3	J	P	1.3	J	P	1.3	J	P
BARIUM		43			43			42			43		
BERYLLIUM		0.043	J	P	0.031	U		0.031	U		0.031	U	
CADMIUM		0.063	B	A	0.026	U		0.029	B	A	0.026	U	
CHROMIUM		0.29	J	P	0.24	J	P	0.19	J	P	0.28	J	P
COBALT		0.3	B	A	0.22	B	A	0.22	B	A	0.28	B	A
COPPER		2.8			3.1			2.8			3.2		
LEAD		0.14	U		0.14	U		0.14	U		0.14	U	
MERCURY		0.12	UL	C	0.12	UL	C	0.12	UL	C	0.12	UL	C
MOLYBDENUM		1.8	J	P	1.7	J	P	1.8	J	P	1.7	J	P
NICKEL		3.4			2.2			2.3			3.2		
SELENIUM		0.34	U		0.34	U		0.34	U		0.34	U	
SILVER		0.0083	U		0.0083	U		0.0083	U		0.0083	U	
THALLIUM		0.4	U		0.4	U		0.4	U		0.4	U	
TUNGSTEN		0.091	B	A	0.11	B	A	0.078	B	A	0.059	B	A
VANADIUM		1.1	J	P	0.95	J	P	0.88	J	P	1	J	P
ZINC		4.3	J	P	3.7	J	P	3.4	J	P	5.2	J	P

PROJ_NO: 04793	NSAMPLE	MSA-SW38A-091813			MSA-SW38B-091813			MSA-SW38C-091813			MSA-SW38D-091813		
SDG: 240-29166-1	LAB_ID	240-29166-34			240-29166-35			240-29166-36			240-29166-37		
FRACTION: MF	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
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
ANTIMONY		0.29	B	A	0.3	B	A	0.31	B	A	0.28	B	A
ARSENIC		1.2	J	P	1.3	J	P	1.2	J	P	1.2	J	P
BARIUM		42			43			43			43		
BERYLLIUM		0.031	UL	N	0.031	UL	N	0.031	U		0.031	U	
CADMIUM		0.051	B	A	0.042	B	A	0.046	B	A	0.032	B	A
CHROMIUM		0.29	J	P	0.53	J	P	0.18	J	P	0.18	J	P
COBALT		0.19	B	A	0.19	B	A	0.23	B	A	0.22	B	A
COPPER		3.7			2.7			3.4			2.6		
LEAD		0.14	U		0.14	U		0.14	U		0.14	U	
MERCURY		0.12	UL	C	0.12	UL	C	0.12	UL	C	0.12	UL	C
MOLYBDENUM		1.7	J	P	1.7	J	P	1.7	J	P	1.7	J	P
NICKEL		1.6	J	P	1.8	J	P	2.7			2.2		
SELENIUM		0.34	U		0.34	U		0.34	U		0.34	U	
SILVER		0.0083	U		0.022	B	A	0.0083	U		0.0083	U	
THALLIUM		0.4	U		0.4	U		0.4	U		0.4	U	
TUNGSTEN		0.044	B	A	0.042	B	A	0.032	B	A	0.031	B	A
VANADIUM		1	J	P	1	J	P	0.98	J	P	0.96	J	P
ZINC		3	J	P	3.3	J	P	4.5	J	P	2.7	J	P

PROJ_NO: 04793	NSAMPLE	MSA-SW39A-091813			MSA-SW39B-091813			MSA-SW39C-091813			MSA-SW39D-091813		
SDG: 240-29166-1	LAB_ID	240-29166-38			240-29166-39			240-29166-40			240-29166-41		
FRACTION: MF	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
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
ANTIMONY		0.24	B	A	0.25	B	A	0.26	B	A	0.27	B	A
ARSENIC		0.99	J	P	0.99	J	P	1	J	P	1	J	P
BARIUM		41			41			43			43		
BERYLLIUM		0.031	UL	N	0.031	UL	N	0.031	UL	N	0.031	U	
CADMIUM		0.037	B	A	0.044	B	A	0.03	B	A	0.04	B	A
CHROMIUM		0.16	J	P	0.28	J	P	0.2	J	P	0.18	J	P
COBALT		0.095	B	A	0.1	B	A	0.1	B	A	0.11	B	A
COPPER		2.6			2.6			2.6			2.8		
LEAD		0.14	U		0.14	U		0.14	U		0.14	U	
MERCURY		0.12	UL	C	0.12	UL	C	0.12	UL	C	0.12	UL	C
MOLYBDENUM		1.7	J	P	1.8	J	P	1.7	J	P	1.9	J	P
NICKEL		1.7	J	P	1.6	J	P	1.6	J	P	2.3		
SELENIUM		0.34	U		0.34	U		0.34	U		0.34	U	
SILVER		0.0083	U		0.0083	U		0.0083	U		0.0083	U	
THALLIUM		0.4	U		0.4	U		0.4	U		0.4	U	
TUNGSTEN		0.017	U		0.022	B	A	0.017	U		0.059	B	A
VANADIUM		0.89	J	P	0.86	J	P	0.93	J	P	0.89	J	P
ZINC		3.3	J	P	3.6	J	P	4	J	P	4	J	P

PROJ_NO: 04793	NSAMPLE	MSA-SW40A-091813			MSA-SW40B-091813			MSA-SW40C-091813			MSA-SW40D-091813		
SDG: 240-29166-1	LAB_ID	240-29166-18			240-29166-19			240-29166-20			240-29166-21		
FRACTION: MF	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
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
ANTIMONY		0.25	J	P	0.26	J	P	0.26	J	P	0.3	J	P
ARSENIC		1.3	J	P	1.2	J	P	1.2	J	P	1.2	J	P
BARIUM		42			43			44			44		
BERYLLIUM		0.031	U		0.031	U		0.031	U		0.031	U	
CADMIUM		0.046	B	A	0.044	B	A	0.041	B	A	0.033	B	A
CHROMIUM		0.34	J	P	0.2	J	P	0.15	J	P	0.18	J	NP
COBALT		0.29	B	A	0.21	B	A	0.23	B	A	0.21	B	A
COPPER		2.8			2.9			2.9			2.8	L	N
LEAD		0.2	J	DP	0.14	UJ	D	0.14	UJ	D	0.14	UJ	D
MERCURY		0.12	U		0.13	J	P	0.12	U		0.12	U	
MOLYBDENUM		1.6	J	DP	1.7	J	DP	1.7	J	DP	2.2	J	DP
NICKEL		1.5	J	P	2.2			3.2			2.2	L	N
SELENIUM		0.34	U		0.34	U		0.34	U		0.34	U	
SILVER		0.0083	U		0.0083	U		0.0083	U		0.0083	U	
THALLIUM		0.4	U		0.4	U		0.4	U		0.4	U	
TUNGSTEN		0.024	B	A	0.017	U		0.017	B	A	0.099	B	A
VANADIUM		1.1	J	P	0.98	J	P	1	J	P	0.98	J	NP
ZINC		3.5	B	A	4.3	B	A	3.7	B	A	3.2	B	A

PROJ_NO: 04793	NSAMPLE	MSA-SW41A-091813			MSA-SW41B-091813			MSA-SW41C-091813			MSA-SW41D-091813		
SDG: 240-29166-1	LAB_ID	240-29166-22			240-29166-23			240-29166-24			240-29166-25		
FRACTION: MF	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
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
ANTIMONY		0.28	J	P	0.26	J	P	0.29	J	P	0.29	J	P
ARSENIC		1.2	J	P	1.2	J	P	1.2	J	P	1.2	J	P
BARIUM		42			44			43			42		
BERYLLIUM		0.031	U		0.031	UL	N	0.031	U		0.031	UL	N
CADMIUM		0.038	B	A	0.026	UJ	D	0.026	UJ	D	0.026	UJ	D
CHROMIUM		0.17	J	P	0.3	J	P	0.9	J	P	0.25	J	P
COBALT		0.16	B	A	0.24	B	A	0.2	B	A	0.18	B	A
COPPER		2.9			2.9			2.9			2.9		
LEAD		0.14	UJ	D	0.14	UJ	D	0.14	UJ	D	0.14	UJ	D
MERCURY		0.12	U		0.12	U		0.12	U		0.12	U	
MOLYBDENUM		1.9	J	DP	2	J	DP	1.9	J	DP	1.8	J	DP
NICKEL		1.6	J	P	3.4			2.6			2		
SELENIUM		0.34	U		0.34	U		0.34	U		0.34	U	
SILVER		0.0083	U		0.0083	U		0.0083	U		0.0083	U	
THALLIUM		0.4	U		0.4	U		0.4	U		0.4	U	
TUNGSTEN		0.066	B	A	0.056	B	A	0.037	B	A	0.03	B	A
VANADIUM		0.95	J	P	0.92	J	P	0.91	J	P	0.96	J	P
ZINC		4.2	B	A	5.4	B	A	5.3	B	A	3.8	B	A

PROJ_NO: 04793	NSAMPLE	MSA-SW42B-091813			MSA-SW42C-091813			MSA-SW42D-091813			MSA-SW43A-091813		
SDG: 240-29166-1	LAB_ID	240-29166-27			240-29166-28			240-29166-29			240-29166-6		
FRACTION: MF	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
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
ANTIMONY		0.4	B	A	0.33	B	A	0.3	B	A	0.27	J	P
ARSENIC		1.4	J	P	1.4	J	P	1.2	J	P	1.1	J	NP
BARIUM		43			41			41			39		
BERYLLIUM		0.15	J	P	0.087	J	P	0.061	J	P	0.14	J	P
CADMIUM		0.093	B	A	0.15	B	A	0.045	B	A	0.11	B	A
CHROMIUM		0.31	J	P	0.3	J	P	0.3	J	P	0.22	J	NP
COBALT		0.29	B	A	0.3	B	A	0.23	B	A	0.22	B	A
COPPER		3			2.7			3.4			2.9	L	N
LEAD		0.15	J	P	0.14	U		0.14	U		0.14	UJ	D
MERCURY		0.12	UL	C	0.12	UL	C	0.12	UL	C	0.12	U	
MOLYBDENUM		2.1	J	P	1.8	J	P	1.7	J	P	1.7	J	DNP
NICKEL		2.3			1.6	J	P	2.1			2.1	L	N
SELENIUM		0.59	J	P	0.34	J	P	0.34	U		0.34	J	NP
SILVER		0.009	B	A	0.013	B	A	0.0083	U		0.009	B	A
THALLIUM		1.1	B	A	0.54	B	A	0.4	U		0.9	B	A
TUNGSTEN		0.36	B	A	0.19	B	A	0.12	B	A	0.21	B	A
VANADIUM		1.1	J	P	1	J	P	1	J	P	0.97	J	NP
ZINC		3.8	J	P	2.7	J	P	3.5	J	P	4.2	B	A

PROJ_NO: 04793	NSAMPLE	MSA-SW43B-091813			MSA-SW43C-091813			MSA-SW43D-091813			MSA-SW44A-091813		
SDG: 240-29166-1	LAB_ID	240-29166-7			240-29166-8			240-29166-9			240-29166-10		
FRACTION: MF	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
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
ANTIMONY		0.33	J	P	0.27	J	P	0.29	J	P	0.27	J	P
ARSENIC		1.3	J	P	1.3	J	P	1.2	J	P	1.1	J	P
BARIUM		43			39			41			42		
BERYLLIUM		0.13	J	P	0.083	J	P	0.055	J	P	0.045	J	P
CADMIUM		0.088	B	A	0.21	B	A	0.12	B	A	0.046	B	A
CHROMIUM		0.23	J	P	0.29	J	P	0.27	J	P	0.27	J	P
COBALT		0.24	B	A	0.34	B	A	0.24	B	A	0.2	B	A
COPPER		3			2.9			2.9			3.1		
LEAD		0.14	UJ	D	0.18	J	DP	0.14	UJ	D	0.14	UJ	D
MERCURY		0.12	U		0.12	U		0.12	U		0.13	J	P
MOLYBDENUM		2	J	DP	1.7	J	DP	1.7	J	DP	1.7	J	DP
NICKEL		2.3			2.1			1.6	J	P	3.3		
SELENIUM		0.53	J	P	0.42	J	P	0.34	U		0.34	U	
SILVER		0.0083	U		0.016	B	A	0.01	B	A	0.0083	U	
THALLIUM		1.2	B	A	0.57	B	A	0.4	U		0.4	U	
TUNGSTEN		0.28	B	A	0.16	B	A	0.093	B	A	0.069	B	A
VANADIUM		1	J	P	1.1	J	P	1	J	P	0.92	J	P
ZINC		4.6	B	A	3.2	B	A	3.4	B	A	4.8	B	A

PROJ_NO: 04793	NSAMPLE	MSA-SW44B-091813			MSA-SW44C-091813			MSA-SW44D-091813			MSA-SW45A-091813		
SDG: 240-29166-1	LAB_ID	240-29166-11			240-29166-12			240-29166-13			240-29166-14		
FRACTION: MF	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
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
ANTIMONY		0.27	J	P	0.27	J	P	0.26	J	P	0.25	J	P
ARSENIC		1.2	J	P	1.1	J	P	1.1	J	P	1.1	J	P
BARIUM		43			43			40			43		
BERYLLIUM		0.031	U		0.031	U		0.031	U		0.031	UL	N
CADMIUM		0.04	B	A	0.026	UJ	D	0.026	UJ	D	0.035	B	A
CHROMIUM		0.19	J	P	0.13	U		0.26	J	P	0.41	J	P
COBALT		0.15	B	A	0.13	B	A	0.13	B	A	0.11	B	A
COPPER		3.1			2.9			2.9			3.4		
LEAD		0.14	UJ	D	0.14	UJ	D	0.14	UJ	D	0.14	UJ	D
MERCURY		0.12	U		0.12	U		0.12	U		0.12	U	
MOLYBDENUM		1.8	J	DP	1.8	J	DP	1.6	J	DP	1.7	J	DP
NICKEL		2.3			1.6	J	P	2			1.6	J	P
SELENIUM		0.34	U		0.34	U		0.34	U		0.34	U	
SILVER		0.0083	U		0.0083	U		0.0083	U		0.0083	U	
THALLIUM		0.4	U		0.4	U		0.4	U		0.4	U	
TUNGSTEN		0.091	B	A	0.059	B	A	0.041	B	A	0.033	B	A
VANADIUM		1	J	P	0.91	J	P	0.88	J	P	0.9	J	P
ZINC		5.8	B	A	3.8	B	A	3.4	B	A	3.8	B	A

PROJ_NO: 04793	NSAMPLE	MSA-SW45B-091813			MSA-SW45C-091813			MSA-SW45D-091813		
SDG: 240-29166-1	LAB_ID	240-29166-15			240-29166-16			240-29166-17		
FRACTION: MF	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013		
MEDIA: WATER	QC_TYPE	NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0		
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ANTIMONY		0.27	J	P	0.25	J	P	0.26	J	P
ARSENIC		1.1	J	P	1.1	J	P	1.1	J	P
BARIUM		44			43			43		
BERYLLIUM		0.031	UL	N	0.031	UL	N	0.031	UL	N
CADMIUM		0.048	B	A	0.032	B	A	0.027	B	A
CHROMIUM		0.18	J	P	0.15	J	P	0.17	J	P
COBALT		0.11	B	A	0.11	B	A	0.1	B	A
COPPER		3.1			3.3			3.1		
LEAD		0.14	UJ	D	0.14	UJ	D	0.14	UJ	D
MERCURY		0.17	J	P	0.12	U		0.12	U	
MOLYBDENUM		1.7	J	DP	1.8	J	DP	1.7	J	DP
NICKEL		1.6	J	P	2.1			1.6	J	P
SELENIUM		0.34	U		0.34	U		0.34	U	
SILVER		0.011	B	A	0.0083	U		0.0083	U	
THALLIUM		0.4	U		0.4	U		0.4	U	
TUNGSTEN		0.03	B	A	0.018	B	A	0.019	B	A
VANADIUM		0.96	J	P	0.95	J	P	0.87	J	P
ZINC		4.2	B	A	5.2	B	A	4.4	B	A

PROJ_NO: 04793	NSAMPLE	MSA-SW37A-091813			MSA-SW37B-091813			MSA-SW37C-091813			MSA-SW37D-091813		
SDG: 240-29166-1	LAB_ID	240-29166-30			240-29166-31			240-29166-32			240-29166-33		
FRACTION: MISC	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/L			MG/L			MG/L			MG/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
CALCIUM HARDNESS AS CACO3		140			140			140			140		
HARDNESS AS CACO3		640			630			640			640		
MAGNESIUM HARDNESS AS CACO3		500			500			500			500		

PROJ_NO: 04793	NSAMPLE	MSA-SW38A-091813			MSA-SW38B-091813			MSA-SW38C-091813			MSA-SW38D-091813		
SDG: 240-29166-1	LAB_ID	240-29166-34			240-29166-35			240-29166-36			240-29166-37		
FRACTION: MISC	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/L			MG/L			MG/L			MG/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
CALCIUM HARDNESS AS CACO3		140			140			140			140		
HARDNESS AS CACO3		660			650			660			660		
MAGNESIUM HARDNESS AS CACO3		510			510			520			510		

PROJ_NO: 04793	NSAMPLE	MSA-SW39A-091813			MSA-SW39B-091813			MSA-SW39C-091813			MSA-SW39D-091813		
SDG: 240-29166-1	LAB_ID	240-29166-38			240-29166-39			240-29166-40			240-29166-41		
FRACTION: MISC	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/L			MG/L			MG/L			MG/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
CALCIUM HARDNESS AS CACO3		150			140			150			150		
HARDNESS AS CACO3		680			680			700			700		
MAGNESIUM HARDNESS AS CACO3		540			530			550			550		

PROJ_NO: 04793	NSAMPLE	MSA-SW40A-091813			MSA-SW40B-091813			MSA-SW40C-091813			MSA-SW40D-091813		
SDG: 240-29166-1	LAB_ID	240-29166-18			240-29166-19			240-29166-20			240-29166-21		
FRACTION: MISC	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/L			MG/L			MG/L			MG/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
CALCIUM HARDNESS AS CACO3		150			150			150			150		
HARDNESS AS CACO3		650			660			660			660		
MAGNESIUM HARDNESS AS CACO3		500			510			520			520		

PROJ_NO: 04793	NSAMPLE	MSA-SW41A-091813			MSA-SW41B-091813			MSA-SW41C-091813			MSA-SW41D-091813		
SDG: 240-29166-1	LAB_ID	240-29166-22			240-29166-23			240-29166-24			240-29166-25		
FRACTION: MISC	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/L			MG/L			MG/L			MG/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
CALCIUM HARDNESS AS CACO3		150			150			140			140		
HARDNESS AS CACO3		670			690			650			660		
MAGNESIUM HARDNESS AS CACO3		520			530			510			510		

PROJ_NO: 04793	NSAMPLE	MSA-SW42B-091813			MSA-SW42C-091813			MSA-SW42D-091813			MSA-SW43A-091813		
SDG: 240-29166-1	LAB_ID	240-29166-27			240-29166-28			240-29166-29			240-29166-6		
FRACTION: MISC	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/L			MG/L			MG/L			MG/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
CALCIUM HARDNESS AS CACO3		140			130			130			140		
HARDNESS AS CACO3		650			620			620			610		
MAGNESIUM HARDNESS AS CACO3		510			480			480			470		

PROJ_NO: 04793	NSAMPLE	MSA-SW43B-091813			MSA-SW43C-091813			MSA-SW43D-091813			MSA-SW44A-091813		
SDG: 240-29166-1	LAB_ID	240-29166-7			240-29166-8			240-29166-9			240-29166-10		
FRACTION: MISC	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/L			MG/L			MG/L			MG/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
CALCIUM HARDNESS AS CACO3		140			130			140			140		
HARDNESS AS CACO3		640			600			630			660		
MAGNESIUM HARDNESS AS CACO3		500			470			490			520		

PROJ_NO: 04793	NSAMPLE	MSA-SW44B-091813			MSA-SW44C-091813			MSA-SW44D-091813			MSA-SW45A-091813		
SDG: 240-29166-1	LAB_ID	240-29166-11			240-29166-12			240-29166-13			240-29166-14		
FRACTION: MISC	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013			9/18/2013		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/L			MG/L			MG/L			MG/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
CALCIUM HARDNESS AS CACO3		150			140			140			140		
HARDNESS AS CACO3		670			670			630			670		
MAGNESIUM HARDNESS AS CACO3		520			520			490			530		

PROJ_NO: 04793	NSAMPLE	MSA-SW45B-091813			MSA-SW45C-091813			MSA-SW45D-091813		
SDG: 240-29166-1	LAB_ID	240-29166-15			240-29166-16			240-29166-17		
FRACTION: MISC	SAMP_DATE	9/18/2013			9/18/2013			9/18/2013		
MEDIA: WATER	QC_TYPE	NM			NM			NM		
	UNITS	~~UGL~~ mg/L			~~UGL~~ mg/L			~~UGL~~ mg/L		
	PCT_SOLIDS	0.0			0.0			0.0		
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CALCIUM HARDNESS AS CACO3		150			140			150		
HARDNESS AS CACO3		680			670			680		
MAGNESIUM HARDNESS AS CACO3		530			530			530		

10-14-13
VAS

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW37A-091813
Lab Sample ID: 240-29166-30
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 14:22
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.34	2.0	0.11	ug/L	J	B	1	6020
7440-38-2	Arsenic	1.4	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	43	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	0.043	1.0	0.031	ug/L	J		1	6020
7440-43-9	Cadmium	0.063	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.29	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.30	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.8	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.8	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	3.4	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	1.1	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	4.3	20	2.1	ug/L	J		1	6020
7440-33-7	Tungsten	0.091	10	0.017	ug/L	J	B	1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW37B-091813
Lab Sample ID: 240-29166-31
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 14:26
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.32	2.0	0.11	ug/L	J	B	1	6020
7440-38-2	Arsenic	1.3	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	43	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	1.0	1.0	0.026	ug/L	U		1	6020
7440-47-3	Chromium	0.24	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.22	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	3.1	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.7	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	2.2	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	0.95	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	3.7	20	2.1	ug/L	J		1	6020
7440-33-7	Tungsten	0.11	10	0.017	ug/L	J	B	1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW37C-091813
Lab Sample ID: 240-29166-32
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 14:30
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.33	2.0	0.11	ug/L	J	B	1	6020
7440-38-2	Arsenic	1.3	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	42	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	0.029	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.19	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.22	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.8	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.8	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	2.3	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	0.88	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	3.4	20	2.1	ug/L	J		1	6020
7440-33-7	Tungsten	0.078	10	0.017	ug/L	J	B	1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW37D-091813
Lab Sample ID: 240-29166-33
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 14:34
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.30	2.0	0.11	ug/L	J	B	1	6020
7440-38-2	Arsenic	1.3	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	43	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	1.0	1.0	0.026	ug/L	U		1	6020
7440-47-3	Chromium	0.28	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.28	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	3.2	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.7	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	3.2	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	1.0	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	5.2	20	2.1	ug/L	J		1	6020
7440-33-7	Tungsten	0.059	10	0.017	ug/L	J	B	1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW38A-091813
Lab Sample ID: 240-29166-34
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 13:27
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.29	2.0	0.11	ug/L	J	B	1	6020
7440-38-2	Arsenic	1.2	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	42	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	0.051	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.29	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.19	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	3.7	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.7	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	1.6	2.0	0.088	ug/L	J		1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	1.0	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	3.0	20	2.1	ug/L	J		1	6020
7440-33-7	Tungsten	0.044	10	0.017	ug/L	J	B	1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW38B-091813
Lab Sample ID: 240-29166-35
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 13:31
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.30	2.0	0.11	ug/L	J	B	1	6020
7440-38-2	Arsenic	1.3	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	43	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	0.042	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.53	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.19	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.7	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.7	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	1.8	2.0	0.088	ug/L	J		1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	0.022	1.0	0.0083	ug/L	J		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	1.0	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	3.3	20	2.1	ug/L	J		1	6020
7440-33-7	Tungsten	0.042	10	0.017	ug/L	J	B	1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW38C-091813
Lab Sample ID: 240-29166-36
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 13:35
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.31	2.0	0.11	ug/L	J	B	1	6020
7440-38-2	Arsenic	1.2	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	43	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	0.046	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.18	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.23	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	3.4	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.7	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	2.7	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	0.98	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	4.5	20	2.1	ug/L	J		1	6020
7440-33-7	Tungsten	0.032	10	0.017	ug/L	J	B	1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW38D-091813
Lab Sample ID: 240-29166-37
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 13:39
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.28	2.0	0.11	ug/L	J	B	1	6020
7440-38-2	Arsenic	1.2	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	43	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	0.032	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.18	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.22	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.6	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.7	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	2.2	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	0.96	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	2.7	20	2.1	ug/L	J		1	6020
7440-33-7	Tungsten	0.031	10	0.017	ug/L	J	B	1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW39A-091813
Lab Sample ID: 240-29166-38
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 11:30
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.24	2.0	0.11	ug/L	J	B	1	6020
7440-38-2	Arsenic	0.99	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	41	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	0.037	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.16	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.095	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.6	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.7	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	1.7	2.0	0.088	ug/L	J		1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	0.89	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	3.3	20	2.1	ug/L	J		1	6020
7440-33-7	Tungsten	10	10	0.017	ug/L	U		1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW39B-091813
Lab Sample ID: 240-29166-39
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 11:36
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.25	2.0	0.11	ug/L	J	B	1	6020
7440-38-2	Arsenic	0.99	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	41	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	0.044	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.28	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.10	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.6	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.8	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	1.6	2.0	0.088	ug/L	J		1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	0.86	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	3.6	20	2.1	ug/L	J		1	6020
7440-33-7	Tungsten	0.022	10	0.017	ug/L	J	B	1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW39C-091813
Lab Sample ID: 240-29166-40
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 11:41
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.26	2.0	0.11	ug/L	J	B	1	6020
7440-38-2	Arsenic	1.0	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	43	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	0.030	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.20	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.10	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.6	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.7	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	1.6	2.0	0.088	ug/L	J		1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	0.93	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	4.0	20	2.1	ug/L	J		1	6020
7440-33-7	Tungsten	10	10	0.017	ug/L	U		1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW39D-091813
Lab Sample ID: 240-29166-41
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 11:46
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.27	2.0	0.11	ug/L	J	B	1	6020
7440-38-2	Arsenic	1.0	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	43	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	0.040	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.18	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.11	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.8	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.9	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	2.3	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	0.89	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	4.0	20	2.1	ug/L	J		1	6020
7440-33-7	Tungsten	0.059	10	0.017	ug/L	J	B	1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW40A-091813
Lab Sample ID: 240-29166-18
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 13:44
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.25	2.0	0.11	ug/L	J		1	6020
7440-38-2	Arsenic	1.3	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	42	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	0.046	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.34	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.29	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.8	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	0.20	1.0	0.14	ug/L	J		1	6020
7439-98-7	Molybdenum	1.6	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	1.5	2.0	0.088	ug/L	J		1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	1.1	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	3.5	20	2.1	ug/L	J	B	1	6020
7440-33-7	Tungsten	0.024	10	0.017	ug/L	J		1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW40B-091813
Lab Sample ID: 240-29166-19
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 13:51
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.26	2.0	0.11	ug/L	J		1	6020
7440-38-2	Arsenic	1.2	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	43	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	0.044	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.20	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.21	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.9	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.7	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	2.2	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	0.98	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	4.3	20	2.1	ug/L	J	B	1	6020
7440-33-7	Tungsten	10	10	0.017	ug/L	U		1	6020
7439-97-6	Mercury	0.13	0.20	0.12	ug/L	J		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW40C-091813 Lab Sample ID: 240-29166-20

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG ID.:

Matrix: Water Date Sampled: 09/18/2013 13:56

Reporting Basis: WET Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.26	2.0	0.11	ug/L	J		1	6020
7440-38-2	Arsenic	1.2	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	44	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	0.041	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.15	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.23	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.9	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.7	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	3.2	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	1.0	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	3.7	20	2.1	ug/L	J	B	1	6020
7440-33-7	Tungsten	0.017	10	0.017	ug/L	J		1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW40D-091813
Lab Sample ID: 240-29166-21
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 14:00
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.30	2.0	0.11	ug/L	J		1	6020
7440-38-2	Arsenic	1.2	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	44	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	0.033	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.18	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.21	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.8	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	2.2	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	2.2	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	0.98	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	3.2	20	2.1	ug/L	J	B	1	6020
7440-33-7	Tungsten	0.099	10	0.017	ug/L	J		1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW41A-091813
Lab Sample ID: 240-29166-22
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:50
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.28	2.0	0.11	ug/L	J		1	6020
7440-38-2	Arsenic	1.2	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	42	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	0.038	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.17	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.16	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.9	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.9	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	1.6	2.0	0.088	ug/L	J		1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	0.95	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	4.2	20	2.1	ug/L	J	B	1	6020
7440-33-7	Tungsten	0.066	10	0.017	ug/L	J		1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW41B-091813
Lab Sample ID: 240-29166-23
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:55
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.26	2.0	0.11	ug/L	J		1	6020
7440-38-2	Arsenic	1.2	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	44	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	1.0	1.0	0.026	ug/L	U		1	6020
7440-47-3	Chromium	0.30	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.24	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.9	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	2.0	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	3.4	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	0.92	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	5.4	20	2.1	ug/L	J	B	1	6020
7440-33-7	Tungsten	0.056	10	0.017	ug/L	J		1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW41C-091813
Lab Sample ID: 240-29166-24
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 13:00
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.29	2.0	0.11	ug/L	J		1	6020
7440-38-2	Arsenic	1.2	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	43	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	1.0	1.0	0.026	ug/L	U		1	6020
7440-47-3	Chromium	0.90	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.20	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.9	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.9	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	2.6	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	0.91	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	5.3	20	2.1	ug/L	J	B	1	6020
7440-33-7	Tungsten	0.037	10	0.017	ug/L	J		1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW41D-091813
Lab Sample ID: 240-29166-25
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 13:04
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.29	2.0	0.11	ug/L	J		1	6020
7440-38-2	Arsenic	1.2	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	42	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	1.0	1.0	0.026	ug/L	U		1	6020
7440-47-3	Chromium	0.25	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.18	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.9	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.8	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	2.0	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	0.96	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	3.8	20	2.1	ug/L	J	B	1	6020
7440-33-7	Tungsten	0.030	10	0.017	ug/L	J		1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW42B-091813 Lab Sample ID: 240-29166-27

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG ID.:

Matrix: Water Date Sampled: 09/18/2013 14:09

Reporting Basis: WET Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.40	2.0	0.11	ug/L	J	B	1	6020
7440-38-2	Arsenic	1.4	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	43	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	0.15	1.0	0.031	ug/L	J		1	6020
7440-43-9	Cadmium	0.093	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.31	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.29	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	3.0	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	0.15	1.0	0.14	ug/L	J		1	6020
7439-98-7	Molybdenum	2.1	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	2.3	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	0.59	5.0	0.34	ug/L	J		1	6020
7440-22-4	Silver	0.0090	1.0	0.0083	ug/L	J		1	6020
7440-28-0	Thallium	1.1	2.0	0.40	ug/L	J		1	6020
7440-62-2	Vanadium	1.1	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	3.8	20	2.1	ug/L	J		1	6020
7440-33-7	Tungsten	0.36	10	0.017	ug/L	J	B	1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW42C-091813
Lab Sample ID: 240-29166-28
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 14:13
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.33	2.0	0.11	ug/L	J	B	1	6020
7440-38-2	Arsenic	1.4	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	41	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	0.087	1.0	0.031	ug/L	J		1	6020
7440-43-9	Cadmium	0.15	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.30	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.30	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.7	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.8	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	1.6	2.0	0.088	ug/L	J		1	6020
7782-49-2	Selenium	0.34	5.0	0.34	ug/L	J		1	6020
7440-22-4	Silver	0.013	1.0	0.0083	ug/L	J		1	6020
7440-28-0	Thallium	0.54	2.0	0.40	ug/L	J		1	6020
7440-62-2	Vanadium	1.0	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	2.7	20	2.1	ug/L	J		1	6020
7440-33-7	Tungsten	0.19	10	0.017	ug/L	J	B	1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW42D-091813 Lab Sample ID: 240-29166-29

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG ID.:

Matrix: Water Date Sampled: 09/18/2013 14:17

Reporting Basis: WET Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.30	2.0	0.11	ug/L	J	B	1	6020
7440-38-2	Arsenic	1.2	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	41	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	0.061	1.0	0.031	ug/L	J		1	6020
7440-43-9	Cadmium	0.045	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.30	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.23	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	3.4	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.7	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	2.1	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	1.0	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	3.5	20	2.1	ug/L	J		1	6020
7440-33-7	Tungsten	0.12	10	0.017	ug/L	J	B	1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW43A-091813
Lab Sample ID: 240-29166-6
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:31
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.27	2.0	0.11	ug/L	J		1	6020
7440-38-2	Arsenic	1.1	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	39	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	0.14	1.0	0.031	ug/L	J		1	6020
7440-43-9	Cadmium	0.11	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.22	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.22	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.9	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.7	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	2.1	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	0.34	5.0	0.34	ug/L	J		1	6020
7440-22-4	Silver	0.0090	1.0	0.0083	ug/L	J		1	6020
7440-28-0	Thallium	0.90	2.0	0.40	ug/L	J		1	6020
7440-62-2	Vanadium	0.97	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	4.2	20	2.1	ug/L	J	B	1	6020
7440-33-7	Tungsten	0.21	10	0.017	ug/L	J		1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW43B-091813
Lab Sample ID: 240-29166-7
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:37
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.33	2.0	0.11	ug/L	J		1	6020
7440-38-2	Arsenic	1.3	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	43	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	0.13	1.0	0.031	ug/L	J		1	6020
7440-43-9	Cadmium	0.088	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.23	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.24	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	3.0	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	2.0	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	2.3	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	0.53	5.0	0.34	ug/L	J		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	1.2	2.0	0.40	ug/L	J		1	6020
7440-62-2	Vanadium	1.0	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	4.6	20	2.1	ug/L	J	B	1	6020
7440-33-7	Tungsten	0.28	10	0.017	ug/L	J		1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW43C-091813
Lab Sample ID: 240-29166-8
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:40
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.27	2.0	0.11	ug/L	J		1	6020
7440-38-2	Arsenic	1.3	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	39	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	0.083	1.0	0.031	ug/L	J		1	6020
7440-43-9	Cadmium	0.21	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.29	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.34	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.9	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	0.18	1.0	0.14	ug/L	J		1	6020
7439-98-7	Molybdenum	1.7	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	2.1	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	0.42	5.0	0.34	ug/L	J		1	6020
7440-22-4	Silver	0.016	1.0	0.0083	ug/L	J		1	6020
7440-28-0	Thallium	0.57	2.0	0.40	ug/L	J		1	6020
7440-62-2	Vanadium	1.1	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	3.2	20	2.1	ug/L	J	B	1	6020
7440-33-7	Tungsten	0.16	10	0.017	ug/L	J		1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW43D-091813
Lab Sample ID: 240-29166-9
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:44
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.29	2.0	0.11	ug/L	J		1	6020
7440-38-2	Arsenic	1.2	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	41	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	0.055	1.0	0.031	ug/L	J		1	6020
7440-43-9	Cadmium	0.12	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.27	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.24	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.9	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.7	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	1.6	2.0	0.088	ug/L	J		1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	0.010	1.0	0.0083	ug/L	J		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	1.0	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	3.4	20	2.1	ug/L	J	B	1	6020
7440-33-7	Tungsten	0.093	10	0.017	ug/L	J		1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW44A-091813
Lab Sample ID: 240-29166-10
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:13
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.27	2.0	0.11	ug/L	J		1	6020
7440-38-2	Arsenic	1.1	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	42	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	0.045	1.0	0.031	ug/L	J		1	6020
7440-43-9	Cadmium	0.046	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.27	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.20	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	3.1	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.7	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	3.3	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	0.92	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	4.8	20	2.1	ug/L	J	B	1	6020
7440-33-7	Tungsten	0.069	10	0.017	ug/L	J		1	6020
7439-97-6	Mercury	0.13	0.20	0.12	ug/L	J		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW44B-091813
Lab Sample ID: 240-29166-11
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:18
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.27	2.0	0.11	ug/L	J		1	6020
7440-38-2	Arsenic	1.2	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	43	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	0.040	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.19	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.15	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	3.1	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.8	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	2.3	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	1.0	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	5.8	20	2.1	ug/L	J	B	1	6020
7440-33-7	Tungsten	0.091	10	0.017	ug/L	J		1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW44C-091813
Lab Sample ID: 240-29166-12
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:22
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.27	2.0	0.11	ug/L	J		1	6020
7440-38-2	Arsenic	1.1	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	43	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	1.0	1.0	0.026	ug/L	U		1	6020
7440-47-3	Chromium	2.0	2.0	0.13	ug/L	U		1	6020
7440-48-4	Cobalt	0.13	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.9	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.8	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	1.6	2.0	0.088	ug/L	J		1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	0.91	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	3.8	20	2.1	ug/L	J	B	1	6020
7440-33-7	Tungsten	0.059	10	0.017	ug/L	J		1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW44D-091813
Lab Sample ID: 240-29166-13
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:26
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.26	2.0	0.11	ug/L	J		1	6020
7440-38-2	Arsenic	1.1	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	40	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	1.0	1.0	0.026	ug/L	U		1	6020
7440-47-3	Chromium	0.26	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.13	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	2.9	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.6	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	2.0	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	0.88	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	3.4	20	2.1	ug/L	J	B	1	6020
7440-33-7	Tungsten	0.041	10	0.017	ug/L	J		1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW45A-091813
Lab Sample ID: 240-29166-14
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 11:53
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.25	2.0	0.11	ug/L	J		1	6020
7440-38-2	Arsenic	1.1	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	43	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	0.035	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.41	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.11	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	3.4	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.7	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	1.6	2.0	0.088	ug/L	J		1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	0.90	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	3.8	20	2.1	ug/L	J	B	1	6020
7440-33-7	Tungsten	0.033	10	0.017	ug/L	J		1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW45B-091813
Lab Sample ID: 240-29166-15
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 11:57
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.27	2.0	0.11	ug/L	J		1	6020
7440-38-2	Arsenic	1.1	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	44	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	0.048	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.18	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.11	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	3.1	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.7	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	1.6	2.0	0.088	ug/L	J		1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	0.011	1.0	0.0083	ug/L	J		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	0.96	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	4.2	20	2.1	ug/L	J	B	1	6020
7440-33-7	Tungsten	0.030	10	0.017	ug/L	J		1	6020
7439-97-6	Mercury	0.17	0.20	0.12	ug/L	J		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW45C-091813
Lab Sample ID: 240-29166-16
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:02
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.25	2.0	0.11	ug/L	J		1	6020
7440-38-2	Arsenic	1.1	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	43	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	0.032	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.15	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.11	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	3.3	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.8	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	2.1	2.0	0.088	ug/L			1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	0.95	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	5.2	20	2.1	ug/L	J	B	1	6020
7440-33-7	Tungsten	0.018	10	0.017	ug/L	J		1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW45D-091813
Lab Sample ID: 240-29166-17
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:06
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	0.26	2.0	0.11	ug/L	J		1	6020
7440-38-2	Arsenic	1.1	5.0	0.063	ug/L	J		1	6020
7440-39-3	Barium	43	5.0	0.32	ug/L			1	6020
7440-41-7	Beryllium	1.0	1.0	0.031	ug/L	U		1	6020
7440-43-9	Cadmium	0.027	1.0	0.026	ug/L	J		1	6020
7440-47-3	Chromium	0.17	2.0	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.10	1.0	0.020	ug/L	J		1	6020
7440-50-8	Copper	3.1	2.0	0.24	ug/L			1	6020
7439-92-1	Lead	1.0	1.0	0.14	ug/L	U		1	6020
7439-98-7	Molybdenum	1.7	10	0.81	ug/L	J		1	6020
7440-02-0	Nickel	1.6	2.0	0.088	ug/L	J		1	6020
7782-49-2	Selenium	5.0	5.0	0.34	ug/L	U		1	6020
7440-22-4	Silver	1.0	1.0	0.0083	ug/L	U		1	6020
7440-28-0	Thallium	2.0	2.0	0.40	ug/L	U		1	6020
7440-62-2	Vanadium	0.87	5.0	0.15	ug/L	J		1	6020
7440-66-6	Zinc	4.4	20	2.1	ug/L	J	B	1	6020
7440-33-7	Tungsten	0.019	10	0.017	ug/L	J		1	6020
7439-97-6	Mercury	0.20	0.20	0.12	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW37A-091813
Lab Sample ID: 240-29166-30
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 14:22
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	640	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	140	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	500	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW37B-091813 Lab Sample ID: 240-29166-31

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG ID.:

Matrix: Water Date Sampled: 09/18/2013 14:26

Reporting Basis: WET Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	630	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	140	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	500	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW37C-091813
Lab Sample ID: 240-29166-32
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 14:30
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	640	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	140	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	500	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW37D-091813
Lab Sample ID: 240-29166-33
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 14:34
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	640	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	140	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	500	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW38A-091813
Lab Sample ID: 240-29166-34
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 13:27
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	660	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	140	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	510	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW38B-091813
Lab Sample ID: 240-29166-35
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 13:31
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	650	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	140	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	510	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW38C-091813
Lab Sample ID: 240-29166-36
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 13:35
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	660	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	140	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	520	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW38D-091813
Lab Sample ID: 240-29166-37
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 13:39
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	660	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	140	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	510	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW39A-091813
Lab Sample ID: 240-29166-38
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 11:30
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	680	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	150	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	540	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW39B-091813
Lab Sample ID: 240-29166-39
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 11:36
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	680	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	140	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	530	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW39C-091813
Lab Sample ID: 240-29166-40
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 11:41
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	700	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	150	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	550	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW39D-091813
Lab Sample ID: 240-29166-41
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 11:46
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	700	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	150	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	550	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW40A-091813
Lab Sample ID: 240-29166-18
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 13:44
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	650	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	150	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	500	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW40B-091813
Lab Sample ID: 240-29166-19
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 13:51
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	660	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	150	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	510	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW40C-091813
Lab Sample ID: 240-29166-20
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 13:56
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	660	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	150	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	520	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW40D-091813
Lab Sample ID: 240-29166-21
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 14:00
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	660	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	150	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	520	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW41A-091813
Lab Sample ID: 240-29166-22
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:50
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	670	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	150	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	520	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW41B-091813
Lab Sample ID: 240-29166-23
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:55
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	690	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	150	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	530	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW41C-091813
Lab Sample ID: 240-29166-24
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 13:00
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	650	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	140	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	510	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW41D-091813
Lab Sample ID: 240-29166-25
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 13:04
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	660	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	140	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	510	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW42B-091813
Lab Sample ID: 240-29166-27
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 14:09
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	650	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	140	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	510	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW42C-091813
Lab Sample ID: 240-29166-28
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 14:13
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	620	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	130	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	480	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW42D-091813
Lab Sample ID: 240-29166-29
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 14:17
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	620	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	130	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	480	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW43A-091813

Lab Sample ID: 240-29166-6

Lab Name: TestAmerica Canton

Job No.: 240-29166-1

SDG ID.:

Matrix: Water

Date Sampled: 09/18/2013 12:31

Reporting Basis: WET

Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	610	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	140	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	470	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW43B-091813
Lab Sample ID: 240-29166-7
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:37
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	640	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	140	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	500	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW43C-091813
Lab Sample ID: 240-29166-8
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:40
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	600	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	130	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	470	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW43D-091813
Lab Sample ID: 240-29166-9
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:44
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	630	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	140	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	490	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW44A-091813
Lab Sample ID: 240-29166-10
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:13
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	660	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	140	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	520	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW44B-091813
Lab Sample ID: 240-29166-11
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:18
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	670	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	150	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	520	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW44C-091813
Lab Sample ID: 240-29166-12
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:22
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	670	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	140	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	520	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW44D-091813
Lab Sample ID: 240-29166-13
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:26
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	630	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	140	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	490	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW45A-091813
Lab Sample ID: 240-29166-14
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 11:53
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	670	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	140	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	530	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW45B-091813
Lab Sample ID: 240-29166-15
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 11:57
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	680	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	150	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	530	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW45C-091813
Lab Sample ID: 240-29166-16
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:02
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	670	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	140	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	530	21		mg/L			1	SM 2340B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MSA-SW45D-091813
Lab Sample ID: 240-29166-17
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
SDG ID.:
Matrix: Water
Date Sampled: 09/18/2013 12:06
Reporting Basis: WET
Date Received: 09/19/2013 09:30

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Hardness as calcium carbonate	680	33		mg/L			1	SM 2340B
	Calcium hardness as calcium carbonate	150	12		mg/L			1	SM 2340B
	Magnesium hardness as calcium carbonate	530	21		mg/L			1	SM 2340B

APPENDIX C

SUPPORT DOCUMENTATION

CASE NARRATIVE

Client: Tetra Tech, Inc

Project: MSA Surface Water Sampling

Report Number: 240-29166-1

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 09/19/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 2.4 C.

The metals/hardness bottle for sample MSA-SW42A-091813 (240-29166-26) was received empty. The lab will not be able to run the metals and hardness analyses for this sample.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples EL-SW01A-091813 (240-29166-1), EL-SW01B-091813 (240-29166-2), EL-SW01C-091813 (240-29166-3), EL-SW01D-091813 (240-29166-4), TB-091813 (240-29166-5), MSA-SW43A-091813 (240-29166-6), MSA-SW43B-091813 (240-29166-7), MSA-SW43C-091813 (240-29166-8), MSA-SW43D-091813 (240-29166-9), MSA-SW44A-091813 (240-29166-10), MSA-SW44B-091813 (240-29166-11), MSA-SW44C-091813 (240-29166-12), MSA-SW44D-091813 (240-29166-13), MSA-SW45A-091813 (240-29166-14), MSA-SW45B-091813 (240-29166-15), MSA-SW45C-091813 (240-29166-16), MSA-SW45D-091813 (240-29166-17), MSA-SW40A-091813 (240-29166-18), MSA-SW40B-091813 (240-29166-19), MSA-SW40C-091813 (240-29166-20), MSA-SW40D-091813 (240-29166-21), MSA-SW41A-091813 (240-29166-22), MSA-SW41B-091813 (240-29166-23), MSA-SW41C-091813 (240-29166-24), MSA-SW41D-091813 (240-29166-25), MSA-SW42A-091813 (240-29166-26), MSA-SW42B-091813 (240-29166-27), MSA-SW42C-091813 (240-29166-28), MSA-SW42D-091813 (240-29166-29), MSA-SW37A-091813 (240-29166-30), MSA-SW37B-091813 (240-29166-31), MSA-SW37C-091813 (240-29166-32), MSA-SW37D-091813 (240-29166-33), MSA-SW38A-091813 (240-29166-34), MSA-SW38B-091813 (240-29166-35), MSA-SW38C-091813 (240-29166-36), MSA-SW38D-091813 (240-29166-37), MSA-SW39A-091813 (240-29166-38), MSA-SW39B-091813 (240-29166-39), MSA-SW39C-091813 (240-29166-40) and MSA-SW39D-091813 (240-29166-41) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 09/21/2013, 09/22/2013 and 09/23/2013.

Toluene was detected in method blank MB 240-102368/6 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.

Methylene Chloride and Toluene were detected in method blank MB 240-102381/6 at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Method 8260 stipulates a 12 hour sequence for the analysis of samples. Due to an instrument error, the MS/MSD for 29166-1 exceeded the 12 hour time limit. The MS/MSD was reported for batch QC.

North Canton
4101 Shuffel Street, N. W.

North Canton, OH 44720
phone 330.497.9396 fax 330.497.0772

2.4

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Tony Apanavage	Site Contact: Tony Apanavage	Date: 09/18/13	COC No:
Tetra Tech	Tel/Fax: 301-233-8230 (cell)	Lab Contact: Pat Omeara	Carrier: Fedex	1 of 4 COCs
20251 Century Blvd, Suite 200	Analysis Turnaround Time			Job No.
Germantown, MD 20874	Calendar (C) or Work Days (W) _____			1121L04793
(301) 528-3021 Phone	TAT if different from Below: 3 DAYS			
(301) 528-3000 FAX	☐ 2 weeks			SDG No.
Project Name: MSA Surface Water Sampling	☐ 1 week			
Site: MSA Frog Mortar Creek	☐ 2 days			
P O #	☐ 1 day			Sampler:

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs	Sample Specific Notes:
EL-SW01A-091813	9/18/2013	1103	SW	AQ	3		x	Samples taken on 9/18/13
EL-SW01B-091813	9/18/2013	1112	SW	AQ	3		x	Labels say 9/19/13, refer
EL-SW01C-091813	9/18/2013	1117	SW	AQ	3		x	to chain dates
EL-SW01D-091813	9/18/2013	1121	SW	AQ	3		x	
TB-091813	–	–	TB	AQ	3		x	

240-29166 Chain of Custody

Page 1320 of 1325

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: **DISSOLVED METALS FILTERED IN FIELD**

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Tetra Tech	9/18/13 1540	[signature]	TestAmerica	9/18/13 1540
[signature]	TestAmerica	9/18/13 1640	[signature]	TA	9-19-13 930

Form No. CA-C-WI-002, Rev. 2, dated 03/0 2012

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: Tony Apanavage	Site Contact: Tony Apanavage	Date: 09/18/13	COC No:
Tetra Tech	Tel/Fax: 301-233-8230 (cell)	Lab Contact: Pat Omeara	Carrier: Fedex	2 of 4 COCs
20251 Century Blvd, Suite 200	Analysis Turnaround Time			Job No.
Germantown, MD 20874	Calendar (C) or Work Days (W) _____			172-IC047793
(301) 528-3021 Phone	TAT if different from Below: 3 DAYS			SDG No.
(301) 528-3000 FAX	☐ 2 weeks			
Project Name: MSA Surface Water Sampling	☐ 1 week			
Site: MSA Frog Mortar Creek	☐ 2 days			Sampler:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs	Dissolved Metals	Hardness	Sample Specific Notes:
MSA-SW43A-091813	9/18/2013	1231	SW	Water	4	x	x	x	x	Samples taken 9/18/13,
MSA-SW43B-091813	9/18/2013	1237	SW	Water	4	x	x	x	x	labels say 9/17/13,
MSA-SW43C-091813	9/18/2013	1240	SW	Water	4	x	x	x	x	refer to chain dates
MSA-SW43D-091813	9/18/2013	1244	SW	Water	4	x	x	x	x	
MSA-SW44A-091813	9/18/2013	1213	SW	Water	4	x	x	x	x	
MSA-SW44B-091813	9/18/2013	1218	SW	Water	4	x	x	x	x	
MSA-SW44C-091813	9/18/2013	1222	SW	Water	4	x	x	x	x	
MSA-SW44D-091813	9/18/2013	1226	SW	Water	4	x	x	x	x	
MSA-SW45A-091813	9/18/2013	1153	SW	Water	4	x	x	x	x	
MSA-SW45B-091813	9/18/2013	1157	SW	Water	4	x	x	x	x	
MSA-SW45C-091813	9/18/2013	1202	SW	Water	4	x	x	x	x	
MSA-SW45D-091813	9/18/2013	1206	SW	Water	4	x	x	x	x	

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: **DISSOLVED METALS FILTERED IN FIELD**

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Tetra Tech	9/18/13 1540	[signature]	TestAmerica	9/18/13 1540
Relinquished by: [signature]	Company: TestAmerica	Date/Time: 9/18/13 1640	Received by: [signature]	Company: TA	Date/Time: 9-19-13 930
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 2, dated 03/06/2012

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: Tony Apanavage	Site Contact: Tony Apanavage	Date: 09/18/13	COC No:
Tetra Tech	Tel/Fax: 301-233-8230 (cell)	Lab Contact: Pat Omeara	Carrier: Fedex	3 of 4 COCs
20251 Century Blvd, Suite 200	Analysis Turnaround Time			Job No. 112IL04793
Germantown, MD 20874	Calendar (C) or Work Days (W) _____			
(301) 528-3021 Phone	TAT if different from Below: 3 DAYS			SDG No.
(301) 528-3000 FAX	☐ 2 weeks			
Project Name: MSA Surface Water Sampling	☐ 1 week			
Site: MSA Frog Mortar Creek	☐ 2 days			Sampler:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs	Dissolved Metals	Hardness	Sample Specific Notes:
MSA-SW40A-091813	9/18/2013	1346	SW	Water	4	x	x	x	x	Samples taken 9/18/13,
MSA-SW40B-091813	9/18/2013	1351	SW	Water	4	x	x	x	x	labels say 9/17/13,
MSA-SW40C-091813	9/18/2013	1356	SW	Water	4	x	x	x	x	refer to chain dates
MSA-SW40D-091813	9/18/2013	1400	SW	Water	4	x	x	x	x	
MSA-SW41A-091813	9/18/2013	1250	SW	Water	4	x	x	x	x	
MSA-SW41B-091813	9/18/2013	1255	SW	Water	4	x	x	x	x	
MSA-SW41C-091813	9/18/2013	1300	SW	Water	4	x	x	x	x	
MSA-SW41D-091813	9/18/2013	1308	SW	Water	4	x	x	x	x	
MSA-SW42A-091813	9/18/2013	1405	SW	Water	4	x	x	~~x~~	~~x~~ -Broken	
MSA-SW42B-091813	9/18/2013	1409	SW	Water	4	x	x	x	x	
MSA-SW42C-091813	9/18/2013	1413	SW	Water	4	x	x	x	x	
MSA-SW42D-091813	9/18/2013	1417	SW	Water	4	x	x	x	x	

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: **DISSOLVED METALS FILTERED IN FIELD**

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Tetra Tech	9/18/13 1540	[signature]	TestAmerica	9/18/13 1540
[signature]	TestAmerica	9/18/13 1640	[signature]	TA	9-19-13 930

Form No. CA-C-WI-002, Rev. 2, dated 03/06/2012

North Canton
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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: Tony Apanavage	Site Contact: Tony Apanavage	Date: 09/18/13	COC No:
Tetra Tech	Tel/Fax: 301-233-8230 (cell)	Lab Contact: Pat Omeara	Carrier: Fedex	4 of 4 COCs
20251 Century Blvd, Suite 200	Analysis Turnaround Time			Job No. 17I0479 3
Germantown, MD 20874	Calendar (C) or Work Days (W) _____			SDG No.
(301) 528-3021 Phone	TAT if different from Below: 3 DAYS			
(301) 528-3000 FAX	☐ 2 weeks			
Project Name: MSA Surface Water Sampling	☐ 1 week			
Site: MSA Frog Mortar Creek	☐ 2 days			Sampler:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs	Dissolved Metals	Hardness	Sample Specific Notes:
MSA-SW37A-091813	9/18/2013	1422	SW	Water	4	x	x	x	x	Samples taken 9/18/13,
MSA-SW37B-091813	9/18/2013	1426	SW	Water	4	x	x	x	x	labels say 9/17/13,
MSA-SW37C-091813	9/18/2013	1430	SW	Water	4	x	x	x	x	refer to chain dates
MSA-SW37D-091813	9/18/2013	1434	SW	Water	4	x	x	x	x	
MSA-SW38A-091813	9/18/2013	1327	SW	Water	4	x	x	x	x	
MSA-SW38B-091813	9/18/2013	1331	SW	Water	4	x	x	x	x	
MSA-SW38C-091813	9/18/2013	1335	SW	Water	4	x	x	x	x	
MSA-SW38D-091813	9/18/2013	1339	SW	Water	4	x	x	x	x	
MSA-SW39A-091813	9/18/2013	1130	SW	Water	4	x	x	x	x	
MSA-SW39B-091813	9/18/2013	1136	SW	Water	4	x	x	x	x	
MSA-SW39C-091813	9/18/2013	1141	SW	Water	4	x	x	x	x	
MSA-SW39D-091813	9/18/2013	1146	SW	Water	4	x	x	x	x	

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: **DISSOLVED METALS FILTERED IN FIELD**

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Tetra Tech	9/18/13 1540	[signature]	TestAmerica	9/18/13 / 1540
[signature]	TestAmerica	9/18/13 / 1640	[signature]	TA	9/19/13 930

Form No. CA-C-WI-002, Rev. 2

The laboratory control sample (LCS) for batch 102368 recovered outside control limits for the following analyte(s): 2-Methyl-2-propanol--has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed.

The laboratory control sample (LCS) for batch 102381 recovered outside control limits for the following analyte(s): 2-Methyl-2-propanol and Vinyl acetate--has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed.

The laboratory control sample(LCS) for batch 102525 recovered outside control limits for the following analyte(s): 2-Methyl-2-propanol--has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed.

There was an MS/MSD analyzed in batch 102381 but could not be reported because the associated sample needed reanalyzed in a different batch.

No other difficulties were encountered during the VOCs analysis. All other quality control parameters were within the acceptance limits.

DISSOLVED METALS (ICPMS)

Samples MSA-SW43A-091813 (240-29166-6), MSA-SW43B-091813 (240-29166-7), MSA-SW43C-091813 (240-29166-8), MSA-SW43D-091813 (240-29166-9), MSA-SW44A-091813 (240-29166-10), MSA-SW44B-091813 (240-29166-11), MSA-SW44C-091813 (240-29166-12), MSA-SW44D-091813 (240-29166-13), MSA-SW45A-091813 (240-29166-14), MSA-SW45B-091813 (240-29166-15), MSA-SW45C-091813 (240-29166-16), MSA-SW45D-091813 (240-29166-17), MSA-SW40A-091813 (240-29166-18), MSA-SW40B-091813 (240-29166-19), MSA-SW40C-091813 (240-29166-20), MSA-SW40D-091813 (240-29166-21), MSA-SW41A-091813 (240-29166-22), MSA-SW41B-091813 (240-29166-23), MSA-SW41C-091813 (240-29166-24), MSA-SW41D-091813 (240-29166-25), MSA-SW42B-091813 (240-29166-27), MSA-SW42C-091813 (240-29166-28), MSA-SW42D-091813 (240-29166-29), MSA-SW37A-091813 (240-29166-30), MSA-SW37B-091813 (240-29166-31), MSA-SW37C-091813 (240-29166-32), MSA-SW37D-091813 (240-29166-33), MSA-SW38A-091813 (240-29166-34), MSA-SW38B-091813 (240-29166-35), MSA-SW38C-091813 (240-29166-36), MSA-SW38D-091813 (240-29166-37), MSA-SW39A-091813 (240-29166-38), MSA-SW39B-091813 (240-29166-39), MSA-SW39C-091813 (240-29166-40) and MSA-SW39D-091813 (240-29166-41) were analyzed for dissolved metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 09/20/2013 and analyzed on 09/24/2013.

Calcium and Zinc were detected in method blank MB 240-102209/1-A 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.

Antimony and Tungsten were detected in method blank MB 240-102212/1-A 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 other difficulties were encountered during the metals analysis. All other quality control parameters were within the acceptance limits.

DISSOLVED MERCURY (CVAA)

Samples MSA-SW43A-091813 (240-29166-6), MSA-SW43B-091813 (240-29166-7), MSA-SW43C-091813 (240-29166-8), MSA-SW43D-091813 (240-29166-9), MSA-SW44A-091813 (240-29166-10), MSA-SW44B-091813 (240-29166-11), MSA-SW44C-091813 (240-29166-12), MSA-SW44D-091813 (240-29166-13), MSA-SW45A-091813 (240-29166-14), MSA-SW45B-091813 (240-29166-15), MSA-SW45C-091813 (240-29166-16), MSA-SW45D-091813 (240-29166-17), MSA-SW40A-091813 (240-29166-18), MSA-SW40B-091813 (240-29166-19), MSA-SW40C-091813 (240-29166-20), MSA-SW40D-091813 (240-29166-21), MSA-SW41A-091813 (240-29166-22), MSA-SW41B-091813 (240-29166-23), MSA-SW41C-091813 (240-29166-24), MSA-SW41D-091813 (240-29166-25), MSA-SW42B-091813 (240-29166-27), MSA-SW42C-091813 (240-29166-28), MSA-SW42D-091813 (240-29166-29), MSA-SW37A-091813 (240-29166-30), MSA-SW37B-091813 (240-29166-31), MSA-SW37C-091813 (240-29166-32), MSA-SW37D-091813 (240-29166-33), MSA-SW38A-091813 (240-29166-34), MSA-SW38B-091813 (240-29166-35), MSA-SW38C-091813 (240-29166-36), MSA-SW38D-091813 (240-29166-37), MSA-SW39A-091813 (240-29166-38), MSA-SW39B-091813 (240-29166-39), MSA-SW39C-091813 (240-29166-40) and MSA-SW39D-091813 (240-29166-41) were analyzed for dissolved mercury (CVAA) in accordance with EPA SW-846 Methods 7470A. The samples were prepared on 09/20/2013 and analyzed on 09/23/2013 and 09/24/2013.

No difficulties were encountered during the mercury analysis. All quality control parameters were within the acceptance limits.

DISSOLVED HARDNESS (AS CACO3) BY CALCULATION

Samples MSA-SW43A-091813 (240-29166-6), MSA-SW43B-091813 (240-29166-7), MSA-SW43C-091813 (240-29166-8), MSA-SW43D-091813 (240-29166-9), MSA-SW44A-091813 (240-29166-10), MSA-SW44B-091813 (240-29166-11), MSA-SW44C-091813 (240-29166-12), MSA-SW44D-091813 (240-29166-13), MSA-SW45A-091813 (240-29166-14), MSA-SW45B-091813 (240-29166-15), MSA-SW45C-091813 (240-29166-16), MSA-SW45D-091813 (240-29166-17), MSA-SW40A-091813 (240-29166-18), MSA-SW40B-091813 (240-29166-19), MSA-SW40C-091813 (240-29166-20), MSA-SW40D-091813 (240-29166-21), MSA-SW41A-091813 (240-29166-22), MSA-SW41B-091813 (240-29166-23), MSA-SW41C-091813 (240-29166-24), MSA-SW41D-091813 (240-29166-25), MSA-SW42B-091813 (240-29166-27), MSA-SW42C-091813 (240-29166-28), MSA-SW42D-091813 (240-29166-29), MSA-SW37A-091813 (240-29166-30), MSA-SW37B-091813 (240-29166-31), MSA-SW37C-091813 (240-29166-32), MSA-SW37D-091813 (240-29166-33),

MSA-SW38A-091813 (240-29166-34), MSA-SW38B-091813 (240-29166-35), MSA-SW38C-091813 (240-29166-36), MSA-SW38D-091813 (240-29166-37), MSA-SW39A-091813 (240-29166-38), MSA-SW39B-091813 (240-29166-39), MSA-SW39C-091813 (240-29166-40) and MSA-SW39D-091813 (240-29166-41) were analyzed for dissolved hardness (as $CaCO_3$) by calculation in accordance with SM 2340B. The samples were analyzed on 09/23/2013.

No difficulties were encountered during the hardness analysis. All quality control parameters were within the acceptance limits.

MSA-SW45B-091813

240-29166-d-15-a, 9/24/2013 21:38:15 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B
		ppb	ppb	ppb
x		57.535%	0.006	M 438.300
%RSD		0.372	93.650	M 0.852
Run	Time	23Na	25Mg	27Al
		ppb	ppb	ppb
x		TM 1006000.000	M 129400.000	11.400
%RSD		TM 0.443	M 0.828	10.010
Run	Time	35Cl	39K	43Ca
		ppb	ppb	ppb
x		T 0.000	T 40670.000	TM 59550.000
%RSD		T 0.000	T 0.274	TM 0.275
Run	Time	45Sc	45Sc CCT	47Ti
		ppb	ppb	ppb
x		T 82.156%	93.070%	0.023
%RSD		T 0.445	1.211	392.500
Run	Time	51V	52Cr	53Cr O
		ppb	ppb	ppb
x		0.958	0.179	0.812
%RSD		12.860	15.760	9.942
Run	Time	55Mn	56Fe	59Co
		ppb	ppb	ppb
x		17.240	-35.730	0.114
%RSD		0.629	0.676	8.287
Run	Time	60Ni	65Cu	66Zn
		ppb	ppb	ppb
x		1.622	3.081	4.248
%RSD		2.228	2.741	3.970
Run	Time	72Ge	75As	77Ar Cl
		ppb	ppb	ppb
x		72.689%	1.137	-0.236
%RSD		0.555	2.040	9.357
Run	Time	78Se	88Sr	95Mo
		ppb	ppb	ppb
x		0.115	M 900.300	1.746
%RSD		15.180	M 0.309	2.362
Run	Time	105Pd	107Ag	108Mo O
		ppb	ppb	ppb
x		0.000	0.011	0.363
%RSD		0.000	18.310	26.340
Run	Time	111Cd	115In	118Sn
		ppb	ppb	ppb
x		0.048	73.776%	0.280
%RSD		51.130	0.537	8.177
Run	Time	121Sb	137Ba	159Tb
		ppb	ppb	ppb
x		0.269	43.690	0.000
%RSD		5.519	0.613	0.000
Run	Time	165Ho	182W	205Tl
		ppb	ppb	ppb
x		83.720%	0.030	0.100
%RSD		0.513	14.720	9.387
Run	Time	208Pb	209Bi	
		ppb	ppb	
x		0.010	0.000	
%RSD		13.190	0.000	

43.69 mg/L reported as 44 mg/L

TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 29166

Client Tetra Tech Site Name

Cooler unpacked by: Derek A. Green

Cooler Received on 9-19-13 Opened on 9-19-13

FedEx: 1st Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other

TestAmerica Cooler # Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

IR GUN# A	(CF -1 °C) Observed Cooler Temp. ____ °C	Corrected Cooler Temp. ____ °C	
IR GUN# 4	(CF 0 °C) Observed Cooler Temp. ____ °C	Corrected Cooler Temp. ____ °C	☐ See Multiple Cooler Form
IR GUN# 5	(CF +1 °C) Observed Cooler Temp. ____ °C	Corrected Cooler Temp. ____ °C	
IR GUN# 8	(CF -0 °C) Observed Cooler Temp. 2.4 °C	Corrected Cooler Temp. 2.4 °C	

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 2 Yes No
   - Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA
   - Were custody seals on the bottle(s)? Yes No
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Did all bottles arrive in good condition (Unbroken)? Yes No
7. Could all bottle labels be reconciled with the COC? Yes No
8. Were correct bottle(s) used for the test(s) indicated? Yes No
9. Sufficient quantity received to perform indicated analyses? Yes No
10. Were sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC376062
11. Were VOAs on the COC? Yes No
12. Were air bubbles >6 mm in any VOA vials? Yes No NA
13. Was a trip blank present in the cooler(s)? Yes No

Contacted PM ____ Date ____ by ____ via Verbal Voice Mail Other

Concerning

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: Derek A. Green

The lab did not received volume to run the metals + hardness for sample MSA-SW42A-091813. The bottle was received empty.

15. SAMPLE CONDITION

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

Sample(s) ____ were received in a broken container.

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

16. SAMPLE PRESERVATION

Sample(s) ____ were further preserved in the laboratory.

Time preserved: ____ Preservative(s) added/Lot number(s): ____

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Preservative Added (mls)	Lot #
MSA-SW43A-091813	240-29166-D-6	Plastic 500ml - with Nitric Acid	<2		
MSA-SW43B-091813	240-29166-D-7	Plastic 500ml - with Nitric Acid	<2		
MSA-SW43C-091813	240-29166-D-8	Plastic 500ml - with Nitric Acid	<2		
MSA-SW43D-091813	240-29166-D-9	Plastic 500ml - with Nitric Acid	<2		
MSA-SW44A-091813	240-29166-D-10	Plastic 500ml - with Nitric Acid	<2		
~~MSA-SW44B-091813~~	~~240-29166-D-11~~	~~Plastic 500ml - with Nitric Acid~~	~~<2~~		
MSA-SW44C-091813	240-29166-D-12	Plastic 500ml - with Nitric Acid	<2		
MSA-SW44D-091813	240-29166-D-13	Plastic 500ml - with Nitric Acid	<2		
MSA-SW45A-091813	240-29166-D-14	Plastic 500ml - with Nitric Acid	<2		
MSA-SW45B-091813	240-29166-D-15	Plastic 500ml - with Nitric Acid	<2		
~~MSA-SW45C-091813~~	~~240-29166-D-16~~	~~Plastic 500ml - with Nitric Acid~~	~~<2~~		
MSA-SW45D-091813	240-29166-D-17	Plastic 500ml - with Nitric Acid	<2		
MSA-SW40A-091813	240-29166-D-18	Plastic 500ml - with Nitric Acid	<2		
MSA-SW40B-091813	240-29166-D-19	Plastic 500ml - with Nitric Acid	<2		
MSA-SW40C-091813	240-29166-D-20	Plastic 500ml - with Nitric Acid	<2		
MSA-SW40D-091813	240-29166-D-21	Plastic 500ml - with Nitric Acid	<2		
MSA-SW41A-091813	240-29166-D-22	Plastic 500ml - with Nitric Acid	<2		
MSA-SW41B-091813	240-29166-D-23	Plastic 500ml - with Nitric Acid	<2		
MSA-SW41C-091813	240-29166-D-24	Plastic 500ml - with Nitric Acid	<2		
MSA-SW41D-091813	240-29166-D-25	Plastic 500ml - with Nitric Acid	<2		
MSA-SW42B-091813	240-29166-D-27	Plastic 500ml - with Nitric Acid	<2		
MSA-SW42C-091813	240-29166-D-28	Plastic 500ml - with Nitric Acid	<2		
MSA-SW42D-091813	240-29166-D-29	Plastic 500ml - with Nitric Acid	<2		
MSA-SW37A-091813	240-29166-D-30	Plastic 500ml - with Nitric Acid	<2		
MSA-SW37B-091813	240-29166-D-31	Plastic 500ml - with Nitric Acid	<2		
MSA-SW37C-091813	240-29166-D-32	Plastic 500ml - with Nitric Acid	<2		
MSA-SW37D-091813	240-29166-D-33	Plastic 500ml - with Nitric Acid	<2		
MSA-SW38A-091813	240-29166-D-34	Plastic 500ml - with Nitric Acid	<2		
MSA-SW38B-091813	240-29166-D-35	Plastic 500ml - with Nitric Acid	<2		
MSA-SW38C-091813	240-29166-D-36	Plastic 500ml - with Nitric Acid	<2		
MSA-SW38D-091813	240-29166-D-37	Plastic 500ml - with Nitric Acid	<2		
MSA-SW39A-091813	240-29166-D-38	Plastic 500ml - with Nitric Acid	<2		
MSA-SW39B-091813	240-29166-D-39	Plastic 500ml - with Nitric Acid	<2		
MSA-SW39C-091813	240-29166-D-40	Plastic 500ml - with Nitric Acid	<2		
MSA-SW39D-091813	240-29166-D-41	Plastic 500ml - with Nitric Acid	<2		

HOLDTIME

SDG 240-29166-1

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	UG/L	MSA-SW39D-091813	240-29166-41	NM	09/18/2013	09/20/2013	09/23/2013	2	3	5
HG	UG/L	MSA-SW37C-091813	240-29166-32	NM	09/18/2013	09/20/2013	09/23/2013	2	3	5
HG	UG/L	MSA-SW37B-091813	240-29166-31	NM	09/18/2013	09/20/2013	09/23/2013	2	3	5
HG	UG/L	MSA-SW37A-091813	240-29166-30	NM	09/18/2013	09/20/2013	09/23/2013	2	3	5
HG	UG/L	MSA-SW42D-091813	240-29166-29	NM	09/18/2013	09/20/2013	09/23/2013	2	3	5
HG	UG/L	MSA-SW42B-091813	240-29166-27	NM	09/18/2013	09/20/2013	09/23/2013	2	3	5
HG	UG/L	MSA-SW39C-091813	240-29166-40	NM	09/18/2013	09/20/2013	09/23/2013	2	3	5
HG	UG/L	MSA-SW39B-091813	240-29166-39	NM	09/18/2013	09/20/2013	09/23/2013	2	3	5
HG	UG/L	MSA-SW39A-091813	240-29166-38	NM	09/18/2013	09/20/2013	09/23/2013	2	3	5
HG	UG/L	MSA-SW38D-091813	240-29166-37	NM	09/18/2013	09/20/2013	09/23/2013	2	3	5
HG	UG/L	MSA-SW38C-091813	240-29166-36	NM	09/18/2013	09/20/2013	09/23/2013	2	3	5
HG	UG/L	MSA-SW38B-091813	240-29166-35	NM	09/18/2013	09/20/2013	09/23/2013	2	3	5
HG	UG/L	MSA-SW38A-091813	240-29166-34	NM	09/18/2013	09/20/2013	09/23/2013	2	3	5
HG	UG/L	MSA-SW37D-091813	240-29166-33	NM	09/18/2013	09/20/2013	09/23/2013	2	3	5
HG	UG/L	MSA-SW42C-091813	240-29166-28	NM	09/18/2013	09/20/2013	09/23/2013	2	3	5

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	MSA-SW44C-091813	240-29166-12	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW42B-091813	240-29166-27	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW40D-091813	240-29166-21	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW41A-091813	240-29166-22	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW41B-091813	240-29166-23	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW41C-091813	240-29166-24	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW42D-091813	240-29166-29	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW43A-091813	240-29166-6	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW43B-091813	240-29166-7	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW43C-091813	240-29166-8	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW43D-091813	240-29166-9	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW40C-091813	240-29166-20	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW44B-091813	240-29166-11	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW44A-091813	240-29166-10	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW38D-091813	240-29166-37	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW37A-091813	240-29166-30	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW37B-091813	240-29166-31	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW37C-091813	240-29166-32	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	MSA-SW37D-091813	240-29166-33	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW38A-091813	240-29166-34	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW39B-091813	240-29166-39	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW38C-091813	240-29166-36	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW40B-091813	240-29166-19	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW42C-091813	240-29166-28	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW39A-091813	240-29166-38	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW44D-091813	240-29166-13	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW39C-091813	240-29166-40	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW39D-091813	240-29166-41	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW40A-091813	240-29166-18	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW38B-091813	240-29166-35	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW41D-091813	240-29166-25	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW45B-091813	240-29166-15	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW45C-091813	240-29166-16	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW45D-091813	240-29166-17	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
M	UG/L	MSA-SW45A-091813	240-29166-14	NM	09/18/2013	09/20/2013	09/24/2013	2	4	6
HARD	MG/L	MSA-SW43C-091813	240-29166-8	NM	09/18/2013	09/23/2013	09/23/2013	5	0	5

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HARD	MG/L	MSA-SW43B-091813	240-29166-7	NM	09/18/2013	09/23/2013	09/23/2013	5	0	5
HARD	MG/L	MSA-SW43A-091813	240-29166-6	NM	09/18/2013	09/23/2013	09/23/2013	5	0	5
HARD	MG/L	MSA-SW42D-091813	240-29166-29	NM	09/18/2013	09/23/2013	09/23/2013	5	0	5
HARD	MG/L	MSA-SW42C-091813	240-29166-28	NM	09/18/2013	09/23/2013	09/23/2013	5	0	5
HARD	MG/L	MSA-SW42B-091813	240-29166-27	NM	09/18/2013	09/23/2013	09/23/2013	5	0	5
HARD	MG/L	MSA-SW39D-091813	240-29166-41	NM	09/18/2013	09/23/2013	09/23/2013	5	0	5
HARD	MG/L	MSA-SW39B-091813	240-29166-39	NM	09/18/2013	09/23/2013	09/23/2013	5	0	5
HARD	MG/L	MSA-SW43D-091813	240-29166-9	NM	09/18/2013	09/23/2013	09/23/2013	5	0	5
HARD	MG/L	MSA-SW38C-091813	240-29166-36	NM	09/18/2013	09/23/2013	09/23/2013	5	0	5
HARD	MG/L	MSA-SW39C-091813	240-29166-40	NM	09/18/2013	09/23/2013	09/23/2013	5	0	5
HARD	MG/L	MSA-SW38B-091813	240-29166-35	NM	09/18/2013	09/23/2013	09/23/2013	5	0	5
HARD	MG/L	MSA-SW38A-091813	240-29166-34	NM	09/18/2013	09/23/2013	09/23/2013	5	0	5
HARD	MG/L	MSA-SW37D-091813	240-29166-33	NM	09/18/2013	09/23/2013	09/23/2013	5	0	5
HARD	MG/L	MSA-SW37C-091813	240-29166-32	NM	09/18/2013	09/23/2013	09/23/2013	5	0	5
HARD	MG/L	MSA-SW37B-091813	240-29166-31	NM	09/18/2013	09/23/2013	09/23/2013	5	0	5
HARD	MG/L	MSA-SW37A-091813	240-29166-30	NM	09/18/2013	09/23/2013	09/23/2013	5	0	5
HARD	MG/L	MSA-SW38D-091813	240-29166-37	NM	09/18/2013	09/23/2013	09/23/2013	5	0	5
HARD	MG/L	MSA-SW44A-091813	240-29166-10	NM	09/18/2013	09/23/2013	09/23/2013	5	0	5

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Canton Job Number: 240-29166-1

SDG Number:

Matrix: Water Instrument ID: I11

Method: 6020 MDL Date: 09/13/2013 14:08

Prep Method: 3005A

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Antimony	121.00	2	0.11
Arsenic	75.00	5	0.063
Barium	137.00	5	0.32
Beryllium	9.00	1	0.031
Cadmium	111.00	1	0.026
Chromium	52.00	2	0.13
Cobalt	59.00	1	0.02
Copper	65.00	2	0.24
Lead	208.00	1	0.14
Molybdenum	95.00	10	0.81
Nickel	60.00	2	0.088
Selenium	78.00	5	0.34
Silver	107.00	1	0.0083
Thallium	205.00	2	0.4
Tungsten	182.00	10	0.017
Vanadium	51.00	5	0.15
Zinc	66.00	20	2.08

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Canton Job Number: 240-29166-1

SDG Number:

Matrix: Water Instrument ID: I11

Method: 6020 XMDL Date: 09/13/2013 14:09

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Antimony	121.00	2	0.11
Arsenic	75.00	5	0.063
Barium	137.00	5	0.32
Beryllium	9.00	1	0.031
Cadmium	111.00	1	0.026
Chromium	52.00	2	0.13
Cobalt	59.00	1	0.02
Copper	65.00	2	0.24
Lead	208.00	1	0.14
Molybdenum	95.00	10	0.81
Nickel	60.00	2	0.088
Selenium	78.00	5	0.34
Silver	107.00	1	0.0083
Thallium	205.00	2	0.4
Tungsten	182.00	10	0.017
Vanadium	51.00	5	0.15
Zinc	66.00	20	2.08

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Canton Job Number: 240-29166-1

SDG Number:

Matrix: Water Instrument ID: H1

Method: 7470A MDL Date: 02/08/2010 16:06

Prep Method: 7470A

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Mercury	253.7	0.2	0.12

FORM IX - IN

9-IN

CALIBRATION BLANK DETECTION LIMITS

METALS - DISSOLVED

Lab Name: TestAmerica Canton Job Number: 240-29166-1

SDG Number:

Matrix: Water Instrument ID: H1

Method: 7470A XMDL Date: 02/08/2010 16:06

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Mercury	253.7	0.2	0.12

FORM IX - IN

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Canton Job Number: 240-29166-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2340B RL Date: 04/14/2011 14:06

Analyte	Wavelength/ Mass	RL (mg/L)	
Calcium hardness as calcium carbonate		12	
Hardness as calcium carbonate		33	
Magnesium hardness as calcium carbonate		21	

9-IN

CALIBRATION BLANK DETECTION LIMITS

METALS - DISSOLVED

Lab Name: TestAmerica Canton Job Number: 240-29166-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2340B XMDL Date: 04/14/2011 14:07

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Calcium hardness as calcium carbonate		12000	325
Hardness as calcium carbonate		33000	465
Magnesium hardness as calcium carbonate		21000	140

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Canton Job No: 240-29166-1

SDG No.:

Instrument ID: I11 Date: 09/16/2013 13:19

Analyte	Integ. Time (Sec.)	Concentration (ppb)	Method
Antimony		1000	6020
Arsenic		10000	6020
Barium		10000	6020
Beryllium		10000	6020
Cadmium		10000	6020
Chromium		10000	6020
Cobalt		10000	6020
Copper		10000	6020
Lead		10000	6020
Molybdenum		2000	6020
Nickel		10000	6020
Selenium		10000	6020
Silver		2000	6020
Thallium		10000	6020
Vanadium		10000	6020
Zinc		10000	6020
Tungsten		5000	6020

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Canton Job No: 240-29166-1

SDG No.:

Instrument ID: H1 Date: 04/01/2011 10:45

Analyte	Integ. Time (Sec.)	Concentration (ppb)	Method
Mercury		50	7470A

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Prep Method: 7470A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 240-102213/1-A	09/20/2013 16:45	102213		50	50
LCS 240-102213/2-A	09/20/2013 16:45	102213		50	50
240-29167-U-6-E MS	09/20/2013 16:45	102213		50	50
240-29167-U-6-F MSD	09/20/2013 16:45	102213		50	50
240-29166-27	09/20/2013 16:45	102213		50	50
240-29166-28	09/20/2013 16:45	102213		50	50
240-29166-29	09/20/2013 16:45	102213		50	50
240-29166-30	09/20/2013 16:45	102213		50	50
240-29166-31	09/20/2013 16:45	102213		50	50
240-29166-32	09/20/2013 16:45	102213		50	50
240-29166-33	09/20/2013 16:45	102213		50	50
240-29166-34	09/20/2013 16:45	102213		50	50
240-29166-35	09/20/2013 16:45	102213		50	50
240-29166-36	09/20/2013 16:45	102213		50	50
240-29166-37	09/20/2013 16:45	102213		50	50
240-29166-38	09/20/2013 16:45	102213		50	50
240-29166-39	09/20/2013 16:45	102213		50	50
240-29166-40	09/20/2013 16:45	102213		50	50
240-29166-41	09/20/2013 16:45	102213		50	50

3-IN
METHOD BLANK
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 240-102213/1-A

Instrument Code: H1 Batch No.: 102570

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	0.20	U		7470A

FORM III-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: _____ Lab ID: 240-29167-U-6-E MS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

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
Mercury	1.03		0.20	U	1.00	103	69-134		7470A

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 - DISSOLVED

Client ID: _____ Lab ID: 240-29167-U-6-F MSD

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Mercury	1.02		1.00	102	69-134	0	20		7470A

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

Lab ID: LCS 240-102213/2-A

Lab Name: TestAmerica Canton Job No.: 240-29166-1

Sample Matrix: Water LCS Source: MTHGCALW_00467

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury	5.00	5.05		101	81	123		7470A

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

FORM VIIA - IN

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Prep Method: 7470A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 240-102211/1-A	09/20/2013 16:45	102211		50	50
LCS 240-102211/2-A	09/20/2013 16:45	102211		50	50
240-29166-6	09/20/2013 16:45	102211		50	50
240-29166-6 MS	09/20/2013 16:45	102211		50	50
240-29166-6 MSD	09/20/2013 16:45	102211		50	50
240-29166-7	09/20/2013 16:45	102211		50	50
240-29166-8	09/20/2013 16:45	102211		50	50
240-29166-9	09/20/2013 16:45	102211		50	50
240-29166-10	09/20/2013 16:45	102211		50	50
240-29166-11	09/20/2013 16:45	102211		50	50
240-29166-12	09/20/2013 16:45	102211		50	50
240-29166-13	09/20/2013 16:45	102211		50	50
240-29166-14	09/20/2013 16:45	102211		50	50
240-29166-15	09/20/2013 16:45	102211		50	50
240-29166-16	09/20/2013 16:45	102211		50	50
240-29166-17	09/20/2013 16:45	102211		50	50
240-29166-18	09/20/2013 16:45	102211		50	50
240-29166-19	09/20/2013 16:45	102211		50	50
240-29166-20	09/20/2013 16:45	102211		50	50
240-29166-21	09/20/2013 16:45	102211		50	50
240-29166-22	09/20/2013 16:45	102211		50	50
240-29166-23	09/20/2013 16:45	102211		50	50
240-29166-24	09/20/2013 16:45	102211		50	50
240-29166-25	09/20/2013 16:45	102211		50	50

FORM XII-IN

3-IN
METHOD BLANK
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 240-102211/1-A

Instrument Code: H1 Batch No.: 102721

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	0.20	U		7470A

FORM III-IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 240-102211/2-A

Lab Name: TestAmerica Canton Job No.: 240-29166-1

Sample Matrix: Water LCS Source: MTHGCALW_00467

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury	5.00	4.72		94	81	123		7470A

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

FORM VIIA - IN

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Prep Method: 3005A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 240-102209/1-A	09/20/2013 08:21	102209		50	50
LCS 240-102209/2-A	09/20/2013 08:21	102209		50	50
240-29166-6	09/20/2013 08:21	102209		50	50
240-29166-6 MS	09/20/2013 08:21	102209		50	50
240-29166-6 MSD	09/20/2013 08:21	102209		50	50
240-29166-7	09/20/2013 08:21	102209		50	50
240-29166-8	09/20/2013 08:21	102209		50	50
240-29166-9	09/20/2013 08:21	102209		50	50
240-29166-10	09/20/2013 08:21	102209		50	50
240-29166-11	09/20/2013 08:21	102209		50	50
240-29166-12	09/20/2013 08:21	102209		50	50
240-29166-13	09/20/2013 08:21	102209		50	50
240-29166-14	09/20/2013 08:21	102209		50	50
240-29166-15	09/20/2013 08:21	102209		50	50
240-29166-16	09/20/2013 08:21	102209		50	50
240-29166-17	09/20/2013 08:21	102209		50	50
240-29166-18	09/20/2013 08:21	102209		50	50
240-29166-19	09/20/2013 08:21	102209		50	50
240-29166-20	09/20/2013 08:21	102209		50	50
240-29166-21	09/20/2013 08:21	102209		50	50
240-29166-22	09/20/2013 08:21	102209		50	50
240-29166-23	09/20/2013 08:21	102209		50	50
240-29166-24	09/20/2013 08:21	102209		50	50
240-29166-25	09/20/2013 08:21	102209		50	50

FORM XII-IN

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 240-102209/1-A

Instrument Code: I11 Batch No.: 102795

CAS No.	Analyte	Concentration	C	Q	Method
7440-36-0	Antimony	2.0	U		6020
7440-38-2	Arsenic	5.0	U		6020
7440-39-3	Barium	5.0	U		6020
7440-41-7	Beryllium	1.0	U		6020
7440-43-9	Cadmium	1.0	U		6020
7440-47-3	Chromium	2.0	U		6020
7440-48-4	Cobalt	1.0	U		6020
7440-50-8	Copper	2.0	U		6020
7439-92-1	Lead	1.0	U		6020
7439-98-7	Molybdenum	10	U		6020
7440-02-0	Nickel	2.0	U		6020
7782-49-2	Selenium	5.0	U		6020
7440-22-4	Silver	1.0	U		6020
7440-28-0	Thallium	2.0	U		6020
7440-62-2	Vanadium	5.0	U		6020
7440-66-6	Zinc	2.68	J		6020
7440-70-2	Calcium	42.2	J		6020
7439-95-4	Magnesium	1000	U		6020
7440-33-7	Tungsten	10	U		6020

FORM III-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: MSA-SW43A-091813 MS
Lab ID: 240-29166-6 MS
Lab Name: TestAmerica Canton
Job No.: 240-29166-1
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
Antimony	95.5		0.27	J	100	95	44-153		6020
Arsenic	942		1.1	J	1000	94	82-123		6020
Barium	1040		39		1000	100	45-144		6020
Beryllium	950		0.14	J	1000	95	77-124		6020
Cadmium	876		0.11	J	1000	88	78-117		6020
Chromium	971		0.22	J	1000	97	72-110		6020
Cobalt	859		0.22	J	1000	86	67-114		6020
Copper	929		2.9		1000	93	60-123		6020
Lead	799		1.0	U	1000	80	73-115		6020
Molybdenum	116		1.7	J	100	115	80-110	F	6020
Nickel	908		2.1		1000	91	72-111		6020
Selenium	877		0.34	J	1000	88	72-148		6020
Silver	89.4		0.0090	J	100	89	10-139		6020
Thallium	208		0.90	J	250	83	69-117		6020
Vanadium	992		0.97	J	1000	99	70-112		6020
Zinc	855		4.2	J	1000	85	49-156		6020
Calcium	68600		56000		10000	126 ok	70-130	4	6020
Magnesium	137000		110000		10000	235 ok	70-130	4	6020
Tungsten	102		0.21	J	100	102	43-133		6020
Mercury	1.04		0.20	U	1.00	104	69-134		7470A

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 - DISSOLVED

Client ID: MSA-SW43A-091813 MSD

Lab ID: 240-29166-6 MSD

Lab Name: TestAmerica Canton

Job No.: 240-29166-1

SDG No.:

Matrix: Water

Concentration Units: ug/L

% Solids:

Analyte	(SDR) C		Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Antimony	83.5		100	83	44-153	13	20		6020
Arsenic	830		1000	83	82-123	13	20		6020
Barium	887		1000	85	45-144	15	20		6020
Beryllium	821		1000	82	77-124	15	20		6020
Cadmium	770		1000	77	78-117	13	20	F	6020
Chromium	826		1000	83	72-110	16	20		6020
Cobalt	748		1000	75	67-114	14	20		6020
Copper	799		1000	80	60-123	15	20		6020
Lead	722		1000	72	73-115	10	20	F	6020
Molybdenum	99.6		100	98	80-110	16	20		6020
Nickel	776		1000	77	72-111	16	20		6020
Selenium	781		1000	78	72-148	11	20		6020
Silver	80.7		100	81	10-139	10	20		6020
Thallium	190		250	76	69-117	9	20		6020
Vanadium	846		1000	84	70-112	16	20		6020
Zinc	741		1000	74	49-156	14	20		6020
Calcium	60800		10000	49	70-130	12	20	4	6020
Magnesium	116000		10000	28	70-130	16	20	4	6020
Tungsten	88.4		100	88	43-133	14	20		6020
Mercury	1.08		1.00	108	69-134	3	20		7470A

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 240-102209/2-A

Lab Name: TestAmerica Canton Job No.: 240-29166-1

Sample Matrix: Water LCS Source: MTICPMSB_00013

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Antimony	100	97.1		97	80	120		6020
Arsenic	1000	969		97	80	120		6020
Barium	1000	942		94	80	120		6020
Beryllium	1000	861		86	80	120		6020
Cadmium	1000	986		99	80	120		6020
Chromium	1000	942		94	80	120		6020
Cobalt	1000	864		86	80	120		6020
Copper	1000	1010		101	80	120		6020
Lead	1000	923		92	80	120		6020
Molybdenum	100	102		102	80	120		6020
Nickel	1000	969		97	80	120		6020
Selenium	1000	993		99	80	120		6020
Silver	100	101		101	80	120		6020
Thallium	250	228		91	80	120		6020
Vanadium	1000	916		92	80	120		6020
Zinc	1000	1020		102	80	120		6020
Calcium	10000	11000		110	80	120		6020
Magnesium	10000	9840		98	80	120		6020
Tungsten	100	99.4		99	80	120		6020

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 - DISSOLVED

Lab ID: 240-29166-6

SDG No:

Lab Name: TestAmerica Canton Job No: 240-29166-1

Matrix: Water Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Antimony	0.27	J	10	U	NC		6020
Arsenic	1.1	J	1.73	J	NC		6020
Barium	39		43.6		NC		6020
Beryllium	0.14	J	0.450	J	NC		6020
Cadmium	0.11	J	0.495	J	NC		6020
Chromium	0.22	J	0.705	J	NC		6020
Cobalt	0.22	J	0.575	J	NC		6020
Copper	2.9		3.56	J	NC		6020
Lead	1.0	U	5.0	U	NC		6020
Molybdenum	1.7	J	50	U	NC		6020
Nickel	2.1		13.2		NC		6020
Selenium	0.34	J	25	U	NC		6020
Silver	0.0090	J	0.0650	J	NC		6020
Thallium	0.90	J	10	U	NC		6020
Vanadium	0.97	J	1.34	J	NC		6020
Zinc	4.2	J	100	U	NC		6020
Calcium	56000		65300		NC		6020
Tungsten	0.21	J	0.320	J	NC		6020

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

FORM VIII-IN

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Prep Method: 3005A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 240-102212/1-A	09/20/2013 08:34	102212		50	50
LCS 240-102212/2-A	09/20/2013 08:34	102212		50	50
240-29167-U-6-B MS	09/20/2013 08:34	102212		50	50
240-29167-U-6-C MSD	09/20/2013 08:34	102212		50	50
240-29166-27	09/20/2013 08:34	102212		50	50
240-29166-28	09/20/2013 08:34	102212		50	50
240-29166-29	09/20/2013 08:34	102212		50	50
240-29166-30	09/20/2013 08:34	102212		50	50
240-29166-31	09/20/2013 08:34	102212		50	50
240-29166-32	09/20/2013 08:34	102212		50	50
240-29166-33	09/20/2013 08:34	102212		50	50
240-29166-34	09/20/2013 08:34	102212		50	50
240-29166-35	09/20/2013 08:34	102212		50	50
240-29166-36	09/20/2013 08:34	102212		50	50
240-29166-37	09/20/2013 08:34	102212		50	50
240-29166-38	09/20/2013 08:34	102212		50	50
240-29166-39	09/20/2013 08:34	102212		50	50
240-29166-40	09/20/2013 08:34	102212		50	50
240-29166-41	09/20/2013 08:34	102212		50	50

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 240-102212/1-A

Instrument Code: I11 Batch No.: 102795

CAS No.	Analyte	Concentration	C	Q	Method
7440-36-0	Antimony	0.213	J		6020
7440-38-2	Arsenic	5.0	U		6020
7440-39-3	Barium	5.0	U		6020
7440-41-7	Beryllium	1.0	U		6020
7440-43-9	Cadmium	1.0	U		6020
7440-47-3	Chromium	2.0	U		6020
7440-48-4	Cobalt	1.0	U		6020
7440-50-8	Copper	2.0	U		6020
7439-92-1	Lead	1.0	U		6020
7439-98-7	Molybdenum	10	U		6020
7440-02-0	Nickel	2.0	U		6020
7782-49-2	Selenium	5.0	U		6020
7440-22-4	Silver	1.0	U		6020
7440-28-0	Thallium	2.0	U		6020
7440-62-2	Vanadium	5.0	U		6020
7440-66-6	Zinc	20	U		6020
7440-70-2	Calcium	1000	U		6020
7439-95-4	Magnesium	1000	U		6020
7440-33-7	Tungsten	0.0260	J		6020

FORM III-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID:

Lab ID: 240-29167-U-6-B MS

Lab Name: TestAmerica Canton

Job No.: 240-29166-1

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
Antimony	94.2		0.17	J	100	94	44-153		6020
Arsenic	913		0.27	J	1000	91	82-123		6020
Barium	944		22		1000	92	45-144		6020
Beryllium	847		0.045	J	1000	85	77-124		6020
Cadmium	941		1.0	U	1000	94	78-117		6020
Chromium	916		0.13	J	1000	92	72-110		6020
Cobalt	879		0.041	J	1000	88	67-114		6020
Copper	926		0.26	J	1000	93	60-123		6020
Lead	924		1.0	U	1000	92	73-115		6020
Molybdenum	100		10	U	100	100	80-110		6020
Nickel	911		0.16	J	1000	91	72-111		6020
Selenium	908		0.81	J	1000	91	72-148		6020
Silver	96.3		1.0	U	100	96	10-139		6020
Thallium	234		0.93	J	250	93	69-117		6020
Vanadium	905		0.21	J	1000	90	70-112		6020
Zinc	910		20	U	1000	91	49-156		6020
Calcium	96000		86000		10000	98	70-130	4	6020
Magnesium	37700		29000		10000	88	70-130		6020
Tungsten	97.6		0.21	J	100	97	43-133		6020

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 - DISSOLVED

Client ID: _____ Lab ID: 240-29167-U-6-C MSD

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Antimony	97.2		100	97	44-153	3	20		6020
Arsenic	950		1000	95	82-123	4	20		6020
Barium	984		1000	96	45-144	4	20		6020
Beryllium	882		1000	88	77-124	4	20		6020
Cadmium	975		1000	98	78-117	4	20		6020
Chromium	960		1000	96	72-110	5	20		6020
Cobalt	913		1000	91	67-114	4	20		6020
Copper	972		1000	97	60-123	5	20		6020
Lead	935		1000	94	73-115	1	20		6020
Molybdenum	104		100	104	80-110	4	20		6020
Nickel	962		1000	96	72-111	5	20		6020
Selenium	944		1000	94	72-148	4	20		6020
Silver	99.8		100	100	10-139	4	20		6020
Thallium	237		250	94	69-117	1	20		6020
Vanadium	949		1000	95	70-112	5	20		6020
Zinc	951		1000	95	49-156	4	20		6020
Calcium	99900		10000	137	70-130	4	20	4	6020
Magnesium	39600		10000	107	70-130	5	20		6020
Tungsten	101		100	101	43-133	3	20		6020

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 240-102212/2-A

Lab Name: TestAmerica Canton Job No.: 240-29166-1

Sample Matrix: Water LCS Source: MTICPMSB_00013

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Antimony	100	98.0		98	80	120		6020
Arsenic	1000	997		100	80	120		6020
Barium	1000	957		96	80	120		6020
Beryllium	1000	866		87	80	120		6020
Cadmium	1000	1000		100	80	120		6020
Chromium	1000	969		97	80	120		6020
Cobalt	1000	1010		101	80	120		6020
Copper	1000	1040		104	80	120		6020
Lead	1000	1050		105	80	120		6020
Molybdenum	100	105		105	80	120		6020
Nickel	1000	1000		100	80	120		6020
Selenium	1000	999		100	80	120		6020
Silver	100	103		103	80	120		6020
Thallium	250	262		105	80	120		6020
Vanadium	1000	943		94	80	120		6020
Zinc	1000	1030		103	80	120		6020
Calcium	10000	10000		100	80	120		6020
Magnesium	10000	10100		101	80	120		6020
Tungsten	100	100		100	80	120		6020

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 - DISSOLVED

Lab ID: 240-29167-U-6-A SD ^5

SDG No:

Lab Name: TestAmerica Canton Job No: 240-29166-1

Matrix: Water Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Antimony	0.17	J	10	U	NC		6020
Arsenic	0.27	J	1.27	J	NC		6020
Barium	22		22.8	J	NC		6020
Beryllium	0.045	J	0.665	J	NC		6020
Cadmium	1.0	U	0.675	J	NC		6020
Chromium	0.13	J	1.12	J	NC		6020
Cobalt	0.041	J	0.805	J	NC		6020
Copper	0.26	J	10	U	NC		6020
Lead	1.0	U	0.800	J	NC		6020
Molybdenum	10	U	50	U	NC		6020
Nickel	0.16	J	1.00	J	NC		6020
Selenium	0.81	J	25	U	NC		6020
Silver	1.0	U	0.105	J	NC		6020
Thallium	0.93	J	2.06	J	NC		6020
Vanadium	0.21	J	1.04	J	NC		6020
Zinc	20	U	100	U	NC		6020
Calcium	86000		89300		NC		6020
Magnesium	29000		29900		NC		6020
Tungsten	0.21	J	0.370	J	NC		6020

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

FORM VIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Instrument ID: H1 Method: 7470A

Start Date: 09/23/2013 13:37 End Date: 09/23/2013 20:29

Lab Sample ID	D/F	Type	Time	Analytes																			
				Hg																			
IC 240-102557/1-A			13:37	X																			
IC 240-102557/1-A			13:39	X																			
IC 240-102557/2-A			13:40	X																			
IC 240-102557/2-A			13:42	X																			
IC 240-102557/3-A			13:44	X																			
IC 240-102557/3-A			13:46	X																			
IC 240-102557/4-A			13:47	X																			
IC 240-102557/4-A			13:48	X																			
IC 240-102557/5-A			13:50	X																			
IC 240-102557/5-A			13:51	X																			
IC 240-102557/6-A			13:53	X																			
IC 240-102557/6-A			13:54	X																			
IC 240-102557/7-A			13:56	X																			
IC 240-102557/7-A			13:58	X																			
ICV 240-102557/8-A	1		13:59	X																			
ICB 240-102557/9-A	1		14:01	X																			
CRA 240-102557/10-A	1		14:03	X																			
CCVL 240-102557/11-A	1		14:06	X																			
CCB 240-102557/13-A			14:08																				
ZZZZZZ			14:09																				
ZZZZZZ			14:11																				
ZZZZZZ			14:12																				
ZZZZZZ			14:13																				
ZZZZZZ			14:15																				
ZZZZZZ			14:16																				
CCV 240-102557/12-A			14:17																				
CCB 240-102557/13-A			14:19																				
ZZZZZZ			14:20																				
ZZZZZZ			14:22																				
ZZZZZZ			14:23																				
ZZZZZZ			14:24																				
ZZZZZZ			14:26																				
ZZZZZZ			14:28																				
ZZZZZZ			14:29																				
ZZZZZZ			14:31																				
ZZZZZZ			14:32																				
ZZZZZZ			14:34																				
CCV 240-102557/12-A			14:35																				
CCB 240-102557/13-A			14:37																				
CCV 240-102557/12-A			14:39																				
CCB 240-102557/13-A			14:42																				
ZZZZZZ			14:43																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Instrument ID: H1 Method: 7470A

Start Date: 09/23/2013 13:37 End Date: 09/23/2013 20:29

Lab Sample ID	D/F	Type	Time	Analytes																			
				Hg																			
ZZZZZZ			14:45																				
ZZZZZZ			14:46																				
ZZZZZZ			14:48																				
ZZZZZZ			14:49																				
CCV 240-102557/12-A			14:51																				
CCB 240-102557/13-A			14:53																				
CCV 240-102557/12-A			18:31																				
CCB 240-102557/13-A			18:33																				
ZZZZZZ			18:35																				
ZZZZZZ			18:37																				
ZZZZZZ			18:38																				
ZZZZZZ			18:40																				
ZZZZZZ			18:41																				
ZZZZZZ			18:43																				
ZZZZZZ			18:44																				
ZZZZZZ			18:46																				
ZZZZZZ			18:47																				
ZZZZZZ			18:49																				
CCV 240-102557/12-A			18:50																				
CCB 240-102557/13-A			18:52																				
ZZZZZZ			18:53																				
ZZZZZZ			18:54																				
ZZZZZZ			18:56																				
ZZZZZZ			18:58																				
ZZZZZZ			18:59																				
ZZZZZZ			19:00																				
ZZZZZZ			19:02																				
ZZZZZZ			19:03																				
ZZZZZZ			19:04																				
ZZZZZZ			19:06																				
CCV 240-102557/12-A			19:07																				
CCB 240-102557/13-A			19:09																				
ZZZZZZ			19:10																				
ZZZZZZ			19:12																				
ZZZZZZ			19:13																				
ZZZZZZ			19:15																				
ZZZZZZ			19:16																				
ZZZZZZ			19:18																				
ZZZZZZ			19:19																				
ZZZZZZ			19:21																				
ZZZZZZ			19:22																				
ZZZZZZ			19:24																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Instrument ID: H1 Method: 7470A

Start Date: 09/23/2013 13:37 End Date: 09/23/2013 20:29

Lab Sample ID	D/F	Type	Time	Analytes																			
				Hg																			
CCV 240-102557/12-A	1		19:25	X																			
CCB 240-102557/13-A	1		19:27	X																			
ZZZZZZ			19:28																				
ZZZZZZ			19:29																				
ZZZZZZ			19:31																				
ZZZZZZ			19:33																				
ZZZZZZ			19:34																				
ZZZZZZ			19:35																				
ZZZZZZ			19:37																				
ZZZZZZ			19:39																				
ZZZZZZ			19:40																				
MB 240-102213/1-A	1	T	19:42	X																			
CCV 240-102557/12-A	1		19:43	X																			
CCB 240-102557/13-A	1		19:44	X																			
LCS 240-102213/2-A	1	T	19:46	X																			
ZZZZZZ			19:47																				
240-29167-U-6-E MS	1	D	19:49	X																			
240-29167-U-6-F MSD	1	D	19:51	X																			
240-29166-27	1	D	19:52	X																			
240-29166-28	1	D	19:54	X																			
240-29166-29	1	D	19:55	X																			
240-29166-30	1	D	19:57	X																			
240-29166-31	1	D	19:58	X																			
240-29166-32	1	D	20:00	X																			
CCV 240-102557/12-A	1		20:01	X																			
CCB 240-102557/13-A	1		20:03	X																			
240-29166-33	1	D	20:05	X																			
240-29166-34	1	D	20:06	X																			
240-29166-35	1	D	20:07	X																			
240-29166-36	1	D	20:10	X																			
240-29166-37	1	D	20:11	X																			
240-29166-38	1	D	20:13	X																			
240-29166-39	1	D	20:14	X																			
240-29166-40	1	D	20:16	X																			
240-29166-41	1	D	20:17	X																			
ZZZZZZ			20:19																				
CCV 240-102557/12-A	1		20:20	X																			
CCB 240-102557/13-A	1		20:22	X																			
ZZZZZZ			20:23																				
ZZZZZZ			20:24																				
ZZZZZZ			20:26																				
CCV 240-102557/12-A			20:27																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Instrument ID: H1 Method: 7470A

Start Date: 09/23/2013 13:37 End Date: 09/23/2013 20:29

Lab Sample ID	D / F	Type	Time	Analytes																			
				Hg																			
CCB 240-102557/13-A			20:29																				

Prep Types
D = Dissolved
T = Total/NA

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

ICV Source: MTHgStd_00009 Concentration Units: ug/L

CCV Source: MTHGCALW_00468

Analyte	ICV 240-102557/8-A 09/23/2013 13:59				CCVL 240-102557/11-A 09/23/2013 14:06				CCV 240-102557/12-A 09/23/2013 19:25			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	4.95		5.00	99	9.86		10.0	99	10.2		10.0	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.: 240-29166-1

SDG No.:

ICV Source: MTHgStd_00009 Concentration Units: ug/L

CCV Source: MTHGCALW_00468

Analyte	CCV 240-102557/12-A 09/23/2013 19:43				CCV 240-102557/12-A 09/23/2013 20:01				CCV 240-102557/12-A 09/23/2013 20:20			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	10.2		10.0	102	9.97		10.0	100	10.2		10.0	102

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Method: 7470A Instrument ID: H1

Lab Sample ID: CRA 240-102557/10-A Concentration Units: ug/L

CRQL Check Standard Source: MTHGCALW_00468

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.20	U	52	50-150

Lab Sample ID: CRA 240-102557/10-A Concentration Units: ug/L

CRQL Check Standard Source: MTHGCALW_00468

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.158	J	79	50-150

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

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 240-102557/9-A 09/23/2013 14:01		CCB 240-102557/13-A 09/23/2013 19:27		CCB 240-102557/13-A 09/23/2013 19:44		CCB 240-102557/13-A 09/23/2013 20:03	
		Found	C	Found	C	Found	C	Found	C
Mercury	0.20	0.20	U	0.20	U	0.20	U	0.20	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 240-102557/13-A 09/23/2013 20:22							
		Found	C	Found	C	Found	C	Found	C
Mercury	0.20	0.20	U						

Italicized analytes were not requested for this sequence.

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Instrument ID: H1 Method: 7470A

Start Date: 09/24/2013 07:46 End Date: 09/24/2013 18:17

Lab Sample ID	D/F	Type	Time	Analytes																			
				Hg																			
IC 240-102557/1-A			07:46	X																			
IC 240-102557/1-A			07:47	X																			
IC 240-102557/2-A			07:48	X																			
IC 240-102557/2-A			07:50	X																			
IC 240-102557/3-A			07:51	X																			
IC 240-102557/3-A			07:52	X																			
IC 240-102557/4-A			07:54	X																			
IC 240-102557/4-A			07:55	X																			
IC 240-102557/5-A			07:57	X																			
IC 240-102557/5-A			07:58	X																			
IC 240-102557/6-A			08:00	X																			
IC 240-102557/6-A			08:01	X																			
IC 240-102557/7-A			08:03	X																			
IC 240-102557/7-A			08:04	X																			
ICV 240-102557/8-A	1		08:08	X																			
ICB 240-102557/9-A	1		08:10	X																			
CRA 240-102557/10-A	1		08:12	X																			
CCVL 240-102557/11-A	1		10:57	X																			
CCB 240-102557/13-A			10:58																				
ZZZZZZ			11:00																				
ZZZZZZ			11:01																				
ZZZZZZ			11:02																				
ZZZZZZ			11:04																				
ZZZZZZ			11:06																				
ZZZZZZ			11:07																				
ZZZZZZ			11:09																				
ZZZZZZ			11:10																				
ZZZZZZ			11:12																				
ZZZZZZ			11:13																				
CCV 240-102557/12-A			11:14																				
CCB 240-102557/13-A			11:16																				
ZZZZZZ			11:17																				
ZZZZZZ			11:18																				
ZZZZZZ			11:20																				
ZZZZZZ			11:23																				
CCV 240-102557/12-A			11:24																				
CCB 240-102557/13-A			11:26																				
CCV 240-102557/12-A			11:56																				
CCB 240-102557/13-A			11:59																				
ZZZZZZ			12:00																				
ZZZZZZ			12:01																				
ZZZZZZ			12:04																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Instrument ID: H1 Method: 7470A

Start Date: 09/24/2013 07:46 End Date: 09/24/2013 18:17

Lab Sample ID	D/F	Type	Time	Analytes																			
				Hg																			
ZZZZZZ			12:05																				
ZZZZZZ			12:07																				
ZZZZZZ			12:08																				
ZZZZZZ			12:10																				
ZZZZZZ			12:11																				
ZZZZZZ			12:12																				
ZZZZZZ			12:14																				
CCV 240-102557/12-A			12:15																				
CCB 240-102557/13-A			12:17																				
ZZZZZZ			12:19																				
ZZZZZZ			12:20																				
ZZZZZZ			12:21																				
ZZZZZZ			12:23																				
CCV 240-102557/12-A			12:24																				
CCB 240-102557/13-A			12:26																				
CCV 240-102557/12-A			12:35																				
CCB 240-102557/13-A			12:37																				
CCV 240-102557/12-A			12:39																				
CCB 240-102557/13-A			12:41																				
ZZZZZZ			12:42																				
CCV 240-102557/12-A			12:43																				
CCB 240-102557/13-A			12:45																				
CCV 240-102557/12-A	1		16:04	X																			
CCB 240-102557/13-A	1		16:06	X																			
MB 240-102211/1-A	1	T	16:07	X																			
LCS 240-102211/2-A	1	T	16:09	X																			
240-29166-6	1	D	16:10	X																			
240-29166-6 MS	1	D	16:11	X																			
240-29166-6 MSD	1	D	16:13	X																			
240-29166-7	1	D	16:14	X																			
240-29166-8	1	D	16:15	X																			
240-29166-9	1	D	16:17	X																			
240-29166-10	1	D	16:18	X																			
240-29166-11	1	D	16:20	X																			
CCV 240-102557/12-A	1		16:21	X																			
CCB 240-102557/13-A	1		16:22	X																			
240-29166-12	1	D	16:24	X																			
240-29166-13	1	D	16:25	X																			
240-29166-14	1	D	16:27	X																			
240-29166-15	1	D	16:28	X																			
240-29166-16	1	D	16:30	X																			
240-29166-17	1	D	16:31	X																			

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Instrument ID: H1 Method: 7470A

Start Date: 09/24/2013 07:46 End Date: 09/24/2013 18:17

Lab Sample ID	D/F	Type	Time	Analytes																			
				Hg																			
240-29166-18	1	D	16:32	X																			
240-29166-19	1	D	16:35	X																			
240-29166-20	1	D	16:36	X																			
240-29166-21	1	D	16:38	X																			
CCV 240-102557/12-A	1		16:39	X																			
CCB 240-102557/13-A	1		16:40 ok	X																			
240-29166-22	1	D	16:42	X																			
240-29166-23	1	D	16:43	X																			
240-29166-24	1	D	16:44	X																			
240-29166-25	1	D	16:46	X																			
ZZZZZZ			16:48																				
ZZZZZZ			16:49																				
ZZZZZZ			16:51																				
ZZZZZZ			16:53																				
ZZZZZZ			16:54																				
ZZZZZZ			16:55																				
CCV 240-102557/12-A	1		16:57	X																			
CCB 240-102557/13-A	1		17:00	X																			
ZZZZZZ			17:01																				
ZZZZZZ			17:02																				
ZZZZZZ			17:04																				
ZZZZZZ			17:05																				
ZZZZZZ			17:06																				
ZZZZZZ			17:08																				
ZZZZZZ			17:10																				
ZZZZZZ			17:11																				
ZZZZZZ			17:13																				
ZZZZZZ			17:14																				
CCV 240-102557/12-A			17:16																				
CCB 240-102557/13-A			17:18																				
ZZZZZZ			17:19																				
ZZZZZZ			17:21																				
ZZZZZZ			17:22																				
ZZZZZZ			17:24																				
ZZZZZZ			17:26																				
ZZZZZZ			17:27																				
ZZZZZZ			17:29																				
ZZZZZZ			17:30																				
ZZZZZZ			17:31																				
ZZZZZZ			17:33																				
CCV 240-102557/12-A			17:35																				
CCB 240-102557/13-A			17:36																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Instrument ID: H1 Method: 7470A

Start Date: 09/24/2013 07:46 End Date: 09/24/2013 18:17

Lab Sample ID	D/F	Type	Time	Analytes																			
				Hg																			
ZZZZZZ			17:37																				
ZZZZZZ			17:39																				
ZZZZZZ			17:40																				
ZZZZZZ			17:42																				
ZZZZZZ			17:43																				
ZZZZZZ			17:45																				
ZZZZZZ			17:46																				
ZZZZZZ			17:48																				
ZZZZZZ			17:49																				
ZZZZZZ			17:51																				
CCV 240-102557/12-A			17:53																				
CCB 240-102557/13-A			17:54																				
ZZZZZZ			17:56																				
ZZZZZZ			17:58																				
ZZZZZZ			17:59																				
ZZZZZZ			18:00																				
ZZZZZZ			18:02																				
ZZZZZZ			18:03																				
ZZZZZZ			18:05																				
ZZZZZZ			18:06																				
ZZZZZZ			18:08																				
ZZZZZZ			18:09																				
CCV 240-102557/12-A			18:10																				
CCB 240-102557/13-A			18:13																				
ZZZZZZ			18:14																				
CCV 240-102557/12-A			18:15																				
CCB 240-102557/13-A			18:17																				

Prep Types

D = Dissolved

T = Total/NA

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

ICV Source: MTHgStd_00009 Concentration Units: ug/L

CCV Source: MTHGCALW_00468

Analyte	ICV 240-102557/8-A 09/24/2013 08:08				CCVL 240-102557/11-A 09/24/2013 10:57				CCV 240-102557/12-A 09/24/2013 16:04			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	5.21		5.00	104	9.79		10.0	98	9.79		10.0	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.: 240-29166-1

SDG No.:

ICV Source: MTHgStd_00009 Concentration Units: ug/L

CCV Source: MTHGCALW_00468

Analyte	CCV 240-102557/12-A 09/24/2013 16:21				CCV 240-102557/12-A 09/24/2013 16:39				CCV 240-102557/12-A 09/24/2013 16:57			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	9.79		10.0	98	9.73		10.0	97	9.89		10.0	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.: 240-29166-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 240-102557/9-A 09/24/2013 08:10		CCB 240-102557/13-A 09/24/2013 16:06		CCB 240-102557/13-A 09/24/2013 16:22		CCB 240-102557/13-A 09/24/2013 16:40	
		Found	C	Found	C	Found	C	Found	C
Mercury	0.20	0.20	U	0.20	U	0.20	U	0.20	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 240-102557/13-A 09/24/2013 17:00							
		Found	C	Found	C	Found	C	Found	C
Mercury	0.20	0.180	J						

Italicized analytes were not requested for this sequence.

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Instrument ID: I11 Method: 6020

Start Date: 09/24/2013 10:17 End Date: 09/25/2013 03:45

Lab Sample ID	D/F	Type	Time	Analytes																			
				Ag	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Mg	Mo	Ni	Pb	Sb	Se	Tl	V	W	Zn	
ICIS 240-102795/1			10:17	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
STD2 240-102795/2 IC	1		10:24	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
STD3 240-102795/3 IC	1		10:31	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
STD4 240-102795/4 IC	1		10:39	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
ICV 240-102795/5	1		10:46	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
ICB 240-102795/6	1		10:54	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	
CRI 240-102795/7	1		11:01	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
ICSA 240-102795/8	1		11:09	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
ICSAB 240-102795/9	1		11:16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CCV 240-102795/10			11:24																				
CCB 240-102795/11			11:31																				
CCV 240-102795/12			11:39																				
CCB 240-102795/13			11:46																				
ZZZZZZ			11:54																				
ZZZZZZ			12:01																				
ZZZZZZ			12:09																				
ZZZZZZ			12:16																				
ZZZZZZ			12:24																				
ZZZZZZ			12:31																				
ZZZZZZ			12:39																				
ZZZZZZ			12:46																				
ZZZZZZ			12:54																				
ZZZZZZ			13:01																				
CCV 240-102795/24			13:09																				
CCB 240-102795/25			13:16																				
ZZZZZZ			13:24																				
ZZZZZZ			13:31																				
ZZZZZZ			13:39																				
ZZZZZZ			13:46																				
ZZZZZZ			13:54																				
ZZZZZZ			14:01																				
ZZZZZZ			14:09																				
ZZZZZZ			14:16																				
ZZZZZZ			14:24																				
ZZZZZZ			14:31																				
CCV 240-102795/36			14:38																				
CCB 240-102795/37			14:46																				
ZZZZZZ			14:53																				
ZZZZZZ			15:01																				
ZZZZZZ			15:08																				
ZZZZZZ			15:16																				
ZZZZZZ			15:23																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Instrument ID: I11 Method: 6020

Start Date: 09/24/2013 10:17 End Date: 09/25/2013 03:45

Lab Sample ID	D/F	Type	Time	Ag	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Mg	Mo	Ni	Pb	Sb	Se	Tl	V	W	Zn
CCV 240-102795/43	1		15:31	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 240-102795/44	1		15:38	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
MB 240-102212/1-A	1	R	15:46	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
LCS 240-102212/2-A	1	R	15:53	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			16:01																			
240-29167-U-6-A SD ^5	5	D	16:08	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
240-29167-U-6-B MS	1	D	16:16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
240-29167-U-6-C MSD	1	D	16:23	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
240-29166-27	1	D	16:31	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
240-29166-28	1	D	16:38	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
240-29166-29	1	D	16:46	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
240-29166-30	1	D	16:53	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
CCV 240-102795/55	1		17:01	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 240-102795/56	1		17:08	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
240-29166-31	1	D	17:15	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
240-29166-32	1	D	17:23	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
240-29166-33	1	D	17:30	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
240-29166-34	1	D	17:38	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
240-29166-35	1	D	17:45	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
240-29166-36	1	D	17:53	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
240-29166-37	1	D	18:00	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
240-29166-38	1	D	18:08	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
240-29166-39	1	D	18:15	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
240-29166-40	1	D	18:23	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
CCV 240-102795/67	1		18:30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 240-102795/68	1		18:38	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
240-29166-41	1	D	18:45	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
ZZZZZZ			18:53																			
ZZZZZZ			19:00																			
ZZZZZZ			19:08																			
ZZZZZZ			19:15																			
CCV 240-102795/74	1		19:23	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 240-102795/75	1		19:30	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
MB 240-102209/1-A	1	R	19:38	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
LCS 240-102209/2-A	1	R	19:45	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
240-29166-6	1	D	19:53	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
240-29166-6 SD	5	D	20:00	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
240-29166-6 MS	1	D	20:08	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
240-29166-6 MSD	1	D	20:15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
240-29166-7	1	D	20:23	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
240-29166-8	1	D	20:30	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
240-29166-9	1	D	20:38	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Instrument ID: I11 Method: 6020

Start Date: 09/24/2013 10:17 End Date: 09/25/2013 03:45

Lab Sample ID	D/F	Type	Time	Analytes																			
				Ag	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Mg	Mo	Ni	Pb	Sb	Se	Tl	V	W	Zn	
240-29166-10	1	D	20:45	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	
CCV 240-102795/86	1		20:53	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CCB 240-102795/87	1		21:00	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	
240-29166-11	1	D	21:08	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	
240-29166-12	1	D	21:15	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	
240-29166-13	1	D	21:23	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	
240-29166-14	1	D	21:30	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	
240-29166-15	1	D	21:38	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	
240-29166-16	1	D	21:45	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	
240-29166-17	1	D	21:53	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	
240-29166-18	1	D	22:00	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	
240-29166-19	1	D	22:08	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	
240-29166-20	1	D	22:15	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	
CCV 240-102795/98	1		22:23	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CCB 240-102795/99	1		22:30	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	
ICSA 240-102795/100	1		22:38	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
ICSAB 240-102795/101	1		22:45	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CCV 240-102795/102			22:53																				
CCB 240-102795/103			23:00																				
CCV 240-102795/104	1		23:08	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CCB 240-102795/105	1		23:15	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	
240-29166-21	1	D	23:23	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	
240-29166-22	1	D	23:30	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	
240-29166-23	1	D	23:38	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	
240-29166-24	1	D	23:45	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	
240-29166-25	1	D	23:53	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	
CCV 240-102795/111	1		00:00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CCB 240-102795/112	1		00:08	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	
ZZZZZZ			00:15																				
ZZZZZZ			00:23																				
ZZZZZZ			00:30																				
ZZZZZZ			00:38																				
ZZZZZZ			00:45																				
ZZZZZZ			00:53																				
ZZZZZZ			01:00																				
ZZZZZZ			01:08																				
ZZZZZZ			01:15																				
ZZZZZZ			01:23																				
CCV 240-102795/123			01:30																				
CCB 240-102795/124			01:38																				
ZZZZZZ			01:45																				
ZZZZZZ			01:53																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Instrument ID: I11 Method: 6020

Start Date: 09/24/2013 10:17 End Date: 09/25/2013 03:45

Lab Sample ID	D/F	Type	Time	Analytes																				
				Ag	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Mg	Mo	Ni	Pb	Sb	Se	Tl	V	W	Zn	
ZZZZZZ			02:00																				
ZZZZZZ			02:07																				
ZZZZZZ			02:15																				
ZZZZZZ			02:23																				
ZZZZZZ			02:30																				
ZZZZZZ			02:37																				
ZZZZZZ			02:45																				
ZZZZZZ			02:52																				
CCV 240-102795/135			03:00																				
CCB 240-102795/136			03:07																				
ZZZZZZ			03:15																				
ZZZZZZ			03:22																				
ZZZZZZ			03:30																				
CCV 240-102795/140			03:37																				
CCB 240-102795/141			03:45																				

Prep Types

D = Dissolved

R = Total Recoverable

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

ICV Source: MTMSICVW_00029 Concentration Units: ug/L

CCV Source: MTMSCAL2CCVW_00075

Analyte	ICV 240-102795/5 09/24/2013 10:46				CCV 240-102795/43 09/24/2013 15:31				CCV 240-102795/55 09/24/2013 17:01			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	40.0		40.0	100	50.0		50.0	100	50.0		50.0	100
Arsenic	38.5		40.0	96	48.6		50.0	97	48.3		50.0	97
Barium	38.9		40.0	97	48.4		50.0	97	49.1		50.0	98
Beryllium	38.3		40.0	96	45.1		50.0	90	45.0		50.0	90
Cadmium	39.3		40.0	98	49.5		50.0	99	49.6		50.0	99
Calcium	19100		20000	96	24400		25000	98	24500		25000	98
Chromium	38.6		40.0	96	48.2		50.0	96	48.4		50.0	97
Cobalt	38.1		40.0	95	48.6		50.0	97	48.8		50.0	98
Copper	39.9		40.0	100	49.2		50.0	98	49.6		50.0	99
Lead	39.8		40.0	99	49.3		50.0	99	50.0		50.0	100
Magnesium	19600		20000	98	25400		25000	102	25700		25000	103
Molybdenum	40.3		40.0	101	51.8		50.0	104	52.0		50.0	104
Nickel	39.1		40.0	98	48.6		50.0	97	48.8		50.0	98
Selenium	39.3		40.0	98	49.4		50.0	99	50.0		50.0	100
Silver	39.5		40.0	99	50.2		50.0	100	50.0		50.0	100
Thallium	39.5		40.0	99	49.6		50.0	99	50.3		50.0	101
Tungsten	38.9		40.0	97	50.3		50.0	101	50.9		50.0	102
Vanadium	38.7		40.0	97	47.4		50.0	95	47.6		50.0	95
Zinc	41.6		40.0	104	49.3		50.0	99	49.6		50.0	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.: 240-29166-1

SDG No.:

ICV Source: MTMSICVW_00029 Concentration Units: ug/L

CCV Source: MTMSCAL2CCVW_00075

Analyte	CCV 240-102795/67 09/24/2013 18:30				CCV 240-102795/74 09/24/2013 19:23				CCV 240-102795/86 09/24/2013 20:53			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	50.5		50.0	101	50.7		50.0	101	50.9		50.0	102
Arsenic	48.2		50.0	96	48.5		50.0	97	48.7		50.0	97
Barium	49.6		50.0	99	49.7		50.0	99	50.0		50.0	100
Beryllium	45.3		50.0	91	45.3		50.0	91	46.0		50.0	92
Cadmium	49.6		50.0	99	50.0		50.0	100	50.3		50.0	101
Calcium	26500		25000	106	27300		25000	109	27400		25000	110
Chromium	47.8		50.0	96	48.2		50.0	96	48.1		50.0	96
Cobalt	48.5		50.0	97	48.8		50.0	98	48.5		50.0	97
Copper	49.2		50.0	98	49.1		50.0	98	49.4		50.0	99
Lead	50.9		50.0	102	51.1		50.0	102	50.9		50.0	102
Magnesium	25600		25000	102	25400		25000	102	25900		25000	104
Molybdenum	51.5		50.0	103	51.1		50.0	102	51.8		50.0	104
Nickel	48.6		50.0	97	49.1		50.0	98	48.8		50.0	98
Selenium	49.9		50.0	100	49.7		50.0	99	49.5		50.0	99
Silver	50.2		50.0	100	50.0		50.0	100	50.0		50.0	100
Thallium	50.9		50.0	102	51.0		50.0	102	50.7		50.0	101
Tungsten	51.2		50.0	102	51.4		50.0	103	51.6		50.0	103
Vanadium	47.2		50.0	94	47.6		50.0	95	47.7		50.0	95
Zinc	50.2		50.0	100	49.6		50.0	99	49.7		50.0	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.: 240-29166-1

SDG No.:

ICV Source: MTMSICVW_00029 Concentration Units: ug/L

CCV Source: MTMSCAL2CCVW_00075

Analyte	CCV 240-102795/98 09/24/2013 22:23				CCV 240-102795/104 09/24/2013 23:08				CCV 240-102795/111 09/25/2013 00:00			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	51.1		50.0	102	51.2		50.0	102	51.2		50.0	102
Arsenic	48.7		50.0	97	48.1		50.0	96	48.7		50.0	97
Barium	49.7		50.0	99	49.9		50.0	100	50.2		50.0	100
Beryllium	46.5		50.0	93	46.3		50.0	93	46.4		50.0	93
Cadmium	50.1		50.0	100	50.0		50.0	100	50.3		50.0	101
Calcium	28500		25000	114	29500		25000	118	27900		25000	111
Chromium	48.5		50.0	97	48.8		50.0	98	48.2		50.0	96
Cobalt	48.9		50.0	98	48.9		50.0	98	48.5		50.0	97
Copper	49.5		50.0	99	49.4		50.0	99	48.8		50.0	98
Lead	51.5		50.0	103	52.8		50.0	106	51.4		50.0	103
Magnesium	26200		25000	105	25800		25000	103	26500		25000	106
Molybdenum	51.6		50.0	103	51.7		50.0	103	52.4		50.0	105
Nickel	49.0		50.0	98	49.0		50.0	98	48.1		50.0	96
Selenium	48.8		50.0	98	48.4		50.0	97	48.7		50.0	97
Silver	50.3		50.0	101	50.2		50.0	100	50.3		50.0	101
Thallium	51.3		50.0	103	52.6		50.0	105	50.9		50.0	102
Tungsten	51.6		50.0	103	52.3		50.0	105	51.9		50.0	104
Vanadium	47.9		50.0	96	48.0		50.0	96	47.7		50.0	95
Zinc	50.3		50.0	101	50.6		50.0	101	50.1		50.0	100

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Method: 6020 Instrument ID: I11

Lab Sample ID: CRI 240-102795/7 Concentration Units: ug/L

CRQL Check Standard Source: MTMSCRI6020AW_00007

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Antimony	2.00	2.06		103	50-150
Arsenic	5.00	4.84	J	97	50-150
Barium	5.00	4.92	J	98	50-150
Beryllium	1.00	0.979	J	98	50-150
Cadmium	1.00	0.993	J	99	50-150
Chromium	2.00	2.04		102	50-150
Cobalt	1.00	1.01		101	50-150
Copper	2.00	2.08		104	50-150
Lead	1.00	1.03		103	50-150
Molybdenum	10.0	10.0		100	50-150
Nickel	2.00	2.03		101	50-150
Selenium	5.00	4.81	J	96	50-150
Silver	1.00	1.01		101	50-150
Thallium	2.00	2.15		107	50-150
Vanadium	5.00	5.01		100	50-150
Zinc	20.0	21.2		106	50-150
Calcium	1000	989	J	99	50-150
Magnesium	1000	1020		102	50-150
Tungsten	10.0	9.94	J	99	50-150

Lab Sample ID: CRI 240-102991/7 Concentration Units: ug/L

CRQL Check Standard Source: MTMSCRI6020AW_00007

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Antimony	2.00	2.00		100	50-150
Arsenic	5.00	4.95	J	99	50-150
Barium	5.00	5.06		101	50-150
Beryllium	1.00	1.01		101	50-150
Cadmium	1.00	1.02		102	50-150
Chromium	2.00	2.01		101	50-150
Cobalt	1.00	1.04		104	50-150
Copper	2.00	2.17		109	50-150
Lead	1.00	1.09		109	50-150
Molybdenum	10.0	9.98	J	100	50-150
Nickel	2.00	2.06		103	50-150

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

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 240-102795/6 09/24/2013 10:54		CCB 240-102795/44 09/24/2013 15:38		CCB 240-102795/56 09/24/2013 17:08		CCB 240-102795/68 09/24/2013 18:38	
		Found	C	Found	C	Found	C	Found	C
Antimony	2.0	2.0	U	2.0	U	2.0	U	2.0	U
Arsenic	5.0	5.0	U	5.0	U	5.0	U	5.0	U
Barium	5.0	5.0	U	5.0	U	5.0	U	5.0	U
Beryllium	1.0	1.0	U	1.0	U	1.0	U	1.0	U
Cadmium	1.0	1.0	U	1.0	U	1.0	U	0.0440	J
Calcium	1000	1000	U	1000	U	29.0	J	37.5	J
Chromium	2.0	2.0	U	2.0	U	2.0	U	2.0	U
Cobalt	1.0	1.0	U	1.0	U	1.0	U	0.0520	J
Copper	2.0	2.0	U	2.0	U	2.0	U	2.0	U
Lead	1.0	1.0	U	1.0	U	1.0	U	1.0	U
Magnesium	1000	1000	U	1000	U	24.4	J	84.6	J
Molybdenum	10	10	U	10	U	10	U	10	U
Nickel	2.0	2.0	U	2.0	U	2.0	U	2.0	U
Selenium	5.0	5.0	U	5.0	U	5.0	U	5.0	U
Silver	1.0	1.0	U	0.0210	J	0.0210	J	0.0540	J
Thallium	2.0	2.0	U	2.0	U	2.0	U	2.0	U
Tungsten	10	0.226	J	0.103	J	0.149	J	0.129	J
Vanadium	5.0	5.0	U	5.0	U	5.0	U	5.0	U
Zinc	20	20	U	20	U	20	U	20	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 240-102795/75 09/24/2013 19:30		CCB 240-102795/87 09/24/2013 21:00		CCB 240-102795/99 09/24/2013 22:30		CCB 240-102795/105 09/24/2013 23:15	
		Found	C	Found	C	Found	C	Found	C
Antimony	2.0	2.0	U	2.0	U	2.0	U	2.0	U
Arsenic	5.0	0.0700	J	0.132	J	0.0670	J	5.0	U
Barium	5.0	5.0	U	5.0	U	5.0	U	5.0	U
Beryllium	1.0	1.0	U	0.0310	J	1.0	U	1.0	U
Cadmium	1.0	0.0550	J	0.0760	J	0.0730	J	0.0410	J
Calcium	1000	41.0	J	43.4	J	48.8	J	55.5	J
Chromium	2.0	2.0	U	2.0	U	2.0	U	2.0	U
Cobalt	1.0	0.0590	J	0.0770	J	0.0750	J	0.0350	J
Copper	2.0	2.0	U	2.0	U	2.0	U	2.0	U
Lead	1.0	1.0	U	1.0	U	1.0	U	1.0	U
Magnesium	1000	48.6	J	118	J	129	J	36.3	J
Molybdenum	10	10	U	10	U	10	U	10	U
Nickel	2.0	2.0	U	0.0890	J	2.0	U	2.0	U
Selenium	5.0	5.0	U	5.0	U	5.0	U	5.0	U
Silver	1.0	0.0700	J	0.0910	J	0.0900	J	0.0460	J
Thallium	2.0	2.0	U	0.432	J	2.0	U	2.0	U
Tungsten	10	0.132	J	0.176	J	0.134	J	0.157	J
Vanadium	5.0	5.0	U	5.0	U	5.0	U	5.0	U
Zinc	20	20	U	20	U	20	U	20	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 240-102795/112 09/25/2013 00:08							
		Found	C	Found	C	Found	C	Found	C
Antimony	2.0	2.0	U						
Arsenic	5.0	0.0630	J						
Barium	5.0	5.0	U						
Beryllium	1.0	0.0420	J						
Cadmium	1.0	0.0700	J						
Calcium	1000	85.1	J						
Chromium	2.0	2.0	U						
Cobalt	1.0	0.0820	J						
Copper	2.0	2.0	U						
Lead	1.0	1.0	U						
Magnesium	1000	150	J						
Molybdenum	10	10	U						
Nickel	2.0	2.0	U						
Selenium	5.0	5.0	U						
Silver	1.0	0.0920	J						
Thallium	2.0	2.0	U						
Tungsten	10	0.154	J						
Vanadium	5.0	5.0	U						
Zinc	20	20	U						

Italicized analytes were not requested for this sequence.

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Lab Sample ID: ICSA 240-102795/8 Instrument ID: I11

Lab File ID: I11092413A.csv ICS Source: MTMSICSAW_00031

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Antimony		**0.197**	
Arsenic		**0.0700**	
Barium		**0.0640**	
Beryllium		**0.0060**	
Cadmium		**-0.398**	
Calcium	**50000**	**48740**	**97**
Chromium		**1.06**	
Cobalt		**0.0180**	
Copper		**0.416**	
Lead		**0.158**	
Magnesium	**50000**	**49660**	**99**
Molybdenum	**1000**	**1050**	**105**
Nickel		**0.463**	
Selenium		**0.0090**	
Silver		**0.0210**	
Thallium		**0.0980**	
Tungsten		**0.230**	
Vanadium		**-0.0200**	
Zinc		**2.85**	
Aluminum	*50000*	*47990*	*96*
Boron		*6.30*	
Iron	*50000*	*49860*	*100*
Manganese		*0.143*	
Potassium	*50000*	*50110*	*100*
Sodium	*50000*	*50970*	*102*
Strontium		*2.09*	
Tin		*0.129*	
Titanium	*1000*	*1016*	*102*

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.: 240-29166-1

SDG No.:

Lab Sample ID: ICSAB 240-102795/9 Instrument ID: I11

Lab File ID: I11092413A.csv ICS Source: MTMSICSABW_00030

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Antimony	**100**	**103**	**103**
Arsenic	**100**	**99.6**	**100**
Barium	**100**	**102**	**102**
Beryllium	**100**	**98.5**	**98**
Cadmium	**100**	**100**	**100**
Calcium	**50000**	**50220**	**100**
Chromium	**100**	**103**	**103**
Cobalt	**100**	**101**	**101**
Copper	**100**	**101**	**101**
Lead	**100**	**106**	**106**
Magnesium	**50000**	**51940**	**104**
Molybdenum	**1100**	**1185**	**108**
Nickel	**100**	**101**	**101**
Selenium	**100**	**97.8**	**98**
Silver	**100**	**99.8**	**100**
Thallium	**100**	**106**	**106**
Tungsten	**100**	**110**	**110**
Vanadium	**100**	**103**	**103**
Zinc	**100**	**107**	**107**
Aluminum	*50000*	*49850*	*100*
Boron	*100*	*102*	*102*
Iron	*50000*	*51340*	*103*
Manganese	*100*	*105*	*105*
Potassium	*50000*	*51500*	*103*
Sodium	*50000*	*53640*	*107*
Strontium	*100*	*101*	*101*
Tin	*100*	*102*	*102*
Titanium	*1100*	*1145*	*104*

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.: 240-29166-1

SDG No.:

Lab Sample ID: ICSA 240-102795/100 Instrument ID: I11

Lab File ID: I11092413A.csv ICS Source: MTMSICSAW_00031

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Antimony		**0.144**	
Arsenic		**0.0510**	
Barium		**0.0960**	
Beryllium		**-0.0060**	
Cadmium		**-0.405**	
Calcium	**50000**	**57640**	**115**
Chromium		**0.960**	
Cobalt		**0.0250**	
Copper		**0.374**	
Lead		**0.164**	
Magnesium	**50000**	**52160**	**104**
Molybdenum	**1000**	**1078**	**108**
Nickel		**0.540**	
Selenium		**-0.0330**	
Silver		**0.0250**	
Thallium		**0.129**	
Tungsten		**0.124**	
Vanadium		**0.0000**	
Zinc		**5.84**	
Aluminum	*50000*	*51050*	*102*
Boron		*0.906*	
Iron	*50000*	*43560*	*87*
Manganese		*0.233*	
Potassium	*50000*	*52110*	*104*
Sodium	*50000*	*47410*	*95*
Strontium		*2.25*	
Tin		*0.0800*	
Titanium	*1000*	*1006*	*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.: 240-29166-1

SDG No.:

Lab Sample ID: ICSAB 240-102795/101 Instrument ID: I11

Lab File ID: I11092413A.csv ICS Source: MTMSICSABW_00030

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Antimony	**100**	**106**	**106**
Arsenic	**100**	**99.9**	**100**
Barium	**100**	**105**	**105**
Beryllium	**100**	**95.7**	**96**
Cadmium	**100**	**101**	**101**
Calcium	**50000**	**58510**	**117**
Chromium	**100**	**103**	**103**
Cobalt	**100**	**99.7**	**100**
Copper	**100**	**99.1**	**99**
Lead	**100**	**111**	**111**
Magnesium	**50000**	**53770**	**108**
Molybdenum	**1100**	**1206**	**110**
Nickel	**100**	**99.1**	**99**
Selenium	**100**	**99.1**	**99**
Silver	**100**	**100**	**100**
Thallium	**100**	**109**	**109**
Tungsten	**100**	**114**	**114**
Vanadium	**100**	**102**	**102**
Zinc	**100**	**109**	**109**
Aluminum	*50000*	*52010*	*104*
Boron	*100*	*94.6*	*95*
Iron	*50000*	*44520*	*89*
Manganese	*100*	*106*	*106*
Potassium	*50000*	*53420*	*107*
Sodium	*50000*	*48940*	*98*
Strontium	*100*	*104*	*104*
Tin	*100*	*104*	*104*
Titanium	*1100*	*1128*	*103*

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

FORM IVA-IN

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

ICP-MS Instrument ID: I11 Start Date: 09/24/2013 End Date: 09/25/2013

Na Al Ti Mg K Ca V Cr

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc	Q	Element Sc	Q	Element Ge	Q	Element In	Q
240-29166-7	20:23	62		76		83		65		68	
240-29166-8	20:30	64		80		87		69		71	
240-29166-9	20:38	62		81		88		70		72	
240-29166-10	20:45	60		81		90		70		72	
CCV 240-102795/86	20:53	93		69		71		66		69	
CCB 240-102795/87	21:00	91		66		66		64		68	
240-29166-11	21:08	60		69		75		60		63	
240-29166-12	21:15	61		77		85		67		69	
240-29166-13	21:23	63		80		91		73		75	
240-29166-14	21:30	59		81		91		71		73	
240-29166-15	21:38	58		82		93		73		74	
240-29166-16	21:45	58		82		93		72		73	
240-29166-17	21:53	59		83		97		77		78	
240-29166-18	22:00	60		82		93		73		74	
240-29166-19	22:08	60		82		94		74		76	
240-29166-20	22:15	59		81		93		73		75	
CCV 240-102795/98	22:23	92		69		75		70		75	
CCB 240-102795/99	22:30	91		65		69		66		71	
ICSA 240-102795/100	22:38	76		58		62		57		62	
ICSAB 240-102795/101	22:45	74		54		60		57		61	
CCV 240-102795/104	23:08	80		56		63		61		67	
CCB 240-102795/105	23:15	81		54		60		60		65	
240-29166-21	23:23	60		59		74		61		66	
240-29166-22	23:30	62		68		81		66		69	
240-29166-23	23:38	59		72		84		66		69	
240-29166-24	23:45	60		74		86		68		70	
240-29166-25	23:53	59		74		87		69		70	
CCV 240-102795/111	00:00	85		63		67		62		66	
CCB 240-102795/112	00:08	85		59	X	63		61		66	

FORM XV - IN

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

ICP-MS Instrument ID: I11 Start Date: 09/24/2013 End Date: 09/25/2013

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc	Q	Element Sc	Q	Element Ge	Q	Element In	Q
STD2 240-102795/2 IC	10:24	94		92		90		87		88	
STD3 240-102795/3 IC	10:31	87		88		87		81		84	
STD4 240-102795/4 IC	10:39	99		90		90		89		91	
ICV 240-102795/5	10:46	97		94		90		87		89	
ICB 240-102795/6	10:54	101		92		89		88		89	
CRI 240-102795/7	11:01	101		93		90		88		90	
ICSA 240-102795/8	11:09	83		82		80		77		80	
ICSAB 240-102795/9	11:16	80		79		78		76		79	
CCV 240-102795/43	15:31	90		74		72		67		69	
CCB 240-102795/44	15:38	92		71		68		65		69	
MB 240-102212/1-A	15:46	90		67		68		64		67	
LCS 240-102212/2-A	15:53	84		63		64		56		63	
240-29167-U-6-A SD ^!	16:08	97		71		72		70		74	
240-29167-U-6-B MS	16:16	81		61		64		60		64	
240-29167-U-6-C MSD	16:23	80		61		65		61		66	
240-29166-27	16:31	60		73		78		61		65	
240-29166-28	16:38	62		83		84		66		67	
240-29166-29	16:46	63		87		89		70		72	
240-29166-30	16:53	61		87		90		70		72	
CCV 240-102795/55	17:01	92		74		71		66		69	
CCB 240-102795/56	17:08	94		72		71		68		72	
240-29166-31	17:15	63		76		84		67		70	
240-29166-32	17:23	63		84		86		67		69	
240-29166-33	17:30	61		86		90		71		72	
240-29166-34	17:38	59		88		92		72		72	
240-29166-35	17:45	59		88		91		70		70	
240-29166-36	17:53	60		89		93		71		72	
240-29166-37	18:00	60		89		93		72		73	
240-29166-38	18:08	58		89		95		72		72	
240-29166-39	18:15	58		90		96		74		74	
240-29166-40	18:23	58		89		99		77		78	
CCV 240-102795/67	18:30	94		73		75		70		74	
CCB 240-102795/68	18:38	94		69		70		68		73	
240-29166-41	18:45	60		73		81		64		67	
CCV 240-102795/74	19:23	89		65		67		64		68	
CCB 240-102795/75	19:30	92		63		66		65		71	
MB 240-102209/1-A	19:38	89		59		63		61		65	
LCS 240-102209/2-A	19:45	83		54		59		53		61	
240-29166-6	19:53	64		63		73		59		65	
240-29166-6 SD	20:00	95		75		78		71		74	
240-29166-6 MS	20:08	58		63		69		56		61	
240-29166-6 MSD	20:15	61		67		73		59		63	

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15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

ICP-MS Instrument ID: I11 Start Date: 09/24/2013 End Date: 09/25/2013

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Tb	Q	Element Ho	Q	Element Bi	Q	Element	Q	Element	Q
STD2 240-102795/2 IC	10:24			93							
STD3 240-102795/3 IC	10:31			90							
STD4 240-102795/4 IC	10:39			96							
ICV 240-102795/5	10:46			94							
ICB 240-102795/6	10:54			93							
CRI 240-102795/7	11:01			93							
ICSA 240-102795/8	11:09			85							
ICSAB 240-102795/9	11:16			86							
CCV 240-102795/43	15:31			80							
CCB 240-102795/44	15:38			77							
MB 240-102212/1-A	15:46			76							
LCS 240-102212/2-A	15:53			74							
240-29167-U-6-A SD ^!	16:08			84							
240-29167-U-6-B MS	16:16			76							
240-29167-U-6-C MSD	16:23			79							
240-29166-27	16:31			75							
240-29166-28	16:38			76							
240-29166-29	16:46			81							
240-29166-30	16:53			81							
CCV 240-102795/55	17:01			80							
CCB 240-102795/56	17:08			82							
240-29166-31	17:15			80							
240-29166-32	17:23			79							
240-29166-33	17:30			82							
240-29166-34	17:38			81							
240-29166-35	17:45			80							
240-29166-36	17:53			81							
240-29166-37	18:00			82							
240-29166-38	18:08			81							
240-29166-39	18:15			83							
240-29166-40	18:23			87							
CCV 240-102795/67	18:30			85							
CCB 240-102795/68	18:38			82							
240-29166-41	18:45			78							
CCV 240-102795/74	19:23			80							
CCB 240-102795/75	19:30			81							
MB 240-102209/1-A	19:38			76							
LCS 240-102209/2-A	19:45			73							
240-29166-6	19:53			78							
240-29166-6 SD	20:00			85							
240-29166-6 MS	20:08			74							
240-29166-6 MSD	20:15			75							

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15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

ICP-MS Instrument ID: I11 Start Date: 09/24/2013 End Date: 09/25/2013

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Tb	Q	Element Ho	Q	Element Bi	Q	Element	Q	Element	Q
240-29166-7	20:23			78							
240-29166-8	20:30			82							
240-29166-9	20:38			83							
240-29166-10	20:45			82							
CCV 240-102795/86	20:53			80							
CCB 240-102795/87	21:00			77							
240-29166-11	21:08			73							
240-29166-12	21:15			80							
240-29166-13	21:23			85							
240-29166-14	21:30			83							
240-29166-15	21:38			84							
240-29166-16	21:45			83							
240-29166-17	21:53			88							
240-29166-18	22:00			84							
240-29166-19	22:08			87							
240-29166-20	22:15			86							
CCV 240-102795/98	22:23			86							
CCB 240-102795/99	22:30			80							
ICSA 240-102795/100	22:38			71							
ICSAB 240-102795/101	22:45			70							
CCV 240-102795/104	23:08			79							
CCB 240-102795/105	23:15			77							
240-29166-21	23:23			79							
240-29166-22	23:30			81							
240-29166-23	23:38			80							
240-29166-24	23:45			81							
240-29166-25	23:53			81							
CCV 240-102795/111	00:00			77							
CCB 240-102795/112	00:08			76							

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13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Instrument ID: NOEQUIP Method: SM 2340B

Start Date: 09/23/2013 12:44 End Date: 09/23/2013 12:49

Lab Sample ID	D/F	Type	Time	Analytes																			
				CaCO3	HardCC	MgHARD																	
ZZZZZZ			12:44																				
ZZZZZZ			12:44																				
ZZZZZZ			12:44																				
240-29166-6	1	D	12:44	X	X	X																	
240-29166-7	1	D	12:44	X	X	X																	
ZZZZZZ			12:44																				
240-29166-8	1	D	12:44	X	X	X																	
240-29166-9	1	D	12:44	X	X	X																	
240-29166-10	1	D	12:44	X	X	X																	
240-29166-11	1	D	12:44	X	X	X																	
240-29166-12	1	D	12:44	X	X	X																	
240-29166-13	1	D	12:44	X	X	X																	
240-29166-14	1	D	12:44	X	X	X																	
240-29166-15	1	D	12:44	X	X	X																	
240-29166-16	1	D	12:44	X	X	X																	
240-29166-17	1	D	12:44	X	X	X																	
240-29166-18	1	D	12:44	X	X	X																	
240-29166-19	1	D	12:44	X	X	X																	
240-29166-20	1	D	12:44	X	X	X																	
240-29166-21	1	D	12:44	X	X	X																	
240-29166-22	1	D	12:44	X	X	X																	
240-29166-23	1	D	12:44	X	X	X																	
240-29166-24	1	D	12:44	X	X	X																	
240-29166-25	1	D	12:44	X	X	X																	
ZZZZZZ			12:44																				
240-29166-27	1	D	12:44	X	X	X																	
240-29166-28	1	D	12:44	X	X	X																	
240-29166-29	1	D	12:44	X	X	X																	
240-29166-30	1	D	12:44	X	X	X																	
240-29166-31	1	D	12:44	X	X	X																	
240-29166-32	1	D	12:44	X	X	X																	
240-29166-33	1	D	12:44	X	X	X																	
240-29166-34	1	D	12:44	X	X	X																	
240-29166-35	1	D	12:44	X	X	X																	
240-29166-36	1	D	12:44	X	X	X																	
240-29166-37	1	D	12:44	X	X	X																	
240-29166-38	1	D	12:44	X	X	X																	
240-29166-39	1	D	12:44	X	X	X																	
240-29166-40	1	D	12:44	X	X	X																	
240-29166-41	1	D	12:44	X	X	X																	
ZZZZZZ			12:44																				
ZZZZZZ			12:44																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Canton Job No.: 240-29166-1

SDG No.:

Instrument ID: NOEQUIP Method: SM 2340B

Start Date: 09/23/2013 12:44 End Date: 09/23/2013 12:49

Lab Sample ID	D/F	Type	Time	Analytes																			
				CaCO3	HardCC	MgHARD																	
ZZZZZZ			12:44																				
ZZZZZZ			12:44																				
ZZZZZZ			12:44																				
ZZZZZZ			12:49																				

Prep Types

D = Dissolved

APPENDIX C—CHEMICAL RESULTS DATA TABLE

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION SAMPLE ID SAMPLE DATE	EL-SW01A EL-SW01A-091813 20130918	EL-SW01B EL-SW01B-091813 20130918	EL-SW01C EL-SW01C-091813 20130918	EL-SW01D EL-SW01D-091813 20130918	MSA-SW-37A MSA-SW37A-091813 20130918
VOLATILES (UG/L)					
1,1,1,2-TETRACHLOROETHANE	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,1,1-TRICHLOROETHANE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,1,2,2-TETRACHLOROETHANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,1,2-TRICHLOROTRIFLUOROETHANE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
1,1-DICHLOROETHANE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
1,1-DICHLOROETHENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
1,1-DICHLOROPROPENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,2,3-TRICHLOROBENZENE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
1,2,3-TRICHLOROPROPANE	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
1,2,3-TRIMETHYLBENZENE	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
1,2,4-TRICHLOROBENZENE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
1,2,4-TRIMETHYLBENZENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
1,2-DIBROMO-3-CHLOROPROPANE	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U
1,2-DIBROMOETHANE	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
1,2-DICHLOROBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,2-DICHLOROETHANE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,2-DICHLOROPROPANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,3-DICHLOROBENZENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,3-DICHLOROPROPANE	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
1,4-DICHLOROBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
2,2-DICHLOROPROPANE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
2-BUTANONE	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U
2-CHLOROETHYL VINYL ETHER	0.99 UR	0.99 U	0.99 U	0.99 U	0.99 U
2-CHLOROTOLUENE	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
2-HEXANONE	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
4-CHLOROTOLUENE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
4-ISOPROPYLTOLUENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
4-METHYL-2-PENTANONE	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
ACETONE	1.1 U	1.1 U	1.1 U	1.4 J	1.1 U
BENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
BROMOBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
BROMOCHLOROMETHANE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
BROMODICHLOROMETHANE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
BROMOFORM	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U
BROMOMETHANE	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
CARBON DISULFIDE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
CARBON TETRACHLORIDE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
CHLOROBENZENE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
CHLORODIBROMOMETHANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION SAMPLE ID SAMPLE DATE	EL-SW01A EL-SW01A-091813 20130918	EL-SW01B EL-SW01B-091813 20130918	EL-SW01C EL-SW01C-091813 20130918	EL-SW01D EL-SW01D-091813 20130918	MSA-SW-37A MSA-SW37A-091813 20130918
CHLOROETHANE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
CHLOROFORM	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
CHLOROMETHANE	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
CIS-1,2-DICHLOROETHENE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
CIS-1,3-DICHLOROPROPENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
DIBROMOMETHANE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
DICHLORODIFLUOROMETHANE	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
DIISOPROPYL ETHER	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
ETHYL TERT-BUTYL ETHER	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
ETHYLBENZENE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
HEXACHLOROBUTADIENE	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
ISOPROPYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
M+P-XYLENES	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
METHYL TERT-BUTYL ETHER	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
METHYLENE CHLORIDE	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
NAPHTHALENE	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
N-BUTYLBENZENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
N-PROPYLBENZENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
O-XYLENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
SEC-BUTYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
STYRENE	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
TERT-AMYL METHYL ETHER	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
TERT-BUTYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
TERTIARY-BUTYL ALCOHOL	3.9 UR	3.9 UR	3.9 UR	3.9 UR	3.9 UR
TETRACHLOROETHENE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
TOLUENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
TOTAL XYLENES	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
TRANS-1,2-DICHLOROETHENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
TRANS-1,3-DICHLOROPROPENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
TRICHLOROETHENE	0.2 J	0.24 J	0.26 J	0.24 J	0.31 J
TRICHLOROFLUOROMETHANE	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
VINYL ACETATE	0.19 UR	0.19 UR	0.19 UR	0.19 UR	0.19 UR
VINYL CHLORIDE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
DISSOLVED METALS (UG/L)					
ANTIMONY	NA	NA	NA	NA	0.34 B
ARSENIC	NA	NA	NA	NA	1.4 J
BARIUM	NA	NA	NA	NA	43
BERYLLIUM	NA	NA	NA	NA	0.043 J
CADMIUM	NA	NA	NA	NA	0.063 B
CHROMIUM	NA	NA	NA	NA	0.29 J

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION **SAMPLE ID** **SAMPLE DATE**	**EL-SW01A** **EL-SW01A-091813** **20130918**	**EL-SW01B** **EL-SW01B-091813** **20130918**	**EL-SW01C** **EL-SW01C-091813** **20130918**	**EL-SW01D** **EL-SW01D-091813** **20130918**	**MSA-SW-37A** **MSA-SW37A-091813** **20130918**
COBALT	NA	NA	NA	NA	0.3 B
COPPER	NA	NA	NA	NA	2.8
LEAD	NA	NA	NA	NA	0.14 U
MERCURY	NA	NA	NA	NA	0.12 UL
MOLYBDENUM	NA	NA	NA	NA	1.8 J
NICKEL	NA	NA	NA	NA	3.4
SELENIUM	NA	NA	NA	NA	0.34 U
SILVER	NA	NA	NA	NA	0.0083 U
THALLIUM	NA	NA	NA	NA	0.4 U
TUNGSTEN	NA	NA	NA	NA	0.091 B
VANADIUM	NA	NA	NA	NA	1.1 J
ZINC	NA	NA	NA	NA	4.3 J
MISCELLANEOUS PARAMETERS					
HEXAVALENT CHROMIUM	NA	NA	NA	NA	0.042 L
MISCELLANEOUS PARAMETERS (MG/L)					
CALCIUM HARDNESS AS CACO3	NA	NA	NA	NA	140
HARDNESS AS CACO3	NA	NA	NA	NA	640
MAGNESIUM HARDNESS AS CACO3	NA	NA	NA	NA	500

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION SAMPLE ID SAMPLE DATE	MSA-SW-37B MSA-SW37B-091813 20130918	MSA-SW-37C MSA-SW37C-091813 20130918	MSA-SW-37D MSA-SW37D-091813 20130918	MSA-SW-38A MSA-SW38A-091813 20130918	MSA-SW-38B MSA-SW38B-091813 20130918
VOLATILES (UG/L)					
1,1,1,2-TETRACHLOROETHANE	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,1,1-TRICHLOROETHANE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,1,2,2-TETRACHLOROETHANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,1,2-TRICHLOROTRIFLUOROETHANE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
1,1-DICHLOROETHANE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
1,1-DICHLOROETHENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
1,1-DICHLOROPROPENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,2,3-TRICHLOROBENZENE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
1,2,3-TRICHLOROPROPANE	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
1,2,3-TRIMETHYLBENZENE	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
1,2,4-TRICHLOROBENZENE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
1,2,4-TRIMETHYLBENZENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
1,2-DIBROMO-3-CHLOROPROPANE	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U
1,2-DIBROMOETHANE	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
1,2-DICHLOROBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,2-DICHLOROETHANE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,2-DICHLOROPROPANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,3-DICHLOROBENZENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,3-DICHLOROPROPANE	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
1,4-DICHLOROBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
2,2-DICHLOROPROPANE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
2-BUTANONE	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U
2-CHLOROETHYL VINYL ETHER	0.99 U	0.99 U	0.99 U	0.99 U	0.99 U
2-CHLOROTOLUENE	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
2-HEXANONE	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
4-CHLOROTOLUENE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
4-ISOPROPYLTOLUENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
4-METHYL-2-PENTANONE	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
ACETONE	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
BENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
BROMOBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
BROMOCHLOROMETHANE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
BROMODICHLOROMETHANE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
BROMOFORM	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U
BROMOMETHANE	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
CARBON DISULFIDE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
CARBON TETRACHLORIDE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
CHLOROBENZENE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
CHLORODIBROMOMETHANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION SAMPLE ID SAMPLE DATE	MSA-SW-37B MSA-SW37B-091813 20130918	MSA-SW-37C MSA-SW37C-091813 20130918	MSA-SW-37D MSA-SW37D-091813 20130918	MSA-SW-38A MSA-SW38A-091813 20130918	MSA-SW-38B MSA-SW38B-091813 20130918
CHLOROETHANE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
CHLOROFORM	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
CHLOROMETHANE	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
CIS-1,2-DICHLOROETHENE	0.17 U	0.17 U	0.17 U	0.8 J	0.17 U
CIS-1,3-DICHLOROPROPENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
DIBROMOMETHANE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
DICHLORODIFLUOROMETHANE	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
DIISOPROPYL ETHER	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
ETHYL TERT-BUTYL ETHER	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
ETHYLBENZENE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
HEXACHLOROBUTADIENE	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
ISOPROPYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
M+P-XYLENES	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
METHYL TERT-BUTYL ETHER	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
METHYLENE CHLORIDE	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
NAPHTHALENE	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
N-BUTYLBENZENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
N-PROPYLBENZENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
O-XYLENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
SEC-BUTYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
STYRENE	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
TERT-AMYL METHYL ETHER	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
TERT-BUTYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
TERTIARY-BUTYL ALCOHOL	3.9 UR	3.9 UR	3.9 UR	3.9 UR	3.9 UR
TETRACHLOROETHENE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
TOLUENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
TOTAL XYLENES	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
TRANS-1,2-DICHLOROETHENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
TRANS-1,3-DICHLOROPROPENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
TRICHLOROETHENE	0.3 J	0.26 J	0.26 J	0.44 J	0.66 J
TRICHLOROFLUOROMETHANE	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
VINYL ACETATE	0.19 UR	0.19 UR	0.19 UR	0.19 UR	0.19 UR
VINYL CHLORIDE	0.22 U	0.22 U	0.22 U	0.96	0.22 U
DISSOLVED METALS (UG/L)					
ANTIMONY	0.32 B	0.33 B	0.3 B	0.29 B	0.3 B
ARSENIC	1.3 J	1.3 J	1.3 J	1.2 J	1.3 J
BARIUM	43	42	43	42	43
BERYLLIUM	0.031 U	0.031 U	0.031 U	0.031 UL	0.031 UL
CADMIUM	0.026 U	0.029 B	0.026 U	0.051 B	0.042 B
CHROMIUM	0.24 J	0.19 J	0.28 J	0.29 J	0.53 J

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION **SAMPLE ID** **SAMPLE DATE**	**MSA-SW-37B** **MSA-SW37B-091813** **20130918**	**MSA-SW-37C** **MSA-SW37C-091813** **20130918**	**MSA-SW-37D** **MSA-SW37D-091813** **20130918**	**MSA-SW-38A** **MSA-SW38A-091813** **20130918**	**MSA-SW-38B** **MSA-SW38B-091813** **20130918**
COBALT	0.22 B	0.22 B	0.28 B	0.19 B	0.19 B
COPPER	3.1	2.8	3.2	3.7	2.7
LEAD	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
MERCURY	0.12 UL	0.12 UL	0.12 UL	0.12 UL	0.12 UL
MOLYBDENUM	1.7 J	1.8 J	1.7 J	1.7 J	1.7 J
NICKEL	2.2	2.3	3.2	1.6 J	1.8 J
SELENIUM	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
SILVER	0.0083 U	0.0083 U	0.0083 U	0.0083 U	0.022 B
THALLIUM	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
TUNGSTEN	0.11 B	0.078 B	0.059 B	0.044 B	0.042 B
VANADIUM	0.95 J	0.88 J	1 J	1 J	1 J
ZINC	3.7 J	3.4 J	5.2 J	3 J	3.3 J
MISCELLANEOUS PARAMETERS					
HEXAVALENT CHROMIUM	0.04 UL	0.04 UL	0.04 UL	0.04 UL	0.04 UL
MISCELLANEOUS PARAMETERS (MG/L)					
CALCIUM HARDNESS AS CACO3	140	140	140	140	140
HARDNESS AS CACO3	630	640	640	660	650
MAGNESIUM HARDNESS AS CACO3	500	500	500	510	510

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION SAMPLE ID SAMPLE DATE	MSA-SW-38C MSA-SW38C-091813 20130918	MSA-SW-38D MSA-SW38D-091813 20130918	MSA-SW-39A MSA-SW39A-091813 20130918	MSA-SW-39B MSA-SW39B-091813 20130918	MSA-SW-39C MSA-SW39C-091813 20130918
VOLATILES (UG/L)					
1,1,1,2-TETRACHLOROETHANE	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,1,1-TRICHLOROETHANE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,1,2,2-TETRACHLOROETHANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,1,2-TRICHLOROTRIFLUOROETHANE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
1,1-DICHLOROETHANE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
1,1-DICHLOROETHENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
1,1-DICHLOROPROPENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,2,3-TRICHLOROBENZENE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
1,2,3-TRICHLOROPROPANE	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
1,2,3-TRIMETHYLBENZENE	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
1,2,4-TRICHLOROBENZENE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
1,2,4-TRIMETHYLBENZENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
1,2-DIBROMO-3-CHLOROPROPANE	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U
1,2-DIBROMOETHANE	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
1,2-DICHLOROBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,2-DICHLOROETHANE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,2-DICHLOROPROPANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,3-DICHLOROBENZENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,3-DICHLOROPROPANE	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
1,4-DICHLOROBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
2,2-DICHLOROPROPANE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
2-BUTANONE	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U
2-CHLOROETHYL VINYL ETHER	0.99 U	0.99 U	0.99 U	0.99 U	0.99 U
2-CHLOROTOLUENE	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
2-HEXANONE	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
4-CHLOROTOLUENE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
4-ISOPROPYLTOLUENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
4-METHYL-2-PENTANONE	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
ACETONE	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
BENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
BROMOBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
BROMOCHLOROMETHANE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
BROMODICHLOROMETHANE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
BROMOFORM	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U
BROMOMETHANE	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
CARBON DISULFIDE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
CARBON TETRACHLORIDE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
CHLOROBENZENE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
CHLORODIBROMOMETHANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION SAMPLE ID SAMPLE DATE	MSA-SW-38C MSA-SW38C-091813 20130918	MSA-SW-38D MSA-SW38D-091813 20130918	MSA-SW-39A MSA-SW39A-091813 20130918	MSA-SW-39B MSA-SW39B-091813 20130918	MSA-SW-39C MSA-SW39C-091813 20130918
CHLOROETHANE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
CHLOROFORM	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
CHLOROMETHANE	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
CIS-1,2-DICHLOROETHENE	0.45 J	0.66 J	0.17 U	0.17 U	0.17 U
CIS-1,3-DICHLOROPROPENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
DIBROMOMETHANE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
DICHLORODIFLUOROMETHANE	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
DIISOPROPYL ETHER	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
ETHYL TERT-BUTYL ETHER	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
ETHYLBENZENE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
HEXACHLOROBUTADIENE	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
ISOPROPYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
M+P-XYLENES	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
METHYL TERT-BUTYL ETHER	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
METHYLENE CHLORIDE	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
NAPHTHALENE	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
N-BUTYLBENZENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
N-PROPYLBENZENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
O-XYLENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
SEC-BUTYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
STYRENE	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
TERT-AMYL METHYL ETHER	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
TERT-BUTYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
TERTIARY-BUTYL ALCOHOL	3.9 UR	3.9 UR	3.9 UR	3.9 UR	3.9 UR
TETRACHLOROETHENE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
TOLUENE	0.13 U	0.14 J	0.13 U	0.13 U	0.13 U
TOTAL XYLENES	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
TRANS-1,2-DICHLOROETHENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
TRANS-1,3-DICHLOROPROPENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
TRICHLOROETHENE	0.85 J	2.3	0.27 J	0.3 J	0.35 J
TRICHLOROFLUOROMETHANE	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
VINYL ACETATE	0.19 UR	0.19 UR	0.19 UR	0.19 UR	0.19 UR
VINYL CHLORIDE	0.35 J	0.36 J	0.22 U	0.22 U	0.22 U
DISSOLVED METALS (UG/L)					
ANTIMONY	0.31 B	0.28 B	0.24 B	0.25 B	0.26 B
ARSENIC	1.2 J	1.2 J	0.99 J	0.99 J	1 J
BARIUM	43	43	41	41	43
BERYLLIUM	0.031 U	0.031 U	0.031 UL	0.031 UL	0.031 UL
CADMIUM	0.046 B	0.032 B	0.037 B	0.044 B	0.03 B
CHROMIUM	0.18 J	0.18 J	0.16 J	0.28 J	0.2 J

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION **SAMPLE ID** **SAMPLE DATE**	**MSA-SW-38C** **MSA-SW38C-091813** **20130918**	**MSA-SW-38D** **MSA-SW38D-091813** **20130918**	**MSA-SW-39A** **MSA-SW39A-091813** **20130918**	**MSA-SW-39B** **MSA-SW39B-091813** **20130918**	**MSA-SW-39C** **MSA-SW39C-091813** **20130918**
COBALT	0.23 B	0.22 B	0.095 B	0.1 B	0.1 B
COPPER	3.4	2.6	2.6	2.6	2.6
LEAD	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
MERCURY	0.12 UL	0.12 UL	0.12 UL	0.12 UL	0.12 UL
MOLYBDENUM	1.7 J	1.7 J	1.7 J	1.8 J	1.7 J
NICKEL	2.7	2.2	1.7 J	1.6 J	1.6 J
SELENIUM	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
SILVER	0.0083 U	0.0083 U	0.0083 U	0.0083 U	0.0083 U
THALLIUM	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
TUNGSTEN	0.032 B	0.031 B	0.017 U	0.022 B	0.017 U
VANADIUM	0.98 J	0.96 J	0.89 J	0.86 J	0.93 J
ZINC	4.5 J	2.7 J	3.3 J	3.6 J	4 J
MISCELLANEOUS PARAMETERS					
HEXAVALENT CHROMIUM	0.04 UL	0.04 UL	0.04 UL	0.04 UL	0.04 UL
MISCELLANEOUS PARAMETERS (MG/L)					
CALCIUM HARDNESS AS CACO3	140	140	150	140	150
HARDNESS AS CACO3	660	660	680	680	700
MAGNESIUM HARDNESS AS CACO3	520	510	540	530	550

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION SAMPLE ID SAMPLE DATE	MSA-SW-39D MSA-SW39D-091813 20130918	MSA-SW-40A MSA-SW40A-091813 20130918	MSA-SW-40B MSA-SW40B-091813 20130918	MSA-SW-40C MSA-SW40C-091813 20130918	MSA-SW-40D MSA-SW40D-091813 20130918
VOLATILES (UG/L)					
1,1,1,2-TETRACHLOROETHANE	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,1,1-TRICHLOROETHANE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,1,2,2-TETRACHLOROETHANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,1,2-TRICHLOROTRIFLUOROETHANE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
1,1-DICHLOROETHANE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
1,1-DICHLOROETHENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
1,1-DICHLOROPROPENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,2,3-TRICHLOROBENZENE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
1,2,3-TRICHLOROPROPANE	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
1,2,3-TRIMETHYLBENZENE	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
1,2,4-TRICHLOROBENZENE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
1,2,4-TRIMETHYLBENZENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
1,2-DIBROMO-3-CHLOROPROPANE	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U
1,2-DIBROMOETHANE	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
1,2-DICHLOROBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,2-DICHLOROETHANE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,2-DICHLOROPROPANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,3-DICHLOROBENZENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,3-DICHLOROPROPANE	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
1,4-DICHLOROBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
2,2-DICHLOROPROPANE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
2-BUTANONE	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U
2-CHLOROETHYL VINYL ETHER	0.99 UR	0.99 U	0.99 U	0.99 U	0.99 U
2-CHLOROTOLUENE	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
2-HEXANONE	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
4-CHLOROTOLUENE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
4-ISOPROPYLTOLUENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
4-METHYL-2-PENTANONE	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
ACETONE	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
BENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
BROMOBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
BROMOCHLOROMETHANE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
BROMODICHLOROMETHANE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
BROMOFORM	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U
BROMOMETHANE	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
CARBON DISULFIDE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
CARBON TETRACHLORIDE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
CHLOROBENZENE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
CHLORODIBROMOMETHANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION SAMPLE ID SAMPLE DATE	MSA-SW-39D MSA-SW39D-091813 20130918	MSA-SW-40A MSA-SW40A-091813 20130918	MSA-SW-40B MSA-SW40B-091813 20130918	MSA-SW-40C MSA-SW40C-091813 20130918	MSA-SW-40D MSA-SW40D-091813 20130918
CHLOROETHANE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
CHLOROFORM	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
CHLOROMETHANE	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
CIS-1,2-DICHLOROETHENE	0.17 U	0.6 J	0.17 U	0.17 U	0.17 U
CIS-1,3-DICHLOROPROPENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
DIBROMOMETHANE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
DICHLORODIFLUOROMETHANE	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
DIISOPROPYL ETHER	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
ETHYL TERT-BUTYL ETHER	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
ETHYLBENZENE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
HEXACHLOROBUTADIENE	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
ISOPROPYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
M+P-XYLENES	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
METHYL TERT-BUTYL ETHER	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
METHYLENE CHLORIDE	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
NAPHTHALENE	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
N-BUTYLBENZENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
N-PROPYLBENZENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
O-XYLENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
SEC-BUTYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
STYRENE	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
TERT-AMYL METHYL ETHER	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
TERT-BUTYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
TERTIARY-BUTYL ALCOHOL	3.9 UR	3.9 UR	3.9 UR	3.9 UR	3.9 UR
TETRACHLOROETHENE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
TOLUENE	0.13 U	0.13 U	0.48 B	0.25 J	0.33 B
TOTAL XYLENES	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
TRANS-1,2-DICHLOROETHENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
TRANS-1,3-DICHLOROPROPENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
TRICHLOROETHENE	0.29 J	0.71 J	0.4 J	0.44 J	0.35 J
TRICHLOROFLUOROMETHANE	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
VINYL ACETATE	0.19 UR	0.19 UR	0.19 UR	0.19 UR	0.19 UR
VINYL CHLORIDE	0.22 U	0.42 J	0.22 U	0.22 U	0.22 U
DISSOLVED METALS (UG/L)					
ANTIMONY	0.27 B	0.25 J	0.26 J	0.26 J	0.3 J
ARSENIC	1 J	1.3 J	1.2 J	1.2 J	1.2 J
BARIUM	43	42	43	44	44
BERYLLIUM	0.031 U	0.031 U	0.031 U	0.031 U	0.031 U
CADMIUM	0.04 B	0.046 B	0.044 B	0.041 B	0.033 B
CHROMIUM	0.18 J	0.34 J	0.2 J	0.15 J	0.18 J

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION **SAMPLE ID** **SAMPLE DATE**	**MSA-SW-39D** **MSA-SW39D-091813** **20130918**	**MSA-SW-40A** **MSA-SW40A-091813** **20130918**	**MSA-SW-40B** **MSA-SW40B-091813** **20130918**	**MSA-SW-40C** **MSA-SW40C-091813** **20130918**	**MSA-SW-40D** **MSA-SW40D-091813** **20130918**
COBALT	0.11 B	0.29 B	0.21 B	0.23 B	0.21 B
COPPER	2.8	2.8	2.9	2.9	2.8 L
LEAD	0.14 U	0.2 J	0.14 UJ	0.14 UJ	0.14 UJ
MERCURY	0.12 UL	0.12 U	0.13 J	0.12 U	0.12 U
MOLYBDENUM	1.9 J	1.6 J	1.7 J	1.7 J	2.2 J
NICKEL	2.3	1.5 J	2.2	3.2	2.2 L
SELENIUM	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
SILVER	0.0083 U	0.0083 U	0.0083 U	0.0083 U	0.0083 U
THALLIUM	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
TUNGSTEN	0.059 B	0.024 B	0.017 U	0.017 B	0.099 B
VANADIUM	0.89 J	1.1 J	0.98 J	1 J	0.98 J
ZINC	4 J	3.5 B	4.3 B	3.7 B	3.2 B
MISCELLANEOUS PARAMETERS					
HEXAVALENT CHROMIUM	0.04 UL	0.04 UL	0.04 UL	0.04 UL	0.04 UL
MISCELLANEOUS PARAMETERS (MG/L)					
CALCIUM HARDNESS AS CACO3	150	150	150	150	150
HARDNESS AS CACO3	700	650	660	660	660
MAGNESIUM HARDNESS AS CACO3	550	500	510	520	520

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION SAMPLE ID SAMPLE DATE	MSA-SW-41A MSA-SW41A-091813 20130918	MSA-SW-41B MSA-SW41B-091813 20130918	MSA-SW-41C MSA-SW41C-091813 20130918	MSA-SW-41D MSA-SW41D-091813 20130918	MSA-SW-42A MSA-SW42A-091813 20130918
VOLATILES (UG/L)					
1,1,1,2-TETRACHLOROETHANE	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,1,1-TRICHLOROETHANE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,1,2,2-TETRACHLOROETHANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,1,2-TRICHLOROTRIFLUOROETHANE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
1,1-DICHLOROETHANE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
1,1-DICHLOROETHENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
1,1-DICHLOROPROPENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,2,3-TRICHLOROBENZENE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
1,2,3-TRICHLOROPROPANE	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
1,2,3-TRIMETHYLBENZENE	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
1,2,4-TRICHLOROBENZENE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
1,2,4-TRIMETHYLBENZENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
1,2-DIBROMO-3-CHLOROPROPANE	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U
1,2-DIBROMOETHANE	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
1,2-DICHLOROBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,2-DICHLOROETHANE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,2-DICHLOROPROPANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,3-DICHLOROBENZENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,3-DICHLOROPROPANE	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
1,4-DICHLOROBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
2,2-DICHLOROPROPANE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
2-BUTANONE	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U
2-CHLOROETHYL VINYL ETHER	0.99 U	0.99 U	0.99 U	0.99 U	0.99 U
2-CHLOROTOLUENE	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
2-HEXANONE	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
4-CHLOROTOLUENE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
4-ISOPROPYLTOLUENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
4-METHYL-2-PENTANONE	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
ACETONE	1.1 U	1.2 J	1.1 U	1.1 U	1.1 U
BENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
BROMOBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
BROMOCHLOROMETHANE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
BROMODICHLOROMETHANE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
BROMOFORM	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U
BROMOMETHANE	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
CARBON DISULFIDE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
CARBON TETRACHLORIDE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
CHLOROBENZENE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
CHLORODIBROMOMETHANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION SAMPLE ID SAMPLE DATE	MSA-SW-41A MSA-SW41A-091813 20130918	MSA-SW-41B MSA-SW41B-091813 20130918	MSA-SW-41C MSA-SW41C-091813 20130918	MSA-SW-41D MSA-SW41D-091813 20130918	MSA-SW-42A MSA-SW42A-091813 20130918
CHLOROETHANE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
CHLOROFORM	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
CHLOROMETHANE	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
CIS-1,2-DICHLOROETHENE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
CIS-1,3-DICHLOROPROPENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
DIBROMOMETHANE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
DICHLORODIFLUOROMETHANE	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
DIISOPROPYL ETHER	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
ETHYL TERT-BUTYL ETHER	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
ETHYLBENZENE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
HEXACHLOROBUTADIENE	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
ISOPROPYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
M+P-XYLENES	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
METHYL TERT-BUTYL ETHER	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
METHYLENE CHLORIDE	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
NAPHTHALENE	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
N-BUTYLBENZENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
N-PROPYLBENZENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
O-XYLENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
SEC-BUTYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
STYRENE	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
TERT-AMYL METHYL ETHER	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
TERT-BUTYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
TERTIARY-BUTYL ALCOHOL	3.9 UR	3.9 UR	3.9 UR	3.9 UR	3.9 UR
TETRACHLOROETHENE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
TOLUENE	0.13 U	0.18 J	0.16 J	0.4 J	0.13 U
TOTAL XYLENES	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
TRANS-1,2-DICHLOROETHENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
TRANS-1,3-DICHLOROPROPENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
TRICHLOROETHENE	0.48 J	0.37 J	0.36 J	0.36 J	0.26 J
TRICHLOROFLUOROMETHANE	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
VINYL ACETATE	0.19 UR	0.19 UR	0.19 UR	0.19 UR	0.19 UR
VINYL CHLORIDE	0.22 J	0.22 U	0.22 U	0.22 U	0.22 U
DISSOLVED METALS (UG/L)					
ANTIMONY	0.28 J	0.26 J	0.29 J	0.29 J	0.27 B
ARSENIC	1.2 J	1.2 J	1.2 J	1.2 J	1.1 J
BARIUM	42	44	43	42	52
BERYLLIUM	0.031 U	0.031 UL	0.031 U	0.031 UL	0.031 U
CADMIUM	0.038 B	0.026 UJ	0.026 UJ	0.026 UJ	0.031 B
CHROMIUM	0.17 J	0.3 J	0.9 J	0.25 J	0.13 U

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION **SAMPLE ID** **SAMPLE DATE**	**MSA-SW-41A** **MSA-SW41A-091813** **20130918**	**MSA-SW-41B** **MSA-SW41B-091813** **20130918**	**MSA-SW-41C** **MSA-SW41C-091813** **20130918**	**MSA-SW-41D** **MSA-SW41D-091813** **20130918**	**MSA-SW-42A** **MSA-SW42A-091813** **20130918**
COBALT	0.16 B	0.24 B	0.2 B	0.18 B	0.16 B
COPPER	2.9	2.9	2.9	2.9	3.1 B
LEAD	0.14 UJ	0.14 UJ	0.14 UJ	0.14 UJ	0.14 U
MERCURY	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
MOLYBDENUM	1.9 J	2 J	1.9 J	1.8 J	1.8 J
NICKEL	1.6 J	3.4	2.6	2	2.3
SELENIUM	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
SILVER	0.0083 U	0.0083 U	0.0083 U	0.0083 U	0.0083 U
THALLIUM	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
TUNGSTEN	0.066 B	0.056 B	0.037 B	0.03 B	0.017 U
VANADIUM	0.95 J	0.92 J	0.91 J	0.96 J	0.61 J
ZINC	4.2 B	5.4 B	5.3 B	3.8 B	5.2 B
MISCELLANEOUS PARAMETERS					
HEXAVALENT CHROMIUM	0.04 UL	0.04 UL	0.04 UL	0.04 UL	0.04 L
MISCELLANEOUS PARAMETERS (MG/L)					
CALCIUM HARDNESS AS CACO3	150	150	140	140	200
HARDNESS AS CACO3	670	690	650	660	830
MAGNESIUM HARDNESS AS CACO3	520	530	510	510	630

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION SAMPLE ID SAMPLE DATE	MSA-SW-42B MSA-SW42B-091813 20130918	MSA-SW-42C MSA-SW42C-091813 20130918	MSA-SW-42D MSA-SW42D-091813 20130918	MSA-SW-43A MSA-SW43A-091813 20130918	MSA-SW-43B MSA-SW43B-091813 20130918
VOLATILES (UG/L)					
1,1,1,2-TETRACHLOROETHANE	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,1,1-TRICHLOROETHANE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,1,2,2-TETRACHLOROETHANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,1,2-TRICHLOROTRIFLUOROETHANE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
1,1-DICHLOROETHANE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
1,1-DICHLOROETHENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
1,1-DICHLOROPROPENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,2,3-TRICHLOROBENZENE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
1,2,3-TRICHLOROPROPANE	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
1,2,3-TRIMETHYLBENZENE	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
1,2,4-TRICHLOROBENZENE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
1,2,4-TRIMETHYLBENZENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
1,2-DIBROMO-3-CHLOROPROPANE	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U
1,2-DIBROMOETHANE	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
1,2-DICHLOROBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,2-DICHLOROETHANE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,2-DICHLOROPROPANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,3-DICHLOROBENZENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,3-DICHLOROPROPANE	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
1,4-DICHLOROBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
2,2-DICHLOROPROPANE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
2-BUTANONE	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U
2-CHLOROETHYL VINYL ETHER	0.99 U	0.99 U	0.99 U	0.99 U	0.99 U
2-CHLOROTOLUENE	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
2-HEXANONE	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
4-CHLOROTOLUENE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
4-ISOPROPYLTOLUENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
4-METHYL-2-PENTANONE	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
ACETONE	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
BENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
BROMOBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
BROMOCHLOROMETHANE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
BROMODICHLOROMETHANE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
BROMOFORM	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U
BROMOMETHANE	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
CARBON DISULFIDE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
CARBON TETRACHLORIDE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
CHLOROBENZENE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
CHLORODIBROMOMETHANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION SAMPLE ID SAMPLE DATE	MSA-SW-42B MSA-SW42B-091813 20130918	MSA-SW-42C MSA-SW42C-091813 20130918	MSA-SW-42D MSA-SW42D-091813 20130918	MSA-SW-43A MSA-SW43A-091813 20130918	MSA-SW-43B MSA-SW43B-091813 20130918
CHLOROETHANE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
CHLOROFORM	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
CHLOROMETHANE	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
CIS-1,2-DICHLOROETHENE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
CIS-1,3-DICHLOROPROPENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
DIBROMOMETHANE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
DICHLORODIFLUOROMETHANE	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
DIISOPROPYL ETHER	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
ETHYL TERT-BUTYL ETHER	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
ETHYLBENZENE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
HEXACHLOROBUTADIENE	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
ISOPROPYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
M+P-XYLENES	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
METHYL TERT-BUTYL ETHER	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
METHYLENE CHLORIDE	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
NAPHTHALENE	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
N-BUTYLBENZENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
N-PROPYLBENZENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
O-XYLENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
SEC-BUTYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
STYRENE	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
TERT-AMYL METHYL ETHER	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
TERT-BUTYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
TERTIARY-BUTYL ALCOHOL	3.9 UR	3.9 UR	3.9 UR	3.9 UR	3.9 UR
TETRACHLOROETHENE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
TOLUENE	0.13 U	0.13 U	0.54 J	0.13 U	0.13 U
TOTAL XYLENES	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
TRANS-1,2-DICHLOROETHENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
TRANS-1,3-DICHLOROPROPENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
TRICHLOROETHENE	0.45 J	0.34 J	0.37 J	0.43 J	0.53 J
TRICHLOROFLUOROMETHANE	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
VINYL ACETATE	0.19 UR	0.19 UR	0.19 UR	0.19 UR	0.19 UR
VINYL CHLORIDE	0.24 J	0.22 U	0.22 U	0.22 U	0.22 J
DISSOLVED METALS (UG/L)					
ANTIMONY	0.4 B	0.33 B	0.3 B	0.27 J	0.33 J
ARSENIC	1.4 J	1.4 J	1.2 J	1.1 J	1.3 J
BARIUM	43	41	41	39	43
BERYLLIUM	0.15 J	0.087 J	0.061 J	0.14 J	0.13 J
CADMIUM	0.093 B	0.15 B	0.045 B	0.11 B	0.088 B
CHROMIUM	0.31 J	0.3 J	0.3 J	0.22 J	0.23 J

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION **SAMPLE ID** **SAMPLE DATE**	**MSA-SW-42B** **MSA-SW42B-091813** **20130918**	**MSA-SW-42C** **MSA-SW42C-091813** **20130918**	**MSA-SW-42D** **MSA-SW42D-091813** **20130918**	**MSA-SW-43A** **MSA-SW43A-091813** **20130918**	**MSA-SW-43B** **MSA-SW43B-091813** **20130918**
COBALT	0.29 B	0.3 B	0.23 B	0.22 B	0.24 B
COPPER	3	2.7	3.4	2.9 L	3
LEAD	0.15 J	0.14 U	0.14 U	0.14 UJ	0.14 UJ
MERCURY	0.12 UL	0.12 UL	0.12 UL	0.12 U	0.12 U
MOLYBDENUM	2.1 J	1.8 J	1.7 J	1.7 J	2 J
NICKEL	2.3	1.6 J	2.1	2.1 L	2.3
SELENIUM	0.59 J	0.34 J	0.34 U	0.34 J	0.53 J
SILVER	0.009 B	0.013 B	0.0083 U	0.009 B	0.0083 U
THALLIUM	1.1 B	0.54 B	0.4 U	0.9 B	1.2 B
TUNGSTEN	0.36 B	0.19 B	0.12 B	0.21 B	0.28 B
VANADIUM	1.1 J	1 J	1 J	0.97 J	1 J
ZINC	3.8 J	2.7 J	3.5 J	4.2 B	4.6 B
MISCELLANEOUS PARAMETERS					
HEXAVALENT CHROMIUM	0.04 UL	0.04 UL	0.04 UL	0.043 L	0.04 UL
MISCELLANEOUS PARAMETERS (MG/L)					
CALCIUM HARDNESS AS CACO3	140	130	130	140	140
HARDNESS AS CACO3	650	620	620	610	640
MAGNESIUM HARDNESS AS CACO3	510	480	480	470	500

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION SAMPLE ID SAMPLE DATE	MSA-SW-43C MSA-SW43C-091813 20130918	MSA-SW-43D MSA-SW43D-091813 20130918	MSA-SW-44A MSA-SW44A-091813 20130918	MSA-SW-44B MSA-SW44B-091813 20130918	MSA-SW-44C MSA-SW44C-091813 20130918
VOLATILES (UG/L)					
1,1,1,2-TETRACHLOROETHANE	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,1,1-TRICHLOROETHANE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,1,2,2-TETRACHLOROETHANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,1,2-TRICHLOROTRIFLUOROETHANE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
1,1-DICHLOROETHANE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
1,1-DICHLOROETHENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
1,1-DICHLOROPROPENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,2,3-TRICHLOROBENZENE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
1,2,3-TRICHLOROPROPANE	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
1,2,3-TRIMETHYLBENZENE	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
1,2,4-TRICHLOROBENZENE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
1,2,4-TRIMETHYLBENZENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
1,2-DIBROMO-3-CHLOROPROPANE	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U
1,2-DIBROMOETHANE	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
1,2-DICHLOROBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,2-DICHLOROETHANE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,2-DICHLOROPROPANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,3-DICHLOROBENZENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,3-DICHLOROPROPANE	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
1,4-DICHLOROBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
2,2-DICHLOROPROPANE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
2-BUTANONE	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U
2-CHLOROETHYL VINYL ETHER	0.99 U	0.99 U	0.99 U	0.99 U	0.99 U
2-CHLOROTOLUENE	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
2-HEXANONE	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
4-CHLOROTOLUENE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
4-ISOPROPYLTOLUENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
4-METHYL-2-PENTANONE	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
ACETONE	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
BENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
BROMOBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
BROMOCHLOROMETHANE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
BROMODICHLOROMETHANE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
BROMOFORM	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U
BROMOMETHANE	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
CARBON DISULFIDE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
CARBON TETRACHLORIDE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
CHLOROBENZENE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
CHLORODIBROMOMETHANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION SAMPLE ID SAMPLE DATE	MSA-SW-43C MSA-SW43C-091813 20130918	MSA-SW-43D MSA-SW43D-091813 20130918	MSA-SW-44A MSA-SW44A-091813 20130918	MSA-SW-44B MSA-SW44B-091813 20130918	MSA-SW-44C MSA-SW44C-091813 20130918
CHLOROETHANE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
CHLOROFORM	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
CHLOROMETHANE	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
CIS-1,2-DICHLOROETHENE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
CIS-1,3-DICHLOROPROPENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
DIBROMOMETHANE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
DICHLORODIFLUOROMETHANE	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
DIISOPROPYL ETHER	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
ETHYL TERT-BUTYL ETHER	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
ETHYLBENZENE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
HEXACHLOROBUTADIENE	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
ISOPROPYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
M+P-XYLENES	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
METHYL TERT-BUTYL ETHER	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
METHYLENE CHLORIDE	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
NAPHTHALENE	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
N-BUTYLBENZENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
N-PROPYLBENZENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
O-XYLENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
SEC-BUTYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
STYRENE	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
TERT-AMYL METHYL ETHER	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
TERT-BUTYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
TERTIARY-BUTYL ALCOHOL	3.9 UR	3.9 UR	3.9 UR	3.9 UR	3.9 UR
TETRACHLOROETHENE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
TOLUENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
TOTAL XYLENES	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
TRANS-1,2-DICHLOROETHENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
TRANS-1,3-DICHLOROPROPENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
TRICHLOROETHENE	0.46 J	0.36 J	0.47 J	0.57 J	0.52 J
TRICHLOROFLUOROMETHANE	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
VINYL ACETATE	0.19 UR	0.19 UR	0.19 UR	0.19 UR	0.19 UR
VINYL CHLORIDE	0.22 U	0.22 U	0.22 U	0.23 J	0.22 J
DISSOLVED METALS (UG/L)					
ANTIMONY	0.27 J	0.29 J	0.27 J	0.27 J	0.27 J
ARSENIC	1.3 J	1.2 J	1.1 J	1.2 J	1.1 J
BARIUM	39	41	42	43	43
BERYLLIUM	0.083 J	0.055 J	0.045 J	0.031 U	0.031 U
CADMIUM	0.21 B	0.12 B	0.046 B	0.04 B	0.026 UJ
CHROMIUM	0.29 J	0.27 J	0.27 J	0.19 J	0.13 U

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION **SAMPLE ID** **SAMPLE DATE**	**MSA-SW-43C** **MSA-SW43C-091813** **20130918**	**MSA-SW-43D** **MSA-SW43D-091813** **20130918**	**MSA-SW-44A** **MSA-SW44A-091813** **20130918**	**MSA-SW-44B** **MSA-SW44B-091813** **20130918**	**MSA-SW-44C** **MSA-SW44C-091813** **20130918**
COBALT	0.34 B	0.24 B	0.2 B	0.15 B	0.13 B
COPPER	2.9	2.9	3.1	3.1	2.9
LEAD	0.18 J	0.14 UJ	0.14 UJ	0.14 UJ	0.14 UJ
MERCURY	0.12 U	0.12 U	0.13 J	0.12 U	0.12 U
MOLYBDENUM	1.7 J	1.7 J	1.7 J	1.8 J	1.8 J
NICKEL	2.1	1.6 J	3.3	2.3	1.6 J
SELENIUM	0.42 J	0.34 U	0.34 U	0.34 U	0.34 U
SILVER	0.016 B	0.01 B	0.0083 U	0.0083 U	0.0083 U
THALLIUM	0.57 B	0.4 U	0.4 U	0.4 U	0.4 U
TUNGSTEN	0.16 B	0.093 B	0.069 B	0.091 B	0.059 B
VANADIUM	1.1 J	1 J	0.92 J	1 J	0.91 J
ZINC	3.2 B	3.4 B	4.8 B	5.8 B	3.8 B
MISCELLANEOUS PARAMETERS					
HEXAVALENT CHROMIUM	0.04 UL	0.049 L	0.04 UL	0.04 UL	0.04 UL
MISCELLANEOUS PARAMETERS (MG/L)					
CALCIUM HARDNESS AS CACO3	130	140	140	150	140
HARDNESS AS CACO3	600	630	660	670	670
MAGNESIUM HARDNESS AS CACO3	470	490	520	520	520

Table C-1

Chemical Results for Surface Water Samples-September 2013
Frog Mortar Creek
Lockheed Martin, Martin State Airport, Middle River, Maryland

LOCATION SAMPLE ID SAMPLE DATE	MSA-SW-44D MSA-SW44D-091813 20130918	MSA-SW-45A MSA-SW45A-091813 20130918	MSA-SW-45B MSA-SW45B-091813 20130918	MSA-SW-45C MSA-SW45C-091813 20130918	MSA-SW-45D MSA-SW45D-091813 20130918
VOLATILES (UG/L)					
1,1,1,2-TETRACHLOROETHANE	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,1,1-TRICHLOROETHANE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,1,2,2-TETRACHLOROETHANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,1,2-TRICHLOROTRIFLUOROETHANE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
1,1-DICHLOROETHANE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
1,1-DICHLOROETHENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
1,1-DICHLOROPROPENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,2,3-TRICHLOROBENZENE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
1,2,3-TRICHLOROPROPANE	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
1,2,3-TRIMETHYLBENZENE	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
1,2,4-TRICHLOROBENZENE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
1,2,4-TRIMETHYLBENZENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
1,2-DIBROMO-3-CHLOROPROPANE	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U
1,2-DIBROMOETHANE	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
1,2-DICHLOROBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,2-DICHLOROETHANE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,2-DICHLOROPROPANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,3-DICHLOROBENZENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,3-DICHLOROPROPANE	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
1,4-DICHLOROBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
2,2-DICHLOROPROPANE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
2-BUTANONE	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U
2-CHLOROETHYL VINYL ETHER	0.99 U	0.99 U	0.99 U	0.99 U	0.99 U
2-CHLOROTOLUENE	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
2-HEXANONE	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
4-CHLOROTOLUENE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
4-ISOPROPYLTOLUENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
4-METHYL-2-PENTANONE	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
ACETONE	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
BENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
BROMOBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
BROMOCHLOROMETHANE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
BROMODICHLOROMETHANE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
BROMOFORM	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U
BROMOMETHANE	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
CARBON DISULFIDE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
CARBON TETRACHLORIDE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
CHLOROBENZENE	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
CHLORODIBROMOMETHANE	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U

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LOCATION SAMPLE ID SAMPLE DATE	MSA-SW-44D MSA-SW44D-091813 20130918	MSA-SW-45A MSA-SW45A-091813 20130918	MSA-SW-45B MSA-SW45B-091813 20130918	MSA-SW-45C MSA-SW45C-091813 20130918	MSA-SW-45D MSA-SW45D-091813 20130918
CHLOROETHANE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
CHLOROFORM	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
CHLOROMETHANE	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
CIS-1,2-DICHLOROETHENE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
CIS-1,3-DICHLOROPROPENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
DIBROMOMETHANE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
DICHLORODIFLUOROMETHANE	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
DIISOPROPYL ETHER	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
ETHYL TERT-BUTYL ETHER	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
ETHYLBENZENE	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
HEXACHLOROBUTADIENE	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
ISOPROPYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
M+P-XYLENES	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
METHYL TERT-BUTYL ETHER	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
METHYLENE CHLORIDE	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
NAPHTHALENE	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
N-BUTYLBENZENE	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
N-PROPYLBENZENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
O-XYLENE	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
SEC-BUTYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
STYRENE	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
TERT-AMYL METHYL ETHER	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
TERT-BUTYLBENZENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
TERTIARY-BUTYL ALCOHOL	3.9 UR	3.9 UR	3.9 UR	3.9 UR	3.9 UR
TETRACHLOROETHENE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
TOLUENE	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
TOTAL XYLENES	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
TRANS-1,2-DICHLOROETHENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
TRANS-1,3-DICHLOROPROPENE	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
TRICHLOROETHENE	0.46 J	0.35 J	0.44 J	0.42 J	0.32 J
TRICHLOROFLUOROMETHANE	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
VINYL ACETATE	0.19 UR	0.19 UR	0.19 UR	0.19 UR	0.19 UR
VINYL CHLORIDE	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
DISSOLVED METALS (UG/L)					
ANTIMONY	0.26 J	0.25 J	0.27 J	0.25 J	0.26 J
ARSENIC	1.1 J	1.1 J	1.1 J	1.1 J	1.1 J
BARIUM	40	43	44	43	43
BERYLLIUM	0.031 U	0.031 UL	0.031 UL	0.031 UL	0.031 UL
CADMIUM	0.026 UJ	0.035 B	0.048 B	0.032 B	0.027 B
CHROMIUM	0.26 J	0.41 J	0.18 J	0.15 J	0.17 J

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Frog Mortar Creek
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LOCATION **SAMPLE ID** **SAMPLE DATE**	**MSA-SW-44D** **MSA-SW44D-091813** **20130918**	**MSA-SW-45A** **MSA-SW45A-091813** **20130918**	**MSA-SW-45B** **MSA-SW45B-091813** **20130918**	**MSA-SW-45C** **MSA-SW45C-091813** **20130918**	**MSA-SW-45D** **MSA-SW45D-091813** **20130918**
COBALT	0.13 B	0.11 B	0.11 B	0.11 B	0.1 B
COPPER	2.9	3.4	3.1	3.3	3.1
LEAD	0.14 UJ	0.14 UJ	0.14 UJ	0.14 UJ	0.14 UJ
MERCURY	0.12 U	0.12 U	0.17 J	0.12 U	0.12 U
MOLYBDENUM	1.6 J	1.7 J	1.7 J	1.8 J	1.7 J
NICKEL	2	1.6 J	1.6 J	2.1	1.6 J
SELENIUM	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
SILVER	0.0083 U	0.0083 U	0.011 B	0.0083 U	0.0083 U
THALLIUM	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
TUNGSTEN	0.041 B	0.033 B	0.03 B	0.018 B	0.019 B
VANADIUM	0.88 J	0.9 J	0.96 J	0.95 J	0.87 J
ZINC	3.4 B	3.8 B	4.2 B	5.2 B	4.4 B
MISCELLANEOUS PARAMETERS					
HEXAVALENT CHROMIUM	0.04 UL	0.051 L	0.04 UL	0.04 L	0.04 UL
MISCELLANEOUS PARAMETERS (MG/L)					
CALCIUM HARDNESS AS CACO3	140	140	150	140	150
HARDNESS AS CACO3	630	670	680	670	680
MAGNESIUM HARDNESS AS CACO3	490	530	530	530	530

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B - Result considered to be from laboratory blank contamination based on USEPA 5 times or 10 times rule.
$CaCO_3$ = calcium carbonate
EL - Edwards Lane
J - Positive result is considered estimated as a result of technical noncompliance.
L - result is biased low. Actual result may be higher.
MG/L - milligrams per liter (i.e., parts per million)
MSA - Martin State Airport
NA - not analyzed
SW - surface water
U - Not detected at the detection limit shown left of the letter.
UG/L - micrograms per liter (i.e., parts per billion)
UJ -The analyte was not detected. However, the quantitation or detection limit may be inaccurate or imprecise.
UL - Not-detected. result is biased low. Actual result may be higher.
UR - The result is considered qualitatively or quantitatively unreliable.