Deep Groundwater Investigation Report
Lockheed Martin Middle River Complex
2323 Eastern Boulevard
Middle River, Maryland

Prepared for:

Lockheed Martin Corporation

Prepared by:

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October 4, 2010

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ACRONYMS

ASTM	American Society for Testing and Materials International
COC	chemical(s) of concern
ft/day	feet per day
ft/year	feet per year
GLM	Glenn L. Martin Company
g/d/ft	gallons per day per foot
gpm	gallons per minute
HASP	health and safety plan
IDW	investigation derived waste
K	hydraulic conductivity
Lockheed Martin	Lockheed Martin Corporation
MDE	Maryland Department of the Environment
MRAS	Middle River Aircraft Systems
MRC	Middle River Complex
MSL	mean sea level
NAVD88	North American Vertical Datum 1988
NPDES	National Pollutant Discharge Elimination System
PCE	tetrachloroethene
PVC	polyvinyl chloride
SVOC	semivolatile organic compound
TCE	trichloroethene
TCLP	Toxicity Characteristic Leaching Procedure
Tetra Tech	Tetra Tech, Inc.
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound

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Section 1
Introduction

On behalf of Lockheed Martin Corporation (Lockheed Martin), Tetra Tech Inc. (Tetra Tech) prepared this *Deep Groundwater Investigation Report* for the Lockheed Martin Middle River Complex (MRC), located in Middle River, Maryland (Figure 1-1). The investigation sought to obtain sufficient environmental data to evaluate whether chemical contaminants identified in groundwater at the MRC are present beneath the surficial-aquifer zones investigated to date. Before this deep well investigation, chemical contaminants in groundwater had been characterized to a maximum depth of approximately 80 feet below grade in the surficial aquifer at the MRC. This report details the procedures associated with and results from borehole drilling and the installation of four deep groundwater monitoring wells and related tasks, such as pre-drilling activities, geotechnical analyses of soil samples, groundwater-level measurements, chemical analyses of groundwater samples, well surveying, and management of investigation derived wastes (IDW).

The deep groundwater investigation was initially designed to specifically accomplish the following:

- Investigate whether contaminants identified in shallow groundwater at the MRC have migrated vertically through the regional confining layer (i.e., the Arundel Formation) to an underlying, regionally extensive aquifer (the Patuxent Formation) potentially used for drinking water
- Evaluate groundwater flow direction in the deeper aquifer at the MRC beneath the clay confining-unit (the Arundel Formation)
- Evaluate groundwater quality in a deeper, confined, water bearing geologic unit at the MRC
- Define the hydrogeologic characteristics of the deeper, confined water bearing geologic unit at the MRC

To address these objectives, four deep groundwater-monitoring wells were proposed for installation in the first permeable zone identified beneath the base of the Arundel Formation. The

first borehole (MW93D) documented 73 feet of dense clay and an additional 14 feet of clay (with two interlayer sand/silt/clay zones in between) at depths of 189–291 feet below grade. Sand was encountered below the clay at depths of 291–316 feet below grade (drilling was stopped at 316 feet below grade). The Lockheed Martin study team modified the field program based on the thickness, high density, and low permeability of the clay in the MW93D boring at depths of 189–291 feet (considered the Arundel Formation). The team decided to install the new deep wells in the sand rich permeable materials immediately overlying the thick clay at that depth in that location. Deep wells installed at the top of the thick-clay zone will enable evaluation of the presence of chemical contaminants beneath the surficial aquifer and the possibility that, if found, they may affect the aquifer below the Arundel Formation. Accordingly, the new deep wells were installed at depths of 189 feet (MW93D), 196 feet (MW94D), 214 feet (MW95D), and 189 feet (MW96D).

This report is organized as follows:

Section 2—Site Description: Briefly describes the site history, subsurface conditions, and previous investigations

Section 3—Investigation Approach and Methodology: Presents the technical approach to the deep groundwater investigation program and describes the field methodologies employed

Section 4—Results: Presents details of the findings of the investigation program

Section 5—Summary: Briefly summarizes the investigation program

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

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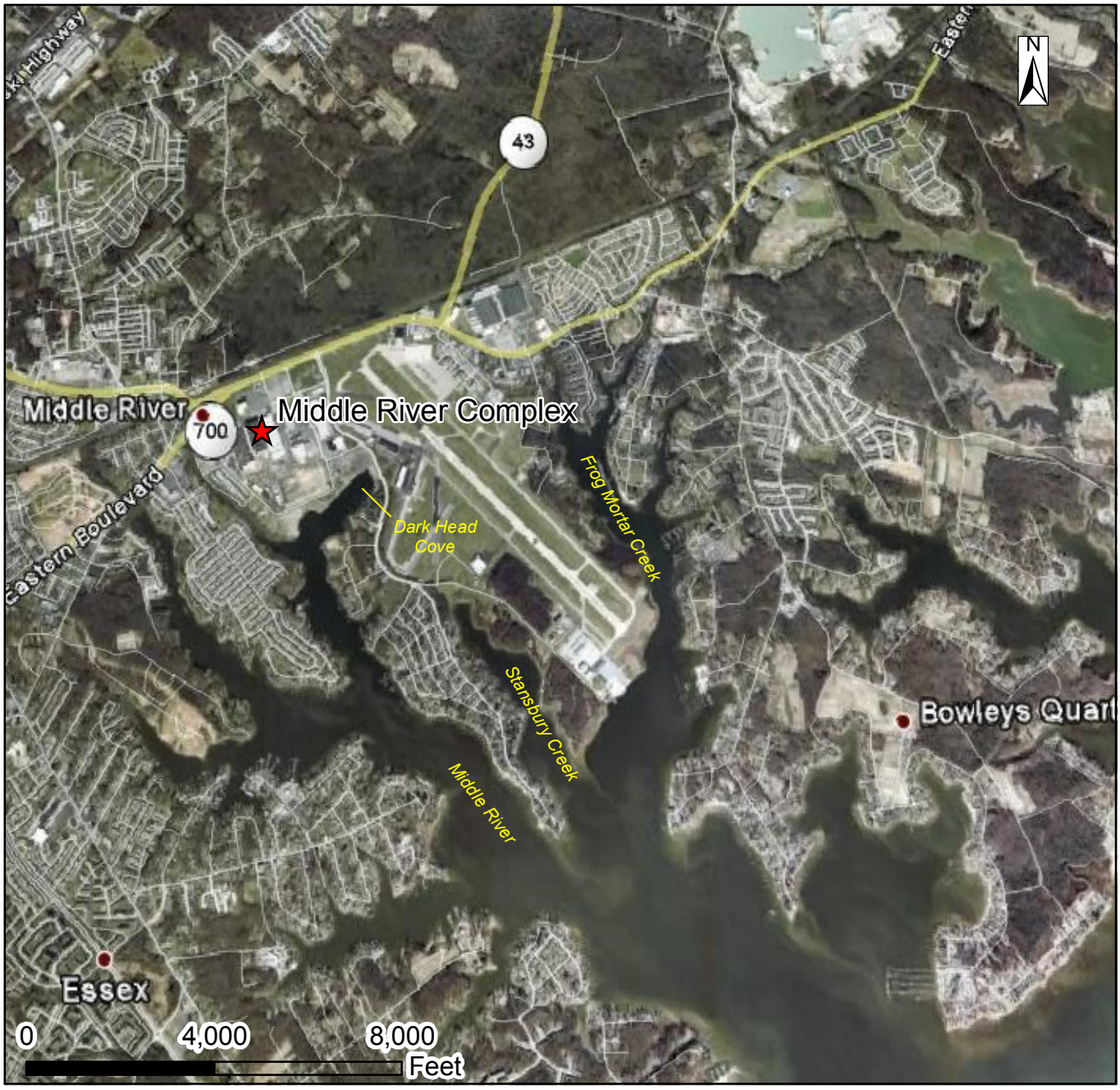

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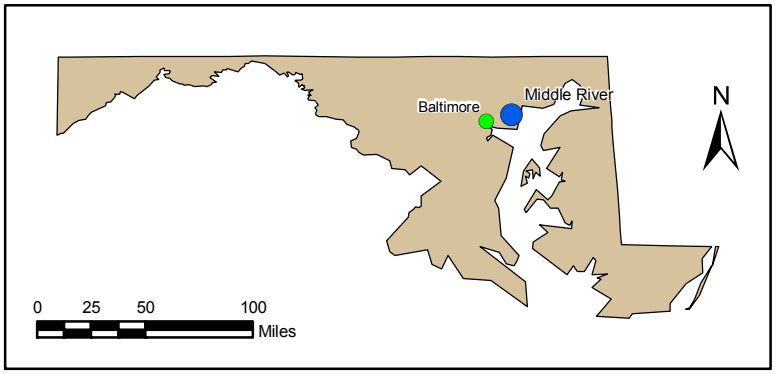

FIGURE 1-1

MIDDLE RIVER COMPLEX
LOCATION MAP

Lockheed Martin Middle River Complex
Middle River, Maryland

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Section 2
Site Description

The MRC is at 2323 Eastern Boulevard in Middle River, Maryland, approximately 11.5 miles northeast of downtown Baltimore, Maryland. The MRC is part of the Chesapeake Industrial Park and is comprised of approximately 161 acres, including 12 main buildings, an active industrial area, perimeter parking lots, an athletic field, a concrete covered vacant lot, a trailer and parts storage lot, and numerous grassy areas along its perimeter. The MRC is bounded by Eastern Boulevard (Route 150) to the north, Dark Head Cove to the south, Cow Pen Creek to the west, and Wilson Point Road and Martin State Airport to the east. The area layout is shown in Figure 2-1. Currently, Lockheed Martin's primary activities at the MRC include facility and building management and maintenance. The MRC has two main tenants: Middle River Aircraft Systems (MRAS) (a General Electric subsidiary that designs, manufactures, fabricates, tests, overhauls, repairs, and maintains aeronautical structures, parts, and components for military and commercial applications), and Mission Systems & Sensors—Littoral Ships & Systems (a Lockheed Martin subsidiary that fabricates, assembles, tests, and supports vertical-launch systems.

2.1 MIDDLE RIVER COMPLEX HISTORY

In 1929, the Glenn L. Martin Company (GLM), a predecessor firm of Lockheed Martin, acquired a large parcel of undeveloped land in Middle River, Maryland to manufacture aircraft for United States government and commercial clients. In the early 1960s, GLM merged with American Marietta Company to form Martin Marietta Corporation. Around 1975, the adjacent western airport (Martin State Airport), approximately 750 acres, was transferred to the State of Maryland. In the mid-1990s, Martin Marietta Corporation merged with Lockheed to form Lockheed Martin Corporation, with its principal subsidiary specializing in construction and testing of new ordnance for United States government and commercial clients. Shortly after the merger, General Electric acquired most of Lockheed Martin's aeronautical business in Middle River and began operating as MRAS.

2.2 MIDDLE RIVER COMPLEX CHARACTERISTICS

2.2.1 Current and Surrounding Land Use

The MRC is an industrial facility, and its surrounding area primarily consist of commercial, industrial, and residential facilities. Six facilities, comprising the remaining portion of the Chesapeake Industrial Park, are adjacent to MRC. These include Tilley Chemical Company, Inc. (a distributor of food- and pharmaceutical-chemicals); North American Electric, Inc. (an industrial and commercial electrical contractor); Johnson and Towers (a heavy-duty automotive and boat repair and maintenance company); Poly-Seal Corp. (a flexible packaging producer); Exxon (a gasoline filling station and convenience store); and the Middle River Post Office. Residential developments are on the opposite shores of Cow Pen Creek, Dark Head Cove, and Dark Head Creek, and north of Eastern Boulevard (Route 150).

2.2.2 Physiography

The MRC is in the Western Shore of the Coastal Plain Physiographic Province, which is generally characterized by low relief. MRC topography is gently sloping, ranging from sea level to 32 feet above mean sea level (MSL) (Cassell, July 1977). The topography slopes from Eastern Boulevard to the southwest and south towards Cow Pen Creek and Dark Head Cove.

2.2.3 Hydrology

The MRC is at the junction of Cow Pen Creek and Dark Head Cove. Both surface water bodies discharge into Dark Head Creek, a tributary to Middle River, which is a tributary to Chesapeake Bay. The MRC is approximately 3.24 miles (17,100 feet) upstream of Chesapeake Bay.

The MRC has no surface water bodies on-site. Excluding areas immediately adjacent to Cow Pen Creek and Dark Head Creek, surface-water runoff discharges from the facility via storm drains. Lockheed Martin maintains a State of Maryland National Pollution Discharge Elimination System (NPDES) permit (Permit No.: 00-DP-0298, NPDES No.: MD0002852), issued by the Maryland Department of the Environment (MDE) Industrial Discharge Permits Division, Water Management Administration. The permit covers storm-water discharges from the entire property rather than from individual tenants.

2.2.4 Soils

Soils underlying the MRC have been mapped by the United States Department of Agriculture Soil Conservation Service as Mattapex-Urban Land Complex and Sassafras-Urban Land Complex. Mattapex-Urban Land soils consist of deep, well drained, silty soils, the original texture of which has been disturbed, graded over, or otherwise altered. Sassafras-Urban Land soils consist of deep, well drained sandy soils, the original texture of which has been disturbed, graded over, or otherwise altered. Site characterization studies indicate that fine-grained (e.g., silt and clay) soils with low permeabilities make up most MRC soils.

2.2.5 Regional Geology

Geologic mapping of Baltimore County shows that the MRC is underlain by the Potomac Group, a Cretaceous age interbedded gravel, sand, silt, and clay unit from zero to 800 feet thick. The Potomac Group is comprised of three units: the Raritan and Patapsco Formations, the Arundel Formation, and the Patuxent Formation. The Raritan and Patapsco Formations range up to 400 feet thick and are composed of a gray, brown, and red variegated silt and clay unit with lenses of sand and few gravels. The Arundel Formation is composed of dark gray and maroon lignitic clays and ranges from 25 to 200 feet thick. The Patuxent Formation is described as a white or light gray to orange brown, moderately sorted sand unit with quartz gravels, silts, and clays and ranges up to 250 feet thick.

Geologic logging and well installations before the deep groundwater investigation were focused on the surficial aquifer to a maximum depth of approximately 80 feet below grade. Groundwater contaminants at the MRC detected at concentrations above Maryland groundwater standards have been limited to depths up to approximately 35 feet below grade. However, lower concentrations of some volatile organic compounds (VOCs) have been detected at concentrations below groundwater standards at wells installed to 50 feet. Therefore, for this investigation, deep wells were installed to evaluate whether these contaminants were present below the lower surficial-aquifer zone monitored to date.

For data evaluation and correlation, the surficial aquifer was divided into the upper, intermediate, and lower surficial-aquifer zones. Monitoring wells installed in the upper surficial-aquifer zone are designated as “A” wells (e.g., MW17A), whereas the intermediate and lower surficial-aquifer zones are monitored by “B” and “C” wells, respectively. The upper, intermediate, and lower

surficial-aquifer wells are typically installed to depths of 20, 30, and 70 feet below grade at the MRC. Deep wells installed for this investigation are designated with a "D" (i.e., MW96D).

Lithologic logging of the soils beneath the MRC identified a very heterogeneous stratigraphy. The underlying soils are composed primarily of silty sands, fine-grained to medium grained sands, silty clays, clayey silts, and plastic clay, with the primary lithology being clay to silty clay. Waterfront areas have historically been backfilled to their present elevation. Soils from fill areas are similar in appearance and composition to soils considered native to the MRC.

Lithology data collected for the groundwater investigation were used to construct geologic cross sections (Tetra Tech, Inc., May 2006). Overall, the results of the groundwater investigation indicate complex arrangements of predominantly clay, silty clay, silt, and clayey silt, with smaller, more permeable zones of silty sand and sand. Well locations are shown in Figure 2-2.

Thick sequences of low permeability clay, silty clay, clayey silt, and silt are found in the northern two thirds of the MRC. These clayey and silty materials extend from well MW02 to the area between wells MW48 and MW27. In the northern portion of the site, clay was encountered in the first 20 feet at well MW02, thickening to more than 30 feet to the south at well MW57 (near Building C). In the area between wells MW02 and MW48, clay, clayey silt, and silt extend 80 to 95 feet below grade to elevations of 50 to 70 feet below MSL. A review of boring logs indicates that this thick upper zone of clayey material terminates to the south along an east west line roughly formed by wells MW48, MW21/MW58, and MW11. Two 10-foot-thick silty sand units were reported for MW02 at elevations of 10 to 40 feet below MSL. However, these sandy units do not appear to be contiguous with sandy units observed farther to the south.

Interbedded sands, silty sands, sandy silts, and silts were encountered south of Buildings A, B, and C. Several feet of sandy and silty materials were encountered overlying the shallow clay at wells MW05, MW55, and MW57. These sandy and silty materials thicken to the south/southeast in the area of wells MW57, MW48, MW27, and MW37. The sandy materials are 70 to 75 feet thick in the area from well MW48 to well MW37 (near Cow Pen Creek) and overlie a lower clay confining-unit present at 55 to 62 feet below MSL.

In the southwestern portion of the MRC, silty sands and sandy silts were encountered in the upper several feet near wells MW12 to MW56 to the northeast. Silty sand and sandy silt were

also encountered southwest of MW58 at elevations ranging from five feet above MSL to 12 feet below MSL, and southwest of MW21, with a top surface elevation of 50 feet below MSL. The lowest sandy unit appears to be contiguous with the silty and sandy units northeast of MW14 (lower portions of logs for wells MW21 and MW57). Each of the sandy units is separated by upper and lower clay/clayey silt units ranging from seven to 34 feet thick.

The materials described above are underlain by the Arundel Formation, a regionally extensive, thick, dense-clay confining-unit. It is a massive, impermeable unit underlying the MRC and surrounding area. The Arundel Formation outcrops northwest of the MRC and dips and thickens to the southeast. Within a few miles downdip of the outcrop area, the Arundel Formation generally corresponds to a zone of clay and sand lenses separating two predominantly sandy zones in the Potomac Group (Vroblesky and Fleck, 1991). The Arundel Formation has been mapped as far east as Cambridge, Maryland and has been reported as more than 600 feet thick in that area. Studies by Vroblesky and Fleck (1991) and Chapelle (1985) conclude that the Arundel Formation is probably 50 to 125 feet thick beneath the MRC, with a basal (i.e., bottom) altitude of approximately 200 feet below MSL. Therefore, the depth to the base of the Arundel Formation at the MRC probably ranges from 210 to 230 feet below grade.

Below the Arundel Formation is the Patuxent Formation. The Patuxent Formation is considered a multi-aquifer unit due to various interbedded sand and silt/clay layers and the rapid changes in deposited material types over short distances. Permeable, sand rich units range from bounded sand-sheets to isolated sand bodies (Glaser, 1969). Vroblesky and Fleck (1991) and Chapelle (1985) indicate that the altitude of the top of the Patuxent Formation at the MRC and nearby is approximately 200 feet below MSL. Therefore, the depth to the top of the Patuxent Formation in the MRC area probably ranges from 210 to 230 feet below grade.

2.2.6 Regional Hydrogeology

Sand and gravel zones in the unconsolidated surficial deposits, when present, may form an unconfined or water-table aquifer system (Bennett and Meyer, 1952). The water table at MRC generally conforms to the shape of the land surface, with the highest water levels in the interior land areas and the lowest levels at approximately the surface water elevations along the shoreline.

The Patuxent Formation is the most important water bearing formation in the Baltimore area. Industrial wells in the southeastern part of the area, specifically Curtis Bay and Sparrows Point, yield from 500 to 900 gallons per minute (gpm). Transmissivities and storage coefficients in confined portions of the aquifer in these industrialized areas average about 50,000 gallons per day per foot (g/d/ft) and 0.00026, respectively. The Patapsco Formation is also an important water-bearing formation in industrialized Baltimore, where it is separated by clay into a lower and an upper aquifer by the Patapsco Confining Unit. The lower aquifer yields as much as 500 to 750 gpm to industrial wells, with an estimated transmissivity of 25,000 g/d/ft. The upper aquifer yields quantities of water similar to industrial wells and, because it is thicker than the lower aquifer, it likely has a higher overall transmissivity. Stratigraphic mapping by Vroblesky and Fleck (1991) and discussions in Chapelle (1985) indicate that the Patapsco Confining Unit may not extend to the MRC area.

Previous investigations at the MRC show that groundwater is encountered at depths ranging from less than one foot to nearly 18 feet below grade. In the northern portion of the MRC, groundwater is found in silts, clays, and sand lenses in the subsurface. Low-permeability clays and silty clays overlie and underlie the more permeable silty or sandy zones or lenses. In these areas, recharge from precipitation is probably low, and groundwater is under hydraulically confined conditions. Groundwater velocity is relatively low, because the subsurface is primarily composed of silts and clays.

To the southeast, groundwater preferentially flows to the southeast in sandy strata, which extend from MW55 and MW57 to the thicker sandy material at wells MW27 and MW37. Approximately 65 to 70 feet of saturated sandy material lies above the lower confining-clay in this area. Groundwater is probably hydraulically unconfined or partially confined because of the absence of an overlying hydraulic clay-barrier in most areas. Confined conditions may exist locally wherever clay is at the surface. The lower portion of the aquifer in the area of wells MW34 and MW37 is divided by silt and silty clay at 20 to 30 feet below MSL. Deeper groundwater may be hydraulically confined in this area.

To the southwest, shallow groundwater flows in the sandy and silty materials extending from wells MW21 to MW12 and Cow Pen Creek. Approximately 13 to 18 feet of saturated sandy material is in this area. Groundwater is probably hydraulically confined by clay barriers above

and below this unit. The upper sandy unit is separated from the lower sandy unit by approximately 35 feet of clay and clayey silt. The lower sandy unit occurs at approximately 50 feet below MSL and is at least 17 feet thick in the area of well MW12. It thins to the northeast at well MW14. Groundwater in this lower sandy unit is hydraulically confined due to the thick, overlying clay unit and the underlying clay of the Arundel Formation.

Single well permeability tests (i.e., slug tests) were conducted in 28 wells selected to represent hydrogeologic variability across the site. Slug tests were performed on 16 shallow (A) wells, five intermediate (B) wells, and seven deep (C) wells. Low average hydraulic-conductivity (K) values were reported for the shallow wells, ranging from 0.0027 feet per day (ft/day) at MW57 to 1.25 ft/day at MW66A. The arithmetic average K for the shallow wells is 0.22 ft/day; the geometric mean K is 0.07 ft/day. These results are consistent with published permeabilities of sand and silt mixtures (Spitz and Moreno, 1996; Halford and Kuniansky, 2002) reported for these locations. Lower hydraulic conductivities are reported for shallow wells to the south (MW55A through MW62A) and west (MW52A through MW54A, and MW64A). Maximum K values for shallow wells (0.99 to 1.25 ft/day) were reported in the southernmost portion of the MRC at wells MW65A and MW66A, where sand rich materials are present. Except for data from these two wells, values range from 0.0027 to 0.3 ft/day (a much narrower range).

Except for MW27B, K values for the intermediate wells are more consistent than those for the shallow wells, with an arithmetic average of 0.48 ft/day and a geometric mean of 0.22 ft/day. The B well permeabilities are consistent with published lower values for clean sand or typical values of sand and silt mixtures. Except for well MW37C, K values for the deep wells range from 0.35 to 9.16 ft/day. The average K of the deeper wells (3.82 ft/day) is approximately 10× the average K value for the shallow and intermediate zones. The geometric mean K for deep wells is 0.89 ft/day; eliminating the low permeability at MW37C, the geometric mean K is 3.02 ft/day.

2.2.7 Groundwater Flow

For shallow wells, depths to groundwater range from approximately less than one foot below grade near the shoreline (MW08 through MW10, MW15, MW40, and MW47) to 14 to 18 feet below grade at the central and northern portion of the MRC (MW05, MW01, and MW02), west of Building A (MW49 and MW50), and south of Building C (MW42 and MW60). Depth to

groundwater in the deepest wells ranges from less than one foot at MW11C to 13.50 feet at MW27C. The groundwater level and flow results for the deep wells are provided in section 4.2

Groundwater flows radially from the hydraulically upgradient northern portion of the MRC at Eastern Boulevard to the southeast, south, and southwest toward Dark Head Cove and Cow Pen Creek. The sandy zones act as preferential pathways for the transport of contaminants in groundwater, which may have their source upgradient in the clay rich materials. Previous groundwater-level measurements indicate that horizontal hydraulic gradients for shallow wells at the site range from 0.033 to 0.0033 feet per feet. Using the range of K values of 0.0027 to 1.25 ft/day estimated for the shallow wells, and a typical range of effective porosities for silt/sand of 0.20 to 0.30, the average linear groundwater velocity in the shallow surficial-aquifer probably ranges from 0.01 to 75 feet per year (ft/year). Excluding the two outlier K values, average linear velocity ranges from 0.01 to 18 ft/year.

2.3 Chemicals of Concern

Previous environmental investigations at the MRC (part of MDE's Voluntary Cleanup Program) identified two main groundwater plumes of volatile organic compounds (VOCs), one of which also contains 1, 4-dioxane. These plumes are in the southern portion of the MRC, south of the operating MRAS facility. A western plume of VOCs and 1,4-dioxane extends southwesterly from the Building A area to Cow Pen Creek. The eastern VOC plume extends southeasterly from the Building C area to Dark Head Cove. Details of the groundwater flow system and associated contamination are found in the *Site Characterization Report: Lockheed Martin Middle River Complex (Tetra Tech, May 2006).* Additional details are presented in the annual groundwater monitoring reports prepared after each groundwater-sampling event (Tetra Tech, 2008, 2009, and 2010).

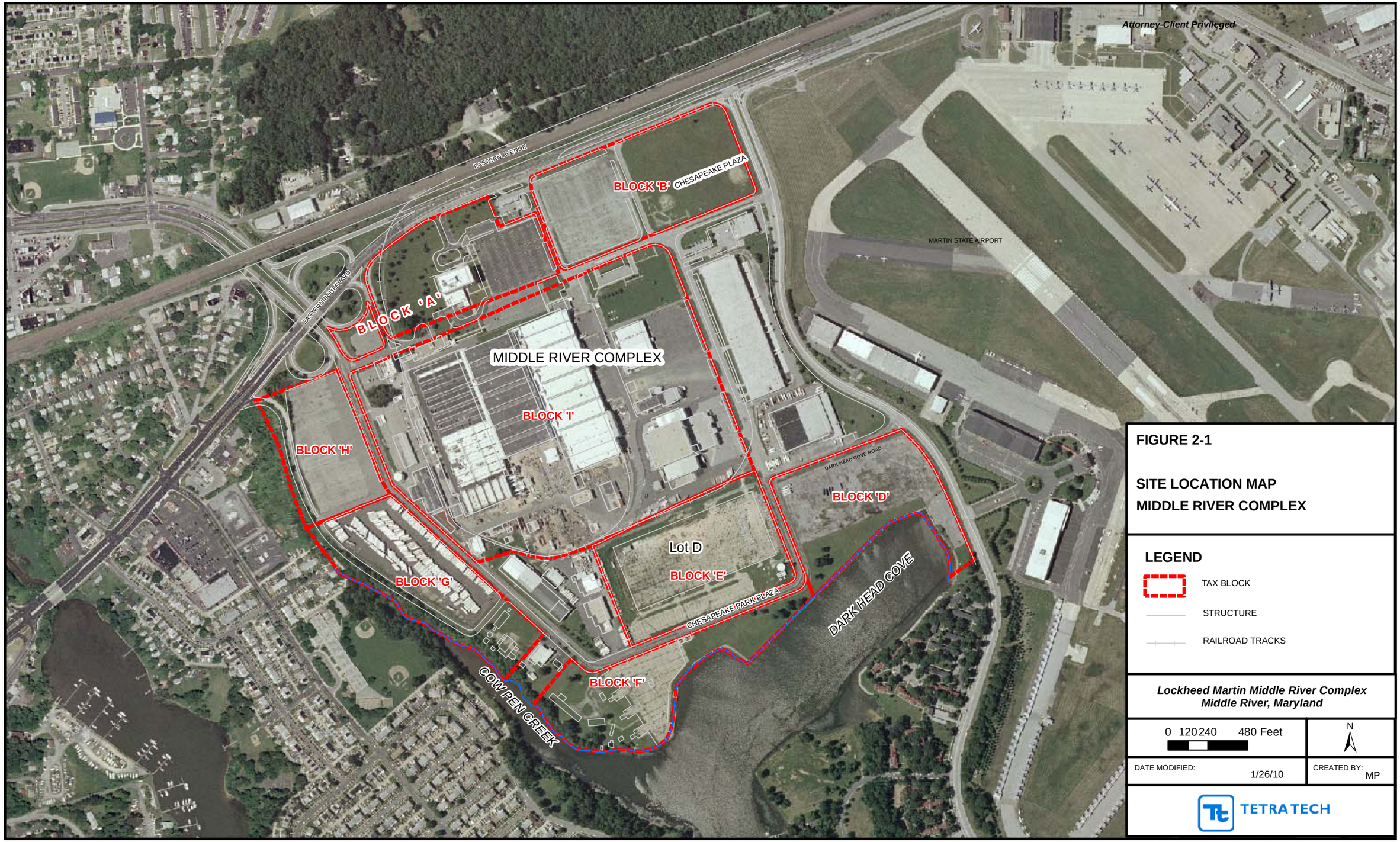

FIGURE 2-1

SITE LOCATION MAP
MIDDLE RIVER COMPLEX

LEGEND

- TAX BLOCK
- STRUCTURE
- RAILROAD TRACKS

Lockheed Martin Middle River Complex
Middle River, Maryland

0 120 240 480 Feet

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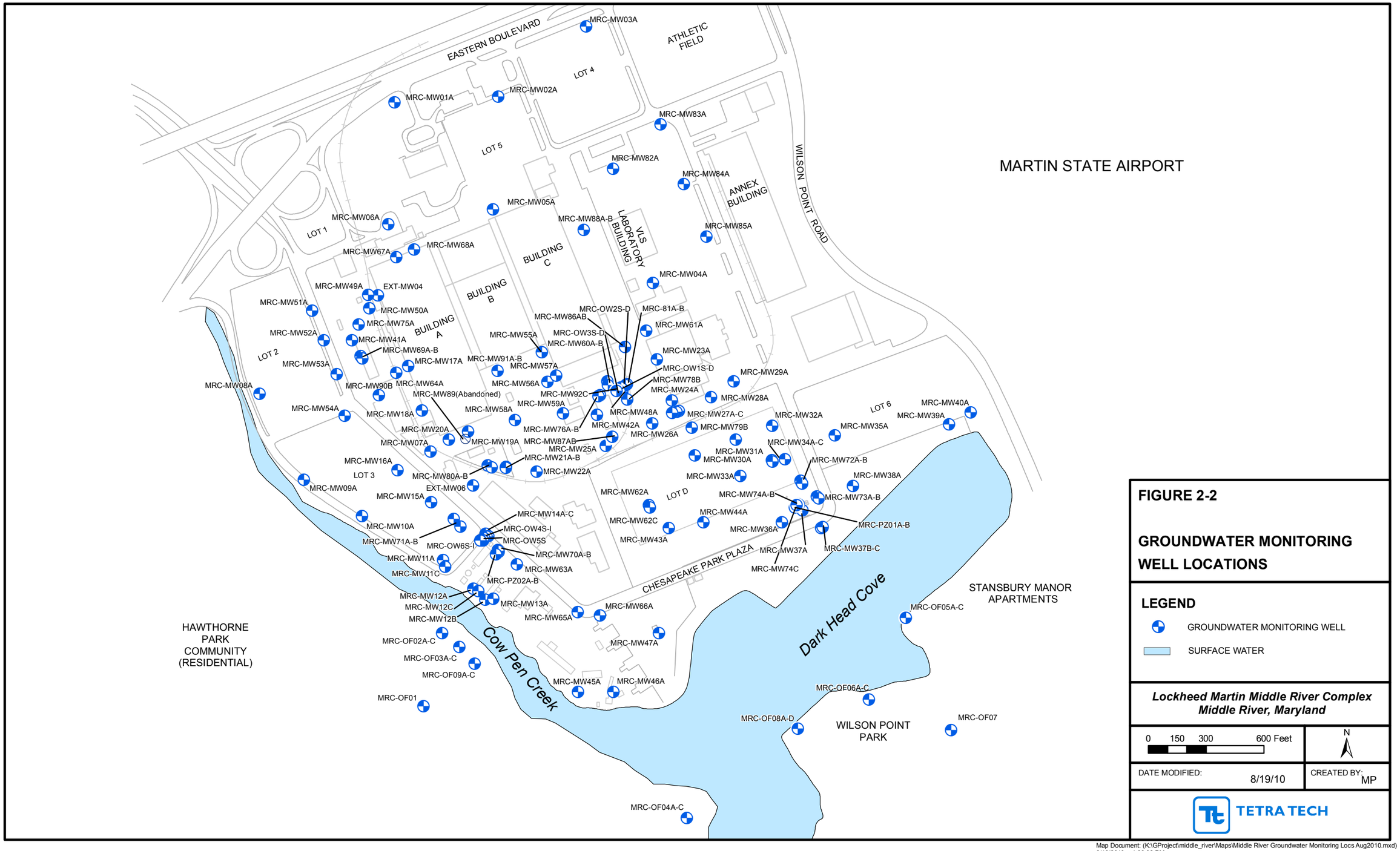

FIGURE 2-2

GROUNDWATER MONITORING WELL LOCATIONS

LEGEND

- GROUNDWATER MONITORING WELL
- SURFACE WATER

Lockheed Martin Middle River Complex
Middle River, Maryland

0 150 300 600 Feet

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Section 3
Investigation Approach and Methodology

The objective of the deep groundwater investigation was to obtain sufficient environmental data to evaluate whether chemical contaminants identified in shallow groundwater at the MRC are present beneath the surficial-aquifer zones investigated to date. Chemical contaminants of concern in groundwater had previously been characterized to a maximum depth of 80 feet below grade within the surficial aquifer in what has been termed the (C) zone. This section details the procedures used for borehole drilling, installation of four deep groundwater-monitoring wells, and associated tasks such as pre-drilling activities, geotechnical analyses of soil samples, well surveying, groundwater-level measurements, management of IDW, and chemical analyses of groundwater samples.

To address these objectives, four deep groundwater-monitoring wells were proposed for installation in the first permeable zone identified beneath the base of the Arundel Formation. The results of the first borehole (MW93D) indicate that 73 feet of dense dry clay and an additional 14 feet of clay (with two, thin, interlayer sand/silt/clay zones) lie 189-291 feet below grade. Twenty-five feet of fine- and medium grained sand were encountered below the thick clay sequence at 291-316 feet below grade. The Lockheed Martin study team modified the field program due to the overall thickness and density of the clay and the substantial depth of drilling required to reach the underlying sandy zone at 291 feet, choosing to install wells in the sand unit directly above the thick clay sequence encountered at depths of 179–189 feet below grade.

The deep wells installed at the shallower sand unit achieved the objective of monitoring deep-groundwater quality beneath the surficial aquifer and of assessing the possibility that the MRC site could contaminate the deeper aquifer below the Arundel Formation, without resorting to extensive drilling through nearly 100 feet of dense clay. The potential for creating hydrologic

pathways between the shallow and deep aquifers was thus avoided by not drilling and installing wells through the Arundel Formation into the deeper regional aquifer.

3.1 WELL LOCATIONS

The orientation of the deep wells helped determine groundwater flow direction and provided monitoring of both upgradient and downgradient groundwater quality. Figure 3-1 shows the locations of the deep groundwater-monitoring wells installed at the MRC. The direction of groundwater flow in the confined aquifer above the Arundel Formation was assessed by surveying the wells and measuring the depth to groundwater to construct a groundwater-contour map. Four deep groundwater-monitoring wells were installed at the MRC, were located as follows (and as approved by Lockheed Martin):

- Background well (MW93D)—north of the operating facilities in the southwestern corner of Parking Lot 4, north of E Building. This was the first well boring advanced.
- Mid-site well (MW94D)—midway between the eastern TCE plume and western TCE plume deep wells, near the center of the MRC
- Western TCE plume well (MW95D)— southeast of the western TCE plume
- Eastern TCE plume well (MW96D)—east of the eastern TCE plume

3.2 FIELD METHODOLOGY

3.2.1 Mobilization/Demobilization

Tetra Tech procured the required subcontractors and began mobilization/demobilization in the week of April 26, 2010, including:

- Coordinating with Lockheed Martin facilities personnel
- Obtaining utility clearance in the proposed well-boring locations using a private utility-locating firm, along with calling Miss Utility
- Mobilizing drilling subcontractors, equipment and materials to the site
- Implementing a site health and safety plan (HASP)
- Demobilizing equipment and materials from the site (at work completion)
- General site cleanup and trash removal when the work was finished

- Surface restoration at work completion

The field operations leader coordinated mobilization/demobilization, including equipment inventories to ensure equipment availability, purchasing and leasing equipment as required, and staging equipment for efficient loading and transport to the site and after each field activity.

Before field operations, appropriate Tetra Tech personnel became familiar with the MRC *Deep Groundwater Investigation HASP* and the respective "Safe Work Permits" included therein. Tetra Tech conducted mandatory health and safety tailgate meetings before each day's fieldwork. Subcontractors present for that day's field activities were included in the meeting, and also attended MRC health and safety training for contractor. The Tetra Tech site health and safety officer documented the topics covered and personnel in attendance at these sessions.

3.2.2 Site Access, Permits, and Utility Clearance

Utility clearance work and associated documentation conformed to the provisions of Lockheed Martin's *Remediation Contractor's ESH Handbook, Revision 1*. Tetra Tech obtained all required permits necessary to conduct the proposed field activities before any intrusive field activities related to this investigation began, in addition to completing all required utility clearance activities, including:

- Notifying the underground utility-location center ("Miss Utility," 1-800-257-7777, www.missutility.net). The Miss Utility clearance notification is provided in Appendix A.
- Reviewing county engineering and utility maps
- Completing the corporate staff procedure CS-28 "Digging Project" form and obtained the required signatures. Approved digging forms are provided in Appendix A.
- Obtaining the necessary permits from the state of Maryland (e.g., state well permits)
- Using a private utility-locating firm to identify any subsurface utilities/anomalies. The private utility-locating report is provided in Appendix B.

Well-boring locations were cleared for subsurface utilities in advance of all intrusive field activities. In addition to securing a Miss Utility ticket, a private utility-locating service (Enviroscan, Inc. of Lancaster, Pennsylvania) was used to mark any underground utilities and anomalies. The survey looked for any metallic and non-metallic utilities or anomalies. The private utility-locating firm used typical utility-locating equipment representing the best

available technology, including a Fisher TW-6 electromagnetic pipe and cable locator/tracer, a Radiodetection Cable Avoidance Tool and Genny pipe and cable locator/tracer, a Radiodetection RD4000 multi-frequency pipe and cable tracer, and a GSSI SIR-2000 ground-penetrating radar system. All utilities within a 30-foot radius of each designated well were located using the appropriate technology and the ground surface was marked with paint of standardized utility colors. Tetra Tech obtained the required government permits for well installation (e.g., a state of Maryland well permit from the Baltimore County Health Department) before all drilling activities. Tetra Tech applied for these permits concurrently with preparing the work plan, to facilitate timely permit approval.

3.2.3 Borehole Drilling

Four boreholes were advanced and four wells were installed, one at each of four locations MW93D, MW94D, MW95D, and MW96D at the MRC (see Figure 3-1). The well boreholes were drilled using a truck mounted rotasonic drilling rig. Each borehole was advanced using a six-inch drill rod and a seven-inch override-casing configuration. The boreholes were continuously sampled to characterize soil lithology using a 10-foot-long core barrel. A licensed professional geologist experienced in drilling techniques, soil logging, and well installation logged the soil samples.

At MW93D, which was the only borehole advanced through the Arundel Formation clay into an underlying sand unit, a 10-inch-diameter override casing was advanced several feet into the first thick-clay layer encountered beneath the surficial aquifer (i.e., 12 feet of clay was encountered at 112–124 feet below grade at MW93D). The integrity of the water-tight seal between the surficial aquifer and outer casing was tested before advancing the borehole below the temporary casing by pumping standing water from the casing using a submersible pump. This test determined whether groundwater from the surficial aquifer would seep beneath the casing or through the casing joints. The casing seal tested tight, and this first temporary casing remained in place to seal off groundwater in the overlying formation. The well borehole was constructed below the temporary casing and confining unit by advancing a second, smaller diameter steel casing through the annulus of the larger diameter temporary outer casing (i.e., telescoping the borehole). Soil was continuously sampled with the drilling core until the target depth was reached.

Soil cuttings and cleaning rinsate were collected in new or refurbished 55-gallon drums and stored in the fenced area of Lot D at the MRC, similar to what was done in previous investigations. IDW drums were removed after each drilling day and before moving to the next location. Tetra Tech expedited the characterization, sampling, and removal of all IDW from the site to minimize the length of time the IDW was to be staged on-site.

3.2.4 Soil Sampling and Analysis

A licensed professional geologist experienced in drilling techniques, soil logging, and well installation supervised these deep-groundwater investigation tasks. Upon reaching the clay of the Arundel Formation, soil samples from the base of the surficial aquifer were analyzed for total VOCs using the Color-Tec™ methodology. If total VOC concentrations were greater than 1 milligram per kilogram, the boring was not to be advanced further at that location and another location was to be identified. However, VOCs were not detected using the field-test kits and drilling continued at each of the four original soil-boring locations.

Attempts were made to collect undisturbed geotechnical samples (e.g., Shelby tubes) from the dense clay material considered of the Arundel Formation at MW93D. However, the Shelby tubes collapsed and only a limited sample volume could be collected. Several Shelby tubes were attempted at MW93D to provide sufficient sample volume for the analyses. The tubes collapsed and could not be retrieved by means of the rods used to push the tubes, but instead had to be retrieved from the four inch drilling core once drilling resumed. Subsequently, a Denison™ soil sampling barrel was used in the remaining wells to obtain samples for laboratory analyses.

A Denison™ sampler is a large diameter, double-tube-core barrel consisting of a rotating outer barrel with cutting teeth on the bottom and an inner barrel with a smooth cutting-shoe. The Denison™ sampler is designed to capture cohesive soils, soft rock, cemented soils, and soils containing gravel that cannot be obtained using typical push type samplers, such as a Shelby tube. In the Denison™ sampler, soil is captured in a thin walled, brass inner-barrel similar to that of a Shelby tube.

Soil samples for geotechnical analyses were also collected from the sand rich formation materials at each of the four deep wells. The MW93D sample was collected from a thick sand rich zone at 296–316 feet below grade to provide grain size information for the permeable

material immediately below the deep clay layer. Soil samples from wells MW94D, MW95D, and MW96D were collected from the sandy-formation materials found along the depth intervals screened for these wells. At MW94D, a second sample of sand rich material was collected at a depth of 120–126 feet below grade to provide grain size information for a permeable zone overlying the well's target zone-depth. The sand samples were composites of the material found along the depth intervals listed below. Soil samples were collected at the depths listed in Table 3-1.

Clay soil samples were analyzed for grain size with a hydrometer (ASTM Method D422) as well as for moisture content (ASTM method D2216), Atterberg limits (ASTM method D4318), and vertical permeability (ASTM method D6035-02). Sand samples were analyzed for grain size only (ASTM method D422).

3.2.5 Well Installation

All groundwater-monitoring wells were constructed of two-inch-inside diameter Schedule 80, polyvinyl chloride (PVC) casing with 10 feet of continuous-slot stainless-steel wire-wrap screen. The slot size (i.e., opening size) of the screens was 0.01-inch, based on the presence of fine to medium sand in the monitored formation at each location. Clean, washed, #1 silica-sand was placed in the annulus from the bottom of the borehole to three feet above the top of the screen. Following placement of the sand pack, the well was redeveloped by surging, to settle the sand pack around the screen. Depth to sand was measured using a weighted fiberglass tape. A three-foot thick layer of #0 fine-sand was placed on top of the sand pack. The remaining annulus was backfilled with two to three feet of bentonite pellets and bentonite-slurry grout to the ground surface. The grout was allowed to set for 24 hours before beginning well development.

Each well surface was completed by installing a flush mount steel well-cover. Well covers were set in concrete and surrounded by a two foot by two foot concrete pad flush with the ground surface. The screened intervals for the wells are listed in Table 3-2.

A licensed professional geologist experienced in drilling techniques, soil logging, and well installation supervised and observed these tasks. Boring logs and well construction diagrams are provided in Appendix C.

3.2.6 Well Development

The new monitoring wells were developed on May 18–19, 2010 by air-lift pumping and surging using PVC casing and an air compressor to remove fines and sediment from the sand pack and well screen. Development continued until field parameters such as pH, conductivity, temperature, and turbidity stabilized. Stabilization was considered to have been achieved when three consecutive readings were within ±0.1 for pH and ±3% for conductivity. Purge water from well development was collected in 55-gallon steel drums and staged on-site for proper characterization and disposal. Well development records are provided in Appendix D.

3.2.7 Synoptic Water-Levels

Groundwater levels were measured at the four new wells on June 28, 2010 using an electronic water-level meter with gradations to 0.01 foot. Water-level data provide information on groundwater flow characteristics in the deep confined-aquifer and were used to construct a groundwater-contour map for the deep confined-aquifer.

3.2.8 Groundwater Sampling

During drilling of the deep wells, groundwater samples were collected at MW94D, MW95D, and MW96D to screen for VOCs in the upper surficial-aquifer zone. Samples were collected from the sandy zone at depths ranging from 63 to 76 feet below grade, which represent the (C) or lower surficial-aquifer zone currently monitored at the MRC. Samples were collected by drilling to the target depth and pulling the drill casing back slightly to allow fresh groundwater to fill the sonic casing. Samples were then collected using Teflon® tubing and a peristaltic pump or a bailer after purging the borehole for several minutes.

Groundwater samples were collected from each of the new monitoring wells on June 10–11, 2010. Sampling was conducted using low flow-purging methods via a submersible pump. Groundwater was withdrawn at flow rates near 100 milliliters per minute. The groundwater quality parameters of pH, temperature, conductivity, oxygen reduction potential, dissolved oxygen, and turbidity were monitored using a Horiba U-22 water-quality meter and recorded every five minutes. Purging continued until these parameters stabilized. Stabilization was considered achieved when three consecutive readings were within ±0.1 standard unit for pH,

±3% for conductivity, ±10 millivolts for oxygen reduction potential, and ±10% for turbidity. All purged water was collected in 55-gallon, steel drums, which were staged in the fenced area of Lot D. Well purging and sampling records are provided in Appendix E.

3.2.9 Surveying

Subsequent to the well installation, a professional field-surveying company (Murphy Geomatics, Inc. of Raleigh, North Carolina) was contracted to provide horizontal and vertical coordinates for each new well location. A qualified, Maryland licensed, land-surveying crew chief and crew performed the survey. Surveyed locations were accurate to the nearest 0.01 foot for vertical elevations using the NAVD88 and 0.1 foot horizontal coordinates in the North American Vertical Datum 1983 at the top of the well casings. A permanent mark was placed at the surveyed point of each well. Flush mount cover elevations were surveyed with a vertical accuracy of 0.1 foot. A Tetra Tech geologist was on-site to conduct site safety briefings and familiarize the survey crew with site features and task requirements before surveying. The survey report is provided in Appendix F.

3.2.10 Equipment Decontamination

Drilling equipment at each boring location was cleaned using a high-pressure steam cleaner as the rods and casing were removed from the borehole. Decontamination water was collected in the recirculation basin and was pumped into 55-gallon drums for storage. Drilling equipment was also cleaned before beginning work, between drilling locations, and at the conclusion of the drilling program. During groundwater sampling, reusable groundwater-level measuring and sampling equipment (e.g., water-level meter, pumps, and wire) were decontaminated before and after each use. Dedicated and disposable equipment (such as pump tubing) was used for groundwater purging and sampling. All decontamination fluids were collected in U.S. Department of Transportation approved 55-gallon steel drums, which were stored at a central staging area at the facility's Lot D pending waste-profile sampling results.

3.2.11 Waste Management

Soil cuttings, decontamination fluids, well-development water, and well-purge water were collected as IDW in U.S. Department of Transportation approved 55-gallon steel drums. The drums were stored at a central staging area on the facility's Lot D pending waste profile

sampling results. Tetra Tech sampled the IDW for Toxicity Characteristics Leaching Procedure (TCLP) organic and inorganic analyses, corrosivity, ignitability, and reactive sulfide and reactive cyanide and submitted these samples to TestAmerica, Inc., of North Canton, Ohio for analysis under an expedited turn-around schedule, to reduce the period drums were staged at the MRC. Upon receipt of these analytical data, the IDW was removed from the MRC by Envirite, Inc., a state licensed waste transporter, and properly disposed of as non-hazardous waste at a Lockheed Martin approved off-site waste-treatment facility, in accordance with federal, state, and local regulations.

3.2.12 General Sampling Procedures, Sample Nomenclature, and Handling

Each soil and groundwater sample was given a unique sample identification consisting of the soil-boring or well name and depth (for soil) or sampling date (for groundwater) (e.g., MRC-MW93D-196' would be a soil sample from 196 feet deep, and MRC-MW93D-061010 would be a groundwater sample collected on June 10, 2010). Trip blanks were labeled with a "TB" prefix followed by a six digit submittal date (e.g., TB061010). Sample handling includes field related considerations concerning selection of sample containers, preservatives, allowable holding times and analyses requested.

Proper custody procedures were followed throughout all phases of sample collection and handling. Chain of custody protocols were used throughout sample handling to establish the evidentiary integrity of sample containers. These protocols demonstrate that the samples were handled and transferred in a manner that would eliminate (or detect) possible tampering. Sample containers were released under signature from the laboratory and were accepted under signature by the sampler or responsible individual who maintains custody until the sample containers were transferred to the sampling team. Groundwater samples were released under signature from the sampling team and were accepted under signature by the laboratory. Transport containers returning to the laboratory were sealed with strapping tape and a tamper resistant custody seal. The custody seal shows the signature of the individual releasing the transport container, along with the date and time.

3.2.13 Documentation

Core samples retrieved during drilling operations were described and lithologic logs were completed by a licensed professional geologist experienced in soil-core logging. All field notes

were recorded in a hardbound field logbook. Sample documentation, including chain of custody reports and matrix specific sampling-log sheets are provided in the data-validation reports.

3.3 LABORATORY ANALYSES

Table 3-3 lists the geotechnical and chemical analyses/methods used in this investigation. Soil samples collected for geotechnical analyses were analyzed by Findling, Inc. of Baltimore, Maryland for grain size (ASTM method D422), moisture content (ASTM method D2216), Atterberg limits (ASTM method D4318), and vertical permeability (ASTM method D6035-02). Laboratory results sheets for the geotechnical analyses are provided in Appendix G.

Groundwater samples collected during drilling were analyzed for USEPA VOCs using SW846 Method 8260. Groundwater samples from wells were analyzed for USEPA VOCs using SW846 Method 8260, SVOCs and 1,4-dioxane using SW846 Method 8270B, and for unfiltered and filtered metals using USEPA SW846 Method 6010. TestAmerica Laboratories Inc. of North Canton, Ohio analyzed the groundwater samples. If measured turbidity was greater than 10 nephalometric turbidity-units, the sample was also analyzed for dissolved (i.e., filtered) metals using USEPA SW846 Method 6010.

Selection of these analytes is based on contaminants of concern identified in surficial-aquifer groundwater monitoring. Tables of the chemical analytical results appear in Appendix H. Duplicate samples were collected at a rate of 1:10 (i.e., 10%). Matrix-spike and matrix-spike duplicate samples were collected on a 1:20 basis (i.e., 5%). Trip blanks were submitted at a rate of one per cooler of VOCs per day. Soil and groundwater IDW were analyzed for TCLP organics/inorganics, corrosivity, ignitability and reactivity using the methods shown in Table 3-3.

3.4 DATA VALIDATION

Data validation entails having a party independent of the analytical laboratory review the analytical data to ensure that specific criteria are met. These criteria are concerned with specifications that are not sample dependent; they specify performance requirements that should be fully under a laboratory's control. For organic data-analyses, specific validation areas include blanks, performance-evaluation-standard materials, and instrument-performance checks. For inorganic data-analyses, specific validation areas include blanks, calibration standards, calibration-verification standards, laboratory-control standards, and interference-check standards.

Chemical data were supplied by the laboratory as hard-copy reports and electronic databases. Following the investigation, chemical data were validated in accordance with established USEPA protocols to assess data reliability and accuracy. The review was based on the USEPA Region 3 *Modifications to the National Functional Guidelines for Data Review* (USEPA, 1993 and 1994) and the specifics of the analytical method employed. Data-validation reports for COC are provided as Appendix I (on compact disc).

Table 3-1

Soil Sample Collection Depths
Deep Groundwater Investigation
Lockheed Martin, Middle River Complex, Middle River, Maryland

Well ID	Clay samples (feet below grade)	Sand samples (feet below grade)
MW93D	196	296–316
MW94D	206	120–126 and 186–196
MW95D	196–198	200–216
MW96D	216–220	186–190

Table 3-2

Monitoring Well Screen Depth
Deep Groundwater Investigation
Lockheed Martin, Middle River Complex, Middle River, Maryland

Well ID	Screen depth (feet below grade)	Screen elevation feet (NAVD88*)
MW93D	179–189	-154 to -164
MW94D	186–196	-163 to -173
MW95D	204–214	-194 to -204
MW96D	179–189	-172 to -182

*NAVD88—North American Vertical Datum of 1988

Table 3-3

Laboratory Analyses for Soil, Groundwater, and IDW Samples
Deep Groundwater Investigation
Lockheed Martin, Middle River Complex, Middle River, Maryland

Analyte	Analytical Method
Soil	
Grain size (with hydrometer)	ASTM D422
Moisture content	ASTM D2216
Atterberg limits	ASTM D4318
Vertical-permeability test	ASTM D6035-02
Groundwater	
VOCs	SW 846 Method 8260B
SVOCs and 1,4-dioxane	SW 846 Method 8270C
Total metals	SW 846 Method 6010C
Dissolved metals	SW 846 Method 6010C
IDW	
TCLP organics/inorganics	TCLP extraction (soil) and 8260B/8270C/8081A/8151A/6010B/7470A
Corrosivity	Water-150.1, soil 9045C
Ignitability (flashpoint)	Water-1010, soil section 7.1.2
Reactive sulfide/reactive cyanide	Total sulfides-9030B/9034, cyanide-9012A

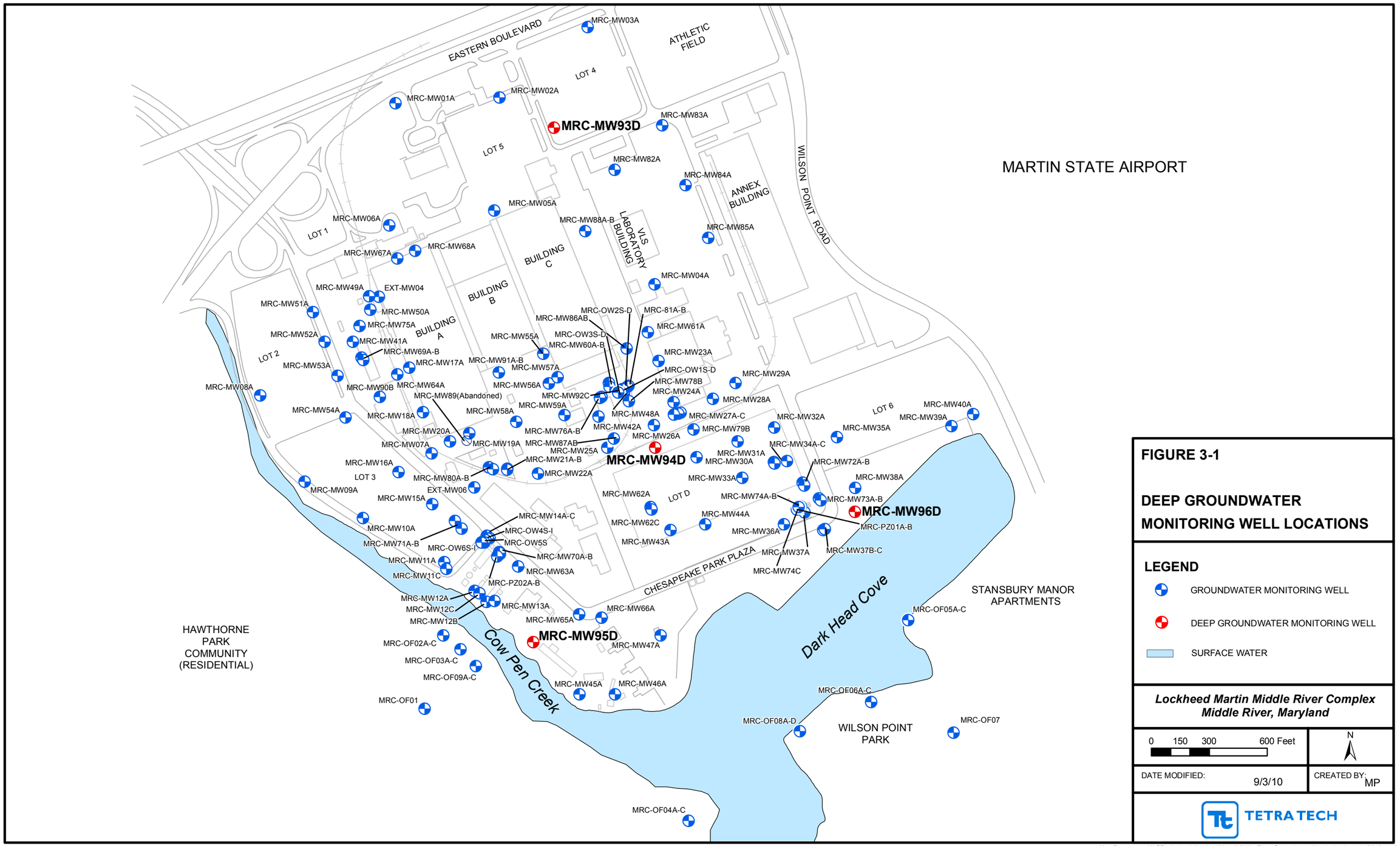

FIGURE 3-1

DEEP GROUNDWATER MONITORING WELL LOCATIONS

LEGEND

- GROUNDWATER MONITORING WELL
- DEEP GROUNDWATER MONITORING WELL
- SURFACE WATER

Lockheed Martin Middle River Complex
Middle River, Maryland

0 150 300 600 Feet

N

DATE MODIFIED: 9/3/10

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\middle_river\Maps\Middle River Groundwater Monitoring Locs Jul2010.mxd)
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Section 4
Results

4.1 SOIL DATA

Boring logs for the newly installed wells updated existing geologic cross-sections and helped evaluate deep geology at the site. Figure 4-1 shows the locations of the geologic cross-sections. Figures 4-2 through 4-4 are generalized geologic cross-sections showing the materials encountered during the drilling of the deep wells.

As shown in Figure 4-2, the lithologic data for MW93D, MW94D, and MW96D indicate clay up to 50 feet thick underlying the surficial aquifer at 15 to 60 feet below MSL at well MW93D, and 60 to 110 feet below MSL at MW94D and MW96D. Below this clay zone is a series of thinner, alternating layers of sand and clay. Seventy-three feet of continuous clay were encountered at MW93D, beginning at an elevation of 164 feet below MSL and ending at an elevation of approximately 237 feet below MSL.

Directly overlying the 73 feet of clay is seven feet of sand followed by 11 feet of overlying clay and sand layers (clay thickness totaling eight feet) from 146 feet below MSL to 157 feet below MSL. Below the 73-feet-thick clay layer is 14 feet of silty and clayey fine sand followed by 15 feet of clay from 251 to 266 feet below MSL. The thickness of the deep clay and interlayer sand/silt (123 feet) is consistent with the Arundel Formation's 50 to 125 feet thickness in this area, as reported by Chapelle (1985) and Vroblesky and Fleck (1991). However, the basal altitude of the clay (at 266 feet below MSL) was somewhat lower than the altitude of 200 feet below MSL reported by Chapelle (1985) and Vroblesky and Fleck (1991).

Well boreholes MW94D through MW96D were not drilled through the entire Arundel Formation but were instead drilled 16 to 20 feet into the clay zones encountered at altitudes similar to the 73-feet-thick continuous clay layer logged at well MW93D. The top surfaces of multiple deep clay layers were encountered at altitudes of 128, 148, and 174 feet below MSL at well MW94D at the center of the MRC (see also Figure 4-4). Clay layers were likewise encountered at altitudes

of 142 and 183 feet below MSL at MW96D, at the southern end of the MRC adjacent to Dark Head Cove.

Figure 4-3 also indicates geologic sequences at well MW95D similar to those of MW93D. Similar to MW93D, the lithology at MW95D shows primarily clay from the ground surface to 50 feet below MSL, followed by a thick sand zone (split by clay and silt layers) from approximately 60 feet below MSL to approximately 140 feet below MSL. At MW95D, somewhat continuous clay is encountered at approximately 150 feet below MSL to 226 feet below MSL. However, a 14-feet-thick sand layer was encountered in MW95D from approximately 190–204 feet below MSL. At all MRC deep-well locations, thick clay layers are present above and below the sand units monitored by the deep wells. The sand zones monitored by the deep wells are therefore considered hydraulically confined.

Clay samples from the four well-boreholes were sent to a geotechnical laboratory for grain size analyses, measurement of moisture content, Atterberg limits, and vertical-permeability testing. These samples were collected beneath the top of the continuous clay zone of the Arundel Formation. Sand samples from each of the well boreholes were also sent to a geotechnical laboratory for grain-size analysis. The results of these tests are shown in Table 4-1. Moisture content, soil classifications, soil descriptions, Atterberg Limits, grain size distributions, and permeabilities are all consistent for the four clay-soil samples.

The clay at MW94D had the highest plasticity index, at 43, followed by MW95D, at 34. All clay samples were classified as CH soils, indicating that they are inorganic clays of high plasticity with a liquid limit greater than 50, and that more than 50% of the material is fines (i.e., silt and clay). Sand content for these samples ranges from 4.8% at MW93D to 12.6% at MW94D. Vertical permeabilities of the four samples are of the same order of magnitude, ranging from 2.1×10^{-08} centimeters per second to 8.2×10^{-08} centimeters per second.

Results for the sand samples show that the formation material where the wells were screened typically consists of more than 90% sand. Fine sand (grain sizes of 0.075 to 0.425 millimeter) was the predominant size by weight for all sand samples (i.e., 53.0 to 83.4% fine sand). Coefficients of uniformity were all less than six; coefficients of curvature were greater than one and less than three. This indicates that the samples were poorly graded (i.e., the samples did not contain a wide assortment of grain sizes). Fine gravel (grain size of 4.75 to 19 millimeters) was

present in the 186–196-foot sample at MW94D. Fines content (i.e., combined silt and clay fractions) are between 5–12%, which would classify these samples as silty sand.

4.2 GROUNDWATER DATA

The following section contains groundwater-elevation data obtained from water-level measurements in deep confined-aquifer monitoring. Analytical data related to monitoring-well sampling are also presented and discussed below.

4.2.1 Groundwater-Level Data

Table 4-2 summarizes the June 28, 2010 groundwater-level measurements and computed static groundwater-elevations for the MRC deep wells. Figure 4-5 shows the June 28, 2010 groundwater-elevation contour map for the deep wells. Static groundwater-levels measured in the deep confined-aquifer wells were reported at depths ranging from the top of the PVC well casing (approximately 0.3-feet below grade) at MW96D near Dark Head Cove to approximately 12-feet below grade at MW94D, in the central portion of the MRC. As shown in Figure 4-5, groundwater in the deep confined-aquifer flows southeast from the upgradient area of well MW93D area toward wells MW94D and MW96D. Groundwater hydraulic-gradients range from 0.0024 between wells MW93D and MW94D to 0.0058 between wells MW94D and MW96D.

4.2.2 Groundwater Chemical Data

4.2.2.1 Borehole Groundwater Samples

Groundwater samples were collected at MW94D, MW95D, and MW96D during drilling of the deep wells to screen for VOCs in the lower surficial-aquifer (C) zone at depths ranging from 63 to 76 feet below grade. Analytical results are summarized in Table 4-3 and compared against Maryland groundwater standards (MDE, 2008). Sampling data do not indicate the presence of target VOCs such as TCE, PCE, and TCE-degradation products, but instead only indicate several VOCs at trace to low concentrations. These are considered artifacts of the laboratory analysis or are from potable water used during drilling. All VOC concentrations are substantially less than Maryland groundwater standards.

As shown in Table 4-3, one chlorinated VOC (1,2-dichloroethane) was detected at a low concentration in one sample (MW94D [72ft]). However, this result is qualified as being present in laboratory control-blanks (i.e., data validation “B” qualifier); therefore, this concentration is

considered an artifact of the laboratory analysis. Target VOCs (such as TCE, PCE and TCE-degradation products) were not detected in the well-borehole samples. Two VOCs (2-butanone and acetone) are common laboratory contaminants that may also be artifacts of the laboratory analyses. The three remaining VOCs detected are trihalomethanes (bromodichloromethane, chlorodibromomethane and chloroform) typically associated with potable water treated via chlorination. These VOC detections are likely the result of water used to aid in borehole drilling. All VOC concentrations are less than Maryland groundwater standards.

4.2.2.2 Monitoring Well Groundwater Samples

Groundwater samples were collected from each of the new monitoring wells on June 10–11, 2010 and analyzed at an off-site laboratory for VOCs, SVOCs, 1,4-dioxane and metals. Analytical results are summarized in Table 4-4 and compared against Maryland groundwater standards (MDE, 2008). Sampling data do not indicate the presence of target VOCs such as TCE, PCE and TCE-degradation products, but instead only indicate trace to low concentrations of several VOCs and two SVOCs that are considered artifacts of the laboratory analyses or are from potable water used during drilling. All VOC and SVOC concentrations are less than Maryland groundwater standards. 1-4-Dioxane was not detected in any samples. Several concentrations of metals exceed groundwater standards, as discussed below.

As shown in Table 4-4, targeted VOCs such as TCE, PCE, and TCE degradation products were not detected in the well groundwater-samples. Results for two VOCs and one SVOC [acetone methylene chloride and bis(2-ethylhexl)phthalate], are qualified as being present in laboratory control-blanks (i.e., data validation “B” qualifier); therefore, these concentrations are considered artifacts of the laboratory analyses. Toluene, 2-butanone, and butyl-benzyl-phthalate (an SVOC) are also common laboratory contaminants. The consistently low concentrations of these analytes (slightly above detection limits) indicate that these detections may also be artifacts of the laboratory analyses. Several of the remaining VOCs detected are trihalomethanes (bromodichloromethane, chlorodibromomethane, chloroform, and chlormethane) typically associated with potable water treated via chlorination. These detections of VOCs are likely the result of water used in borehole drilling. All VOC concentrations are less than Maryland groundwater standards.

For well MW93D, unfiltered and filtered groundwater concentrations of seven metals (arsenic, beryllium, chromium, iron, lead, manganese, and vanadium) exceed groundwater standards. For wells MW94D and MW95D, only concentrations of iron, manganese, vanadium, and the unfiltered lead concentration for MW95D exceed groundwater standards. All metal concentrations (filtered and unfiltered) for well MW96D are less than groundwater standards.

Table 4-1

Geotechnical Results for Soil Samples
Deep Groundwater Investigation
Lockheed Martin Martin State Middle River Complex, Maryland

Sample ID	Sample Date	Depth Below Grade (Feet)	Moisture Content (Percent)	Unified Soil Classification System (USCS)	Description	Atterberg Limits			Cobbles (Percent)	Gravel (Percent)	Sand (Percent)	Silt[(1)] (Percent)	Clay[(1)] (Percent)	Average Hydraulic Permability cm/sec
						Plastic Limit	Liquid Limit	Plasticity Index						
MW93D 196'	4/28/2010	196	17.1	CH	Reddish brown with white fat CLAY	27	54	27	0.0	0.0	4.8	37.0	58.2	8.2E-08
MW94D 206'	5/6/2010	206	15.6	CH	Orange brown with red fat CLAY	25	68	43	0.0	0.0	12.6	27.5	59.9	2.1E-08
MW95D 196'-198'	5/11/2010	196-198	15.4	CH	Reddish brown with orange and purple fat CLAY	22	56	34	0.0	0.0	11.0	33.0	56.0	3.4E-08
MW96D 216'-220'	5/17/2010	216-220	13.0	CH	Reddish brown with orange and white fat CLAY	27	54	27	0.0	0.0	5.0	46.1	48.9	7.4E-08
MW93D 296'-316'	5/3/2010	296-316	18.8	SP-SM	Brown silty SAND	NA	NA	NA	0.0	0.0	90.4	9.6	(1)	NA
MW94D 120'-126'	5/6/2010	120-126	17.8		Light gray silty SAND	NA	NA	NA	0.0	0.0	94.9	5.1	(1)	NA
MW94D 186'-196'	5/6/2010	186-196	14.0	SP-SM	Brown silty SAND	NA	NA	NA	0.0	1.0	91.3	7.7	(1)	NA
MW95D 200'-216'	5/12/2010	200-216	14.4	SM	Brown and gray silty SAND	NA	NA	NA	0.0	0.0	88.8	11.2	(1)	NA
MW96D 186'-190'	5/14/2010	186-190	19.9	SM	Light gray silty SAND	NA	NA	NA	0.0	0.0	91.2	8.8	(1)	NA

CH = Inorganic clays of high plasticity, gravelly clays, sandy clays, silty, clays, lean clays. Liquid Limit greater than 50. More than 50% of material are fines (silt and clay).
NA = Not analyzed.
1 For sand samples, silt and clay are reported as percent fines, which includes both silt and clay fractions. For sand samples, value in the Silt column is the "percent fines" content (i.e., both silt and clay).

Table 4-2
Deep Well Groundwater Depths and Elevations
Lockheed Martin, Middle River Complex, Middle River, Maryland

Well ID	Well elevation (ft NAVD)[1,2]	June 28, 2010	
		Depth to water (ft)[2]	Groundwater elevation (ft NAVD)[1]
MW93D	24.99	9.80	15.19
MW94D	22.91	11.82	11.09
MW95D	10.23	1.82	8.41
MW96D	6.30	0.00[3]	6.30

[1]North American Vertical Datum of 1988

[2]Reference top of PVC well casing.

[3]Groundwater flowed out of the casing top. Actual potentiometric surface may be higher.

Table 4-3
Analyes Detected in Groundwater - Well Borehole Samples, May 2010
Deep Groundwater Investigation
Lockheed Martin Middle River Complex, Middle River, Maryland

SAMPLE ID:		MRC-MW94D(72ft)	MRC-MW95D(63ft)	MRC-MW95D(76ft)	MRC-MW96D (65ft)
LABORATORY ID:	MDE	A0E060602001	A0E110505001	A0E110505002	A0E140486002
SAMPLE DATE:	GROUNDWATER	5/5/2010	5/10/2010	5/10/2010	5/13/2010
LOCATION:	CRITERIA	MRC-MW94D	MRC-MW95D	MRC-MW95D	MRC-MW96D
VOLATILES (ug/L)					
1,2-DICHLOROETHANE	5	0.24 B	--	--	--
2-BUTANONE	700	--	0.82 J	0.99 J	--
ACETONE	550	2.2 J	3.9 J	4.6 J	3.4 J
BROMODICHLOROMETHANE	80	--	3.6	3.7	5.4
CHLORODIBROMOMETHANE	80	--	0.41 J	0.41 J	0.76 J
CHLOROFORM	80	--	22	27	23

MDE - Maryland Department of the Environment, June 2008.

-- - Not detected at listed detection limit.

B - Laboratory blank contamination.

J - Positive result is considered estimated as a result of technical noncompliance.

ug/l - micrograms per liter.

Table 4-4

Analytes Detected in Groundwater - Monitoring Well Samples, June 2010
Deep Groundwater Investigation
Lockheed Martin Middle River Complex, Middle River, Maryland
Page 1 of 2

SAMPLE ID:	MDE	MRC-MW93D-061010	MRC-MW94D-061010	MRC-95D-061110	MRC-96D-061110
LABORATORY ID:	GROUNDWATER	A0F110578002	A0F110578003	A0F120439002	A0F120439001
SAMPLE DATE:	CRITERIA	6/10/2010	6/10/2010	6/11/2010	6/11/2010
LOCATION:		MRC-MW93D	MRC-MW94D	MRC-95D	MRC-96D
VOLATILES (ug/L)					
2-BUTANONE	700	1.5 J	--	1.4 J	--
4-METHYL-2-PENTANONE	630	0.67 J	--	--	--
ACETONE	550	17 B	11 B	20 B	3.8 B
BROMODICHLOROMETHANE	80	--	0.23 J	0.31 J	--
CARBON DISULFIDE	100	0.71 J	--	--	--
CHLORODIBROMOMETHANE	80	--	--	0.37 J	--
CHLOROFORM	80	8.8	10	19	0.19 J
CHLOROMETHANE	19	--	--	0.36 J	--
METHYLENE CHLORIDE	5	0.47 B	0.54 B	0.58 B	--
TOLUENE	1000	0.22 J	0.21 J	0.28 J	--
SEMIVOLATILES (ug/L)					
BIS(2-ETHYLHEXYL)PHTHALATE	6	1.9 B	2.1 B	--	2.1 B
BUTYL BENZYL PHTHALATE		1.1	1.1	--	--
INORGANICS (ug/L)					
ANTIMONY	6	0.42 B	0.18 B	0.28 B	--
ARSENIC	10	26.1	4.1 J	7.5 K	--
BARIUM	2000	515	133	209	9
BERYLLIUM	4	6.7	1.3	2.3	0.11 B
CADMIUM	5	0.49 J	0.12 B	0.17 B	--
CHROMIUM	100	143	28.1	72.9	0.51 B
COBALT		10	2.6	5.5	2.4
COPPER	1300	59.9	13.1	24.6	2.2 B
IRON	300	66400	18100	40900	202
LEAD	15	78.2	14.5	30.2	--
MANGANESE	50	522	214	262	12.6
MERCURY	2	0.13 J	--	--	--
MOLYBDENUM		20	5.2	14.1	--
NICKEL	73	40.4	20.4	21.3	3.9 K
SELENIUM	50	6.6	0.96 J	3.2 J	--
SILVER	100	0.15 J	--	--	--
THALLIUM	2	0.49 B	0.14 B	0.21 B	--
VANADIUM	3.7	107	28.9	53.2	0.45 J
ZINC	5000	145	35.5	66.8	10.9 B
INORGANICS FILTERED (ug/L)					
ANTIMONY	6	0.32 B	0.13 B	0.35 B	0.2 B
ARSENIC	10	20.5	1.2 J	2.8 J	--
BARIUM	2000	399	43.7	11.2	7.6
BERYLLIUM	4	5.4	0.28 B	--	0.085 B
CADMIUM	5	0.38 B	0.028 B	--	0.031 B
CHROMIUM	100	108	6.4	0.89 B	0.17 B
COBALT		8	0.76 J	0.039 B	2.2
COPPER	1300	47.4	4.5 B	2.5 B	1.7 B
IRON	300	51300	4400	47.2 B	73.4 B
LEAD	15	63.3	3	--	--

Table 4-4

Analytes Detected in Groundwater - Monitoring Well Samples, June 2010
Deep Groundwater Investigation
Lockheed Martin Middle River Complex, Middle River, Maryland
Page 2 of 2

SAMPLE ID: LABORATORY ID: SAMPLE DATE: LOCATION:	MDE GROUNDWATER CRITERIA	MRC-MW93D-061010 A0F110578002 6/10/2010 MRC-MW93D	MRC-MW94D-061010 A0F110578003 6/10/2010 MRC-MW94D	MRC-95D-061110 A0F120439002 6/11/2010 MRC-95D	MRC-96D-061110 A0F120439001 6/11/2010 MRC-96D
MANGANESE	50	377	75.6	0.17 B	11.1
MOLYBDENUM		22.5	3.8	15.4	0.31 B
NICKEL	73	32.8	7	0.45 B	3.5 K
SELENIUM	50	4.5 J	0.4 B	0.5 B	0.18 B
SILVER	100	0.088 J	--	--	--
THALLIUM	2	0.34 B	--	--	0.24 B
VANADIUM	3.7	80.8	6.5 J	6.2 J	--
ZINC	5000	118	14.5 B	4.9 B	11.3 B

MDE - Maryland Department of the Environment, June 2008.

-- - Not detected at listed detection limit.

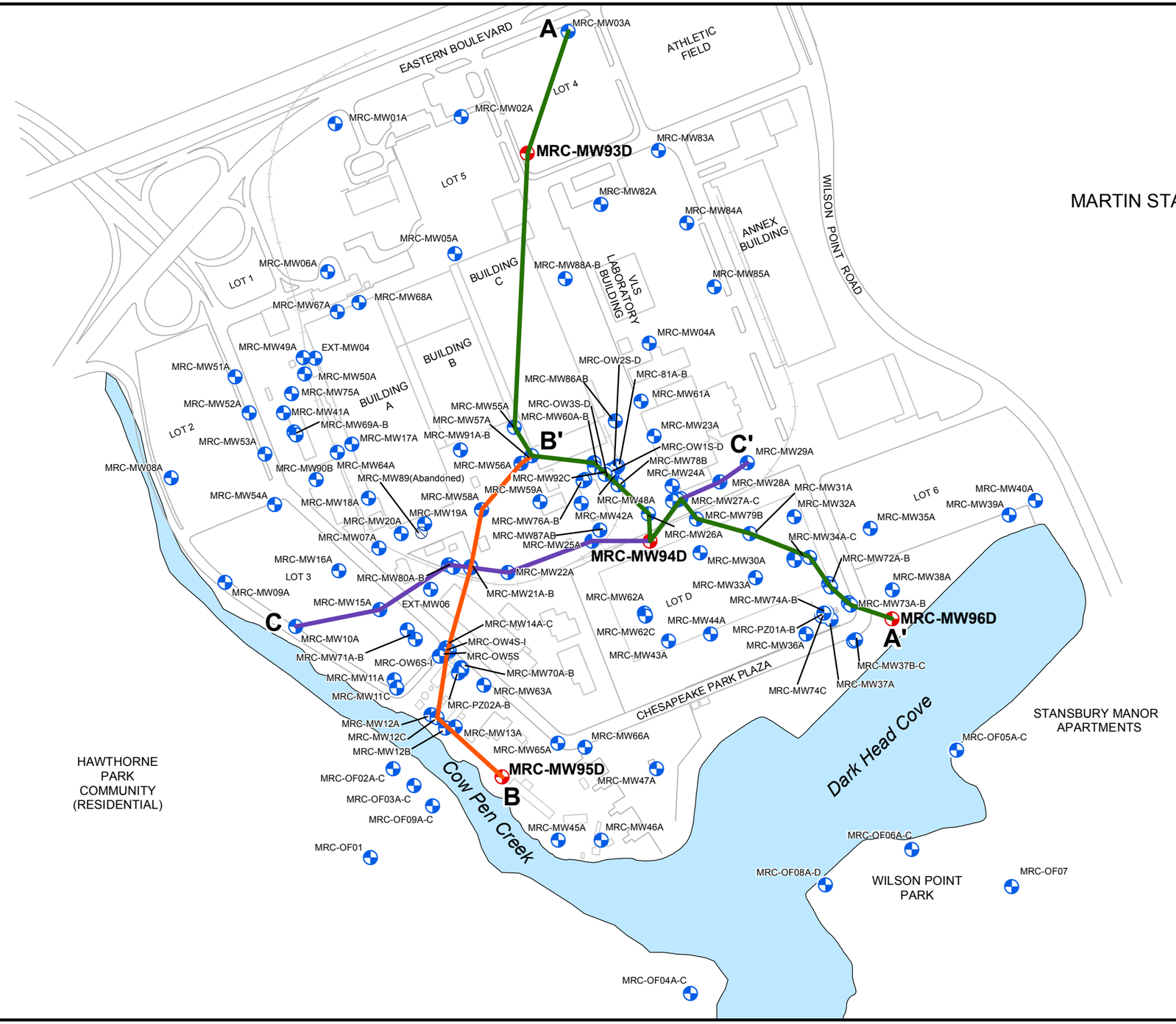
B - Laboratory blank contamination.

J - Positive result is considered estimated as a result of technical noncompliance.

k - Positive result is considered to be biased high as a result of technical noncompliance.

Grey shaded concentrations exceed criteria.

ug/l - micrograms per liter.



MARTIN STATE AIRPORT

FIGURE 4-1

GEOLOGIC CROSS-SECTION LOCATIONS

LEGEND

- GROUNDWATER MONITORING WELL
- DEEP GROUNDWATER MONITORING WELL
- TRANSECT
- SURFACE WATER

Lockheed Martin Middle River Complex
Middle River, Maryland

0 150 300 600 Feet

N

DATE MODIFIED: 8/17/10

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\middle_river\Maps\Geologic Cross Section Locations_Aug 2010.mxd)
8/17/2010 -- 11:12:29 AM

P:\GIS\MIDDLE_RIVER\MAPDOCS\MXD\CROSS_SECTION_AA_LITHOLOGY.MXD 9/3/10 KM

North

Southeast

A

A'

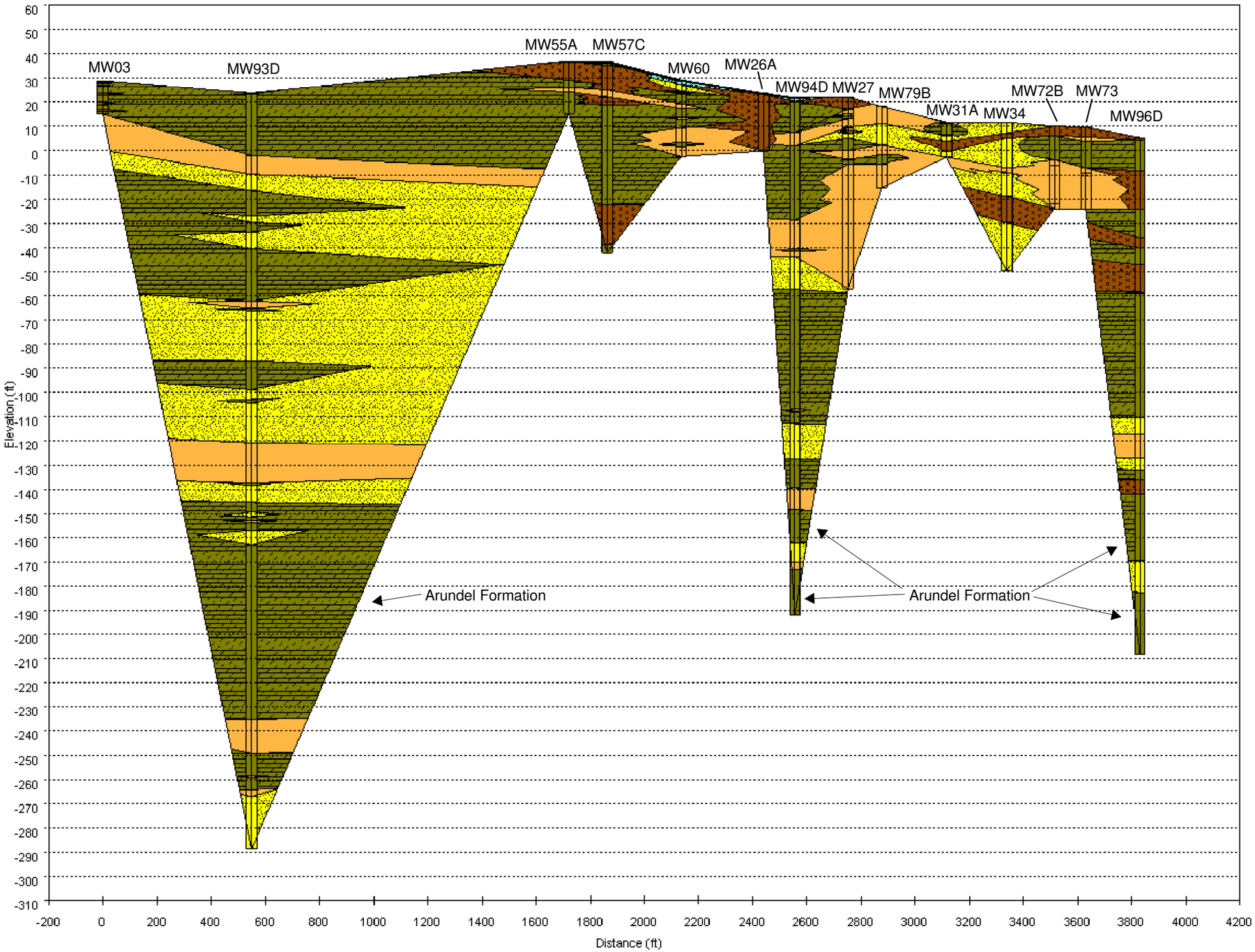


FIGURE 4-2

GEOLOGIC CROSS-SECTION A-A'

LEGEND

Materials
- GRAVEL
- SAND
- SILTY SAND & SANDY SILTY
- SILT & CLAYEY SILT
- CLAY & SILTY CLAY
- PEAT
- CONCRETE&ASPHALT

Lockheed Martin Middle River Complex
Middle River, Maryland

DATE MODIFIED:	CREATED BY:
9/7/10	K. MOORE

TETRA TECH

P:\GIS\MIDDLE_RIVER\MAPDOCS\MXD\CROSS_SECTION_BB_LITHOLOGY.MXD 9/2/10 KM

Southwest

North

B

B'

FIGURE 4-3

GEOLOGIC CROSS-SECTION B-B'

LEGEND

Materials
- GRAVEL
- SAND
- SILTY SAND & SANDY SILTY
- SILT & CLAYEY SILT
- CLAY & SILTY CLAY
- PEAT
- CONCRETE&ASPHALT

Lockheed Martin Middle River Complex
Middle River, Maryland

DATE MODIFIED:	CREATED BY:
9/7/10	K. MOORE

TETRA TECH

P:\GIS\MIDDLE_RIVER\MAPDOCS\MXD\CROSS_SECTION_CC_LITHOLOGY.MXD 9/3/10 KM

West
C

East
C'

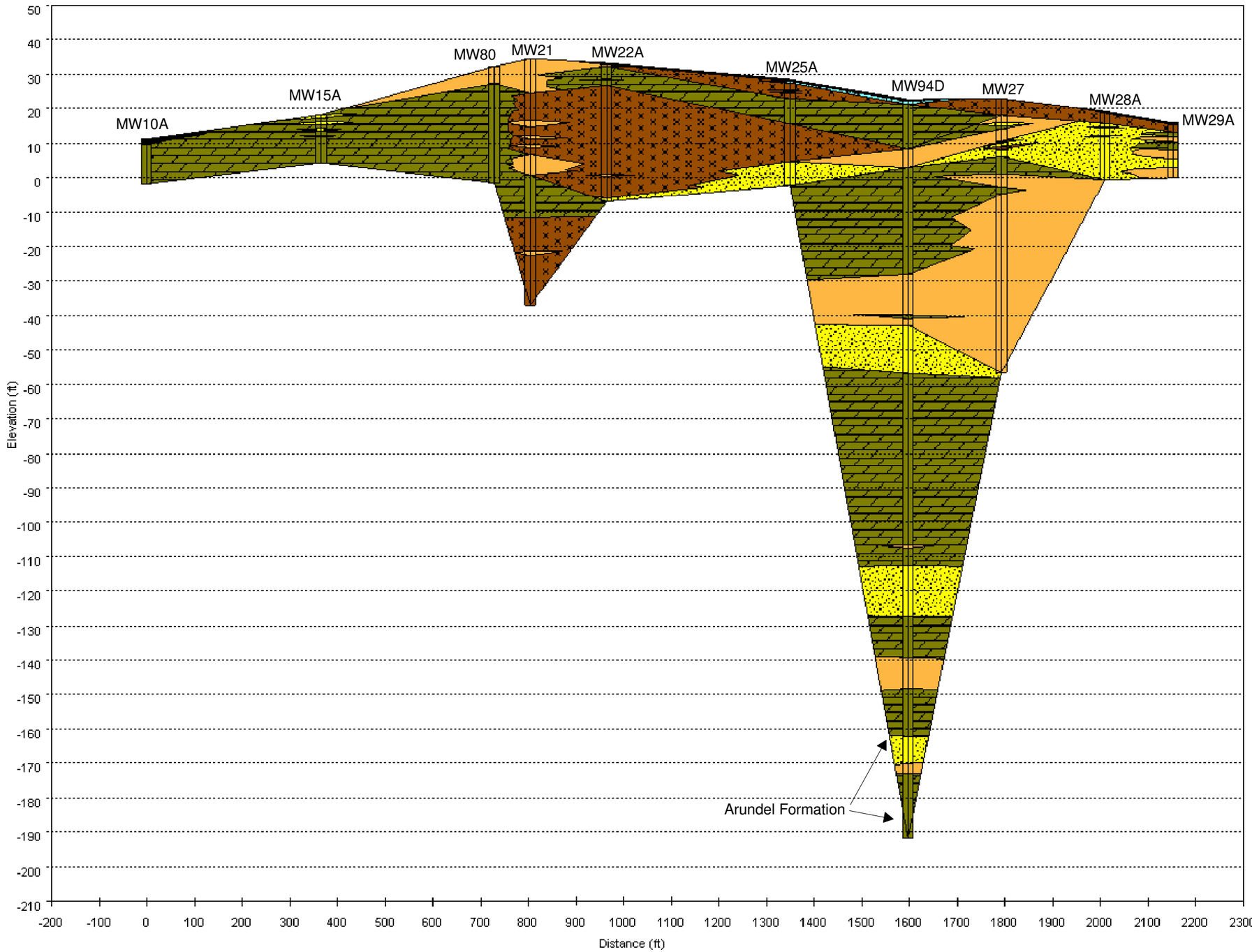


FIGURE 4-4

GEOLOGIC CROSS-SECTION C-C'

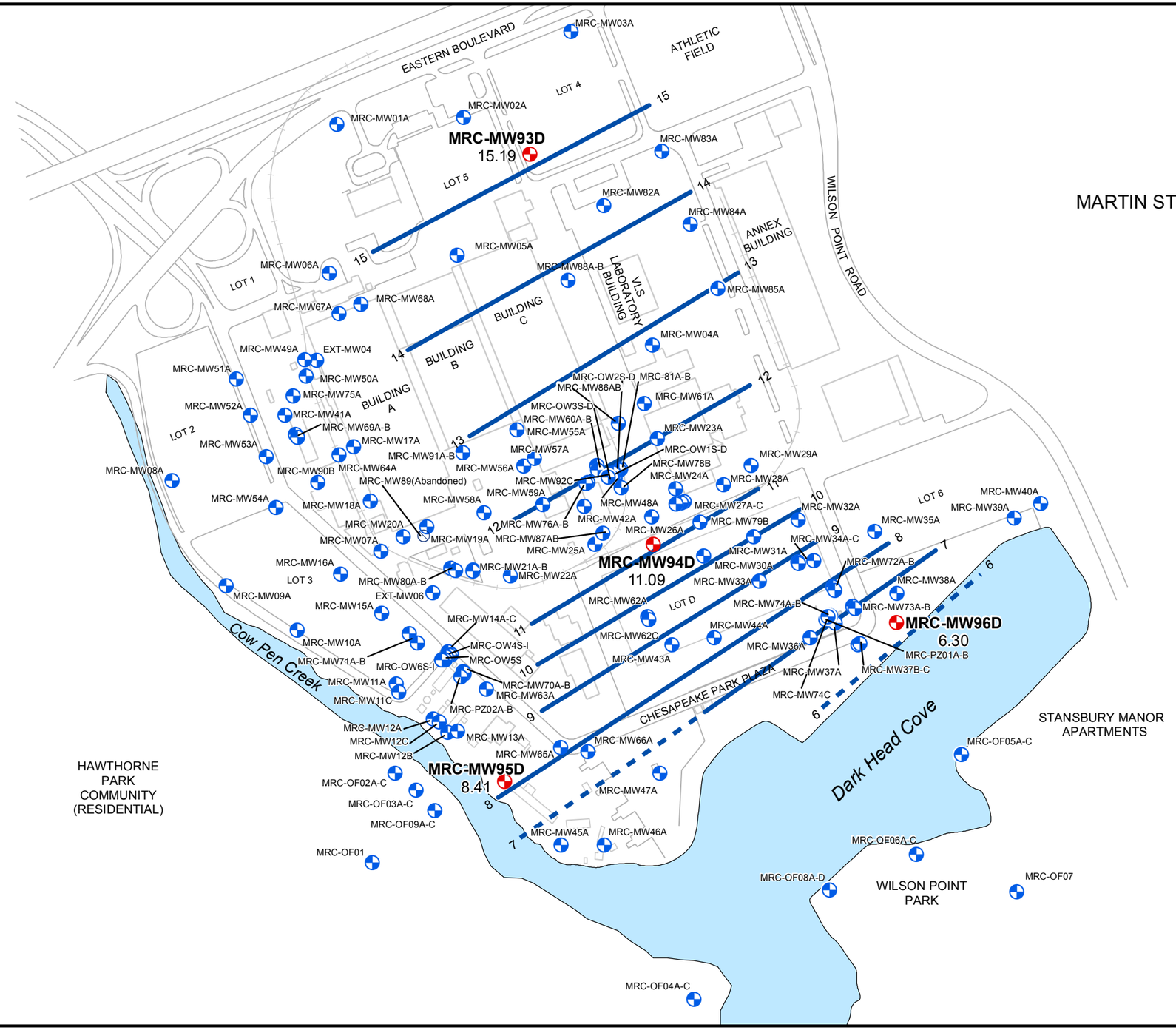
LEGEND

Materials
- GRAVEL
- SAND
- SILTY SAND & SANDY SILTY
- SILT & CLAYEY SILT
- CLAY & SILTY CLAY
- PEAT
- CONCRETE&ASPHALT

Lockheed Martin Middle River Complex
Middle River, Maryland

DATE MODIFIED:	CREATED BY:
9/7/10	K. MOORE

TETRA TECH



MARTIN STATE AIRPORT

FIGURE 4-5

GROUNDWATER ELEVATION CONTOUR MAP - DEEP CONFINED AQUIFER WELLS, JUNE 2010

LEGEND

- GROUNDWATER MONITORING WELL
- DEEP GROUNDWATER MONITORING WELL
- SURFACE WATER
- GROUNDWATER ELEVATION CONTOUR CONTOUR INTERVAL = 1 FOOT
- INFERRED
- 8.41 GROUNDWATER ELEVATION FEET, MEAN SEA LEVEL

Groundwater Level Data From June 28, 2010

Lockheed Martin Middle River Complex
Middle River, Maryland

0 150 300 600 Feet

N

DATE MODIFIED: 7/6/10

CREATED BY: BJ

TETRA TECH

Map Document: (K:\GProject\middle_river\Maps\Middle River Groundwater Monitoring Locs Jul2010 Fig 3-2.mxd)
7/6/2010 – 3:20:41 PM

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Section 5
Summary and Conclusions

The following summarizes the scope of the MRC deep groundwater investigation:

- Four deep soil borings were advanced to depths ranging from 216 to 316 feet below grade using the rotasonic drilling method. Soil was continuously cored at each borehole to record lithologic descriptions. Four clay soil samples and five sand samples from the deep borings were collected and submitted to a laboratory for geotechnical analyses.

- Groundwater samples were collected from the boreholes during the drilling of wells MW94D through MW96D at depths ranging from 63 to 76 feet below grade to screen for the presence of VOCs at the (C) level being monitored in the surficial aquifer at the MRC.

- Four two-inch inside diameter monitoring wells were installed to monitor groundwater levels and groundwater quality in the deep confined-aquifer beneath the lower surficial-aquifer and above the Arundel Formation. Well-bottom completion depths range from 189 to 214 feet below grade.

- Groundwater samples were collected from the newly installed wells on June 10–11, 2010 and analyzed for VOCs, SVOCs, 1,4-dioxane, and unfiltered and filtered metals.

The MRC deep groundwater investigation found:

- A series of alternating sand and silt aquifers and clay aquitards beneath the surficial aquifer. Lithologic data indicate the presence of clay up to 50 feet thick underlying the surficial aquifer at 15 to 60 feet below MSL at MW93D, and 60 to 110 feet below MSL at MW94D and MW96D.

- At the deepest boring drilled (to 316 feet below grade at MW93D), 73 feet of continuous clay were encountered, beginning at an elevation of 164 feet below MSL and ending at an elevation of approximately 237 feet below MSL. Directly overlying the clay is seven feet of sand followed by 11 feet of overlying clay and sand layers (clay thickness totaling eight feet), from 146 feet below MSL to 157 feet below MSL. Below the 73-feet thick clay layer is 14 feet of silty and clayey fine–sand, followed by 15 feet of clay from 251 to 266 feet below MSL.

- The total thickness of the deep clay and interlayer sand/silt (123 feet) is consistent with the Arundel Formation's 50 to 125 feet thickness for the area reported by Chapelle (1985) and Vroblesky and Fleck (1991). However, the basal altitude of the clay (266 feet below MSL) is somewhat lower than the altitude of 200 feet below MSL reported by Chapelle (1985) and Vroblesky and Fleck (1991).

- Permeability tests on the Arundel Formation clay at elevations ranging from 170 to 213 feet below MSL indicate low vertical-permeabilities of 2.1×10^{-08} to 8.2×10^{-08} centimeters per second.

- Groundwater in the deep aquifer (which is hydraulically confined above and below by thick clay layers) flows southeasterly from well MW93D (in the northern boundary of the MRC) towards well MW96D (to the south and adjacent to Dark Head Cove). Groundwater quality in the lower confined-aquifer would be effectively monitored by downgradient wells MW94D, MW95D, and MW96D. Groundwater elevations for these wells indicate that horizontal hydraulic-gradients in the deep confined-aquifer range from 0.0024 to 0.0058 feet per feet.

- Chlorinated VOCs and VOC-degradation products detected in surficial-aquifer groundwater at the MRC were not detected in the borehole groundwater-samples collected at (C)-level depths during drilling. VOCs detected in the borehole groundwater-samples are common laboratory contaminants, or are constituents of potable water used during borehole drilling. Concentrations of the VOCs detected are less than Maryland groundwater standards.

- Chlorinated VOCs, VOC-degradation products, and the SVOC 1,4-dioxane detected in surficial-aquifer groundwater at the MRC were not detected in the deep-well groundwater samples. VOCs and SVOCs detected in deep well samples are common laboratory contaminants or are constituents of potable water used during borehole drilling. Concentrations of the VOCs and SVOCs detected are less than Maryland groundwater standards.

- For well MW93D, unfiltered and filtered groundwater concentrations of seven metals (arsenic, beryllium, chromium, iron, lead, manganese, and vanadium) exceed state groundwater standards. For wells MW94D and MW95D, only concentrations of iron, manganese, and vanadium, and the unfiltered lead concentration for MW95D, exceed groundwater standards. All metal concentrations (filtered and unfiltered) for well MW96D are less than groundwater standards.

The MRC deep groundwater investigation reached the following conclusions:

- Two intervals of clay approximately 50 feet or more thick are below all or most of the surficial aquifer at the MRC. Extensive clay units preclude vertical migration of dissolved groundwater contamination.

- An upward gradient exists from the surface water at the adjacent Dark Head Cove, to the shallow wells at MRC, to the deep wells screened above the Arundel Formation. Upward vertical gradients will serve to preclude downward vertical migration of dissolved groundwater contamination.

- Groundwater samples from the four wells screened at the top of the Arundel Formation do not exhibit the chemicals of concern present in shallow groundwater at the MRC. The absence of these chemicals indicates that site-related contamination has not reached the base of the Patapsco Formation and the top of the Arundel Formation at MRC. Because

site-related contaminants are not present at the top of the Arundel Formation they could not contaminate the deeper aquifers below the Arundel Formation.

- The additional study objective to characterize the Patuxent Formation is not necessary because the installation of wells at the top of the Arundel Formation conclusively determined that the MRC site has not contaminated deeper aquifers below the Arundel Formation.

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Section 6
References

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APPENDIX A—DIG PERMITS

LOCKHEED MARTIN

Dig Permit

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

Date	Project Manager
April 23, 2010	Steve Thompson/Tom Blackman (Lockheed Martin) Tony Apanavage/Dev Murali (Tetra Tech)

Building/Location

Middle River Complex

Purpose of excavation

Installation of four deep wells. The total depth of the proposed monitoring wells will range from 220 to 240 ft bgs. Drilling for well installation will be by rotosonic methods using the 6-inch by 7-inch drill rod/override casing set-up. No excavation is required.

Company/LM organization performing dig

Tetra Tech

Planned dig date	Duration	Start time
April 26, 2010	3 weeks	0730
Expected depth	**Width**	**Length**
Up to 240 feet bgs	7 inches	N/A

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

Site-specific or customer utility locating requirements completed?

☒ Yes ☐ No ☐ N/A

Sketch of dig project (or attach drawing)

See Attached

A private utility locating contractor (Enviroscan) was used to mark subsurface utilities. All utilities in the vicinity of the drilled locations within a radius of 50 feet has been cleared for subsurface utilities and clearly marked with relevant colors to identify the type of utilities. A letter indicating clearing of these locations by Enviroscan is enclosed. A figure showing the monitoring well locations (MW 93D, MW94D, MW95D and MW96D) is also enclosed. A rotasonic drill rig will be used to advance the borings.

The field mobilization will occur on April 26, 2010 and drilling will begin on April 27, 2010 at MW93D. The working area surrounding the drilling location will be barricaded for public access/parking with 100 feet of the well location on April 26, 2010 evening.

Miss Utility was called in to check the locations for utilities. Miss Utility issued three tickets for the job. They are Ticket # 10167425, 10167431, and 10167438. The Miss Utility Check status was received and indicated no conflict with the well locations. The ticket status reports are enclosed.

Project Manager	Date	Customer	Date
Tony Apanavage	April 23, 2010		
Telecommunications	Date	Customer	Date
ESH	Date	Customer	Date
Building/Facility Manager			Date
Steve Thompson			4/23/2010

Form EO-28-1 (January 26, 2009)

Kolberg, Fred

From: TicketCheck@managetickets.com
Sent: Tuesday, April 20, 2010 1:40 PM
To: Brenner, Samantha
Subject: Ticket Check Status for MD Ticket 10167425

Ticket Number: **10167425**
Location: 2323 EASTERN BLVD MIDDLE RIVER, MD

As of **04/20/2010 13:39:45**, participating facility owners have responded to Ticket Check as follows:

District Code	Status
AT&T TRANSMISSION	Clear/No conflict
BGE ELECTRIC-UTILIQUEST	Clear/No conflict
BGE GAS-UTILIQUEST	Clear/No conflict
BCTY DPW - OCCLS	Clear/No conflict
COMCAST - UTILIQUEST	Clear/No conflict
COMCAST- FIBER/UTILIQUEST	Clear/No conflict
MCI	Clear/No conflict
QWEST COMMUNICATIONS	Clear/No conflict
VERIZON - OCCLS	Clear/No conflict

To review this ticket in its entirety, visit Search and Status® on **www.managetickets.com**.
Please direct all questions and concerns to your one call center.

Kolberg, Fred

From: TicketCheck@managetickets.com
Sent: Tuesday, April 20, 2010 1:43 PM
To: Brenner, Samantha
Subject: Ticket Check Status for MD Ticket 10167431

Ticket Number: **10167431**
Location: 2323 EASTERN BLVD MIDDLE RIVER, MD

As of **04/20/2010 13:43:19**, participating facility owners have responded to Ticket Check as follows:

District Code	Status
AT&T TRANSMISSION	Clear/No conflict
BGE ELECTRIC-UTILIQUEST	Clear/No conflict
BGE GAS-UTILIQUEST	Clear/No conflict
BCTY DPW - OCCLS	Clear/No conflict
COMCAST - UTILIQUEST	Clear/No conflict
COMCAST- FIBER/UTILIQUEST	Clear/No conflict
MCI	Clear/No conflict
QWEST COMMUNICATIONS	Clear/No conflict
VERIZON - OCCLS	Clear/No conflict

To review this ticket in its entirety, visit Search and Status® on **www.managetickets.com**.
Please direct all questions and concerns to your one call center.

Kolberg, Fred

From: TicketCheck@managetickets.com
Sent: Tuesday, April 20, 2010 1:43 PM
To: Brenner, Samantha
Subject: Ticket Check Status for MD Ticket 10167438

Ticket Number: **10167438**
Location: 2323 EASTERN BLVD MIDDLE RIVER, MD

As of **04/20/2010 13:43:14**, participating facility owners have responded to Ticket Check as follows:

District Code	Status
AT&T TRANSMISSION	Clear/No conflict
BGE ELECTRIC-UTILIQUEST	Marked
BGE GAS-UTILIQUEST	Marked
BCTY DPW - OCCLS	Clear/No conflict
COMCAST - UTILIQUEST	Clear/No conflict
MCI	Clear/No conflict
QWEST COMMUNICATIONS	Clear/No conflict
VERIZON - OCCLS	Clear/No conflict

To review this ticket in its entirety, visit Search and Status® on **www.managetickets.com**.
Please direct all questions and concerns to your one call center.

APPENDIX B—GEOPHYSICAL SURVEY REPORT

Final Report
Geophysical Survey
Utility/Structure Clearance for 4 Proposed Drilling Locations
Deep Well Investigation
Middle River, MD
Enviroscan Project Number 041003

Prepared for: Tetra Tech NUS, Inc.
Prepared By: Enviroscan, Inc.
May 5, 2010

1051 Columbia Avenue ● Lancaster, PA 17603 ● 717.396.8922 ● Fax 717.396.8746 ● email@enviroscan.com ● www.enviroscan.com

ENVIROSCAN, INC.

May 5, 2010

Mr. Dev Murali
Tetra Tech NUS, Inc.
20251 Century Boulevard
Suite 200
Germantown, MD 20874-7114

RE: Geophysical Survey
Utility/Structure Clearance for 4 Proposed Drilling Locations
Deep Well Investigation
Middle River, MD
Enviroscan Project Number 041003

Dear Mr. Murali:

Pursuant to the specifications of our proposal, dated April 2, 2010, Enviroscan, Inc. conducted a subsurface utility survey at the above-referenced site on April 20, 2010. The purpose of the survey was to clear four proposed deep well locations.

Methods

The utility survey was completed using standard and/or routinely accepted practices of the geophysical industry and equipment representing the best available technology, including:

- a Radiodetection RD8000 Multi-Frequency pipe and cable tracer;
- a Radiodetection C.A.T. and Genny pipe and cable locator/tracer;
- a Fisher TW-6 electromagnetic (EM) pipe and cable locator/tracer;
- a GSSI SIR-2000 ground penetrating radar (GPR) system.

The principles of these techniques are detailed below.

RD8000

Utility tracing was conducted using a Radiodetection RD8000 digital cable and pipe tracer. The transmitter can be directly coupled to exposed portions of a metallic pipe, cable, or wire or indirectly (inductively) to a subsurface metallic utility of known location/orientation. The transmitter remains stationary and energizes the metallic utility at a frequency selected by the operator (512 Hz, 8 kHz, 33 kHz, or 65 kHz), which is received at the ground surface by the digital locator. When the transmitter is directly coupled to the metallic utility, the digital receiver can also calculate the depth of the utility to an accuracy of ±10% of the actual depth of the utility. Please note the close proximity to bends in the traced line or poor signal strength can result in erroneous depth estimations.

C.A.T. and Genny

The survey areas were also scanned with a Radiodetection C.A.T. and Genny pipe and cable locator and tracer. In Power mode, the C.A.T. detects the 50 to 60 Hertz (Hz) electromagnetic field generated by live power cables and other metallic utilities to which a live line is grounded. In Radio mode, the C.A.T. detects buried conductors (cables or metallic pipes) as they conduct and re-transmit commercial broadcast radio energy. In Genny mode, the C.A.T. detects signal generated by the Genny transmitter. The Genny transmitter can be coupled directly (conductively) to exposed portions of a metallic pipe, cable, or wire or inductively to a subsurface metallic utility with known location and orientation.

TW-6

In order to detect unknown utilities, Enviroscan employed a Fisher TW-6 pipe and cable locator and tracer. In pipe and cable search mode, the TW-6 is essentially a deep-sensing metal detector that detects any highly electrically conductive materials (e.g. metals) by creating an electromagnetic field with a transmitting coil. A receiving coil at a fixed separation from the transmitter measures the field strength. As the instrument is swept along the ground surface, subsurface metallic bodies distort the transmitted field. The change in field strength/orientation is sensed by the receiver, setting off an audible alarm and/or causing deflection of an analog meter. The TW-6 can nominally detect a 2-inch metal pipe to a depth of 8 feet and a 10-inch metal pipe to a depth of 14 feet.

In pipe and cable tracing mode, the TW-6 transmitter can be coupled directly (conductively) to exposed portions of a metallic pipe, cable, or wire or inductively to a subsurface metallic utility with known location and orientation. The transmitter remains stationary and energizes or excites the metallic utility to be traced with an 81.92-kilohertz signal that can be traced at the ground surface using the mobile TW-6 receiver wand or probe.

GPR

GPR systems produce cross-sectional images of subsurface features and layers by continuously emitting pulses of radar-frequency energy from a scanning antenna as it is towed along a survey profile. The radar pulses are reflected by interfaces between materials with differing dielectric properties. The reflections return to the antenna and are displayed on a video monitor as a continuous cross section in real time. Since the electrical properties of metal are distinctly different from soil and backfill materials, metallic pipes and other structures commonly produce dramatic and characteristic reflections. Fiberglass, plastic, concrete, and terra-cotta pipes and structures also produce recognizable, but less dramatic reflections. Scanning was performed using a GSSI SIR-2000 GPR controller with an internal hard drive and a color display, and both a high-frequency, high-resolution 500 megaHertz (MHz) antenna or transducer, and a lower frequency deep-penetrating 200 MHz transducer.

Results Summary

The utility clearance survey results are represented in the accompanying field maps. The field maps show the borings with relevant nearby utilities. MW-93D and MW-94D both had utilities nearby. MW-95D and MW-96D were clear of utilities. The locations of the wells after utility clearance are as follows, in Maryland State Plane Grid NAD83 Datum:

MW-93D	1472930	607263.1
MW-94D	1473453	605608
MW-95D	1472821	604598.3
MW-96D	1474495	605265.3

Limitations

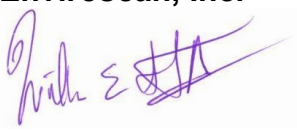
The above-referenced geophysical survey was completed using standard and/or routinely accepted practices of the geophysical industry and equipment representing the best available technology. Enviroscan does not accept responsibility for survey limitations due to inherent technological limitations or unforeseen site-specific conditions. However, we make every effort to identify and notify the client of such limitations or conditions. In particular, please note the following specific limitations and recommendations:

- Enviroscan's field markings should be considered accurate to within approximately +/-18 inches for single lines. In contrast, since electromagnetic tracing of duct banks provides only a centerline, the bank itself may extend for 2 to 3 feet beyond the marked trace.

- The completion of this survey does not relieve any party of applicable legal obligations to notify the appropriate One-Call center prior to digging or drilling.

We appreciate this opportunity to have worked with you. If you have any questions, please do not hesitate to contact me.

Sincerely,
Enviroscan, Inc.



William E. Steinhart III, M.Sc., P.G.
Principal Geophysicist

Technical Review By:
Enviroscan, Inc.

Felicia Kegel Bechtel, M.Sc., P.G.
President

enc.: Field Notes

Project No.: [redacted] 041003	**Project Name: Middle River Complex**
Location: MW-93D	**Client: Tetra Tech**
Date:	**Time:**

ENVIROSCAN, INC.

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Lancaster, PA 17603
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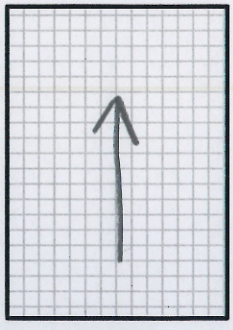
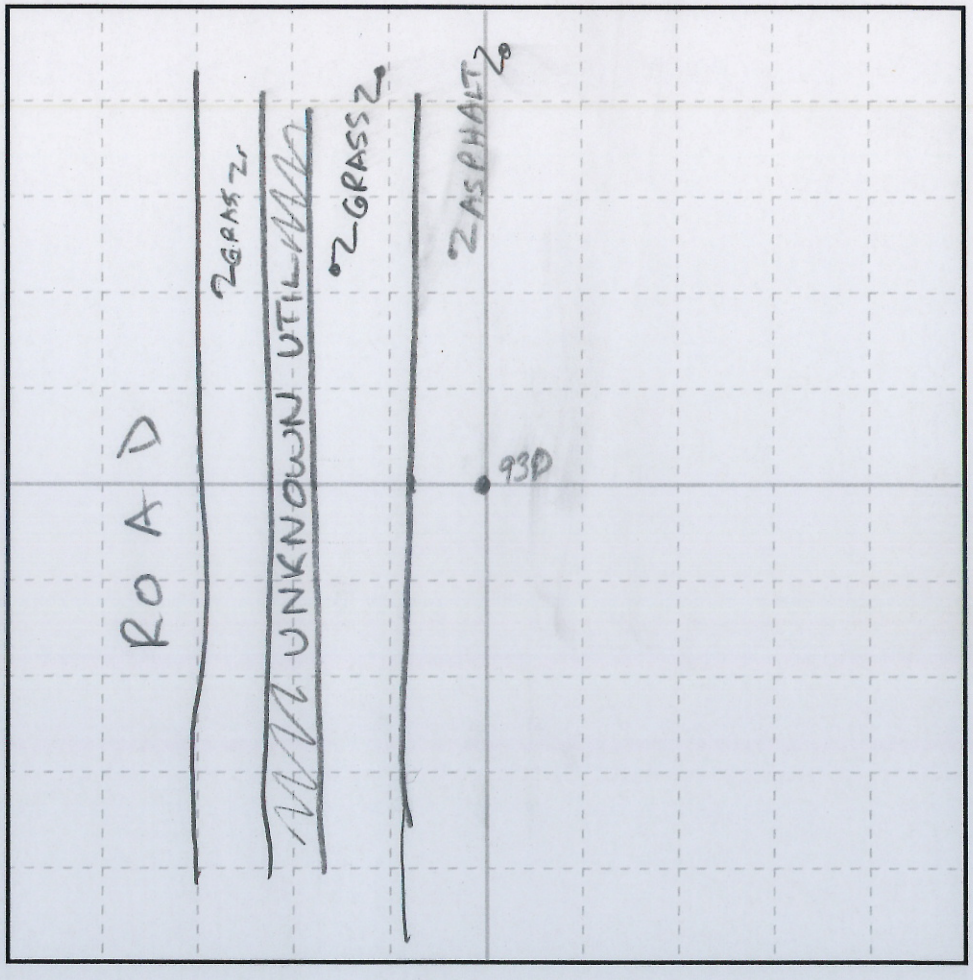
email@enviroscan.com
www.enviroscan.com

GPR.: SIR 2000/ SIR 2	Antenna: 500	Approx. Depth: 1-2'
	Range: 40	File No.: —
TW-6:	Setting: 7	
C.A.T.:	Setting: (P) R G	Color:
FX-3/Schonstedt:	Setting: —	
Active Line Trace:	RD4000/RD8000/TW-6 —	

Page __ of __



North



Scale 1 Block = 10 ft

Notes:

GPR ineffective due to clay rich soils

1 TW-6 anomaly - unknown

Project No.: [redacted] 041003	**Project Name: Middle River Complex**	
Location: mw. 94D	**Client: Tetra Tech**	
Date: 4/26	**Time:**	

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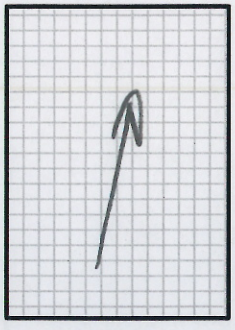
GPR.: SIR 2000/ SIR 2	Antenna: 500	Approx. Depth: 3-5'
	Range:	File No.:
TW-6:	Setting: 7	
C.A.T.:	Setting: (P) R G	Color:
FX-3/Schonstedt:	Setting: —	
Active Line Trace:	RD4000/RD8000/TW-6 —	



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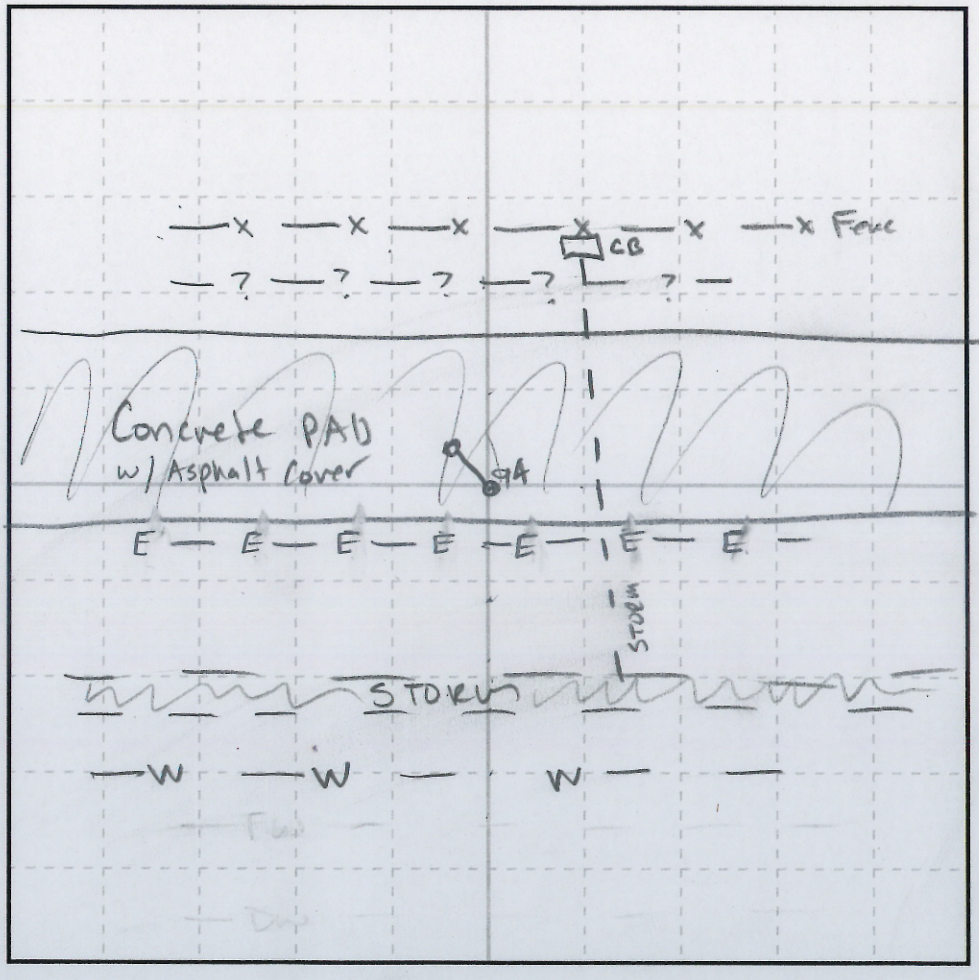

Scale 1 Block = 10 ft

Notes:

GPR/TW-6 ineffective on concrete Pad
1 Electric Line - CAT (P)
1 unknown utils CAT (P)
1 STORM line - GPR/TW-6 (in grass)
2 water lines - Previous Survey CAT (P)
☆ Location Moved

Project No.: [redacted] 041003	**Project Name: Middle River Complex**
Location: MW-95D	**Client: Tetra Tech**
Date: 4/16	**Time:**

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GPR.: SIR 2000/ SIR 2	Antenna: 900	Approx. Depth: 3-5
	Range: 45 NS	File No.:
TW-6:	Setting: 7	
C.A.T.:	Setting: (P) R G	Color:
FX-3/Schonstedt:	Setting:	
Active Line Trace:	RD4000/RD8000/TW-6	

Page __ of __

North

CLEAR

Scale 1 Block = _____ft

Notes:

CLEAR

Project No.: [redacted] 041003	**Project Name: Middle River Complex**
Location: MW-96D	**Client: Tetra Tech**
Date:	**Time:**

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www.enviroscan.com

GPR.: SIR 2000/ SIR 2	Antenna: 500	Approx. Depth: 2-3
	Range: 90	File No.:
TW-6:	Setting: 7	
C.A.T.:	Setting: P R G	Color:
FX-3/Schonstedt:	Setting: —	
Active Line Trace:	RD4000/RD8000/TW-6	—

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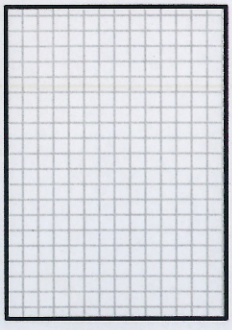
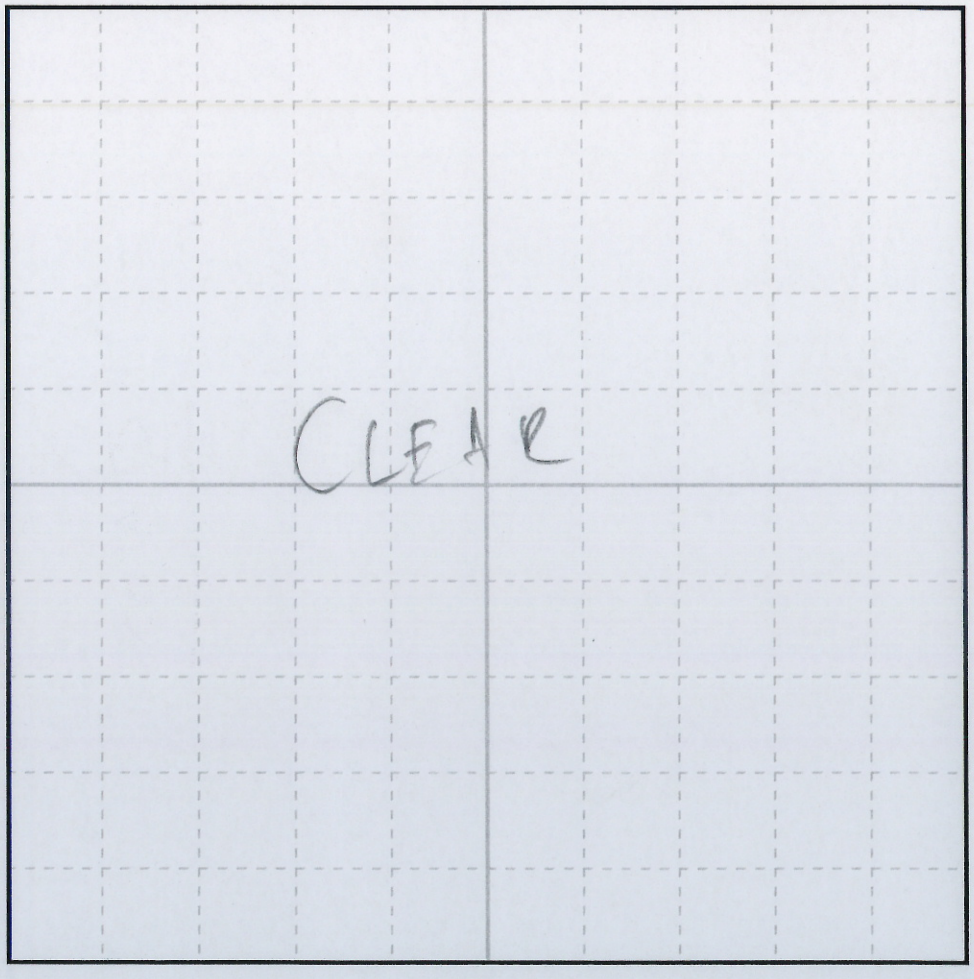


North



Scale 1 Block = _____ft

Notes:

CLEAR

APPENDIX C—SOIL BORING AND WELL CONSTRUCTION LOGS

PROJECT:	DEEP GROUNDWATER INVESTIGATION LOCKHEED MARTIN, MIDDLE RIVER COMPLEX	JOB NO. 112IC02720	WELL NUMBER MW-93D	CLIENT: LOCKHEED MARTIN CORP, BETHESDA, MARYLAND
		DRILLING METHOD:	ROTOSONIC 7 INCH DIA. BY 10-FOOT STEEL RODS; SONIC BUTTON BIT	
LOCATION:	MIDDLE RIVER COMPLEX 2323 EASTERN BLVD MIDDLE RIVER, MARYLAND	COMPANY:	BOART LONGYEAR	
		OPERATOR:	BRIAN HUNSBERGER	
		SAMPLING METHOD:	CONTINUOUS 4-INCH BY 10-FOOT STEEL SONIC CORE	
WELL SCREEN:	JOHNSON 10 SLOT (0.01-INCH) 304 STAINLESS STEEL AT 179' - 189'			
RISER:	SCHEDULE 80 THREADED SOLID PVC CASING	LOGGED BY:	FRED KOLBERG	DRILLING
FILTER PACK:	TYPE I SILICA SAND	BORING DEPTH:	316 FEET	START DATE: 4/27/2010 — FINISH DATE: 5/3/2010
SEAL:	MEDIUM BENTONITE CHIPS	DATUM:		
GROUT:	CEMENT/BENTONITE SLURRY GROUT	PERMIT NO.		

	DEPTH (ft)	SAMPLE INTERVAL	RECOVERY (INCHES)	Shelby Tube Collection Location	MOISTURE CONTENT	PID READING (ppm)	SURFACE CONDITIONS: Asphalt parking lot Material Description	USCS	WELL INSTALLATION
MW-93D		0-6				0.6	SAND: fine grained sand with some silt, loose, dark brown to black	SM	GROUT / BENTONITE / SANDPACK
	2				Dry	0.6	CLAY: clay with some silt/very fine sand, variegated light gray 5YR7/1, yellow red 5YR5/6, grades to reddish yellow 7.5YR6/6	CL	
	4				Moist	0.6	CLAY: clay as above increasing fine sand, stiff, dark brown 7.5YR3/3		
	6	6-16			Dry	0.6	CLAY: clay with trace silt/ very fine sand, very stiff, variegated gray, red, yellow, as above		
	8								
	10								
	12								
	14								
	16	16-26			Moist	0.6	CLAY: clay with some very fine sand, soft, dark brown 7.5YR3/3, reddish yellow 7.5YR 6/8		
	18								
	20								
	22								
	24								
	26	26-36				0.7	SAND: very fine to fine sand with much clay. Clayey sand, poorly graded, medium dense, variegated, brownish yellow, yellowish red, strong brown	SC	
	28								
	30								
	32					0.7	SAND: very fine -fine sand, as above but yellow, poorly graded, medium dense, yellow 10YR7/6	SM	
	34				Wet	0.6	SAND: fine grained sand with trace fines, poorly graded, very loose, very pale brown 10YR7/3	SP	
	36	36-46							
	38								
	40								
	42				Dry	0.6	CLAY: clay with little or no silt/ or very fine grained sand, very stiff to hard, light reddish brown 5YR6/4, light reddish brown 2.5YR6/4, light gray	CL	
	44								
	46	46-56							
	48								
	50								
	52				Wet	0.9	SAND: fine sand with some fines, poorly graded, loose, pink 7.5YR8/3	SP	
	54								
	56	56-66			Dry	0.6	CLAY: clay, no sand/silt, very stiff, light reddish brown, light gray	CL	
	58								
	60								
	62				Moist	0.6	SAND: fine - medium grained sand with gravels present, graded or bimodal, quartz gravels up to 2 inch diameter, rounded, loose, pinkish-white 7.5YR8/2, 60-65 (ft) is very pale brown 10YR8/3	SW/ SP	
	64								

PROJECT:	DEEP GROUNDWATER INVESTIGATION LOCKHEED MARTIN, MIDDLE RIVER COMPLEX	JOB NO. 112IC02720	WELL NUMBER MW-93D
		CLIENT: LOCKHEED MARTIN CORP, BETHESDA, MARYLAND	
		DRILLING METHOD: ROTOSONIC 7 INCH DIA. BY 10-FOOT STEEL RODS; SONIC BUTTON BIT	
LOCATION:	MIDDLE RIVER COMPLEX 2323 EASTERN BLVD MIDDLE RIVER, MARYLAND	COMPANY: BOART LONGYEAR	
		OPERATOR: BRIAN HUNSBERGER	
		SAMPLING METHOD: CONTINUOUS 4-INCH BY 10-FOOT STEEL SONIC CORE	
WELL SCREEN:	JOHNSON 10 SLOT (0.01-INCH) 304 STAINLESS STEEL AT 179' - 189'		
RISER:	SCHEDULE 80 THREADED SOLID PVC CASING	LOGGED BY: FRED KOLBERG	DRILLING
FILTER PACK:	TYPE I SILICA SAND	BORING DEPTH: 316 FEET	START DATE: 4/27/2010 / FINISH DATE: 5/3/2010
SEAL:	MEDIUM BENTONITE CHIPS	DATUM:	
GROUT:	CEMENT/BENTONITE SLURRY GROUT	PERMIT NO.	

	DEPTH (ft)	SAMPLE INTERVAL	RECOVERY (INCHES)	Shelby Tube Collection Location	MOISTURE CONTENT	PID READING (ppm)	SURFACE CONDITIONS: Asphalt parking lot Material Description	USCS	WELL INSTALLATION
MW-93D	66	66-76			Dry	0.6	CLAY: clay with no silt/sand, hard, variegated red 10YR4/6, white 10YR8/1	CL	GROUT
	68								BENTONITE
	70								SANDPACK
	72								
	74								
	76	76-86							
	78								
	80								
	82								
	84								
	86	86-96							
	88					0.6	SAND: very fine- fine grained sand with much fines, clayey sand, sandy clay, poorly graded, medium stiff, white 5YR8/1	SM/ SC	
	90					0.6	CLAY: clay with no silt/sand, hard, variegated red 10YR4/6, white 10YR8/1	CL	
	92				Wet	0.6	SAND: very fine - fine grained sand with some fines, poorly graded, medium dense, wet at 96 feet, white 5YR8/1	SP/ SM	
	94								
	96	96-106							
	98								
	100								
	102								
	104								
	106	106-116				0.6	SAND: fine- medium grained sand with little/ no fines, poorly graded, slightly coarser sand at 109-112 feet, loose, white 5YR8/1, pinkish white 5YR8/2 (109-112 feet)	SP	
	108								
	110								
	112				Moist to Wet	0.6	CLAY: clay with some very fine grained sand/silt, sandy clay, very stiff to hard, white 5YR8/1	CL	
	114								
	116	116-126				0.6	CLAY: clay with some very fine grained sand/silt, sandy clay, very hard, white 5YR8/1		
	118								
	120								
	122								
	124								
	126				Wet	0.6	SAND: fine grained sand with little or no fines, poorly graded, loose, white 5YR8/1 and pinkish-white 5YR8/2	SP	
	128					0.6	SAND: fine grained sand with some fines, poorly graded, loose, white 5YR8/1		
	130				Dry	0.6	CLAY: clay with fine grained sand, sandy clay, very stiff, white 5YR8/1	CL	
							SAND: fine grained sand with little or no fines, poorly graded, loose, white 5YR8/1		

PROJECT:	DEEP GROUNDWATER INVESTIGATION LOCKHEED MARTIN, MIDDLE RIVER COMPLEX	JOB NO. 112IC02720	WELL NUMBER MW-93D	CLIENT: LOCKHEED MARTIN CORP, BETHESDA, MARYLAND	
		DRILLING METHOD:	ROTOSONIC 7 INCH DIA. BY 10-FOOT STEEL RODS; SONIC BUTTON BIT		
LOCATION:	MIDDLE RIVER COMPLEX 2323 EASTERN BLVD MIDDLE RIVER, MARYLAND	COMPANY:	BOART LONGYEAR		
		OPERATOR:	BRIAN HUNSBERGER		
		SAMPLING METHOD:	CONTINUOUS 4-INCH BY 10-FOOT STEEL SONIC CORE		
WELL SCREEN:	JOHNSON 10 SLOT (0.01-INCH) 304 STAINLESS STEEL AT 179' - 189'				
RISER:	SCHEDULE 80 THREADED SOLID PVC CASING	LOGGED BY:	FRED KOLBERG	DRILLING	
FILTER PACK:	TYPE I SILICA SAND	BORING DEPTH:	316 FEET	START DATE	FINISH DATE
SEAL:	MEDIUM BENTONITE CHIPS	DATUM:		4/27/2010	5/3/2010
GROUT:	CEMENT/BENTONITE SLURRY GROUT	PERMIT NO.			

	DEPTH (ft)	SAMPLE INTERVAL	RECOVERY (INCHES)	Shelby Tube Collection Location	MOISTURE CONTENT	PID READING (ppm)	SURFACE CONDITIONS: Asphalt parking lot Material Description	USCS	WELL INSTALLATION
MW-93D	132	126-136				0.6			GROUT
	134								BENTONITE
	136						SAND: fine grained sand with little or no fines, poorly graded, loose, white 5YR8/1, mixed with pinkish-white 5YR8/2	SP	SANDPACK
	138	136-146				0.6			
	140								
	142								
	144								
	146				Wet		SAND: fine-medium grained sand with some fines, poorly graded, medium dense, 7.5YR7/2, 2 feet of 2.5YR6/4 at 150-152 feet		
	148	146-156				0.6			
	150								
	152							SP/ SM	
	154								
	156						SAND: fine-medium grained sand with some fines, poorly graded, medium dense, pinkish-white 7.5YR8/2		
	158	156-166				0.9			
	160								
	162								
	164				Dry	0.7	CLAY: clay with trace fine grained sand/silt, very stiff, pinkish-white 7.5YR8/2	CL	
	166				Moist	0.7	SAND: fine grained sand with some fines, poorly graded, loose, pinkish-white 7.5YR8/2	SP	
	168					0.8	SAND: fine grained sand with increasing fines, poorly graded, loose, pinkish-white 7.5YR8/2		
	170	166-176							
	172				Dry	0.8	CLAY: clay with trace fine grained sand/silt, hard, pinkish-white 7.5YR8/2	CL	
	174								
	176				Moist	1.1	SAND: fine grained sand with little or no fines, poorly graded, loose, pinkish-white 7.5YR8/2	SP	
	178	176-186			Dry	1.1	CLAY: clay with fine grained sand, very stiff, pinkish-white 7.5YR8/2	CL	
	180				Moist		SAND: fine grained sand with little or no fines, poorly graded, loose, pinkish-white 7.5YR8/2	SP	
	182					0.6	CLAY: clay with fine grained sand, hard, variegated red 10R4/8, white	CL	
	184						SAND: fine grained sand with some fines, lenses of little to no fines, poorly graded, loose, medium dense (186-189 feet), white 5YR8/1, brownish-yellow 10YR6/8, light red 10R6/8 (185-186 feet), red 10YR4/8 (186-189 feet)		
	186					0.6		SP/ SM	
	188								
	190	186-196					CLAY: clay and silt, trace sand, extremely hard, variegated reddish-yellow7.5YR6/8, white 7.5YR8/1, red 10R4/8, all red 190-193 feet		
	192								
	194								
	196								

PROJECT:	DEEP GROUNDWATER INVESTIGATION LOCKHEED MARTIN, MIDDLE RIVER COMPLEX	JOB NO. 11IIC02720	WELL NUMBER MW-93D	CLIENT: LOCKHEED MARTIN CORP, BETHESDA, MARYLAND
		DRILLING METHOD:	ROTOSONIC 7 INCH DIA. BY 10-FOOT STEEL RODS; SONIC BUTTON BIT	
LOCATION:	MIDDLE RIVER COMPLEX 2323 EASTERN BLVD MIDDLE RIVER, MARYLAND	COMPANY:	BOART LONGYEAR	
		OPERATOR:	BRIAN HUNSBERGER	
		SAMPLING METHOD:	CONTINUOUS 4-INCH BY 10-FOOT STEEL SONIC CORE	

WELL SCREEN:	JOHNSON 10 SLOT (0.01-INCH) 304 STAINLESS STEEL AT 179' - 189'				
RISER:	SCHEDULE 80 THREADED SOLID PVC CASING	LOGGED BY:	FRED KOLBERG	DRILLING	
FILTER PACK:	TYPE I SILICA SAND	BORING DEPTH:	316 FEET	START DATE	FINISH DATE
SEAL:	MEDIUM BENTONITE CHIPS	DATUM:			
GROUT:	CEMENT/BENTONITE SLURRY GROUT	PERMIT NO.		4/27/2010	5/3/2010

	DEPTH (ft)	SAMPLE INTERVAL	RECOVERY (INCHES)	Shelby Tube Collection Location	MOISTURE CONTENT	PID READING (ppm)	SURFACE CONDITIONS: Asphalt parking lot Material Description	USCS	WELL INSTALLATION
MW-93D	198	196-206				0.6			GROUT / BENTONITE / SANDPACK
	200								
	202								
	204								
	206	206-216					CLAY: clay with no sand/silt, extremely hard, variegated red 10YR4/6, white 7.5YR8/1		
	208								
	210								
	212								
	214								
	216	216-226							
	218								
	220								
	222					0.6			
	224								
	226	226-236			Dry			CL	
	228								
	230								
	232								
	234								
	236	236-246							
	238					0.6	CLAY: clay with some silt/ very fine grained sand, extremely hard, variegated red 10YR4/6, white 7.5YR8/1		
	240					4.5			
	242					45.0			
	244					0.6	CLAY: clay with no sand/silt, extremely hard, Reddish yellow 7.5YR8/6 and light gray 7.5N7 (249-251 feet), light gray 7.5N7 to white 7.5YR8/1 (251-262 feet)		
	246	246-256				7.8			
	248								
	250								
	252								
	254					0.6			
	256								
	258								

PROJECT:	DEEP GROUNDWATER INVESTIGATION LOCKHEED MARTIN, MIDDLE RIVER COMPLEX	JOB NO. 112IC02720	WELL NUMBER MW-93D	CLIENT: LOCKHEED MARTIN CORP, BETHESDA, MARYLAND
		DRILLING METHOD:	ROTOSONIC 7 INCH DIA. BY 10-FOOT STEEL RODS; SONIC BUTTON BIT	
LOCATION:	MIDDLE RIVER COMPLEX 2323 EASTERN BLVD MIDDLE RIVER, MARYLAND	COMPANY:	BOART LONGYEAR	
		OPERATOR:	BRIAN HUNSBERGER	
		SAMPLING METHOD:	CONTINUOUS 4-INCH BY 10-FOOT STEEL SONIC CORE	

WELL SCREEN:	JOHNSON 10 SLOT (0.01-INCH) 304 STAINLESS STEEL AT 179' - 189'				
RISER:	SCHEDULE 80 THREADED SOLID PVC CASING	LOGGED BY:	FRED KOLBERG	DRILLING	
FILTER PACK:	TYPE I SILICA SAND	BORING DEPTH:	316 FEET	START DATE	FINISH DATE
SEAL:	MEDIUM BENTONITE CHIPS	DATUM:			
GROUT:	CEMENT/BENTONITE SLURRY GROUT	PERMIT NO.		4/27/2010	5/3/2010

	DEPTH (ft)	SAMPLE INTERVAL	RECOVERY (INCHES)	Shelby Tube Collection Location	MOISTURE CONTENT	PID READING (ppm)	SURFACE CONDITIONS: Asphalt parking lot Material Description	USCS	WELL INSTALLATION
MW-93D	260	256-266							GROUT
	262								BENTONITE
	264								SANDPACK
	266								
	268	266-276				.4,.5,.3	SAND: very fine-fine grained sand/silt with much fines, poorly graded, some clayey sand layers present, medium dense, white 5YR8/1	SM/ ML	
	270								
	272				Wet				
	274								
	276								
	278	276-286				0.3	CLAY: clay with trace silt, hard, light gray 7.5YRN7	CL	
	280								
	282								
	284								
	286				Moist	0.3	SAND: very fine grained sand and silt with some clay, sandy clay layers present, hard, variegated, reddish-brown 2.5YR5/4. light gray 7.5YRN/7, red 2.5YR4/8	SM/ ML	
	288	286-296				0.6	CLAY: clay with some fine grained sand, stiff, very pale brown 10YR8/3	CL	
	290								
	292					0.6	SAND: fine grained sand with much clay, clayey sand, stiff/medium dense, very pale brown 10YR8/3	SC	
	294								
	296					0.6	SAND: fine-medium grained sand with some fines, poorly graded, several 1 inch diameter ironstone present, loose, reddish-yellow 7.5YR7/6	SM	
	298	296-306				0.6	SAND: fine-medium grained sand with little or no fines, poorly graded, occasional .5 inch to 1.5 inch ironstone gravels present, loose, light reddish-brown 2.5YR6/4, yellow 10YR8/6 weak red 10R4/4, white 10YR8/1	SP	
	300				Dry				
	302								
	304								
	306								
	308	306-316				0.6	SAND: fine-medium grained sand with little or no fines, poorly graded, occasional .5 inch to 1.5 inch ironstone gravels present, loose, light reddish-brown 2.5YR6/4, yellow 10YR8/6 weak red 10R4/4, white 10YR8/1		
	310								
	312								
	314								
	316								

APPENDIX D—WELL DEVELOPMENT LOGS

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Site: Middle River Center
Well: MRC-MW 930
Date Installed: 5-4-10
Date Developed: 5-18-10
Dev. Method: Air
Pump Type: 1" PVC pipe

Depth to Bottom (ft.): 189
Static Water Level Before (ft.): 10.35
Static Water Level After (ft.): —
Screen Length (ft.): 10'
Specific Capacity: —
Casing ID (in.): 2" PVC

Project Name: Lockheed Martin
Project Number: 112ICO2720-0200.1
Site Geologist: Fred Kolberg / WALT PRYOR
Drilling Co.: Boart Longyear

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units µs/cm)	Turbidity (NTU)	Remarks (odor, color, etc.)
1536				14.63	9.66	0.818	>999	Brown, no odor
1541				14.85	8.91	0.339	>999	
1546				14.75	8.17	0.154	>999	
1551				14.46	7.70	0.051	>999	
1556				14.75	7.39	0.050	>999	
1601				14.76	6.95	0.046	>999	
1611				14.71	6.25	0.044	>999	
1621				14.16	6.41	0.039	>999	
1631				13.93	6.37	0.037	724	Cloudy water
1641				14.31	6.20	0.032	637	
1651				14.30	6.09	0.032	478	
1656		350 gallons		14.24	5.99	0.030	379	

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Site: Middle River Center
Well: MRC-MW 940
Date Installed: 5-7-10
Date Developed: 5-18-10
Dev. Method: Air
Pump Type: 1" PVC pipe

Depth to Bottom (ft.): 195.0
Static Water Level Before (ft.): 11.80
Static Water Level After (ft.): —
Screen Length (ft.): 10'
Specific Capacity: —
Casing ID (in.): 2" PVC

Project Name: Lockheed Martin
Project Number: 112IC02720 - 0200.1
Site Geologist: Fred Kolberg / WALT PRYOR
Drilling Co.: Bonet Long Year

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units mS/cm)	Turbidity (NTU)	Remarks (odor, color, etc.)
1331				15.42	5.94	0.407	>999	Brown, no odor
1336				15.39	6.54	0.130	>999	↓
1341				15.04	5.86	0.052	457	Cloudy water
1346				15.15	5.21	0.050	>999	
1351				15.17	5.11	0.039	229	
1356				15.00	5.41	0.033	360	
1401				15.00	5.95	0.032	257	
1406				15.05	5.99	0.033	343	
1416				14.75	5.91	0.029	101	
1421				14.88	5.91	0.028	135	
1426		↓		14.93	5.79	0.028	119	↓
1431		300 gallons		14.70	5.55	0.027	84.0	Slightly cloudy

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Site: Middle River Center
Well: MRC-MW 950
Date Installed: 5-12-10
Date Developed: 5-18-10
Dev. Method: Air
Pump Type: 1" PVC pipe

Depth to Bottom (ft.): 215.0
Static Water Level Before (ft.): 1.75
Static Water Level After (ft.): —
Screen Length (ft.): 10'
Specific Capacity: —
Casing ID (in.): 2" PVC

Project Name: Lakheed Martin
Project Number: 112IC02720-0200:1
Site Geologist: Fred Kolberg / WALT Pryor
Drilling Co.: Bonet Long Years

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units µS/cm)	Turbidity (NTU)	Remarks (odor, color, etc.)
1742				14.57	9.97	0.514	>999	Brown, no odor
1747				14.18	9.00	0.127	781	Cloudy water
1752				14.23	8.18	0.101	549	
1757				14.15	7.27	0.084	377	
1802				14.08	6.69	0.072	118	
1807				14.13	6.55	0.071	151	
1812				14.13	6.32	0.065	44	Slightly Cloudy
1817				13.97	6.25	0.056	32	
1822		250 gallons		13.84	6.17	0.056	30	

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Site: Middle River Center
Well: MRC-MW 96D
Date Installed: 5-18-10
Date Developed: 5-19-10
Dev. Method: Air
Pump Type: 1" PVC pipe

Depth to Bottom (ft.): 189.0
Static Water Level Before (ft.): Top of Pvc
Static Water Level After (ft.): 9.60
Screen Length (ft.): 10'
Specific Capacity: —
Casing ID (in.): 2"

Project Name: Lockheed Martin
Project Number: 112IC 02720 - 0200.1
Site Geologist: Fred Kabeng
Drilling Co.: Boret Longyear

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units µS/cm)	Turbidity (NTU)	Remarks (odor, color, etc.)
0755				16.09	5.95	0.469	> 999	Brown, no odor
0800				15.64	6.36	0.209	> 999	
0805				15.03	6.31	0.084	> 999	
0815				14.98	5.85	0.039	795	Cloudy Water
0825				14.72	5.67	0.032	348	
0835				14.80	5.81	0.030	364	
0845				14.76	5.85	0.028	284	
0850				14.72	5.89	0.026	210	
0855		300 gallons		14.80	5.90	0.025	157	

Tetra Tech NUS, Inc.

EQUIPMENT CALIBRATION LOG

PROJECT NAME : Lockheed Martin

INSTRUMENT NAME/MODEL: Horiba U-22

SITE NAME: Middle River

MANUFACTURER:

PROJECT No.: 112ICO2720-0200.1

SERIAL NUMBER: 9023014

Date of Calibration	Instrument I.D. Number	Person Performing Calibration	Instrument Settings		Instrument Readings		Calibration Standard (Lot No.)	Remarks and Comments
			Pre-calibration	Post-calibration	Pre-calibration	Post-calibration		
5-18-10	9023014	WEP	pH	4.00		4.00	P900175	Cal OK
			Cond	4.41		4.47		
			Turb	0.0		0.0		
			DO	6.37		6.51		
			Temp	18.57		18.48		
			Sal	0.2		0.2		
			Orp	258		253		
5-19-10	9023014	WEP	pH	4.00		4.00		
			Cond	4.29		4.49		
			Turb	3.9		0.0		
			DO	7.00		9.62		
			Temp	17.29		17.31		
			Sal	0.2		0.2		
			Orp	335		328		

APPENDIX E— WELL-PURGE RECORDS AND SAMPLING RECORD SHEETS

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Middle Risen Center
Project No.:

Sample ID No.: MRC-MW93D-061010
Sample Location: MW 93D
Sampled By: MP
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

SAMPLING DATA:

Date: 6-10-10	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Time: 1023								
Method: Whale pump	Cloudy	10.99	0.733	19.64	>999	0.00	0.1	-282

PURGE DATA:

Date: 6-10-10	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Whale pump								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material Type: 2" PVC			See Low Flow Purge					
Total Well Depth (TD):								
Static Water Level (WL): 9.40			Data Sheet					
One Casing Volume(gal/L):								
Start Purge (hrs): 0846								
End Purge (hrs): 1018								
Total Vol. Purged (gal/L): 10.5								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	3 - 40 ml VOA	✓
SVOCs	ICE	2 - 1L Ambers	✓
1,4 Dioxane	ICE	2 - 1L Ambers	✓
Total metals	HNO3	1 - 500 ml Poly	✓
Diss metals	HNO3	1 - 500 ml Poly	✓

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Middle River Center
Project No.:

[] Domestic Well Data
[x] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: MRC-MW 940-06/10
Sample Location: MW 940
Sampled By: MP
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 6-10-10	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Time: 1503								
Method: Whale pump	Cloudy	6.45	0.340	12.49	909	0.00	0.0	-68

PURGE DATA:

Date: 6-10-10	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: whale pump								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material Type: 2" PVC			See Low Flow purge Data Sheet					
Total Well Depth (TD):								
Static Water Level (WL): 11.45								
One Casing Volume(gal/L):								
Start Purge (hrs): 1326								
End Purge (hrs): 1458								
Total Purge Time (min): 92								
Total Vol. Purged (gal/L): 15.0								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	3 - 40 ml VOA	✓
SVOCs	ICE	2 - 1L Ambers	✓
1,4 Dioxane	ICE	2 - 1L Ambers	✓
Total metals	HNO3	1 - 500 ml Poly	✓
Diss metals	HNO3	1 - 500 ml Poly	✓

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Middle River Center
Project No.:

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: MRC-MW950-060110
Sample Location: MW950
Sampled By: WP
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 6-11-10	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Time: 0928								
Method: Whale pump	Cloudy	11.24	1.10	15.94	>999	0.00	0.1	-296

PURGE DATA:

Date: 6-11-10	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Whale pump								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material Type: 2" PVC			See	Low	Flow	Purge		
Total Well Depth (TD):				Data	Sheet			
Static Water Level (WL): 1.55								
One Casing Volume(gal/L):								
Start Purge (hrs): 0752								
End Purge (hrs): 0923								
Total Purge Time (min): 91								
Total Vol. Purged (gal/L): 8.0								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	3 - 40 ml vom	✓
SVOCs	ICE	2 - 1L Ambers	✓
1,4 Dioxane	ICE	2 - 1L Ambers	✓
Total metals	HNO3	1 - 500 ml Poly	✓
Diss metals	HNO3	1 - 500 ml Poly	✓

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: MRC
Project No.: 112IC0481D

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: MRC-MW96D-061110
Sample Location: MRC
Sampled By: DLM
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 6-11-10	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: 1245	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	ORP
Method: Low Flow	Clear	4.66	0.113	15.87	3.54	9.87	0.0	269

PURGE DATA:

Date: 6/11/10	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Low Flow								
Monitor Reading (ppm): N/A		See Low Flow						
Well Casing Diameter & Material								
Type: 2" PVC		Purge Data Sheet						
Total Well Depth (TD): 189								
Static Water Level (WL): 0.0'								
One Casing Volume(gal/L): 32.13 gal								
Start Purge (hrs): 1145								
End Purge (hrs): 1300								
Total Purge Time (min): 75								
Total Vol. Purged (gal/L): 6 gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOC	HCl	3-40mL glass viles	✓
SVOC	—	2-1L amber glass bottles	✓
1,4-Dioxane	—	2-1L amber glass bottles	✓
Total Metals	HNO3	1-500mL plastic bottle	✓
Dissolved Metals	—	1-500 mL plastic bottle	✓

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s):
No	No	[signature]

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Middle River Center
PROJECT NUMBER:

WELL ID.: MRC-MW 93D-061010
DATE: 6-10-10

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
0846	9.40	—	—	—	—	—	—	—	—	Initial, no odor
0848	10.50	700	11.69	2.31	>999	0.98	18.40	-43	0.1	Brown water
0853	9.70	300	11.62	2.13	>999	0.00	18.20	-108	0.1	
0858	9.70	300	11.34	1.84	>999	0.00	17.81	-171	0.1	
0908	9.70	300	11.00	1.28	>999	0.00	18.39	-217	0.1	
0918	9.70	300	10.96	2.27	>999	0.00	18.47	-241	0.1	
0928	9.70	300	11.00	2.27	>999	0.00	18.89	-253	0.1	
0938	9.70	300	11.12	1.85	>999	0.00	19.35	-267	0.1	
0948	9.70	300	11.18	1.96	>999	0.00	18.65	-271	0.1	
0958	9.70	300	11.01	1.02	>999	0.00	17.41	-271	0.1	
1008	9.70	300	10.59	0.731	>999	0.00	18.06	-274	0.1	
1013	9.70	300	10.94	0.735	>999	0.00	18.47	-279	0.1	
1018	9.70	300	10.89	0.733	>999	0.00	18.64	-282	0.1	
		Well parameters did not stabilize								
		after 90 min Sampling begin per work plan								

SIGNATURE(S): New

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Middle River Center
PROJECT NUMBER:

WELL ID.: MRC-MW94D-060610
DATE: 6-10-10

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1324	11.45	—	—	—	—	—	—	—	—	Initial, no odor
1328	11.80	700	9.57	0.222	>999	0.30	17.37	-96	0.0	Cloudy water
1333	11.60	300	8.87	0.498	>999	0.00	17.43	-96	0.0	
1338	11.55	300	8.31	0.972	>999	0.00	17.45	-88	0.0	
1348	11.60	300	7.41	2.13	>999	0.00	18.12	-76	0.1	
1358	11.55	300	7.15	1.67	>999	0.00	17.53	-71	0.1	
1408	11.60	300	6.91	0.824	>999	0.00	17.03	-66	0.1	
1418	11.60	300	6.73	0.561	>999	0.00	17.38	-65	0.0	
1428	11.60	300	6.62	0.481	980	0.00	17.28	-67	0.0	C
1438	11.60	300	6.55	0.436	940	0.00	17.20	-69	0.0	
1448	11.60	300	6.48	0.368	940	0.00	17.18	-69	0.0	
1453	11.60	300	6.46	0.360	920	0.00	17.16	-69	0.0	
1458	11.60	300	6.45	0.340	905	0.00	17.49	-68	0.0	
	← pH parameters did not stabilize after 90 min									
	← Sampling Begins per work plan →									

SIGNATURE(S): Nate

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Middle River Center
PROJECT NUMBER:

WELL ID.: MRC-MW 95D-061110
DATE: 6-11-10

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
0752	1.55	—	—	—	—	—	—	—	—	Initial, no odor
0753	1.65	700	11.02	2.06	60.6	5.92	16.13	-12	0.1	Slightly cloudy
0758	1.60	300	12.02	1.98	243	3.39	15.94	-82	0.1	Cloudy water
0803	1.55	300	12.04	2.89	684	3.59	16.66	-181	0.1	↓
0813	1.55	300	11.84	3.29	901	3.37	16.89	-241	0.2	↓
0823	1.55	300	11.75	3.12	>999	2.06	16.16	-251	0.2	cloudy water
0833	1.55	300	11.69	2.62	>999	1.74	16.58	-256	0.1	↓
0843	1.55	300	11.69	2.79	>999	0.98	15.08	-265	0.1	↓
0853	1.65	300	11.61	1.51	>999	0.19	15.76	-276	0.1	↓
0903	1.65	300	11.68	1.15	>999	0.11	15.81	-289	0.1	↓
0913	1.65	300	11.69	1.12	>999	0.00	15.87	-292	0.1	↓
0918	1.65	300	11.71	1.09	>999	0.00	15.86	-291	0.1	↓
0923	1.65	300	11.74	1.10	>999	0.00	15.94	-298	0.1	↓
		All parameters Stabilize								
		Sampling Begins								

SIGNATURE(S):

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: MRC
PROJECT NUMBER: 112IC07810
WELL ID.: MRC-MW96D-060110
DATE: 6/1/10

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1145	~~-0.33~~	300	—	—	—	—	—	—	—	W.L. is up to ground surface
1150	-0.33	300	9.05	0.037	29.7	6.06	15.94	140	0.0	
1155	-0.33	300	8.45	0.043	12.6	5.65	15.86	165	0.0	
1200	-0.33	300	7.27	0.058	9.0	5.06	15.86	199	0.0	
1205	-0.33	300	6.59	0.067	8.28	5.05	16.02	218	0.0	
1210	-0.33	300	6.17	0.086	6.08	5.01	15.93	223	0.0	
1215	-0.33	300	5.62	0.084	4.99	4.86	16.03	236	0.0	
1220	-0.33	300	5.30	0.103	4.89	4.94	16.07	241	0.0	
1225	-0.33	300	4.98	0.111	4.69	5.02	15.84	251	0.0	
1230	-0.33	300	4.78	0.122	4.39	5.25	15.82	260	0.0	
1235	-0.33	300	4.61	0.138	3.92	5.36	15.72	270	0.0	
1240	-0.33	300	4.68	0.122	3.20	4.89	15.75	268	0.0	
1245	-0.33	300	4.66	0.113	3.54	4.87	15.87	269	0.0	
	Sampling									

SIGNATURE(S): Daniel L Mackey

APPENDIX F—WELL SURVEY REPORT

Table F-1

Monitoring Well Survey Results, June 2010
Deep Groundwater Investigation
Lockheed Martin Middle River Complex, Middle River, Maryland

Monitoring Wells - Lockheed Martin Site June 2010					
Horizontal Datum= Maryland State Plane Coordinates NAD83					
Vertical Datum=NAVD88					
Well ID	**Northing (Y)**	**Easting (X)**	**Elevation (Ground)**	**Elevation (Riser)**	**Elevation (Top of Casing)**
MW 93D	607266.04	1472928.67	-	24.99	25.27
MW 94D	605610.90	1473452.80	-	22.91	23.22
MW 95D	604602.27	1472820.42	-	10.23	10.45
MW 96D	605277.69	1474488.35	-	6.30	6.64

APPENDIX G—PURGE RECORDS AND SAMPLING RECORD SHEETS

LETTER OF TRANSMITTAL

FINDLING, INC.

3401 Carlins Park Drive, Baltimore, MD 21215 Phone: 410-367-1400 Fax: 410-466-6867

DATE: 06/10/10 **JOB No.** 10-1036

TO: Mr. Tony Apanavage
COMPANY: Tetra Tech, Inc
ADDRESS: 20251 Century Boulevard, Suite 200
CITY, STATE, ZIP: Germantown, MD 20874-7114

RE: Lab Test Results
Middle River Complex - Lockheed Martin Airport

We Are Sending You: [X] ENCLOSED [ ] UNDER SEPARATE COVER VIA: [X] US MAIL [ ] MESSENGER [ ] FedEx [ ] UPS [ ] OTHER

The Following:

[ ] REPORT [ ] PLANS [ ] PHOTOGRAPHS [ ] [ ]
[X] LAB RESULTS [ ] SKETCHES [ ] SPECIFICATIONS [ ] [ ]
[ ] PROFILE [ ] SUBMITTALS [ ] DRAWINGS [ ] [ ]

No.	DATE	COPIES	DESCRIPTION
1	06/10/10	1	Lab Test Results (sample Date 05-19-10)

THESE ARE BEING TRANSMITTED AS INDICATED BELOW:

[ ] AS REQUESTED [ ] APPROVED AS IS [ ] SUBMIT ____ COPIES FOR APPROVAL
[ ] FOR APPROVAL [ ] APPROVED WITH CORRECTIONS [ ] RETURN ____ CORRECTED
[ ] FOR YOUR USE [ ] RETURNED WITH CORRECTIONS [ ] RETURNED AFTER LOAN TO US
[ ] FOR BID(s) DUE [ ] RESUBMIT ____ COPIES FOR APPROVAL [ ]

REMARKS:

COPY:

SIGNED: M. Surendra
M. Suri Surendra, Ph.D., P.E.
Chief Engineer

Chain of Custody Record

TAL-4124 (1007)

Temperature on Receipt ______

Drinking Water? Yes ☐ No ☒

~~TestAmerica~~
~~THE LEADER IN ENVIRONMENTAL TESTING~~

410.367.1400
FINDLING, INC
3401 Carlins PK[illegible]
BALTIMORE, Md 212[illegible]

Client: Tetra Tech, Inc.	Project Manager: Tony Apanavage	Date: 5/18/10	Chain of Custody Number: 154545
Address: 20251 Century Blvd, Suite 200	Telephone Number (Area Code)/Fax Number: 301.528.3021 301.233.8230	Lab Number: —	Page 1 of 1
City: Germantown; State: MD; Zip Code: 20874	Site Contact: Fred Kolberg; Lab Contact:	Analysis (Attach list if more space is needed)	
Project Name and Location (State): Lockheed Martin Middle River Complex	Carrier/Waybill Number: N/A		
Contract/Purchase Order/Quote No.: Deep Groundwater Investi. 112IC02720			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Sed.	Soil		Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Grain size ASTM D422 - sieve + Hydrom.	Moisture - ASTM D2216	Atterberg Limits D4318	Verti perm D6035-02									Special Instructions/ Conditions of Receipt
2[Hcy] - MRC-MW93D 196′	4/28/10	1830				X		X							✓	✓	✓	✓									
3 - MRC-MW94D 206′ 5/6/10	~~[illegible]~~ (FK)	~~[illegible]~~1500				X		X							✓	✓	✓	✓									
1 - MRC-MW95D 196′-198′	5/11/10 (NR)	1230				X		X							✓	✓	✓	✓									
2 - MRC-MW96D 216′-220′	5/17/10	1430				X		X							✓	✓	✓	✓									
MRC-MW93D 296′-316′	5/3/10	1130				X		X							✓												
MRC-MW94D 186′-196′	5/6/10	1230				X		X							✓												
MRC-MW95D 200′-216′	5/12/10	1135				X		X							✓												
MRC-MW96D 186′-190′	5/14/10	1115				X		X							✓												
MRC-MW94D 120′-126′	5/6/10	830				X		X							✓												

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☐ Archive For ______ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other ______

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: [signature]	5/19/10	1040	1. Received By: [signature]	5/19/10	10:45 A
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Particle Size Distribution Report

% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	4.8	37.0	58.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3 in.	100.0		
2 in.	100.0		
1 - 1/2 in.	100.0		
1 in.	100.0		
3/4 in.	100.0		
3/8 in.	100.0		
#4	100.0		
#10	100.0		
#40	99.9		
#100	99.3		
#200	95.2		

* (no specification provided)

Soil Description

Reddish brown with white fat clay

Atterberg Limits

PL= 27 LL= 54 PI= 27

Coefficients

D_{85}= 0.0247 D_{60}= 0.0054 D_{50}= 0.0036
D_{30}= 0.0015 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CH AASHTO= A-7-6(30)

Remarks

Moisture Content: 17.1%

Sample No.: 8 **Source of Sample:** **Date:** 05/28/2010
Location: Middle River Complex - Lockheed Martin Airport - MRC-MW-93D **Elev./Depth:** 196'

Client: Tetra Tech, Inc.
Project: Middle River Complex - Lockheed Martin Airport
Project No.: 10-1030

FLEXIBLE WALL PERMEAMETER

PROJECT: 08589A
JOB NO. Middle River Complex
SAMPLE MRC-MW-93D
CHAMBER 2A

CTRL-D FOR
DATE AND TIME

BEFORE TEST
AVE. LENGTH 2.60
AVE. DIAMETER 4.242
AREA 91.2

AFTER TEST
AVE. LENGTH
AVE. DIAMETER
AREA

BEFORE TESTING
CAN P69
WET+CAN 117.5
DRY+CAN 107.2
CAN WT. 46.9
% MOIST. 17.1%
SAM. WT. 1304.0
DRY DEN. 115.3 PCF

AFTER TESTING
CAN
WET+CAN
DRY+CAN
CAN WT.
% MOIST.
SAM. WT.
DRY DEN.

DATE	TIME	LOWER BURETTE READING	UPPER BURETTE READING	CELL PRESS.	LOWER CAP PRESS.	UPPER CAP PRESS.	AVE PRESS. DIF.	GRAD i	FLOW IN	FLOW OUT	AVE FLOW	PERMEABILITY
06/02	02:53 PM	22.1	28.8	55.0	52.0	50.0	2.1	22.36				
06/03	08:00 AM	31.5	19.6	55.0	52.0	50.0	2.0	20.88	9.4	9.2	9.3	7.93E-08
06/03	11:39 AM	33.5	17.8	55.0	52.0	50.0	1.8	19.09	2.0	1.8	1.9	8.31E-08
06/03	04:16 PM	35.9	15.5	55.0	52.0	50.0	1.7	18.41	2.4	2.3	2.4	8.42E-08
06/04	08:23 AM	43.4	8.2	55.0	52.0	50.0	1.6	16.85	7.5	7.3	7.4	8.30E-08

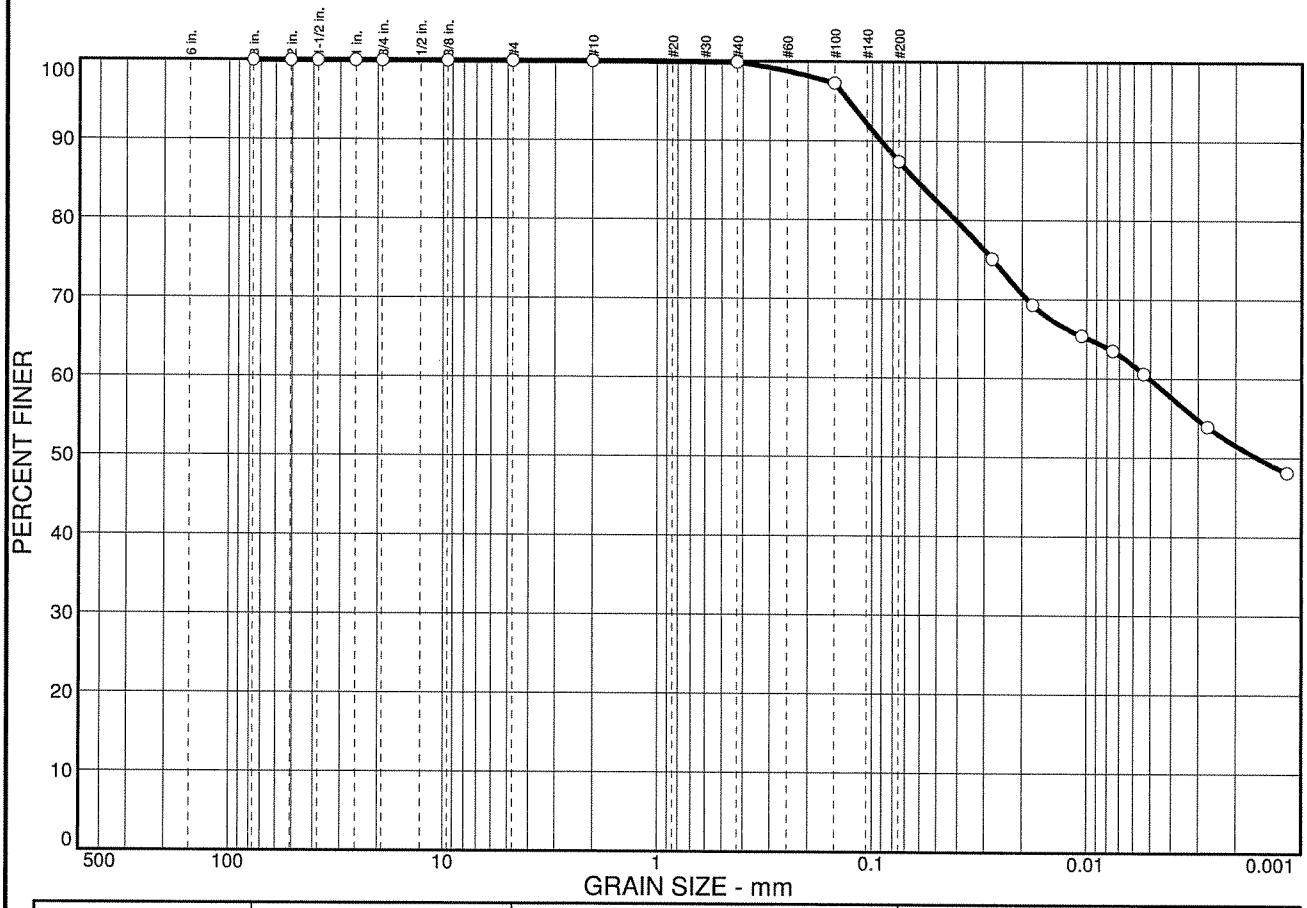
Average Permeability **8.2E-08** cm/sec

Tested per ASTM D5084 Method A
Permeant: Deaired Tap Water

Client: Tetra Tech, Inc.
Project: Middle River Complex - Lockheed Martin Airport

Project No.: 10-1030

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	12.6	27.5	59.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3 in.	100.0		
2 in.	100.0		
1 - 1/2 in.	100.0		
1 in.	100.0		
3/4 in.	100.0		
3/8 in.	100.0		
#4	100.0		
#10	100.0		
#40	99.9		
#100	97.3		
#200	87.4		

* (no specification provided)

Soil Description

Orange brown with red fat clay

Atterberg Limits

PL= 25 LL= 68 PI= 43

Coefficients

D_{85}= 0.0620 D_{60}= 0.0051 D_{50}= 0.0016
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CH AASHTO= A-7-6(41)

Remarks

Moisture Content: 15.6%

Sample No.: 9 **Source of Sample:** **Date:** 05/28/2010
Location: Middle River Complex - Lockheed Martin Airport - MRC-MW-94D **Elev./Depth:** 206'

Client: Tetra Tech, Inc.
Project: Middle River Complex - Lockheed Martin Airport
Project No.: 10-1030

FLEXIBLE WALL PERMEAMETER

PROJECT:	08589A	BEFORE TEST		BEFORE TESTING		AFTER TESTING
JOB NO.	Middle River Complex	AVE. LENGTH	2.74	CAN	P12	CAN
SAMPLE	MRC-MW-94D	AVE. DIAMETER	2.825	WET+CAN	183.6	WET+CAN
CHAMBER	1C	AREA	40.4	DRY+CAN	165.2	DRY+CAN
		AFTER TEST		CAN WT.	46.9	CAN WT.
		AVE. LENGTH		% MOIST.	15.6%	% MOIST.
		AVE. DIAMETER		SAM. WT.	607.7	SAM. WT.
CTRL-D FOR		AREA		DRY DEN.	116.6 PCF	DRY DEN.
DATE AND TIME						

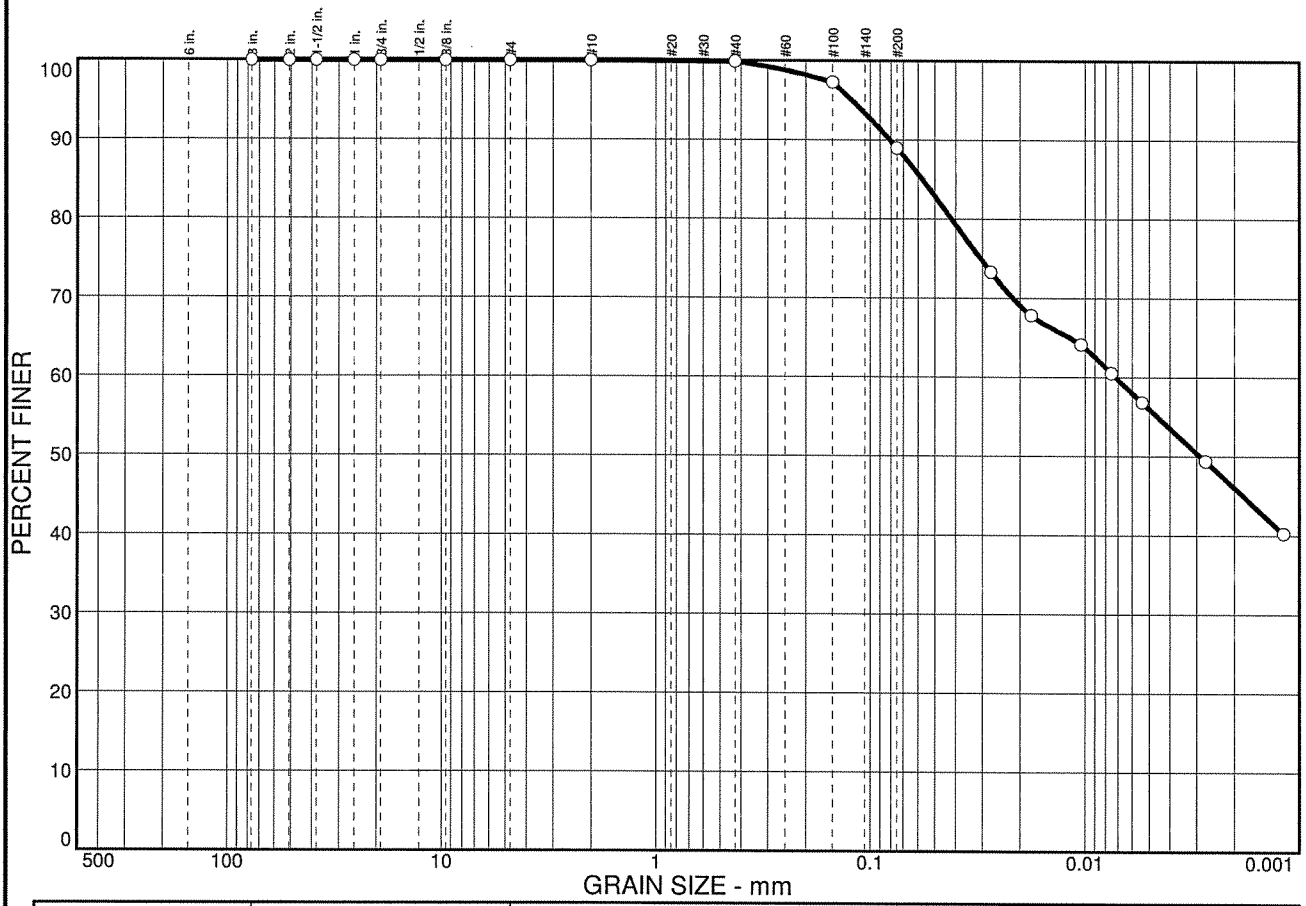
DATE	TIME	LOWER BURETTE READING	UPPER BURETTE READING	CELL PRESS.	LOWER CAP PRESS.	UPPER CAP PRESS.	AVE PRESS. DIF.	GRAD i	FLOW IN	FLOW OUT	AVE FLOW	PERMEABILITY
06/02	07:42 AM	3.8	45.5	55.0	52.0	50.0	2.6	26.54				
06/02	02:51 PM	4.4	45.0	55.0	52.0	50.0	2.6	26.45	0.6	0.5	0.6	2.00E-08
06/03	07:58 AM	5.8	43.7	55.0	52.0	50.0	2.6	26.16	1.4	1.3	1.4	2.07E-08
06/03	04:14 PM	6.5	43.0	55.0	52.0	50.0	2.6	25.85	0.7	0.7	0.7	2.25E-08
06/04	08:22 AM	7.8	41.7	55.0	52.0	50.0	2.5	25.55	1.3	1.3	1.3	2.17E-08

Average Permeability **2.1E-08** cm/sec

Tested per ASTM D5084 Method A
Permeant: Deaired Tap Water

Client: Tetra Tech, Inc.
Project: Middle River Complex - Lockheed Martin Airport
Project No.: 10-1030

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	11.0	33.0	56.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3 in.	100.0		
2 in.	100.0		
1 - 1/2 in.	100.0		
1 in.	100.0		
3/4 in.	100.0		
3/8 in.	100.0		
#4	100.0		
#10	100.0		
#40	99.9		
#100	97.3		
#200	89.0		

* (no specification provided)

Soil Description

Reddish brown with orange & purple fat clay

Atterberg Limits

PL= 22 LL= 56 PI= 34

Coefficients

D_{85}= 0.0572 D_{60}= 0.0072 D_{50}= 0.0029
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CH AASHTO= A-7-6(33)

Remarks

Moisture Content: 15.4%

Sample No.: 10 **Source of Sample:** **Date:** 05/28/2010
Location: Middle River Complex - Lockheed Martin Airport - MRC-MW-95D **Elev./Depth:** 196'-198'

Client: Tetra Tech, Inc.
Project: Middle River Complex - Lockheed Martin Airport
Project No.: 10-1030

FLEXIBLE WALL PERMEAMETER

PROJECT:	08589A	BEFORE TEST		BEFORE TESTING		AFTER TESTING
JOB NO.	Middle River Complex	AVE. LENGTH	1.82	CAN	P28	CAN
SAMPLE	MRC-MW-95D	AVE. DIAMETER	2.763	WET+CAN	213.9	WET+CAN
CHAMBER	1A	AREA	38.7	DRY+CAN	191.5	DRY+CAN
		AFTER TEST		CAN WT.	46.2	CAN WT.
		AVE. LENGTH		% MOIST.	15.4%	% MOIST.
		AVE. DIAMETER		SAM. WT.	387.8	SAM. WT.
CTRL-D FOR		AREA		DRY DEN.	117.5 PCF	DRY DEN.
DATE AND TIME						

DATE	TIME	LOWER BURETTE READING	UPPER BURETTE READING	CELL PRESS.	LOWER CAP PRESS.	UPPER CAP PRESS.	AVE PRESS. DIF.	GRAD i	FLOW IN	FLOW OUT	AVE FLOW	PERMEABILITY
06/01	04:18 PM	2.7	46.3	55.0	52.0	50.0	2.7	40.49				
06/02	07:43 AM	5.6	43.5	55.0	52.0	50.0	2.6	39.84	2.9	2.8	2.9	3.33E-08
06/02	02:52 PM	7.0	42.2	55.0	52.0	50.0	2.5	38.88	1.4	1.3	1.4	3.49E-08
06/03	07:59 AM	10.1	39.1	55.0	52.0	50.0	2.5	37.86	3.1	3.1	3.1	3.43E-08
06/03	04:15 PM	11.6	37.6	55.0	52.0	50.0	2.4	36.81	1.5	1.5	1.5	3.54E-08

Average Permeability **3.4E-08** cm/sec

Tested per ASTM D5084 Method A
Permeant: Deaired Tap Water

Client: Tetra Tech, Inc.
Project: Middle River Complex - Lockheed Martin Airport
Project No.: 10-1030

Particle Size Distribution Report

% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	5.0	46.1	48.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3 in.	100.0		
2 in.	100.0		
1 - 1/2 in.	100.0		
1 in.	100.0		
3/4 in.	100.0		
3/8 in.	100.0		
#4	100.0		
#10	100.0		
#40	99.8		
#100	99.5		
#200	95.0		

* (no specification provided)

Soil Description

Reddish brown with orange & white fat clay

Atterberg Limits

PL= 27 LL= 54 PI= 27

Coefficients

D_{85}= 0.0291 D_{60}= 0.0072 D_{50}= 0.0052
D_{30}= 0.0024 D_{15}= 0.0014 D_{10}=
C_u= C_c=

Classification

USCS= CH AASHTO= A-7-6(30)

Remarks

Moisture Content: 13.0%

Sample No.: 11 **Source of Sample:** **Date:** 05/28/2010
Location: Middle River Complex - Lockheed Martin Airport - MRC-MW-96D **Elev./Depth:** 216'-220'

Client: Tetra Tech, Inc.
Project: Middle River Complex - Lockheed Martin Airport
Project No.: 10-1030

FLEXIBLE WALL PERMEAMETER

PROJECT:	08589A	BEFORE TEST		BEFORE TESTING		AFTER TESTING	
JOB NO.	Middle River Complex	AVE. LENGTH	2.20	CAN	P65	CAN	
SAMPLE	MRC-MW-96D	AVE. DIAMETER	2.831	WET+CAN	226.2	WET+CAN	
CHAMBER	1	AREA	40.6	DRY+CAN	205.6	DRY+CAN	
		AFTER TEST		CAN WT.	47.1	CAN WT.	
		AVE. LENGTH		% MOIST.	13.0%	% MOIST.	
		AVE. DIAMETER		SAM. WT.	523.6	SAM. WT.	
CTRL-D FOR		AREA		DRY DEN.	127.2 PCF	DRY DEN.	
DATE AND TIME							

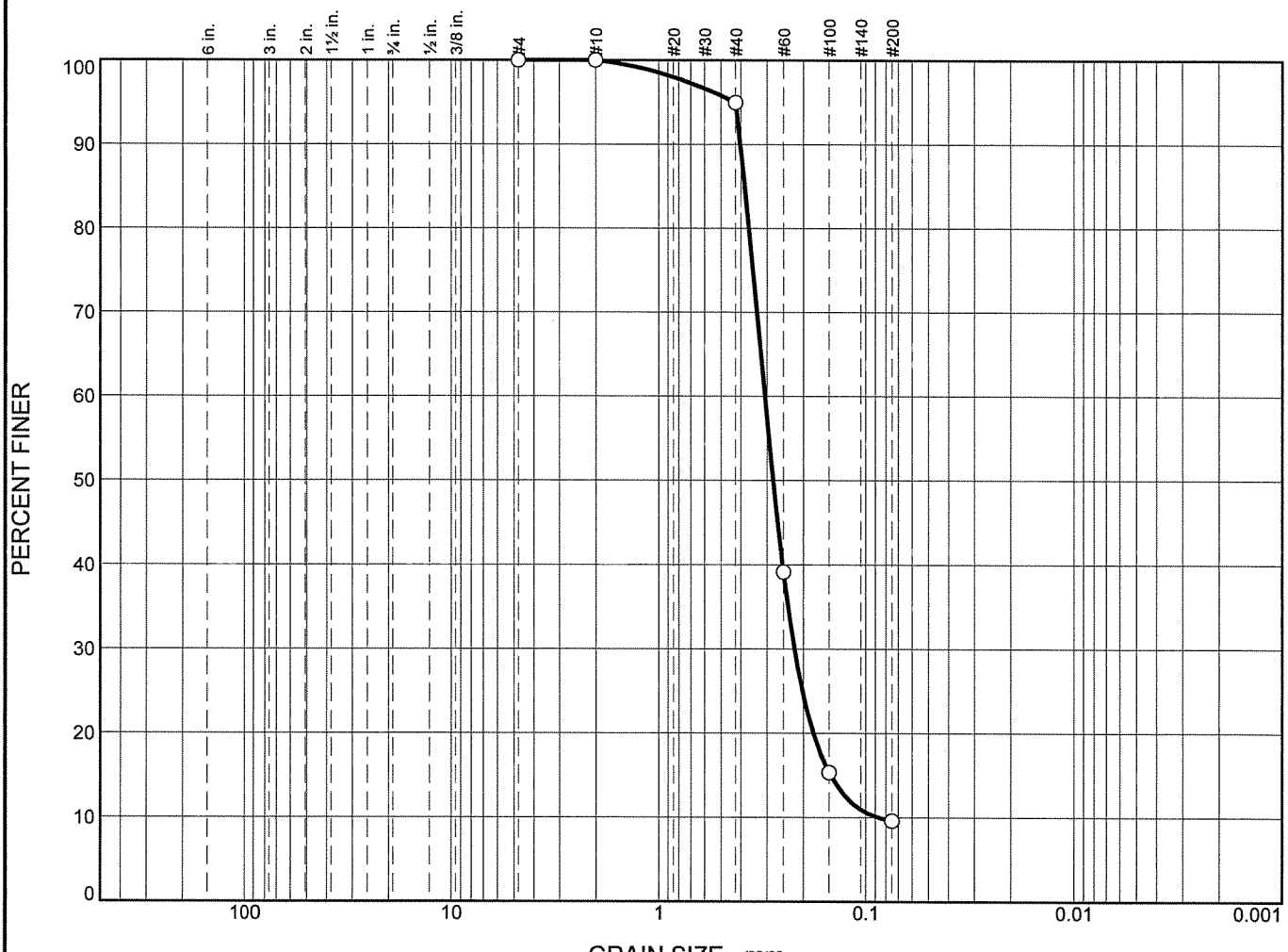
DATE	TIME	LOWER BURETTE READING	UPPER BURETTE READING	CELL PRESS.	LOWER CAP PRESS.	UPPER CAP PRESS.	AVE PRESS. DIF.	GRAD i	FLOW IN	FLOW OUT	AVE FLOW	PERMEABILITY
06/01	04:20 PM	4.0	45.5	55.0	52.0	50.0	2.6	32.97				
06/02	07:45 AM	9.4	40.1	55.0	52.0	50.0	2.5	31.95	5.4	5.4	5.4	7.50E-08
06/02	02:54 PM	11.8	37.7	55.0	52.0	50.0	2.4	30.48	2.4	2.4	2.4	7.53E-08
06/03	08:01 AM	17.1	32.5	55.0	52.0	50.0	2.3	29.03	5.3	5.2	5.3	7.23E-08
06/03	04:17 PM	19.5	30.1	55.0	52.0	50.0	2.2	27.59	2.4	2.4	2.4	7.20E-08

Average Permeability **7.4E-08** cm/sec

Tested per ASTM D5084 Method A
Permeant: Deaired Tap Water

Client: Tetra Tech, Inc.
Project: Middle River Complex - Lockheed Martin Airport
Project No.: 10-1030

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	5.0	85.4	9.6	

	Colloids	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○				0.3837	0.3069	0.2800	0.2211	0.1474	0.0872	1.83	3.52

Material Description	USCS	AASHTO
○ Brown Silty SAND	SP-SM	A-3

Project No. 10-1030 **Client:** Tetra Tech, Inc.

Project: Middle River Complex - Lockheed Martin Airport

○ **Sample Source:** MRC, MW93D **Depth:** 296'-316'

Date: ○ 05-19-10

Remarks:

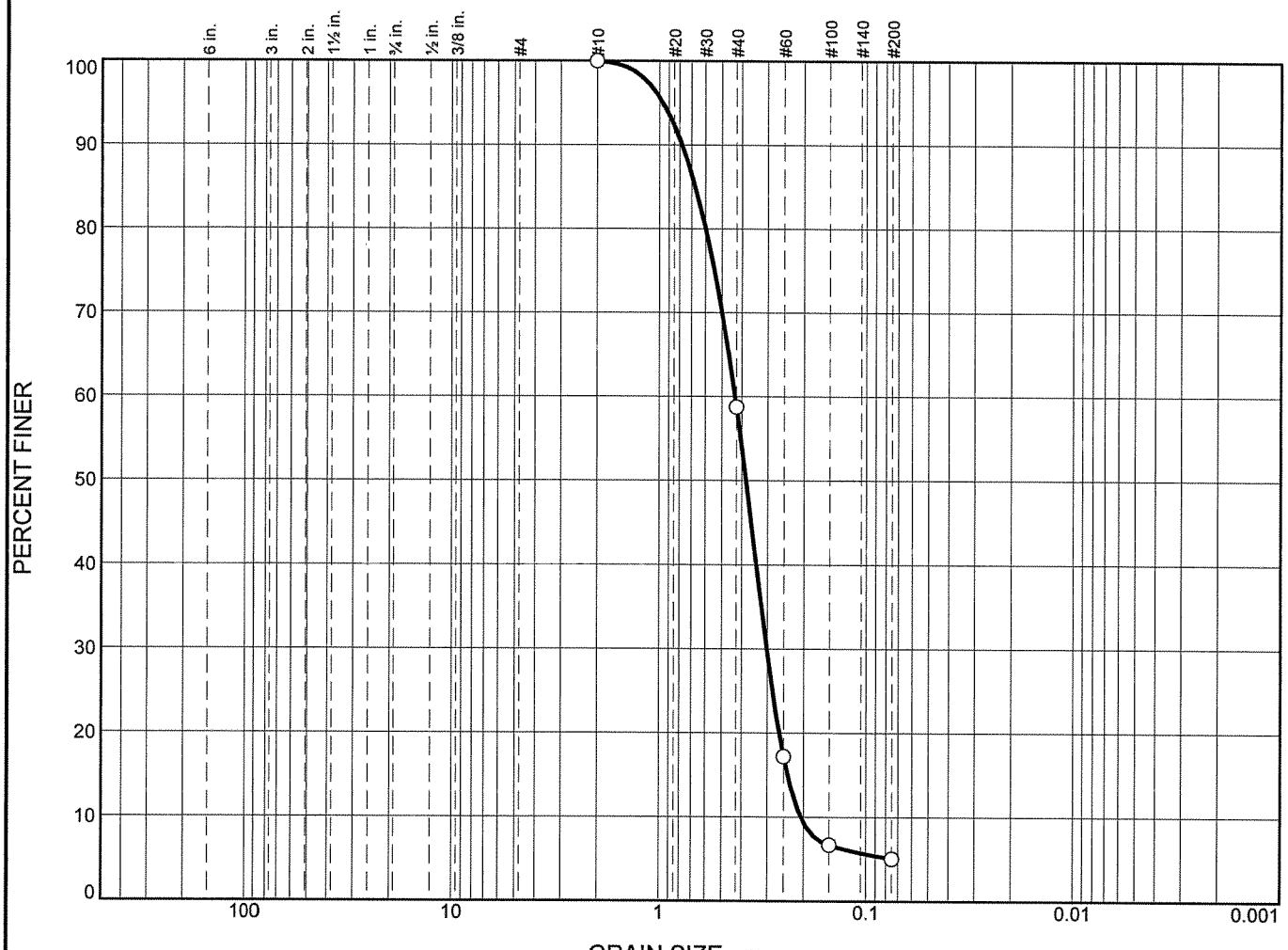
○ Moisture Content = 18.8%

Findling, Inc.

Baltimore, Maryland

Figure

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	41.2	53.7	5.1	

	Colloids	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○				0.6721	0.4319	0.3819	0.3017	0.2391	0.2061	1.02	2.10

Material Description	USCS	AASHTO
○ Light Gray Silty SAND		

Project No. 10-1030 **Client:** Tetra Tech, Inc.

Project: Middle River Complex - Lockheed Martin Airport

○ **Sample Source:** MRC, MW94D **Depth:** 120'-126'

Date: ○ 05-19-10

Remarks:

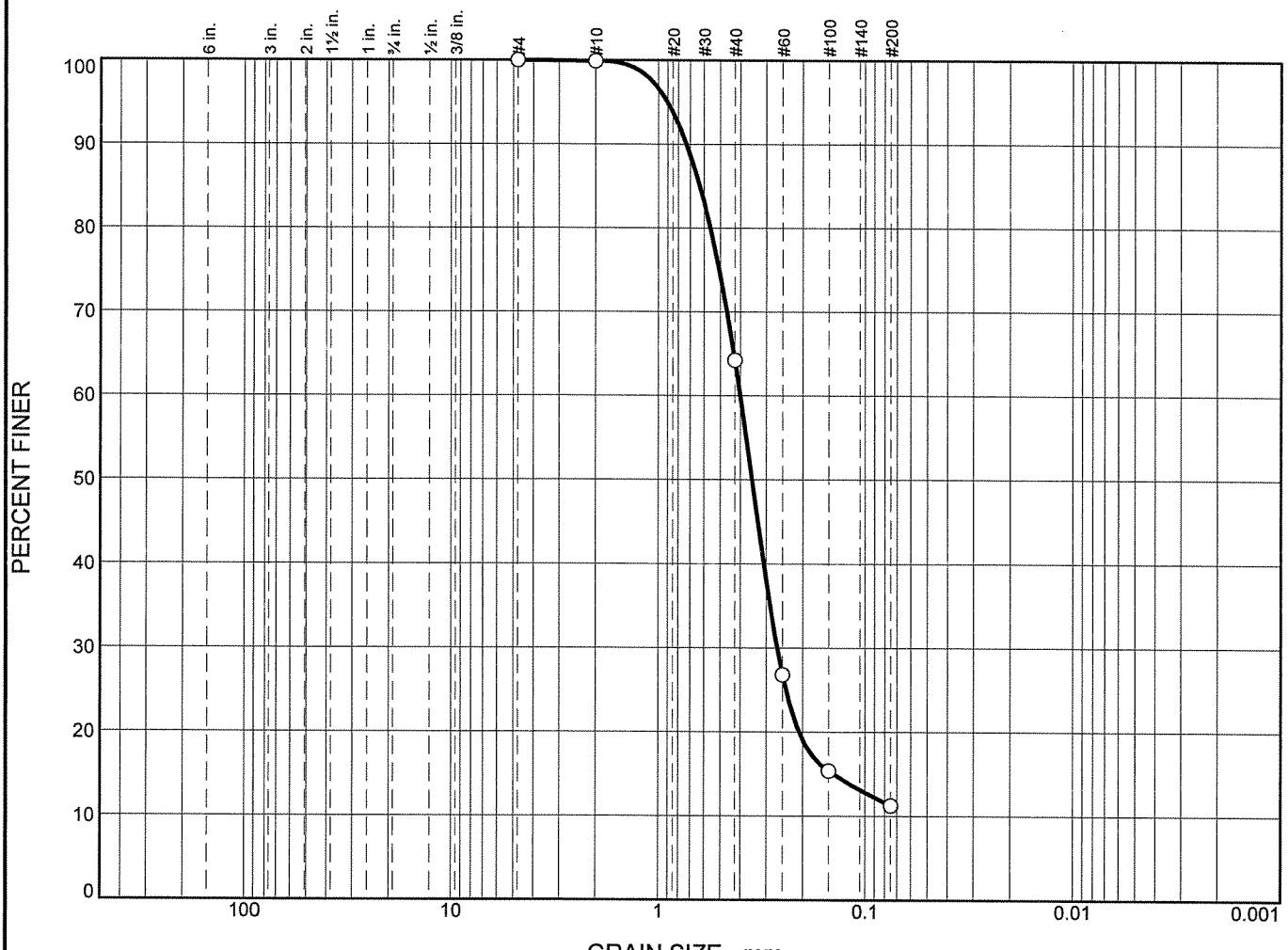
○ Moisture Content = 17.8%

Findling, Inc.

Baltimore, Maryland

Figure

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.1	35.7	53.0	11.2	

	Colloids	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○				0.6289	0.4005	0.3512	0.2652	0.1425			

Material Description	USCS	AASHTO
○ Brown and Gray Silty SAND	SM	

Project No. 10-1030 **Client:** Tetra Tech, Inc.

Project: Middle River Complex - Lockheed Martin Airport

○ **Sample Source:** MRC, MW95D **Depth:** 200'-216'

Date: ○ 05-19-10

Remarks:

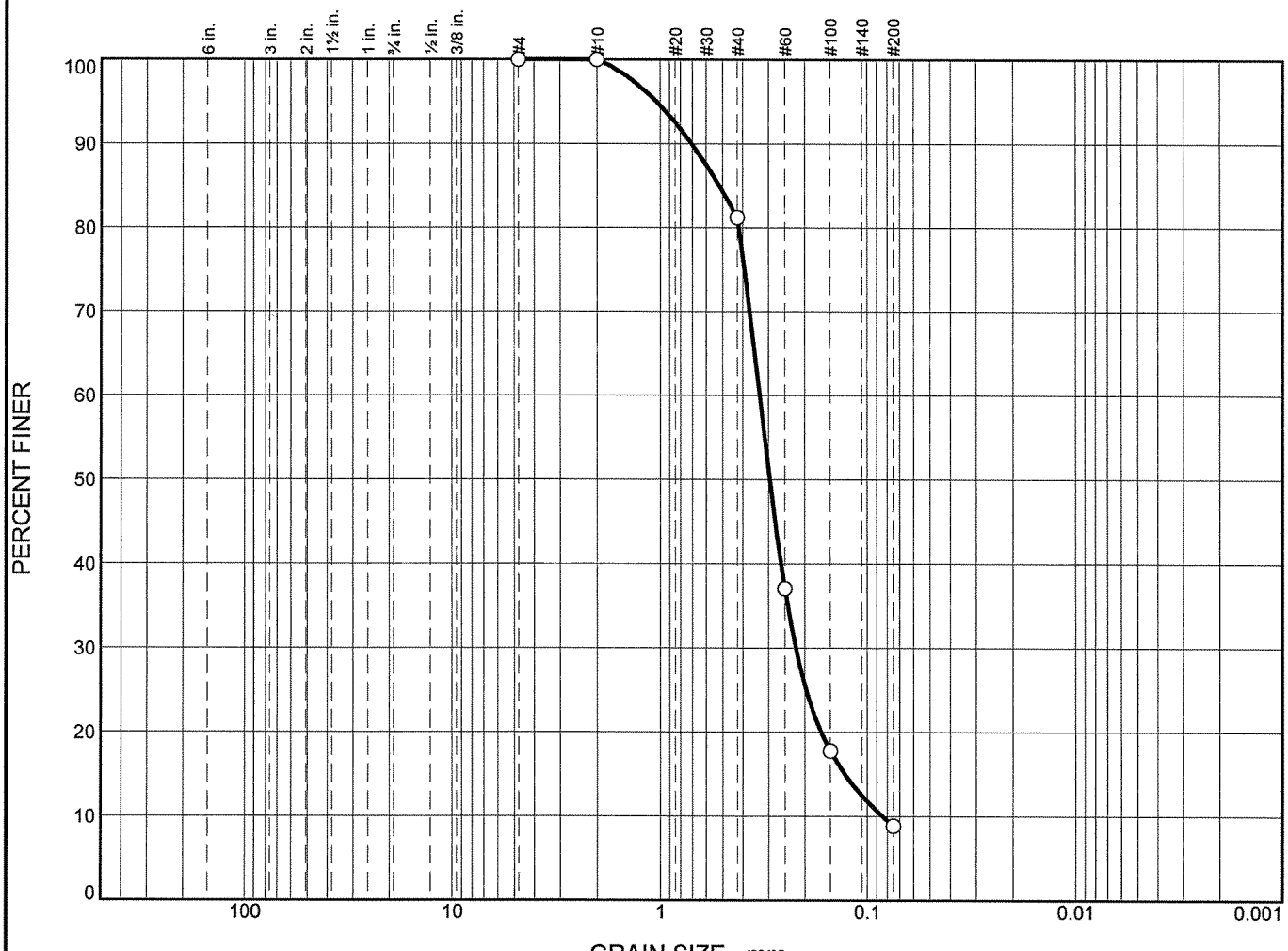
○ Moisture Content = 14.4%

Findling, Inc.

Baltimore, Maryland

Figure

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	18.8	72.4	8.8	

	Colloids	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○				0.5189	0.3307	0.2953	0.2214	0.1278	0.0845	1.75	3.91

Material Description	USCS	AASHTO
○ Light Gray Silty SAND	SM	

Project No. 10-1030 **Client:** Tetra Tech, Inc.

Project: Middle River Complex - Lockheed Martin Airport

○ **Sample Source:** MRC, MW96D **Depth:** 186'-190'

Date: ○ 05-19-10

Remarks:

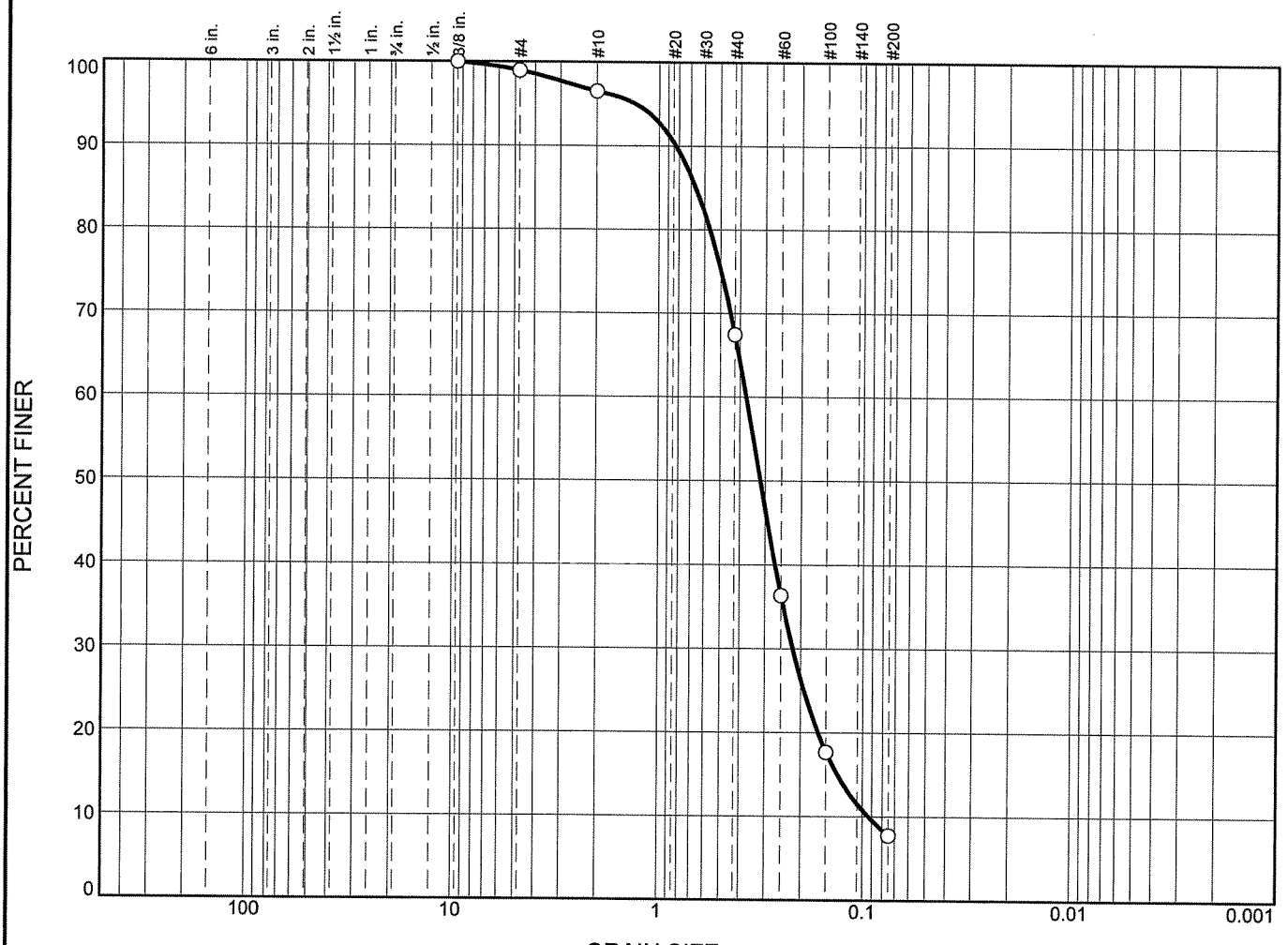
○ Moisture Content = 19.9%

Findling, Inc.

Baltimore, Maryland

Figure

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	1.0	2.5	29.0	59.8	7.7	

	Colloids	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○				0.6629	0.3726	0.3164	0.2188	0.1323	0.0937	1.37	3.98

Material Description	USCS	AASHTO
○ Brown Silty SAND	SP-SM	

Project No. 10-1030 **Client:** Tetra Tech, Inc.

Project: Middle River Complex - Lockheed Martin Airport

○ **Sample Source:** MRC, MW94D **Depth:** 186'-196'

Date: ○ 05-19-10

Findling, Inc.

Baltimore, Maryland

Remarks:

○ Moisture Content = 14.0%

Figure

APPENDIX H—CHEMICAL ANALYTICAL RESULTS

TABLE
ANALYTICAL RESULTS FOR GROUNDWATER - DEEP WELLS DURING DRILLING
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

SAMPLE ID:	MRC-MW94D(72ft)	MRC-MW95D(63ft)	MRC-MW95D(76ft)	MRC-MW96D (65ft)
LABORATORY ID:	A0E060602001	A0E110505001	A0E110505002	A0E140486002
SAMPLE DATE:	5/5/2010	5/10/2010	5/10/2010	5/13/2010
LOCATION:	MRC-MW94D	MRC-MW95D	MRC-MW95D	MRC-MW96D
VOLATILES (ug/L)				
1,1,1,2-TETRACHLOROETHANE	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
1,1,2,2-TETRACHLOROETHANE	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
1,1-DICHLOROETHANE	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
1,1-DICHLOROPROPENE	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
1,2,3-TRICHLOROPROPANE	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
1,2,4-TRICHLOROBENZENE	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
1,2-DIBROMO-3-CHLOROPROPANE	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
1,2-DICHLOROBENZENE	0.13 U	0.13 U	0.13 U	0.13 U
1,2-DICHLOROETHANE	0.24 B	0.22 U	0.22 U	0.22 U
1,2-DICHLOROPROPANE	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
1,3-DICHLOROPROPANE	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
2,2-DICHLOROPROPANE	0.13 U	0.13 U	0.13 U	0.13 U
2-BUTANONE	0.57 U	0.82 J	0.99 J	0.57 U
2-CHLOROETHYL VINYL ETHER	0.99 U	0.99 UR	0.99 U	0.99 UR
2-CHLOROTOLUENE	0.11 U	0.11 U	0.11 U	0.11 U

TABLE
ANALYTICAL RESULTS FOR GROUNDWATER - DEEP WELLS DURING DRILLING
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

	SAMPLE ID:	MRC-MW94D(72ft)	MRC-MW95D(63ft)	MRC-MW95D(76ft)	MRC-MW96D (65ft)
	LABORATORY ID:	A0E060602001	A0E110505001	A0E110505002	A0E140486002
	SAMPLE DATE:	5/5/2010	5/10/2010	5/10/2010	5/13/2010
	LOCATION:	MRC-MW94D	MRC-MW95D	MRC-MW95D	MRC-MW96D
2-HEXANONE		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
4-ISOPROPYLTOLUENE		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
ACETONE		2.2 J	3.9 J	4.6 J	3.4 J
BENZENE		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
BROMOCHLOROMETHANE		0.29 U	0.29 U	0.29 U	0.29 U
BROMODICHLOROMETHANE		0.15 U	3.6	3.7	5.4
BROMOFORM		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
CARBON DISULFIDE		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
CHLOROBENZENE		0.15 U	0.15 U	0.15 U	0.15 U
CHLORODIBROMOMETHANE		0.18 U	0.41 J	0.41 J	0.76 J
CHLOROETHANE		0.29 UJ	0.29 U	0.29 U	0.29 U
CHLOROFORM		0.16 U	22	27	23
CHLOROMETHANE		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
CIS-1,3-DICHLOROPROPENE		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
DICHLORODIFLUOROMETHANE		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
ETHYL TERT-BUTYL ETHER		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

TABLE
ANALYTICAL RESULTS FOR GROUNDWATER - DEEP WELLS DURING DRILLING
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

	SAMPLE ID:	MRC-MW94D(72ft)	MRC-MW95D(63ft)	MRC-MW95D(76ft)	MRC-MW96D (65ft)
	LABORATORY ID:	A0E060602001	A0E110505001	A0E110505002	A0E140486002
	SAMPLE DATE:	5/5/2010	5/10/2010	5/10/2010	5/13/2010
	LOCATION:	MRC-MW94D	MRC-MW95D	MRC-MW95D	MRC-MW96D
HEXACHLOROBUTADIENE		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
M+P-XYLENES		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
METHYLENE CHLORIDE		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
N-BUTYLBENZENE		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
O-XYLENE		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
STYRENE		0.11 U	0.11 U	0.11 U	0.11 U
TERT-AMYL METHYL ETHER		0.067 U	0.067 UJ	0.067 UJ	0.067 UJ
TERT-BUTYLBENZENE		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
TETRACHLOROETHENE		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
TOTAL XYLENES		0.28 U	0.28 U	0.28 U	0.28 U
TRANS-1,2-DICHLOROETHENE		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
TRICHLOROETHENE		0.17 U	0.17 U	0.17 U	0.17 U
TRICHLOROFLUOROMETHANE		0.21 U	0.21 U	0.21 U	0.21 U
VINYL ACETATE		0.19 U	0.19 U	0.19 U	0.19 U
VINYL CHLORIDE		0.22 U	0.22 U	0.22 U	0.22 U

TABLE
ANALYTICAL RESULTS FOR GROUNDWATER - DEEP WELLS DURING DRILLING
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

SAMPLE ID:	**MRC-MW94D(72ft)**	**MRC-MW95D(63ft)**	**MRC-MW95D(76ft)**	**MRC-MW96D (65ft)**
LABORATORY ID:	**A0E060602001**	**A0E110505001**	**A0E110505002**	**A0E140486002**
SAMPLE DATE:	**5/5/2010**	**5/10/2010**	**5/10/2010**	**5/13/2010**
LOCATION:	**MRC-MW94D**	**MRC-MW95D**	**MRC-MW95D**	**MRC-MW96D**

U - Not detected at listed detection limit.

UJ - Nondetected value considered to be estimated as a result of technical noncompliance.

UL - Nondetected value considered to be biased low as a result of technical noncompliance.

UR - Nondetected value rejected as a result of technical noncompliance.

B - Laboratory blank contamination.

J - Positive result is considered estimated as a result of technical noncompliance.

L - Positive result is considered to be biased low as a result of technical noncompliance.

k - Positive result is considered to be biased high as a result of technical noncompliance.

ug/l - micrograms per liter.

Table I-2

Chemical Analytical Results for Groundwater - Monitoring Wells, June 2010
Deep Groundwater Investigation
Lockheed Martin Middle River Complex, Middle River, Maryland

SAMPLE ID:	MRC-MW93D-061010	MRC-MW94D-061010	MRC-95D-061110	MRC-96D-061110
LABORATORY ID:	A0F110578002	A0F110578003	A0F120439002	A0F120439001
SAMPLE DATE:	6/10/2010	6/10/2010	6/11/2010	6/11/2010
LOCATION:	MRC-MW93D	MRC-MW94D	MRC-95D	MRC-96D
VOLATILES (ug/L)				
1,1,1,2-TETRACHLOROETHANE	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
1,1,2,2-TETRACHLOROETHANE	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
1,1-DICHLOROETHANE	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
1,1-DICHLOROPROPENE	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
1,2,3-TRICHLOROPROPANE	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
1,2,4-TRICHLOROBENZENE	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
1,2-DIBROMO-3-CHLOROPROPANE	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
1,2-DICHLOROBENZENE	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
1,2-DICHLOROPROPANE	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
1,3-DICHLOROPROPANE	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
2,2-DICHLOROPROPANE	0.13 U	0.13 U	0.13 U	0.13 U
2-BUTANONE	1.5 J	0.57 U	1.4 J	0.57 U
2-CHLOROETHYL VINYL ETHER	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
2-HEXANONE	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
4-ISOPROPYLTOLUENE	0.12 U	0.12 U	0.12 U	0.12 U
4-METHYL-2-PENTANONE	0.67 J	0.32 U	0.32 U	0.32 U
ACETONE	17 B	11 B	20 B	3.8 B
BENZENE	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
BROMOCHLOROMETHANE	0.29 U	0.29 U	0.29 U	0.29 U

Table I-2

Chemical Analytical Results for Groundwater - Monitoring Wells, June 2010
Deep Groundwater Investigation
Lockheed Martin Middle River Complex, Middle River, Maryland

SAMPLE ID:	MRC-MW93D-061010	MRC-MW94D-061010	MRC-95D-061110	MRC-96D-061110
LABORATORY ID:	A0F110578002	A0F110578003	A0F120439002	A0F120439001
SAMPLE DATE:	6/10/2010	6/10/2010	6/11/2010	6/11/2010
LOCATION:	MRC-MW93D	MRC-MW94D	MRC-95D	MRC-96D
BROMODICHLOROMETHANE	0.15 U	0.23 J	0.31 J	0.15 U
BROMOFORM	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
CARBON DISULFIDE	0.71 J	0.13 U	0.13 U	0.13 U
CARBON TETRACHLORIDE	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
CHLORODIBROMOMETHANE	0.18 U	0.18 U	0.37 J	0.18 U
CHLOROETHANE	0.29 U	0.29 U	0.29 U	0.29 U
CHLOROFORM	8.8	10	19	0.19 J
CHLOROMETHANE	0.3 U	0.3 U	0.36 J	0.3 U
CIS-1,2-DICHLOROETHENE	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
DIBROMOMETHANE	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
DIISOPROPYL ETHER	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
ETHYLBENZENE	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
ISOPROPYLBENZENE	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
METHYL TERT-BUTYL ETHER	0.17 U	0.17 U	0.17 U	0.17 U
METHYLENE CHLORIDE	0.47 B	0.54 B	0.58 B	0.33 U
NAPHTHALENE	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
N-PROPYLBENZENE	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
SEC-BUTYLBENZENE	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
TERT-AMYL METHYL ETHER	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
TERTIARY-BUTYL ALCOHOL	3.9 UR	3.9 UR	3.9 UR	3.9 UR

Table I-2

Chemical Analytical Results for Groundwater - Monitoring Wells, June 2010
Deep Groundwater Investigation
Lockheed Martin Middle River Complex, Middle River, Maryland

SAMPLE ID:	MRC-MW93D-061010	MRC-MW94D-061010	MRC-95D-061110	MRC-96D-061110
LABORATORY ID:	A0F110578002	A0F110578003	A0F120439002	A0F120439001
SAMPLE DATE:	6/10/2010	6/10/2010	6/11/2010	6/11/2010
LOCATION:	MRC-MW93D	MRC-MW94D	MRC-95D	MRC-96D
TETRACHLOROETHENE	0.29 U	0.29 U	0.29 U	0.29 U
TOLUENE	0.22 J	0.21 J	0.28 J	0.13 U
TOTAL XYLENES	0.28 U	0.28 U	0.28 U	0.28 U
TRANS-1,2-DICHLOROETHENE	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
TRICHLOROETHENE	0.17 U	0.17 U	0.17 U	0.17 U
TRICHLOROFLUOROMETHANE	0.21 U	0.21 U	0.21 U	0.21 U
VINYL ACETATE	0.19 U	0.19 U	0.19 U	0.19 U
VINYL CHLORIDE	0.22 U	0.22 U	0.22 U	0.22 U
SEMIVOLATILES (ug/L)				
1,1-BIPHENYL	0.8 U	0.8 U	0.8 U	0.8 U
1,4-DIOXANE	0.49 U	0.49 U	0.49 U	0.49 U
2,2'-OXYBIS(1-CHLOROPROPANE)	0.4 U	0.4 U	0.4 U	0.4 U
2,4,5-TRICHLOROPHENOL	0.3 U	0.3 U	0.3 U	0.3 U
2,4,6-TRICHLOROPHENOL	0.8 U	0.8 U	0.8 U	0.8 U
2,4-DICHLOROPHENOL	0.8 U	0.8 U	0.8 U	0.8 U
2,4-DIMETHYLPHENOL	0.8 U	0.8 U	0.8 U	0.8 U
2,4-DINITROPHENOL	2.4 U	2.4 U	2.4 U	2.4 U
2,4-DINITROTOLUENE	0.27 U	0.27 U	0.27 U	0.27 U
2,6-DINITROTOLUENE	0.8 U	0.8 U	0.8 U	0.8 U
2-CHLORONAPHTHALENE	0.1 U	0.1 U	0.1 U	0.1 U
2-CHLOROPHENOL	0.29 U	0.29 U	0.29 U	0.29 U
2-METHYLNAPHTHALENE	0.1 U	0.1 U	0.1 U	0.1 U
2-METHYLPHENOL	0.8 U	0.8 U	0.8 U	0.8 U
2-NITROANILINE	0.8 U	0.8 U	0.8 U	0.8 U
2-NITROPHENOL	0.28 U	0.28 U	0.28 U	0.28 U
3,3'-DICHLOROBENZIDINE	0.37 U	0.37 U	0.37 U	0.37 U
3-NITROANILINE	0.28 U	0.28 U	0.28 U	0.28 U
4,6-DINITRO-2-METHYLPHENOL	2.4 U	2.4 U	2.4 U	2.4 U
4-BROMOPHENYL PHENYL ETHER	0.8 U	0.8 U	0.8 U	0.8 U
4-CHLORO-3-METHYLPHENOL	0.8 U	0.8 U	0.8 U	0.8 U
4-CHLOROANILINE	0.8 U	0.8 U	0.8 U	0.8 U

Table I-2

Chemical Analytical Results for Groundwater - Monitoring Wells, June 2010
Deep Groundwater Investigation
Lockheed Martin Middle River Complex, Middle River, Maryland

SAMPLE ID:	MRC-MW93D-061010	MRC-MW94D-061010	MRC-95D-061110	MRC-96D-061110
LABORATORY ID:	A0F110578002	A0F110578003	A0F120439002	A0F120439001
SAMPLE DATE:	6/10/2010	6/10/2010	6/11/2010	6/11/2010
LOCATION:	MRC-MW93D	MRC-MW94D	MRC-95D	MRC-96D
4-CHLOROPHENYL PHENYL ETHER	0.3 U	0.3 U	0.3 U	0.3 U
4-METHYLPHENOL	0.8 U	0.8 U	0.8 U	0.8 U
4-NITROANILINE	0.8 U	0.8 U	0.8 U	0.8 U
4-NITROPHENOL	2.4 U	2.4 U	2.4 U	2.4 U
ACENAPHTHENE	0.1 U	0.1 U	0.1 U	0.1 U
ACENAPHTHYLENE	0.1 U	0.1 U	0.1 U	0.1 U
ACETOPHENONE	0.34 U	0.34 U	0.34 U	0.34 U
ANTHRACENE	0.1 U	0.1 U	0.1 U	0.1 U
ATRAZINE	0.34 U	0.34 U	0.34 U	0.34 U
BENZALDEHYDE	0.39 U	0.39 U	0.39 U	0.39 U
BENZO(A)ANTHRACENE	0.1 U	0.1 U	0.1 U	0.1 U
BENZO(A)PYRENE	0.1 U	0.1 U	0.1 U	0.1 U
BENZO(B)FLUORANTHENE	0.1 U	0.1 U	0.1 U	0.1 U
BENZO(G,H,I)PERYLENE	0.1 U	0.1 U	0.1 U	0.1 U
BENZO(K)FLUORANTHENE	0.1 U	0.1 U	0.1 U	0.1 U
BIS(2-CHLOROETHOXY)METHANE	0.32 U	0.32 U	0.32 U	0.32 U
BIS(2-CHLOROETHYL)ETHER	0.1 U	0.1 U	0.1 U	0.1 U
BIS(2-ETHYLHEXYL)PHTHALATE	1.9 B	2.1 B	0.8 U	2.1 B
BUTYL BENZYL PHTHALATE	1.1	1.1	0.8 U	0.8 U
CAPROLACTAM	0.8 U	0.8 U	0.8 U	0.8 U
CARBAZOLE	0.28 U	0.28 U	0.28 U	0.28 U
CHRYSENE	0.1 U	0.1 U	0.1 U	0.1 U
DIBENZO(A,H)ANTHRACENE	0.1 U	0.1 U	0.1 U	0.1 U
DIBENZOFURAN	0.1 U	0.1 U	0.1 U	0.1 U
DIETHYL PHTHALATE	0.6 U	0.6 U	0.6 U	0.6 U
DIMETHYL PHTHALATE	0.29 U	0.29 U	0.29 U	0.29 U
DI-N-BUTYL PHTHALATE	0.67 U	0.67 U	0.67 U	0.67 U
DI-N-OCTYL PHTHALATE	0.8 U	0.8 U	0.8 U	0.8 U
FLUORANTHENE	0.1 U	0.1 U	0.1 U	0.1 U
FLUORENE	0.1 U	0.1 U	0.1 U	0.1 U
HEXACHLOROBENZENE	0.1 U	0.1 U	0.1 U	0.1 U
HEXACHLOROBUTADIENE	0.27 U	0.27 U	0.27 U	0.27 U

Table I-2

Chemical Analytical Results for Groundwater - Monitoring Wells, June 2010
Deep Groundwater Investigation
Lockheed Martin Middle River Complex, Middle River, Maryland

SAMPLE ID:	MRC-MW93D-061010	MRC-MW94D-061010	MRC-95D-061110	MRC-96D-061110
LABORATORY ID:	A0F110578002	A0F110578003	A0F120439002	A0F120439001
SAMPLE DATE:	6/10/2010	6/10/2010	6/11/2010	6/11/2010
LOCATION:	MRC-MW93D	MRC-MW94D	MRC-95D	MRC-96D
HEXACHLOROCYCLOPENTADIENE	0.8 U	0.8 U	0.8 U	0.8 U
HEXACHLOROETHANE	0.8 U	0.8 U	0.8 U	0.8 U
INDENO(1,2,3-CD)PYRENE	0.1 U	0.1 U	0.1 U	0.1 U
ISOPHORONE	0.27 U	0.27 U	0.27 U	0.27 U
NAPHTHALENE	0.1 U	0.1 U	0.1 U	0.1 U
NITROBENZENE	0.04 U	0.04 U	0.04 U	0.04 U
N-NITROSODIMETHYLAMINE	0.31 U	0.31 U	0.31 U	0.31 U
N-NITROSO-DI-N-PROPYLAMINE	0.8 U	0.8 U	0.8 U	0.8 U
N-NITROSODIPHENYLAMINE	0.31 U	0.31 U	0.31 U	0.31 U
PENTACHLOROPHENOL	2.4 U	2.4 U	2.4 U	2.4 U
PHENANTHRENE	0.1 U	0.1 U	0.1 U	0.1 U
PHENOL	0.6 U	0.6 U	0.6 U	0.6 U
PYRENE	0.1 U	0.1 U	0.1 U	0.1 U
INORGANICS (ug/L)				
ANTIMONY	0.42 B	0.18 B	0.28 B	0.027 U
ARSENIC	26.1	4.1 J	7.5 K	0.16 U
BARIUM	515	133	209	9
BERYLLIUM	6.7	1.3	2.3	0.11 B
CADMIUM	0.49 J	0.12 B	0.17 B	0.025 U
CHROMIUM	143	28.1	72.9	0.51 B
COBALT	10	2.6	5.5	2.4
COPPER	59.9	13.1	24.6	2.2 B
IRON	66400	18100	40900	202
LEAD	78.2	14.5	30.2	0.019 U
MANGANESE	522	214	262	12.6
MERCURY	0.13 J	0.1 U	0.1 U	0.1 U
MOLYBDENUM	20	5.2	14.1	0.27 U
NICKEL	40.4	20.4	21.3	3.9 K
SELENIUM	6.6	0.96 J	3.2 J	0.13 U
SILVER	0.15 J	0.015 UL	0.015 UL	0.015 U
THALLIUM	0.49 B	0.14 B	0.21 B	0.13 U
VANADIUM	107	28.9	53.2	0.45 J
ZINC	145	35.5	66.8	10.9 B

Table I-2

Chemical Analytical Results for Groundwater - Monitoring Wells, June 2010
Deep Groundwater Investigation
Lockheed Martin Middle River Complex, Middle River, Maryland
Page 6 of 6

SAMPLE ID:	MRC-MW93D-061010	MRC-MW94D-061010	MRC-95D-061110	MRC-96D-061110
LABORATORY ID:	A0F110578002	A0F110578003	A0F120439002	A0F120439001
SAMPLE DATE:	6/10/2010	6/10/2010	6/11/2010	6/11/2010
LOCATION:	MRC-MW93D	MRC-MW94D	MRC-95D	MRC-96D
INORGANICS FILTERED (ug/L)				
ANTIMONY	0.32 B	0.13 B	0.35 B	0.2 B
ARSENIC	20.5	1.2 J	2.8 J	0.16 U
BARIUM	399	43.7	11.2	7.6
BERYLLIUM	5.4	0.28 B	0.0059 U	0.085 B
CADMIUM	0.38 B	0.028 B	0.025 U	0.031 B
CHROMIUM	108	6.4	0.89 B	0.17 B
COBALT	8	0.76 J	0.039 B	2.2
COPPER	47.4	4.5 B	2.5 B	1.7 B
IRON	51300	4400	47.2 B	73.4 B
LEAD	63.3	3	0.019 U	0.019 U
MANGANESE	377	75.6	0.17 B	11.1
MERCURY	0.1 U	0.1 U	0.1 U	0.1 U
MOLYBDENUM	22.5	3.8	15.4	0.31 B
NICKEL	32.8	7	0.45 B	3.5 K
SELENIUM	4.5 J	0.4 B	0.5 B	0.18 B
SILVER	0.088 J	0.015 U	0.015 U	0.015 U
THALLIUM	0.34 B	0.13 U	0.13 U	0.24 B
VANADIUM	80.8	6.5 J	6.2 J	0.43 U
ZINC	118	14.5 B	4.9 B	11.3 B

U - Not detected at listed detection limit.

UJ - Nondetected value considered to be estimated as a result of technical noncompliance.

UL - Nondetected value considered to be biased low as a result of technical noncompliance.

UR - Nondetected value rejected as a result of technical noncompliance.

B - Laboratory blank contamination.

J - Positive result is considered estimated as a result of technical noncompliance.

L - Positive result is considered to be biased low as a result of technical noncompliance.

k - Positive result is considered to be biased high as a result of technical noncompliance.

ug/l - micrograms per liter.

APPENDIX I—DATA-VALIDATION REPORTS

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **A. APANAVAGE** **DATE:** **JULY 13, 2010**

FROM: **EDWARD SEDLMYER** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION- VOC**
MRC DEEP WELL
SDG 0E06602

SAMPLES: 1/Soil/VOC

MRC-MW95D (214ft)

4/Aqueous/VOC

MRC-MW94D(72ft) MRC-MW95D(63ft) MRC-MW95D(76)
MRC-MW96D(65ft)

Overview

The sample set for MRC Deep Well, SDG 0E06602 consists of one (1) soil and four (4) aqueous environmental samples. All samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOC).

The samples were collected by Tetra Tech on May 5, 10, and 13, 2010 and analyzed by Test America (North Canton). All analyses were conducted in accordance with SW-846 Method 8260B analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters: data completeness, holding times, GC/MS tuning, initial/continuing calibrations, laboratory method blank results, surrogate spike recoveries, blank spike/blank spike duplicate results, internal standard recoveries, chromatographic resolution, compound identification, compound quantitation, and detection limits. Areas of concern are listed below.

Major

- All aqueous and soil VOC initial calibration and continuing calibration relative response factors (RRFs) were less than the 0.05 quality control limit for tert-butyl alcohol. The non-detected results reported for tert-butyl alcohol were rejected (UR).

- The aqueous VOC continuing calibration analyzed on 5/18/10 @ 11:26 on instrument a3ux11 had an RRF less than the 0.05 quality control limit for 2-chloroethyl vinyl ether. The associated sample MRC-MW95D(63ft) had a non-detected result reported for 2-chloroethyl vinyl ether and was rejected (UR).

- The aqueous VOC continuing calibration analyzed on 5/26/10 @10:46 on instrument a3ux11 had an RRF less than the 0.05 quality control limit for 2-chloroethyl vinyl ether. The associated sample MRC-MW96D(65ft) had a non-detected result reported for 2-chloroethyl vinyl ether and was rejected (UR).

Minor

- The following compounds were detected in the aqueous method blanks at the maximum concentration indicated below:

Compound	Concentration	Action Level
Hexachlorobutadiene	0.42 ug/L	2.1 ug/L
Naphthalene	0.32 ug/L	1.6 ug/L
1,2,3-Trichlorobenzene	0.42 ug/L	2.1 ug/L
1,2,4-Trichlorobenzene	0.24 ug/L	1.2 ug/L
1,2-Dichloroethane	0.28 ug/L	1.4 ug/L

An action level of 5X the maximum contaminant concentration was established for hexachlorobutadiene, naphthalene, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, and 1,2-dichloroethane to evaluate laboratory contamination. Dilution factors and sample aliquots were taken into consideration during the application of all action levels. Positive result for 1,2-dichloroethane below the blank action level was qualified (B) as a result of blank contamination in sample MRC-MW94D(72ft).

- The following compounds were detected in the soil method blank at the maximum concentration indicated below:

Compound	Concentration	Action Level
Naphthalene	0.36 ug/kg	1.8 ug/kg
1,2,4-Trichlorobenzene	0.32 ug/kg	1.6 ug/kg
Methylene chloride	0.80 ug/kg	8 ug/kg
Acetone	9.0 ug/kg	90 ug/kg
2-Hexanone	0.64 ug/kg	3.2 ug/kg
Toluene	0.82 ug/kg	4.1 ug/kg

An action level of 10X the maximum contaminant concentration was established for methylene chloride and acetone; 5X for naphthalene, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2-dichloroethane, and 2-hexanone to evaluate laboratory contamination. Dilution factors, percent solids, and sample aliquots were taken into consideration during the application of all action levels. Positive results for naphthalene, methylene chloride, acetone, 2-hexanone, and toluene below the blank action level were qualified (B) as a result of blank contamination.

- The aqueous VOC continuing calibration % D was greater than the quality control limit of 50% for chloroethane for instrument a3ux11 on 05/13/10 @ 11:37. The nondetected chloroethane result for sample MRC-MW94D(72ft) was qualified as estimated (UJ).

- The aqueous VOC continuing calibration % D was greater than the quality control limit of 50% for tert-amy methyl ether for instrument a3ux11 on 05/18/10 @ 11:50. The nondetected tert-amy methyl ether result for sample MRC-MW95D(63ft) was qualified as estimated (UJ).

- The aqueous VOC continuing calibration % D was greater than the quality control limit of 50% for tert-amy methyl ether for instrument a3ux11 on 05/18/10 @ 11:50. The nondetected tert-amy methyl ether result for sample MRC-MW95D(63ft) was qualified as estimated (UJ).

- The aqueous VOC continuing calibration % D was greater than the quality control limit of 50% for tert-amy methyl ether for instrument a3ux11 on 05/19/10 @ 12:31. The nondetected tert-

amy methyl ether result for sample MRC-MW95D(76ft) was qualified as estimated (UJ).

- The aqueous VOC continuing calibration % D was greater than the quality control limit of 50% for tert-amy methyl ether for instrument a3ux11 on 05/26/10 @ 11:10. The nondetected tert-amy methyl ether result for sample MRC-MW96D(65ft) was qualified as estimated (UJ).

Notes

The aqueous VOC continuing calibration % Ds were greater than the quality control limit of 25% but less than 50% for bromomethane, trichlorofluoromethane, methylene chloride, vinyl acetate, 2-chloroethyl vinyl ether, bromoform, naphthalene, dichlorofluoromethane, and tert-butylbenzene, and tert-amy methyl ether for instrument a3ux11 on 05/13/10 @ 11:37. The associated sample, MRC-MW94D(72ft), had non-detects for the aforementioned compounds and no data qualification was necessary.

The aqueous VOC continuing calibration % Ds were greater than the quality control limit of 25% but less than 50% for chloromethane, methyl tert-butyl ether, bromoform, 1,2,4-trichlorobenzene, naphthalene, and tert-butylbenzene for instrument a3ux11 on 05/18/10 @ 11:26. The associated sample, MRC-MW95D(63ft), had non-detects for the aforementioned compounds and no data qualification was necessary.

The aqueous VOC continuing calibration % Ds were greater than the quality control limit of 25% but less than 50% for chloromethane, trichlorofluoromethane, methyl tert-butyl ether, vinyl acetate, 2-chloroethyl vinyl ether, 1,2,4-trichlorobenzene, hexachlorobutaadiene, naphthalene, 1,2,3-trichlorobenzene, and tert-butylbenzene for instrument a3ux11 on 05/19/10 @ 12:08. The associated sample, MRC-MW95D(76), had non-detects for the aforementioned compounds and no data qualification was necessary.

The aqueous VOC continuing calibration % Ds were greater than the quality control limit of 25% but less than 50% for chloromethane, bromomethane, chloroethane, acetone, carbon disulfide, methylene chloride, methyl tert-butyl ether, vinyl acetate, bromoform, 1,2,4-trichlorobenzene, hexachlorobutaadiene, naphthalene, 1,2,3-trichlorobenzene, and tert-butylbenzene for instrument a3ux11 on 05/26/10 @ 10:46. The associated sample, MRC-MW96D(65ft), had non-detects for the aforementioned compounds and no data qualification was necessary.

The soil VOC continuing calibration % Ds were greater than the quality control limit of 25% but less than 50% for carbon disulfide, tert-butylbenzene, and tert-amy methyl ether for instrument a3ux14 on 05/18/10 @ 10:52. The associated sample, MRC-MW95D (214ft), had non-detects for the aforementioned compounds and no data qualification was necessary.

The matrix spike / matrix spike duplicate (MS/MSD) associated with preparation batches 0139112 and 0140083 had relative percent differences (RPDs) greater the laboratory control limit for 1,1-dichloroethene. The MS and MSD had acceptable recoveries. This sample was not a Tetra Tech sample and no action was taken on this basis.

Executive Summary

Laboratory Performance: The VOC compound tert-butyl alcohol was rejected in all samples due to a poor response factor. Chloroethane and tert-amy methyl ether were qualified in several samples due to a continuing calibration %D greater than 50%. The VOC compound 2-chloroethyl vinyl ether was rejected in two samples due to a poor response factor. Blank contamination for the VOC fraction resulted in the qualification of data.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to Region III modifications to U.S. EPA National Functional Guidelines for Organic Data Validation (Sept. 1994). The text of this report has been formulated to address only those problem areas affecting data quality.

Tetra Tech NUS
Edward Sedlmyer
Chemist/Data Validator

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

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

Appendix A

Qualified Analytical Results

Data Validation Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (e.g. % 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 = GFAA PDS - GFAA MSA's $r < 0.995$ / ICP PDS Recovery Noncompliance
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 (e.g. base-line drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; e.g. chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% 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 greater than sample activity

PROJ_NO: 02720	NSAMPLE	MRC-MW94D(72ft)			MRC-MW95D(63ft)			MRC-MW95D(76ft)			MRC-MW96D (65ft)		
SDG: 0E06602	LAB_ID	A0E060602001			A0E110505001			A0E110505002			A0E140486002		
FRACTION: OV	SAMP_DATE	5/5/2010			5/10/2010			5/10/2010			5/13/2010		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		0.23	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	
1,1,2,2-TETRACHLOROETHANE		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	
1,1-DICHLOROETHANE		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	
1,1-DICHLOROPROPENE		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	
1,2,3-TRICHLOROPROPANE		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	
1,2,4-TRICHLOROBENZENE		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	
1,2-DIBROMO-3-CHLOROPROPANE		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	
1,2-DICHLOROBENZENE		0.13	U		0.13	U		0.13	U		0.13	U	
1,2-DICHLOROETHANE		0.24	B	A	0.22	U		0.22	U		0.22	U	
1,2-DICHLOROPROPANE		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	
1,3-DICHLOROPROPANE		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	
2,2-DICHLOROPROPANE		0.13	U		0.13	U		0.13	U		0.13	U	
2-BUTANONE		0.57	U		0.82	J	P	0.99	J	P	0.57	U	
2-CHLOROETHYL VINYL ETHER		0.99	U		0.99	UR	C	0.99	U		0.99	UR	C
2-CHLOROTOLUENE		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	
4-CHLOROTOLUENE		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	
4-METHYL-2-PENTANONE		0.32	U		0.32	U		0.32	U		0.32	U	
ACETONE		2.2	J	P	3.9	J	P	4.6	J	P	3.4	J	P
BENZENE		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	
BROMOCHLOROMETHANE		0.29	U		0.29	U		0.29	U		0.29	U	
BROMODICHLOROMETHANE		0.15	U		3.6			3.7			5.4		
BROMOFORM		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	
CARBON DISULFIDE		0.13	U		0.13	U		0.13	U		0.13	U	

PROJ_NO: 02720	NSAMPLE	MRC-MW94D(72ft)			MRC-MW95D(63ft)			MRC-MW95D(76ft)			MRC-MW96D (65ft)		
SDG: 0E06602	LAB_ID	A0E060602001			A0E110505001			A0E110505002			A0E140486002		
FRACTION: OV	SAMP_DATE	5/5/2010			5/10/2010			5/10/2010			5/13/2010		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON TETRACHLORIDE		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	
CHLORODIBROMOMETHANE		0.18	U		0.41	J	P	0.41	J	P	0.76	J	P
CHLOROETHANE		0.29	UJ	C	0.29	U		0.29	U		0.29	U	
CHLOROFORM		0.16	U		22			27			23		
CHLOROMETHANE		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	
CIS-1,3-DICHLOROPROPENE		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	
DICHLORODIFLUOROMETHANE		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	
ETHYL TERT-BUTYL ETHER		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	
HEXACHLOROBUTADIENE		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	
M+P-XYLENES		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	
METHYLENE CHLORIDE		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	
N-BUTYLBENZENE		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	
O-XYLENE		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	
STYRENE		0.11	U		0.11	U		0.11	U		0.11	U	
TERT-AMYL METHYL ETHER		0.067	U		0.067	UJ	C	0.067	UJ	C	0.067	UJ	C
TERT-BUTYLBENZENE		0.13	U		0.13	U		0.13	U		0.13	U	
TERTIARY-BUTYL ALCOHOL		3.9	UR	C	3.9	UR	C	3.9	UR	C	3.9	UR	C
TETRACHLOROETHENE		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	
TOTAL XYLENES		0.28	U		0.28	U		0.28	U		0.28	U	
TRANS-1,2-DICHLOROETHENE		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	
TRICHLOROETHENE		0.17	U		0.17	U		0.17	U		0.17	U	
TRICHLOROFLUOROMETHANE		0.21	U		0.21	U		0.21	U		0.21	U	
VINYL ACETATE		0.19	U		0.19	U		0.19	U		0.19	U	
VINYL CHLORIDE		0.22	U		0.22	U		0.22	U		0.22	U	

PROJ_NO: 02720	NSAMPLE	MRC-MW95D (214ft)
SDG: 0E06602	LAB_ID	A0E140486001
FRACTION: OV	SAMP_DATE	5/13/2010
MEDIA: SOIL	QC_TYPE	NM
	UNITS	UG/KG
	PCT_SOLIDS	86.0
	DUP_OF	

PARAMETER	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE	0.72	U	
1,1,1-TRICHLOROETHANE	0.65	U	
1,1,2,2-TETRACHLOROETHANE	0.39	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	1.5	U	
1,1-DICHLOROETHANE	0.42	U	
1,1-DICHLOROETHENE	0.6	U	
1,1-DICHLOROPROPENE	0.35	U	
1,2,3-TRICHLOROBENZENE	0.44	U	
1,2,3-TRICHLOROPROPANE	1	U	
1,2,3-TRIMETHYLBENZENE	0.2	U	
1,2,4-TRICHLOROBENZENE	0.31	U	
1,2,4-TRIMETHYLBENZENE	0.75	U	
1,2-DIBROMO-3-CHLOROPROPANE	1.5	U	
1,2-DIBROMOETHANE	0.58	U	
1,2-DICHLOROBENZENE	0.42	U	
1,2-DICHLOROETHANE	0.39	U	
1,2-DICHLOROPROPANE	0.8	U	
1,3-DICHLOROBENZENE	0.41	U	
1,3-DICHLOROPROPANE	0.39	U	
1,4-DICHLOROBENZENE	0.77	U	
2,2-DICHLOROPROPANE	1.1	U	
2-BUTANONE	27		
2-CHLOROETHYL VINYL ETHER	1.6	U	
2-CHLOROTOLUENE	0.46	U	
2-HEXANONE	7.7	B	A
4-CHLOROTOLUENE	0.48	U	
4-ISOPROPYLTOLUENE	0.24	U	
4-METHYL-2-PENTANONE	0.63	U	
ACETONE	64	B	A
BENZENE	0.52	J	P
BROMOBENZENE	0.82	U	
BROMOCHLOROMETHANE	0.82	U	
BROMODICHLOROMETHANE	0.33	U	
BROMOFORM	0.38	U	
BROMOMETHANE	0.63	U	
CARBON DISULFIDE	0.51	U	

PROJ_NO: 02720	NSAMPLE	MRC-MW95D (214ft)
SDG: 0E06602	LAB_ID	A0E140486001
FRACTION: OV	SAMP_DATE	5/13/2010
MEDIA: SOIL	QC_TYPE	NM
	UNITS	UG/KG
	PCT_SOLIDS	86.0
	DUP_OF	

PARAMETER	RESULT	VQL	QLCD
CARBON TETRACHLORIDE	0.43	U	
CHLOROBENZENE	0.38	U	
CHLORODIBROMOMETHANE	0.64	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.34	U	
CHLOROMETHANE	0.48	U	
CIS-1,2-DICHLOROETHENE	0.42	U	
CIS-1,3-DICHLOROPROPENE	0.39	U	
DIBROMOMETHANE	0.73	U	
DICHLORODIFLUOROMETHANE	0.58	U	
DIISOPROPYL ETHER	1.7	U	
ETHYL TERT-BUTYL ETHER	0.26	U	
ETHYLBENZENE	0.41	J	P
HEXACHLOROBUTADIENE	1.4	U	
ISOPROPYLBENZENE	0.19	U	
M+P-XYLENES	1.4	U	
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	0.99	B	A
NAPHTHALENE	0.37	B	A
N-BUTYLBENZENE	0.35	J	P
N-PROPYLBENZENE	0.46	U	
O-XYLENE	0.59	J	P
SEC-BUTYLBENZENE	0.21	U	
STYRENE	0.17	U	
TERT-AMYL METHYL ETHER	0.43	U	
TERT-BUTYLBENZENE	0.34	U	
TERTIARY-BUTYL ALCOHOL	8.8	UR	C
TETRACHLOROETHENE	0.6	U	
TOLUENE	1.6	B	A
TOTAL XYLENES	1.5	J	P
TRANS-1,2-DICHLOROETHENE	0.48	U	
TRANS-1,3-DICHLOROPROPENE	0.63	U	
TRICHLOROETHENE	0.49	U	
TRICHLOROFLUOROMETHANE	0.39	U	
VINYL ACETATE	0.29	U	
VINYL CHLORIDE	0.45	U	

Appendix B

Results as Reported by the Laboratory

Tetra Tech NUS, Inc

Client Sample ID: MRC-MW94D(72ft)

GC/MS Volatiles

Lot-Sample #...: A0E060602-001 **Work Order #...:** L05K41AA **Matrix.....:** WATER
Date Sampled...: 05/05/10 12:45 **Date Received..:** 05/06/10
Prep Date.....: 05/13/10 **Analysis Date..:** 05/13/10
Prep Batch #...: 0135112
Dilution Factor: 1 **Initial Wgt/Vol:** 5 mL **Final Wgt/Vol..:** 5 mL
Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**2.2 J**	**5.0**	**ug/L**	**1.1**
Bromobenzene	ND	1.0	ug/L	0.13
Bromochloromethane	ND	1.0	ug/L	0.29
Bromodichloromethane	ND	1.0	ug/L	0.15
2-Butanone	ND	5.0	ug/L	0.57
n-Butylbenzene	ND	1.0	ug/L	0.12
sec-Butylbenzene	ND	1.0	ug/L	0.13
tert-Butylbenzene	ND	1.0	ug/L	0.13
Carbon disulfide	ND	1.0	ug/L	0.13
Dibromochloromethane	ND	1.0	ug/L	0.18
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	0.67
2-Chloroethyl vinyl ether	ND	5.0	ug/L	0.99
2-Chlorotoluene	ND	1.0	ug/L	0.11
4-Chlorotoluene	ND	1.0	ug/L	0.18
1,2-Dibromoethane	ND	1.0	ug/L	0.24
Dibromomethane	ND	1.0	ug/L	0.28
1,2-Dichlorobenzene	ND	1.0	ug/L	0.13
1,3-Dichlorobenzene	ND	1.0	ug/L	0.14
1,4-Dichlorobenzene	ND	1.0	ug/L	0.13
Dichlorodifluoromethane	ND	1.0	ug/L	0.31
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.17
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.19
1,3-Dichloropropane	ND	1.0	ug/L	0.16
2,2-Dichloropropane	ND	1.0	ug/L	0.13
1,1-Dichloropropene	ND	1.0	ug/L	0.13
Trichlorofluoromethane	ND	1.0	ug/L	0.21
Hexachlorobutadiene	ND	1.0	ug/L	0.30
2-Hexanone	ND	5.0	ug/L	0.41
Isopropylbenzene	ND	1.0	ug/L	0.13
p-Isopropyltoluene	ND	1.0	ug/L	0.12
tert-Butyl alcohol	ND	20	ug/L	3.9
4-Methyl-2-pentanone	ND	5.0	ug/L	0.32
Naphthalene	ND	1.0	ug/L	0.24
n-Propylbenzene	ND	1.0	ug/L	0.14
Styrene	ND	1.0	ug/L	0.11
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.23
1,2,3-Trichlorobenzene	ND	1.0	ug/L	0.17

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Tetra Tech NUS, Inc

Client Sample ID: MRC-MW94D(72ft)

GC/MS Volatiles

Lot-Sample #...: A0E060602-001 **Work Order #...:** L05K41AA **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,2,4-Trichloro-benzene	ND	1.0	ug/L	0.15
1,2,3-Trichloropropane	ND	1.0	ug/L	0.43
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.28
1,2,4-Trimethylbenzene	ND	1.0	ug/L	0.12
Vinyl acetate	ND	2.0	ug/L	0.19
o-Xylene	ND	1.0	ug/L	0.14
Xylenes (total)	ND	2.0	ug/L	0.28
Methyl tert-butyl ether	ND	5.0	ug/L	0.17
m-Xylene & p-Xylene	ND	2.0	ug/L	0.24
1,2,3-Trimethylbenzene	ND	5.0	ug/L	0.0059
Diisopropyl Ether (DIPE)	ND	5.0	ug/L	1.5
Ethyl-t-Butyl Ether (ETBE)	ND	5.0	ug/L	0.11
Tert-amyl methyl ether (TAME)	ND	5.0	ug/L	0.067
Benzene	ND	1.0	ug/L	0.13
Bromoform	ND	1.0	ug/L	0.64
Bromomethane	ND	1.0	ug/L	0.41
Carbon tetrachloride	ND	1.0	ug/L	0.13
Chlorobenzene	ND	1.0	ug/L	0.15
Chloroethane	ND	1.0	ug/L	0.29
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.15
1,2-Dichloroethane	**0.24 J,B**	**1.0**	**ug/L**	**0.22**
1,1-Dichloroethene	ND	1.0	ug/L	0.19
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.14
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.19
Ethylbenzene	ND	1.0	ug/L	0.17
Methylene chloride	ND	1.0	ug/L	0.33
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.18
Tetrachloroethene	ND	1.0	ug/L	0.29
Toluene	ND	1.0	ug/L	0.13
1,1,1-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.17
Vinyl chloride	ND	1.0	ug/L	0.22

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	95	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	98	(76 - 110)
4-Bromofluorobenzene	85	(74 - 116)

(Continued on next page)

Tetra Tech NUS, Inc

Client Sample ID: MRC-MW94D(72ft)

GC/MS Volatiles

Lot-Sample #...: A0E060602-001 Work Order #...: L05K41AA Matrix.....: WATER

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Tetra Tech NUS, Inc

MRC-MW94D(72ft)

GC/MS Volatiles

Lot-Sample #: A0E060602-001 **Work Order #:** L05K41AA **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Freon 22		ND	M		ug/L
None					ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

Tetra Tech NUS, Inc

Client Sample ID: MRC-MW95D(63ft)

GC/MS Volatiles

Lot-Sample #...: A0E110505-001	**Work Order #...:** L1CNA1AA	**Matrix.....:** WG	
Date Sampled...: 05/10/10 12:45	**Date Received..:** 05/11/10		
Prep Date.....: 05/18/10	**Analysis Date..:** 05/18/10		
Prep Batch #...: 0139112			
Dilution Factor: 1	**Initial Wgt/Vol:** 5 mL	**Final Wgt/Vol..:** 5 mL	
	Method.....: SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**3.9 J**	**5.0**	**ug/L**	**1.1**
Bromobenzene	ND	1.0	ug/L	0.13
Bromochloromethane	ND	1.0	ug/L	0.29
Bromodichloromethane	**3.6**	**1.0**	**ug/L**	**0.15**
2-Butanone	**0.82 J**	**5.0**	**ug/L**	**0.57**
n-Butylbenzene	ND	1.0	ug/L	0.12
sec-Butylbenzene	ND	1.0	ug/L	0.13
tert-Butylbenzene	ND	1.0	ug/L	0.13
Carbon disulfide	ND	1.0	ug/L	0.13
Dibromochloromethane	**0.41 J**	**1.0**	**ug/L**	**0.18**
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	0.67
2-Chloroethyl vinyl ether	ND	5.0	ug/L	0.99
2-Chlorotoluene	ND	1.0	ug/L	0.11
4-Chlorotoluene	ND	1.0	ug/L	0.18
1,2-Dibromoethane	ND	1.0	ug/L	0.24
Dibromomethane	ND	1.0	ug/L	0.28
1,2-Dichlorobenzene	ND	1.0	ug/L	0.13
1,3-Dichlorobenzene	ND	1.0	ug/L	0.14
1,4-Dichlorobenzene	ND	1.0	ug/L	0.13
Dichlorodifluoromethane	ND	1.0	ug/L	0.31
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.17
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.19
1,3-Dichloropropane	ND	1.0	ug/L	0.16
2,2-Dichloropropane	ND	1.0	ug/L	0.13
1,1-Dichloropropene	ND	1.0	ug/L	0.13
Trichlorofluoromethane	ND	1.0	ug/L	0.21
Hexachlorobutadiene	ND	1.0	ug/L	0.30
2-Hexanone	ND	5.0	ug/L	0.41
Isopropylbenzene	ND	1.0	ug/L	0.13
p-Isopropyltoluene	ND	1.0	ug/L	0.12
tert-Butyl alcohol	ND	20	ug/L	3.9
4-Methyl-2-pentanone	ND	5.0	ug/L	0.32
Naphthalene	ND	1.0	ug/L	0.24
n-Propylbenzene	ND	1.0	ug/L	0.14
Styrene	ND	1.0	ug/L	0.11
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.23
1,2,3-Trichlorobenzene	ND	1.0	ug/L	0.17

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Tetra Tech NUS, Inc

Client Sample ID: MRC-MW95D(63ft)

GC/MS Volatiles

Lot-Sample #...: A0E110505-001 **Work Order #...:** L1CNA1AA **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,2,4-Trichloro-benzene	ND	1.0	ug/L	0.15
1,2,3-Trichloropropane	ND	1.0	ug/L	0.43
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.28
1,2,4-Trimethylbenzene	ND	1.0	ug/L	0.12
Vinyl acetate	ND	2.0	ug/L	0.19
o-Xylene	ND	1.0	ug/L	0.14
Xylenes (total)	ND	2.0	ug/L	0.28
Methyl tert-butyl ether	ND	5.0	ug/L	0.17
m-Xylene & p-Xylene	ND	2.0	ug/L	0.24
1,2,3-Trimethylbenzene	ND	5.0	ug/L	0.0059
Diisopropyl Ether (DIPE)	ND	5.0	ug/L	1.5
Ethyl-t-Butyl Ether (ETBE)	ND	5.0	ug/L	0.11
Tert-amyl methyl ether (TAME)	ND	5.0	ug/L	0.067
Benzene	ND	1.0	ug/L	0.13
Bromoform	ND	1.0	ug/L	0.64
Bromomethane	ND	1.0	ug/L	0.41
Carbon tetrachloride	ND	1.0	ug/L	0.13
Chlorobenzene	ND	1.0	ug/L	0.15
Chloroethane	ND	1.0	ug/L	0.29
Chloroform	**22**	**1.0**	**ug/L**	**0.16**
Chloromethane	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.15
1,2-Dichloroethane	ND	1.0	ug/L	0.22
1,1-Dichloroethene	ND	1.0	ug/L	0.19
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.14
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.19
Ethylbenzene	ND	1.0	ug/L	0.17
Methylene chloride	ND	1.0	ug/L	0.33
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.18
Tetrachloroethene	ND	1.0	ug/L	0.29
Toluene	ND	1.0	ug/L	0.13
1,1,1-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.17
Vinyl chloride	ND	1.0	ug/L	0.22

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	100	(73 - 122)
1,2-Dichloroethane-d4	95	(61 - 128)
Toluene-d8	95	(76 - 110)
4-Bromofluorobenzene	84	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

MRC-MW95D(63ft)

GC/MS Volatiles

Lot-Sample #: A0E110505-001 **Work Order #:** L1CNA1AA **Matrix:** WG

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Isopropyl Alcohol	67-63-0	2.5 NJ	M	3.0587	ug/L
Freon 22		ND	M		ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

Tetra Tech NUS, Inc

Client Sample ID: MRC-MW95D(76ft)

GC/MS Volatiles

Lot-Sample #...: A0E110505-002 **Work Order #...:** L1CNK1AA **Matrix.....:** WG
Date Sampled...: 05/10/10 14:00 **Date Received..:** 05/11/10
Prep Date.....: 05/19/10 **Analysis Date..:** 05/19/10
Prep Batch #...: 0140083
Dilution Factor: 1 **Initial Wgt/Vol:** 5 mL **Final Wgt/Vol..:** 5 mL
Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**4.6 J**	**5.0**	**ug/L**	**1.1**
Bromobenzene	ND	1.0	ug/L	0.13
Bromochloromethane	ND	1.0	ug/L	0.29
Bromodichloromethane	**3.7**	**1.0**	**ug/L**	**0.15**
2-Butanone	**0.99 J**	**5.0**	**ug/L**	**0.57**
n-Butylbenzene	ND	1.0	ug/L	0.12
sec-Butylbenzene	ND	1.0	ug/L	0.13
tert-Butylbenzene	ND	1.0	ug/L	0.13
Carbon disulfide	ND	1.0	ug/L	0.13
Dibromochloromethane	**0.41 J**	**1.0**	**ug/L**	**0.18**
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	0.67
2-Chloroethyl vinyl ether	ND	5.0	ug/L	0.99
2-Chlorotoluene	ND	1.0	ug/L	0.11
4-Chlorotoluene	ND	1.0	ug/L	0.18
1,2-Dibromoethane	ND	1.0	ug/L	0.24
Dibromomethane	ND	1.0	ug/L	0.28
1,2-Dichlorobenzene	ND	1.0	ug/L	0.13
1,3-Dichlorobenzene	ND	1.0	ug/L	0.14
1,4-Dichlorobenzene	ND	1.0	ug/L	0.13
Dichlorodifluoromethane	ND	1.0	ug/L	0.31
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.17
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.19
1,3-Dichloropropane	ND	1.0	ug/L	0.16
2,2-Dichloropropane	ND	1.0	ug/L	0.13
1,1-Dichloropropene	ND	1.0	ug/L	0.13
Trichlorofluoromethane	ND	1.0	ug/L	0.21
Hexachlorobutadiene	ND	1.0	ug/L	0.30
2-Hexanone	ND	5.0	ug/L	0.41
Isopropylbenzene	ND	1.0	ug/L	0.13
p-Isopropyltoluene	ND	1.0	ug/L	0.12
tert-Butyl alcohol	ND	20	ug/L	3.9
4-Methyl-2-pentanone	ND	5.0	ug/L	0.32
Naphthalene	ND	1.0	ug/L	0.24
n-Propylbenzene	ND	1.0	ug/L	0.14
Styrene	ND	1.0	ug/L	0.11
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.23
1,2,3-Trichlorobenzene	ND	1.0	ug/L	0.17

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Tetra Tech NUS, Inc

Client Sample ID: MRC-MW95D(76ft)

GC/MS Volatiles

Lot-Sample #...: A0E110505-002 **Work Order #...:** L1CNK1AA **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,2,4-Trichloro-benzene	ND	1.0	ug/L	0.15
1,2,3-Trichloropropane	ND	1.0	ug/L	0.43
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.28
1,2,4-Trimethylbenzene	ND	1.0	ug/L	0.12
Vinyl acetate	ND	2.0	ug/L	0.19
o-Xylene	ND	1.0	ug/L	0.14
Xylenes (total)	ND	2.0	ug/L	0.28
Methyl tert-butyl ether	ND	5.0	ug/L	0.17
m-Xylene & p-Xylene	ND	2.0	ug/L	0.24
1,2,3-Trimethylbenzene	ND	5.0	ug/L	0.0059
Diisopropyl Ether (DIPE)	ND	5.0	ug/L	1.5
Ethyl-t-Butyl Ether (ETBE)	ND	5.0	ug/L	0.11
Tert-amyl methyl ether (TAME)	ND	5.0	ug/L	0.067
Benzene	ND	1.0	ug/L	0.13
Bromoform	ND	1.0	ug/L	0.64
Bromomethane	ND	1.0	ug/L	0.41
Carbon tetrachloride	ND	1.0	ug/L	0.13
Chlorobenzene	ND	1.0	ug/L	0.15
Chloroethane	ND	1.0	ug/L	0.29
Chloroform	**27**	**1.0**	**ug/L**	**0.16**
Chloromethane	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.15
1,2-Dichloroethane	ND	1.0	ug/L	0.22
1,1-Dichloroethene	ND	1.0	ug/L	0.19
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.14
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.19
Ethylbenzene	ND	1.0	ug/L	0.17
Methylene chloride	ND	1.0	ug/L	0.33
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.18
Tetrachloroethene	ND	1.0	ug/L	0.29
Toluene	ND	1.0	ug/L	0.13
1,1,1-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.17
Vinyl chloride	ND	1.0	ug/L	0.22

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	92	(73 - 122)
1,2-Dichloroethane-d4	91	(61 - 128)
Toluene-d8	95	(76 - 110)
4-Bromofluorobenzene	89	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

MRC-MW95D(76ft)

GC/MS Volatiles

Lot-Sample #: A0E110505-002 **Work Order #:** L1CNK1AA **Matrix:** WG

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Isopropyl Alcohol	67-63-0	1.7 NJ	M	3.0589	ug/L
Freon 22		ND	M		ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

Tetra Tech NUS, Inc

Client Sample ID: MRC-MW96D (65ft)

GC/MS Volatiles

Lot-Sample #...: A0E140486-002 **Work Order #...:** L1H6H1AA **Matrix.....:** WG
Date Sampled...: 05/13/10 14:45 **Date Received..:** 05/14/10
Prep Date.....: 05/26/10 **Analysis Date..:** 05/26/10
Prep Batch #...: 0147259
Dilution Factor: 1 **Initial Wgt/Vol:** 5 mL **Final Wgt/Vol..:** 5 mL
Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**3.4 J**	**5.0**	**ug/L**	**1.1**
Bromobenzene	ND	1.0	ug/L	0.13
Bromochloromethane	ND	1.0	ug/L	0.29
Bromodichloromethane	**5.4**	**1.0**	**ug/L**	**0.15**
2-Butanone	ND	5.0	ug/L	0.57
n-Butylbenzene	ND	1.0	ug/L	0.12
sec-Butylbenzene	ND	1.0	ug/L	0.13
tert-Butylbenzene	ND	1.0	ug/L	0.13
Carbon disulfide	ND	1.0	ug/L	0.13
Dibromochloromethane	**0.76 J**	**1.0**	**ug/L**	**0.18**
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	0.67
2-Chloroethyl vinyl ether	ND	5.0	ug/L	0.99
2-Chlorotoluene	ND	1.0	ug/L	0.11
4-Chlorotoluene	ND	1.0	ug/L	0.18
1,2-Dibromoethane	ND	1.0	ug/L	0.24
Dibromomethane	ND	1.0	ug/L	0.28
1,2-Dichlorobenzene	ND	1.0	ug/L	0.13
1,3-Dichlorobenzene	ND	1.0	ug/L	0.14
1,4-Dichlorobenzene	ND	1.0	ug/L	0.13
Dichlorodifluoromethane	ND	1.0	ug/L	0.31
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.17
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.19
1,3-Dichloropropane	ND	1.0	ug/L	0.16
2,2-Dichloropropane	ND	1.0	ug/L	0.13
1,1-Dichloropropene	ND	1.0	ug/L	0.13
Trichlorofluoromethane	ND	1.0	ug/L	0.21
Hexachlorobutadiene	ND	1.0	ug/L	0.30
2-Hexanone	ND	5.0	ug/L	0.41
Isopropylbenzene	ND	1.0	ug/L	0.13
p-Isopropyltoluene	ND	1.0	ug/L	0.12
tert-Butyl alcohol	ND	20	ug/L	3.9
4-Methyl-2-pentanone	ND	5.0	ug/L	0.32
Naphthalene	ND	1.0	ug/L	0.24
n-Propylbenzene	ND	1.0	ug/L	0.14
Styrene	ND	1.0	ug/L	0.11
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.23
1,2,3-Trichlorobenzene	ND	1.0	ug/L	0.17

(Continued on next page)

Tetra Tech NUS, Inc

Client Sample ID: MRC-MW96D (65ft)

GC/MS Volatiles

Lot-Sample #...: A0E140486-002 Work Order #...: L1H6H1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,2,4-Trichloro-benzene	ND	1.0	ug/L	0.15
1,2,3-Trichloropropane	ND	1.0	ug/L	0.43
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.28
1,2,4-Trimethylbenzene	ND	1.0	ug/L	0.12
Vinyl acetate	ND	2.0	ug/L	0.19
o-Xylene	ND	1.0	ug/L	0.14
Xylenes (total)	ND	2.0	ug/L	0.28
Methyl tert-butyl ether	ND	5.0	ug/L	0.17
m-Xylene & p-Xylene	ND	2.0	ug/L	0.24
1,2,3-Trimethylbenzene	ND	5.0	ug/L	0.0059
Diisopropyl Ether (DIPE)	ND	5.0	ug/L	1.5
Ethyl-t-Butyl Ether (ETBE)	ND	5.0	ug/L	0.11
Tert-amyl methyl ether (TAME)	ND	5.0	ug/L	0.067
Benzene	ND	1.0	ug/L	0.13
Bromoform	ND	1.0	ug/L	0.64
Bromomethane	ND	1.0	ug/L	0.41
Carbon tetrachloride	ND	1.0	ug/L	0.13
Chlorobenzene	ND	1.0	ug/L	0.15
Chloroethane	ND	1.0	ug/L	0.29
Chloroform	**23**	**1.0**	**ug/L**	**0.16**
Chloromethane	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.15
1,2-Dichloroethane	ND	1.0	ug/L	0.22
1,1-Dichloroethene	ND	1.0	ug/L	0.19
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.14
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.19
Ethylbenzene	ND	1.0	ug/L	0.17
Methylene chloride	ND	1.0	ug/L	0.33
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.18
Tetrachloroethene	ND	1.0	ug/L	0.29
Toluene	ND	1.0	ug/L	0.13
1,1,1-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.17
Vinyl chloride	ND	1.0	ug/L	0.22

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	98	(73 - 122)
1,2-Dichloroethane-d4	91	(61 - 128)
Toluene-d8	96	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

MRC-MW96D (65ft)

GC/MS Volatiles

Lot-Sample #: A0E140486-002 **Work Order #:** L1H6H1AA **Matrix:** WG

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Unknown		2.4 J	M	3.0588	ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

Tetra Tech NUS, Inc

Client Sample ID: MRC-MW95D (214ft)

GC/MS Volatiles

Lot-Sample #...:	A0E140486-001	**Work Order #...:**	L1H521AC	**Matrix.....:**	WG
Date Sampled...:	05/13/10 11:00	**Date Received..:**	05/14/10		
Prep Date.....:	05/18/10	**Analysis Date..:**	05/18/10		
Prep Batch #...:	0139136				
Dilution Factor:	1	**Initial Wgt/Vol:**	5 g	**Final Wgt/Vol..:**	5 mL
% Moisture.....:	14	**Method.....:**	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Bromobenzene	ND	5.8	ug/kg	0.82
Bromochloromethane	ND	5.8	ug/kg	0.82
n-Butylbenzene	**0.35 J**	**5.8**	**ug/kg**	**0.27**
sec-Butylbenzene	ND	5.8	ug/kg	0.21
tert-Butylbenzene	ND	5.8	ug/kg	0.34
1,2-Dibromo-3-chloro-propane	ND	12	ug/kg	1.5
2-Chloroethyl vinyl ether	ND	12	ug/kg	1.6
2-Chlorotoluene	ND	5.8	ug/kg	0.46
4-Chlorotoluene	ND	5.8	ug/kg	0.48
1,2-Dibromoethane	ND	5.8	ug/kg	0.58
Dibromomethane	ND	5.8	ug/kg	0.73
1,2-Dichlorobenzene	ND	5.8	ug/kg	0.42
1,3-Dichlorobenzene	ND	5.8	ug/kg	0.41
1,4-Dichlorobenzene	ND	5.8	ug/kg	0.77
Dichlorodifluoromethane	ND	5.8	ug/kg	0.58
cis-1,2-Dichloroethene	ND	5.8	ug/kg	0.42
trans-1,2-Dichloroethene	ND	5.8	ug/kg	0.48
1,3-Dichloropropane	ND	5.8	ug/kg	0.39
2,2-Dichloropropane	ND	5.8	ug/kg	1.1
1,1-Dichloropropene	ND	5.8	ug/kg	0.35
Trichlorofluoromethane	ND	5.8	ug/kg	0.39
Hexachlorobutadiene	ND	5.8	ug/kg	1.4
Isopropylbenzene	ND	5.8	ug/kg	0.19
p-Isopropyltoluene	ND	5.8	ug/kg	0.24
tert-Butyl alcohol	ND	120	ug/kg	8.8
Naphthalene	**0.37 J,B**	**5.8**	**ug/kg**	**0.22**
n-Propylbenzene	ND	5.8	ug/kg	0.46
1,1,1,2-Tetrachloroethane	ND	5.8	ug/kg	0.72
1,2,3-Trichlorobenzene	ND	5.8	ug/kg	0.44
1,2,4-Trichloro-benzene	ND	5.8	ug/kg	0.31
1,2,3-Trichloropropane	ND	5.8	ug/kg	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	5.8	ug/kg	1.5
1,2,4-Trimethylbenzene	ND	5.8	ug/kg	0.75
Vinyl acetate	ND	12	ug/kg	0.29
o-Xylene	**0.59 J**	**5.8**	**ug/kg**	**0.41**

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Tetra Tech NUS, Inc

Client Sample ID: MRC-MW95D (214ft)

GC/MS Volatiles

Lot-Sample #...: A0E140486-001 **Work Order #...:** L1H521AC **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Methyl tert-butyl ether	ND	12	ug/kg	0.50
m-Xylene & p-Xylene	ND	12	ug/kg	1.4
1,2,3-Trimethylbenzene	ND	5.8	ug/kg	0.20
Diisopropyl Ether (DIPE)	ND	12	ug/kg	1.7
Ethyl-t-Butyl Ether (ETBE)	ND	5.8	ug/kg	0.26
Tert-amyl methyl ether (TAME)	ND	5.8	ug/kg	0.43
Chloromethane	ND	5.8	ug/kg	0.48
Bromomethane	ND	5.8	ug/kg	0.63
Vinyl chloride	ND	5.8	ug/kg	0.45
Chloroethane	ND	5.8	ug/kg	1.0
Methylene chloride	**0.99 J,B**	**5.8**	**ug/kg**	**0.78**
Acetone	**64 B**	**12**	**ug/kg**	**7.3**
Carbon disulfide	ND	5.8	ug/kg	0.51
1,1-Dichloroethene	ND	5.8	ug/kg	0.60
1,1-Dichloroethane	ND	5.8	ug/kg	0.42
Chloroform	ND	5.8	ug/kg	0.34
1,2-Dichloroethane	ND	5.8	ug/kg	0.39
2-Butanone	**27**	**12**	**ug/kg**	**1.6**
1,1,1-Trichloroethane	ND	5.8	ug/kg	0.65
Carbon tetrachloride	ND	5.8	ug/kg	0.43
Bromodichloromethane	ND	5.8	ug/kg	0.33
1,2-Dichloropropane	ND	5.8	ug/kg	0.80
cis-1,3-Dichloropropene	ND	5.8	ug/kg	0.39
Trichloroethene	ND	5.8	ug/kg	0.49
Dibromochloromethane	ND	5.8	ug/kg	0.64
Benzene	**0.52 J**	**5.8**	**ug/kg**	**0.27**
trans-1,3-Dichloropropene	ND	5.8	ug/kg	0.63
Bromoform	ND	5.8	ug/kg	0.38
4-Methyl-2-pentanone	ND	12	ug/kg	0.63
2-Hexanone	**7.7 J,B**	**12**	**ug/kg**	**0.73**
Tetrachloroethene	ND	5.8	ug/kg	0.60
1,1,2,2-Tetrachloroethane	ND	5.8	ug/kg	0.39
Toluene	**1.6 J,B**	**5.8**	**ug/kg**	**0.31**
Chlorobenzene	ND	5.8	ug/kg	0.38
Ethylbenzene	**0.41 J**	**5.8**	**ug/kg**	**0.30**
Styrene	ND	5.8	ug/kg	0.17
Xylenes (total)	**1.5 J**	**12**	**ug/kg**	**0.78**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	90	(59 - 138)
1,2-Dichloroethane-d4	109	(61 - 130)
Toluene-d8	102	(60 - 143)
4-Bromofluorobenzene	90	(47 - 158)

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Tetra Tech NUS, Inc

Client Sample ID: MRC-MW95D (214ft)

GC/MS Volatiles

Lot-Sample #...: A0E140486-001 Work Order #...: L1H521AC Matrix.....: WG

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Tetra Tech NUS, Inc

MRC-MW95D (214ft)

GC/MS Volatiles

Lot-Sample #: A0E140486-001 **Work Order #:** L1H521AC **Matrix:** WG

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Acetaldehyde	75-07-0	9.7 NJ	M	1.6534	ug/kg
Butanal	123-72-8	8.1 NJ	M	5.1205	ug/kg
Heptanal	111-71-7	12 NJ	M	10.066	ug/kg
Hexanal, 2-ethyl-	123-05-7	57 NJ	M	10.646	ug/kg
2-Octanone	111-13-7	6.9 NJ	M	11.072	ug/kg
1-Hexanol, 2-ethyl-	104-76-7	49 NJ	M	11.462	ug/kg
Freon 22		ND	M		ug/kg

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

Appendix C

Support Documentation

HOLDTIME

SDG 0E06602

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/KG	MRC-MW95D (214ft)	A0E140486001	NM	05/13/2010	05/18/2010	05/18/2010	5	0	5
OV	UG/L	MRC-MW96D (65ft)	A0E140486002	NM	05/13/2010	05/26/2010	05/26/2010	13	0	13
OV	UG/L	MRC-MW95D(76ft)	A0E110505002	NM	05/10/2010	05/19/2010	05/19/2010	9	0	9
OV	UG/L	MRC-MW95D(63ft)	A0E110505001	NM	05/10/2010	05/18/2010	05/18/2010	8	0	8
OV	UG/L	MRC-MW94D(72ft)	A0E060602001	NM	05/05/2010	05/13/2010	05/13/2010	8	0	8

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

PROJECT NO. 112IC02720

MIDDLE RIVER COMPLEX-DEEP WELL

SDG #: 0E06602

Lot(s): A0E060602, A0E110505, A0E140486

Tony Apanavage

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TESTAMERICA LABORATORIES, INC.

Approved for release.
Patrick O'Meara
Project Manager
6/3/2010 6:06 PM

Patrick J. O'Meara
Project Manager
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June 03, 2010

ACCREDITED IN ACCORDANCE WITH nelac

CASE NARRATIVE

0E06602

The following report contains the analytical results for one solid sample and four water samples submitted to TestAmerica North Canton by Tetra Tech NUS, Inc from the Middle River Complex-Deep Well Site, project number 112IC02720. The samples were received May 06, 2010, May 11, 2010 and May 14, 2010, according to documented sample acceptance procedures.

This SDG consists of (3) laboratory ID's: A0E060602, A0E110505 and A0140486.

TestAmerica utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Kelly Carper and Tony Apanavage on May 17, 2010, May 22, 2010 and on May 28, 2010. A summary of QC data for these analyses is included at the back of the report.

TestAmerica North 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 applicable 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.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

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.

All parameters were evaluated to the method detection limit and include qualified results where applicable.

Please refer to the Quality Control Elements Narrative following this case narrative for additional quality control information.

If you have any questions, please call the Project Manager, Patrick J. O'Meara, at 330-497-9396.

CASE NARRATIVE (continued)

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperatures of the coolers upon sample receipt were 2.2, 3.4 and 4.0°C.

GC/MS VOLATILES

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "B". All target analytes in the Method Blank must be below the reporting limit (RL) or the associated sample(s) must be ND with the exception of common laboratory contaminants.

The sample(s) that contain results between the MDL and the RL were flagged with "J". There is a possibility of false positive or mis-identification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation was performed only down to the standard reporting limit (SRL). The acceptance criteria for QC samples may not be met at these quantitation levels.

The matrix spike/matrix spike duplicate(s) for batch(es) 0139112 and 0140083 had RPD's outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

2-Chloroethyl-vinyl ether cannot be reliably recovered in an acid preserved sample.

The Acetone reporting limits is lower than our standard reporting limit, but is supported by the laboratory's MDL. However, there are no standards in the calibration curve low enough to support this value.

GENERAL CHEMISTRY

The analytical results met the requirements of the laboratory's QA/QC program.

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data. Program or agency specific requirements take precedence over the requirements listed in this narrative.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. TestAmerica North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples.

For SW846/RCRA methods, QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

For 600 series/CWA methods, QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE (MS). An MS is prepared and analyzed at a 10% frequency for GC Methods and at a 5% frequency for GC/MS methods.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. Multi peak responders may not be included in the target spike list due to co-elution. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. Comparison of only the failed parameters from the first batch are evaluated. The only exception to the rework requirement is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed in the table.)

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals ICP-MS	Metals ICP Trace
Methylene Chloride, Acetone, 2-Butanone	Phthalate Esters	Copper, Iron, Zinc, Lead, Calcium, Magnesium, Potassium, Sodium, Barium, Chromium, Manganese	Copper, Iron, Zinc, Lead

QUALITY CONTROL ELEMENTS NARRATIVE (continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.

- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

For certain methods (600 series methods/CWA), a Matrix Spike is required in place of a Matrix Spike/Matrix Spike Duplicate (MS/MSD) or Matrix Spike/Sample Duplicate (MS/DU).

The acceptance criteria do not apply to samples that are diluted.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprepared and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide and PCB methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria. The second surrogate must have a recovery of 10% or greater.

TestAmerica Certifications and Approvals:

The laboratory is certified for the analytes listed on the documents below. These are available upon request.
California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),
Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Nevada (#OH-000482008A), OhioVAP (#CL0024), Pennsylvania (#008), West Virginia (#210), Wisconsin (#999518190),NAVY, ARMY, USDA Soil Permit

ANALYTICAL METHODS SUMMARY

0E06602

PARAMETER	ANALYTICAL METHOD
Total Residue as Percent Solids	MCAWW 160.3 MOD
Volatile Organics by GC/MS	SW846 8260B

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

0E06602 : A0E060602

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
L05K4	001	MRC-MW94D(72')	05/05/10	12:45

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

(Continued on next page)

SAMPLE SUMMARY

0E06602 : A0E110505

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
L1CNA	001	MRC-MW95D(63')	05/10/10	12:45
L1CNK	002	MRC-MW95D(76')	05/10/10	14:00

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

(Continued on next page)

SAMPLE SUMMARY

0E06602 : A0E140486

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
L1H52	001	MRC-MW95D (214')	05/13/10	11:00
L1H6H	002	MRC-MW96D (65')	05/13/10	14:45

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☐ No ☒

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client	Project Manager	Date	Chain of Custody Number
TetraTech NUS	Dev Murali	5/5/10	154783
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
20251 Century Blvd.	(301) 528-3063		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Germantown / MD	Fred Kalberg		
Project Name and Location (State)	**Carrier/Waybill Number**		
Middle River Complex			
Contract/Purchase Order/Quote No.			
Project # Pending Charge to 112rc02720			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H_2SO_4	HNO_3	HCl	NaOH	ZnAc/NaOH	Analysis (Attach list if more space is needed): TCL VOCs	Special Instructions/ Conditions of Receipt
MRC-MW94D(72')	5/5/10	1245		X						3			X	

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

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

1. Relinquished By: Shawn L Martinez	Date: 5/5/10	Time: 1600	1. Received By: Paul Hyland	Date: 5/5/10	Time: 4:00pm
2. Relinquished By: Paul Hyland	Date: 5/5/10	Time: 4:40 pm	2. Received By: Matthew Jewell TestAmerica	Date: 6 May 2010	Time: 0920
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

DISTRIBUTION: *WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy*

North Canton

TestAmerica Cooler Receipt Form/Narrative
North Canton Facility Lot Number: A0E060602

Client TETRA TECH Project MIDDLE RIVER By: [signature] (Signature)

Cooler Received on 6 May 2010 Opened on 6 May 2010

FedEx ☒ UPS ☐ DHL ☐ FAS ☐ Stetson ☐ Client Drop Off ☐ TestAmerica Courier ☐ Other ____

TestAmerica Cooler # ____ Multiple Coolers ☐ Foam Box ☐ Client Cooler ☒ Other ____

1. Were custody seals on the outside of the cooler(s)? Yes ☒ No ☐ Intact? Yes ☒ No ☐ NA ☐
   If YES, Quantity 1 Quantity Unsalvageable ____
   Were custody seals on the outside of cooler(s) signed and dated? Yes ☒ No ☐ NA ☐
   Were custody seals on the bottle(s)? Yes ☐ No ☒
   If YES, are there any exceptions? ____
2. Shippers' packing slip attached to the cooler(s)? Yes ☒ No ☐
3. Did custody papers accompany the sample(s)? Yes ☒ No ☐ Relinquished by client? Yes ☒ No ☐
4. Were the custody papers signed in the appropriate place? Yes ☒ No ☐
5. Packing material used: Bubble Wrap ☒ Foam ☒ None ☐ Other PLASTIC BAG
6. Cooler temperature upon receipt 2.2 °C See back of form for multiple coolers/temps ☐
   METHOD: IR ☒ Other ☐ ____
   COOLANT: Wet Ice ☒ Blue Ice ☐ Dry Ice ☐ Water ☐ None ☐
7. Did all bottles arrive in good condition (Unbroken)? Yes ☒ No ☐
8. Could all bottle labels be reconciled with the COC? Yes ☒ No ☐
9. Were sample(s) at the correct pH upon receipt? Yes ☐ No ☐ NA ☒
10. Were correct bottle(s) used for the test(s) indicated? Yes ☒ No ☐
11. Were air bubbles >6 mm in any VOA vials? Yes ☐ No ☒ NA ☐
12. Sufficient quantity received to perform indicated analyses? Yes ☒ No ☐
13. Was a trip blank present in the cooler(s)? Yes ☒ No ☒ Were VOAs on the COC? Yes ☒ No ☐

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

Concerning ____ MMF 5/6

14. CHAIN OF CUSTODY

The following discrepancies occurred:

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 Sample Receiving to meet recommended pH level(s). *Nitric Acid Lot#* 121709-HNO_3; *Sulfuric Acid Lot#* 121709-H_2SO_4; *Sodium Hydroxide Lot#* 100108 -*NaOH*; *Hydrochloric Acid Lot#* 092006-*HCl*; *Sodium Hydroxide and Zinc Acetate Lot#* 100108-$(CH_3COO)_2ZN/NaOH$. What time was preservative added to sample(s)? ____

Client ID	pH	Date	Initials

TestAmerica Cooler Receipt Form/Narrative
North Canton Facility

Client ID	pH	Date	Initials

Cooler #	Temp. °C	Method	Coolant

Discrepancies Cont'd:

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☐ No ☒

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

21

TAL-4124 (1007)

Client	Project Manager	Date	Chain of Custody Number
TetraTech, NUS	Dev Murali	5/10/10	154118
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
20251 Century Blvd	(301) 528-3063		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Germantown / MD	Dawn MacKenzie		
Project Name and Location (State)	**Carrier/Waybill Number**		
LMC Deep Well Install			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Analysis: TCL VOC	Special Instructions/ Conditions of Receipt
MRC-MW95D(63')	5/10/10	1245		X						2			X	
MRC-MW95D(76')	↓	1400		X						2			X	

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

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Daniel L Murphy	5/10/10	1600	1. Received By: Paul Gayleard	5/10/10	1529
2. Relinquished By: Paul Gayleard	5/10/10	1630	2. Received By: [signature]	5/11/10	1000
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

North Canton

ADE110505 PS 6/8/10

TestAmerica Cooler Receipt Form/Narrative **Lot Number:** ADE100505 6/8/10

North Canton Facility

Client Tetra Tech Project GSP Deep Well Inst. By: _____ (Signature)

Cooler Received on 5/11/10 Opened on 5/11/10

FedEx ☒ UPS ☐ DHL ☐ FAS ☐ Stetson ☐ Client Drop Off ☐ TestAmerica Courier ☐ Other _____

TestAmerica Cooler # 4424 Multiple Coolers ☐ Foam Box ☐ Client Cooler ☐ Other _____

1. Were custody seals on the outside of the cooler(s)? Yes ☒ No ☐ Intact? Yes ☒ No ☐ NA ☐
   If YES, Quantity 1 Quantity Unsalvageable _____
   Were custody seals on the outside of cooler(s) signed and dated? Yes ☒ No ☐ NA ☐
   Were custody seals on the bottle(s)? Yes ☐ No ☒
   If YES, are there any exceptions? _____
2. Shippers' packing slip attached to the cooler(s)? Yes ☒ No ☐
3. Did custody papers accompany the sample(s)? Yes ☒ No ☐ Relinquished by client? Yes ☒ No ☐
4. Were the custody papers signed in the appropriate place? Yes ☒ No ☐
5. Packing material used: Bubble Wrap ☒ Foam ☐ None ☐ Other _____
6. Cooler temperature upon receipt 3.4 °C See back of form for multiple coolers/temps ☐
   METHOD: IR ☒ Other ☐ _____
   COOLANT: Wet Ice ☒ Blue Ice ☐ Dry Ice ☐ Water ☐ None ☐
7. Did all bottles arrive in good condition (Unbroken)? Yes ☒ No ☐
8. Could all bottle labels be reconciled with the COC? Yes ☒ No ☐
9. Were sample(s) at the correct pH upon receipt? Yes ☐ No ☐ NA ☒
10. Were correct bottle(s) used for the test(s) indicated? Yes ☒ No ☐
11. Were air bubbles >6 mm in any VOA vials? Yes ☐ No ☒ NA ☐
12. Sufficient quantity received to perform indicated analyses? Yes ☒ No ☐
13. Was a trip blank present in the cooler(s)? Yes ☐ No ☒ Were VOAs on the COC? Yes ☒ No ☐

Contacted PM _____ Date _____ by _____ via Verbal ☐ Voice Mail ☐ Other ☐

Concerning _____

14. CHAIN OF CUSTODY

The following discrepancies occurred:

_____

_____

_____

_____

_____

_____

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 Sample Receiving to meet recommended pH level(s). *Nitric Acid Lot#* 121709-HNO_3; *Sulfuric Acid Lot#* 121709-H_2SO_4; *Sodium Hydroxide Lot#* 100108 -*NaOH; Hydrochloric Acid Lot#* 092006-*HCl; Sodium Hydroxide and Zinc Acetate Lot#* 100108-$(CH_3COO)_2ZN/NaOH$. What time was preservative added to sample(s)? _____

Client ID	pH	Date	Initials

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes☐ No☐

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client	Project Manager	Date	Chain of Custody Number
Tetra Tech NUS	Fred Kolbert	5-13-10	154325
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** 1 of 1
20251 Century Blvd	(301) 528-3063		
City	**State**	**Zip Code**	**Site Contact**	**Lab Contact**
Germantown	MD		Walt Payson	
Project Name and Location (State)	**Carrier/Waybill Number**	
MEC Deep Well		
Contract/Purchase Order/Quote No.		

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H_2SO_4	HNO_3	HCl	NaOH	$ZnAc/NaOH$	Analysis: TCL VOCs	Special Instructions/ Conditions of Receipt
MEC-MW 95D (214')	5-13-10	1100				X	X						X	
MEC-MW 96D (65')	↓	1445		X						X			X	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1.	Walt Payson	5-13-10	1600	Paul Shepherd	5/13/10	1600
2.	Paul Shepherd	5-13-10	1700	[illegible]	5/14/10	0910
3.						

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

North Canton

23

TestAmerica Cooler Receipt Form/Narrative **Lot Number:** ADE140486
North Canton Facility

Client Tetra Tech Project _____ By: _____ (Signature)
Cooler Received on 5/14/10 Opened on 5/14/10
FedEx ☒ UPS ☐ DHL ☐ FAS ☐ Stetson ☐ Client Drop Off ☐ TestAmerica Courier ☐ Other _____
TestAmerica Cooler # 241-879 Multiple Coolers ☐ Foam Box ☐ Client Cooler ☐ Other _____

1. Were custody seals on the outside of the cooler(s)? Yes ☒ No ☐ Intact? Yes ☐ No ☐ NA ☐
   If YES, Quantity 1 Quantity Unsalvageable _____
   Were custody seals on the outside of cooler(s) signed and dated? Yes ☒ No ☐ NA ☐
   Were custody seals on the bottle(s)? Yes ☐ No ☒
   If YES, are there any exceptions? _____
2. Shippers' packing slip attached to the cooler(s)? Yes ☒ No ☐
3. Did custody papers accompany the sample(s)? Yes ☒ No ☐ Relinquished by client? Yes ☒ No ☐
4. Were the custody papers signed in the appropriate place? Yes ☒ No ☐
5. Packing material used: Bubble Wrap ☒ Foam ☐ None ☐ Other _____
6. Cooler temperature upon receipt 4.0 °C See back of form for multiple coolers/temps ☐
   METHOD: IR ☒ Other ☐ _____
   COOLANT: Wet Ice ☒ Blue Ice ☐ Dry Ice ☐ Water ☐ None ☐
7. Did all bottles arrive in good condition (Unbroken)? Yes ☒ No ☐
8. Could all bottle labels be reconciled with the COC? Yes ☒ No ☐
9. Were sample(s) at the correct pH upon receipt? Yes ☐ No ☐ NA ☒
10. Were correct bottle(s) used for the test(s) indicated? Yes ☒ No ☐
11. Were air bubbles >6 mm in any VOA vials? Yes ☐ No ☒ NA ☐
12. Sufficient quantity received to perform indicated analyses? Yes ☒ No ☐
13. Was a trip blank present in the cooler(s)? Yes ☐ No ☒ Were VOAs on the COC? Yes ☒ No ☐

Contacted PM _____ Date _____ by _____ via Verbal ☐ Voice Mail ☐ Other ☐
Concerning _____

14. CHAIN OF CUSTODY

The following discrepancies occurred:

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 Sample Receiving to meet recommended pH level(s). *Nitric Acid Lot#* 121709-HNO_3; *Sulfuric Acid Lot#* 121709-H_2SO_4; *Sodium Hydroxide Lot#* 100108 -*NaOH; Hydrochloric Acid Lot#* 092006-*HCl; Sodium Hydroxide and Zinc Acetate Lot#* 100108-$(CH_3COO)_2ZN/NaOH$. What time was preservative added to sample(s)? _____

Client ID	pH	Date	Initials

TestAmerica Cooler Receipt Form/Narrative
North Canton Facility

Client ID	pH	Date	Initials

Cooler #	Temp. °C	Method	Coolant

Discrepancies Cont'd:

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 0E06602

Lab File ID: BFB302 BFB Injection Date: 03/26/10

Instrument ID: A3UX11 BFB Injection Time: 1224

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.2
75	30.0 - 60.0% of mass 95	45.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	93.0
175	5.0 - 9.0% of mass 174	6.5 (7.0)1
176	Greater than 95.0%, but less than 101.0% of mass 174	90.9 (97.8)1
177	5.0 - 9.0% of mass 176	6.1 (6.7)2

1-Value is % of mass 174 2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD040	200NG-IC	UXJ7673	03/26/10	1247
02	VSTD020	100NG-IC	UXJ7674	03/26/10	1311
03	VSTD010	50NG-IC	UXJ7675	03/26/10	1334
04	VSTD005	25NG-IC	UXJ7676	03/26/10	1358
05	VSTD002	10NG-IC	UXJ7677	03/26/10	1422
06	VSTD001	5NG-IC	UXJ7678	03/26/10	1445
07	VSTD040	200NG-A9IC	UXJ7680	03/26/10	1532
08	VSTD020	100NG-A9IC	UXJ7681	03/26/10	1556
09	VSTD010	50NG-A9IC	UXJ7682	03/26/10	1620
10	VSTD005	25NG-A9IC	UXJ7683	03/26/10	1644
11	VSTD002	10NG-A9IC	UXJ7684	03/26/10	1707
12	VSTD001	5NG-A9IC	UXJ7685	03/26/10	1731
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Report Date : 29-Mar-2010 08:06

TestAmerica North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 29-OCT-2009 16:58
End Cal Date : 26-MAR-2010 17:31
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSV\a3ux11.i\remote\8260LLUX11.m
Last Edit : 29-Mar-2010 08:05 evansl
Curve Type : Average

Calibration File Names:
Level 1: \\cansvr11\dd\chem\MSV\a3ux11.i\J00326A-IC.b\UXJ7685.D
Level 2: \\cansvr11\dd\chem\MSV\a3ux11.i\J00326A-IC.b\UXJ7684.D
Level 3: \\cansvr11\dd\chem\MSV\a3ux11.i\J00326A-IC.b\UXJ7683.D
Level 4: \\cansvr11\dd\chem\MSV\a3ux11.i\J00326A-IC.b\UXJ7682.D
Level 5: \\cansvr11\dd\chem\MSV\a3ux11.i\J00326A-IC.b\UXJ7681.D
Level 6: \\cansvr11\dd\chem\MSV\a3ux11.i\J00326A-IC.b\UXJ7680.D

	Compound	5.000 Level 1	10.000 Level 2	25.000 Level 3	50.000 Level 4	100.000 Level 5	200.000 Level 6	___ RRF	% RSD
8	Dichlorodifluoromethane	0.24762	0.20859	0.21358	0.24746	0.20587	0.21432	0.22291	8.675
9	Chloromethane	0.52774	0.46866	0.42020	0.38838	0.41563	0.42775	0.44139	11.240
10	Vinyl Chloride	0.40411	0.40067	0.39515	0.39627	0.39626	0.40244	0.39915	0.940
11	Bromomethane	0.09957	0.13022	0.08763	0.09007	0.10173	0.10747	0.10278	14.931
12	Chloroethane	0.12640	0.11512	0.11269	0.08488	0.09334	0.10037	0.10547	14.568
13	Trichlorofluoromethane	0.14745	0.15766	0.17556	0.20368	0.20774	0.24452	0.18944	19.088
14	Dichlorofluoromethane	0.35941	0.17874	0.22290	0.23448	0.27841	0.30033	0.26238	24.372
15	Acrolein	0.04852	0.04946	0.04758	0.04487	0.04644	0.04545	0.04706	3.792
16	Acetone	0.16760	0.13681	0.10986	0.09737	0.11454	0.09671	0.12048	22.682
17	1,1-Dichloroethene	0.33468	0.31997	0.28983	0.28220	0.29371	0.29121	0.30193	6.813
18	Freon-113	0.27537	0.21732	0.21183	0.23178	0.21784	0.21802	0.22869	10.411
19	Iodomethane	0.41281	0.41485	0.39522	0.34637	0.38111	0.36454	0.38582	7.043
20	Carbon Disulfide	0.85926	0.81827	0.81414	0.79392	0.87176	0.87194	0.83821	4.008
21	Methylene Chloride	0.47734	0.40116	0.32302	0.27744	0.29235	0.27824	0.34159	23.738
22	Acetonitrile	0.07523	0.05429	0.04232	0.03549	0.03436	0.03203	0.04562	36.377
23	Acrylonitrile	0.18232	0.14714	0.13513	0.12185	0.12355	0.11887	0.13814	17.408
24	Methyl tert-butyl ether	0.51415	0.48688	0.45786	0.43211	0.45393	0.40954	0.45908	8.159
25	trans-1,2-Dichloroethene	0.40723	0.36352	0.36057	0.33060	0.35661	0.35140	0.36166	6.970
26	Hexane	0.11429	0.08758	0.08392	0.09781	0.08505	0.08673	0.09256	12.689
27	Vinyl acetate	0.48461	0.55937	0.52069	0.47772	0.52316	0.55175	0.51955	6.445
28	1,1-Dichloroethane	0.59795	0.59388	0.58124	0.53939	0.59516	0.58633	0.58233	3.765
29	tert-Butyl Alcohol	0.02499	0.02380	0.02357	0.02140	0.02231	0.02074	0.02280	7.028
30	2-Butanone	0.17265	0.15794	0.15304	0.13954	0.14434	0.13573	0.15054	9.052
M 31	1,2-Dichloroethene (total)	0.41539	0.38418	0.38203	0.34892	0.37826	0.37234	0.38019	5.644
32	cis-1,2-dichloroethene	0.42355	0.40483	0.40350	0.36723	0.39990	0.39328	0.39872	4.624
33	2,2-Dichloropropane	0.31079	0.29357	0.29430	0.27622	0.30078	0.28640	0.29368	4.033
34	Bromochloromethane	0.20063	0.20391	0.19464	0.18667	0.20315	0.19745	0.19774	3.262
35	Chloroform	0.61075	0.60453	0.58857	0.54539	0.59844	0.59071	0.58973	3.944

Report Date : 29-Mar-2010 08:06

TestAmerica North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 29-OCT-2009 16:58
End Cal Date : 26-MAR-2010 17:31
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSV\a3ux11.i\remote\8260LLUX11.m
Last Edit : 29-Mar-2010 08:05 evansl
Curve Type : Average

	Compound	5.000 Level 1	10.000 Level 2	25.000 Level 3	50.000 Level 4	100.000 Level 5	200.000 Level 6	RRF	% RSD	
	36 Tetrahydrofuran	0.11906	0.11160	0.09767	0.08909	0.09323	0.08974	0.10006	12.428	
	37 1,1,1-Trichloroethane	0.45069	0.42791	0.42476	0.40560	0.43459	0.42448	0.42801	3.439	
	38 1,1-Dichloropropene	0.51415	0.47658	0.47831	0.46324	0.48455	0.48535	0.48370	3.495	
	39 Carbon Tetrachloride	0.37578	0.34600	0.35965	0.35095	0.37453	0.37462	0.36359	3.638	
	40 1,2-Dichloroethane	0.45475	0.45181	0.44743	0.41107	0.45227	0.44179	0.44319	3.696	
	41 Benzene	1.54950	1.55230	1.51161	1.39578	1.53889	1.53917	1.51454	3.957	
	42 Trichloroethene	0.43124	0.41251	0.41074	0.38702	0.41907	0.41312	0.41228	3.509	
	43 1,2-Dichloropropane	0.36113	0.36206	0.36337	0.33986	0.37252	0.36515	0.36068	3.045	
	44 1,4-Dioxane	0.00288	0.00307	0.00310	0.00285	0.00298	0.00283	0.00295	3.961	<-
	45 Dibromomethane	0.22084	0.21053	0.20592	0.19278	0.20817	0.20614	0.20740	4.359	
	46 Bromodichloromethane	0.39046	0.39666	0.40663	0.39222	0.44503	0.44867	0.41328	6.443	
	47 2-Chloroethyl vinyl ether	0.21825	0.21200	0.20672	0.19124	0.20420	0.20016	0.20543	4.566	
	48 cis-1,3-Dichloropropene	0.50963	0.51755	0.54731	0.52622	0.59569	0.60360	0.55000	7.371	
	49 4-Methyl-2-pentanone	0.29603	0.29272	0.29558	0.27508	0.28848	0.27994	0.28797	3.013	
	50 Toluene	2.13616	2.11857	2.07694	1.93522	2.14232	2.13065	2.08998	3.796	
	51 trans-1,3-Dichloropropene	0.57954	0.60647	0.62339	0.60556	0.69313	0.69706	0.63419	7.763	
	52 Ethyl Methacrylate	0.64010	0.63955	0.61961	0.57904	0.64431	0.62564	0.62471	3.891	
	53 1,1,2-Trichloroethane	0.41833	0.41414	0.41302	0.38137	0.41611	0.40378	0.40779	3.402	
	54 1,3-Dichloropropane	0.73291	0.74395	0.73771	0.67157	0.74344	0.72828	0.72631	3.785	
	55 Tetrachloroethene	0.45443	0.44052	0.42688	0.40503	0.43182	0.43243	0.43185	3.776	
	56 2-Hexanone	0.25634	0.27475	0.25680	0.23682	0.25175	0.23985	0.25272	5.410	
	57 Dibromochloromethane	0.32188	0.33469	0.37279	0.37506	0.44056	0.45786	0.38381	14.342	
	58 1,2-Dibromoethane	0.41323	0.41627	0.41560	0.38114	0.42082	0.41381	0.41014	3.525	
	59 Chlorobenzene	1.38923	1.39364	1.34907	1.25173	1.40135	1.38040	1.36090	4.150	
	60 1,1,1,2-Tetrachloroethane	0.42478	0.43372	0.43928	0.41775	0.47367	0.47363	0.44380	5.468	
	61 Ethylbenzene	0.74659	0.73981	0.73526	0.69109	0.75362	0.75768	0.73734	3.274	
	62 m + p-Xylene	0.92247	0.92580	0.91411	0.86262	0.95765	0.95457	0.92287	3.732	
M	63 Xylenes (total)	0.90542	0.90963	0.90232	0.85067	0.94360	0.93764	0.90821	3.643	
	64 Xylene-o	0.87130	0.87728	0.87874	0.82677	0.91550	0.90378	0.87889	3.502	
	65 Styrene	1.51072	1.54405	1.52075	1.42939	1.61599	1.61251	1.53890	4.549	
	66 Bromoform	0.14403	0.16520	0.20848	0.22249	0.27567	0.30229	0.21969	27.899	
	67 Isopropylbenzene	2.32375	2.24780	2.23419	2.10513	2.31936	2.31178	2.25700	3.708	
	68 1,1,2,2-Tetrachloroethane	0.90280	0.94379	0.95060	0.89013	0.94744	1.00874	0.94058	4.454	
	69 1,4-Dichloro-2-butene	0.09413	0.08795	0.11555	0.14412	0.17903	0.24076	0.14359	40.641	
	70 1,2,3-Trichloropropane	0.28109	0.28171	0.28585	0.27139	0.28324	0.29562	0.28315	2.769	
	71 Bromobenzene	1.15641	1.14296	1.12270	1.07373	1.15544	1.24735	1.14977	4.945	

Report Date : 29-Mar-2010 08:06

TestAmerica North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 29-OCT-2009 16:58
End Cal Date : 26-MAR-2010 17:31
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSV\a3ux11.i\remote\8260LLUX11.m
Last Edit : 29-Mar-2010 08:05 evansl
Curve Type : Average

	Compound	5.000 Level 1	10.000 Level 2	25.000 Level 3	50.000 Level 4	100.000 Level 5	200.000 Level 6	RRF	% RSD	
72	n-Propylbenzene	1.19002	1.14634	1.13600	1.11720	1.17506	1.28065	1.17421	4.976	
73	2-Chlorotoluene	1.06644	1.01572	0.99323	0.96120	1.03056	1.10844	1.02926	5.098	
74	1,3,5-Trimethylbenzene	3.45380	3.36422	3.35224	3.22859	3.50420	3.78566	3.44812	5.526	
75	4-Chlorotoluene	1.09899	1.09455	1.05270	1.00671	1.08519	1.17163	1.08496	5.042	
76	tert-Butylbenzene	3.11371	2.98330	2.95975	2.86756	3.05159	3.22201	3.03299	4.112	
77	1,2,4-Trimethylbenzene	3.55814	3.45728	3.37368	3.24077	3.51923	3.63990	3.46483	4.100	
78	sec-Butylbenzene	4.17199	4.00370	3.93475	3.87365	4.08345	4.18146	4.04150	3.117	
79	4-Isopropyltoluene	3.38180	3.22794	3.21728	3.12342	3.29004	3.14158	3.23034	2.969	
80	1,3-Dichlorobenzene	2.04943	2.01867	1.95782	1.87357	2.02775	2.05894	1.99770	3.523	
81	1,4-Dichlorobenzene	2.11132	2.05428	1.98227	1.88750	2.05266	2.03183	2.01998	3.816	
82	n-Butylbenzene	2.32796	2.25698	2.22517	2.17103	2.23697	1.85538	2.17891	7.640	
83	1,2-Dichlorobenzene	1.79435	1.74340	1.74306	1.62548	1.75416	1.59346	1.70898	4.681	
84	1,2-Dibromo-3-chloropropane	0.06977	0.07816	0.08675	0.08255	0.08779	0.08424	0.08154	8.219	
85	1,2,4-Trichlorobenzene	0.71541	0.71116	0.68221	0.62911	0.67269	0.70622	0.68613	4.761	
86	Hexachlorobutadiene	0.33874	0.32308	0.30007	0.28630	0.29545	0.31428	0.30965	6.273	
87	Naphthalene	1.45662	1.44781	1.43673	1.34270	1.41811	1.44641	1.42473	2.967	
88	1,2,3-Trichlorobenzene	0.63329	0.64021	0.60948	0.56399	0.59821	0.59860	0.60730	4.538	
89	Ethyl Ether	0.30907	0.28912	0.30427	0.28043	0.30496	0.28258	0.29507	4.244	
90	Ethanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
91	3-Chloropropene	0.14120	0.13250	0.14482	0.13465	0.14993	0.14387	0.14116	4.645	
92	Isopropyl Ether	0.30884	0.28555	0.30762	0.28775	0.31544	0.30069	0.30098	4.009	
93	2-Chloro-1,3-butadiene	0.53575	0.50333	0.51936	0.50688	0.52446	0.51892	0.51812	2.281	
94	Propionitrile	0.05120	0.04473	0.04688	0.04418	0.04614	0.04407	0.04620	5.827	
95	Ethyl Acetate	0.31289	0.30890	0.29638	0.27640	0.29720	0.28328	0.29584	4.777	
96	Methacrylonitrile	0.21695	0.19860	0.20511	0.19028	0.20249	0.19171	0.20086	4.879	
97	Isobutanol	0.01173	0.01003	0.01079	0.01025	0.01092	0.01043	0.01069	5.686	
98	Cyclohexane	0.72973	0.58254	0.57835	0.62139	0.58454	0.59182	0.61473	9.504	
99	n-Butanol	0.01027	0.00925	0.00944	0.00896	0.00989	0.00929	0.00952	5.011	<-
100	Methyl Methacrylate	0.30960	0.27369	0.28877	0.27021	0.29574	0.28172	0.28662	5.119	
101	2-Nitropropane	0.07463	0.06865	0.07297	0.07237	0.07964	0.07783	0.07435	5.330	
102	Chloropicrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
103	Cyclohexanone	0.04352	0.03210	0.02796	0.02917	0.02784	0.02838	0.03149	19.361	
104	Pentachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
105	Benzyl Chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
134	Thiophene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
135	Crotononitrile(1st Isomer)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-

Report Date : 29-Mar-2010 08:06

TestAmerica North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 29-OCT-2009 16:58
End Cal Date : 26-MAR-2010 17:31
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSV\a3ux11.i\remote\8260LLUX11.m
Last Edit : 29-Mar-2010 08:05 evansl
Curve Type : Average

	Compound	5.000 Level 1	10.000 Level 2	25.000 Level 3	50.000 Level 4	100.000 Level 5	200.000 Level 6	___ RRF	% RSD	
	136 Crotononitrile(2nd Isomer)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
M	137 Total Crotononitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
	138 Paraldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
	139 3,3,5-Trimethylcyclohexanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
	140 1-Chlorohexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
	141 1,3,5-Trichlorobenzene	0.72133	0.73483	0.67843	0.64870	0.69523	0.77407	0.70877	6.251	
	143 Methyl Acetate	0.46222	0.33093	0.28010	0.25279	0.25859	0.24753	0.30536	27.082	
	144 Methylcyclohexane	0.76174	0.60801	0.59802	0.67484	0.60907	0.62156	0.64554	9.781	
	145 Dimethoxymethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
	146 2-Methylnaphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
	147 Tetrahydrothiophene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
	148 1,4-Dichlorobutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
	149 Ethyl Acrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
	150 Vinyl Acetate-86	0.05732	0.06850	0.06340	0.06016	0.06548	0.06870	0.06393	7.143	
	151 1,3-Butadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
	152 n-Heptane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
	155 t-Butyl ethyl ether	0.55066	0.51371	0.53796	0.49300	0.53069	0.49692	0.52049	4.446	
	156 t-Amyl methyl ether	0.62396	0.56890	0.61420	0.56722	0.60880	0.56921	0.59205	4.446	
	157 1,2,3-Trimethylbenzene	3.28005	3.00595	3.23607	3.04022	3.29018	3.20950	3.17699	3.879	
$	4 Dibromofluoromethane	0.33365	0.32281	0.30608	0.28625	0.32451	0.31451	0.31463	5.328	
$	5 1,2-Dichloroethane-d4	0.43964	0.40705	0.39319	0.35576	0.39504	0.37739	0.39468	7.157	
$	6 Toluene-d8	1.87294	1.80582	1.73715	1.60257	1.80746	1.74559	1.76192	5.239	
$	7 Bromofluorobenzene	0.69222	0.66973	0.63541	0.58282	0.65058	0.62369	0.64241	5.925	

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00326A-IC.b\UXJ7686.D
Report Date: 29-Mar-2010 08:12

TestAmerica North Canton

RECOVERY REPORT

Client Name:
Client SDG: SDGa01304
Sample Matrix: LIQUID
Fraction: VOA
Lab Smp Id: ICV
Level: LOW
Operator: 43582
Data Type: MS DATA
SampleType: METHSPIKE
SpikeList File: DOD-ck.spk
Quant Type: ISTD
Sublist File: 4-8260+IX.sub
Method File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00326A-IC.b\8260LLUX11.m
Misc Info: J00326A-IC,8260LLUX11,,43582,3

	SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
	17 1,1-Dichloroethene	10.000	10.700	107.00	45-155
	42 Trichloroethene	10.000	9.739	97.39	45-155
	59 Chlorobenzene	10.000	9.651	96.51	45-155
	50 Toluene	10.000	9.693	96.93	45-155
	41 Benzene	10.000	9.890	98.90	45-155
	16 Acetone	20.000	16.213	81.06	45-155
	20 Carbon Disulfide	10.000	10.494	104.94	45-155
	9 Chloromethane	10.000	10.007	100.07	45-155
	11 Bromomethane	10.000	10.219	102.19	45-155
	10 Vinyl Chloride	10.000	9.636	96.36	45-155
	12 Chloroethane	10.000	10.534	105.34	45-155
	21 Methylene Chloride	10.000	10.091	100.91	45-155
	28 1,1-Dichloroethane	10.000	10.223	102.23	45-155
M	31 1,2-Dichloroethene	20.000	19.995	99.97	45-155
	35 Chloroform	10.000	9.944	99.44	45-155
	40 1,2-Dichloroethane	10.000	10.227	102.27	45-155
	30 2-Butanone	20.000	18.592	92.96	45-155
	37 1,1,1-Trichloroeth	10.000	9.816	98.16	45-155
	39 Carbon Tetrachlori	10.000	9.422	94.22	45-155
	46 Bromodichlorometha	10.000	9.929	99.29	45-155
	43 1,2-Dichloropropan	10.000	9.809	98.09	45-155
	48 cis-1,3-Dichloropr	10.000	9.752	97.52	45-155
	54 1,3-Dichloropropan	10.000	9.729	97.29	45-155
	57 Dibromochlorometha	10.000	9.397	93.97	45-155
	53 1,1,2-Trichloroeth	10.000	9.513	95.13	45-155
	51 trans-1,3-Dichloro	10.000	9.732	97.32	45-155
	66 Bromoform	10.000	8.095	80.95	45-155
	49 4-Methyl-2-pentano	20.000	19.665	98.32	45-155
	56 2-Hexanone	20.000	19.182	95.91	45-155
	55 Tetrachloroethene	10.000	9.702	97.02	45-155
	68 1,1,2,2-Tetrachlor	10.000	9.510	95.10	45-155
	61 Ethylbenzene	10.000	9.634	96.34	45-155
	65 Styrene	10.000	9.539	95.39	45-155
M	63 Xylenes (total)	30.000	29.198	97.33	45-155
	32 cis-1,2-dichloroet	10.000	9.784	97.84	45-155
	25 trans-1,2-Dichloro	10.000	10.211	102.11	45-155
	8 Dichlorodifluorome	10.000	8.255	82.55	45-155
	13 Trichlorofluoromet	10.000	9.536	95.36	45-155
	70 1,2,3-Trichloropro	10.000	10.424	104.25	45-155
	18 Freon-113	10.000	10.896	108.96	45-155

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00326A-IC.b\UXJ7686.D
Report Date: 29-Mar-2010 08:12

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
24 Methyl tert-butyl	10.000	9.764	97.64	45-155
58 1,2-Dibromoethane	10.000	9.783	97.83	45-155
67 Isopropylbenzene	10.000	9.563	95.63	45-155
80 1,3-Dichlorobenzen	10.000	9.494	94.94	45-155
81 1,4-Dichlorobenzen	10.000	9.577	95.77	45-155
83 1,2-Dichlorobenzen	10.000	9.568	95.68	45-155
84 1,2-Dibromo-3-chlo	10.000	9.466	94.66	45-155
85 1,2,4-Trichloroben	10.000	9.299	92.99	45-155
98 Cyclohexane	10.000	8.389	83.89	45-155
143 Methyl Acetate	10.000	8.761	87.61	45-155
144 Methylcyclohexane	10.000	8.381	83.81	45-155
71 Bromobenzene	10.000	9.449	94.49	45-155
34 Bromochloromethane	10.000	9.791	97.91	45-155
82 n-Butylbenzene	10.000	9.720	97.20	45-155
78 sec-Butylbenzene	10.000	9.244	92.44	45-155
76 tert-Butylbenzene	10.000	9.473	94.73	45-155
73 2-Chlorotoluene	10.000	9.333	93.33	45-155
75 4-Chlorotoluene	10.000	9.308	93.08	45-155
45 Dibromomethane	10.000	10.041	100.41	45-155
33 2,2-Dichloropropan	10.000	9.479	94.79	45-155
38 1,1-Dichloropropen	10.000	9.936	99.36	45-155
86 Hexachlorobutadien	10.000	7.557	75.57	45-155
19 Iodomethane	10.000	9.827	98.27	45-155
92 Isopropyl Ether	10.000	10.222	102.22	45-155
79 4-Isopropyltoluene	10.000	9.674	96.74	45-155
87 Naphthalene	10.000	8.947	89.47	45-155
72 n-Propylbenzene	10.000	9.566	95.66	45-155
60 1,1,1,2-Tetrachlor	10.000	9.727	97.27	45-155
88 1,2,3-Trichloroben	10.000	8.755	87.55	45-155
77 1,2,4-Trimethylben	10.000	9.711	97.11	45-155
74 1,3,5-Trimethylben	10.000	9.419	94.19	45-155
150 Vinyl Acetate-86	10.000	12.424	124.24	45-155
62 m + p-Xylene	20.000	19.366	96.83	45-155
64 Xylene-o	10.000	9.832	98.32	45-155

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 4 Dibromofluorometha	10.000	9.096	90.96	73-122
$ 5 1,2-Dichloroethane	10.000	9.031	90.31	61-128
$ 6 Toluene-d8	10.000	9.305	93.05	76-110
$ 7 Bromofluorobenzene	10.000	9.959	99.59	74-116

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 0E06602

Lab File ID: BFB364 BFB Injection Date: 05/13/10

Instrument ID: A3UX11 BFB Injection Time: 1101

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.6
75	30.0 - 60.0% of mass 95	48.1
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.5 (0.5)1
174	50.0 - 100.0% of mass 95	91.9
175	5.0 - 9.0% of mass 174	6.4 (7.0)1
176	Greater than 95.0%, but less than 101.0% of mass 174	88.8 (96.7)1
177	5.0 - 9.0% of mass 176	6.0 (6.7)2

1-Value is % of mass 174 2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD010	50NG-CC	UXJ9380	05/13/10	1137
02	VSTD010	50NG-A9CC	UXJ9381	05/13/10	1201
03	L1K53CHK	L1K531AC	UXJ9382	05/13/10	1225
04	L1K53CKDUP	L1K531AD	UXJ9383	05/13/10	1248
05	L1K53BLK	L1K531AA	UXJ9384	05/13/10	1312
06	MRC-MW94D(72	L05K41AA	UXJ9402	05/13/10	2109
07					
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22					

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00513A.b\UXJ9380.D
Report Date: 13-May-2010 14:13

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux11.i
Lab File ID: UXJ9380.D
Analysis Type: WATER
Lab Sample ID: 50NG-CC
Method: \\cansvr11\dd\chem\MSV\a3ux11.i\J00513A.b\8260LLUX11.m

Injection Date: 13-MAY-2010 11:37
Init. Cal. Date(s): 29-OCT-2009 26-MAR-2010
Init. Cal. Times: 16:58 17:31
Quant Type: ISTD

		CCAL	MIN		MAX	
COMPOUND	RRF / AMOUNT	RF50	RRF50	RRF	%D / %DRIFT	%D / %DRIFT	CURVE TYPE
$ 4 Dibromofluoromethane	0.31463	0.29928	0.29928	0.010	4.88134	50.00000	Averaged
$ 5 1,2-Dichloroethane-d4	0.39468	0.38579	0.38579	0.010	2.25120	50.00000	Averaged
$ 6 Toluene-d8	1.76192	1.75327	1.75327	0.010	0.49120	50.00000	Averaged
$ 7 Bromofluorobenzene	0.64241	0.62002	0.62002	0.010	3.48529	50.00000	Averaged
8 Dichlorodifluoromethane	0.22291	0.21853	0.21853	0.010	1.96150	50.00000	Averaged
9 Chloromethane	0.44139	0.45114	0.45114	0.100	-2.20791	50.00000	Averaged
10 Vinyl Chloride	0.39915	0.44511	0.44511	0.010	-11.51468	20.00000	Averaged
11 Bromomethane	0.10278	0.14329	0.14329	0.010	-39.41699	50.00000	Averaged
12 Chloroethane	0.10547	0.19683	0.19683	0.010	-86.62582	50.00000	Averaged <-
13 Trichlorofluoromethane	50.00000	65.49296	0.29268	0.010	-30.98593	0.000e+000	Wt Linear
15 Acrolein	0.04706	0.05812	0.05812	0.010	-23.51553	50.00000	Averaged
16 Acetone	100	106	0.11270	0.010	-6.47731	0.000e+000	Wt Linear
17 1,1-Dichloroethene	0.30193	0.31565	0.31565	0.010	-4.54419	20.00000	Averaged
18 Freon-113	0.22869	0.22855	0.22855	0.010	0.06338	50.00000	Averaged
19 Iodomethane	0.38582	0.51253	0.51253	0.010	-32.84320	50.00000	Averaged
20 Carbon Disulfide	0.83821	0.90131	0.90131	0.010	-7.52766	50.00000	Averaged
21 Methylene Chloride	50.00000	66.41756	0.38553	0.010	-32.83511	0.000e+000	Wt Linear
22 Acetonitrile	500	630	0.04406	0.010	-25.94620	0.000e+000	Wt Linear
23 Acrylonitrile	100	111	0.13781	0.010	-11.22752	0.000e+000	Wt Linear
24 Methyl tert-butyl ether	0.45908	0.37779	0.37779	0.010	17.70561	50.00000	Averaged
25 trans-1,2-Dichloroethene	0.36166	0.37277	0.37277	0.010	-3.07401	50.00000	Averaged
26 Hexane	0.09256	0.07786	0.07786	0.010	15.88984	20.00000	Averaged
27 Vinyl acetate	0.51955	0.65530	0.65530	0.010	-26.12805	50.00000	Averaged
28 1,1-Dichloroethane	0.58233	0.63158	0.63158	0.100	-8.45754	50.00000	Averaged
29 tert-Butyl Alcohol	0.02280	0.01654	0.01654	0.010	27.48097	50.00000	Averaged
30 2-Butanone	0.15054	0.16022	0.16022	0.010	-6.42862	50.00000	Averaged
M 31 1,2-Dichloroethene (total)	0.38019	0.37779	0.37779	0.010	0.62908	50.00000	Averaged
32 cis-1,2-dichloroethene	0.39872	0.38282	0.38282	0.010	3.98797	50.00000	Averaged
33 2,2-Dichloropropane	0.29368	0.28006	0.28006	0.010	4.63688	50.00000	Averaged
34 Bromochloromethane	0.19774	0.18817	0.18817	0.010	4.84233	50.00000	Averaged
35 Chloroform	0.58973	0.61607	0.61607	0.010	-4.46690	20.00000	Averaged
36 Tetrahydrofuran	0.10006	0.08995	0.08995	0.010	10.10624	50.00000	Averaged
37 1,1,1-Trichloroethane	0.42801	0.42809	0.42809	0.010	-0.01904	50.00000	Averaged
38 1,1-Dichloropropene	0.48370	0.49878	0.49878	0.010	-3.11822	50.00000	Averaged
39 Carbon Tetrachloride	0.36359	0.36074	0.36074	0.010	0.78315	50.00000	Averaged
40 1,2-Dichloroethane	0.44319	0.48232	0.48232	0.010	-8.82961	50.00000	Averaged
41 Benzene	1.51454	1.60229	1.60229	0.010	-5.79356	50.00000	Averaged
42 Trichloroethene	0.41228	0.38605	0.38605	0.010	6.36361	50.00000	Averaged
43 1,2-Dichloropropane	0.36068	0.39106	0.39106	0.010	-8.42186	20.00000	Averaged
44 1,4-Dioxane	0.00295	0.00240	0.00240	0.010	18.81239	50.00000	Averaged <-
45 Dibromomethane	0.20740	0.20956	0.20956	0.010	-1.04215	50.00000	Averaged
46 Bromodichloromethane	0.41328	0.40215	0.40215	0.010	2.69302	50.00000	Averaged
47 2-Chloroethyl vinyl ether	0.20543	0.12293	0.12293	0.010	40.15770	50.00000	Averaged

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00513A.b\UXJ9380.D
Report Date: 13-May-2010 14:13

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux11.i
Lab File ID: UXJ9380.D
Analysis Type: WATER
Lab Sample ID: 50NG-CC
Method: \\cansvr11\dd\chem\MSV\a3ux11.i\J00513A.b\8260LLUX11.m

Injection Date: 13-MAY-2010 11:37
Init. Cal. Date(s): 29-OCT-2009 26-MAR-2010
Init. Cal. Times: 16:58 17:31
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
48 cis-1,3-Dichloropropene	0.55000	0.49693	0.49693	0.010	9.64995	50.00000	Averaged
49 4-Methyl-2-pentanone	0.28797	0.28938	0.28938	0.010	-0.49085	50.00000	Averaged
50 Toluene	2.08998	2.29121	2.29121	0.010	-9.62870	20.00000	Averaged
51 trans-1,3-Dichloropropene	0.63419	0.57726	0.57726	0.010	8.97673	50.00000	Averaged
52 Ethyl Methacrylate	0.62471	0.58691	0.58691	0.010	6.04974	50.00000	Averaged
53 1,1,2-Trichloroethane	0.40779	0.44189	0.44189	0.010	-8.36150	50.00000	Averaged
54 1,3-Dichloropropane	0.72631	0.80626	0.80626	0.010	-11.00779	50.00000	Averaged
55 Tetrachloroethene	0.43185	0.43266	0.43266	0.010	-0.18773	50.00000	Averaged
56 2-Hexanone	0.25272	0.26077	0.26077	0.010	-3.18484	50.00000	Averaged
57 Dibromochloromethane	0.38381	0.36848	0.36848	0.010	3.99415	50.00000	Averaged
58 1,2-Dibromoethane	0.41014	0.41411	0.41411	0.010	-0.96739	50.00000	Averaged
59 Chlorobenzene	1.36090	1.44636	1.44636	0.300	-6.27948	50.00000	Averaged
60 1,1,1,2-Tetrachloroethane	0.44380	0.44642	0.44642	0.010	-0.58964	50.00000	Averaged
61 Ethylbenzene	0.73734	0.77945	0.77945	0.010	-5.71022	20.00000	Averaged
62 m + p-Xylene	0.92287	0.98669	0.98669	0.010	-6.91526	50.00000	Averaged
M 63 Xylenes (total)	0.90821	0.96655	0.96655	0.010	-6.42305	50.00000	Averaged
64 Xylene-o	0.87889	0.92626	0.92626	0.010	-5.38938	50.00000	Averaged
65 Styrene	1.53890	1.59869	1.59869	0.010	-3.88506	50.00000	Averaged
66 Bromoform	50.00000	36.00810	0.18795	0.100	27.98380	0.000e+000	Wt Linear
67 Isopropylbenzene	2.25700	2.30582	2.30582	0.010	-2.16309	50.00000	Averaged
68 1,1,2,2-Tetrachloroethane	0.94058	1.00035	1.00035	0.300	-6.35431	50.00000	Averaged
69 1,4-Dichloro-2-butene	50.00000	39.91026	0.11734	0.010	20.17948	0.000e+000	Quadratic
70 1,2,3-Trichloropropane	0.28315	0.28527	0.28527	0.010	-0.74940	50.00000	Averaged
71 Bromobenzene	1.14977	1.09861	1.09861	0.010	4.44890	50.00000	Averaged
72 n-Propylbenzene	1.17421	1.13222	1.13222	0.010	3.57634	50.00000	Averaged
73 2-Chlorotoluene	1.02926	1.01315	1.01315	0.010	1.56543	50.00000	Averaged
74 1,3,5-Trimethylbenzene	3.44812	3.40946	3.40946	0.010	1.12128	50.00000	Averaged
75 4-Chlorotoluene	1.08496	1.06441	1.06441	0.010	1.89423	50.00000	Averaged
76 tert-Butylbenzene	3.03299	3.21792	3.21792	0.010	-6.09721	50.00000	Averaged
77 1,2,4-Trimethylbenzene	3.46483	3.52072	3.52072	0.010	-1.61298	50.00000	Averaged
78 sec-Butylbenzene	4.04150	3.98161	3.98161	0.010	1.48181	50.00000	Averaged
79 4-Isopropyltoluene	3.23034	3.29482	3.29482	0.010	-1.99587	50.00000	Averaged
80 1,3-Dichlorobenzene	1.99770	2.00967	2.00967	0.010	-0.59914	50.00000	Averaged
81 1,4-Dichlorobenzene	2.01998	2.07151	2.07151	0.010	-2.55139	50.00000	Averaged
82 n-Butylbenzene	2.17891	2.54690	2.54690	0.010	-16.88853	50.00000	Averaged
83 1,2-Dichlorobenzene	1.70898	1.86143	1.86143	0.010	-8.92034	50.00000	Averaged
84 1,2-Dibromo-3-chloropropane	0.08154	0.07880	0.07880	0.010	3.35960	50.00000	Averaged
85 1,2,4-Trichlorobenzene	0.68613	0.53462	0.53462	0.010	22.08249	50.00000	Averaged
86 Hexachlorobutadiene	0.30965	0.24264	0.24264	0.010	21.64042	50.00000	Averaged
87 Naphthalene	1.42473	1.04782	1.04782	0.010	26.45460	50.00000	Averaged
88 1,2,3-Trichlorobenzene	0.60730	0.48282	0.48282	0.010	20.49723	50.00000	Averaged
98 Cyclohexane	0.61473	0.63422	0.63422	0.010	-3.17008	50.00000	Averaged
143 Methyl Acetate	100	107	0.27921	0.010	-6.77231	0.000e+000	Wt Linear

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00513A.b\UXJ9380.D
Report Date: 13-May-2010 14:13

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux11.i
Lab File ID: UXJ9380.D
Analysis Type: WATER
Lab Sample ID: 50NG-CC
Method: \\cansvr11\dd\chem\MSV\a3ux11.i\J00513A.b\8260LLUX11.m

Injection Date: 13-MAY-2010 11:37
Init. Cal. Date(s): 29-OCT-2009 26-MAR-2010
Init. Cal. Times: 16:58 17:31
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
144 Methylcyclohexane	0.64554	0.58248	0.58248	0.010	9.76904	50.00000	Averaged
141 1,3,5-Trichlorobenzene	0.70877	0.56041	0.56041	0.010	20.93186	50.00000	Averaged
150 Vinyl Acetate-86	0.06393	0.07148	0.07148	0.010	-11.80390	50.00000	Averaged

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00513A.b\UXJ9381.D
Report Date: 13-May-2010 12:17

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux11.i Injection Date: 13-MAY-2010 12:01
Lab File ID: UXJ9381.D Init. Cal. Date(s): 29-OCT-2009 26-MAR-2010
Analysis Type: WATER Init. Cal. Times: 16:58 17:31
Lab Sample ID: 50NG-A9CC Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSV\a3ux11.i\J00513A.b\8260LLUX11.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
14 Dichlorofluoromethane	50.00000	71.84846	0.37746	0.010	-43.69692	0.000e+000	Quadratic	
89 Ethyl Ether	0.29507	0.29935	0.29935	0.010	-1.45012	50.00000	Averaged	
91 3-Chloropropene	0.14116	0.15363	0.15363	0.010	-8.83192	50.00000	Averaged	
92 Isopropyl Ether	0.30098	0.28685	0.28685	0.010	4.69313	50.00000	Averaged	
93 2-Chloro-1,3-butadiene	0.51812	0.50108	0.50108	0.010	3.28938	50.00000	Averaged	
94 Propionitrile	0.04620	0.04316	0.04316	0.010	6.57885	50.00000	Averaged	
95 Ethyl Acetate	0.29584	0.27989	0.27989	0.010	5.39239	50.00000	Averaged	
96 Methacrylonitrile	0.20086	0.19179	0.19179	0.010	4.51492	50.00000	Averaged	
97 Isobutanol	0.01069	0.01212	0.01212	0.010	-13.38329	50.00000	Averaged	
99 n-Butanol	0.00952	0.00765	0.00765	0.010	19.60200	50.00000	Averaged	<-
103 Cyclohexanone	500	406	0.02372	0.010	18.74073	0.000e+000	Wt Linear	
100 Methyl Methacrylate	0.28662	0.24998	0.24998	0.010	12.78454	50.00000	Averaged	
101 2-Nitropropane	0.07435	0.05395	0.05395	0.010	27.44057	50.00000	Averaged	
155 t-Butyl ethyl ether	0.52049	0.37912	0.37912	0.010	27.16031	50.00000	Averaged	
156 t-Amyl methyl ether	0.59205	0.32721	0.32721	0.010	44.7319	50.00000	Averaged	
157 1,2,3-Trimethylbenzene	3.17699	3.43390	3.43390	0.010	-8.08631	50.00000	Averaged	

SW846 8260B METHOD BLANK SUMMARY

BLANK WORKORDER NO.: L1K531AA

Lab Name: TestAmerica Laboratories, Inc.

Lab Code: TALCAN

SDG Number:0E06602

Lab File ID: UXJ9384.D

Lot Number: A0E060602

Date Analyzed: 05/13/10

Time Analyzed: 13:12

Matrix: WATER

Date Extracted:05/13/10

GC Column: DB 624 ID: .18

Extraction Method: 5030B

Instrument ID: UX11

Level:(low/med) LOW

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, LCS, LCSD, MS , MSD:

	CLIENT ID.	SAMPLE WORK ORDER #	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	INTRA-LAB QC	L02271AA	UXJ9388.D	05/13/10	15:38
02	LAB MS/MSD	L02271AC S	UXJ9405.D	05/13/10	22:20
03	LAB MS/MSD	L02271AD D	UXJ9406.D	05/13/10	22:43
04	MRC-MW94D(72')	L05K41AA	UXJ9402.D	05/13/10	21:09
05	CHECK SAMPLE	L1K531AC C	UXJ9382.D	05/13/10	12:25
06	DUPLICATE CHECK	L1K531AD L	UXJ9383.D	05/13/10	12:48
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COMMENTS:

FORM IV

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: 0E06602 **Work Order #...:** L1K531AA **Matrix.....:** WATER
MB Lot-Sample #: A0E150000-112

Prep Date.....: 05/13/10 **Final Wgt/Vol..:** 5 mL
Analysis Date..: 05/13/10 **Prep Batch #...:** 0135112
Dilution Factor: 1 **Initial Wgt/Vol:** 5 mL

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	ND	5.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
2-Butanone	ND	5.0	ug/L	SW846 8260B
Carbon disulfide	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	5.0	ug/L	SW846 8260B
Isopropylbenzene	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,2,4-Trichloro-benzene	**0.23 J**	**1.0**	**ug/L**	**SW846 8260B**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	2.0	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/L	SW846 8260B
Bromochloromethane	ND	1.0	ug/L	SW846 8260B
Dibromomethane	ND	1.0	ug/L	SW846 8260B
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
1,2,3-Trichloropropane	ND	1.0	ug/L	SW846 8260B
Vinyl acetate	ND	2.0	ug/L	SW846 8260B
o-Xylene	ND	1.0	ug/L	SW846 8260B
m-Xylene & p-Xylene	ND	2.0	ug/L	SW846 8260B
Bromobenzene	ND	1.0	ug/L	SW846 8260B
n-Butylbenzene	ND	1.0	ug/L	SW846 8260B
sec-Butylbenzene	ND	1.0	ug/L	SW846 8260B
tert-Butylbenzene	ND	1.0	ug/L	SW846 8260B
2-Chloroethyl vinyl ether	ND	5.0	ug/L	SW846 8260B
2-Chlorotoluene	ND	1.0	ug/L	SW846 8260B
4-Chlorotoluene	ND	1.0	ug/L	SW846 8260B
1,3-Dichloropropane	ND	1.0	ug/L	SW846 8260B
2,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: 0E06602 **Work Order #...:** L1K531AA **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
1,1-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Hexachlorobutadiene	**0.39 J**	**1.0**	**ug/L**	**SW846 8260B**
p-Isopropyltoluene	ND	1.0	ug/L	SW846 8260B
tert-Butyl alcohol	ND	20	ug/L	SW846 8260B
Naphthalene	**0.31 J**	**1.0**	**ug/L**	**SW846 8260B**
n-Propylbenzene	ND	1.0	ug/L	SW846 8260B
1,2,3-Trichlorobenzene	**0.42 J**	**1.0**	**ug/L**	**SW846 8260B**
1,2,4-Trimethylbenzene	ND	1.0	ug/L	SW846 8260B
1,2,3-Trimethylbenzene	ND	5.0	ug/L	SW846 8260B
Diisopropyl Ether (DIPE)	ND	5.0	ug/L	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	ND	5.0	ug/L	SW846 8260B
Tert-amyl methyl ether (T	ND	5.0	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	**0.28 J**	**1.0**	**ug/L**	**SW846 8260B**
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	92	(73 - 122)
1,2-Dichloroethane-d4	94	(61 - 128)
Toluene-d8	100	(76 - 110)
4-Bromofluorobenzene	89	(74 - 116)

NOTE(S):

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

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Method Blank Report

GC/MS Volatiles

Lot-Sample #: A0E150000-112 B **Work Order #:** L1K531AA **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT	RETENTION TIME	UNITS
None				ug/L

SW846 8260B CHECK SAMPLE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Lot #: A0E150000 WO #: L1K531AC
BATCH: 0135112

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENT. (ug/L)	% REC	QC LIMITS REC	QUAL
1,1-Dichloroethene	10	9.9	99	63- 130	
Trichloroethene	10	8.3	83	75- 122	
Benzene	10	9.7	97	80- 116	
Toluene	10	9.9	99	74- 119	
Chlorobenzene	10	9.5	95	76- 117	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 0E06602

Lab File ID: BFB372 BFB Injection Date: 05/18/10

Instrument ID: A3UX11 BFB Injection Time: 1104

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.9
75	30.0 - 60.0% of mass 95	44.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	98.4
175	5.0 - 9.0% of mass 174	6.7 (6.8)1
176	Greater than 95.0%, but less than 101.0% of mass 174	96.4 (98.0)1
177	5.0 - 9.0% of mass 176	6.5 (6.7)2

1-Value is % of mass 174 2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD010	50NG-CC	UXJ9543	05/18/10	1126
02	VSTD010	50NG-A9CC	UXJ9544	05/18/10	1150
03	L1PKACHK	L1PKA1AC	UXJ9545	05/18/10	1214
04	L1PKACKDUP	L1PKA1AD	UXJ9546	05/18/10	1238
05	L1PKABLK	L1PKA1AA	UXJ9547	05/18/10	1301
06	MRC-MW95D(63	L1CNA1AA	UXJ9567	05/18/10	2055
07					
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22					

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00518A.b\UXJ9543.D
Report Date: 18-May-2010 12:25

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux11.i Injection Date: 18-MAY-2010 11:26
Lab File ID: UXJ9543.D Init. Cal. Date(s): 29-OCT-2009 26-MAR-2010
Analysis Type: WATER Init. Cal. Times: 16:58 17:31
Lab Sample ID: 50NG-CC Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSV\a3ux11.i\J00518A.b\8260LLUX11.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
$ 4 Dibromofluoromethane	0.31463	0.29945	0.29945	0.010	4.82651	50.00000	Averaged	
$ 5 1,2-Dichloroethane-d4	0.39468	0.36217	0.36217	0.010	8.23771	50.00000	Averaged	
$ 6 Toluene-d8	1.76192	1.63293	1.63293	0.010	7.32090	50.00000	Averaged	
$ 7 Bromofluorobenzene	0.64241	0.65704	0.65704	0.010	-2.27797	50.00000	Averaged	
8 Dichlorodifluoromethane	0.22291	0.20679	0.20679	0.010	7.22819	50.00000	Averaged	
9 Chloromethane	0.44139	0.31892	0.31892	0.100	27.74793	50.00000	Averaged	
10 Vinyl Chloride	0.39915	0.35523	0.35523	0.010	11.00204	20.00000	Averaged	
11 Bromomethane	0.10278	0.09094	0.09094	0.010	11.52413	50.00000	Averaged	
12 Chloroethane	0.10547	0.13121	0.13121	0.010	-24.41302	50.00000	Averaged	
13 Trichlorofluoromethane	50.00000	55.95741	0.24797	0.010	-11.91482	0.000e+000	Wt Linear	
15 Acrolein	0.04706	0.03628	0.03628	0.010	22.90144	50.00000	Averaged	
16 Acetone	100	81.42829	0.08777	0.010	18.57171	0.000e+000	Wt Linear	
17 1,1-Dichloroethene	0.30193	0.27440	0.27440	0.010	9.11969	20.00000	Averaged	
18 Freon-113	0.22869	0.22066	0.22066	0.010	3.51372	50.00000	Averaged	
19 Iodomethane	0.38582	0.48767	0.48767	0.010	-26.39849	50.00000	Averaged	
20 Carbon Disulfide	0.83821	0.73498	0.73498	0.010	12.31559	50.00000	Averaged	
21 Methylene Chloride	50.00000	56.70149	0.33230	0.010	-13.40299	0.000e+000	Wt Linear	
22 Acetonitrile	500	479	0.03458	0.010	4.29113	0.000e+000	Wt Linear	
23 Acrylonitrile	100	85.23518	0.10710	0.010	14.76482	0.000e+000	Wt Linear	
24 Methyl tert-butyl ether	0.45908	0.29047	0.29047	0.010	36.72812	50.00000	Averaged	
25 trans-1,2-Dichloroethene	0.36166	0.33644	0.33644	0.010	6.97229	50.00000	Averaged	
26 Hexane	0.09256	0.08330	0.08330	0.010	10.00907	20.00000	Averaged	
27 Vinyl acetate	0.51955	0.45862	0.45862	0.010	11.72688	50.00000	Averaged	
28 1,1-Dichloroethane	0.58233	0.60088	0.60088	0.100	-3.18564	50.00000	Averaged	
29 tert-Butyl Alcohol	0.02280	0.01348	0.01348	0.010	40.88758	50.00000	Averaged	
30 2-Butanone	0.15054	0.13850	0.13850	0.010	7.99687	50.00000	Averaged	
M 31 1,2-Dichloroethene (total)	0.38019	0.36378	0.36378	0.010	4.31655	50.00000	Averaged	
32 cis-1,2-dichloroethene	0.39872	0.39111	0.39111	0.010	1.90765	50.00000	Averaged	
33 2,2-Dichloropropane	0.29368	0.26227	0.26227	0.010	10.69514	50.00000	Averaged	
34 Bromochloromethane	0.19774	0.19793	0.19793	0.010	-0.09662	50.00000	Averaged	
35 Chloroform	0.58973	0.59981	0.59981	0.010	-1.70914	20.00000	Averaged	
36 Tetrahydrofuran	0.10006	0.08450	0.08450	0.010	15.55715	50.00000	Averaged	
37 1,1,1-Trichloroethane	0.42801	0.42305	0.42305	0.010	1.15695	50.00000	Averaged	
38 1,1-Dichloropropene	0.48370	0.48162	0.48162	0.010	0.42971	50.00000	Averaged	
39 Carbon Tetrachloride	0.36359	0.36769	0.36769	0.010	-1.12705	50.00000	Averaged	
40 1,2-Dichloroethane	0.44319	0.45297	0.45297	0.010	-2.20867	50.00000	Averaged	
41 Benzene	1.51454	1.55346	1.55346	0.010	-2.56941	50.00000	Averaged	
42 Trichloroethene	0.41228	0.41474	0.41474	0.010	-0.59650	50.00000	Averaged	
43 1,2-Dichloropropane	0.36068	0.37456	0.37456	0.010	-3.84708	20.00000	Averaged	
44 1,4-Dioxane	0.00295	0.00263	0.00263	0.010	10.77238	50.00000	Averaged	<-
45 Dibromomethane	0.20740	0.20753	0.20753	0.010	-0.06368	50.00000	Averaged	
46 Bromodichloromethane	0.41328	0.39332	0.39332	0.010	4.82957	50.00000	Averaged	
47 2-Chloroethyl vinyl ether	0.20543	0.04479	0.04479	0.010	78.19450	50.00000	Averaged	<-

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00518A.b\UXJ9543.D
Report Date: 18-May-2010 12:25

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux11.i Injection Date: 18-MAY-2010 11:26
Lab File ID: UXJ9543.D Init. Cal. Date(s): 29-OCT-2009 26-MAR-2010
Analysis Type: WATER Init. Cal. Times: 16:58 17:31
Lab Sample ID: 50NG-CC Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSV\a3ux11.i\J00518A.b\8260LLUX11.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
48 cis-1,3-Dichloropropene	0.55000	0.47811	0.47811	0.010	13.07004	50.00000	Averaged
49 4-Methyl-2-pentanone	0.28797	0.25905	0.25905	0.010	10.04154	50.00000	Averaged
50 Toluene	2.08998	2.11247	2.11247	0.010	-1.07611	20.00000	Averaged
51 trans-1,3-Dichloropropene	0.63419	0.51382	0.51382	0.010	18.98082	50.00000	Averaged
52 Ethyl Methacrylate	0.62471	0.52956	0.52956	0.010	15.23135	50.00000	Averaged
53 1,1,2-Trichloroethane	0.40779	0.41109	0.41109	0.010	-0.80868	50.00000	Averaged
54 1,3-Dichloropropane	0.72631	0.72471	0.72471	0.010	0.22080	50.00000	Averaged
55 Tetrachloroethene	0.43185	0.44875	0.44875	0.010	-3.91424	50.00000	Averaged
56 2-Hexanone	0.25272	0.21481	0.21481	0.010	14.99881	50.00000	Averaged
57 Dibromochloromethane	0.38381	0.34654	0.34654	0.010	9.71068	50.00000	Averaged
58 1,2-Dibromoethane	0.41014	0.39478	0.39478	0.010	3.74566	50.00000	Averaged
59 Chlorobenzene	1.36090	1.40765	1.40765	0.300	-3.43466	50.00000	Averaged
60 1,1,1,2-Tetrachloroethane	0.44380	0.46129	0.46129	0.010	-3.94004	50.00000	Averaged
61 Ethylbenzene	0.73734	0.80325	0.80325	0.010	-8.93834	20.00000	Averaged
62 m + p-Xylene	0.92287	1.03581	1.03581	0.010	-12.23763	50.00000	Averaged
M 63 Xylenes (total)	0.90821	1.01992	1.01992	0.010	-12.30015	50.00000	Averaged
64 Xylene-o	0.87889	0.98815	0.98815	0.010	-12.43144	50.00000	Averaged
65 Styrene	1.53890	1.70035	1.70035	0.010	-10.49088	50.00000	Averaged
66 Bromoform	50.00000	36.46817	0.19066	0.100	27.06366	0.000e+000	Wt Linear
67 Isopropylbenzene	2.25700	2.43580	2.43580	0.010	-7.92197	50.00000	Averaged
68 1,1,2,2-Tetrachloroethane	0.94058	0.91891	0.91891	0.300	2.30429	50.00000	Averaged
69 1,4-Dichloro-2-butene	50.00000	27.72349	0.07518	0.010	44.55302	0.000e+000	Quadratic
70 1,2,3-Trichloropropane	0.28315	0.26305	0.26305	0.010	7.09875	50.00000	Averaged
71 Bromobenzene	1.14977	1.08788	1.08788	0.010	5.38260	50.00000	Averaged
72 n-Propylbenzene	1.17421	1.10421	1.10421	0.010	5.96182	50.00000	Averaged
73 2-Chlorotoluene	1.02926	0.98502	0.98502	0.010	4.29844	50.00000	Averaged
74 1,3,5-Trimethylbenzene	3.44812	3.25879	3.25879	0.010	5.49072	50.00000	Averaged
75 4-Chlorotoluene	1.08496	1.03573	1.03573	0.010	4.53777	50.00000	Averaged
76 tert-Butylbenzene	3.03299	2.73635	2.73635	0.010	9.78051	50.00000	Averaged
77 1,2,4-Trimethylbenzene	3.46483	3.42681	3.42681	0.010	1.09727	50.00000	Averaged
78 sec-Butylbenzene	4.04150	3.74655	3.74655	0.010	7.29797	50.00000	Averaged
79 4-Isopropyltoluene	3.23034	3.29098	3.29098	0.010	-1.87699	50.00000	Averaged
80 1,3-Dichlorobenzene	1.99770	2.02198	2.02198	0.010	-1.21536	50.00000	Averaged
81 1,4-Dichlorobenzene	2.01998	1.94354	1.94354	0.010	3.78414	50.00000	Averaged
82 n-Butylbenzene	2.17891	2.55629	2.55629	0.010	-17.31957	50.00000	Averaged
83 1,2-Dichlorobenzene	1.70898	1.85637	1.85637	0.010	-8.62445	50.00000	Averaged
84 1,2-Dibromo-3-chloropropane	0.08154	0.08555	0.08555	0.010	-4.91779	50.00000	Averaged
85 1,2,4-Trichlorobenzene	0.68613	0.47922	0.47922	0.010	30.15585	50.00000	Averaged
86 Hexachlorobutadiene	0.30965	0.24565	0.24565	0.010	20.66760	50.00000	Averaged
87 Naphthalene	1.42473	0.91518	0.91518	0.010	35.76464	50.00000	Averaged
88 1,2,3-Trichlorobenzene	0.60730	0.46719	0.46719	0.010	23.07103	50.00000	Averaged
98 Cyclohexane	0.61473	0.61108	0.61108	0.010	0.59439	50.00000	Averaged
143 Methyl Acetate	100	84.73468	0.22572	0.010	15.26532	0.000e+000	Wt Linear

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00518A.b\UXJ9543.D
Report Date: 18-May-2010 12:25

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux11.i Injection Date: 18-MAY-2010 11:26
Lab File ID: UXJ9543.D Init. Cal. Date(s): 29-OCT-2009 26-MAR-2010
Analysis Type: WATER Init. Cal. Times: 16:58 17:31
Lab Sample ID: 50NG-CC Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSV\a3ux11.i\J00518A.b\8260LLUX11.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
144 Methylcyclohexane	0.64554	0.60432	0.60432	0.010	6.38459	50.00000	Averaged
141 1,3,5-Trichlorobenzene	0.70877	0.60012	0.60012	0.010	15.32888	50.00000	Averaged
150 Vinyl Acetate-86	0.06393	0.05312	0.05312	0.010	16.90423	50.00000	Averaged

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00518A.b\UXJ9544.D
Report Date: 18-May-2010 12:06

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux11.i Injection Date: 18-MAY-2010 11:50
Lab File ID: UXJ9544.D Init. Cal. Date(s): 29-OCT-2009 26-MAR-2010
Analysis Type: WATER Init. Cal. Times: 16:58 17:31
Lab Sample ID: 50NG-A9CC Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSV\a3ux11.i\J00518A.b\8260LLUX11.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
14 Dichlorofluoromethane	50.00000	57.38363	0.29590	0.010	-14.76726	0.000e+000	Quadratic	
89 Ethyl Ether	0.29507	0.32021	0.32021	0.010	-8.52059	50.00000	Averaged	
91 3-Chloropropene	0.14116	0.14871	0.14871	0.010	-5.35205	50.00000	Averaged	
92 Isopropyl Ether	0.30098	0.28674	0.28674	0.010	4.73021	50.00000	Averaged	
93 2-Chloro-1,3-butadiene	0.51812	0.47359	0.47359	0.010	8.59475	50.00000	Averaged	
94 Propionitrile	0.04620	0.04686	0.04686	0.010	-1.43655	50.00000	Averaged	
95 Ethyl Acetate	0.29584	0.27575	0.27575	0.010	6.79241	50.00000	Averaged	
96 Methacrylonitrile	0.20086	0.19832	0.19832	0.010	1.26472	50.00000	Averaged	
97 Isobutanol	0.01069	0.00970	0.00970	0.010	9.23089	50.00000	Averaged	<-
99 n-Butanol	0.00952	0.00762	0.00762	0.010	19.94369	50.00000	Averaged	<-
103 Cyclohexanone	500	569	0.03276	0.010	-13.88796	0.000e+000	Wt Linear	
100 Methyl Methacrylate	0.28662	0.25202	0.25202	0.010	12.07305	50.00000	Averaged	
101 2-Nitropropane	0.07435	0.06406	0.06406	0.010	13.84708	50.00000	Averaged	
155 t-Butyl ethyl ether	0.52049	0.27496	0.27496	0.010	47.17333	50.00000	Averaged	
156 t-Amyl methyl ether	0.59205	0.22138	0.22138	0.010	62.60790	50.00000	Averaged	<-
157 1,2,3-Trimethylbenzene	3.17699	3.39283	3.39283	0.010	-6.79361	50.00000	Averaged	

SW846 8260B METHOD BLANK SUMMARY

BLANK WORKORDER NO.: L1PKA1AA

Lab Name: TestAmerica Laboratories, Inc.

Lab Code: TALCAN

SDG Number:0E06602

Lab File ID: UXJ9547.D

Lot Number: A0E110505

Date Analyzed: 05/18/10

Time Analyzed: 13:01

Matrix: WATER

Date Extracted:05/18/10

GC Column: DB 624 ID: .18

Extraction Method: 5030B

Instrument ID: UX11

Level:(low/med) LOW

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, LCS, LCSD, MS , MSD:

	CLIENT ID.	SAMPLE WORK ORDER #		LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	INTRA-LAB QC	L04PL1AA		UXJ9548.D	05/18/10	13:25
02	LAB MS/MSD	L04PL1CA	S	UXJ9570.D	05/18/10	22:06
03	LAB MS/MSD	L04PL1CC	D	UXJ9571.D	05/18/10	22:29
04	MRC-MW95D(63')	L1CNA1AA		UXJ9567.D	05/18/10	20:55
05	CHECK SAMPLE	L1PKA1AC	C	UXJ9545.D	05/18/10	12:14
06	DUPLICATE CHECK	L1PKA1AD	L	UXJ9546.D	05/18/10	12:38
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COMMENTS:

FORM IV

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: 0E06602 **Work Order #...:** L1PKA1AA **Matrix.....:** WATER
MB Lot-Sample #: A0E190000-112

Prep Date.....: 05/18/10 **Final Wgt/Vol..:** 5 mL
Analysis Date..: 05/18/10 **Prep Batch #...:** 0139112
Dilution Factor: 1 **Initial Wgt/Vol:** 5 mL

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	ND	5.0	ug/L	SW846 8260B
2-Butanone	ND	5.0	ug/L	SW846 8260B
Carbon disulfide	ND	1.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
Hexachlorobutadiene	**0.40 J**	**1.0**	**ug/L**	**SW846 8260B**
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
1,2,4-Trichloro-benzene	**0.22 J**	**1.0**	**ug/L**	**SW846 8260B**
Bromobenzene	ND	1.0	ug/L	SW846 8260B
Bromochloromethane	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
n-Butylbenzene	ND	1.0	ug/L	SW846 8260B
sec-Butylbenzene	ND	1.0	ug/L	SW846 8260B
tert-Butylbenzene	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
2-Chlorotoluene	ND	1.0	ug/L	SW846 8260B
4-Chlorotoluene	ND	1.0	ug/L	SW846 8260B
Dibromomethane	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260B
1,3-Dichloropropane	ND	1.0	ug/L	SW846 8260B
2,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	1.0	ug/L	SW846 8260B
Isopropylbenzene	ND	1.0	ug/L	SW846 8260B
p-Isopropyltoluene	ND	1.0	ug/L	SW846 8260B
n-Propylbenzene	ND	1.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,2,3-Trichloropropane	ND	1.0	ug/L	SW846 8260B
1,2,4-Trimethylbenzene	ND	1.0	ug/L	SW846 8260B
o-Xylene	ND	1.0	ug/L	SW846 8260B
m-Xylene & p-Xylene	ND	2.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	SW846 8260B
2-Chloroethyl vinyl ether	ND	5.0	ug/L	SW846 8260B
2-Hexanone	ND	5.0	ug/L	SW846 8260B
tert-Butyl alcohol	ND	20	ug/L	SW846 8260B

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: 0E06602 **Work Order #...:** L1PKA1AA **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
4-Methyl-2-pentanone	ND	5.0	ug/L	SW846 8260B
Naphthalene	**0.29 J**	**1.0**	**ug/L**	**SW846 8260B**
1,2,3-Trichlorobenzene	**0.42 J**	**1.0**	**ug/L**	**SW846 8260B**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	SW846 8260B
Vinyl acetate	ND	2.0	ug/L	SW846 8260B
Xylenes (total)	ND	2.0	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/L	SW846 8260B
1,2,3-Trimethylbenzene	ND	5.0	ug/L	SW846 8260B
Diisopropyl Ether (DIPE)	ND	5.0	ug/L	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	ND	5.0	ug/L	SW846 8260B
Tert-amyl methyl ether (T	ND	5.0	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	92	(73 - 122)
1,2-Dichloroethane-d4	91	(61 - 128)
Toluene-d8	95	(76 - 110)
4-Bromofluorobenzene	85	(74 - 116)

NOTE(S):

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

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Method Blank Report

GC/MS Volatiles

Lot-Sample #: A0E190000-112 B **Work Order #:** L1PKA1AA **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT	RETENTION TIME	UNITS
None				mg/L

SW846 8260B CHECK SAMPLE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Lot #: A0E190000 WO #: L1PKA1AC
BATCH: 0139112

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENT. (ug/L)	% REC	QC LIMITS REC	QUAL
1,1-Dichloroethene	10	10	100	63- 130	
Trichloroethene	10	9.3	93	75- 122	
Benzene	10	10	104	80- 116	
Toluene	10	10	103	74- 119	
Chlorobenzene	10	9.9	99	76- 117	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

SW846 8260B CHECK SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Lot #: A0E190000 WO #: L1PKA1AD
BATCH: 0139112

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENT. (ug/L)	% REC	QC LIMITS REC	QUAL
1,1-Dichloroethene	10	9.9	99	63- 130	
Trichloroethene	10	9.7	97	75- 122	
Benzene	10	10	101	80- 116	
Toluene	10	10	102	74- 119	
Chlorobenzene	10	9.9	99	76- 117	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

SW846 8260B MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Matrix Spike ID: LAB MS/MSD

Lot #: A0E060493 WO #: L04PL1CA
BATCH: 0139112

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENT. (ug/L)	MS CONCENT. (ug/L)	MS % REC	LIMITS REC	QUAL
1,1-Dichloroethene	3300	ND	2600	77	62- 130	
Trichloroethene	3300	1400	4500	93	62- 130	
Benzene	3300	230	3700	102	78- 118	
Toluene	3300	ND	3300	100	70- 119	
Chlorobenzene	3300	550	3800	97	76- 117	

NOTES(S):

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

SW846 8260B MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Matrix Spike ID: LAB MS/MSD

Lot #: A0E060493 WO #: L04PL1CC
BATCH: 0139112

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENT. (ug/L)	MSD % REC	% RPD		QC LIMITS RPD	QC LIMITS REC	QUAL
1,1-Dichloroethene	3300	3700	112	37	*	20	62- 130	p
Trichloroethene	3300	4400	91	1.2		20	62- 130	
Benzene	3300	3600	100	2.0		20	78- 118	
Toluene	3300	3300	98	1.1		20	70- 119	
Chlorobenzene	3300	3800	96	0.86		20	76- 117	

NOTES (S) :

p Relative percent difference (RPD) is outside stated control limits.

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 1 out of 5 outside limits
Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 0E06602

Lab File ID: BFB374 BFB Injection Date: 05/19/10

Instrument ID: A3UX11 BFB Injection Time: 1145

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.0
75	30.0 - 60.0% of mass 95	45.5
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.3 (0.3)1
174	50.0 - 100.0% of mass 95	99.1
175	5.0 - 9.0% of mass 174	7.2 (7.3)1
176	Greater than 95.0%, but less than 101.0% of mass 174	96.4 (97.2)1
177	5.0 - 9.0% of mass 176	6.3 (6.6)2

1-Value is % of mass 174 2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD010	50NG-CC	UXJ9572	05/19/10	1208
02	VSTD010	50NG-A9CC	UXJ9573	05/19/10	1231
03	L1RNQCHK	L1RNQ1AC	UXJ9574	05/19/10	1255
04	L1RNQCKDUP	L1RNQ1AD	UXJ9575	05/19/10	1319
05	L1RNQBLK	L1RNQ1AA	UXJ9576	05/19/10	1342
06	MRC-MW95D(76	L1CNK1AA	UXJ9587	05/19/10	1836
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00519A.b\UXJ9572.D
Report Date: 19-May-2010 14:28

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux11.i Injection Date: 19-MAY-2010 12:08
Lab File ID: UXJ9572.D Init. Cal. Date(s): 29-OCT-2009 26-MAR-2010
Analysis Type: WATER Init. Cal. Times: 16:58 17:31
Lab Sample ID: 50NG-CC Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSV\a3ux11.i\J00519A.b\8260LLUX11.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
$ 4 Dibromofluoromethane	0.31463	0.29546	0.29546	0.010	6.09558	50.00000	Averaged	
$ 5 1,2-Dichloroethane-d4	0.39468	0.35437	0.35437	0.010	10.21394	50.00000	Averaged	
$ 6 Toluene-d8	1.76192	1.67541	1.67541	0.010	4.90999	50.00000	Averaged	
$ 7 Bromofluorobenzene	0.64241	0.59439	0.59439	0.010	7.47426	50.00000	Averaged	
8 Dichlorodifluoromethane	0.22291	0.22530	0.22530	0.010	-1.07578	50.00000	Averaged	
9 Chloromethane	0.44139	0.30656	0.30656	0.100	30.54762	50.00000	Averaged	
10 Vinyl Chloride	0.39915	0.32113	0.32113	0.010	19.54549	20.00000	Averaged	
11 Bromomethane	0.10278	0.08421	0.08421	0.010	18.06874	50.00000	Averaged	
12 Chloroethane	0.10547	0.10083	0.10083	0.010	4.39886	50.00000	Averaged	
13 Trichlorofluoromethane	50.00000	62.86644	0.28036	0.010	25.73288	0.000e+000	Wt Linear	
15 Acrolein	0.04706	0.03140	0.03140	0.010	33.27410	50.00000	Averaged	
16 Acetone	100	81.02202	0.08736	0.010	18.97798	0.000e+000	Wt Linear	
17 1,1-Dichloroethene	0.30193	0.26385	0.26385	0.010	12.61381	20.00000	Averaged	
18 Freon-113	0.22869	0.22722	0.22722	0.010	0.64161	50.00000	Averaged	
19 Iodomethane	0.38582	0.40176	0.40176	0.010	-4.13213	50.00000	Averaged	
20 Carbon Disulfide	0.83821	0.64412	0.64412	0.010	23.15560	50.00000	Averaged	
21 Methylene Chloride	50.00000	50.40151	0.29778	0.010	-0.80303	0.000e+000	Wt Linear	
22 Acetonitrile	500	372	0.02789	0.010	25.60770	0.000e+000	Wt Linear	
23 Acrylonitrile	100	78.91396	0.09963	0.010	21.08604	0.000e+000	Wt Linear	
24 Methyl tert-butyl ether	0.45908	0.25024	0.25024	0.010	45.48982	50.00000	Averaged	
25 trans-1,2-Dichloroethene	0.36166	0.30852	0.30852	0.010	14.69241	50.00000	Averaged	
26 Hexane	0.09256	0.08793	0.08793	0.010	5.00399	20.00000	Averaged	
27 Vinyl acetate	0.51955	0.37531	0.37531	0.010	27.76243	50.00000	Averaged	
28 1,1-Dichloroethane	0.58233	0.54873	0.54873	0.100	5.76942	50.00000	Averaged	
29 tert-Butyl Alcohol	0.02280	0.01158	0.01158	0.010	49.22342	50.00000	Averaged	
30 2-Butanone	0.15054	0.13404	0.13404	0.010	10.95948	50.00000	Averaged	
M 31 1,2-Dichloroethene (total)	0.38019	0.33543	0.33543	0.010	11.77230	50.00000	Averaged	
32 cis-1,2-dichloroethene	0.39872	0.36234	0.36234	0.010	9.12360	50.00000	Averaged	
33 2,2-Dichloropropane	0.29368	0.22619	0.22619	0.010	22.98028	50.00000	Averaged	
34 Bromochloromethane	0.19774	0.18729	0.18729	0.010	5.28501	50.00000	Averaged	
35 Chloroform	0.58973	0.55658	0.55658	0.010	5.62089	20.00000	Averaged	
36 Tetrahydrofuran	0.10006	0.11343	0.11343	0.010	-13.35729	50.00000	Averaged	
37 1,1,1-Trichloroethane	0.42801	0.38365	0.38365	0.010	10.36416	50.00000	Averaged	
38 1,1-Dichloropropene	0.48370	0.45936	0.45936	0.010	5.03077	50.00000	Averaged	
39 Carbon Tetrachloride	0.36359	0.34214	0.34214	0.010	5.90047	50.00000	Averaged	
40 1,2-Dichloroethane	0.44319	0.41680	0.41680	0.010	5.95468	50.00000	Averaged	
41 Benzene	1.51454	1.45601	1.45601	0.010	3.86488	50.00000	Averaged	
42 Trichloroethene	0.41228	0.39236	0.39236	0.010	4.83235	50.00000	Averaged	
43 1,2-Dichloropropane	0.36068	0.34146	0.34146	0.010	5.32856	20.00000	Averaged	
44 1,4-Dioxane	0.00295	0.00222	0.00222	0.010	24.82387	50.00000	Averaged	<-
45 Dibromomethane	0.20740	0.19478	0.19478	0.010	6.08389	50.00000	Averaged	
46 Bromodichloromethane	0.41328	0.36737	0.36737	0.010	11.10770	50.00000	Averaged	
47 2-Chloroethyl vinyl ether	0.20543	0.06143	0.06143	0.010	70.09859	50.00000	Averaged	<-

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00519A.b\UXJ9572.D
Report Date: 19-May-2010 14:28

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux11.i
Lab File ID: UXJ9572.D
Analysis Type: WATER
Lab Sample ID: 50NG-CC
Method: \\cansvr11\dd\chem\MSV\a3ux11.i\J00519A.b\8260LLUX11.m

Injection Date: 19-MAY-2010 12:08
Init. Cal. Date(s): 29-OCT-2009 26-MAR-2010
Init. Cal. Times: 16:58 17:31
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
48 cis-1,3-Dichloropropene	0.55000	0.45414	0.45414	0.010	17.42973	50.00000	Averaged
49 4-Methyl-2-pentanone	0.28797	0.23679	0.23679	0.010	17.77396	50.00000	Averaged
50 Toluene	2.08998	2.04989	2.04989	0.010	1.91807	20.00000	Averaged
51 trans-1,3-Dichloropropene	0.63419	0.51535	0.51535	0.010	18.73928	50.00000	Averaged
52 Ethyl Methacrylate	0.62471	0.50964	0.50964	0.010	18.41892	50.00000	Averaged
53 1,1,2-Trichloroethane	0.40779	0.39636	0.39636	0.010	2.80239	50.00000	Averaged
54 1,3-Dichloropropane	0.72631	0.69038	0.69038	0.010	4.94667	50.00000	Averaged
55 Tetrachloroethene	0.43185	0.44129	0.44129	0.010	-2.18648	50.00000	Averaged
56 2-Hexanone	0.25272	0.19700	0.19700	0.010	22.04918	50.00000	Averaged
57 Dibromochloromethane	0.38381	0.35736	0.35736	0.010	6.89041	50.00000	Averaged
58 1,2-Dibromoethane	0.41014	0.38218	0.38218	0.010	6.81859	50.00000	Averaged
59 Chlorobenzene	1.36090	1.31548	1.31548	0.300	3.33799	50.00000	Averaged
60 1,1,1,2-Tetrachloroethane	0.44380	0.41985	0.41985	0.010	5.39698	50.00000	Averaged
61 Ethylbenzene	0.73734	0.71381	0.71381	0.010	3.19187	20.00000	Averaged
62 m + p-Xylene	0.92287	0.89723	0.89723	0.010	2.77818	50.00000	Averaged
M 63 Xylenes (total)	0.90821	0.88185	0.88185	0.010	2.90299	50.00000	Averaged
64 Xylene-o	0.87889	0.85108	0.85108	0.010	3.16510	50.00000	Averaged
65 Styrene	1.53890	1.45329	1.45329	0.010	5.56305	50.00000	Averaged
66 Bromoform	50.00000	37.99096	0.19961	0.100	24.01807	0.000e+000	Wt Linear
67 Isopropylbenzene	2.25700	2.11660	2.11660	0.010	6.22101	50.00000	Averaged
68 1,1,2,2-Tetrachloroethane	0.94058	0.84837	0.84837	0.300	9.80398	50.00000	Averaged
69 1,4-Dichloro-2-butene	50.00000	46.72332	0.14154	0.010	6.55336	0.000e+000	Quadratic
70 1,2,3-Trichloropropane	0.28315	0.24980	0.24980	0.010	11.77772	50.00000	Averaged
71 Bromobenzene	1.14977	1.02885	1.02885	0.010	10.51667	50.00000	Averaged
72 n-Propylbenzene	1.17421	1.03176	1.03176	0.010	12.13177	50.00000	Averaged
73 2-Chlorotoluene	1.02926	0.92930	0.92930	0.010	9.71222	50.00000	Averaged
74 1,3,5-Trimethylbenzene	3.44812	3.01126	3.01126	0.010	12.66959	50.00000	Averaged
75 4-Chlorotoluene	1.08496	0.97938	0.97938	0.010	9.73142	50.00000	Averaged
76 tert-Butylbenzene	3.03299	2.60858	2.60858	0.010	13.99303	50.00000	Averaged
77 1,2,4-Trimethylbenzene	3.46483	3.10462	3.10462	0.010	10.39627	50.00000	Averaged
78 sec-Butylbenzene	4.04150	3.54346	3.54346	0.010	12.32308	50.00000	Averaged
79 4-Isopropyltoluene	3.23034	3.00109	3.00109	0.010	7.09672	50.00000	Averaged
80 1,3-Dichlorobenzene	1.99770	1.86351	1.86351	0.010	6.71720	50.00000	Averaged
81 1,4-Dichlorobenzene	2.01998	1.91118	1.91118	0.010	5.38578	50.00000	Averaged
82 n-Butylbenzene	2.17891	2.29674	2.29674	0.010	-5.40737	50.00000	Averaged
83 1,2-Dichlorobenzene	1.70898	1.73909	1.73909	0.010	-1.76166	50.00000	Averaged
84 1,2-Dibromo-3-chloropropane	0.08154	0.10134	0.10134	0.010	-24.28066	50.00000	Averaged
85 1,2,4-Trichlorobenzene	0.68613	0.46873	0.46873	0.010	31.68443	50.00000	Averaged
86 Hexachlorobutadiene	0.30965	0.21918	0.21918	0.010	29.21774	50.00000	Averaged
87 Naphthalene	1.42473	0.90958	0.90958	0.010	36.15792	50.00000	Averaged
88 1,2,3-Trichlorobenzene	0.60730	0.43874	0.43874	0.010	27.75597	50.00000	Averaged
98 Cyclohexane	0.61473	0.61123	0.61123	0.010	0.56992	50.00000	Averaged
143 Methyl Acetate	100	78.43248	0.21042	0.010	21.56752	0.000e+000	Wt Linear

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00519A.b\UXJ9572.D
Report Date: 19-May-2010 14:28

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux11.i Injection Date: 19-MAY-2010 12:08
Lab File ID: UXJ9572.D Init. Cal. Date(s): 29-OCT-2009 26-MAR-2010
Analysis Type: WATER Init. Cal. Times: 16:58 17:31
Lab Sample ID: 50NG-CC Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSV\a3ux11.i\J00519A.b\8260LLUX11.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
144 Methylcyclohexane	0.64554	0.62008	0.62008	0.010	3.94339	50.00000	Averaged
141 1,3,5-Trichlorobenzene	0.70877	0.65562	0.65562	0.010	7.49786	50.00000	Averaged
150 Vinyl Acetate-86	0.06393	0.04485	0.04485	0.010	29.84674	50.00000	Averaged

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00519A.b\UXJ9573.D
Report Date: 19-May-2010 12:47

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux11.i Injection Date: 19-MAY-2010 12:31
Lab File ID: UXJ9573.D Init. Cal. Date(s): 29-OCT-2009 26-MAR-2010
Analysis Type: WATER Init. Cal. Times: 16:58 17:31
Lab Sample ID: 50NG-A9CC Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSV\a3ux11.i\J00519A.b\8260LLUX11.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
114 Dichlorofluoromethane	50.00000	48.31411	0.24569	0.010	3.37178	0.000e+000	Quadratic	
89 Ethyl Ether	0.29507	0.22884	0.22884	0.010	22.44456	50.00000	Averaged	
91 3-Chloropropene	0.14116	0.12143	0.12143	0.010	13.97607	50.00000	Averaged	
92 Isopropyl Ether	0.30098	0.27325	0.27325	0.010	9.21285	50.00000	Averaged	
93 2-Chloro-1,3-butadiene	0.51812	0.44546	0.44546	0.010	14.02447	50.00000	Averaged	
94 Propionitrile	0.04620	0.03954	0.03954	0.010	14.42138	50.00000	Averaged	
95 Ethyl Acetate	0.29584	0.23744	0.23744	0.010	19.74035	50.00000	Averaged	
96 Methacrylonitrile	0.20086	0.17013	0.17013	0.010	15.29998	50.00000	Averaged	
97 Isobutanol	0.01069	0.00917	0.00917	0.010	14.19918	50.00000	Averaged	<-
99 n-Butanol	0.00952	0.00714	0.00714	0.010	25.00028	50.00000	Averaged	<-
103 Cyclohexanone	500	421	0.02456	0.010	15.71832	0.000e+000	Wt Linear	
100 Methyl Methacrylate	0.28662	0.22197	0.22197	0.010	22.55559	50.00000	Averaged	
101 2-Nitropropane	0.07435	0.04945	0.04945	0.010	33.49197	50.00000	Averaged	
155 t-Butyl ethyl ether	0.52049	0.27749	0.27749	0.010	46.68721	50.00000	Averaged	
156 t-Amyl methyl ether	0.59205	0.22736	0.22736	0.010	61.59844	50.00000	Averaged	<-
157 1,2,3-Trimethylbenzene	3.17699	3.20454	3.20454	0.010	-0.86716	50.00000	Averaged	

SW846 8260B METHOD BLANK SUMMARY

BLANK WORKORDER NO.: L1RNQ1AA

Lab Name: TestAmerica Laboratories, Inc.

Lab Code: TALCAN

SDG Number:0E06602

Lab File ID: UXJ9576.D

Lot Number: A0E110505

Date Analyzed: 05/19/10

Time Analyzed: 13:42

Matrix: WATER

Date Extracted:05/19/10

GC Column: DB 624 ID: .18

Extraction Method: 5030B

Instrument ID: UX11

Level:(low/med) LOW

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, LCS, LCSD, MS , MSD:

	CLIENT ID.	SAMPLE WORK ORDER #		LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	MRC-MW95D(76')	L1CNK1AA		UXJ9587.D	05/19/10	18:36
02	INTRA-LAB QC	L1ERD1AA		UXJ9588.D	05/19/10	19:00
03	LAB MS/MSD	L1ERD1AC	S	UXJ9593.D	05/19/10	20:58
04	LAB MS/MSD	L1ERD1AD	D	UXJ9594.D	05/19/10	21:22
05	CHECK SAMPLE	L1RNQ1AC	C	UXJ9574.D	05/19/10	12:55
06	DUPLICATE CHECK	L1RNQ1AD	L	UXJ9575.D	05/19/10	13:19
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COMMENTS:

FORM IV

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: 0E06602 **Work Order #...:** L1RNQ1AA **Matrix.....:** WATER
MB Lot-Sample #: A0E200000-083

Prep Date.....: 05/19/10 **Final Wgt/Vol..:** 5 mL
Analysis Date..: 05/19/10 **Prep Batch #...:** 0140083
Dilution Factor: 1 **Initial Wgt/Vol:** 5 mL

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
n-Butylbenzene	ND	1.0	ug/L	SW846 8260B
sec-Butylbenzene	ND	1.0	ug/L	SW846 8260B
tert-Butylbenzene	ND	1.0	ug/L	SW846 8260B
Isopropylbenzene	ND	1.0	ug/L	SW846 8260B
p-Isopropyltoluene	ND	1.0	ug/L	SW846 8260B
Naphthalene	**0.32 J**	**1.0**	**ug/L**	**SW846 8260B**
n-Propylbenzene	ND	1.0	ug/L	SW846 8260B
1,2,4-Trimethylbenzene	ND	1.0	ug/L	SW846 8260B
o-Xylene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	2.0	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/L	SW846 8260B
m-Xylene & p-Xylene	ND	2.0	ug/L	SW846 8260B
Acetone	ND	5.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
2-Butanone	ND	5.0	ug/L	SW846 8260B
Carbon disulfide	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	5.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
Bromobenzene	ND	1.0	ug/L	SW846 8260B
Bromochloromethane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	SW846 8260B
2-Chloroethyl vinyl ether	ND	5.0	ug/L	SW846 8260B
2-Chlorotoluene	ND	1.0	ug/L	SW846 8260B
4-Chlorotoluene	ND	1.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
Dibromomethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,3-Dichloropropane	ND	1.0	ug/L	SW846 8260B
2,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	1.0	ug/L	SW846 8260B
Hexachlorobutadiene	**0.42 J**	**1.0**	**ug/L**	**SW846 8260B**
tert-Butyl alcohol	ND	20	ug/L	SW846 8260B

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: 0E06602 **Work Order #...:** L1RNQ1AA **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
1,2,3-Trichlorobenzene	**0.38 J**	**1.0**	**ug/L**	**SW846 8260B**
1,2,4-Trichloro-benzene	**0.24 J**	**1.0**	**ug/L**	**SW846 8260B**
1,2,3-Trichloropropane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	SW846 8260B
Vinyl acetate	ND	2.0	ug/L	SW846 8260B
1,2,3-Trimethylbenzene	ND	5.0	ug/L	SW846 8260B
Diisopropyl Ether (DIPE)	ND	5.0	ug/L	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	ND	5.0	ug/L	SW846 8260B
Tert-amyl methyl ether (T	ND	5.0	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	90	(73 - 122)
1,2-Dichloroethane-d4	87	(61 - 128)
Toluene-d8	95	(76 - 110)
4-Bromofluorobenzene	87	(74 - 116)

NOTE(S):

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

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Method Blank Report

GC/MS Volatiles

Lot-Sample #: A0E200000-083 B **Work Order #:** L1RNQ1AA **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT	RETENTION TIME	UNITS
None				ug/L

SW846 8260B CHECK SAMPLE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Lot #: A0E200000 WO #: L1RNQ1AC
BATCH: 0140083

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENT. (ug/L)	% REC	QC LIMITS REC	QUAL
1,1-Dichloroethene	10	9.4	94	63- 130	
Trichloroethene	10	9.2	92	75- 122	
Benzene	10	9.7	97	80- 116	
Toluene	10	9.8	98	74- 119	
Chlorobenzene	10	9.7	97	76- 117	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

SW846 8260B CHECK SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Lot #: A0E200000 WO #: L1RNQ1AD
BATCH: 0140083

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENT. (ug/L)	% REC	QC LIMITS REC	QUAL
1,1-Dichloroethene	10	9.3	93	63- 130	
Trichloroethene	10	8.6	86	75- 122	
Benzene	10	9.1	91	80- 116	
Toluene	10	9.1	91	74- 119	
Chlorobenzene	10	9.0	90	76- 117	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

SW846 8260B MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Matrix Spike ID: LAB MS/MSD

Lot #: A0E120565 WO #: L1ERD1AC
BATCH: 0140083

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENT. (ug/L)	MS CONCENT. (ug/L)	MS % REC	LIMITS REC	QUAL
1,1-Dichloroethene	10	ND	7.3	73	62- 130	
Trichloroethene	10	0.84	8.7	79	62- 130	
Benzene	10	ND	9.8	98	78- 118	
Toluene	10	ND	10	102	70- 119	
Chlorobenzene	10	ND	9.4	94	76- 117	

NOTES(S):

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

SW846 8260B MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Matrix Spike ID: LAB MS/MSD

Lot #: A0E120565 WO #: L1ERD1AD
BATCH: 0140083

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENT. (ug/L)	MSD % REC	% RPD		QC LIMITS RPD	QC LIMITS REC	QUAL
1,1-Dichloroethene	10	11	109	40	*	20	62- 130	p
Trichloroethene	10	8.7	79	0.29		20	62- 130	
Benzene	10	9.6	96	1.1		20	78- 118	
Toluene	10	10	100	2.4		20	70- 119	
Chlorobenzene	10	9.5	95	0.93		20	76- 117	

NOTES(S):

p Relative percent difference (RPD) is outside stated control limits.

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 1 out of 5 outside limits
Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 0E06602

Lab File ID: BFB381 BFB Injection Date: 05/26/10

Instrument ID: A3UX11 BFB Injection Time: 1021

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.2
75	30.0 - 60.0% of mass 95	45.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.3 (0.3)1
174	50.0 - 100.0% of mass 95	95.6
175	5.0 - 9.0% of mass 174	6.7 (7.0)1
176	Greater than 95.0%, but less than 101.0% of mass 174	93.0 (97.2)1
177	5.0 - 9.0% of mass 176	6.2 (6.7)2

1-Value is % of mass 174 2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD010	50NG-CC	UXJ9766	05/26/10	1046
02	VSTD010	50NG-A9CC	UXJ9767	05/26/10	1110
03	L1578CHK	L15781AC	UXJ9768	05/26/10	1134
04	L1578CKDUP	L15781AD	UXJ9769	05/26/10	1157
05	L1578BLK	L15781AA	UXJ9770	05/26/10	1221
06	MRC-MW96D (6	L1H6H1AA	UXJ9771	05/26/10	1245
07					
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16					
17					
18					
19					
20					
21					
22					

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00526A.b\UXJ9766.D
Report Date: 26-May-2010 12:13

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux11.i Injection Date: 26-MAY-2010 10:46
Lab File ID: UXJ9766.D Init. Cal. Date(s): 29-OCT-2009 26-MAR-2010
Analysis Type: WATER Init. Cal. Times: 16:58 17:31
Lab Sample ID: 50NG-CC Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSV\a3ux11.i\J00526A.b\8260LLUX11.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 Dibromofluoromethane	0.31463	0.30309	0.30309	0.010	3.66777	50.00000	Averaged
$ 5 1,2-Dichloroethane-d4	0.39468	0.36970	0.36970	0.010	6.32853	50.00000	Averaged
$ 6 Toluene-d8	1.76192	1.72913	1.72913	0.010	1.86109	50.00000	Averaged
$ 7 Bromofluorobenzene	0.64241	0.59769	0.59769	0.010	6.96128	50.00000	Averaged
8 Dichlorodifluoromethane	0.22291	0.23348	0.23348	0.010	-4.74410	50.00000	Averaged
9 Chloromethane	0.44139	0.28080	0.28080	0.100	36.38322	50.00000	Averaged
10 Vinyl Chloride	0.39915	0.34965	0.34965	0.010	12.40201	20.00000	Averaged
11 Bromomethane	0.10278	0.06355	0.06355	0.010	38.16645	50.00000	Averaged
12 Chloroethane	0.10547	0.04892	0.04892	0.010	53.61141	50.00000	Averaged <-
13 Trichlorofluoromethane	50.00000	53.52764	0.23658	0.010	-7.05528	0.000e+000	Wt Linear
15 Acrolein	0.04706	0.03603	0.03603	0.010	23.42598	50.00000	Averaged
16 Acetone	100	73.01980	0.07939	0.010	26.98020	0.000e+000	Wt Linear
17 1,1-Dichloroethene	0.30193	0.26378	0.26378	0.010	12.63646	20.00000	Averaged
18 Freon-113	0.22869	0.22336	0.22336	0.010	2.33013	50.00000	Averaged
19 Iodomethane	0.38582	0.42655	0.42655	0.010	-10.55850	50.00000	Averaged
20 Carbon Disulfide	0.83821	0.62268	0.62268	0.010	25.71291	50.00000	Averaged
21 Methylene Chloride	50.00000	62.79147	0.36566	0.010	-25.58293	0.000e+000	Wt Linear
22 Acetonitrile	500	459	0.03336	0.010	8.18072	0.000e+000	Wt Linear
23 Acrylonitrile	100	101	0.12598	0.010	-1.21320	0.000e+000	Wt Linear
24 Methyl tert-butyl ether	0.45908	0.30922	0.30922	0.010	32.64222	50.00000	Averaged
25 trans-1,2-Dichloroethene	0.36166	0.35338	0.35338	0.010	2.28715	50.00000	Averaged
26 Hexane	0.09256	0.08264	0.08264	0.010	10.72308	20.00000	Averaged
27 Vinyl acetate	0.51955	0.38085	0.38085	0.010	26.69668	50.00000	Averaged
28 1,1-Dichloroethane	0.58233	0.58095	0.58095	0.100	0.23602	50.00000	Averaged
29 tert-Butyl Alcohol	0.02280	0.01317	0.01317	0.010	42.23719	50.00000	Averaged
30 2-Butanone	0.15054	0.13091	0.13091	0.010	13.04211	50.00000	Averaged
M 31 1,2-Dichloroethene (total)	0.38019	0.36208	0.36208	0.010	4.76282	50.00000	Averaged
32 cis-1,2-dichloroethene	0.39872	0.37077	0.37077	0.010	7.00838	50.00000	Averaged
33 2,2-Dichloropropane	0.29368	0.25032	0.25032	0.010	14.76300	50.00000	Averaged
34 Bromochloromethane	0.19774	0.19173	0.19173	0.010	3.03748	50.00000	Averaged
35 Chloroform	0.58973	0.59557	0.59557	0.010	-0.99016	20.00000	Averaged
36 Tetrahydrofuran	0.10006	0.07862	0.07862	0.010	21.43016	50.00000	Averaged
37 1,1,1-Trichloroethane	0.42801	0.41540	0.41540	0.010	2.94528	50.00000	Averaged
38 1,1-Dichloropropene	0.48370	0.47748	0.47748	0.010	1.28569	50.00000	Averaged
39 Carbon Tetrachloride	0.36359	0.36233	0.36233	0.010	0.34613	50.00000	Averaged
40 1,2-Dichloroethane	0.44319	0.43608	0.43608	0.010	1.60401	50.00000	Averaged
41 Benzene	1.51454	1.54060	1.54060	0.010	-1.72050	50.00000	Averaged
42 Trichloroethene	0.41228	0.39739	0.39739	0.010	3.61361	50.00000	Averaged
43 1,2-Dichloropropane	0.36068	0.36963	0.36963	0.010	-2.48021	20.00000	Averaged
44 1,4-Dioxane	0.00295	0.00216	0.00216	0.010	26.81113	50.00000	Averaged <-
45 Dibromomethane	0.20740	0.21059	0.21059	0.010	-1.53905	50.00000	Averaged
46 Bromodichloromethane	0.41328	0.37792	0.37792	0.010	8.55691	50.00000	Averaged
47 2-Chloroethyl vinyl ether	0.20543	0.04860	0.04860	0.010	76.34126	50.00000	Averaged <-

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00526A.b\UXJ9766.D
Report Date: 26-May-2010 12:13

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux11.i Injection Date: 26-MAY-2010 10:46
Lab File ID: UXJ9766.D Init. Cal. Date(s): 29-OCT-2009 26-MAR-2010
Analysis Type: WATER Init. Cal. Times: 16:58 17:31
Lab Sample ID: 50NG-CC Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSV\a3ux11.i\J00526A.b\8260LLUX11.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
48 cis-1,3-Dichloropropene	0.55000	0.44351	0.44351	0.010	19.36169	50.00000	Averaged
49 4-Methyl-2-pentanone	0.28797	0.23422	0.23422	0.010	18.66585	50.00000	Averaged
50 Toluene	2.08998	2.23253	2.23253	0.010	-6.82065	20.00000	Averaged
51 trans-1,3-Dichloropropene	0.63419	0.49207	0.49207	0.010	22.40965	50.00000	Averaged
52 Ethyl Methacrylate	0.62471	0.53280	0.53280	0.010	14.71141	50.00000	Averaged
53 1,1,2-Trichloroethane	0.40779	0.44610	0.44610	0.010	-9.39454	50.00000	Averaged
54 1,3-Dichloropropane	0.72631	0.75951	0.75951	0.010	-4.57134	50.00000	Averaged
55 Tetrachloroethene	0.43185	0.46806	0.46806	0.010	-8.38530	50.00000	Averaged
56 2-Hexanone	0.25272	0.20748	0.20748	0.010	17.90211	50.00000	Averaged
57 Dibromochloromethane	0.38381	0.34452	0.34452	0.010	10.23660	50.00000	Averaged
58 1,2-Dibromoethane	0.41014	0.41658	0.41658	0.010	-1.56806	50.00000	Averaged
59 Chlorobenzene	1.36090	1.42034	1.42034	0.300	-4.36722	50.00000	Averaged
60 1,1,1,2-Tetrachloroethane	0.44380	0.43724	0.43724	0.010	1.47882	50.00000	Averaged
61 Ethylbenzene	0.73734	0.76863	0.76863	0.010	-4.24361	20.00000	Averaged
62 m + p-Xylene	0.92287	0.97754	0.97754	0.010	-5.92404	50.00000	Averaged
M 63 Xylenes (total)	0.90821	0.95851	0.95851	0.010	-5.53795	50.00000	Averaged
64 Xylene-o	0.87889	0.92044	0.92044	0.010	-4.72715	50.00000	Averaged
65 Styrene	1.53890	1.59316	1.59316	0.010	-3.52563	50.00000	Averaged
66 Bromoform	50.00000	33.21233	0.17151	0.100	33.57535	0.000e+000	Wt Linear
67 Isopropylbenzene	2.25700	2.26277	2.26277	0.010	-0.25557	50.00000	Averaged
68 1,1,2,2-Tetrachloroethane	0.94058	0.93879	0.93879	0.300	0.19072	50.00000	Averaged
69 1,4-Dichloro-2-butene	50.00000	26.45378	0.07087	0.010	47.09245	0.000e+000	Quadratic
70 1,2,3-Trichloropropane	0.28315	0.27696	0.27696	0.010	2.18657	50.00000	Averaged
71 Bromobenzene	1.14977	1.05836	1.05836	0.010	7.94954	50.00000	Averaged
72 n-Propylbenzene	1.17421	1.07637	1.07637	0.010	8.33268	50.00000	Averaged
73 2-Chlorotoluene	1.02926	0.96596	0.96596	0.010	6.14994	50.00000	Averaged
74 1,3,5-Trimethylbenzene	3.44812	3.17903	3.17903	0.010	7.80381	50.00000	Averaged
75 4-Chlorotoluene	1.08496	1.02954	1.02954	0.010	5.10792	50.00000	Averaged
76 tert-Butylbenzene	3.03299	2.67602	2.67602	0.010	11.76970	50.00000	Averaged
77 1,2,4-Trimethylbenzene	3.46483	3.26300	3.26300	0.010	5.82529	50.00000	Averaged
78 sec-Butylbenzene	4.04150	3.80467	3.80467	0.010	5.85978	50.00000	Averaged
79 4-Isopropyltoluene	3.23034	3.17114	3.17114	0.010	1.83279	50.00000	Averaged
80 1,3-Dichlorobenzene	1.99770	1.98658	1.98658	0.010	0.55645	50.00000	Averaged
81 1,4-Dichlorobenzene	2.01998	2.03175	2.03175	0.010	-0.58273	50.00000	Averaged
82 n-Butylbenzene	2.17891	2.52891	2.52891	0.010	-16.06273	50.00000	Averaged
83 1,2-Dichlorobenzene	1.70898	1.87278	1.87278	0.010	-9.58417	50.00000	Averaged
84 1,2-Dibromo-3-chloropropane	0.08154	0.09486	0.09486	0.010	-16.33662	50.00000	Averaged
85 1,2,4-Trichlorobenzene	0.68613	0.43005	0.43005	0.010	37.32195	50.00000	Averaged
86 Hexachlorobutadiene	0.30965	0.22472	0.22472	0.010	27.42789	50.00000	Averaged
87 Naphthalene	1.42473	0.82151	0.82151	0.010	42.33905	50.00000	Averaged
88 1,2,3-Trichlorobenzene	0.60730	0.42657	0.42657	0.010	29.75963	50.00000	Averaged
98 Cyclohexane	0.61473	0.61942	0.61942	0.010	-0.76357	50.00000	Averaged
143 Methyl Acetate	100	101	0.26426	0.010	-0.61277	0.000e+000	Wt Linear

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00526A.b\UXJ9766.D
Report Date: 26-May-2010 12:13

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux11.i Injection Date: 26-MAY-2010 10:46
Lab File ID: UXJ9766.D Init. Cal. Date(s): 29-OCT-2009 26-MAR-2010
Analysis Type: WATER Init. Cal. Times: 16:58 17:31
Lab Sample ID: 50NG-CC Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSV\a3ux11.i\J00526A.b\8260LLUX11.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
144 Methylcyclohexane	0.64554	0.65409	0.65409	0.010	-1.32435	50.00000	Averaged
141 1,3,5-Trichlorobenzene	0.70877	0.78621	0.78621	0.010	-10.92622	50.00000	Averaged
150 Vinyl Acetate-86	0.06393	0.04796	0.04796	0.010	24.98316	50.00000	Averaged

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00526A.b\UXJ9767.D
Report Date: 26-May-2010 11:26

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux11.i Injection Date: 26-MAY-2010 11:10
Lab File ID: UXJ9767.D Init. Cal. Date(s): 29-OCT-2009 26-MAR-2010
Analysis Type: WATER Init. Cal. Times: 16:58 17:31
Lab Sample ID: 50NG-A9CC Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSV\a3ux11.i\J00526A.b\8260LLUX11.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
14 Dichlorofluoromethane	50.00000	43.40401	0.21878	0.010	13.19197	0.000e+000	Quadratic	
89 Ethyl Ether	0.29507	0.28944	0.28944	0.010	1.90957	50.00000	Averaged	
91 3-Chloropropene	0.14116	0.15183	0.15183	0.010	-7.55811	50.00000	Averaged	
92 Isopropyl Ether	0.30098	0.29660	0.29660	0.010	1.45590	50.00000	Averaged	
93 2-Chloro-1,3-butadiene	0.51812	0.48964	0.48964	0.010	5.49684	50.00000	Averaged	
94 Propionitrile	0.04620	0.04241	0.04241	0.010	8.20585	50.00000	Averaged	
95 Ethyl Acetate	0.29584	0.25625	0.25625	0.010	13.38401	50.00000	Averaged	
96 Methacrylonitrile	0.20086	0.18082	0.18082	0.010	9.97604	50.00000	Averaged	
97 Isobutanol	0.01069	0.01067	0.01067	0.010	0.22922	50.00000	Averaged	
99 n-Butanol	0.00952	0.00706	0.00706	0.010	25.84458	50.00000	Averaged	<-
103 Cyclohexanone	500	344	0.02030	0.010	31.10311	0.000e+000	Wt Linear	
100 Methyl Methacrylate	0.28662	0.22454	0.22454	0.010	21.66001	50.00000	Averaged	
101 2-Nitropropane	0.07435	0.05066	0.05066	0.010	31.86160	50.00000	Averaged	
155 t-Butyl ethyl ether	0.52049	0.24743	0.24743	0.010	-52.46195	50.00000	Averaged	<-
156 t-Amyl methyl ether	0.59205	0.19595	0.19595	0.010	66.90381	50.00000	Averaged	<-
157 1,2,3-Trimethylbenzene	3.17699	3.57543	3.57543	0.010	-12.54124	50.00000	Averaged	

SW846 8260B METHOD BLANK SUMMARY

BLANK WORKORDER NO.: L15781AA

Lab Name: TestAmerica Laboratories, Inc.

Lab Code: TALCAN

SDG Number:0E06602

Lab File ID: UXJ9770.D

Lot Number: A0E140486

Date Analyzed: 05/26/10

Time Analyzed: 12:21

Matrix: WATER

Date Extracted:05/26/10

GC Column: DB 624 ID: .18

Extraction Method: 5030B

Instrument ID: UX11

Level:(low/med) LOW

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, LCS, LCSD, MS , MSD:

	CLIENT ID.	SAMPLE WORK ORDER #	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	MRC-MW96D (65')	L1H6H1AA	UXJ9771.D	05/26/10	12:45
02	INTRA-LAB QC	L1P6T1AP	UXJ9776.D	05/26/10	14:43
03	LAB MS/MSD	L1P6T1AQ S	UXJ9791.D	05/26/10	20:38
04	LAB MS/MSD	L1P6T1AR D	UXJ9792.D	05/26/10	21:01
05	CHECK SAMPLE	L15781AC C	UXJ9768.D	05/26/10	11:34
06	DUPLICATE CHECK	L15781AD L	UXJ9769.D	05/26/10	11:57
07					
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COMMENTS:

FORM IV

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: 0E06602 **Work Order #...:** L15781AA **Matrix.....:** WATER
MB Lot-Sample #: A0E270000-259

Prep Date.....: 05/26/10 **Final Wgt/Vol..:** 5 mL
Analysis Date..: 05/26/10 **Prep Batch #...:** 0147259
Dilution Factor: 1 **Initial Wgt/Vol:** 5 mL

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	ND	5.0	ug/L	SW846 8260B
Bromobenzene	ND	1.0	ug/L	SW846 8260B
Bromochloromethane	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
2-Butanone	ND	5.0	ug/L	SW846 8260B
n-Butylbenzene	ND	1.0	ug/L	SW846 8260B
sec-Butylbenzene	ND	1.0	ug/L	SW846 8260B
tert-Butylbenzene	ND	1.0	ug/L	SW846 8260B
Carbon disulfide	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	SW846 8260B
2-Chloroethyl vinyl ether	ND	5.0	ug/L	SW846 8260B
2-Chlorotoluene	ND	1.0	ug/L	SW846 8260B
4-Chlorotoluene	ND	1.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
Dibromomethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,3-Dichloropropane	ND	1.0	ug/L	SW846 8260B
2,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	1.0	ug/L	SW846 8260B
Hexachlorobutadiene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	5.0	ug/L	SW846 8260B
Isopropylbenzene	ND	1.0	ug/L	SW846 8260B
p-Isopropyltoluene	ND	1.0	ug/L	SW846 8260B
tert-Butyl alcohol	ND	20	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	5.0	ug/L	SW846 8260B
Naphthalene	**0.27 J**	**1.0**	**ug/L**	**SW846 8260B**
n-Propylbenzene	ND	1.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
1,2,3-Trichlorobenzene	**0.40 J**	**1.0**	**ug/L**	**SW846 8260B**
1,2,4-Trichloro-benzene	**0.23 J**	**1.0**	**ug/L**	**SW846 8260B**
1,2,3-Trichloropropane	ND	1.0	ug/L	SW846 8260B

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: 0E06602 **Work Order #...:** L15781AA **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	SW846 8260B
1,2,4-Trimethylbenzene	ND	1.0	ug/L	SW846 8260B
Vinyl acetate	ND	2.0	ug/L	SW846 8260B
o-Xylene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	2.0	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/L	SW846 8260B
m-Xylene & p-Xylene	ND	2.0	ug/L	SW846 8260B
1,2,3-Trimethylbenzene	ND	5.0	ug/L	SW846 8260B
Diisopropyl Ether (DIPE)	ND	5.0	ug/L	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	ND	5.0	ug/L	SW846 8260B
Tert-amyl methyl ether (T	ND	5.0	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93	(73 - 122)
1,2-Dichloroethane-d4	89	(61 - 128)
Toluene-d8	97	(76 - 110)
4-Bromofluorobenzene	84	(74 - 116)

NOTE(S):

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

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Method Blank Report

GC/MS Volatiles

Lot-Sample #: A0E270000-259 B **Work Order #:** L15781AA **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT	RETENTION TIME	UNITS
None				ug/L

SW846 8260B CHECK SAMPLE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Lot #: A0E270000 WO #: L15781AC
BATCH: 0147259

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENT. (ug/L)	% REC	QC LIMITS REC	QUAL
1,1-Dichloroethene	10	11	105	63- 130	
Trichloroethene	10	9.1	91	75- 122	
Benzene	10	9.9	99	80- 116	
Toluene	10	10	101	74- 119	
Chlorobenzene	10	9.8	98	76- 117	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

SW846 8260B CHECK SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Lot #: A0E270000 WO #: L15781AD
BATCH: 0147259

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENT. (ug/L)	% REC	QC LIMITS REC	QUAL
1,1-Dichloroethene	10	11	113	63- 130	
Trichloroethene	10	9.3	93	75- 122	
Benzene	10	10	102	80- 116	
Toluene	10	11	105	74- 119	
Chlorobenzene	10	10	101	76- 117	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

SW846 8260B MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Matrix Spike ID: LAB MS/MSD

Lot #: A0E190483 WO #: L1P6T1AQ
BATCH: 0147259

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENT. (ug/L)	MS CONCENT. (ug/L)	MS % REC	LIMITS REC	QUAL
1,1-Dichloroethene	10	ND	9.5	95	62- 130	
Trichloroethene	10	ND	8.8	88	62- 130	
Benzene	10	ND	9.8	98	78- 118	
Toluene	10	ND	9.9	99	70- 119	
Chlorobenzene	10	ND	9.5	95	76- 117	

NOTES(S):

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

SW846 8260B MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Matrix Spike ID: LAB MS/MSD

Lot #: A0E190483 WO #: L1P6T1AR
BATCH: 0147259

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENT. (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	QUAL
1,1-Dichloroethene	10	11	114	18	20	62- 130	
Trichloroethene	10	8.8	88	0.12	20	62- 130	
Benzene	10	9.7	97	1.8	20	78- 118	
Toluene	10	9.7	97	2.0	20	70- 119	
Chlorobenzene	10	9.3	93	1.6	20	76- 117	

NOTES(S):

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 0E06602

Lab File ID: BFB14416 BFB Injection Date: 04/29/10

Instrument ID: A3UX14 BFB Injection Time: 1938

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	30.2
75	30.0 - 60.0% of mass 95	44.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	86.5
175	5.0 - 9.0% of mass 174	6.6 (7.7)1
176	Greater than 95.0%, but less than 101.0% of mass 174	83.4 (96.4)1
177	5.0 - 9.0% of mass 176	5.3 (6.4)2

1-Value is % of mass 174 2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD200	1000NG-IC	149597	04/29/10	2022
02	VSTD100	500NG-IC	149598	04/29/10	2043
03	VSTD050	250NG-IC	149599	04/29/10	2105
04	VSTD020	100NG-IC	149600	04/29/10	2127
05	VSTD010	50NG-IC	149601	04/29/10	2149
06	VSTD005	25NG-IC	149602	04/29/10	2210
07	VSTD002	10NG-IC	149603	04/29/10	2232
08	VSTD001	5NG-IC	149604	04/29/10	2254
09	VSTD200	1000NG-GCIC	149605	04/29/10	2315
10	VSTD100	500NG-GCIC	149606	04/29/10	2337
11	VSTD050	250NG-GCIC	149607	04/29/10	2359
12	VSTD050	100NG-GCIC	149608	04/30/10	0021
13	VSTD010	50NG-GCIC	149609	04/30/10	0043
14	VSTD005	25NG-GCIC	149610	04/30/10	0104
15	VSTD002	10NG-GCIC	149611	04/30/10	0126
16	VSTD001	5NG-GCIC	149612	04/30/10	0148
17	VSTD200	1000NG-A9IC	149613	04/30/10	0210
18	VSTD100	500NG-A9IC	149614	04/30/10	0231
19	VSTD050	250NG-A9IC	149615	04/30/10	0253
20	VSTD020	100NG-A9IC	149616	04/30/10	0315
21	VSTD010	50NG-A9IC	149617	04/30/10	0337
22	VSTD005	25NG-A9IC	149618	04/30/10	0358

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 0E06602

Lab File ID: BFB14416 BFB Injection Date: 04/29/10

Instrument ID: A3UX14 BFB Injection Time: 1938

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	30.2
75	30.0 - 60.0% of mass 95	44.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	86.5
175	5.0 - 9.0% of mass 174	6.6 (7.7)1
176	Greater than 95.0%, but less than 101.0% of mass 174	83.4 (96.4)1
177	5.0 - 9.0% of mass 176	5.3 (6.4)2

1-Value is % of mass 174 2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD002	10NG-A9IC	149619	04/30/10	0420
02	VSTD001	5NG-A9IC	149620	04/30/10	0442
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Report Date : 30-Apr-2010 09:46

TestAmerica North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 29-APR-2010 20:22
End Cal Date : 30-APR-2010 04:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSV\a3ux14.i\R00429D-IC.b\8260SUX14.m
Last Edit : 30-Apr-2010 09:46 a3ux14.i
Curve Type : Average

Calibration File Names:
Level 1: \\cansvr11\dd\chem\MSV\a3ux14.i\R00429D-IC.b\149620.D
Level 2: \\cansvr11\dd\chem\MSV\a3ux14.i\R00429D-IC.b\149619.D
Level 3: \\cansvr11\dd\chem\MSV\a3ux14.i\R00429D-IC.b\149618.D
Level 4: \\cansvr11\dd\chem\MSV\a3ux14.i\R00429D-IC.b\149617.D
Level 5: \\cansvr11\dd\chem\MSV\a3ux14.i\R00429D-IC.b\149616.D
Level 6: \\cansvr11\dd\chem\MSV\a3ux14.i\R00429D-IC.b\149615.D
Level 7: \\cansvr11\dd\chem\MSV\a3ux14.i\R00429D-IC.b\149614.D
Level 8: \\cansvr11\dd\chem\MSV\a3ux14.i\R00429D-IC.b\149613.D

Compound	5.000 Level 1	10.000 Level 2	25.000 Level 3	50.000 Level 4	100.000 Level 5	250.000 Level 6	500.000 Level 7	1000.000 Level 8	RRF	% RSD
8 Dichlorodifluoromethane	0.25502	0.23556	0.26236	0.24741	0.25629	0.23160	0.26010	0.24519	0.24919	4.528
9 Chloromethane	0.44927	0.45745	0.43969	0.42684	0.44630	0.38904	0.43736	0.39995	0.43074	5.636
10 Vinyl Chloride	0.28952	0.27677	0.27522	0.28888	0.29842	0.26754	0.29696	0.28102	0.28429	3.850
11 Bromomethane	0.13151	0.13816	0.15589	0.12886	0.12842	0.12406	0.11251	0.11645	0.12948	10.384
12 Chloroethane	0.17929	0.19148	0.16588	0.16872	0.16275	0.14603	0.15725	0.14356	0.16437	9.760
13 Trichlorofluoromethane	0.19600	0.20118	0.22167	0.24286	0.24323	0.24354	0.26580	0.23591	0.23127	10.184
14 Dichlorofluoromethane	0.27664	0.19779	0.22585	0.20615	0.23541	0.27384	0.27664	0.25483	0.24339	13.091
15 Acrolein	+++++	+++++	0.04232	0.03622	0.03815	0.03151	0.03419	0.03037	0.03546	12.479

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Last Edit : 30-Apr-2010 09:46 a3ux14.i
Curve Type : Average

Compound	5.000 Level 1	10.000 Level 2	25.000 Level 3	50.000 Level 4	100.000 Level 5	250.000 Level 6	RRF	% RSD
	500.000 Level 7	1000.000 Level 8						
16 Acetone	+++++	0.13993	0.12934	0.10623	0.12772	0.10094		
	0.11191	0.09219					0.11547	14.967
17 1,1-Dichloroethene	0.19719	0.23442	0.24785	0.18273	0.20117	0.15892		
	0.17774	0.16811					0.19602	15.964
18 Freon-113	0.12359	0.17444	0.23481	0.16253	0.21128	0.14986		
	0.18228	0.16110					0.17499	19.997
19 Iodomethane	0.47994	0.43542	0.50526	0.46729	0.47340	0.42625		
	0.47366	0.43982					0.46263	5.754
20 Carbon Disulfide	0.60339	0.59095	0.72638	0.68269	0.69100	0.64010		
	0.72792	0.68164					0.66801	7.762
21 Methylene Chloride	0.31682	0.25370	0.25248	0.24524	0.23142	0.24480		
	0.24759	0.22848					0.25257	10.891
22 Acetonitrile	+++++	+++++	0.03664	0.03414	0.03656	0.02963		
	0.03183	0.02738					0.03270	11.523
23 Acrylonitrile	0.11328	0.09938	0.10111	0.09743	0.10118	0.08873		
	0.09593	0.08357					0.09758	9.107
24 Methyl tert-butyl ether	0.35479	0.31239	0.37923	0.32298	0.33078	0.29650		
	0.29450	0.25220					0.31792	12.278
25 trans-1,2-Dichloroethene	0.27782	0.29219	0.32400	0.29382	0.28637	0.25359		
	0.27941	0.26139					0.28357	7.614
26 Hexane	0.05095	0.05683	0.06882	0.06910	0.06611	0.06241		
	0.06294	0.06013					0.06216	9.938

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Compound	5.000 Level 1	10.000 Level 2	25.000 Level 3	50.000 Level 4	100.000 Level 5	250.000 Level 6	RRF	% RSD
	500.000 Level 7	1000.000 Level 8						
27 Vinyl acetate	0.60667	0.41085	0.58248	0.48798	0.57550	0.56488		
	0.52937	0.56781					0.54069	11.780
154 Vinyl Acetate**2nd**	0.03767	0.03041	0.03488	0.03099	0.03499	0.03396		
	0.03136	0.03284					0.03339	7.375
28 1,1-Dichloroethane	0.55278	0.54497	0.61870	0.56403	0.57088	0.52590		
	0.55947	0.53852					0.55941	5.002
29 tert-Butyl Alcohol	0.02142	0.01848	0.02205	0.01858	0.02064	0.01688		
	0.01796	0.01400					0.01875	14.023
30 2-Butanone	0.12449	0.13002	0.13062	0.12536	0.13846	0.11920		
	0.12764	0.11297					0.12610	6.099
M 31 1,2-Dichloroethene (total)	0.30175	0.29911	0.32394	0.29278	0.29036	0.26289		
	0.28169	0.26347					0.28950	7.015
32 cis-1,2-dichloroethene	0.32568	0.30602	0.32388	0.29174	0.29435	0.27218		
	0.28397	0.26556					0.29542	7.477
33 2,2-Dichloropropane	0.21770	0.19037	0.22328	0.21811	0.20776	0.19176		
	0.20436	0.18366					0.20462	7.198
34 Bromochloromethane	0.16649	0.14655	0.15207	0.13724	0.14071	0.13069		
	0.13600	0.12820					0.14224	8.815
35 Chloroform	0.46790	0.41799	0.46274	0.42612	0.43148	0.40474		
	0.42324	0.39991					0.42926	5.744
36 Tetrahydrofuran	+++++	0.10439	0.10357	0.09039	0.09651	0.08167		
	0.08529	0.07315					0.09071	12.777

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	500.000 Level 7	1000.000 Level 8							
37 1,1,1-Trichloroethane	0.35768	0.35432	0.41558	0.38316	0.38474	0.35592			
	0.38549	0.35554					0.37405	5.876	
38 1,1-Dichloropropene	0.29348	0.31307	0.38757	0.34580	0.34164	0.33327			
	0.33610	0.31692					0.33348	8.361	
39 Carbon Tetrachloride	0.31370	0.33816	0.40745	0.37407	0.39573	0.37802			
	0.40978	0.39112					0.37601	9.030	
40 1,2-Dichloroethane	0.39894	0.38264	0.42614	0.38385	0.37401	0.36223			
	0.36575	0.35258					0.38077	6.128	
41 Benzene	1.03484	1.01170	1.11913	1.01575	1.01193	0.96424			
	0.98145	0.94609					1.01064	5.230	
42 Trichloroethene	0.30526	0.30930	0.35361	0.32524	0.31768	0.31456			
	0.31374	0.30078					0.31752	5.165	
43 1,2-Dichloropropane	0.28598	0.29421	0.30855	0.28909	0.28741	0.28424			
	0.27955	0.26868					0.28721	3.992	
44 1,4-Dioxane	0.00222	0.00175	0.00194	0.00170	0.00184	0.00157			
	0.00162	0.00130					0.00174	15.662	<-
45 Dibromomethane	0.13047	0.11991	0.13774	0.12204	0.12259	0.11811			
	0.11881	0.11070					0.12255	6.722	
46 Bromodichloromethane	0.25465	0.22907	0.27528	0.25007	0.26143	0.26865			
	0.27412	0.26910					0.26030	5.944	
47 2-Chloroethyl vinyl ether	0.09554	0.09051	0.09552	0.09428	0.09682	0.10002			
	0.09484	0.09102					0.09482	3.222	

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	500.000 Level 7	1000.000 Level 8						
48 cis-1,3-Dichloropropene	0.29099	0.27400	0.32390	0.28882	0.31122	0.32789		
	0.32087	0.31731					0.30687	6.417
49 4-Methyl-2-pentanone	0.39132	0.38850	0.41020	0.40263	0.43379	0.37174		
	0.40611	0.35492					0.39490	6.143
50 Toluene	1.65591	1.53952	1.75485	1.50524	1.53562	1.48978		
	1.51223	1.48447					1.55970	6.135
51 trans-1,3-Dichloropropene	0.39778	0.35257	0.40700	0.35811	0.38476	0.39645		
	0.39180	0.39012					0.38482	5.033
52 Ethyl Methacrylate	0.36036	0.29955	0.33597	0.29312	0.32477	0.30917		
	0.31114	0.29652					0.31633	7.255
53 1,1,2-Trichloroethane	0.27838	0.25145	0.28452	0.23748	0.25041	0.23963		
	0.23622	0.22519					0.25041	8.360
54 1,3-Dichloropropane	0.42596	0.38500	0.42665	0.37991	0.39163	0.38230		
	0.37273	0.35232					0.38956	6.538
55 Tetrachloroethene	0.31970	0.35142	0.39299	0.34423	0.36522	0.34603		
	0.34962	0.33695					0.35077	6.109
56 2-Hexanone	0.23455	0.23694	0.24703	0.24570	0.26180	0.23821		
	0.23895	0.22018					0.24042	4.951
57 Dibromochloromethane	0.25681	0.26162	0.30914	0.26207	0.29653	0.30739		
	0.31565	0.31663					0.29073	8.970
58 1,2-Dibromoethane	0.28300	0.25359	0.27067	0.24221	0.25201	0.24240		
	0.23929	0.23019					0.25167	6.941

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	Compound	5.000 Level 1	10.000 Level 2	25.000 Level 3	50.000 Level 4	100.000 Level 5	250.000 Level 6	RRF	% RSD
		500.000 Level 7	1000.000 Level 8						
	59 Chlorobenzene	1.03475	0.99940	1.10031	0.97551	0.99354	0.98602		
		0.97827	0.95538					1.00290	4.538
	60 1,1,1,2-Tetrachloroethane	0.35464	0.34712	0.40433	0.38640	0.39655	0.37666		
		0.40676	0.37951					0.38150	5.727
	61 Ethylbenzene	0.55308	0.54991	0.62721	0.55675	0.56542	0.56030		
		0.55463	0.53692					0.56303	4.839
	62 m + p-Xylene	0.67703	0.64600	0.73135	0.66814	0.68781	0.66330		
		0.64615	0.60806					0.66598	5.393
M	63 Xylenes (total)	0.68175	0.64442	0.74641	0.67341	0.68975	0.65993		
		0.64957	0.60432					0.66870	6.153
	64 Xylene-o	0.69121	0.64126	0.77655	0.68395	0.69362	0.65321		
		0.65642	0.59684					0.67413	7.741
	65 Styrene	0.94540	0.90920	1.02653	0.91399	0.93415	0.95919		
		0.92521	0.88127					0.93687	4.623
	66 Bromoform	0.13080	0.12279	0.13916	0.13289	0.14601	0.15846		
		0.16672	0.16506					0.14524	11.438
	67 Isopropylbenzene	1.71663	1.69053	2.02770	1.86514	1.92626	1.81481		
		1.91094	1.79291					1.84311	6.107
	68 1,1,2,2-Tetrachloroethane	0.53016	0.52772	0.56980	0.50888	0.57847	0.52346		
		0.53674	0.49116					0.53330	5.441
	69 1,4-Dichloro-2-butene	0.22986	0.27702	0.25115	0.21604	0.22759	0.24051		
		0.24169	0.23265					0.23956	7.699

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	500.000 Level 7	1000.000 Level 8						
70 1,2,3-Trichloropropane	0.19394	0.16934	0.18540	0.17069	0.17521	0.16107		
	0.16020	0.14991					0.17072	8.324
71 Bromobenzene	0.82618	0.83343	0.89722	0.80733	0.81424	0.80916		
	0.81498	0.78981					0.82404	3.918
72 n-Propylbenzene	0.90043	0.93570	1.07177	0.99940	1.04743	1.04071		
	1.05783	1.01908					1.00904	6.058
73 2-Chlorotoluene	0.96090	0.91220	0.96753	0.90030	0.93204	0.90451		
	0.92243	0.88669					0.92332	3.115
74 1,3,5-Trimethylbenzene	2.65825	2.76917	3.35816	3.14010	3.23306	3.08127		
	3.29137	3.07809					3.07618	7.996
75 4-Chlorotoluene	0.86602	0.83477	0.96421	0.86353	0.86179	0.86554		
	0.85605	0.81931					0.86640	4.959
76 tert-Butylbenzene	2.40980	2.65082	3.25221	3.05727	3.17208	2.98413		
	3.25702	3.04054					2.97798	10.081
77 1,2,4-Trimethylbenzene	2.74441	2.81104	3.26729	3.02298	3.12366	3.02525		
	3.24405	3.11032					3.04363	6.152
78 sec-Butylbenzene	3.26817	3.65173	4.48493	4.16348	4.37094	4.10735		
	4.50604	4.25393					4.10082	10.537
79 4-Isopropyltoluene	2.79848	2.91440	3.58703	3.33505	3.52449	3.35053		
	3.64716	3.46006					3.32715	9.347
80 1,3-Dichlorobenzene	1.72581	1.61833	1.77467	1.60604	1.62491	1.59487		
	1.62974	1.57785					1.64403	4.191

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	500.000 Level 7	1000.000 Level 8							
81 1,4-Dichlorobenzene	1.74839	1.71201	1.80976	1.59080	1.60023	1.56616			
	1.59463	1.56287					1.64811	5.742	
82 n-Butylbenzene	2.33163	2.36007	2.93293	2.66390	2.80530	2.69562			
	2.79780	2.65584					2.65539	7.970	
83 1,2-Dichlorobenzene	1.63146	1.53796	1.72412	1.54388	1.56359	1.47497			
	1.51763	1.38505					1.54733	6.516	
84 1,2-Dibromo-3-chloropropane	0.08661	0.10271	0.11879	0.10545	0.11606	0.10609			
	0.12587	0.11485					0.10955	11.041	
85 1,2,4-Trichlorobenzene	1.28689	1.15119	1.23781	1.09667	1.11682	1.02212			
	1.12397	1.01765					1.13164	8.333	
86 Hexachlorobutadiene	0.51148	0.59093	0.73329	0.65156	0.65485	0.62224			
	0.69100	0.63165					0.63588	10.437	
87 Naphthalene	2.92146	2.62386	2.69848	2.44834	2.59392	2.23594			
	2.46651	2.21527					2.52547	9.353	
88 1,2,3-Trichlorobenzene	1.23504	1.06888	1.14501	1.03603	1.06748	0.94492			
	1.03125	0.93229					1.05761	9.381	
89 Ethyl Ether	0.22435	0.22620	0.20232	0.19940	0.19613	0.20127			
	0.20243	0.19186					0.20550	6.189	
90 Ethanol	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++					+++++	+++++	<-
91 3-Chloropropene	0.13110	0.11976	0.12691	0.12987	0.11853	0.13640			
	0.13919	0.13278					0.12932	5.670	

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	500.000 Level 7	1000.000 Level 8							
92 Isopropyl Ether	0.22204	0.21048	0.21623	0.20721	0.20168	0.20854			
	0.19941	0.17458					0.20502	6.976	
93 2-Chloro-1,3-butadiene	0.57624	0.54973	0.62402	0.60671	0.58762	0.62586			
	0.64480	0.63759					0.60657	5.436	
94 Propionitrile	+++++	0.04391	0.03732	0.03162	0.03161	0.03510			
	0.03412	0.03164					0.03504	12.756	
95 Ethyl Acetate	0.29656	0.29953	0.26727	0.22940	0.24670	0.25317			
	0.25503	0.24444					0.26151	9.544	
96 Methacrylonitrile	0.08624	0.08053	0.07918	0.06468	0.07124	0.07138			
	0.07196	0.06707					0.07403	9.855	
97 Isobutanol	0.00759	0.00816	0.00700	0.00621	0.00689	0.00741			
	0.00742	0.00681					0.00719	8.193	<-
98 Cyclohexane	0.54431	0.66520	0.87500	0.79713	0.82184	0.74288			
	0.82065	0.77088					0.75474	13.969	
99 n-Butanol	0.00729	0.00724	0.00629	0.00551	0.00598	0.00646			
	0.00671	0.00613					0.00645	9.524	<-
100 Methyl Methacrylate	0.22535	0.21749	0.23013	0.20466	0.22980	0.22477			
	0.22785	0.22079					0.22260	3.796	
101 2-Nitropropane	+++++	0.08987	0.07515	0.06677	0.06676	0.08213			
	0.09071	0.09629					0.08110	14.654	
102 Chloropicrin	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++					+++++	+++++	<-

Report Date : 30-Apr-2010 09:46

TestAmerica North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 29-APR-2010 20:22
End Cal Date : 30-APR-2010 04:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSV\a3ux14.i\R00429D-IC.b\8260SUX14.m
Last Edit : 30-Apr-2010 09:46 a3ux14.i
Curve Type : Average

Compound	5.000 Level 1	10.000 Level 2	25.000 Level 3	50.000 Level 4	100.000 Level 5	250.000 Level 6	RRF	% RSD	
	500.000 Level 7	1000.000 Level 8							
25 Cyclohexanone	0.06960	0.06560	0.05848	0.05826	0.06480	0.06775			
	0.06940	0.06293					0.06460	6.911	
104 Pentachloroethane	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++					+++++	+++++	<-
105 Benzyl Chloride	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++					+++++	+++++	<-
134 Thiophene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++					+++++	+++++	<-
135 Crotononitrile(1st Isomer)	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++					+++++	+++++	<-
136 Crotononitrile(2nd Isomer)	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++					+++++	+++++	<-
M 137 Total Crotononitrile	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++					+++++	+++++	<-
138 Paraldehyde	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++					+++++	+++++	<-
139 3,3,5-Trimethylcyclohexanone	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++					+++++	+++++	<-
140 1-Chlorohexane	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++					+++++	+++++	<-
141 1,3,5-Trichlorobenzene	1.30840	1.20550	1.35961	1.20864	1.25798	1.18363			
	1.27726	1.18768					1.24859	5.083	

Report Date : 30-Apr-2010 09:46

TestAmerica North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 29-APR-2010 20:22
End Cal Date : 30-APR-2010 04:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSV\a3ux14.i\R00429D-IC.b\8260SUX14.m
Last Edit : 30-Apr-2010 09:46 a3ux14.i
Curve Type : Average

Compound	5.000 Level 1	10.000 Level 2	25.000 Level 3	50.000 Level 4	100.000 Level 5	250.000 Level 6	500.000 Level 7	1000.000 Level 8	RRF	% RSD	
143 Methyl Acetate	0.26881	0.25212	0.25636	0.22869	0.24399	0.20871	0.22707	0.20322	0.23612	9.824	
144 Methylcyclohexane	0.36918	0.46575	0.60156	0.54496	0.55677	0.51066	0.54912	0.50025	0.51228	13.836	
145 Dimethoxymethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
146 2-Methylnaphthalene	1.47871	1.39648	1.45174	1.32537	1.10197	1.28961	1.48000	1.32514	1.35613	9.330	
147 Ethyl Acrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
148 n-Butyl Acrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
149 1,2:3,4-Diepoxybutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
150 Bromoacetone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
151 Allyl Alcohol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
152 Acenaphthylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
153 Isopropyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-

Report Date : 30-Apr-2010 09:46

TestAmerica North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 29-APR-2010 20:22
End Cal Date : 30-APR-2010 04:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSV\a3ux14.i\R00429D-IC.b\8260SUX14.m
Last Edit : 30-Apr-2010 09:46 a3ux14.i
Curve Type : Average

Compound	5.000 Level 1	10.000 Level 2	25.000 Level 3	50.000 Level 4	100.000 Level 5	250.000 Level 6	RRF	% RSD	
	500.000 Level 7	1000.000 Level 8							
155 1,3-Butadiene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++					+++++	+++++	<-
156 tert-Butyl Ethyl ether	0.56751	0.49661	0.54670	0.52245	0.53504	0.52533			
	0.49192	0.43848					0.51551	7.707	
157 tert-Amyl Methyl ether	0.34130	0.28579	0.31048	0.30827	0.31591	0.31000			
	0.28546	0.25691					0.30176	8.385	
158 1,2,3-Trimethylbenzene	2.77157	2.54229	2.70739	2.69583	2.56664	2.84643			
	2.98387	2.91724					2.75391	5.722	
$ 4 Dibromofluoromethane	+++++	+++++	0.29655	0.27742	0.27361	0.25131			
	0.25334	0.23558					0.26463	8.300	
$ 5 1,2-Dichloroethane-d4	+++++	+++++	0.33643	0.31097	0.30534	0.27560			
	0.27592	0.26394					0.29470	9.335	
$ 6 Toluene-d8	+++++	+++++	1.65676	1.51553	1.51056	1.41896			
	1.39436	1.35603					1.47537	7.409	
$ 7 Bromofluorobenzene	+++++	+++++	1.09863	0.99317	0.98056	0.98075			
	0.94349	0.92409					0.98678	6.152	

Data File: \\cansvr11\dd\chem\MSV\a3ux14.i\R00429D-IC.b\149621.D
Report Date: 30-Apr-2010 10:12

TestAmerica North Canton

RECOVERY REPORT

Client Name:
Client SDG: SDGa00468
Sample Matrix: SOLID
Fraction: VOA
Lab Smp Id: ICV
Level: LOW
Operator: 2807
Data Type: MS DATA
SampleType: METHSPIKE
SpikeList File: DODICV.spk
Quant Type: ISTD
Sublist File: 4-8260+IX.sub
Method File: \\cansvr11\dd\chem\MSV\a3ux14.i\R00429D-IC.b\8260SUX14.m
Misc Info: R00429D-IC,8260SUX14,,2807,3

SPIKE	COMPOUND	CONC ADDED UG/KG	CONC RECOVERED UG/KG	% RECOVERED	LIMITS
17	1,1-Dichloroethene	50.000	53.036	106.07	55-142
42	Trichloroethene	50.000	46.775	93.55	70-131
41	Benzene	50.000	48.193	96.39	75-129
50	Toluene	50.000	46.973	93.95	71-130
59	Chlorobenzene	50.000	46.028	92.06	75-127
60	1,1,1,2-Tetrachlor	50.000	48.971	97.94	75-125
37	1,1,1-Trichloroeth	50.000	48.731	97.46	75-125
68	1,1,2,2-Tetrachlor	50.000	48.800	97.60	75-125
53	1,1,2-Trichloroeth	50.000	45.418	90.84	75-125
28	1,1-Dichloroethane	50.000	50.746	101.49	75-125
38	1,1-Dichloropropen	50.000	49.686	99.37	75-125
88	1,2,3-Trichloroben	50.000	40.885	81.77	75-125
70	1,2,3-Trichloropro	50.000	50.281	100.56	75-125
85	1,2,4-Trichloroben	50.000	37.542	75.08	75-125
77	1,2,4-Trimethylben	50.000	47.699	95.40	75-125
84	1,2-Dibromo-3-chlo	50.000	43.924	87.85	75-125
58	1,2-Dibromoethane	50.000	45.154	90.31	75-125
83	1,2-Dichlorobenzen	50.000	44.403	88.81	75-125
40	1,2-Dichloroethane	50.000	48.635	97.27	75-125
43	1,2-Dichloropropan	50.000	49.194	98.39	75-125
74	1,3,5-Trimethylben	50.000	48.066	96.13	75-125
80	1,3-Dichlorobenzen	50.000	42.285	84.57	75-125
54	1,3-Dichloropropan	50.000	47.164	94.33	75-125
81	1,4-Dichlorobenzen	50.000	41.346	82.69	75-125
33	2,2-Dichloropropan	50.000	44.555	89.11	75-125
30	2-Butanone	100.00	95.034	95.03	75-125
73	2-Chlorotoluene	50.000	45.615	91.23	75-125
56	2-Hexanone	100.00	93.220	93.22	75-125
75	4-Chlorotoluene	50.000	43.889	87.78	75-125
49	4-Methyl-2-pentano	100.00	95.546	95.55	75-125
16	Acetone	100.00	82.590	82.59	75-125
71	Bromobenzene	50.000	45.501	91.00	75-125
34	Bromochloromethane	50.000	47.532	95.07	75-125
46	Bromodichlorometha	50.000	49.844	99.69	75-125
66	Bromoform	50.000	45.389	90.78	75-125
11	Bromomethane	50.000	42.250	84.50	75-125
20	Carbon Disulfide	50.000	50.268	100.54	75-125
39	Carbon Tetrachlori	50.000	50.107	100.21	75-125
57	Dibromochlorometha	50.000	46.685	93.37	75-125
12	Chloroethane	50.000	44.789	89.58	75-125

Data File: \\cansvr11\dd\chem\MSV\a3ux14.i\R00429D-IC.b\149621.D
Report Date: 30-Apr-2010 10:12

	SPIKE	COMPOUND	CONC ADDED UG/KG	CONC RECOVERED UG/KG	% RECOVERED	LIMITS
	35	Chloroform	50.000	49.468	98.94	75-125
	9	Chloromethane	50.000	45.737	91.47	75-125
	32	cis-1,2-dichloroet	50.000	48.937	97.87	75-125
	48	cis-1,3-Dichloropr	50.000	47.064	94.13	75-125
	45	Dibromomethane	50.000	48.832	97.66	75-125
	8	Dichlorodifluorome	50.000	41.265	82.53	75-125
	61	Ethylbenzene	50.000	46.451	92.90	75-125
	86	Hexachlorobutadien	50.000	42.849	85.70	75-125
	67	Isopropylbenzene	50.000	47.592	95.18	75-125
	62	m + p-Xylene	100.00	92.215	92.21	75-125
	21	Methylene Chloride	50.000	48.249	96.50	75-125
	87	Naphthalene	50.000	43.115	86.23	75-125
	82	n-Butylbenzene	50.000	43.116	86.23	75-125
	72	n-Propylbenzene	50.000	47.071	94.14	75-125
	64	Xylene-o	50.000	47.603	95.21	75-125
	79	4-Isopropyltoluene	50.000	47.341	94.68	75-125
	78	sec-Butylbenzene	50.000	48.633	97.27	75-125
	65	Styrene	50.000	46.128	92.26	75-125
	76	tert-Butylbenzene	50.000	50.587	101.17	75-125
	55	Tetrachloroethene	50.000	44.727	89.45	75-125
	25	trans-1,2-Dichloro	50.000	49.629	99.26	75-125
	51	trans-1,3-Dichloro	50.000	44.610	89.22	75-125
	13	Trichlorofluoromet	50.000	54.876	109.75	75-125
	10	Vinyl Chloride	50.000	45.937	91.87	75-125
	27	Vinyl acetate	50.000	63.900	127.80*	75-125
	154	Vinyl Acetate**2nd	50.000	54.462	108.92	75-125
	19	Iodomethane	50.000	53.375	106.75	75-125
	92	Isopropyl Ether	50.000	53.126	106.25	75-125
	24	Methyl tert-butyl	50.000	47.477	94.95	75-125
M	63	Xylenes (total)	150.00	139.82	93.21	75-125
	22	Acetonitrile	150.00	147.51	98.34	75-125
	15	Acrolein	150.00	156.89	104.59	75-125
	23	Acrylonitrile	150.00	144.26	96.18	75-125
	47	2-Chloroethyl viny	50.000	47.998	96.00	75-125
	98	Cyclohexane	50.000	45.085	90.17	75-125
M	31	1,2-Dichloroethene	100.00	98.566	98.57	75-125
	26	Hexane	50.000	48.493	96.99	75-125
	143	Methyl Acetate	50.000	45.486	90.97	75-125
	144	Methylcyclohexane	50.000	47.477	94.95	75-125
	18	Freon-113	50.000	49.185	98.37	75-125
	25	Cyclohexanone	500.00	401.76	80.35	75-125

	SURROGATE	COMPOUND	CONC ADDED UG/KG	CONC RECOVERED UG/KG	% RECOVERED	LIMITS
$	4	Dibromofluorometha	50.000	47.917	95.83	59-138
$	5	1,2-Dichloroethane	50.000	46.637	93.27	61-130
$	6	Toluene-d8	50.000	48.761	97.52	60-143
$	7	Bromofluorobenzene	50.000	48.577	97.15	47-158

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 0E06602

Lab File ID: BFB14430 BFB Injection Date: 05/18/10

Instrument ID: A3UX14 BFB Injection Time: 1010

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	32.0
75	30.0 - 60.0% of mass 95	45.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.3
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	83.6
175	5.0 - 9.0% of mass 174	6.0 (7.1)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.5 (97.6)1
177	5.0 - 9.0% of mass 176	5.0 (6.1)2

1-Value is % of mass 174 2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	250NG-CC	149969	05/18/10	1052
02	VSTD050	250NG-A9CC	149970	05/18/10	1114
03	L1PMTCHK	L1PMT1AC	149971	05/18/10	1136
04	L1PMTCKDUP	L1PMT1AD	149972	05/18/10	1158
05	L1PMTBLK	L1PMT1AA	149973	05/18/10	1220
06	MRC-MW95D (2	L1H521AC	149979	05/18/10	1430
07	MRC-MW95D (2	L1H521AD	149984	05/18/10	1619
08	MRC-MW95D (2	L1H521AE	149985	05/18/10	1640
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Data File: \\cansvr11\dd\chem\MSV\a3ux14.i\R00518A.b\149969.D
Report Date: 18-May-2010 11:32

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux14.i Injection Date: 18-MAY-2010 10:52
Lab File ID: 149969.D Init. Cal. Date(s): 29-APR-2010 30-APR-2010
Analysis Type: SOIL Init. Cal. Times: 20:22 04:42
Lab Sample ID: 250NG-CC Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSV\a3ux14.i\R00518A.b\8260SUX14.m

COMPOUND	RRF / AMOUNT	RF250	CCAL RRF250	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
$ 4 Dibromofluoromethane	0.26463	0.25140	0.25140	0.010	5.00260	50.00000	Averaged	
$ 5 1,2-Dichloroethane-d4	0.29470	0.30848	0.30848	0.010	-4.67566	50.00000	Averaged	
$ 6 Toluene-d8	1.47537	1.49384	1.49384	0.010	-1.25208	50.00000	Averaged	
$ 7 Bromofluorobenzene	0.98678	0.87319	0.87319	0.010	11.51162	50.00000	Averaged	
8 Dichlorodifluoromethane	0.24919	0.23200	0.23200	0.010	6.89706	50.00000	Averaged	
9 Chloromethane	0.43074	0.44439	0.44439	0.100	-3.16977	50.00000	Averaged	
10 Vinyl Chloride	0.28429	0.30830	0.30830	0.010	-8.44471	20.00000	Averaged	
11 Bromomethane	0.12948	0.12174	0.12174	0.010	5.97797	50.00000	Averaged	
12 Chloroethane	0.16437	0.16125	0.16125	0.010	1.90054	50.00000	Averaged	
13 Trichlorofluoromethane	0.23127	0.28402	0.28402	0.010	-22.80833	50.00000	Averaged	
15 Acrolein	0.03546	0.03061	0.03061	0.010	13.67034	50.00000	Averaged	
16 Acetone	0.11547	0.10532	0.10532	0.010	8.79117	50.00000	Averaged	
17 1,1-Dichloroethene	250	293	0.20322	0.010	-17.24977	0.000e+000	Wt Linear	
18 Freon-113	250	270	0.19518	0.010	-7.91150	0.000e+000	Quadratic	
19 Iodomethane	0.46263	0.40523	0.40523	0.010	12.40717	50.00000	Averaged	
20 Carbon Disulfide	0.66801	0.45612	0.45612	0.010	31.71937	50.00000	Averaged	
22 Acetonitrile	0.03270	0.03195	0.03195	0.010	2.28893	50.00000	Averaged	
23 Acrylonitrile	0.09758	0.11049	0.11049	0.010	-13.23901	50.00000	Averaged	
24 Methyl tert-butyl ether	0.31792	0.52507	0.52507	0.010	-65.15788	50.00000	Averaged	<-
25 trans-1,2-Dichloroethene	0.28357	0.25977	0.25977	0.010	8.39617	50.00000	Averaged	
26 Hexane	0.06216	0.05880	0.05880	0.010	5.40852	20.00000	Averaged	
27 Vinyl acetate	0.54069	0.43716	0.43716	0.010	19.14793	50.00000	Averaged	
154 Vinyl Acetate**2nd**	0.03339	0.02380	0.02380	0.010	28.72875	50.00000	Averaged	
28 1,1-Dichloroethane	0.55941	0.54047	0.54047	0.100	3.38496	50.00000	Averaged	
29 tert-Butyl Alcohol	0.01875	0.01635	0.01635	0.010	12.81277	50.00000	Averaged	
30 2-Butanone	0.12610	0.13286	0.13286	0.010	-5.36055	50.00000	Averaged	
M 31 1,2-Dichloroethene (total)	0.28950	0.27114	0.27114	0.010	6.34115	50.00000	Averaged	
32 cis-1,2-dichloroethene	0.29542	0.28252	0.28252	0.010	4.36854	50.00000	Averaged	
33 2,2-Dichloropropane	0.20462	0.17649	0.17649	0.010	13.74823	50.00000	Averaged	
34 Bromochloromethane	0.14224	0.13161	0.13161	0.010	7.47270	50.00000	Averaged	
35 Chloroform	0.42926	0.42639	0.42639	0.010	0.66855	20.00000	Averaged	
36 Tetrahydrofuran	0.09071	0.08974	0.08974	0.010	1.06891	50.00000	Averaged	
37 1,1,1-Trichloroethane	0.37405	0.34363	0.34363	0.010	8.13246	50.00000	Averaged	
38 1,1-Dichloropropene	0.33348	0.34277	0.34277	0.010	-2.78485	50.00000	Averaged	
39 Carbon Tetrachloride	0.37601	0.33147	0.33147	0.010	11.84369	50.00000	Averaged	
40 1,2-Dichloroethane	0.38077	0.41052	0.41052	0.010	-7.81468	50.00000	Averaged	
41 Benzene	1.01064	1.01742	1.01742	0.010	-0.67026	50.00000	Averaged	
42 Trichloroethene	0.31752	0.30314	0.30314	0.010	4.52923	50.00000	Averaged	
43 1,2-Dichloropropane	0.28721	0.28579	0.28579	0.010	0.49528	20.00000	Averaged	
44 1,4-Dioxane	12500	11765	0.00166	0.010	5.88234	0.000e+000	Quadratic	<-
45 Dibromomethane	0.12255	0.12210	0.12210	0.010	0.36752	50.00000	Averaged	
46 Bromodichloromethane	0.26030	0.23694	0.23694	0.010	8.97246	50.00000	Averaged	
47 2-Chloroethyl vinyl ether	0.09482	0.11131	0.11131	0.010	-17.39523	50.00000	Averaged	

Data File: \\cansvr11\dd\chem\MSV\a3ux14.i\R00518A.b\149969.D
Report Date: 18-May-2010 11:32

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux14.i Injection Date: 18-MAY-2010 10:52
Lab File ID: 149969.D Init. Cal. Date(s): 29-APR-2010 30-APR-2010
Analysis Type: SOIL Init. Cal. Times: 20:22 04:42
Lab Sample ID: 250NG-CC Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSV\a3ux14.i\R00518A.b\8260SUX14.m

COMPOUND	RRF / AMOUNT	RF250	CCAL RRF250	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
48 cis-1,3-Dichloropropene	0.30687	0.27188	0.27188	0.010	11.40285	50.00000	Averaged
49 4-Methyl-2-pentanone	0.39490	0.41692	0.41692	0.010	-5.57585	50.00000	Averaged
50 Toluene	1.55970	1.65571	1.65571	0.010	-6.15549	20.00000	Averaged
51 trans-1,3-Dichloropropene	0.38482	0.33627	0.33627	0.010	12.61594	50.00000	Averaged
52 Ethyl Methacrylate	0.31633	0.28718	0.28718	0.010	9.21275	50.00000	Averaged
53 1,1,2-Trichloroethane	0.25041	0.26266	0.26266	0.010	-4.89378	50.00000	Averaged
54 1,3-Dichloropropane	0.38956	0.41935	0.41935	0.010	-7.64553	50.00000	Averaged
55 Tetrachloroethene	0.35077	0.35969	0.35969	0.010	-2.54131	50.00000	Averaged
56 2-Hexanone	0.24042	0.23889	0.23889	0.010	0.63536	50.00000	Averaged
57 Dibromochloromethane	0.29073	0.26470	0.26470	0.010	8.95394	50.00000	Averaged
58 1,2-Dibromoethane	0.25167	0.25140	0.25140	0.010	0.10852	50.00000	Averaged
59 Chlorobenzene	1.00290	1.02335	1.02335	0.300	-2.03906	50.00000	Averaged
60 1,1,1,2-Tetrachloroethane	0.38150	0.36373	0.36373	0.010	4.65686	50.00000	Averaged
61 Ethylbenzene	0.56303	0.56046	0.56046	0.010	0.45716	20.00000	Averaged
62 m + p-Xylene	0.66598	0.68533	0.68533	0.010	-2.90512	50.00000	Averaged
M 63 Xylenes (total)	0.66870	0.68572	0.68572	0.010	-2.54593	50.00000	Averaged
64 Xylene-o	0.67413	0.68651	0.68651	0.010	-1.83624	50.00000	Averaged
65 Styrene	0.93687	0.98141	0.98141	0.010	-4.75475	50.00000	Averaged
66 Bromoform	0.14524	0.12178	0.12178	0.100	16.15135	50.00000	Averaged
67 Isopropylbenzene	1.84311	1.90626	1.90626	0.010	-3.42624	50.00000	Averaged
68 1,1,2,2-Tetrachloroethane	0.53330	0.54613	0.54613	0.300	-2.40604	50.00000	Averaged
69 1,4-Dichloro-2-butene	0.23956	0.22529	0.22529	0.010	5.95948	50.00000	Averaged
70 1,2,3-Trichloropropane	0.17072	0.16976	0.16976	0.010	0.56303	50.00000	Averaged
71 Bromobenzene	0.82404	0.75459	0.75459	0.010	8.42818	50.00000	Averaged
72 n-Propylbenzene	1.00904	0.93073	0.93073	0.010	7.76104	50.00000	Averaged
73 2-Chlorotoluene	0.92332	0.83796	0.83796	0.010	9.24538	50.00000	Averaged
74 1,3,5-Trimethylbenzene	3.07618	2.92585	2.92585	0.010	4.88701	50.00000	Averaged
75 4-Chlorotoluene	0.86640	0.82192	0.82192	0.010	5.13407	50.00000	Averaged
76 tert-Butylbenzene	2.97798	2.75505	2.75505	0.010	7.48615	50.00000	Averaged
77 1,2,4-Trimethylbenzene	3.04363	2.93858	2.93858	0.010	3.45130	50.00000	Averaged
78 sec-Butylbenzene	4.10082	3.87661	3.87661	0.010	5.46759	50.00000	Averaged
79 4-Isopropyltoluene	3.32715	3.25752	3.25752	0.010	2.09292	50.00000	Averaged
80 1,3-Dichlorobenzene	1.64403	1.59842	1.59842	0.010	2.77430	50.00000	Averaged
81 1,4-Dichlorobenzene	1.64811	1.60377	1.60377	0.010	2.69002	50.00000	Averaged
82 n-Butylbenzene	2.65539	2.71935	2.71935	0.010	-2.40889	50.00000	Averaged
83 1,2-Dichlorobenzene	1.54733	1.55117	1.55117	0.010	-0.24805	50.00000	Averaged
84 1,2-Dibromo-3-chloropropane	0.10955	0.08449	0.08449	0.010	22.87332	50.00000	Averaged
85 1,2,4-Trichlorobenzene	1.13164	1.08556	1.08556	0.010	4.07213	50.00000	Averaged
87 Naphthalene	2.52547	2.41359	2.41359	0.010	4.42997	50.00000	Averaged
86 Hexachlorobutadiene	0.63588	0.60991	0.60991	0.010	4.08401	50.00000	Averaged
88 1,2,3-Trichlorobenzene	1.05761	0.99347	0.99347	0.010	6.06543	50.00000	Averaged
98 Cyclohexane	0.75474	0.77030	0.77030	0.010	-2.06182	50.00000	Averaged
143 Methyl Acetate	0.23612	0.26259	0.26259	0.010	-11.21107	50.00000	Averaged

Data File: \\cansvr11\dd\chem\MSV\a3ux14.i\R00518A.b\149969.D
Report Date: 18-May-2010 11:32

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux14.i Injection Date: 18-MAY-2010 10:52
Lab File ID: 149969.D Init. Cal. Date(s): 29-APR-2010 30-APR-2010
Analysis Type: SOIL Init. Cal. Times: 20:22 04:42
Lab Sample ID: 250NG-CC Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSV\a3ux14.i\R00518A.b\8260SUX14.m

COMPOUND	RRF / AMOUNT	RF250	CCAL RRF250	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
144 Methylcyclohexane	0.51228	0.51549	0.51549	0.010	-0.62687	50.00000	Averaged
141 1,3,5-Trichlorobenzene	1.24859	1.22636	1.22636	0.010	1.78009	50.00000	Averaged

Data File: \\cansvr11\dd\chem\MSV\a3ux14.i\R00518A.b\149970.D
Report Date: 18-May-2010 11:30

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux14.i
Lab File ID: 149970.D
Analysis Type: SOIL
Lab Sample ID: 250NG-A9CC
Method: \\cansvr11\dd\chem\MSV\a3ux14.i\R00518A.b\8260SUX14.m

Injection Date: 18-MAY-2010 11:14
Init. Cal. Date(s): 29-APR-2010 30-APR-2010
Init. Cal. Times: 20:22 04:42
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF250	CCAL RRF250	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
14 Dichlorofluoromethane	0.24339	0.38259	0.38259	0.010	-57.18955	50.00000	Averaged	<-
89 Ethyl Ether	0.20550	0.22402	0.22402	0.010	-9.01551	50.00000	Averaged	
91 3-Chloropropene	0.12932	0.10196	0.10196	0.010	21.15751	50.00000	Averaged	
92 Isopropyl Ether	0.20502	0.20342	0.20342	0.010	0.77950	50.00000	Averaged	
93 2-Chloro-1,3-butadiene	0.60657	0.57809	0.57809	0.010	4.69468	50.00000	Averaged	
94 Propionitrile	0.03504	0.03586	0.03586	0.010	-2.33959	50.00000	Averaged	
95 Ethyl Acetate	0.26151	0.26246	0.26246	0.010	-0.36333	50.00000	Averaged	
96 Methacrylonitrile	0.07403	0.06759	0.06759	0.010	8.70709	50.00000	Averaged	
97 Isobutanol	0.00719	0.00618	0.00618	0.010	13.94727	50.00000	Averaged	<-
101 2-Nitropropane	0.08110	0.04303	0.04303	0.010	46.93557	50.00000	Averaged	
99 n-Butanol	0.00645	0.00508	0.00508	0.010	21.30073	50.00000	Averaged	<-
100 Methyl Methacrylate	0.22260	0.22345	0.22345	0.010	-0.37882	50.00000	Averaged	
25 Cyclohexanone	0.06460	0.03227	0.03227	0.010	50.04193	50.00000	Averaged	<-
156 tert-Butyl Ethyl ether	0.51551	0.80982	0.80982	0.010	-57.09188	50.00000	Averaged	<-
157 tert-Amyl Methyl ether	0.30176	0.43977	0.43977	0.010	-45.73270	50.00000	Averaged	
158 1,2,3-Trimethylbenzene	2.75391	2.64286	2.64286	0.010	4.03227	50.00000	Averaged	
146 2-Methylnaphthalene	1.35613	1.24428	1.24428	0.010	8.24726	50.00000	Averaged	
21 Methylene Chloride	0.25257	0.24485	0.24485	0.010	3.05618	50.00000	Averaged	

SW846 8260B METHOD BLANK SUMMARY

BLANK WORKORDER NO.: L1PMT1AA

Lab Name: TestAmerica Laboratories, Inc.

Lab Code: TALCAN

SDG Number:0E06602

Lab File ID: 149973.D

Lot Number: A0E140486

Date Analyzed: 05/18/10

Time Analyzed: 12:20

Matrix: SOLID

Date Extracted:05/18/10

GC Column: DB624 ID: .18

Extraction Method: 5030B

Instrument ID: UX14

Level:(low/med) LOW

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, LCS, LCSD, MS , MSD:

	CLIENT ID.	SAMPLE WORK ORDER #	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	MRC-MW95D (214')	L1H521AC	149979.D	05/18/10	14:30
02	MRC-MW95D (214')	L1H521AD S	149984.D	05/18/10	16:19
03	MRC-MW95D (214')	L1H521AE D	149985.D	05/18/10	16:40
04	CHECK SAMPLE	L1PMT1AC C	149971.D	05/18/10	11:36
05	DUPLICATE CHECK	L1PMT1AD L	149972.D	05/18/10	11:58
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COMMENTS:

FORM IV

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: 0E06602 **Work Order #...:** L1PMT1AA **Matrix.....:** SOLID
MB Lot-Sample #: A0E190000-136

Prep Date.....: 05/18/10 **Final Wgt/Vol..:** 5 mL
Analysis Date..: 05/18/10 **Prep Batch #...:** 0139136
Dilution Factor: 1 **Initial Wgt/Vol:** 5 g

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Bromobenzene	ND	5.0	ug/kg	SW846 8260B
Bromochloromethane	ND	5.0	ug/kg	SW846 8260B
n-Butylbenzene	ND	5.0	ug/kg	SW846 8260B
sec-Butylbenzene	ND	5.0	ug/kg	SW846 8260B
tert-Butylbenzene	ND	5.0	ug/kg	SW846 8260B
1,2-Dibromo-3-chloro-propane	ND	10	ug/kg	SW846 8260B
2-Chloroethyl vinyl ether	ND	10	ug/kg	SW846 8260B
2-Chlorotoluene	ND	5.0	ug/kg	SW846 8260B
4-Chlorotoluene	ND	5.0	ug/kg	SW846 8260B
1,2-Dibromoethane	ND	5.0	ug/kg	SW846 8260B
Dibromomethane	ND	5.0	ug/kg	SW846 8260B
1,2-Dichlorobenzene	ND	5.0	ug/kg	SW846 8260B
1,3-Dichlorobenzene	ND	5.0	ug/kg	SW846 8260B
1,4-Dichlorobenzene	ND	5.0	ug/kg	SW846 8260B
Dichlorodifluoromethane	ND	5.0	ug/kg	SW846 8260B
cis-1,2-Dichloroethene	ND	5.0	ug/kg	SW846 8260B
trans-1,2-Dichloroethene	ND	5.0	ug/kg	SW846 8260B
1,3-Dichloropropane	ND	5.0	ug/kg	SW846 8260B
2,2-Dichloropropane	ND	5.0	ug/kg	SW846 8260B
1,1-Dichloropropene	ND	5.0	ug/kg	SW846 8260B
Trichlorofluoromethane	ND	5.0	ug/kg	SW846 8260B
Hexachlorobutadiene	ND	5.0	ug/kg	SW846 8260B
Isopropylbenzene	ND	5.0	ug/kg	SW846 8260B
p-Isopropyltoluene	ND	5.0	ug/kg	SW846 8260B
tert-Butyl alcohol	ND	100	ug/kg	SW846 8260B
Naphthalene	**0.36 J**	**5.0**	**ug/kg**	**SW846 8260B**
n-Propylbenzene	ND	5.0	ug/kg	SW846 8260B
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg	SW846 8260B
1,2,3-Trichlorobenzene	ND	5.0	ug/kg	SW846 8260B
1,2,4-Trichloro-benzene	**0.32 J**	**5.0**	**ug/kg**	**SW846 8260B**
1,2,3-Trichloropropane	ND	5.0	ug/kg	SW846 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	5.0	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene	ND	5.0	ug/kg	SW846 8260B
Vinyl acetate	ND	10	ug/kg	SW846 8260B
o-Xylene	ND	5.0	ug/kg	SW846 8260B
Methyl tert-butyl ether	ND	10	ug/kg	SW846 8260B
m-Xylene & p-Xylene	ND	10	ug/kg	SW846 8260B
1,2,3-Trimethylbenzene	ND	5.0	ug/kg	SW846 8260B

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: 0E06602 **Work Order #...:** L1PMT1AA **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Diisopropyl Ether (DIPE)	ND	10	ug/kg	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	ND	5.0	ug/kg	SW846 8260B
Tert-amyl methyl ether (T	ND	5.0	ug/kg	SW846 8260B
Chloromethane	ND	5.0	ug/kg	SW846 8260B
Bromomethane	ND	5.0	ug/kg	SW846 8260B
Vinyl chloride	ND	5.0	ug/kg	SW846 8260B
Chloroethane	ND	5.0	ug/kg	SW846 8260B
Methylene chloride	**0.80 J**	**5.0**	**ug/kg**	**SW846 8260B**
Acetone	**9.0 J**	**10**	**ug/kg**	**SW846 8260B**
Carbon disulfide	ND	5.0	ug/kg	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/kg	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/kg	SW846 8260B
Chloroform	ND	5.0	ug/kg	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/kg	SW846 8260B
2-Butanone	ND	10	ug/kg	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/kg	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/kg	SW846 8260B
Bromodichloromethane	ND	5.0	ug/kg	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/kg	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/kg	SW846 8260B
Trichloroethene	ND	5.0	ug/kg	SW846 8260B
Dibromochloromethane	ND	5.0	ug/kg	SW846 8260B
Benzene	ND	5.0	ug/kg	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/kg	SW846 8260B
Bromoform	ND	5.0	ug/kg	SW846 8260B
4-Methyl-2-pentanone	ND	10	ug/kg	SW846 8260B
2-Hexanone	**0.64 J**	**10**	**ug/kg**	**SW846 8260B**
Tetrachloroethene	ND	5.0	ug/kg	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/kg	SW846 8260B
Toluene	**0.82 J**	**5.0**	**ug/kg**	**SW846 8260B**
Chlorobenzene	ND	5.0	ug/kg	SW846 8260B
Ethylbenzene	ND	5.0	ug/kg	SW846 8260B
Styrene	ND	5.0	ug/kg	SW846 8260B
Xylenes (total)	ND	10	ug/kg	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	91	(59 - 138)
1,2-Dichloroethane-d4	111	(61 - 130)
Toluene-d8	101	(60 - 143)
4-Bromofluorobenzene	86	(47 - 158)

NOTE(S):

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

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Method Blank Report

GC/MS Volatiles

Lot-Sample #: A0E190000-136 B **Work Order #:** L1PMT1AA **Matrix:** SOLID

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT	RETENTION TIME	UNITS
None				ug/kg

SW846 8260B CHECK SAMPLE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Lot #: A0E190000 WO #: L1PMT1AC
BATCH: 0139136

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	% REC	QC LIMITS REC	QUAL
1,1-Dichloroethene	50	62	124	55- 142	
Trichloroethene	50	48	96	70- 131	
Benzene	50	50	101	75- 129	
Toluene	50	51	102	71- 130	
Chlorobenzene	50	49	98	75- 127	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

SW846 8260B CHECK SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Lot #: A0E190000 WO #: L1PMT1AD
BATCH: 0139136

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	% REC	QC LIMITS REC	QUAL
1,1-Dichloroethene	50	60	121	55- 142	
Trichloroethene	50	47	95	70- 131	
Benzene	50	50	99	75- 129	
Toluene	50	51	101	71- 130	
Chlorobenzene	50	49	99	75- 127	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

SW846 8260B MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Matrix Spike ID: MRC-MW95D (214')

Lot #: A0E140486 WO #: L1H521AD
BATCH: 0139136

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	MS CONCENT. (ug/kg)	MS % REC	LIMITS REC	QUAL
1,1-Dichloroethene	58	ND	79	135	43- 147	
Trichloroethene	58	ND	52	90	46- 143	
Benzene	58	0.52	54	92	55- 138	
Toluene	58	1.6	55	91	46- 147	
Chlorobenzene	58	ND	52	89	49- 139	

NOTES (S) :

Results and reporting limits have been adjusted for dry weight.

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

SW846 8260B MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Matrix Spike ID: MRC-MW95D (214')

Lot #: A0E140486 WO #: L1H521AE
BATCH: 0139136

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENT. (ug/kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	QUAL
1,1-Dichloroethene	58	62	106	24	27	43- 147	
Trichloroethene	58	53	91	0.89	23	46- 143	
Benzene	58	54	92	0.060	20	55- 138	
Toluene	58	53	89	2.2	24	46- 147	
Chlorobenzene	58	52	90	1.6	22	49- 139	

NOTES(S):

Results and reporting limits have been adjusted for dry weight.

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

SW846 8260B SURROGATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Lot #: A0E060602

Extraction: XXI25QK01

	CLIENT ID.	SRG01	SRG02	SRG03	SRG04	TOT OUT
01	INTRA-LAB QC	90	91	97	89	00
02	MRC-MW94D(72')	95	98	98	85	00
03	METHOD BLK. L1K531AA	92	94	100	89	00
04	LCS L1K531AC	93	98	101	99	00
05	LAB MS/MSD D	91	95	100	97	00
06	LCSD L1K531AD	93	96	100	98	00
07	LAB MS/MSD S	89	93	99	97	00

SURROGATES		QC LIMITS
SRG01	= Dibromofluoromethane	(73-122)
SRG02	= 1,2-Dichloroethane-d4	(61-128)
SRG03	= Toluene-d8	(76-110)
SRG04	= 4-Bromofluorobenzene	(74-116)

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

SW846 8260B SURROGATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Lot #: A0E110505

Extraction: XXI25QK01

	CLIENT ID.	SRG01	SRG02	SRG03	SRG04	TOT OUT
01	INTRA-LAB QC	94	92	96	85	00
02	MRC-MW95D(63')	100	95	95	84	00
03	MRC-MW95D(76')	92	91	95	89	00
04	INTRA-LAB QC	90	90	95	85	00
05	METHOD BLK. L1PKA1AA	92	91	95	85	00
06	METHOD BLK. L1RNQ1AA	90	87	95	87	00
07	LCS L1PKA1AC	94	96	97	96	00
08	LCS L1RNQ1AC	93	90	95	94	00
09	LAB MS/MSD D	96	96	99	97	00
10	LAB MS/MSD D	89	92	97	96	00
11	LCSD L1PKA1AD	94	92	97	95	00
12	LCSD L1RNQ1AD	91	89	94	92	00
13	LAB MS/MSD S	97	99	99	98	00
14	LAB MS/MSD S	90	93	98	97	00

SURROGATES		QC LIMITS
SRG01	= Dibromofluoromethane	(73-122)
SRG02	= 1,2-Dichloroethane-d4	(61-128)
SRG03	= Toluene-d8	(76-110)
SRG04	= 4-Bromofluorobenzene	(74-116)

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

SW846 8260B SURROGATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Lot #: A0E140486

Extraction: XXA15QK01

	CLIENT ID.	SRG01	SRG02	SRG03	SRG04	TOT OUT
01	MRC-MW95D (214')	90	109	102	90	00
02	METHOD BLK. L1PMT1AA	91	111	101	86	00
03	LCS L1PMT1AC	96	107	100	90	00
04	MRC-MW95D (214') D	95	106	96	98	00
05	LCSD L1PMT1AD	97	108	102	90	00
06	MRC-MW95D (214') S	96	105	100	91	00

SURROGATES		QC LIMITS
SRG01	= Dibromofluoromethane	(59-138)
SRG02	= 1,2-Dichloroethane-d4	(61-130)
SRG03	= Toluene-d8	(60-143)
SRG04	= 4-Bromofluorobenzene	(47-158)

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

SW846 8260B SURROGATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Lot #: A0E140486

Extraction: XXI25QK01

	CLIENT ID.	SRG01	SRG02	SRG03	SRG04	TOT OUT
01	MRC-MW96D (65')	98	91	96	83	00
02	INTRA-LAB QC	97	94	95	81	00
03	METHOD BLK. L15781AA	93	89	97	84	00
04	LCS L15781AC	95	93	100	99	00
05	LAB MS/MSD D	94	93	98	97	00
06	LCSD L15781AD	91	89	96	94	00
07	LAB MS/MSD S	97	95	100	98	00

SURROGATES		QC LIMITS
SRG01	= Dibromofluoromethane	(73-122)
SRG02	= 1,2-Dichloroethane-d4	(61-128)
SRG03	= Toluene-d8	(76-110)
SRG04	= 4-Bromofluorobenzene	(74-116)

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 0E06602

Lab File ID (Standard): UXJ9380 Date Analyzed: 05/13/10

Instrument ID: A3UX11 Time Analyzed: 1137

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

	IS1(CBZ)		IS2(DCB)		IS3	
	AREA #	RT	AREA #	RT	AREA #	RT
12 HOUR STD	1112498	8.04	615796	10.28	1492545	5.35
UPPER LIMIT	2224996	8.54	1231592	10.78	2985090	5.85
LOWER LIMIT	556249	7.54	307898	9.78	746273	4.85
EPA SAMPLE NO.						
01 L1K53CHK	1094382	8.04	605049	10.29	1489482	5.35
02 L1K53CKDUP	1113003	8.04	596006	10.29	1512914	5.35
03 L1K53BLK	1047799	8.04	498881	10.29	1463240	5.35
04 MRC-MW94D(72	986331	8.04	455459	10.29	1349910	5.35
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22						

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DCB) = 1,4-Dichlorobenzene-d4
IS3 = Fluorobenzene

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk.

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 0E06602

Lab File ID (Standard): UXJ9543 Date Analyzed: 05/18/10

Instrument ID: A3UX11 Time Analyzed: 1126

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

	IS1(CBZ)		IS2(DCB)		IS3	
	AREA #	RT	AREA #	RT	AREA #	RT
12 HOUR STD	921562	8.04	564712	10.29	1138202	5.35
UPPER LIMIT	1843124	8.54	1129424	10.79	2276404	5.85
LOWER LIMIT	460781	7.54	282356	9.79	569101	4.85
EPA SAMPLE NO.						
01 L1PKACHK	1043099	8.04	585382	10.29	1364077	5.35
02 L1PKACKDUP	1062543	8.04	589337	10.29	1117941	5.35
03 L1PKABLK	990860	8.04	466425	10.29	1351441	5.35
04 MRC-MW95D(63	920029	8.04	424536	10.29	1214849	5.35
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22						

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DCB) = 1,4-Dichlorobenzene-d4
IS3 = Fluorobenzene

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk.

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 0E06602

Lab File ID (Standard): UXJ9572 Date Analyzed: 05/19/10

Instrument ID: A3UX11 Time Analyzed: 1208

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

	IS1(CBZ)		IS2(DCB)		IS3	
	AREA #	RT	AREA #	RT	AREA #	RT
12 HOUR STD	904970	8.04	516072	10.29	1169519	5.35
UPPER LIMIT	1809940	8.54	1032144	10.79	2339038	5.85
LOWER LIMIT	452485	7.54	258036	9.79	584760	4.85
EPA SAMPLE NO.						
01 L1RNQCHK	878919	8.04	508798	10.29	1157521	5.35
02 L1RNQCKDUP	913332	8.04	518256	10.28	1201684	5.35
03 L1RNQBLK	840498	8.04	417006	10.29	1145800	5.35
04 MRC-MW95D(76	1048917	8.04	489167	10.29	1434583	5.35
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22						

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DCB) = 1,4-Dichlorobenzene-d4
IS3 = Fluorobenzene

UPPER LIMIT = +100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values with an asterisk.

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 0E06602

Lab File ID (Standard): UXJ9766 Date Analyzed: 05/26/10

Instrument ID: A3UX11 Time Analyzed: 1046

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

	IS1(CBZ)		IS2(DCB)		IS3	
	AREA #	RT	AREA #	RT	AREA #	RT
12 HOUR STD	1054113	8.04	622603	10.28	1381408	5.35
UPPER LIMIT	2108226	8.54	1245206	10.78	2762816	5.85
LOWER LIMIT	527057	7.54	311302	9.78	690704	4.85
EPA SAMPLE NO.						
01 L1578CHK	1032628	8.04	615389	10.29	1383516	5.35
02 L1578CKDUP	1047497	8.04	617891	10.29	1394075	5.35
03 L1578BLK	972560	8.04	476420	10.29	1324285	5.35
04 MRC-MW96D (6	976840	8.04	469362	10.29	1321947	5.35
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22						

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DCB) = 1,4-Dichlorobenzene-d4
IS3 = Fluorobenzene

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk.

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 0E06602

Lab File ID (Standard): 149969 Date Analyzed: 05/18/10

Instrument ID: A3UX14 Time Analyzed: 1052

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

	IS1(CBZ)		IS2(DCB)		IS3	
	AREA #	RT	AREA #	RT	AREA #	RT
12 HOUR STD	1152572	9.32	626501	11.30	1860591	6.59
UPPER LIMIT	2305144	9.82	1253002	11.80	3721182	7.09
LOWER LIMIT	576286	8.82	313251	10.80	930296	6.09
EPA SAMPLE NO.						
01 L1PMTCHK	1129101	9.32	607205	11.30	1812314	6.59
02 L1PMTCKDUP	1139636	9.32	615593	11.29	1834661	6.59
03 L1PMTBLK	1047733	9.32	574359	11.30	1781656	6.59
04 MRC-MW95D (2	1027548	9.32	568761	11.30	1682444	6.59
05 MRC-MW95D (2	1219795	9.32	630781	11.30	1998995	6.59
06 MRC-MW95D (2	1321298	9.32	653040	11.30	1922615	6.59
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22						

IS1 (CBZ) = Chlorobenzene-d5
IS2 (DCB) = 1,4-Dichlorobenzene-d4
IS3 = Fluorobenzene

UPPER LIMIT = +100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values with an asterisk.

SDG 0E06602

SAMPLE ID MRC-MW95D (214 ft)

SAMPLE CALC IS AREA	DILUTION	COMPOUND OF INTEREST	IS AMOUNT (NG)	Final Extract Volume (UL)	AVE RRF	CONCENTRATION PPB
1027548	1	17585	50	5	0.6687	1.49
		% Solids		**Sample Volume (Grams)**		
		0.86		5		

Total xylenes = 1.5 ug/kg

Data File: \\cansvr11\dd\chem\MSV\a3ux14.i\R00518A.b\149979.D
Report Date: 25-May-2010 18:30

TestAmerica North Canton

VOLATILE REPORT SW-846 Method 8260A/8260B

Data file : \\cansvr11\dd\chem\MSV\a3ux14.i\R00518A.b\149979.D
Lab Smp Id: L1H521AC Client Smp ID: MRC-MW95D (214')
Inj Date : 18-MAY-2010 14:30
Operator : 2807 Inst ID: a3ux14.i
Smp Info : L1H521AC,5G/5ML
Misc Info : R00518A,8260SUX14,,2807
Comment :
Method : \\cansvr11\dd\chem\MSV\a3ux14.i\R00518A.b\8260SUX14.m
Meth Date : 18-May-2010 11:33 macenczaks Quant Type: ISTD
Cal Date : 30-APR-2010 02:53 Cal File: 149615.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 4-8260+IX.sub
Target Version: 4.14
Processing Host: CANSVR11

Concentration Formula: Amt * DF * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	Sample Volume
Va	100.000	Injection Volume
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (UG/KG)
* 1 Fluorobenzene	96	6.587	6.587	(1.000)	1682444	250.000	
* 2 Chlorobenzene-d5	117	9.321	9.321	(1.000)	1027548	250.000	
* 3 1,4-Dichlorobenzene-d4	152	11.297	11.297	(1.000)	568761	250.000	
$ 4 Dibromofluoromethane	113	5.889	5.889	(0.894)	400998	225.162	45.032
$ 5 1,2-Dichloroethane-d4	65	6.232	6.232	(0.946)	540333	272.446	54.489
$ 6 Toluene-d8	98	8.078	8.078	(0.867)	1540587	254.053	50.810
$ 7 Bromofluorobenzene	95	10.315	10.315	(0.913)	503046	224.077	44.815
8 Dichlorodifluoromethane	85	Compound Not Detected.					
9 Chloromethane	50	1.440	1.440	(0.219)	2730	0.94178	0.1884
10 Vinyl Chloride	62	Compound Not Detected.					
11 Bromomethane	94	Compound Not Detected.					
12 Chloroethane	64	Compound Not Detected.					
13 Trichlorofluoromethane	101	Compound Not Detected.					
15 Acrolein	56	Compound Not Detected.					
16 Acetone	43	2.907	2.919	(0.441)	214946	276.612	55.322
17 1,1-Dichloroethene	96	Compound Not Detected.					
18 Freon-113	151	Compound Not Detected.					
19 Iodomethane	142	Compound Not Detected.					
20 Carbon Disulfide	76	Compound Not Detected.					
21 Methylene Chloride	84	3.487	3.487	(0.529)	7212	4.24303	0.8486

Data File: \\cansvr11\dd\chem\MSV\a3ux14.i\R00518A.b\149979.D
Report Date: 25-May-2010 18:30

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (UG/KG)
	24 Methyl tert-butyl ether	73	Compound Not Detected.					
	25 trans-1,2-Dichloroethene	96	Compound Not Detected.					
	26 Hexane	86	Compound Not Detected.					
	27 Vinyl acetate	43	Compound Not Detected.					
	154 Vinyl Acetate**2nd**	86	Compound Not Detected.					
	28 1,1-Dichloroethane	63	Compound Not Detected.					
	29 tert-Butyl Alcohol	59	Compound Not Detected.					
	30 2-Butanone	43	5.369	5.369	(0.815)	99985	117.824	23.565
M	31 1,2-Dichloroethene (total)	96	Compound Not Detected.					
	32 cis-1,2-dichloroethene	96	Compound Not Detected.					
	33 2,2-Dichloropropane	77	Compound Not Detected.					
	34 Bromochloromethane	128	Compound Not Detected.					
	35 Chloroform	83	Compound Not Detected.					
	36 Tetrahydrofuran	42	Compound Not Detected.					
	37 1,1,1-Trichloroethane	97	Compound Not Detected.					
	38 1,1-Dichloropropene	75	Compound Not Detected.					
	39 Carbon Tetrachloride	117	Compound Not Detected.					
	40 1,2-Dichloroethane	62	Compound Not Detected.					
	41 Benzene	78	6.291	6.292	(0.955)	15100	2.22013	0.4440
	42 Trichloroethene	130	Compound Not Detected.					
	43 1,2-Dichloropropane	63	Compound Not Detected.					
	44 1,4-Dioxane	88	Compound Not Detected.					
	45 Dibromomethane	93	Compound Not Detected.					
	46 Bromodichloromethane	83	Compound Not Detected.					
	47 2-Chloroethyl vinyl ether	63	Compound Not Detected.					
	48 cis-1,3-Dichloropropene	75	Compound Not Detected.					
	49 4-Methyl-2-pentanone	43	Compound Not Detected.					
	50 Toluene	91	8.126	8.137	(0.872)	44624	6.96088	1.392
	51 trans-1,3-Dichloropropene	75	Compound Not Detected.					
	52 Ethyl Methacrylate	69	Compound Not Detected.					
	53 1,1,2-Trichloroethane	97	Compound Not Detected.					
	54 1,3-Dichloropropane	76	Compound Not Detected.					
	55 Tetrachloroethene	164	Compound Not Detected.					
	56 2-Hexanone	43	8.705	8.705	(0.934)	32793	33.1855	6.637
	57 Dibromochloromethane	129	Compound Not Detected.					
	58 1,2-Dibromoethane	107	Compound Not Detected.					
	59 Chlorobenzene	112	Compound Not Detected.					
	60 1,1,1,2-Tetrachloroethane	131	Compound Not Detected.					
	61 Ethylbenzene	106	9.439	9.439	(1.013)	4122	1.78121	0.3562
	62 m + p-Xylene	106	9.546	9.546	(1.024)	10566	3.86000	0.7720
M	63 Xylenes (total)	106				17585	6.39319	1.279
	64 Xylene-o	106	9.877	9.877	(1.060)	7019	2.53319	0.5066
	65 Styrene	104	Compound Not Detected.					
	66 Bromoform	173	Compound Not Detected.					
	67 Isopropylbenzene	105	Compound Not Detected.					
	68 1,1,2,2-Tetrachloroethane	83	Compound Not Detected.					
	69 1,4-Dichloro-2-butene	53	Compound Not Detected.					
	70 1,2,3-Trichloropropane	110	Compound Not Detected.					
	71 Bromobenzene	156	Compound Not Detected.					
	72 n-Propylbenzene	120	10.540	10.540	(0.933)	1771	0.77147	0.1543
	73 2-Chlorotoluene	126	Compound Not Detected.					
	74 1,3,5-Trimethylbenzene	105	Compound Not Detected.					

SW846 8260B CHECK SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Lot #: A0E150000 WO #: L1K531AD
BATCH: 0135112

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENT. (ug/L)	% REC	QC LIMITS REC	QUAL
1,1-Dichloroethene	10	10	104	63- 130	
Trichloroethene	10	8.6	86	75- 122	
Benzene	10	9.9	99	80- 116	
Toluene	10	10	101	74- 119	
Chlorobenzene	10	9.8	98	76- 117	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

SW846 8260B MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Matrix Spike ID: LAB MS/MSD

Lot #: A0E050542 WO #: L02271AC
BATCH: 0135112

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENT. (ug/L)	MS CONCENT. (ug/L)	MS % REC	LIMITS REC	QUAL
1,1-Dichloroethene	14000	ND	14000	98	62- 130	
Trichloroethene	14000	ND	12000	82	62- 130	
Benzene	14000	ND	13000	93	78- 118	
Toluene	14000	ND	14000	96	70- 119	
Chlorobenzene	14000	ND	13000	94	76- 117	

NOTES(S):

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

SW846 8260B MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0E06602

Matrix Spike ID: LAB MS/MSD

Lot #: A0E050542 WO #: L02271AD
BATCH: 0135112

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENT. (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	QUAL
1,1-Dichloroethene	14000	15000	104	6.3	20	62- 130	
Trichloroethene	14000	12000	86	4.4	20	62- 130	
Benzene	14000	14000	98	5.3	20	78- 118	
Toluene	14000	14000	101	4.3	20	70- 119	
Chlorobenzene	14000	14000	97	2.9	20	76- 117	

NOTES(S):

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**A. APANAVAGE**	**DATE:**	**JULY 12, 2010**
FROM:	**TERRI L. SOLOMON**	**COPIES:**	**DV FILE**
SUBJECT:	**ORGANIC DATA VALIDATION – VOCs, SVOCs** **MRC DEEP WELL** **SAMPLE DELIVERY GROUP (SDG) – 0F11578**		
SAMPLES:	6/Aqueous/		

MRC-95D-061110	MRC-96D-061110
MRC-MW93D-061010	MRC-MW94D-061010
TB-0610101	TB-061110

Overview

The sample set for MRC Deep Well, SDG 0F11578, consists of four (4) aqueous environmental samples and two (2) trip blanks (TB-0610101 and TB-061110). No field duplicate pairs were included within this SDG.

All samples, with the exception of TB-0610101 and TB-061110, were analyzed for volatile organic compounds and semivolatile organic compounds. Samples TB-0610101 and TB-061110 were analyzed for volatile organic compounds only. The samples were collected by Tetra Tech NUS on June 10 and 11, 2010 and analyzed by Test America – North Canton. VOC analyses were conducted using SW-846 method 8260B. SVOC analyses were conducted using SW-846 method 8270C.

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, GC/MS tuning, initial and continuing calibration results, laboratory method / trip blank results, surrogate spike recoveries, internal standard recoveries, matrix spike / matrix spike duplicate recoveries, laboratory control sample / laboratory control sample duplicate recoveries, detection limits, compound quantitation and compound identification.

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

Major Problems

- The initial and continuing calibration relative response factors (RRFs) on 06/18/10 and 06/21/10 at 13:16 on instrument A3UX11 for tert-butyl alcohol were < 0.05 quality control limit. The nondetected results reported for tert-butyl alcohol were qualified as rejected, "UR".

Minor Problems

- The continuing calibration percent differences (%Ds) on 06/21/10 at 13:16 on instrument A3UX11 for acetone, carbon disulfide, bromodichloromethane, bromoform and 1,2-

dibromo-3-chloropropane were > 25% but < 50% quality control limit. The positive results reported for carbon disulfide and bromodichloromethane were qualified as estimated, "J". No validation actions were required for the nondetected results.

- The following contaminants were detected in the laboratory method/trip blanks at the following maximum concentrations:

Compound	Maximum Concentration	Action Level
Hexachlorobutadiene	0.44 ug/L	2.2 ug/L
Naphthalene	0.49 ug/L	2.45 ug/L
1,2,3-trichlorobenzene	0.54 ug/L	2.7 ug/L
1,2,4-trichlorobenzene	0.40 ug/L	2.0 ug/L
Methylene chloride	0.45 ug/L	4.5 ug/L
Acetone[(1)]	15 ug/L	150 ug/L
Acetone[(2)]	36 ug/L	360 ug/L
Bis (2-ethylhexyl)phthalate	1.9 ug/L	19 ug/L

[(1)]Maximum concentration present in a trip blank affecting samples MRC-MW93D-061010 and MRC-MW94D-061010.
[(2)]Maximum concentration present in a trip blank affecting samples MRC-95D-061110 and MRC-96D-061110.

An action level of 5X (10X for common laboratory contaminants) 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. The positive results less than the blank action level reported for methylene chloride, acetone and bis (2-ethylhexyl) phthalate were qualified "B" as a result of laboratory blank contamination. Field blanks are not qualified for blank contamination.

- Positive results below the reporting limit (RL) but greater than the method detection limit (MDL) were qualified as estimated, "J".

Notes

The initial calibration relative standard deviation (%RSD) on 06/14/10 on instrument A4AG2 for 2,4-dinitrophenol was > 30% but < 50% quality control limit. No validation actions were required for nondetected results.

The continuing calibration %D on 06/16/10 at 09:30 on instrument A4AG2 for benzaldehyde was > 25% but < 50% quality control limit. No validation actions were required for nondetected results.

Executive Summary

Laboratory Performance: The initial and continuing calibration RRFs on 06/18/10 and 06/21/10 at 13:16 on instrument A3UX11 for tert-butyl alcohol were < 0.05 quality control limit. The continuing calibration %Ds) on 06/21/10 at 13:16 on instrument A3UX11 for acetone, carbon disulfide, bromodichloromethane, bromoform and 1,2-dibromo-3-chloropropane were > 25% but < 50% quality control limit. Several compounds were present in the laboratory method / trip blanks.

Other Factors Affecting Data Quality: Positive results below the RL but greater than the MDL were qualified as estimated.

The data for these analyses were reviewed with reference to Region III modifications to the "National Functional guidelines for Organic Data Review", September 1994.

The text of this report has been formulated to address only those problem areas affecting data quality.

Tetra Tech NUS
Terri L. Solomon
Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A
QUALIFIED ANALYTICAL RESULTS

Data Validation Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (e.g. % 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 = GFAA PDS-GFAA MSA's r < 0.995 / ICP PDS Recovery Noncompliance
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 (e.g. base-line drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; e.g. chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DOT and Endrin
U = % Difference between columns/detectors >25% 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 greater than sample activity

PROJ_NO: 02720	NSAMPLE	MRC-95D-061110			MRC-96D-061110			MRC-MW93D-061010			MRC-MW94D-061010		
SDG: 0F11578	LAB_ID	A0F120439002			A0F120439001			A0F110578002			A0F110578003		
FRACTION: OV	SAMP_DATE	6/11/2010			6/11/2010			6/10/2010			6/10/2010		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE	0.23	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	
1,1,2,2-TETRACHLOROETHANE	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	
1,1-DICHLOROETHANE	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	
1,1-DICHLOROPROPENE	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	
1,2,3-TRICHLOROPROPANE	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	
1,2,4-TRICHLOROBENZENE	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	
1,2-DIBROMO-3-CHLOROPROPANE	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	
1,2-DICHLOROBENZENE	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	
1,2-DICHLOROPROPANE	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	
1,3-DICHLOROPROPANE	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	
2,2-DICHLOROPROPANE	0.13	U		0.13	U		0.13	U		0.13	U	
2-BUTANONE	1.4	J	P	0.57	U		1.5	J	P	0.57	U	
2-CHLOROETHYL VINYL ETHER	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	
2-HEXANONE	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	
4-ISOPROPYLTOLUENE	0.12	U		0.12	U		0.12	U		0.12	U	
4-METHYL-2-PENTANONE	0.32	U		0.32	U		0.67	J	P	0.32	U	
ACETONE	20	B	B	3.8	B	B	17	B	B	11	B	B
BENZENE	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	
BROMOCHLOROMETHANE	0.29	U		0.29	U		0.29	U		0.29	U	
BROMODICHLOROMETHANE	0.31	J	CP	0.15	U		0.15	U		0.23	J	CP
BROMOFORM	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	
CARBON DISULFIDE	0.13	U		0.13	U		0.71	J	CP	0.13	U	

PROJ_NO: 02720	NSAMPLE	TB-061010			TB-061110		
SDG: 0F11578	LAB_ID	A0F110578001			A0F120439003		
FRACTION: OV	SAMP_DATE	6/10/2010			6/11/2010		
MEDIA: WATER	QC_TYPE	NM			NM		
	UNITS	UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0		
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		0.23	U		0.23	U	
1,1,1-TRICHLOROETHANE		0.22	U		0.22	U	
1,1,2,2-TETRACHLOROETHANE		0.18	U		0.18	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		0.28	U		0.28	U	
1,1-DICHLOROETHANE		0.15	U		0.15	U	
1,1-DICHLOROETHENE		0.19	U		0.19	U	
1,1-DICHLOROPROPENE		0.13	U		0.13	U	
1,2,3-TRICHLOROBENZENE		0.17	U		0.17	U	
1,2,3-TRICHLOROPROPANE		0.43	U		0.43	U	
1,2,3-TRIMETHYLBENZENE		0.0059	U		0.0059	U	
1,2,4-TRICHLOROBENZENE		0.15	U		0.15	U	
1,2,4-TRIMETHYLBENZENE		0.12	U		0.12	U	
1,2-DIBROMO-3-CHLOROPROPANE		0.67	U		0.67	U	
1,2-DIBROMOETHANE		0.24	U		0.24	U	
1,2-DICHLOROBENZENE		0.13	U		0.13	U	
1,2-DICHLOROETHANE		0.22	U		0.22	U	
1,2-DICHLOROPROPANE		0.18	U		0.18	U	
1,3-DICHLOROBENZENE		0.14	U		0.14	U	
1,3-DICHLOROPROPANE		0.16	U		0.16	U	
1,4-DICHLOROBENZENE		0.13	U		0.13	U	
2,2-DICHLOROPROPANE		0.13	U		0.13	U	
2-BUTANONE		0.57	U		0.57	U	
2-CHLOROETHYL VINYL ETHER		0.99	U		0.99	U	
2-CHLOROTOLUENE		0.11	U		0.11	U	
2-HEXANONE		0.41	U		0.41	U	
4-CHLOROTOLUENE		0.18	U		0.18	U	
4-ISOPROPYLTOLUENE		0.12	U		0.12	U	
4-METHYL-2-PENTANONE		0.32	U		0.32	U	
ACETONE		15			36		
BENZENE		0.13	U		0.13	U	
BROMOBENZENE		0.13	U		0.13	U	
BROMOCHLOROMETHANE		0.29	U		0.29	U	
BROMODICHLOROMETHANE		0.15	U		0.15	U	
BROMOFORM		0.64	U		0.64	U	
BROMOMETHANE		0.41	U		0.41	U	
CARBON DISULFIDE		0.13	U		0.13	U	

PROJ_NO: 02720	NSAMPLE	MRC-95D-061110			MRC-96D-061110			MRC-MW93D-061010			MRC-MW94D-061010		
SDG: 0F11578	LAB_ID	A0F120439002			A0F120439001			A0F110578002			A0F110578003		
FRACTION: OV	SAMP_DATE	6/11/2010			6/11/2010			6/10/2010			6/10/2010		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON TETRACHLORIDE		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	
CHLORODIBROMOMETHANE		0.37	J	P	0.18	U		0.18	U		0.18	U	
CHLOROETHANE		0.29	U		0.29	U		0.29	U		0.29	U	
CHLOROFORM		19			0.19	J	P	8.8			10		
CHLOROMETHANE		0.36	J	P	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	
CIS-1,3-DICHLOROPROPENE		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	
DICHLORODIFLUOROMETHANE		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	
ETHYL TERT-BUTYL ETHER		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	
HEXACHLOROBUTADIENE		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	
M+P-XYLENES		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	
METHYLENE CHLORIDE		0.58	B	A	0.33	U		0.47	B	A	0.54	B	A
NAPHTHALENE		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	
N-PROPYLBENZENE		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	
SEC-BUTYLBENZENE		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	
TERT-AMYL METHYL ETHER		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	
TERTIARY-BUTYL ALCOHOL		3.9	UR	C	3.9	UR	C	3.9	UR	C	3.9	UR	C
TETRACHLOROETHENE		0.29	U		0.29	U		0.29	U		0.29	U	
TOLUENE		0.28	J	P	0.13	U		0.22	J	P	0.21	J	P
TOTAL XYLENES		0.28	U		0.28	U		0.28	U		0.28	U	
TRANS-1,2-DICHLOROETHENE		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	
TRICHLOROETHENE		0.17	U		0.17	U		0.17	U		0.17	U	
TRICHLOROFLUOROMETHANE		0.21	U		0.21	U		0.21	U		0.21	U	
VINYL ACETATE		0.19	U		0.19	U		0.19	U		0.19	U	
VINYL CHLORIDE		0.22	U		0.22	U		0.22	U		0.22	U	

PROJ_NO: 02720	NSAMPLE	TB-061010			TB-061110		
SDG: 0F11578	LAB_ID	A0F110578001			A0F120439003		
FRACTION: OV	SAMP_DATE	6/10/2010			6/11/2010		
MEDIA: WATER	QC_TYPE	NM			NM		
	UNITS	UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0		
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON TETRACHLORIDE		0.13	U		0.13	U	
CHLOROBENZENE		0.15	U		0.15	U	
CHLORODIBROMOMETHANE		0.18	U		0.18	U	
CHLOROETHANE		0.29	U		0.29	U	
CHLOROFORM		0.16	U		0.16	U	
CHLOROMETHANE		0.3	U		0.3	U	
CIS-1,2-DICHLOROETHENE		0.17	U		0.17	U	
CIS-1,3-DICHLOROPROPENE		0.14	U		0.14	U	
DIBROMOMETHANE		0.28	U		0.28	U	
DICHLORODIFLUOROMETHANE		0.31	U		0.31	U	
DIISOPROPYL ETHER		1.5	U		1.5	U	
ETHYL TERT-BUTYL ETHER		0.11	U		0.11	U	
ETHYLBENZENE		0.17	U		0.17	U	
HEXACHLOROBUTADIENE		0.3	U		0.3	U	
ISOPROPYLBENZENE		0.13	U		0.13	U	
M+P-XYLENES		0.24	U		0.24	U	
METHYL TERT-BUTYL ETHER		0.17	U		0.17	U	
METHYLENE CHLORIDE		0.33	U		0.33	U	
NAPHTHALENE		0.24	U		0.24	U	
N-BUTYLBENZENE		0.12	U		0.12	U	
N-PROPYLBENZENE		0.14	U		0.14	U	
O-XYLENE		0.14	U		0.14	U	
SEC-BUTYLBENZENE		0.13	U		0.13	U	
STYRENE		0.11	U		0.11	U	
TERT-AMYL METHYL ETHER		0.067	U		0.067	U	
TERT-BUTYLBENZENE		0.13	U		0.13	U	
TERTIARY-BUTYL ALCOHOL		3.9	UR	C	3.9	UR	C
TETRACHLOROETHENE		0.29	U		0.29	U	
TOLUENE		0.13	U		0.13	U	
TOTAL XYLENES		0.28	U		0.28	U	
TRANS-1,2-DICHLOROETHENE		0.19	U		0.19	U	
TRANS-1,3-DICHLOROPROPENE		0.19	U		0.19	U	
TRICHLOROETHENE		0.17	U		0.17	U	
TRICHLOROFLUOROMETHANE		0.21	U		0.21	U	
VINYL ACETATE		0.19	U		0.19	U	
VINYL CHLORIDE		0.22	U		0.22	U	

PROJ_NO: 02720	NSAMPLE	MRC-95D-061110			MRC-96D-061110			MRC-MW93D-061010			MRC-MW94D-061010		
SDG: 0F11578	LAB_ID	A0F120439002			A0F120439001			A0F110578002			A0F110578003		
FRACTION: OS	SAMP_DATE	6/11/2010			6/11/2010			6/10/2010			6/10/2010		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1-BIPHENYL	0.8	U		0.8	U		0.8	U		0.8	U	
1,4-DIOXANE	0.49	U		0.49	U		0.49	U		0.49	U	
2,2'-OXYBIS(1-CHLOROPROPANE)	0.4	U		0.4	U		0.4	U		0.4	U	
2,4,5-TRICHLOROPHENOL	0.3	U		0.3	U		0.3	U		0.3	U	
2,4,6-TRICHLOROPHENOL	0.8	U		0.8	U		0.8	U		0.8	U	
2,4-DICHLOROPHENOL	0.8	U		0.8	U		0.8	U		0.8	U	
2,4-DIMETHYLPHENOL	0.8	U		0.8	U		0.8	U		0.8	U	
2,4-DINITROPHENOL	2.4	U		2.4	U		2.4	U		2.4	U	
2,4-DINITROTOLUENE	0.27	U		0.27	U		0.27	U		0.27	U	
2,6-DINITROTOLUENE	0.8	U		0.8	U		0.8	U		0.8	U	
2-CHLORONAPHTHALENE	0.1	U		0.1	U		0.1	U		0.1	U	
2-CHLOROPHENOL	0.29	U		0.29	U		0.29	U		0.29	U	
2-METHYLNAPHTHALENE	0.1	U		0.1	U		0.1	U		0.1	U	
2-METHYLPHENOL	0.8	U		0.8	U		0.8	U		0.8	U	
2-NITROANILINE	0.8	U		0.8	U		0.8	U		0.8	U	
2-NITROPHENOL	0.28	U		0.28	U		0.28	U		0.28	U	
3,3'-DICHLOROBENZIDINE	0.37	U		0.37	U		0.37	U		0.37	U	
3-NITROANILINE	0.28	U		0.28	U		0.28	U		0.28	U	
4,6-DINITRO-2-METHYLPHENOL	2.4	U		2.4	U		2.4	U		2.4	U	
4-BROMOPHENYL PHENYL ETHER	0.8	U		0.8	U		0.8	U		0.8	U	
4-CHLORO-3-METHYLPHENOL	0.8	U		0.8	U		0.8	U		0.8	U	
4-CHLOROANILINE	0.8	U		0.8	U		0.8	U		0.8	U	
4-CHLOROPHENYL PHENYL ETHER	0.3	U		0.3	U		0.3	U		0.3	U	
4-METHYLPHENOL	0.8	U		0.8	U		0.8	U		0.8	U	
4-NITROANILINE	0.8	U		0.8	U		0.8	U		0.8	U	
4-NITROPHENOL	2.4	U		2.4	U		2.4	U		2.4	U	
ACENAPHTHENE	0.1	U		0.1	U		0.1	U		0.1	U	
ACENAPHTHYLENE	0.1	U		0.1	U		0.1	U		0.1	U	
ACETOPHENONE	0.34	U		0.34	U		0.34	U		0.34	U	
ANTHRACENE	0.1	U		0.1	U		0.1	U		0.1	U	
ATRAZINE	0.34	U		0.34	U		0.34	U		0.34	U	
BENZALDEHYDE	0.39	U		0.39	U		0.39	U		0.39	U	
BENZO(A)ANTHRACENE	0.1	U		0.1	U		0.1	U		0.1	U	
BENZO(A)PYRENE	0.1	U		0.1	U		0.1	U		0.1	U	
BENZO(B)FLUORANTHENE	0.1	U		0.1	U		0.1	U		0.1	U	

PROJ_NO: 02720	NSAMPLE	MRC-95D-061110			MRC-96D-061110			MRC-MW93D-061010			MRC-MW94D-061010		
SDG: 0F11578	LAB_ID	A0F120439002			A0F120439001			A0F110578002			A0F110578003		
FRACTION: OS	SAMP_DATE	6/11/2010			6/11/2010			6/10/2010			6/10/2010		
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
BENZO(G,H,I)PERYLENE		0.1	U		0.1	U		0.1	U		0.1	U	
BENZO(K)FLUORANTHENE		0.1	U		0.1	U		0.1	U		0.1	U	
BIS(2-CHLOROETHOXY)METHANE		0.32	U		0.32	U		0.32	U		0.32	U	
BIS(2-CHLOROETHYL)ETHER		0.1	U		0.1	U		0.1	U		0.1	U	
BIS(2-ETHYLHEXYL)PHTHALATE		0.8	U		2.1	B	A	1.9	B	A	2.1	B	A
BUTYL BENZYL PHTHALATE		0.8	U		0.8	U		1.1			1.1		
CAPROLACTAM		0.8	U		0.8	U		0.8	U		0.8	U	
CARBAZOLE		0.28	U		0.28	U		0.28	U		0.28	U	
CHRYSENE		0.1	U		0.1	U		0.1	U		0.1	U	
DIBENZO(A,H)ANTHRACENE		0.1	U		0.1	U		0.1	U		0.1	U	
DIBENZOFURAN		0.1	U		0.1	U		0.1	U		0.1	U	
DIETHYL PHTHALATE		0.6	U		0.6	U		0.6	U		0.6	U	
DIMETHYL PHTHALATE		0.29	U		0.29	U		0.29	U		0.29	U	
DI-N-BUTYL PHTHALATE		0.67	U		0.67	U		0.67	U		0.67	U	
DI-N-OCTYL PHTHALATE		0.8	U		0.8	U		0.8	U		0.8	U	
FLUORANTHENE		0.1	U		0.1	U		0.1	U		0.1	U	
FLUORENE		0.1	U		0.1	U		0.1	U		0.1	U	
HEXACHLOROBENZENE		0.1	U		0.1	U		0.1	U		0.1	U	
HEXACHLOROBUTADIENE		0.27	U		0.27	U		0.27	U		0.27	U	
HEXACHLOROCYCLOPENTADIENE		0.8	U		0.8	U		0.8	U		0.8	U	
HEXACHLOROETHANE		0.8	U		0.8	U		0.8	U		0.8	U	
INDENO(1,2,3-CD)PYRENE		0.1	U		0.1	U		0.1	U		0.1	U	
ISOPHORONE		0.27	U		0.27	U		0.27	U		0.27	U	
NAPHTHALENE		0.1	U		0.1	U		0.1	U		0.1	U	
NITROBENZENE		0.04	U		0.04	U		0.04	U		0.04	U	
N-NITROSODIMETHYLAMINE		0.31	U		0.31	U		0.31	U		0.31	U	
N-NITROSO-DI-N-PROPYLAMINE		0.8	U		0.8	U		0.8	U		0.8	U	
N-NITROSODIPHENYLAMINE		0.31	U		0.31	U		0.31	U		0.31	U	
PENTACHLOROPHENOL		2.4	U		2.4	U		2.4	U		2.4	U	
PHENANTHRENE		0.1	U		0.1	U		0.1	U		0.1	U	
PHENOL		0.6	U		0.6	U		0.6	U		0.6	U	
PYRENE		0.1	U		0.1	U		0.1	U		0.1	U	

APPENDIX B
RESULTS AS REPORTED BY THE LABORATORY

Tetra Tech NUS, Inc

Client Sample ID: MRC-95D-061110

GC/MS Volatiles

Lot-Sample #...: A0F120439-002	**Work Order #...:** L2T6X1AM	**Matrix.....:** WG	
Date Sampled...: 06/11/10 09:28	**Date Received..:** 06/12/10		
Prep Date.....: 06/21/10	**Analysis Date..:** 06/21/10		
Prep Batch #...: 0173220			
Dilution Factor: 1	**Initial Wgt/Vol:** 5 mL	**Final Wgt/Vol..:** 5 mL	
	Method.....: SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**20**	**5.0**	**ug/L**	**1.1**
Bromobenzene	ND	1.0	ug/L	0.13
Bromochloromethane	ND	1.0	ug/L	0.29
Bromodichloromethane	**0.31 J**	**1.0**	**ug/L**	**0.15**
2-Butanone	**1.4 J**	**5.0**	**ug/L**	**0.57**
n-Butylbenzene	ND	1.0	ug/L	0.12
sec-Butylbenzene	ND	1.0	ug/L	0.13
tert-Butylbenzene	ND	1.0	ug/L	0.13
Carbon disulfide	ND	1.0	ug/L	0.13
Dibromochloromethane	**0.37 J**	**1.0**	**ug/L**	**0.18**
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	0.67
2-Chloroethyl vinyl ether	ND	5.0	ug/L	0.99
2-Chlorotoluene	ND	1.0	ug/L	0.11
4-Chlorotoluene	ND	1.0	ug/L	0.18
1,2-Dibromoethane	ND	1.0	ug/L	0.24
Dibromomethane	ND	1.0	ug/L	0.28
1,2-Dichlorobenzene	ND	1.0	ug/L	0.13
1,3-Dichlorobenzene	ND	1.0	ug/L	0.14
1,4-Dichlorobenzene	ND	1.0	ug/L	0.13
Dichlorodifluoromethane	ND	1.0	ug/L	0.31
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.17
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.19
1,3-Dichloropropane	ND	1.0	ug/L	0.16
2,2-Dichloropropane	ND	1.0	ug/L	0.13
1,1-Dichloropropene	ND	1.0	ug/L	0.13
Trichlorofluoromethane	ND	1.0	ug/L	0.21
Hexachlorobutadiene	ND	1.0	ug/L	0.30
2-Hexanone	ND	5.0	ug/L	0.41
Isopropylbenzene	ND	1.0	ug/L	0.13
p-Isopropyltoluene	ND	1.0	ug/L	0.12
tert-Butyl alcohol	ND	20	ug/L	3.9
4-Methyl-2-pentanone	ND	5.0	ug/L	0.32
Naphthalene	ND	1.0	ug/L	0.24
n-Propylbenzene	ND	1.0	ug/L	0.14
Styrene	ND	1.0	ug/L	0.11
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.23
1,2,3-Trichlorobenzene	ND	1.0	ug/L	0.17

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Tetra Tech NUS, Inc

Client Sample ID: MRC-95D-061110

GC/MS Volatiles

Lot-Sample #...: A0F120439-002 **Work Order #...:** L2T6X1AM **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,2,4-Trichloro-benzene	ND	1.0	ug/L	0.15
1,2,3-Trichloropropane	ND	1.0	ug/L	0.43
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.28
1,2,4-Trimethylbenzene	ND	1.0	ug/L	0.12
Vinyl acetate	ND	2.0	ug/L	0.19
o-Xylene	ND	1.0	ug/L	0.14
Xylenes (total)	ND	2.0	ug/L	0.28
Methyl tert-butyl ether	ND	5.0	ug/L	0.17
m-Xylene & p-Xylene	ND	2.0	ug/L	0.24
1,2,3-Trimethylbenzene	ND	5.0	ug/L	0.0059
Diisopropyl Ether (DIPE)	ND	5.0	ug/L	1.5
Ethyl-t-Butyl Ether (ETBE)	ND	5.0	ug/L	0.11
Tert-amyl methyl ether (TAME)	ND	5.0	ug/L	0.067
Benzene	ND	1.0	ug/L	0.13
Bromoform	ND	1.0	ug/L	0.64
Bromomethane	ND	1.0	ug/L	0.41
Carbon tetrachloride	ND	1.0	ug/L	0.13
Chlorobenzene	ND	1.0	ug/L	0.15
Chloroethane	ND	1.0	ug/L	0.29
Chloroform	**19**	**1.0**	**ug/L**	**0.16**
Chloromethane	**0.36 J**	**1.0**	**ug/L**	**0.30**
1,1-Dichloroethane	ND	1.0	ug/L	0.15
1,2-Dichloroethane	ND	1.0	ug/L	0.22
1,1-Dichloroethene	ND	1.0	ug/L	0.19
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.14
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.19
Ethylbenzene	ND	1.0	ug/L	0.17
Methylene chloride	**0.58 J,B**	**1.0**	**ug/L**	**0.33**
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.18
Tetrachloroethene	ND	1.0	ug/L	0.29
Toluene	**0.28 J**	**1.0**	**ug/L**	**0.13**
1,1,1-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.17
Vinyl chloride	ND	1.0	ug/L	0.22

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	100	(73 - 122)
1,2-Dichloroethane-d4	96	(61 - 128)
Toluene-d8	90	(76 - 110)
4-Bromofluorobenzene	86	(74 - 116)

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Tetra Tech NUS, Inc

MRC-95D-061110

GC/MS Volatiles

Lot-Sample #: A0F120439-002 **Work Order #:** L2T6X1AM **Matrix:** WG

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Pentane	109-66-0	1.2 NJ	M	2.5499	ug/L
Isopropyl Alcohol	67-63-0	2.0 NJ	M	3.0587	ug/L
Freon 22		ND	M		ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

Tetra Tech NUS, Inc

Client Sample ID: MRC-96D-061110

GC/MS Volatiles

Lot-Sample #...: A0F120439-001	**Work Order #...:** L2T531AA	**Matrix.....:** WG	
Date Sampled...: 06/11/10 12:45	**Date Received..:** 06/12/10		
Prep Date.....: 06/21/10	**Analysis Date..:** 06/21/10		
Prep Batch #...: 0173220			
Dilution Factor: 1	**Initial Wgt/Vol:** 5 mL	**Final Wgt/Vol..:** 5 mL	
	Method.....: SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**3.8 J**	**5.0**	**ug/L**	**1.1**
Bromobenzene	ND	1.0	ug/L	0.13
Bromochloromethane	ND	1.0	ug/L	0.29
Bromodichloromethane	ND	1.0	ug/L	0.15
2-Butanone	ND	5.0	ug/L	0.57
n-Butylbenzene	ND	1.0	ug/L	0.12
sec-Butylbenzene	ND	1.0	ug/L	0.13
tert-Butylbenzene	ND	1.0	ug/L	0.13
Carbon disulfide	ND	1.0	ug/L	0.13
Dibromochloromethane	ND	1.0	ug/L	0.18
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	0.67
2-Chloroethyl vinyl ether	ND	5.0	ug/L	0.99
2-Chlorotoluene	ND	1.0	ug/L	0.11
4-Chlorotoluene	ND	1.0	ug/L	0.18
1,2-Dibromoethane	ND	1.0	ug/L	0.24
Dibromomethane	ND	1.0	ug/L	0.28
1,2-Dichlorobenzene	ND	1.0	ug/L	0.13
1,3-Dichlorobenzene	ND	1.0	ug/L	0.14
1,4-Dichlorobenzene	ND	1.0	ug/L	0.13
Dichlorodifluoromethane	ND	1.0	ug/L	0.31
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.17
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.19
1,3-Dichloropropane	ND	1.0	ug/L	0.16
2,2-Dichloropropane	ND	1.0	ug/L	0.13
1,1-Dichloropropene	ND	1.0	ug/L	0.13
Trichlorofluoromethane	ND	1.0	ug/L	0.21
Hexachlorobutadiene	ND	1.0	ug/L	0.30
2-Hexanone	ND	5.0	ug/L	0.41
Isopropylbenzene	ND	1.0	ug/L	0.13
p-Isopropyltoluene	ND	1.0	ug/L	0.12
tert-Butyl alcohol	ND	20	ug/L	3.9
4-Methyl-2-pentanone	ND	5.0	ug/L	0.32
Naphthalene	ND	1.0	ug/L	0.24
n-Propylbenzene	ND	1.0	ug/L	0.14
Styrene	ND	1.0	ug/L	0.11
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.23
1,2,3-Trichlorobenzene	ND	1.0	ug/L	0.17

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Tetra Tech NUS, Inc

Client Sample ID: MRC-96D-061110

GC/MS Volatiles

Lot-Sample #...: A0F120439-001 **Work Order #...:** L2T531AA **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,2,4-Trichloro-benzene	ND	1.0	ug/L	0.15
1,2,3-Trichloropropane	ND	1.0	ug/L	0.43
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.28
1,2,4-Trimethylbenzene	ND	1.0	ug/L	0.12
Vinyl acetate	ND	2.0	ug/L	0.19
o-Xylene	ND	1.0	ug/L	0.14
Xylenes (total)	ND	2.0	ug/L	0.28
Methyl tert-butyl ether	ND	5.0	ug/L	0.17
m-Xylene & p-Xylene	ND	2.0	ug/L	0.24
1,2,3-Trimethylbenzene	ND	5.0	ug/L	0.0059
Diisopropyl Ether (DIPE)	ND	5.0	ug/L	1.5
Ethyl-t-Butyl Ether (ETBE)	ND	5.0	ug/L	0.11
Tert-amyl methyl ether (TAME)	ND	5.0	ug/L	0.067
Benzene	ND	1.0	ug/L	0.13
Bromoform	ND	1.0	ug/L	0.64
Bromomethane	ND	1.0	ug/L	0.41
Carbon tetrachloride	ND	1.0	ug/L	0.13
Chlorobenzene	ND	1.0	ug/L	0.15
Chloroethane	ND	1.0	ug/L	0.29
Chloroform	**0.19 J**	**1.0**	**ug/L**	**0.16**
Chloromethane	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.15
1,2-Dichloroethane	ND	1.0	ug/L	0.22
1,1-Dichloroethene	ND	1.0	ug/L	0.19
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.14
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.19
Ethylbenzene	ND	1.0	ug/L	0.17
Methylene chloride	ND	1.0	ug/L	0.33
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.18
Tetrachloroethene	ND	1.0	ug/L	0.29
Toluene	ND	1.0	ug/L	0.13
1,1,1-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.17
Vinyl chloride	ND	1.0	ug/L	0.22

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	98	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	91	(76 - 110)
4-Bromofluorobenzene	86	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

MRC-96D-061110

GC/MS Volatiles

Lot-Sample #: A0F120439-001 **Work Order #:** L2T531AA **Matrix:** WG

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Freon 22		ND	M		ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

Tetra Tech NUS, Inc

Client Sample ID: MRC-MW93D-061010

GC/MS Volatiles

Lot-Sample #...: A0F110578-002	**Work Order #...:** L2TE81AA	**Matrix.....:** WG	
Date Sampled...: 06/10/10 10:23	**Date Received..:** 06/11/10		
Prep Date.....: 06/21/10	**Analysis Date..:** 06/21/10		
Prep Batch #...: 0173220			
Dilution Factor: 1	**Initial Wgt/Vol:** 5 mL	**Final Wgt/Vol..:** 5 mL	
	Method.....: SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**17**	**5.0**	**ug/L**	**1.1**
Bromobenzene	ND	1.0	ug/L	0.13
Bromochloromethane	ND	1.0	ug/L	0.29
Bromodichloromethane	ND	1.0	ug/L	0.15
2-Butanone	**1.5 J**	**5.0**	**ug/L**	**0.57**
n-Butylbenzene	ND	1.0	ug/L	0.12
sec-Butylbenzene	ND	1.0	ug/L	0.13
tert-Butylbenzene	ND	1.0	ug/L	0.13
Carbon disulfide	**0.71 J**	**1.0**	**ug/L**	**0.13**
Dibromochloromethane	ND	1.0	ug/L	0.18
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	0.67
2-Chloroethyl vinyl ether	ND	5.0	ug/L	0.99
2-Chlorotoluene	ND	1.0	ug/L	0.11
4-Chlorotoluene	ND	1.0	ug/L	0.18
1,2-Dibromoethane	ND	1.0	ug/L	0.24
Dibromomethane	ND	1.0	ug/L	0.28
1,2-Dichlorobenzene	ND	1.0	ug/L	0.13
1,3-Dichlorobenzene	ND	1.0	ug/L	0.14
1,4-Dichlorobenzene	ND	1.0	ug/L	0.13
Dichlorodifluoromethane	ND	1.0	ug/L	0.31
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.17
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.19
1,3-Dichloropropane	ND	1.0	ug/L	0.16
2,2-Dichloropropane	ND	1.0	ug/L	0.13
1,1-Dichloropropene	ND	1.0	ug/L	0.13
Trichlorofluoromethane	ND	1.0	ug/L	0.21
Hexachlorobutadiene	ND	1.0	ug/L	0.30
2-Hexanone	ND	5.0	ug/L	0.41
Isopropylbenzene	ND	1.0	ug/L	0.13
p-Isopropyltoluene	ND	1.0	ug/L	0.12
tert-Butyl alcohol	ND	20	ug/L	3.9
4-Methyl-2-pentanone	**0.67 J**	**5.0**	**ug/L**	**0.32**
Naphthalene	ND	1.0	ug/L	0.24
n-Propylbenzene	ND	1.0	ug/L	0.14
Styrene	ND	1.0	ug/L	0.11
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.23
1,2,3-Trichlorobenzene	ND	1.0	ug/L	0.17

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Tetra Tech NUS, Inc

Client Sample ID: MRC-MW93D-061010

GC/MS Volatiles

Lot-Sample #...: A0F110578-002 **Work Order #...:** L2TE81AA **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,2,4-Trichloro-benzene	ND	1.0	ug/L	0.15
1,2,3-Trichloropropane	ND	1.0	ug/L	0.43
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.28
1,2,4-Trimethylbenzene	ND	1.0	ug/L	0.12
Vinyl acetate	ND	2.0	ug/L	0.19
o-Xylene	ND	1.0	ug/L	0.14
Xylenes (total)	ND	2.0	ug/L	0.28
Methyl tert-butyl ether	ND	5.0	ug/L	0.17
m-Xylene & p-Xylene	ND	2.0	ug/L	0.24
1,2,3-Trimethylbenzene	ND	5.0	ug/L	0.0059
Diisopropyl Ether (DIPE)	ND	5.0	ug/L	1.5
Ethyl-t-Butyl Ether (ETBE)	ND	5.0	ug/L	0.11
Tert-amyl methyl ether (TAME)	ND	5.0	ug/L	0.067
Benzene	ND	1.0	ug/L	0.13
Bromoform	ND	1.0	ug/L	0.64
Bromomethane	ND	1.0	ug/L	0.41
Carbon tetrachloride	ND	1.0	ug/L	0.13
Chlorobenzene	ND	1.0	ug/L	0.15
Chloroethane	ND	1.0	ug/L	0.29
Chloroform	**8.8**	**1.0**	**ug/L**	**0.16**
Chloromethane	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.15
1,2-Dichloroethane	ND	1.0	ug/L	0.22
1,1-Dichloroethene	ND	1.0	ug/L	0.19
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.14
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.19
Ethylbenzene	ND	1.0	ug/L	0.17
Methylene chloride	**0.47 J,B**	**1.0**	**ug/L**	**0.33**
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.18
Tetrachloroethene	ND	1.0	ug/L	0.29
Toluene	**0.22 J**	**1.0**	**ug/L**	**0.13**
1,1,1-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.17
Vinyl chloride	ND	1.0	ug/L	0.22

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	98	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	90	(76 - 110)
4-Bromofluorobenzene	90	(74 - 116)

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Tetra Tech NUS, Inc

MRC-MW93D-061010

GC/MS Volatiles

Lot-Sample #: A0F110578-002 **Work Order #:** L2TE81AA **Matrix:** WG

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Freon 22		ND	M		ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

Tetra Tech NUS, Inc

Client Sample ID: MRC-MW94D-061010

GC/MS Volatiles

Lot-Sample #...:	A0F110578-003	**Work Order #...:**	L2TFL1AM	**Matrix.....:**	WG
Date Sampled...:	06/10/10 15:03	**Date Received..:**	06/11/10		
Prep Date.....:	06/21/10	**Analysis Date..:**	06/21/10		
Prep Batch #...:	0173220				
Dilution Factor:	1	**Initial Wgt/Vol:**	5 mL	**Final Wgt/Vol..:**	5 mL
		Method.....:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**11**	**5.0**	**ug/L**	**1.1**
Bromobenzene	ND	1.0	ug/L	0.13
Bromochloromethane	ND	1.0	ug/L	0.29
Bromodichloromethane	**0.23 J**	**1.0**	**ug/L**	**0.15**
2-Butanone	ND	5.0	ug/L	0.57
n-Butylbenzene	ND	1.0	ug/L	0.12
sec-Butylbenzene	ND	1.0	ug/L	0.13
tert-Butylbenzene	ND	1.0	ug/L	0.13
Carbon disulfide	ND	1.0	ug/L	0.13
Dibromochloromethane	ND	1.0	ug/L	0.18
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	0.67
2-Chloroethyl vinyl ether	ND	5.0	ug/L	0.99
2-Chlorotoluene	ND	1.0	ug/L	0.11
4-Chlorotoluene	ND	1.0	ug/L	0.18
1,2-Dibromoethane	ND	1.0	ug/L	0.24
Dibromomethane	ND	1.0	ug/L	0.28
1,2-Dichlorobenzene	ND	1.0	ug/L	0.13
1,3-Dichlorobenzene	ND	1.0	ug/L	0.14
1,4-Dichlorobenzene	ND	1.0	ug/L	0.13
Dichlorodifluoromethane	ND	1.0	ug/L	0.31
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.17
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.19
1,3-Dichloropropane	ND	1.0	ug/L	0.16
2,2-Dichloropropane	ND	1.0	ug/L	0.13
1,1-Dichloropropene	ND	1.0	ug/L	0.13
Trichlorofluoromethane	ND	1.0	ug/L	0.21
Hexachlorobutadiene	ND	1.0	ug/L	0.30
2-Hexanone	ND	5.0	ug/L	0.41
Isopropylbenzene	ND	1.0	ug/L	0.13
p-Isopropyltoluene	ND	1.0	ug/L	0.12
tert-Butyl alcohol	ND	20	ug/L	3.9
4-Methyl-2-pentanone	ND	5.0	ug/L	0.32
Naphthalene	ND	1.0	ug/L	0.24
n-Propylbenzene	ND	1.0	ug/L	0.14
Styrene	ND	1.0	ug/L	0.11
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.23
1,2,3-Trichlorobenzene	ND	1.0	ug/L	0.17

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Tetra Tech NUS, Inc

Client Sample ID: MRC-MW94D-061010

GC/MS Volatiles

Lot-Sample #...: A0F110578-003 **Work Order #...:** L2TFL1AM **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,2,4-Trichloro-benzene	ND	1.0	ug/L	0.15
1,2,3-Trichloropropane	ND	1.0	ug/L	0.43
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.28
1,2,4-Trimethylbenzene	ND	1.0	ug/L	0.12
Vinyl acetate	ND	2.0	ug/L	0.19
o-Xylene	ND	1.0	ug/L	0.14
Xylenes (total)	ND	2.0	ug/L	0.28
Methyl tert-butyl ether	ND	5.0	ug/L	0.17
m-Xylene & p-Xylene	ND	2.0	ug/L	0.24
1,2,3-Trimethylbenzene	ND	5.0	ug/L	0.0059
Diisopropyl Ether (DIPE)	ND	5.0	ug/L	1.5
Ethyl-t-Butyl Ether (ETBE)	ND	5.0	ug/L	0.11
Tert-amyl methyl ether (TAME)	ND	5.0	ug/L	0.067
Benzene	ND	1.0	ug/L	0.13
Bromoform	ND	1.0	ug/L	0.64
Bromomethane	ND	1.0	ug/L	0.41
Carbon tetrachloride	ND	1.0	ug/L	0.13
Chlorobenzene	ND	1.0	ug/L	0.15
Chloroethane	ND	1.0	ug/L	0.29
Chloroform	**10**	**1.0**	**ug/L**	**0.16**
Chloromethane	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.15
1,2-Dichloroethane	ND	1.0	ug/L	0.22
1,1-Dichloroethene	ND	1.0	ug/L	0.19
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.14
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.19
Ethylbenzene	ND	1.0	ug/L	0.17
Methylene chloride	**0.54 J,B**	**1.0**	**ug/L**	**0.33**
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.18
Tetrachloroethene	ND	1.0	ug/L	0.29
Toluene	**0.21 J**	**1.0**	**ug/L**	**0.13**
1,1,1-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.17
Vinyl chloride	ND	1.0	ug/L	0.22

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	99	(73 - 122)
1,2-Dichloroethane-d4	94	(61 - 128)
Toluene-d8	89	(76 - 110)
4-Bromofluorobenzene	85	(74 - 116)

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Tetra Tech NUS, Inc

MRC-MW94D-061010

GC/MS Volatiles

Lot-Sample #: A0F110578-003 **Work Order #:** L2TFL1AM **Matrix:** WG

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Isopropyl Alcohol	67-63-0	1.7 NJ	M	3.0588	ug/L
Freon 22		ND	M		ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

Tetra Tech NUS, Inc

Client Sample ID: TB-061010

GC/MS Volatiles

Lot-Sample #...: A0F110578-001 **Work Order #...:** L2TEX1AA **Matrix.....:** WQ
Date Sampled...: 06/10/10 07:30 **Date Received..:** 06/11/10
Prep Date.....: 06/21/10 **Analysis Date..:** 06/21/10
Prep Batch #...: 0173220
Dilution Factor: 1 **Initial Wgt/Vol:** 5 mL **Final Wgt/Vol..:** 5 mL
Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**15**	**5.0**	**ug/L**	**1.1**
Bromobenzene	ND	1.0	ug/L	0.13
Bromochloromethane	ND	1.0	ug/L	0.29
Bromodichloromethane	ND	1.0	ug/L	0.15
2-Butanone	ND	5.0	ug/L	0.57
n-Butylbenzene	ND	1.0	ug/L	0.12
sec-Butylbenzene	ND	1.0	ug/L	0.13
tert-Butylbenzene	ND	1.0	ug/L	0.13
Carbon disulfide	ND	1.0	ug/L	0.13
Dibromochloromethane	ND	1.0	ug/L	0.18
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	0.67
2-Chloroethyl vinyl ether	ND	5.0	ug/L	0.99
2-Chlorotoluene	ND	1.0	ug/L	0.11
4-Chlorotoluene	ND	1.0	ug/L	0.18
1,2-Dibromoethane	ND	1.0	ug/L	0.24
Dibromomethane	ND	1.0	ug/L	0.28
1,2-Dichlorobenzene	ND	1.0	ug/L	0.13
1,3-Dichlorobenzene	ND	1.0	ug/L	0.14
1,4-Dichlorobenzene	ND	1.0	ug/L	0.13
Dichlorodifluoromethane	ND	1.0	ug/L	0.31
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.17
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.19
1,3-Dichloropropane	ND	1.0	ug/L	0.16
2,2-Dichloropropane	ND	1.0	ug/L	0.13
1,1-Dichloropropene	ND	1.0	ug/L	0.13
Trichlorofluoromethane	ND	1.0	ug/L	0.21
Hexachlorobutadiene	ND	1.0	ug/L	0.30
2-Hexanone	ND	5.0	ug/L	0.41
Isopropylbenzene	ND	1.0	ug/L	0.13
p-Isopropyltoluene	ND	1.0	ug/L	0.12
tert-Butyl alcohol	ND	20	ug/L	3.9
4-Methyl-2-pentanone	ND	5.0	ug/L	0.32
Naphthalene	ND	1.0	ug/L	0.24
n-Propylbenzene	ND	1.0	ug/L	0.14
Styrene	ND	1.0	ug/L	0.11
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.23
1,2,3-Trichlorobenzene	ND	1.0	ug/L	0.17

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Tetra Tech NUS, Inc

Client Sample ID: TB-061010

GC/MS Volatiles

Lot-Sample #...: A0F110578-001 **Work Order #...:** L2TEX1AA **Matrix.....:** WQ

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,2,4-Trichloro-benzene	ND	1.0	ug/L	0.15
1,2,3-Trichloropropane	ND	1.0	ug/L	0.43
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.28
1,2,4-Trimethylbenzene	ND	1.0	ug/L	0.12
Vinyl acetate	ND	2.0	ug/L	0.19
o-Xylene	ND	1.0	ug/L	0.14
Xylenes (total)	ND	2.0	ug/L	0.28
Methyl tert-butyl ether	ND	5.0	ug/L	0.17
m-Xylene & p-Xylene	ND	2.0	ug/L	0.24
1,2,3-Trimethylbenzene	ND	5.0	ug/L	0.0059
Diisopropyl Ether (DIPE)	ND	5.0	ug/L	1.5
Ethyl-t-Butyl Ether (ETBE)	ND	5.0	ug/L	0.11
Tert-amyl methyl ether (TAME)	ND	5.0	ug/L	0.067
Benzene	ND	1.0	ug/L	0.13
Bromoform	ND	1.0	ug/L	0.64
Bromomethane	ND	1.0	ug/L	0.41
Carbon tetrachloride	ND	1.0	ug/L	0.13
Chlorobenzene	ND	1.0	ug/L	0.15
Chloroethane	ND	1.0	ug/L	0.29
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.15
1,2-Dichloroethane	ND	1.0	ug/L	0.22
1,1-Dichloroethene	ND	1.0	ug/L	0.19
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.14
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.19
Ethylbenzene	ND	1.0	ug/L	0.17
Methylene chloride	ND	1.0	ug/L	0.33
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.18
Tetrachloroethene	ND	1.0	ug/L	0.29
Toluene	ND	1.0	ug/L	0.13
1,1,1-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.17
Vinyl chloride	ND	1.0	ug/L	0.22

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	98	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	91	(76 - 110)
4-Bromofluorobenzene	86	(74 - 116)

Tetra Tech NUS, Inc

TB-061010

GC/MS Volatiles

Lot-Sample #: A0F110578-001 **Work Order #:** L2TEX1AA **Matrix:** WQ

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Isopropyl Alcohol	67-63-0	2.2 NJ	M	3.0587	ug/L
Freon 22		ND	M		ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

Tetra Tech NUS, Inc

Client Sample ID: TB-061110

GC/MS Volatiles

Lot-Sample #...: A0F120439-003 **Work Order #...:** L2T611AA **Matrix.....:** WQ
Date Sampled...: 06/11/10 07:00 **Date Received..:** 06/12/10
Prep Date.....: 06/21/10 **Analysis Date..:** 06/21/10
Prep Batch #...: 0173220
Dilution Factor: 1 **Initial Wgt/Vol:** 5 mL **Final Wgt/Vol..:** 5 mL
Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**36**	**5.0**	**ug/L**	**1.1**
Bromobenzene	ND	1.0	ug/L	0.13
Bromochloromethane	ND	1.0	ug/L	0.29
Bromodichloromethane	ND	1.0	ug/L	0.15
2-Butanone	ND	5.0	ug/L	0.57
n-Butylbenzene	ND	1.0	ug/L	0.12
sec-Butylbenzene	ND	1.0	ug/L	0.13
tert-Butylbenzene	ND	1.0	ug/L	0.13
Carbon disulfide	ND	1.0	ug/L	0.13
Dibromochloromethane	ND	1.0	ug/L	0.18
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	0.67
2-Chloroethyl vinyl ether	ND	5.0	ug/L	0.99
2-Chlorotoluene	ND	1.0	ug/L	0.11
4-Chlorotoluene	ND	1.0	ug/L	0.18
1,2-Dibromoethane	ND	1.0	ug/L	0.24
Dibromomethane	ND	1.0	ug/L	0.28
1,2-Dichlorobenzene	ND	1.0	ug/L	0.13
1,3-Dichlorobenzene	ND	1.0	ug/L	0.14
1,4-Dichlorobenzene	ND	1.0	ug/L	0.13
Dichlorodifluoromethane	ND	1.0	ug/L	0.31
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.17
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.19
1,3-Dichloropropane	ND	1.0	ug/L	0.16
2,2-Dichloropropane	ND	1.0	ug/L	0.13
1,1-Dichloropropene	ND	1.0	ug/L	0.13
Trichlorofluoromethane	ND	1.0	ug/L	0.21
Hexachlorobutadiene	ND	1.0	ug/L	0.30
2-Hexanone	ND	5.0	ug/L	0.41
Isopropylbenzene	ND	1.0	ug/L	0.13
p-Isopropyltoluene	ND	1.0	ug/L	0.12
tert-Butyl alcohol	ND	20	ug/L	3.9
4-Methyl-2-pentanone	ND	5.0	ug/L	0.32
Naphthalene	ND	1.0	ug/L	0.24
n-Propylbenzene	ND	1.0	ug/L	0.14
Styrene	ND	1.0	ug/L	0.11
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.23
1,2,3-Trichlorobenzene	ND	1.0	ug/L	0.17

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Tetra Tech NUS, Inc

Client Sample ID: TB-061110

GC/MS Volatiles

Lot-Sample #...: A0F120439-003 **Work Order #...:** L2T611AA **Matrix.....:** WQ

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,2,4-Trichloro-benzene	ND	1.0	ug/L	0.15
1,2,3-Trichloropropane	ND	1.0	ug/L	0.43
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.28
1,2,4-Trimethylbenzene	ND	1.0	ug/L	0.12
Vinyl acetate	ND	2.0	ug/L	0.19
o-Xylene	ND	1.0	ug/L	0.14
Xylenes (total)	ND	2.0	ug/L	0.28
Methyl tert-butyl ether	ND	5.0	ug/L	0.17
m-Xylene & p-Xylene	ND	2.0	ug/L	0.24
1,2,3-Trimethylbenzene	ND	5.0	ug/L	0.0059
Diisopropyl Ether (DIPE)	ND	5.0	ug/L	1.5
Ethyl-t-Butyl Ether (ETBE)	ND	5.0	ug/L	0.11
Tert-amyl methyl ether (TAME)	ND	5.0	ug/L	0.067
Benzene	ND	1.0	ug/L	0.13
Bromoform	ND	1.0	ug/L	0.64
Bromomethane	ND	1.0	ug/L	0.41
Carbon tetrachloride	ND	1.0	ug/L	0.13
Chlorobenzene	ND	1.0	ug/L	0.15
Chloroethane	ND	1.0	ug/L	0.29
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.15
1,2-Dichloroethane	ND	1.0	ug/L	0.22
1,1-Dichloroethene	ND	1.0	ug/L	0.19
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.14
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.19
Ethylbenzene	ND	1.0	ug/L	0.17
Methylene chloride	ND	1.0	ug/L	0.33
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.18
Tetrachloroethene	ND	1.0	ug/L	0.29
Toluene	ND	1.0	ug/L	0.13
1,1,1-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.17
Vinyl chloride	ND	1.0	ug/L	0.22

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	99	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
Toluene-d8	90	(76 - 110)
4-Bromofluorobenzene	86	(74 - 116)

Tetra Tech NUS, Inc

TB-061110

GC/MS Volatiles

Lot-Sample #: A0F120439-003 **Work Order #:** L2T611AA **Matrix:** WQ

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Isopropyl Alcohol	67-63-0	4.7 NJ	M	3.0587	ug/L
Silanol, trimethyl-	1066-40-6	1.2 NJ	M	4.2657	ug/L
Freon 22		ND	M		ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

Tetra Tech NUS, Inc

Client Sample ID: MRC-95D-061110

GC/MS Semivolatiles

Lot-Sample #...: A0F120439-002 **Work Order #...:** L2T6X1AN **Matrix.....:** WG
Date Sampled...: 06/11/10 09:28 **Date Received..:** 06/12/10
Prep Date.....: 06/14/10 **Analysis Date..:** 06/16/10
Prep Batch #...: 0165058
Dilution Factor: 1 **Initial Wgt/Vol:** 1040 mL **Final Wgt/Vol..:** 2 mL
Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetophenone	ND	1.0	ug/L	0.34
Atrazine	ND	1.0	ug/L	0.34
1,4-Dioxane	ND	1.0	ug/L	0.49
N-Nitrosodimethylamine	ND	1.0	ug/L	0.31
Dibenzo(a,h)anthracene	ND	0.20	ug/L	0.10
Benzaldehyde	ND	1.0	ug/L	0.39
1,1'-Biphenyl	ND	1.0	ug/L	0.80
Caprolactam	ND	5.0	ug/L	0.80
Phenol	ND	1.0	ug/L	0.60
bis(2-Chloroethyl)-ether	ND	1.0	ug/L	0.10
2-Chlorophenol	ND	1.0	ug/L	0.29
2-Methylphenol	ND	1.0	ug/L	0.80
2,2'-oxybis(1-Chloro-propane)	ND	1.0	ug/L	0.40
4-Methylphenol	ND	1.0	ug/L	0.80
N-Nitrosodi-n-propyl-amine	ND	1.0	ug/L	0.80
Hexachloroethane	ND	1.0	ug/L	0.80
Nitrobenzene	ND	1.0	ug/L	0.040
Isophorone	ND	1.0	ug/L	0.27
2-Nitrophenol	ND	2.0	ug/L	0.28
2,4-Dimethylphenol	ND	2.0	ug/L	0.80
bis(2-Chloroethoxy) methane	ND	1.0	ug/L	0.32
2,4-Dichlorophenol	ND	2.0	ug/L	0.80
Naphthalene	ND	0.20	ug/L	0.10
4-Chloroaniline	ND	2.0	ug/L	0.80
Hexachlorobutadiene	ND	1.0	ug/L	0.27
4-Chloro-3-methylphenol	ND	2.0	ug/L	0.80
2-Methylnaphthalene	ND	0.20	ug/L	0.10
Hexachlorocyclopenta-diene	ND	10	ug/L	0.80
2,4,6-Trichloro-phenol	ND	5.0	ug/L	0.80
2,4,5-Trichloro-phenol	ND	5.0	ug/L	0.30
2-Chloronaphthalene	ND	1.0	ug/L	0.10

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Tetra Tech NUS, Inc

Client Sample ID: MRC-95D-061110

GC/MS Semivolatiles

Lot-Sample #...: A0F120439-002 **Work Order #...:** L2T6X1AN **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2-Nitroaniline	ND	2.0	ug/L	0.80
Dimethyl phthalate	ND	1.0	ug/L	0.29
Acenaphthylene	ND	0.20	ug/L	0.10
2,6-Dinitrotoluene	ND	5.0	ug/L	0.80
3-Nitroaniline	ND	2.0	ug/L	0.28
Acenaphthene	ND	0.20	ug/L	0.10
2,4-Dinitrophenol	ND	5.0	ug/L	2.4
4-Nitrophenol	ND	5.0	ug/L	2.4
Dibenzofuran	ND	1.0	ug/L	0.10
2,4-Dinitrotoluene	ND	5.0	ug/L	0.27
Diethyl phthalate	ND	1.0	ug/L	0.60
4-Chlorophenyl phenyl ether	ND	2.0	ug/L	0.30
Fluorene	ND	0.20	ug/L	0.10
4-Nitroaniline	ND	2.0	ug/L	0.80
4,6-Dinitro-2-methylphenol	ND	5.0	ug/L	2.4
N-Nitrosodiphenylamine	ND	1.0	ug/L	0.31
4-Bromophenyl phenyl ether	ND	2.0	ug/L	0.80
Hexachlorobenzene	ND	0.20	ug/L	0.10
Pentachlorophenol	ND	5.0	ug/L	2.4
Phenanthrene	ND	0.20	ug/L	0.10
Anthracene	ND	0.20	ug/L	0.10
Carbazole	ND	1.0	ug/L	0.28
Di-n-butyl phthalate	ND	1.0	ug/L	0.67
Fluoranthene	ND	0.20	ug/L	0.10
Pyrene	ND	0.20	ug/L	0.10
Butyl benzyl phthalate	ND	1.0	ug/L	0.80
3,3'-Dichlorobenzidine	ND	5.0	ug/L	0.37
Benzo(a)anthracene	ND	0.20	ug/L	0.10
Chrysene	ND	0.20	ug/L	0.10
bis(2-Ethylhexyl) phthalate	ND	2.0	ug/L	0.80
Di-n-octyl phthalate	ND	1.0	ug/L	0.80
Benzo(b)fluoranthene	ND	0.20	ug/L	0.10
Benzo(k)fluoranthene	ND	0.20	ug/L	0.10
Benzo(a)pyrene	ND	0.20	ug/L	0.10
Indeno(1,2,3-cd)pyrene	ND	0.20	ug/L	0.10
Benzo(ghi)perylene	ND	0.20	ug/L	0.10

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Tetra Tech NUS, Inc

Client Sample ID: MRC-95D-061110

GC/MS Semivolatiles

Lot-Sample #...: A0F120439-002 **Work Order #...:** L2T6X1AN **Matrix.....:** WG

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	56	(27 - 111)
2-Fluorobiphenyl	53	(28 - 110)
Terphenyl-d14	64	(37 - 119)
Phenol-d5	61	(10 - 110)
2-Fluorophenol	59	(10 - 110)
2,4,6-Tribromophenol	65	(22 - 120)

Tetra Tech NUS, Inc

Client Sample ID: MRC-96D-061110

GC/MS Semivolatiles

Lot-Sample #...: A0F120439-001 **Work Order #...:** L2T531AC **Matrix.....:** WG
Date Sampled...: 06/11/10 12:45 **Date Received..:** 06/12/10
Prep Date.....: 06/14/10 **Analysis Date..:** 06/16/10
Prep Batch #...: 0165058
Dilution Factor: 1 **Initial Wgt/Vol:** 1000 mL **Final Wgt/Vol..:** 2 mL
Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetophenone	ND	1.0	ug/L	0.34
Atrazine	ND	1.0	ug/L	0.34
1,4-Dioxane	ND	1.0	ug/L	0.49
N-Nitrosodimethylamine	ND	1.0	ug/L	0.31
Dibenzo(a,h)anthracene	ND	0.20	ug/L	0.10
Benzaldehyde	ND	1.0	ug/L	0.39
1,1'-Biphenyl	ND	1.0	ug/L	0.80
Caprolactam	ND	5.0	ug/L	0.80
Phenol	ND	1.0	ug/L	0.60
bis(2-Chloroethyl)-ether	ND	1.0	ug/L	0.10
2-Chlorophenol	ND	1.0	ug/L	0.29
2-Methylphenol	ND	1.0	ug/L	0.80
2,2'-oxybis(1-Chloro-propane)	ND	1.0	ug/L	0.40
4-Methylphenol	ND	1.0	ug/L	0.80
N-Nitrosodi-n-propyl-amine	ND	1.0	ug/L	0.80
Hexachloroethane	ND	1.0	ug/L	0.80
Nitrobenzene	ND	1.0	ug/L	0.040
Isophorone	ND	1.0	ug/L	0.27
2-Nitrophenol	ND	2.0	ug/L	0.28
2,4-Dimethylphenol	ND	2.0	ug/L	0.80
bis(2-Chloroethoxy) methane	ND	1.0	ug/L	0.32
2,4-Dichlorophenol	ND	2.0	ug/L	0.80
Naphthalene	ND	0.20	ug/L	0.10
4-Chloroaniline	ND	2.0	ug/L	0.80
Hexachlorobutadiene	ND	1.0	ug/L	0.27
4-Chloro-3-methylphenol	ND	2.0	ug/L	0.80
2-Methylnaphthalene	ND	0.20	ug/L	0.10
Hexachlorocyclopenta-diene	ND	10	ug/L	0.80
2,4,6-Trichloro-phenol	ND	5.0	ug/L	0.80
2,4,5-Trichloro-phenol	ND	5.0	ug/L	0.30
2-Chloronaphthalene	ND	1.0	ug/L	0.10

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Tetra Tech NUS, Inc

Client Sample ID: MRC-96D-061110

GC/MS Semivolatiles

Lot-Sample #...: A0F120439-001 Work Order #...: L2T531AC Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2-Nitroaniline	ND	2.0	ug/L	0.80
Dimethyl phthalate	ND	1.0	ug/L	0.29
Acenaphthylene	ND	0.20	ug/L	0.10
2,6-Dinitrotoluene	ND	5.0	ug/L	0.80
3-Nitroaniline	ND	2.0	ug/L	0.28
Acenaphthene	ND	0.20	ug/L	0.10
2,4-Dinitrophenol	ND	5.0	ug/L	2.4
4-Nitrophenol	ND	5.0	ug/L	2.4
Dibenzofuran	ND	1.0	ug/L	0.10
2,4-Dinitrotoluene	ND	5.0	ug/L	0.27
Diethyl phthalate	ND	1.0	ug/L	0.60
4-Chlorophenyl phenyl ether	ND	2.0	ug/L	0.30
Fluorene	ND	0.20	ug/L	0.10
4-Nitroaniline	ND	2.0	ug/L	0.80
4,6-Dinitro-2-methylphenol	ND	5.0	ug/L	2.4
N-Nitrosodiphenylamine	ND	1.0	ug/L	0.31
4-Bromophenyl phenyl ether	ND	2.0	ug/L	0.80
Hexachlorobenzene	ND	0.20	ug/L	0.10
Pentachlorophenol	ND	5.0	ug/L	2.4
Phenanthrene	ND	0.20	ug/L	0.10
Anthracene	ND	0.20	ug/L	0.10
Carbazole	ND	1.0	ug/L	0.28
Di-n-butyl phthalate	ND	1.0	ug/L	0.67
Fluoranthene	ND	0.20	ug/L	0.10
Pyrene	ND	0.20	ug/L	0.10
Butyl benzyl phthalate	ND	1.0	ug/L	0.80
3,3'-Dichlorobenzidine	ND	5.0	ug/L	0.37
Benzo(a)anthracene	ND	0.20	ug/L	0.10
Chrysene	ND	0.20	ug/L	0.10
bis(2-Ethylhexyl) phthalate	**2.1 B**	**2.0**	**ug/L**	**0.80**
Di-n-octyl phthalate	ND	1.0	ug/L	0.80
Benzo(b)fluoranthene	ND	0.20	ug/L	0.10
Benzo(k)fluoranthene	ND	0.20	ug/L	0.10
Benzo(a)pyrene	ND	0.20	ug/L	0.10
Indeno(1,2,3-cd)pyrene	ND	0.20	ug/L	0.10
Benzo(ghi)perylene	ND	0.20	ug/L	0.10

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Tetra Tech NUS, Inc

Client Sample ID: MRC-96D-061110

GC/MS Semivolatiles

Lot-Sample #...: A0F120439-001 **Work Order #...:** L2T531AC **Matrix.....:** WG

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	65	(27 - 111)
2-Fluorobiphenyl	62	(28 - 110)
Terphenyl-d14	82	(37 - 119)
Phenol-d5	70	(10 - 110)
2-Fluorophenol	70	(10 - 110)
2,4,6-Tribromophenol	64	(22 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Tetra Tech NUS, Inc

Client Sample ID: MRC-MW93D-061010

GC/MS Semivolatiles

Lot-Sample #...:	A0F110578-002	**Work Order #...:**	L2TE81AC	**Matrix.....:**	WG
Date Sampled...:	06/10/10 10:23	**Date Received..:**	06/11/10		
Prep Date.....:	06/14/10	**Analysis Date..:**	06/16/10		
Prep Batch #...:	0165058				
Dilution Factor:	1	**Initial Wgt/Vol:**	1040 mL	**Final Wgt/Vol..:**	2 mL
		Method.....:	SW846 8270C		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetophenone	ND	1.0	ug/L	0.34
Atrazine	ND	1.0	ug/L	0.34
1,4-Dioxane	ND	1.0	ug/L	0.49
N-Nitrosodimethylamine	ND	1.0	ug/L	0.31
Dibenzo(a,h)anthracene	ND	0.20	ug/L	0.10
Benzaldehyde	ND	1.0	ug/L	0.39
1,1'-Biphenyl	ND	1.0	ug/L	0.80
Caprolactam	ND	5.0	ug/L	0.80
Phenol	ND	1.0	ug/L	0.60
bis(2-Chloroethyl)-ether	ND	1.0	ug/L	0.10
2-Chlorophenol	ND	1.0	ug/L	0.29
2-Methylphenol	ND	1.0	ug/L	0.80
2,2'-oxybis(1-Chloro-propane)	ND	1.0	ug/L	0.40
4-Methylphenol	ND	1.0	ug/L	0.80
N-Nitrosodi-n-propyl-amine	ND	1.0	ug/L	0.80
Hexachloroethane	ND	1.0	ug/L	0.80
Nitrobenzene	ND	1.0	ug/L	0.040
Isophorone	ND	1.0	ug/L	0.27
2-Nitrophenol	ND	2.0	ug/L	0.28
2,4-Dimethylphenol	ND	2.0	ug/L	0.80
bis(2-Chloroethoxy) methane	ND	1.0	ug/L	0.32
2,4-Dichlorophenol	ND	2.0	ug/L	0.80
Naphthalene	ND	0.20	ug/L	0.10
4-Chloroaniline	ND	2.0	ug/L	0.80
Hexachlorobutadiene	ND	1.0	ug/L	0.27
4-Chloro-3-methylphenol	ND	2.0	ug/L	0.80
2-Methylnaphthalene	ND	0.20	ug/L	0.10
Hexachlorocyclopenta-diene	ND	10	ug/L	0.80
2,4,6-Trichloro-phenol	ND	5.0	ug/L	0.80
2,4,5-Trichloro-phenol	ND	5.0	ug/L	0.30
2-Chloronaphthalene	ND	1.0	ug/L	0.10

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Tetra Tech NUS, Inc

Client Sample ID: MRC-MW93D-061010

GC/MS Semivolatiles

Lot-Sample #...: A0F110578-002 **Work Order #...:** L2TE81AC **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2-Nitroaniline	ND	2.0	ug/L	0.80
Dimethyl phthalate	ND	1.0	ug/L	0.29
Acenaphthylene	ND	0.20	ug/L	0.10
2,6-Dinitrotoluene	ND	5.0	ug/L	0.80
3-Nitroaniline	ND	2.0	ug/L	0.28
Acenaphthene	ND	0.20	ug/L	0.10
2,4-Dinitrophenol	ND	5.0	ug/L	2.4
4-Nitrophenol	ND	5.0	ug/L	2.4
Dibenzofuran	ND	1.0	ug/L	0.10
2,4-Dinitrotoluene	ND	5.0	ug/L	0.27
Diethyl phthalate	ND	1.0	ug/L	0.60
4-Chlorophenyl phenyl ether	ND	2.0	ug/L	0.30
Fluorene	ND	0.20	ug/L	0.10
4-Nitroaniline	ND	2.0	ug/L	0.80
4,6-Dinitro-2-methylphenol	ND	5.0	ug/L	2.4
N-Nitrosodiphenylamine	ND	1.0	ug/L	0.31
4-Bromophenyl phenyl ether	ND	2.0	ug/L	0.80
Hexachlorobenzene	ND	0.20	ug/L	0.10
Pentachlorophenol	ND	5.0	ug/L	2.4
Phenanthrene	ND	0.20	ug/L	0.10
Anthracene	ND	0.20	ug/L	0.10
Carbazole	ND	1.0	ug/L	0.28
Di-n-butyl phthalate	ND	1.0	ug/L	0.67
Fluoranthene	ND	0.20	ug/L	0.10
Pyrene	ND	0.20	ug/L	0.10
Butyl benzyl phthalate	**1.1**	**1.0**	**ug/L**	**0.80**
3,3'-Dichlorobenzidine	ND	5.0	ug/L	0.37
Benzo(a)anthracene	ND	0.20	ug/L	0.10
Chrysene	ND	0.20	ug/L	0.10
bis(2-Ethylhexyl) phthalate	**1.9 J,B**	**2.0**	**ug/L**	**0.80**
Di-n-octyl phthalate	ND	1.0	ug/L	0.80
Benzo(b)fluoranthene	ND	0.20	ug/L	0.10
Benzo(k)fluoranthene	ND	0.20	ug/L	0.10
Benzo(a)pyrene	ND	0.20	ug/L	0.10
Indeno(1,2,3-cd)pyrene	ND	0.20	ug/L	0.10
Benzo(ghi)perylene	ND	0.20	ug/L	0.10

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Tetra Tech NUS, Inc

Client Sample ID: MRC-MW93D-061010

GC/MS Semivolatiles

Lot-Sample #...: A0F110578-002 Work Order #...: L2TE81AC Matrix.....: WG

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	60	(27 - 111)
2-Fluorobiphenyl	55	(28 - 110)
Terphenyl-d14	63	(37 - 119)
Phenol-d5	68	(10 - 110)
2-Fluorophenol	69	(10 - 110)
2,4,6-Tribromophenol	73	(22 - 120)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Tetra Tech NUS, Inc

Client Sample ID: MRC-MW94D-061010

GC/MS Semivolatiles

Lot-Sample #...:	A0F110578-003	**Work Order #...:**	L2TFL1AN	**Matrix.....:**	WG
Date Sampled...:	06/10/10 15:03	**Date Received..:**	06/11/10		
Prep Date.....:	06/14/10	**Analysis Date..:**	06/16/10		
Prep Batch #...:	0165058				
Dilution Factor:	1	**Initial Wgt/Vol:**	1050 mL	**Final Wgt/Vol..:**	2 mL
		Method.....:	SW846 8270C		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetophenone	ND	1.0	ug/L	0.34
Atrazine	ND	1.0	ug/L	0.34
1,4-Dioxane	ND	1.0	ug/L	0.49
N-Nitrosodimethylamine	ND	1.0	ug/L	0.31
Dibenzo(a,h)anthracene	ND	0.20	ug/L	0.10
Benzaldehyde	ND	1.0	ug/L	0.39
1,1'-Biphenyl	ND	1.0	ug/L	0.80
Caprolactam	ND	5.0	ug/L	0.80
Phenol	ND	1.0	ug/L	0.60
bis(2-Chloroethyl)-ether	ND	1.0	ug/L	0.10
2-Chlorophenol	ND	1.0	ug/L	0.29
2-Methylphenol	ND	1.0	ug/L	0.80
2,2'-oxybis(1-Chloro-propane)	ND	1.0	ug/L	0.40
4-Methylphenol	ND	1.0	ug/L	0.80
N-Nitrosodi-n-propyl-amine	ND	1.0	ug/L	0.80
Hexachloroethane	ND	1.0	ug/L	0.80
Nitrobenzene	ND	1.0	ug/L	0.040
Isophorone	ND	1.0	ug/L	0.27
2-Nitrophenol	ND	2.0	ug/L	0.28
2,4-Dimethylphenol	ND	2.0	ug/L	0.80
bis(2-Chloroethoxy) methane	ND	1.0	ug/L	0.32
2,4-Dichlorophenol	ND	2.0	ug/L	0.80
Naphthalene	ND	0.20	ug/L	0.10
4-Chloroaniline	ND	2.0	ug/L	0.80
Hexachlorobutadiene	ND	1.0	ug/L	0.27
4-Chloro-3-methylphenol	ND	2.0	ug/L	0.80
2-Methylnaphthalene	ND	0.20	ug/L	0.10
Hexachlorocyclopenta-diene	ND	10	ug/L	0.80
2,4,6-Trichloro-phenol	ND	5.0	ug/L	0.80
2,4,5-Trichloro-phenol	ND	5.0	ug/L	0.30
2-Chloronaphthalene	ND	1.0	ug/L	0.10

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Tetra Tech NUS, Inc

Client Sample ID: MRC-MW94D-061010

GC/MS Semivolatiles

Lot-Sample #...: A0F110578-003 Work Order #...: L2TFL1AN Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2-Nitroaniline	ND	2.0	ug/L	0.80
Dimethyl phthalate	ND	1.0	ug/L	0.29
Acenaphthylene	ND	0.20	ug/L	0.10
2,6-Dinitrotoluene	ND	5.0	ug/L	0.80
3-Nitroaniline	ND	2.0	ug/L	0.28
Acenaphthene	ND	0.20	ug/L	0.10
2,4-Dinitrophenol	ND	5.0	ug/L	2.4
4-Nitrophenol	ND	5.0	ug/L	2.4
Dibenzofuran	ND	1.0	ug/L	0.10
2,4-Dinitrotoluene	ND	5.0	ug/L	0.27
Diethyl phthalate	ND	1.0	ug/L	0.60
4-Chlorophenyl phenyl ether	ND	2.0	ug/L	0.30
Fluorene	ND	0.20	ug/L	0.10
4-Nitroaniline	ND	2.0	ug/L	0.80
4,6-Dinitro-2-methylphenol	ND	5.0	ug/L	2.4
N-Nitrosodiphenylamine	ND	1.0	ug/L	0.31
4-Bromophenyl phenyl ether	ND	2.0	ug/L	0.80
Hexachlorobenzene	ND	0.20	ug/L	0.10
Pentachlorophenol	ND	5.0	ug/L	2.4
Phenanthrene	ND	0.20	ug/L	0.10
Anthracene	ND	0.20	ug/L	0.10
Carbazole	ND	1.0	ug/L	0.28
Di-n-butyl phthalate	ND	1.0	ug/L	0.67
Fluoranthene	ND	0.20	ug/L	0.10
Pyrene	ND	0.20	ug/L	0.10
Butyl benzyl phthalate	**1.1**	**1.0**	**ug/L**	**0.80**
3,3'-Dichlorobenzidine	ND	5.0	ug/L	0.37
Benzo(a)anthracene	ND	0.20	ug/L	0.10
Chrysene	ND	0.20	ug/L	0.10
bis(2-Ethylhexyl) phthalate	**2.1 B**	**2.0**	**ug/L**	**0.80**
Di-n-octyl phthalate	ND	1.0	ug/L	0.80
Benzo(b)fluoranthene	ND	0.20	ug/L	0.10
Benzo(k)fluoranthene	ND	0.20	ug/L	0.10
Benzo(a)pyrene	ND	0.20	ug/L	0.10
Indeno(1,2,3-cd)pyrene	ND	0.20	ug/L	0.10
Benzo(ghi)perylene	ND	0.20	ug/L	0.10

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Tetra Tech NUS, Inc

Client Sample ID: MRC-MW94D-061010

GC/MS Semivolatiles

Lot-Sample #...: A0F110578-003 Work Order #...: L2TFL1AN Matrix.....: WG

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	61	(27 - 111)
2-Fluorobiphenyl	61	(28 - 110)
Terphenyl-d14	82	(37 - 119)
Phenol-d5	70	(10 - 110)
2-Fluorophenol	72	(10 - 110)
2,4,6-Tribromophenol	76	(22 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

APPENDIX C
SUPPORT DOCUMENTATION

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Temperature on Receipt _____

Drinking Water? Yes ☐ No ☒

TAL-4124 (1007)

Client: Tetra Tech NUS	Project Manager: Tony Aparicio	Date: 6-10-10	Chain of Custody Number: 154077
Address: 20251 Century Blvd Ste 200	Telephone Number (Area Code)/Fax Number: (301) 528-5552	Lab Number: (330) 497-9396	Page 1 of 1
City: Germantown / State: MD / Zip Code: 20874	Site Contact: Walt Pryor	Lab Contact:	
Project Name and Location (State): MRL MD Deep well →	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: Groundwater Sampling 2010			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: VOCs	SVOCs	1,4 Dioxane	Total metals	Diss metals	Special Instructions/ Conditions of Receipt
TB-061010 ✓	6-10-10	0730		X						X			X					
MRE-MW 93D-061010 ✓	↓	1023		X			X		X	X			X	X	X	X	X	
MRE-MW 94D-061010 ✓	↓	1503		X			X		X	X			X	X	X	X	X	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Walt Pryor	6-10-10	1900	1. Received By: Matthew Jones TEST AMERICA	11 JUN 2010	0910
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

North Canton

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☐ No ☒

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

23

TAL-4124 (1007)

Client	Project Manager	Date	Chain of Custody Number
Tetra Tech, NUS	Dev Murali	6/11/10	154978
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
20251 Century Blvd.	(301) 528-3063		
City / **State** / **Zip Code**	**Site Contact** / **Lab Contact**		
Germantown / MD	Dawn MacKrell / CT		
Project Name and Location (State)	**Carrier/Waybill Number**		
MRC Deep Well GW Sampling			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: VOC	SVOC	1,4-Dioxane	Total Metals	Dissolved Metals	Special Instructions/ Conditions of Receipt
MRC-96D-061110 ✓	6/11/10	1245		X			5		1	3			3	2	2	1	1	*Filter Dissolved metals in lab. Also listed on COC # 154978
MRC-95D-061110 ✓	6/11/10	0928		X			5		1	3			3	2	2	1	1	
TB-061110 ✓	6/11/10	0700		X						2			2					

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

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

		Date	Time
1. Relinquished By	Dawn MacKrell	6/11/10	
2. Relinquished By			
3. Relinquished By			
1. Received By		6/12/10	9:30 AM
2. Received By			
3. Received By			

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

North Canton

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data. Program or agency specific requirements take precedence over the requirements listed in this narrative.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. TestAmerica North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples.

For SW846/RCRA methods, QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

For 600 series/CWA methods, QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE (MS). An MS is prepared and analyzed at a 10% frequency for GC Methods and at a 5% frequency for GC/MS methods.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. Multi peak responders may not be included in the target spike list due to co-elution. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. Comparison of only the failed parameters from the first batch are evaluated. The only exception to the rework requirement is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed in the table.)

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals ICP-MS	Metals ICP Trace
Methylene Chloride, Acetone, 2-Butanone	Phthalate Esters	Copper, Iron, Zinc, Lead, Calcium, Magnesium, Potassium, Sodium, Barium, Chromium, Manganese	Copper, Iron, Zinc, Lead

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.

- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

For certain methods (600 series methods/CWA), a Matrix Spike is required in place of a Matrix Spike/Matrix Spike Duplicate (MS/MSD) or Matrix Spike/Sample Duplicate (MS/DU).

The acceptance criteria do not apply to samples that are diluted.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprepared and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide and PCB methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria. The second surrogate must have a recovery of 10% or greater.

TestAmerica Certifications and Approvals:

The laboratory is certified for the analytes listed on the documents below. These are available upon request.
California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),
Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Nevada (#OH-000482008A), OhioVAP (#CL0024), Pennsylvania (#008), West Virginia (#210), Wisconsin (#999518190),NAVY, ARMY, USDA Soil Permit

ANALYTICAL METHODS SUMMARY

0F11578

PARAMETER	ANALYTICAL METHOD
ICP-MS (6020)	SW846 6020
Mercury in Liquid Waste (Manual Cold-Vapor)	SW846 7470A
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Volatile Organics by GC/MS	SW846 8260B

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

0F11578 : A0F110578

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
L2TEX	001	TB-061010	06/10/10	07:30
L2TE8	002	MRC-MW93D-061010	06/10/10	10:23
L2TFL	003	MRC-MW94D-061010	06/10/10	15:03

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

(Continued on next page)

SAMPLE SUMMARY

0F11578 : A0F120439

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
L2T53	001	MRC-96D-061110	06/11/10	12:45
L2T6X	002	MRC-95D-061110	06/11/10	09:28
L2T61	003	TB-061110	06/11/10	07:00

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

HOLDTIME

SDG 0F11578

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
	UG/L	MRC-96D-061110	A0F120439001	NM	06/11/2010	06/14/2010	06/16/2010	3	2	5
	UG/L	MRC-MW93D-061010	A0F110578002	NM	06/10/2010	06/14/2010	06/16/2010	4	2	6
	UG/L	MRC-MW94D-061010	A0F110578003	NM	06/10/2010	06/14/2010	06/16/2010	4	2	6
	UG/L	MRC-95D-061110	A0F120439002	NM	06/11/2010	06/14/2010	06/16/2010	3	2	5
HG	UG/L	MRC-MW94D-061010	A0F110578003	NM	06/10/2010	06/14/2010	06/16/2010	4	2	6
HG	UG/L	MRC-95D-061110	A0F120439002	NM	06/11/2010	06/14/2010	06/16/2010	3	2	5
HG	UG/L	MRC-96D-061110	A0F120439001	NM	06/11/2010	06/14/2010	06/16/2010	3	2	5
HG	UG/L	MRC-MW93D-061010	A0F110578002	NM	06/10/2010	06/14/2010	06/16/2010	4	2	6
OS	UG/L	MRC-96D-061110	A0F120439001	NM	06/11/2010	06/14/2010	06/16/2010	3	2	5
OS	UG/L	MRC-MW93D-061010	A0F110578002	NM	06/10/2010	06/14/2010	06/16/2010	4	2	6
OS	UG/L	MRC-MW94D-061010	A0F110578003	NM	06/10/2010	06/14/2010	06/16/2010	4	2	6
OS	UG/L	MRC-95D-061110	A0F120439002	NM	06/11/2010	06/14/2010	06/16/2010	3	2	5
OV	UG/L	TB-061110	A0F120439003	TB	06/11/2010	06/21/2010	06/21/2010	10	0	10
OV	UG/L	MRC-95D-061110	A0F120439002	NM	06/11/2010	06/21/2010	06/21/2010	10	0	10
OV	UG/L	MRC-96D-061110	A0F120439001	NM	06/11/2010	06/21/2010	06/21/2010	10	0	10

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/L	MRC-MW93D-061010	A0F110578002	NM	06/10/2010	06/21/2010	06/21/2010	11	0	11
OV	UG/L	MRC-MW94D-061010	A0F110578003	NM	06/10/2010	06/21/2010	06/21/2010	11	0	11
OV	UG/L	TB-061010	A0F110578001	TB	06/10/2010	06/21/2010	06/21/2010	11	0	11

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NORTH CANTON Contract:

Lab Code: TACAN Case No.: SAS No.: SDG No.: 0F11578

Lab File ID: BFB395 BFB Injection Date: 06/18/10

Instrument ID: A3UX11 BFB Injection Time: 0053

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.2
75	30.0 - 60.0% of mass 95	48.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.4 (0.5)1
174	50.0 - 100.0% of mass 95	78.7
175	5.0 - 9.0% of mass 174	5.1 (6.5)1
176	Greater than 95.0%, but less than 101.0% of mass 174	78.2 (99.3)1
177	5.0 - 9.0% of mass 176	4.7 (6.0)2

1-Value is % of mass 174 2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD040	200NG-A9IC	UXJ0105	06/18/10	0116
02	VSTD020	100NG-A9IC	UXJ0106	06/18/10	0138
03	VSTD010	50NG-A9IC	UXJ0107	06/18/10	0201
04	VSTD005	25NG-A9IC	UXJ0108	06/18/10	0223
05	VSTD002	10NG-A9IC	UXJ0109	06/18/10	0246
06	VSTD001	5NG-A9IC	UXJ0110	06/18/10	0308
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Report Date : 18-Jun-2010 09:11

TestAmerica North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 17-JUN-2010 12:26
End Cal Date : 18-JUN-2010 03:08
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSV\a3ux11.i\J00618A-IC.b\8260LLUX11.m
Last Edit : 18-Jun-2010 09:06 quayler
Curve Type : Average

Calibration File Names:
Level 1: \\cansvr11\dd\chem\MSV\a3ux11.i\J00618A-IC.b\UXJ0110.D
Level 2: \\cansvr11\dd\chem\MSV\a3ux11.i\J00618A-IC.b\UXJ0109.D
Level 3: \\cansvr11\dd\chem\MSV\a3ux11.i\J00618A-IC.b\UXJ0108.D
Level 4: \\cansvr11\dd\chem\MSV\a3ux11.i\J00618A-IC.b\UXJ0107.D
Level 5: \\cansvr11\dd\chem\MSV\a3ux11.i\J00618A-IC.b\UXJ0106.D
Level 6: \\cansvr11\dd\chem\MSV\a3ux11.i\J00618A-IC.b\UXJ0105.D

	Compound	5.000 Level 1	10.000 Level 2	25.000 Level 3	50.000 Level 4	100.000 Level 5	200.000 Level 6	___ RRF	% RSD
8	Dichlorodifluoromethane	0.39914	0.40091	0.38562	0.40120	0.37261	0.33445	0.38232	6.803
9	Chloromethane	0.45806	0.45043	0.44369	0.44468	0.46366	0.49073	0.45854	3.829
10	Vinyl Chloride	0.44762	0.45628	0.43410	0.44134	0.44086	0.45734	0.44626	2.068
11	Bromomethane	0.14595	0.17196	0.14872	0.16050	0.18523	0.19319	0.16759	11.508
12	Chloroethane	0.23201	0.22876	0.19028	0.18812	0.19920	0.20235	0.20679	9.220
13	Trichlorofluoromethane	0.43146	0.44779	0.42994	0.42692	0.41012	0.39780	0.42400	4.145
14	Dichlorofluoromethane	0.44662	0.47557	0.45721	0.46431	0.49907	0.45292	0.46595	4.085
15	Acrolein	0.04909	0.05190	0.05170	0.05385	0.05223	0.05193	0.05178	2.962
16	Acetone	0.14708	0.12253	0.10465	0.09851	0.09433	0.08888	0.10933	19.963
17	1,1-Dichloroethene	0.29151	0.27742	0.28258	0.28186	0.27976	0.28460	0.28296	1.717
18	Freon-113	0.17141	0.17080	0.17478	0.18339	0.16106	0.15229	0.16896	6.440
19	Iodomethane	0.50854	0.50153	0.48382	0.47168	0.47928	0.49171	0.48943	2.840
20	Carbon Disulfide	0.60310	0.68008	0.72088	0.79079	0.80654	0.87730	0.74645	13.168
21	Methylene Chloride	0.45308	0.39586	0.35533	0.34321	0.33786	0.35026	0.37260	11.934
22	Acetonitrile	0.04144	0.03931	0.03667	0.03782	0.03592	0.03347	0.03744	7.396
23	Acrylonitrile	0.13652	0.13634	0.13762	0.14180	0.13872	0.13594	0.13782	1.593
24	Methyl tert-butyl ether	0.83926	0.84042	0.87870	0.89218	0.91501	0.94464	0.88503	4.694
25	trans-1,2-Dichloroethene	0.34668	0.34914	0.34703	0.34891	0.35290	0.36543	0.35168	2.016
26	Hexane	0.10285	0.09379	0.09247	0.09880	0.09077	0.08609	0.09413	6.313
27	Vinyl acetate	0.52296	0.55096	0.57729	0.63235	0.62651	0.67293	0.59717	9.436
28	1,1-Dichloroethane	0.59568	0.57713	0.58693	0.58237	0.59029	0.62951	0.59365	3.148
29	tert-Butyl Alcohol	0.02175	0.02111	0.02134	0.02169	0.02202	0.02075	0.02144	2.178
30	2-Butanone	0.19067	0.17226	0.16792	0.17070	0.16303	0.15846	0.17051	6.518
M 31	1,2-Dichloroethene (total)	0.36610	0.36288	0.36022	0.36626	0.36741	0.38644	0.36822	2.528
32	cis-1,2-dichloroethene	0.38553	0.37663	0.37340	0.38361	0.38192	0.40744	0.38476	3.118
33	2,2-Dichloropropane	0.29244	0.30014	0.30369	0.32156	0.32805	0.33224	0.31302	5.239
34	Bromochloromethane	0.19011	0.18843	0.18127	0.18592	0.18547	0.19356	0.18746	2.262
35	Chloroform	0.58093	0.56460	0.56485	0.56731	0.56511	0.60840	0.57520	3.030

Report Date : 18-Jun-2010 09:11

TestAmerica North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 17-JUN-2010 12:26
End Cal Date : 18-JUN-2010 03:08
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSV\a3ux11.i\J00618A-IC.b\8260LLUX11.m
Last Edit : 18-Jun-2010 09:06 quayler
Curve Type : Average

	Compound	5.000 Level 1	10.000 Level 2	25.000 Level 3	50.000 Level 4	100.000 Level 5	200.000 Level 6	RRF	% RSD	
	36 Tetrahydrofuran	0.10538	0.09897	0.09976	0.10000	0.10016	0.09809	0.10039	2.551	
	37 1,1,1-Trichloroethane	0.39626	0.41557	0.41361	0.43185	0.43335	0.44598	0.42277	4.194	
	38 1,1-Dichloropropene	0.48332	0.47089	0.47691	0.49024	0.48391	0.50192	0.48453	2.224	
	39 Carbon Tetrachloride	0.34338	0.33834	0.34479	0.37041	0.36822	0.38259	0.35796	5.056	
	40 1,2-Dichloroethane	0.44923	0.42094	0.41601	0.42340	0.42604	0.44852	0.43069	3.359	
	41 Benzene	1.50992	1.50757	1.50353	1.50978	1.51293	1.61607	1.52663	2.877	
	42 Trichloroethene	0.40030	0.38097	0.38135	0.38230	0.38483	0.40653	0.38938	2.859	
	43 1,2-Dichloropropane	0.37057	0.36354	0.35846	0.36369	0.36524	0.38948	0.36850	2.981	
	44 1,4-Dioxane	0.00211	0.00229	0.00244	0.00244	0.00245	0.00226	0.00233	5.882	<-
	45 Dibromomethane	0.20212	0.20331	0.20161	0.20088	0.20539	0.21501	0.20472	2.579	
	46 Bromodichloromethane	0.31192	0.33582	0.35422	0.37283	0.39284	0.43089	0.36642	11.547	
	47 2-Chloroethyl vinyl ether	0.19895	0.21670	0.23179	0.24858	0.24695	0.25679	0.23329	9.449	
	48 cis-1,3-Dichloropropene	0.39947	0.43641	0.45647	0.50155	0.52741	0.58461	0.48432	13.845	
	49 4-Methyl-2-pentanone	0.27935	0.28880	0.29995	0.32013	0.31700	0.31842	0.30394	5.683	
	50 Toluene	2.22994	2.16476	2.17077	2.21603	2.22512	2.38000	2.23110	3.499	
	51 trans-1,3-Dichloropropene	0.43605	0.47740	0.53296	0.58779	0.61929	0.69315	0.55777	16.991	
	52 Ethyl Methacrylate	0.50137	0.53171	0.58067	0.63469	0.66066	0.69704	0.60102	12.684	
	53 1,1,2-Trichloroethane	0.43938	0.42455	0.42916	0.43366	0.43308	0.45257	0.43540	2.240	
	54 1,3-Dichloropropane	0.79043	0.76924	0.76384	0.78055	0.78415	0.82456	0.78546	2.736	
	55 Tetrachloroethene	0.45113	0.43713	0.42432	0.43253	0.42301	0.44355	0.43528	2.519	
	56 2-Hexanone	0.24246	0.25954	0.27467	0.29442	0.29093	0.28848	0.27508	7.469	
	57 Dibromochloromethane	0.27769	0.29238	0.32133	0.35812	0.37773	0.42096	0.34137	15.935	
	58 1,2-Dibromoethane	0.43544	0.41962	0.42590	0.43663	0.43571	0.45541	0.43478	2.796	
	59 Chlorobenzene	1.46573	1.35245	1.36485	1.36616	1.38409	1.48793	1.40354	4.139	
	60 1,1,1,2-Tetrachloroethane	0.39330	0.41088	0.40170	0.42896	0.43584	0.47986	0.42509	7.356	
	61 Ethylbenzene	0.71726	0.70990	0.72846	0.75462	0.77094	0.81744	0.74977	5.386	
	62 m + p-Xylene	0.90191	0.90496	0.92689	0.94760	0.95750	1.03752	0.94607	5.286	
M	63 Xylenes (total)	0.87872	0.87933	0.90804	0.93546	0.94227	1.02249	0.92772	5.781	
	64 Xylene-o	0.83233	0.82806	0.87034	0.91116	0.91180	0.99242	0.89102	6.911	
	65 Styrene	1.30394	1.36536	1.45205	1.54381	1.58410	1.76019	1.50157	10.965	
	66 Bromoform	0.11117	0.13383	0.15467	0.18145	0.19544	0.22649	0.16717	25.275	
	67 Isopropylbenzene	2.11011	2.08781	2.16010	2.29511	2.31906	2.52811	2.25005	7.386	
	68 1,1,2,2-Tetrachloroethane	0.98829	0.98728	1.00925	1.04362	1.03506	1.03565	1.01653	2.469	
	69 1,4-Dichloro-2-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
	70 1,2,3-Trichloropropane	0.32787	0.27956	0.29238	0.29886	0.29890	0.29435	0.29865	5.350	
	71 Bromobenzene	1.06590	1.04438	1.06416	1.08239	1.08317	1.14729	1.08122	3.271	

Report Date : 18-Jun-2010 09:11

TestAmerica North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 17-JUN-2010 12:26
End Cal Date : 18-JUN-2010 03:08
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSV\a3ux11.i\J00618A-IC.b\8260LLUX11.m
Last Edit : 18-Jun-2010 09:06 quayler
Curve Type : Average

Compound	5.000 Level 1	10.000 Level 2	25.000 Level 3	50.000 Level 4	100.000 Level 5	200.000 Level 6	RRF	% RSD	
72 n-Propylbenzene	1.09555	1.03696	1.12098	1.16617	1.16340	1.21748	1.13342	5.570	
73 2-Chlorotoluene	1.01792	0.97488	0.98384	1.01021	1.00656	1.05253	1.00766	2.724	
74 1,3,5-Trimethylbenzene	3.15293	3.07692	3.26421	3.46207	3.46504	3.68266	3.35064	6.769	
75 4-Chlorotoluene	1.10209	1.03973	1.04586	1.06721	1.05780	1.11611	1.07147	2.891	
76 tert-Butylbenzene	2.81861	2.67833	2.81427	3.00264	3.01058	3.17258	2.91617	6.108	
77 1,2,4-Trimethylbenzene	3.36906	3.19762	3.40083	3.54287	3.57117	3.79265	3.47903	5.867	
78 sec-Butylbenzene	4.10738	3.81867	4.05022	4.26336	4.27076	4.45441	4.16080	5.276	
79 4-Isopropyltoluene	3.30385	3.12333	3.33230	3.51329	3.55042	3.73804	3.42687	6.337	
80 1,3-Dichlorobenzene	2.16808	2.01125	2.00238	2.03567	2.03723	2.16017	2.06913	3.618	
81 1,4-Dichlorobenzene	2.31123	2.09613	2.06507	2.11459	2.09193	2.18986	2.14480	4.282	
82 n-Butylbenzene	2.81595	2.63448	2.75244	2.99430	3.02807	3.09115	2.88607	6.198	
83 1,2-Dichlorobenzene	2.02499	1.89658	1.91451	1.95873	1.91796	2.00819	1.95349	2.723	
84 1,2-Dibromo-3-chloropropane	0.09577	0.10401	0.11600	0.12982	0.13386	0.12813	0.11793	13.069	
85 1,2,4-Trichlorobenzene	0.70221	0.65453	0.59569	0.62063	0.59310	0.56813	0.62238	7.846	
86 Hexachlorobutadiene	0.29735	0.26395	0.24190	0.25197	0.23986	0.25189	0.25782	8.220	
87 Naphthalene	1.09602	1.14630	1.19041	1.33098	1.32872	1.29378	1.23103	8.166	
88 1,2,3-Trichlorobenzene	0.54710	0.54277	0.51843	0.52739	0.51234	0.53356	0.53026	2.558	
89 Ethyl Ether	0.30480	0.30310	0.28494	0.28826	0.32680	0.28253	0.29841	5.618	
90 Ethanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
91 3-Chloropropene	0.14754	0.13334	0.13658	0.15967	0.17623	0.16307	0.15274	10.841	
92 Isopropyl Ether	0.29535	0.28929	0.30396	0.31635	0.34834	0.30247	0.30929	6.849	
93 2-Chloro-1,3-butadiene	0.48186	0.46398	0.47333	0.50571	0.54558	0.48117	0.49194	6.039	
94 Propionitrile	0.04820	0.04604	0.04767	0.04723	0.05089	0.04666	0.04778	3.552	
95 Ethyl Acetate	0.35203	0.31064	0.31294	0.31195	0.34366	0.31989	0.32518	5.547	
96 Methacrylonitrile	0.22188	0.20153	0.20561	0.21094	0.23142	0.21496	0.21439	5.113	
97 Isobutanol	0.01281	0.01313	0.01319	0.01306	0.01471	0.01324	0.01336	5.089	
98 Cyclohexane	0.61514	0.60197	0.62785	0.68013	0.62450	0.59524	0.62414	4.837	
99 n-Butanol	0.00712	0.00793	0.00862	0.00907	0.01111	0.01078	0.00910	17.268	<-
100 Methyl Methacrylate	0.23124	0.24437	0.26072	0.28061	0.31028	0.29933	0.27109	11.470	
101 2-Nitropropane	0.05680	0.05601	0.05997	0.06388	0.07701	0.07546	0.06486	14.264	
102 Chloropicrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
103 Cyclohexanone	0.02157	0.02495	0.02853	0.02972	0.02926	0.03579	0.02830	16.990	
104 Pentachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
105 Benzyl Chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
134 Thiophene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
135 Crotononitrile(1st Isomer)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-

Report Date : 18-Jun-2010 09:11

TestAmerica North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 17-JUN-2010 12:26
End Cal Date : 18-JUN-2010 03:08
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSV\a3ux11.i\J00618A-IC.b\8260LLUX11.m
Last Edit : 18-Jun-2010 09:06 quayler
Curve Type : Average

	Compound	5.000 Level 1	10.000 Level 2	25.000 Level 3	50.000 Level 4	100.000 Level 5	200.000 Level 6	RRF	% RSD	
	136 Crotononitrile(2nd Isomer)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
M	137 Total Crotononitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
	138 Paraldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
	139 3,3,5-Trimethylcyclohexanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
	140 1-Chlorohexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
	141 1,3,5-Trichlorobenzene	1.18302	1.03689	1.00550	1.03555	0.97899	0.77365	1.00227	13.221	
	143 Methyl Acetate	0.28992	0.27207	0.27376	0.27599	0.27413	0.26958	0.27591	2.608	
	144 Methylcyclohexane	0.67612	0.62461	0.65157	0.70883	0.65327	0.61310	0.65458	5.308	
	145 Dimethoxymethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
	146 2-Methylnaphthalene	0.51403	0.52039	0.49150	0.64993	0.72911	+++++	0.58099	17.816	
	147 Tetrahydrothiophene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
	148 1,4-Dichlorobutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
	149 Ethyl Acrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
	150 Vinyl Acetate-86	0.05327	0.06362	0.07058	0.07428	0.07410	0.07896	0.06913	13.441	
	151 1,3-Butadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
	152 n-Heptane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
	155 t-Butyl ethyl ether	0.85963	0.82998	0.86844	0.90774	1.01467	0.90019	0.89678	7.171	
	156 t-Amyl methyl ether	0.70010	0.70293	0.75882	0.81257	0.91513	0.87203	0.79360	11.193	
	157 1,2,3-Trimethylbenzene	2.68476	2.68474	3.01171	3.39604	3.77338	3.82613	3.22946	15.913	
$	4 Dibromofluoromethane	0.31765	0.30077	0.29566	0.29804	0.30382	0.31908	0.30584	3.299	
$	5 1,2-Dichloroethane-d4	0.40438	0.37745	0.37778	0.36099	0.37593	0.39318	0.38162	3.960	
$	6 Toluene-d8	1.80569	1.73071	1.76070	1.76877	1.79330	1.92267	1.79697	3.724	
$	7 Bromofluorobenzene	0.61312	0.61109	0.60408	0.61451	0.62048	0.66855	0.62197	3.767	

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NORTH CANTON Contract:

Lab Code: TACAN Case No.: SAS No.: SDG No.: 0F11578

Lab File ID: BFB397 BFB Injection Date: 06/21/10

Instrument ID: A3UX11 BFB Injection Time: 1247

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.9
75	30.0 - 60.0% of mass 95	45.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.2
173	Less than 2.0% of mass 174	0.5 (0.5)1
174	50.0 - 100.0% of mass 95	92.8
175	5.0 - 9.0% of mass 174	6.0 (6.5)1
176	Greater than 95.0%, but less than 101.0% of mass 174	90.0 (97.0)1
177	5.0 - 9.0% of mass 176	5.6 (6.3)2

1-Value is % of mass 174 2-Value is % of mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD010	50NG-CC	UXJ0140	06/21/10	1316
02	VSTD010	50NG-A9CC	UXJ0141	06/21/10	1339
03	L28P4CHK	L28P41AC	UXJ0142	06/21/10	1401
04	L28P4CKDUP	L28P41AD	UXJ0143	06/21/10	1424
05	L28P4BLK	L28P41AA	UXJ0144	06/21/10	1447
06	TB-061010	L2TEX1AA	UXJ0148	06/21/10	1617
07	MRC-MW93D-06	L2TE81AA	UXJ0149	06/21/10	1640
08	MRC-MW94D-06	L2TFL1AM	UXJ0150	06/21/10	1703
09	MRC-MW27B-06	L2T531AA	UXJ0151	06/21/10	1726
10	MRC-95D-0611	L2T6X1AM	UXJ0152	06/21/10	1748
11	TB-061110	L2T611AA	UXJ0153	06/21/10	1811
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00621A.b\UXJ0140.D
Report Date: 22-Jun-2010 13:48

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux11.i Injection Date: 21-JUN-2010 13:16
Lab File ID: UXJ0140.D Init. Cal. Date(s): 17-JUN-2010 18-JUN-2010
Analysis Type: WATER Init. Cal. Times: 12:26 03:08
Lab Sample ID: 50NG-CC Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSV\a3ux11.i\J00621A.b\8260LLUX11.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
$ 4 Dibromofluoromethane	0.30584	0.30558	0.30558	0.010	0.08420	50.00000	Averaged	
$ 5 1,2-Dichloroethane-d4	0.38162	0.39171	0.39171	0.010	-2.64468	50.00000	Averaged	
$ 6 Toluene-d8	1.79697	1.71057	1.71057	0.010	4.80844	50.00000	Averaged	
$ 7 Bromofluorobenzene	0.62197	0.59373	0.59373	0.010	4.54106	50.00000	Averaged	
8 Dichlorodifluoromethane	0.38232	0.36173	0.36173	0.010	5.38518	50.00000	Averaged	
9 Chloromethane	0.45854	0.51756	0.51756	0.100	-12.87076	50.00000	Averaged	
10 Vinyl Chloride	0.44626	0.49277	0.49277	0.010	-10.42396	20.00000	Averaged	
11 Bromomethane	0.16759	0.19805	0.19805	0.010	-18.17226	50.00000	Averaged	
12 Chloroethane	0.20679	0.22208	0.22208	0.010	-7.39521	50.00000	Averaged	
13 Trichlorofluoromethane	0.42400	0.42114	0.42114	0.010	0.67658	50.00000	Averaged	
15 Acrolein	0.05178	0.04922	0.04922	0.010	4.95396	50.00000	Averaged	
16 Acetone	100	131	0.12530	0.010	-30.65240	0.000e+000	Wt Linear	
17 1,1-Dichloroethene	0.28296	0.31681	0.31681	0.010	-11.96335	20.00000	Averaged	
18 Freon-113	0.16896	0.17057	0.17057	0.010	-0.95520	50.00000	Averaged	
19 Iodomethane	0.48943	0.49996	0.49996	0.010	-2.15314	50.00000	Averaged	
20 Carbon Disulfide	0.74645	1.02496	1.02496	0.010	-37.31125	50.00000	Averaged	
21 Methylene Chloride	0.37260	0.39669	0.39669	0.010	-6.46550	50.00000	Averaged	
22 Acetonitrile	0.03744	0.04056	0.04056	0.010	-8.33797	50.00000	Averaged	
23 Acrylonitrile	0.13782	0.14660	0.14660	0.010	-6.36807	50.00000	Averaged	
24 Methyl tert-butyl ether	0.88503	0.97618	0.97618	0.010	-10.29848	50.00000	Averaged	
25 trans-1,2-Dichloroethene	0.35168	0.39332	0.39332	0.010	-11.84068	50.00000	Averaged	
26 Hexane	0.09413	0.08884	0.08884	0.010	5.62010	20.00000	Averaged	
27 Vinyl acetate	0.59717	0.56104	0.56104	0.010	6.05021	50.00000	Averaged	
28 1,1-Dichloroethane	0.59365	0.68493	0.68493	0.100	-15.37602	50.00000	Averaged	
29 tert-Butyl Alcohol	0.02144	0.02222	0.02222	0.010	-3.63383	50.00000	Averaged	
30 2-Butanone	0.17051	0.16966	0.16966	0.010	0.49872	50.00000	Averaged	
M 31 1,2-Dichloroethene (total)	0.36822	0.40722	0.40722	0.010	-10.59229	50.00000	Averaged	
32 cis-1,2-dichloroethene	0.38476	0.42112	0.42112	0.010	-9.45122	50.00000	Averaged	
33 2,2-Dichloropropane	0.31302	0.31592	0.31592	0.010	-0.92594	50.00000	Averaged	
34 Bromochloromethane	0.18746	0.20499	0.20499	0.010	-9.35147	50.00000	Averaged	
35 Chloroform	0.57520	0.64935	0.64935	0.010	-12.89056	20.00000	Averaged	
36 Tetrahydrofuran	0.10039	0.10498	0.10498	0.010	-4.56806	50.00000	Averaged	
37 1,1,1-Trichloroethane	0.42277	0.45685	0.45685	0.010	-8.06195	50.00000	Averaged	
38 1,1-Dichloropropene	0.48453	0.54883	0.54883	0.010	-13.26922	50.00000	Averaged	
39 Carbon Tetrachloride	0.35796	0.41768	0.41768	0.010	-16.68426	50.00000	Averaged	
40 1,2-Dichloroethane	0.43069	0.50971	0.50971	0.010	-18.34697	50.00000	Averaged	
41 Benzene	1.52663	1.70759	1.70759	0.010	-11.85295	50.00000	Averaged	
42 Trichloroethene	0.38938	0.42501	0.42501	0.010	-9.15069	50.00000	Averaged	
43 1,2-Dichloropropane	0.36850	0.41749	0.41749	0.010	-13.29662	20.00000	Averaged	
44 1,4-Dioxane	0.00233	0.00251	0.00251	0.010	-7.66676	50.00000	Averaged	<-
45 Dibromomethane	0.20472	0.23174	0.23174	0.010	-13.19878	50.00000	Averaged	
46 Bromodichloromethane	0.36642	0.46477	0.46477	0.010	-26.84262	50.00000	Averaged	
47 2-Chloroethyl vinyl ether	0.23329	0.24473	0.24473	0.010	-4.90170	50.00000	Averaged	

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00621A.b\UXJ0140.D
Report Date: 22-Jun-2010 13:48

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux11.i Injection Date: 21-JUN-2010 13:16
Lab File ID: UXJ0140.D Init. Cal. Date(s): 17-JUN-2010 18-JUN-2010
Analysis Type: WATER Init. Cal. Times: 12:26 03:08
Lab Sample ID: 50NG-CC Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSV\a3ux11.i\J00621A.b\8260LLUX11.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
48 cis-1,3-Dichloropropene	0.48432	0.60150	0.60150	0.010	-24.19541	50.00000	Averaged
49 4-Methyl-2-pentanone	0.30394	0.31518	0.31518	0.010	-3.69655	50.00000	Averaged
50 Toluene	2.23110	2.36280	2.36280	0.010	-5.90270	20.00000	Averaged
51 trans-1,3-Dichloropropene	50.00000	56.22980	0.68736	0.010	-12.45959	0.000e+000	Wt Linear
52 Ethyl Methacrylate	0.60102	0.62607	0.62607	0.010	-4.16667	50.00000	Averaged
53 1,1,2-Trichloroethane	0.43540	0.47168	0.47168	0.010	-8.33180	50.00000	Averaged
54 1,3-Dichloropropane	0.78546	0.84246	0.84246	0.010	-7.25693	50.00000	Averaged
55 Tetrachloroethene	0.43528	0.45573	0.45573	0.010	-4.69877	50.00000	Averaged
56 2-Hexanone	0.27508	0.27146	0.27146	0.010	1.31708	50.00000	Averaged
57 Dibromochloromethane	50.00000	60.86578	0.45315	0.010	-21.73157	0.000e+000	Wt Linear
58 1,2-Dibromoethane	0.43478	0.44889	0.44889	0.010	-3.24498	50.00000	Averaged
59 Chlorobenzene	1.40354	1.48642	1.48642	0.300	-5.90527	50.00000	Averaged
60 1,1,1,2-Tetrachloroethane	0.42509	0.48191	0.48191	0.010	-13.36584	50.00000	Averaged
61 Ethylbenzene	0.74977	0.80990	0.80990	0.010	-8.01940	20.00000	Averaged
62 m + p-Xylene	0.94607	1.02303	1.02303	0.010	-8.13558	50.00000	Averaged
M 63 Xylenes (total)	0.92772	1.00283	1.00283	0.010	-8.09629	50.00000	Averaged
64 Xylene-o	0.89102	0.96241	0.96241	0.010	-8.01284	50.00000	Averaged
65 Styrene	1.50157	1.64926	1.64926	0.010	-9.83569	50.00000	Averaged
66 Bromoform	50.00000	64.96146	0.26713	0.100	-29.92292	0.000e+000	Wt Linear
67 Isopropylbenzene	2.25005	2.37819	2.37819	0.010	-5.69501	50.00000	Averaged
68 1,1,2,2-Tetrachloroethane	1.01653	1.00475	1.00475	0.300	1.15827	50.00000	Averaged
70 1,2,3-Trichloropropane	0.29865	0.29101	0.29101	0.010	2.55901	50.00000	Averaged
71 Bromobenzene	1.08122	1.07756	1.07756	0.010	0.33827	50.00000	Averaged
72 n-Propylbenzene	1.13342	1.14056	1.14056	0.010	-0.63019	50.00000	Averaged
73 2-Chlorotoluene	1.00766	0.99521	0.99521	0.010	1.23543	50.00000	Averaged
74 1,3,5-Trimethylbenzene	3.35064	3.35777	3.35777	0.010	-0.21297	50.00000	Averaged
75 4-Chlorotoluene	1.07147	1.07911	1.07911	0.010	-0.71297	50.00000	Averaged
76 tert-Butylbenzene	2.91617	2.85692	2.85692	0.010	2.03174	50.00000	Averaged
77 1,2,4-Trimethylbenzene	3.47903	3.55919	3.55919	0.010	-2.30393	50.00000	Averaged
78 sec-Butylbenzene	4.16080	4.03505	4.03505	0.010	3.02216	50.00000	Averaged
79 4-Isopropyltoluene	3.42687	3.42271	3.42271	0.010	0.12136	50.00000	Averaged
80 1,3-Dichlorobenzene	2.06913	2.04918	2.04918	0.010	0.96419	50.00000	Averaged
81 1,4-Dichlorobenzene	2.14480	2.11638	2.11638	0.010	1.32527	50.00000	Averaged
82 n-Butylbenzene	2.88607	2.87444	2.87444	0.010	0.40272	50.00000	Averaged
83 1,2-Dichlorobenzene	1.95349	1.94238	1.94238	0.010	0.56896	50.00000	Averaged
84 1,2-Dibromo-3-chloropropane	0.11793	0.14834	0.14834	0.010	-25.78172	50.00000	Averaged
85 1,2,4-Trichlorobenzene	0.62238	0.74098	0.74098	0.010	-19.05509	50.00000	Averaged
86 Hexachlorobutadiene	0.25782	0.24618	0.24618	0.010	4.51327	50.00000	Averaged
87 Naphthalene	1.23103	1.38292	1.38292	0.010	-12.33843	50.00000	Averaged
88 1,2,3-Trichlorobenzene	0.53026	0.48523	0.48523	0.010	8.49216	50.00000	Averaged
98 Cyclohexane	0.62414	0.61188	0.61188	0.010	1.96378	50.00000	Averaged
143 Methyl Acetate	0.27591	0.31117	0.31117	0.010	-12.78195	50.00000	Averaged
144 Methylcyclohexane	0.65458	0.64032	0.64032	0.010	2.17918	50.00000	Averaged

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00621A.b\UXJ0140.D
Report Date: 22-Jun-2010 13:48

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux11.i Injection Date: 21-JUN-2010 13:16
Lab File ID: UXJ0140.D Init. Cal. Date(s): 17-JUN-2010 18-JUN-2010
Analysis Type: WATER Init. Cal. Times: 12:26 03:08
Lab Sample ID: 50NG-CC Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSV\a3ux11.i\J00621A.b\8260LLUX11.m

			CCAL	MIN		MAX	
COMPOUND	RRF / AMOUNT	RF50	RRF50	RRF	%D / %DRIFT	%D / %DRIFT	CURVE TYPE
141 1,3,5-Trichlorobenzene	1.00227	1.13969	1.13969	0.010	-13.71121	50.00000	Averaged
150 Vinyl Acetate-86	0.06913	0.06035	0.06035	0.010	12.70098	50.00000	Averaged

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00621A.b\UXJ0141.D
Report Date: 22-Jun-2010 13:48

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a3ux11.i Injection Date: 21-JUN-2010 13:39
Lab File ID: UXJ0141.D Init. Cal. Date(s): 17-JUN-2010 18-JUN-2010
Analysis Type: WATER Init. Cal. Times: 12:26 03:08
Lab Sample ID: 50NG-A9CC Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSV\a3ux11.i\J00621A.b\8260LLUX11.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
14 Dichlorofluoromethane	0.46595	0.49584	0.49584	0.010	-6.41524	50.00000	Averaged
89 Ethyl Ether	0.29841	0.27652	0.27652	0.010	7.33598	50.00000	Averaged
91 3-Chloropropene	0.15274	0.16593	0.16593	0.010	-8.64002	50.00000	Averaged
92 Isopropyl Ether	0.30929	0.33908	0.33908	0.010	-9.63056	50.00000	Averaged
93 2-Chloro-1,3-butadiene	0.49194	0.52916	0.52916	0.010	-7.56563	50.00000	Averaged
94 Propionitrile	0.04778	0.05048	0.05048	0.010	-5.65699	50.00000	Averaged
95 Ethyl Acetate	0.32518	0.31948	0.31948	0.010	1.75545	50.00000	Averaged
96 Methacrylonitrile	0.21439	0.21484	0.21484	0.010	-0.20967	50.00000	Averaged
97 Isobutanol	0.01336	0.01389	0.01389	0.010	-3.95097	50.00000	Averaged
99 n-Butanol	1000	1019	0.01013	0.010	-1.87209	0.000e+000	Wt Linear
103 Cyclohexanone	500	479	0.02951	0.010	4.27968	0.000e+000	Wt Linear
100 Methyl Methacrylate	0.27109	0.28280	0.28280	0.010	-4.32121	50.00000	Averaged
101 2-Nitropropane	0.06486	0.07209	0.07209	0.010	-11.15856	50.00000	Averaged
155 t-Butyl ethyl ether	0.89678	0.99038	0.99038	0.010	-10.43775	50.00000	Averaged
156 t-Amyl methyl ether	0.79360	0.90296	0.90296	0.010	-13.78081	50.00000	Averaged
157 1,2,3-Trimethylbenzene	50.00000	51.46592	3.60373	0.010	-2.93183	0.000e+000	Wt Linear
146 2-Methylnaphthalene	100	67.74426	0.43963	0.010	32.25574	0.000e+000	Linear

SW846 8260B METHOD BLANK SUMMARY

BLANK WORKORDER NO.: L28P41AA

Lab Name: TestAmerica Laboratories, Inc.

Lab Code: TALCAN SDG Number: 0F11578

Lab File ID: UXJ0144.D Lot Number: A0F120439

Date Analyzed: 06/21/10 Time Analyzed: 14:47

Matrix: WATER Date Extracted: 06/21/10

GC Column: DB 624 ID: .18 Extraction Method: 5030B

Instrument ID: UX11 Level: (low/med) LOW

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, LCS, LCSD, MS , MSD:

	CLIENT ID.	SAMPLE WORK ORDER #	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	MRC-96D-061110	L2T531AA	UXJ0151.D	06/21/10	17:26
02	MRC-95D-061110	L2T6X1AM	UXJ0152.D	06/21/10	17:48
03	TB-061110	L2T611AA	UXJ0153.D	06/21/10	18:11
04	INTRA-LAB QC	L21J91AA	UXJ0161.D	06/21/10	21:12
05	LAB MS/MSD	L21J91AC S	UXJ0163.D	06/21/10	21:57
06	LAB MS/MSD	L21J91AD D	UXJ0164.D	06/21/10	22:20
07	CHECK SAMPLE	L28P41AC C	UXJ0142.D	06/21/10	14:01
08	DUPLICATE CHECK	L28P41AD L	UXJ0143.D	06/21/10	14:24
09					
10					
11					
12					
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COMMENTS:

FORM IV

SW846 8260B METHOD BLANK SUMMARY

BLANK WORKORDER NO.: L28P41AA

Lab Name: TestAmerica Laboratories, Inc.

Lab Code: TALCAN SDG Number: 0F11578

Lab File ID: UXJ0144.D Lot Number: A0F110578

Date Analyzed: 06/21/10 Time Analyzed: 14:47

Matrix: WATER Date Extracted: 06/21/10

GC Column: DB 624 ID: .18 Extraction Method: 5030B

Instrument ID: UX11 Level: (low/med) LOW

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, LCS, LCSD, MS , MSD:

	CLIENT ID.	SAMPLE WORK ORDER #	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	TB-061010	L2TEX1AA	UXJ0148.D	06/21/10	16:17
02	MRC-MW93D-061010	L2TE81AA	UXJ0149.D	06/21/10	16:40
03	MRC-MW94D-061010	L2TFL1AM	UXJ0150.D	06/21/10	17:03
04	INTRA-LAB QC	L21J91AA	UXJ0161.D	06/21/10	21:12
05	LAB MS/MSD	L21J91AC S	UXJ0163.D	06/21/10	21:57
06	LAB MS/MSD	L21J91AD D	UXJ0164.D	06/21/10	22:20
07	CHECK SAMPLE	L28P41AC C	UXJ0142.D	06/21/10	14:01
08	DUPLICATE CHECK	L28P41AD L	UXJ0143.D	06/21/10	14:24
09					
10					
11					
12					
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15					
16					
17					
18					
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29					
30					

COMMENTS:

FORM IV

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: 0F11578 **Work Order #...:** L28P41AA **Matrix.....:** WATER
MB Lot-Sample #: A0F220000-220

Prep Date.....: 06/21/10 **Final Wgt/Vol..:** 5 mL
Analysis Date..: 06/21/10 **Prep Batch #...:** 0173220
Dilution Factor: 1 **Initial Wgt/Vol:** 5 mL

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	1.0	ug/L	SW846 8260B
Acetone	ND	5.0	ug/L	SW846 8260B
Bromobenzene	ND	1.0	ug/L	SW846 8260B
Bromochloromethane	ND	1.0	ug/L	SW846 8260B
2-Butanone	ND	5.0	ug/L	SW846 8260B
n-Butylbenzene	ND	1.0	ug/L	SW846 8260B
sec-Butylbenzene	ND	1.0	ug/L	SW846 8260B
tert-Butylbenzene	ND	1.0	ug/L	SW846 8260B
Carbon disulfide	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	SW846 8260B
2-Chloroethyl vinyl ether	ND	5.0	ug/L	SW846 8260B
2-Chlorotoluene	ND	1.0	ug/L	SW846 8260B
4-Chlorotoluene	ND	1.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
Dibromomethane	ND	1.0	ug/L	SW846 8260B
1,3-Dichloropropane	ND	1.0	ug/L	SW846 8260B
2,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Hexachlorobutadiene	**0.44 J**	**1.0**	**ug/L**	**SW846 8260B**
2-Hexanone	ND	5.0	ug/L	SW846 8260B
Isopropylbenzene	ND	1.0	ug/L	SW846 8260B
p-Isopropyltoluene	ND	1.0	ug/L	SW846 8260B
tert-Butyl alcohol	ND	20	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	5.0	ug/L	SW846 8260B
Naphthalene	**0.49 J**	**1.0**	**ug/L**	**SW846 8260B**
n-Propylbenzene	ND	1.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
1,2,3-Trichlorobenzene	**0.54 J**	**1.0**	**ug/L**	**SW846 8260B**
1,2,4-Trichloro-benzene	**0.40 J**	**1.0**	**ug/L**	**SW846 8260B**
1,2,3-Trichloropropane	ND	1.0	ug/L	SW846 8260B

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: 0F11578 **Work Order #...:** L28P41AA **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	SW846 8260B
1,2,4-Trimethylbenzene	ND	1.0	ug/L	SW846 8260B
Vinyl acetate	ND	2.0	ug/L	SW846 8260B
o-Xylene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	2.0	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/L	SW846 8260B
m-Xylene & p-Xylene	ND	2.0	ug/L	SW846 8260B
1,2,3-Trimethylbenzene	ND	5.0	ug/L	SW846 8260B
Diisopropyl Ether (DIPE)	ND	5.0	ug/L	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	ND	5.0	ug/L	SW846 8260B
Tert-amyl methyl ether (T	ND	5.0	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Methylene chloride	**0.45 J**	**1.0**	**ug/L**	**SW846 8260B**
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	95	(73 - 122)
1,2-Dichloroethane-d4	91	(61 - 128)
Toluene-d8	90	(76 - 110)
4-Bromofluorobenzene	88	(74 - 116)

NOTE(S):

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

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Method Blank Report

GC/MS Volatiles

Lot-Sample #: A0F220000-220 B **Work Order #:** L28P41AA **Matrix:** WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Freon 22		ND	M		ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

SW846 8260B SURROGATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0F11578

Lot #: A0F120439

Extraction: XXI25QK01

	CLIENT ID.	SRG01	SRG02	SRG03	SRG04	TOT OUT
01	MRC-96D-061110	98	98	91	86	00
02	MRC-95D-061110	100	96	90	86	00
03	TB-061110	99	99	90	86	00
04	INTRA-LAB QC	99	97	90	85	00
05	METHOD BLK. L28P41AA	95	91	90	88	00
06	LCS L28P41AC	96	97	93	99	00
07	LAB MS/MSD D	96	95	96	99	00
08	LCSD L28P41AD	92	95	93	99	00
09	LAB MS/MSD S	96	97	95	97	00

SURROGATES		QC LIMITS
SRG01	= Dibromofluoromethane	(73-122)
SRG02	= 1,2-Dichloroethane-d4	(61-128)
SRG03	= Toluene-d8	(76-110)
SRG04	= 4-Bromofluorobenzene	(74-116)

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

SW846 8260B SURROGATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0F11578

Lot #: A0F110578

Extraction: XXI25QK01

	CLIENT ID.	SRG01	SRG02	SRG03	SRG04	TOT OUT
01	TB-061010	98	97	91	86	00
02	MRC-MW93D-061010	98	98	90	90	00
03	MRC-MW94D-061010	99	94	89	85	00
04	INTRA-LAB QC	99	97	90	85	00
05	METHOD BLK. L28P41AA	95	91	90	88	00
06	LCS L28P41AC	96	97	93	99	00
07	LAB MS/MSD D	96	95	96	99	00
08	LCSD L28P41AD	92	95	93	99	00
09	LAB MS/MSD S	96	97	95	97	00

SURROGATES		QC LIMITS
SRG01	= Dibromofluoromethane	(73-122)
SRG02	= 1,2-Dichloroethane-d4	(61-128)
SRG03	= Toluene-d8	(76-110)
SRG04	= 4-Bromofluorobenzene	(74-116)

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

SW846 8260B CHECK SAMPLE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0F11578

Lot #: A0F220000 WO #: L28P41AC
BATCH: 0173220

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENT. (ug/L)	% REC	QC LIMITS REC	QUAL
1,1-Dichloroethene	10	10	101	63 - 130	
Trichloroethene	10	10	102	75 - 122	
Benzene	10	11	106	80 - 116	
Toluene	10	10	100	74 - 119	
Chlorobenzene	10	10	100	76 - 117	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

SW846 8260B CHECK SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0F11578

Lot #: A0F220000 WO #: L28P41AD
BATCH: 0173220

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENT. (ug/L)	% REC	QC LIMITS REC	QUAL
1,1-Dichloroethene	10	11	110	63 - 130	
Trichloroethene	10	10	101	75 - 122	
Benzene	10	10	105	80 - 116	
Toluene	10	10	100	74 - 119	
Chlorobenzene	10	9.9	99	76 - 117	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

SW846 8260B MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0F11578

Matrix Spike ID: LAB MS/MSD

Lot #: A0F160530 WO #: L21J91AC
BATCH: 0173220

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENT. (ug/L)	MS CONCENT. (ug/L)	MS % REC	LIMITS REC	QUAL
1,1-Dichloroethene	10	ND	11	108	62 - 130	
Trichloroethene	10	ND	9.5	95	62 - 130	
Benzene	10	2.2	12	102	78 - 118	
Toluene	10	ND	9.7	97	70 - 119	
Chlorobenzene	10	ND	9.4	94	76 - 117	

NOTES(S):

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

SW846 8260B MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0F11578

Matrix Spike ID: LAB MS/MSD

Lot #: A0F160530 WO #: L21J91AD
BATCH: 0173220

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENT. (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	QUAL
1,1-Dichloroethene	10	10	104	3.7	20	62 - 130	
Trichloroethene	10	9.4	94	1.3	20	62 - 130	
Benzene	10	12	99	2.5	20	78 - 118	
Toluene	10	9.6	96	1.5	20	70 - 119	
Chlorobenzene	10	9.2	92	2.4	20	76 - 117	

NOTES(S):

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: NORTH CANTON Contract:

Lab Code: TACAN Case No.: SAS No.: SDG No.: 0F11578

Lab File ID (Standard): UXJ0140 Date Analyzed: 06/21/10

Instrument ID: A3UX11 Time Analyzed: 1316

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

		IS1 AREA #	RT	IS2 (CBZ) AREA #	RT	IS3 (DCB) AREA #	RT
	12 HOUR STD	1264540	5.35	983963	8.04	578276	10.28
	UPPER LIMIT	2529080	5.85	1967926	8.54	1156552	10.78
	LOWER LIMIT	632270	4.85	491982	7.54	289138	9.78
	EPA SAMPLE NO.						
01	L28P4CHK	1204917	5.35	925542	8.04	531509	10.29
02	L28P4CKDUP	1228287	5.35	930691	8.04	534287	10.28
03	L28P4BLK	1160980	5.35	884944	8.04	446915	10.29
04	TB-061010	1053526	5.35	813213	8.04	408311	10.29
05	MRC-MW93D-06	1061468	5.35	820745	8.04	428964	10.29
06	MRC-MW94D-06	1063414	5.35	808673	8.04	402347	10.29
07	MRC-MW27B-06	1035868	5.35	787481	8.04	397939	10.29
08	MRC-95D-0611	1054217	5.35	804950	8.04	414929	10.28
09	TB-061110	1011242	5.35	785152	8.04	396033	10.29
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 = Fluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk.

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: NORTH CANTON Contract:

Lab Code: TACAN Case No.: SAS No.: SDG No.: 0F11578

Lab File ID: 2DF0614 DFTPP Injection Date: 06/14/10

Instrument ID: A4AG2 DFTPP Injection Time: 0827

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	48.2
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	56.0
70	Less than 2.0% of mass 69	0.2 (0.3)1
127	25.0 - 75.0% of mass 198	60.9
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.0
275	10.0 - 30.0% of mass 198	29.4
365	Greater than 0.75% of mass 198	5.06
441	Present, but less than mass 443	14.8
442	40.0 - 110.0% of mass 198	96.9
443	15.0 - 24.0% of mass 442	18.6 (19.2)2

1-Value is % mass 69 2-Value is % mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD009	L9	2SHHH0614	06/14/10	0844
02	SSTD008	L8	2SHH0614	06/14/10	0901
03	SSTD007	L7	2SH0614	06/14/10	0918
04	SSTD006	L6	2SMH0614	06/14/10	0935
05	SSTD005	L5	2SMM0614	06/14/10	0952
06	SSTD004	L4	2SM0614	06/14/10	1009
07	SSTD003	L3	2SML0614	06/14/10	1026
08	SSTD002	L2	2SL0614	06/14/10	1042
09	SSTD001	L1	2SLL0614	06/14/10	1059
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

TestAmerica North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 14-JUN-2010 08:44
End Cal Date : 14-JUN-2010 13:31
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSS\a4ag2.i\00614A.b\8270C-625.m
Last Edit : 14-Jun-2010 14:01 a4ag2.i
Curve Type : Average

Calibration File Names:
Level 1: \\cansvr11\dd\chem\MSS\a4ag2.i\00614A.b\2SLL0614.D
Level 2: \\cansvr11\dd\chem\MSS\a4ag2.i\00614A.b\2AL0614.D
Level 3: \\cansvr11\dd\chem\MSS\a4ag2.i\00614A.b\2AML0614.D
Level 4: \\cansvr11\dd\chem\MSS\a4ag2.i\00614A.b\2AM0614.D
Level 5: \\cansvr11\dd\chem\MSS\a4ag2.i\00614A.b\2AMM0614.D
Level 6: \\cansvr11\dd\chem\MSS\a4ag2.i\00614A.b\2AMH0614.D
Level 7: \\cansvr11\dd\chem\MSS\a4ag2.i\00614A.b\2AH0614.D
Level 8: \\cansvr11\dd\chem\MSS\a4ag2.i\00614A.b\2AHH0614.D
Level 9: \\cansvr11\dd\chem\MSS\a4ag2.i\00614A.b\2AHHH0614.D

Compound	0.05000 Level 1	0.25000 Level 2	0.50000 Level 3	1.000 Level 4	2.500 Level 5	5.000 Level 6	___ RRF	% RSD	
	7.500 Level 7	10.000 Level 8	12.500 Level 9						
198 1,4-Dioxane	+++++	0.73215	0.61042	0.65104	0.62697	0.64050			
	0.63607	0.84302	0.66309				0.67541	11.386	<-
7 N-Nitrosomorpholine	+++++	0.70215	0.75387	0.71186	0.75380	0.79389			
	0.84112	0.91223	0.89205				0.79512	9.995	<-
8 Ethyl methanesulfonate	+++++	1.05768	0.99903	0.92691	0.92556	1.00062			
	1.04028	1.09484	1.06261				1.01344	6.163	<-
9 Pyridine	+++++	1.26877	1.41410	1.53658	1.47312	1.55221			
	1.60104	1.78841	1.65838				1.53658	10.243	<-
10 N-Nitrosodimethylamine	+++++	0.76624	0.78466	0.84298	0.80641	0.83523			
	0.84522	0.94624	0.86239				0.83617	6.607	<-
11 Ethyl methacrylate	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
12 3-Chloropropionitrile	+++++	0.65368	0.64991	0.69961	0.66547	0.69719			
	0.65846	0.75123	0.68226				0.68222	4.953	<-
13 Malononitrile	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-

TestAmerica North Canton

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Last Edit : 14-Jun-2010 14:01 a4ag2.i
Curve Type : Average

Compound	0.05000 Level 1	0.25000 Level 2	0.50000 Level 3	1.000 Level 4	2.500 Level 5	5.000 Level 6	RRF	% RSD	
	7.500 Level 7	10.000 Level 8	12.500 Level 9						
14 2-Picoline	+++++	1.35356	1.39365	1.36256	1.34816	1.41354			
	1.46620	1.55874	1.57761				1.43425	6.358	<-
15 N-Nitrosomethylethylamine	+++++	0.70476	0.64464	0.63520	0.61815	0.65243			
	0.66985	0.71178	0.68678				0.66545	5.055	<-
16 Methyl methanesulfonate	+++++	0.88850	0.85008	0.81949	0.79313	0.83185			
	0.86334	0.92136	0.90294				0.85884	5.099	<-
18 1,3-Dichloro-2-propanol	+++++	1.29854	1.38172	1.26907	1.27757	1.40799			
	1.44928	1.56617	1.52040				1.39634	7.996	<-
19 N-Nitrosodiethylamine	+++++	0.62238	0.63449	0.60000	0.62032	0.64625			
	0.66776	0.71346	0.70563				0.65129	6.310	<-
21 Aniline	+++++	1.84844	1.99772	2.13653	2.01744	2.21410			
	2.27643	2.75011	2.54063				2.22268	13.416	<-
22 Phenol	+++++	1.53957	1.60849	1.70478	1.68276	1.73240			
	1.77412	2.00118	1.85744				1.73759	8.288	<-
23 bis(2-Chloroethyl)ether	+++++	1.42145	1.35969	1.45362	1.41554	1.37685			
	1.36677	1.43887	1.33575				1.39607	3.009	
24 2-Chlorophenol	+++++	1.29314	1.28869	1.38776	1.33245	1.40784			
	1.43126	1.67573	1.54128				1.41977	9.315	<-
25 Pentachloroethane	+++++	0.45051	0.44476	0.41293	0.42622	0.45341			
	0.46943	0.50186	0.49819				0.45716	6.896	<-
26 1,3-Dichlorobenzene	+++++	1.46573	1.39767	1.52343	1.43960	1.49855			
	1.46089	1.66731	1.53593				1.49864	5.447	<-

TestAmerica North Canton

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Curve Type : Average

Compound	0.05000 Level 1	0.25000 Level 2	0.50000 Level 3	1.000 Level 4	2.500 Level 5	5.000 Level 6	___ RRF	% RSD	
	7.500 Level 7	10.000 Level 8	12.500 Level 9						
27 1,4-Dichlorobenzene	+++++	1.32669	1.31145	1.37912	1.31403	1.37329			
	1.33192	1.50502	1.40617				1.36846	4.744	<-
28 1,2-Dichlorobenzene	+++++	1.36964	1.38342	1.47832	1.37676	1.44370			
	1.41934	1.62058	1.51295				1.45059	5.890	<-
29 Benzyl Alcohol	+++++	0.79702	0.78326	0.90345	0.85350	0.89088			
	0.91845	1.03593	0.96220				0.89309	9.348	<-
30 2-Methylphenol	+++++	1.11466	1.15476	1.31317	1.21204	1.29379			
	1.31193	1.48275	1.41270				1.28697	9.664	<-
31 bis(2-Chloroisopropyl)ether	+++++	1.34223	1.24800	1.34416	1.27033	1.31026			
	1.25067	1.39778	1.30662				1.30876	3.965	<-
32 N-Nitroso-di-n-propylamine	+++++	1.02753	1.01966	1.10796	1.09736	1.11558			
	1.13689	1.27573	1.19647				1.12215	7.505	<-
M 195 Cresols, total	+++++	2.28157	2.40251	2.63363	2.51827	2.63835			
	2.67711	3.02857	2.85726				2.62966	9.073	<-
192 4-Methylphenol	+++++	1.16691	1.24775	1.32046	1.30624	1.34456			
	1.36519	1.54582	1.44456				1.34269	8.625	<-
193 3-Methylphenol	+++++	0.84012	0.98300	1.02454	1.12050	1.21120			
	1.29982	1.43974	1.43052				1.16868	18.482	<-
34 Hexachloroethane	+++++	0.58472	0.55665	0.57373	0.55705	0.59113			
	0.57271	0.64316	0.58938				0.58357	4.709	<-
35 Nitrobenzene	0.44976	0.41722	0.40972	0.42640	0.40494	0.43229			
	0.41123	0.45756	0.43614				0.42725	4.295	

TestAmerica North Canton

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Curve Type : Average

Compound	0.05000 Level 1	0.25000 Level 2	0.50000 Level 3	1.000 Level 4	2.500 Level 5	5.000 Level 6	RRF	% RSD	
	7.500 Level 7	10.000 Level 8	12.500 Level 9						
36 N-Nitrosopyrrolidine	+++++	0.55732	0.57860	0.59574	0.62676	0.66926			
	0.71093	0.77090	0.75398				0.65794	12.345	<-
37 Acetophenone	+++++	1.88679	1.89139	1.98851	1.89275	1.97269			
	2.00630	2.26413	2.13061				2.00415	6.633	<-
39 o-Toluidine	+++++	1.83346	1.89481	1.91042	1.85305	1.87616			
	1.74624	1.60393	1.44389				1.77024	9.355	<-
40 N-Nitrosopiperidine	+++++	0.14282	0.14900	0.14872	0.14746	0.15405			
	0.15623	0.17221	0.17148				0.15525	7.100	<-
41 Isophorone	+++++	0.63232	0.69478	0.72553	0.70090	0.73552			
	0.75034	0.81377	0.76333				0.72706	7.380	<-
42 2-Nitrophenol	+++++	0.14745	0.16538	0.18428	0.18574	0.19772			
	0.20702	0.22762	0.21994				0.19189	14.066	<-
43 2,4-Dimethylphenol	+++++	0.33902	0.36419	0.37961	0.37791	0.40029			
	0.41993	0.47458	0.43782				0.39917	10.915	<-
44 bis(2-Chloroethoxy)methane	+++++	0.37500	0.39624	0.40352	0.39541	0.41658			
	0.40067	0.43793	0.41450				0.40498	4.570	<-
45 O,O,O-Triethyl phosphorothioa	+++++	0.13141	0.14931	0.14016	0.13873	0.14582			
	0.14901	0.16415	0.16131				0.14749	7.540	<-
46 2,4-Toluenediamene	+++++	+++++	0.19677	0.18136	0.13070	0.14676			
	0.15494	0.11172	0.09161				0.14484	25.629	<-
47 1,3,5-Trichlorobenzene	+++++	0.28484	0.29024	0.29208	0.28856	0.30170			
	0.30022	0.34604	0.32821				0.30399	7.153	<-

TestAmerica North Canton

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	7.500 Level 7	10.000 Level 8	12.500 Level 9						
48 2,4-Dichlorophenol	+++++	0.22213	0.23243	0.24080	0.24229	0.26270			
	0.26929	0.29235	0.27948				0.25518	9.611	<-
49 Benzoic Acid	+++++	+++++	0.11277	0.17015	0.20051	0.25495			
	0.24469	0.28925	0.29015				0.22321	29.400	<-
50 1,2,4-Trichlorobenzene	+++++	0.28601	0.28318	0.30276	0.28595	0.29007			
	0.28723	0.31880	0.30440				0.29480	4.256	<-
51 Naphthalene	1.00573	0.99503	1.02069	1.01056	0.97714	1.04017			
	1.07829	1.21595	1.06468				1.04536	6.862	
52 4-Chloroaniline	+++++	0.40668	0.38470	0.43366	0.38772	0.42939			
	0.43156	0.49521	0.47162				0.43007	8.956	<-
53 a,a-Dimethyl-phenethylamine	+++++	0.38303	0.36306	0.54169	0.62037	0.69352			
	0.71115	0.77204	+++++				0.58355	27.617	<-
54 2,6-Dichlorophenol	+++++	0.19236	0.20000	0.20210	0.21467	0.23038			
	0.24059	0.26730	0.26269				0.22626	12.712	<-
55 Hexachloropropene	+++++	+++++	+++++	0.16639	0.16886	0.17922			
	0.18193	0.20198	0.20023				0.18310	8.277	<-
56 Hexachlorobutadiene	+++++	0.15365	0.15257	0.15751	0.15409	0.15739			
	0.15648	0.17346	0.16286				0.15850	4.313	<-
57 1,2,3-Trichlorobenzene	+++++	0.27459	0.26749	0.26700	0.25705	0.27052			
	0.26674	0.30099	0.28239				0.27335	4.868	<-
58 N-Nitrosodi-n-butylamine	+++++	0.21780	0.23525	0.22683	0.22982	0.24176			
	0.24775	0.27072	0.26843				0.24230	7.901	<-

TestAmerica North Canton

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Curve Type : Average

Compound	0.05000 Level 1	0.25000 Level 2	0.50000 Level 3	1.000 Level 4	2.500 Level 5	5.000 Level 6	RRF	% RSD	
	7.500 Level 7	10.000 Level 8	12.500 Level 9						
59 4-Chloro-3-Methylphenol	+++++	+++++	0.30514	0.32027	0.31914	0.33700			
	0.34486	0.37544	0.35571				0.33679	7.175	<-
60 p-Phenylene diamine	+++++	+++++	+++++	0.17232	0.22758	0.21647			
	0.17752	0.15880	+++++				0.19054	15.642	<-
61 Safrole	+++++	0.24758	0.23067	0.23338	0.22806	0.24013			
	0.24331	0.26957	0.27038				0.24538	6.727	<-
62 2-Methylnaphthalene	0.65493	0.61327	0.62313	0.63116	0.61761	0.64411			
	0.66281	0.73959	0.68780				0.65271	6.197	
63 1-Methylnaphthalene	0.64161	0.62577	0.62299	0.64642	0.62084	0.64912			
	0.66639	0.73649	0.70284				0.65694	5.983	
64 Hexachlorocyclopentadiene	+++++	0.23377	0.27698	0.30805	0.32400	0.33807			
	0.34829	0.40054	0.38006				0.32622	16.530	<-
65 1,2,4,5-Tetrachlorobenzene	+++++	0.38833	0.39295	0.37012	0.38069	0.41670			
	0.42096	0.46163	0.45989				0.41141	8.477	<-
66 2,4,6-Trichlorophenol	+++++	0.22737	0.27719	0.30518	0.31362	0.31096			
	0.32473	0.37851	+++++				0.30536	15.067	<-
67 2,4,5-Trichlorophenol	+++++	0.27167	0.30725	0.30451	0.32771	0.32081			
	0.35283	0.38886	0.37115				0.33060	11.623	<-
68 1,2,3,5-Tetrachlorobenzene	+++++	0.46168	0.45472	0.46272	0.46935	0.48060			
	0.47760	0.55766	0.52274				0.48588	7.369	<-
69 1,4-Dinitrobenzene	+++++	+++++	0.12523	0.14712	0.15970	0.17394			
	0.17976	0.19911	0.19564				0.16864	15.756	<-

TestAmerica North Canton

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	7.500 Level 7	10.000 Level 8	12.500 Level 9						
70 2-Chloronaphthalene	1.23009	1.04463	1.04400	1.07032	1.04884	1.09308			
	1.06970	1.20361	1.12719				1.10350	6.324	
71 Isosafrole 1	+++++	0.14076	0.15227	0.13437	0.13551	0.15197			
	0.15500	0.17484	0.16850				0.15165	9.689	<-
M 188 Isosafrole, Total	+++++	0.95134	0.93509	0.91076	0.94701	1.02559			
	1.05972	1.19238	1.14639				1.02104	10.237	<-
72 Isosafrole 2	+++++	0.81058	0.78282	0.77639	0.81151	0.87363			
	0.90472	1.01754	0.97788				0.86938	10.464	<-
73 2-Nitroaniline	+++++	0.34390	0.37472	0.39027	0.40103	0.39915			
	0.42028	0.46758	0.42989				0.40335	9.212	<-
74 1,2,3,4-Tetrachlorobenzene	+++++	0.40104	0.41241	0.43389	0.43750	0.44835			
	0.44744	0.51257	0.47827				0.44643	7.964	<-
75 1,4-Naphthoquinone	+++++	+++++	0.30934	0.32013	0.34339	0.36531			
	0.36996	0.39004	0.36868				0.35241	8.300	<-
76 Dimethylphthalate	+++++	1.11480	1.18096	1.23271	1.21671	1.25134			
	1.28715	1.44696	1.35323				1.26048	8.179	<-
77 m-Dinitrobenzene	+++++	+++++	0.17210	0.17485	0.18000	0.19254			
	0.20116	0.21935	0.21121				0.19303	9.525	<-
78 2,6-Dinitrotoluene	+++++	0.22968	0.26233	0.28593	0.29138	0.29993			
	0.29637	0.32663	0.30840				0.28758	10.345	<-
79 Acenaphthylene	1.79726	1.52278	1.62762	1.73830	1.70337	1.76106			
	1.82840	2.10569	1.98586				1.78559	9.864	

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Last Edit : 14-Jun-2010 14:01 a4ag2.i
Curve Type : Average

Compound	0.05000 Level 1	0.25000 Level 2	0.50000 Level 3	1.000 Level 4	2.500 Level 5	5.000 Level 6	RRF	% RSD	
	7.500 Level 7	10.000 Level 8	12.500 Level 9						
80 1,2-Dinitrobenzene	+++++	0.11509	0.12088	0.13556	0.13886	0.13922			
	0.13844	0.15327	0.14449				0.13573	9.067	<-
81 3-Nitroaniline	+++++	0.25274	0.27864	0.30638	0.30643	0.32312			
	0.32980	0.36468	0.34647				0.31353	11.482	<-
82 Acenaphthene	1.18021	1.04696	1.03922	1.08220	1.07575	1.13734			
	1.17649	1.38576	1.29416				1.15756	10.159	
83 2,4-Dinitrophenol	+++++	+++++	0.09958	0.13808	0.19462	0.21672			
	0.23172	0.26871	0.27846				0.20398	32.270	<-
84 Pentachlorobenzene	+++++	0.36087	0.34290	0.32731	0.32984	0.36415			
	0.36522	0.41142	0.39540				0.36214	8.202	<-
85 4-Nitrophenol	+++++	+++++	0.14465	0.19855	0.22307	0.23741			
	0.26161	0.27379	0.26328				0.22891	19.853	<-
86 Dibenzofuran	1.63805	1.34100	1.39962	1.42988	1.40858	1.43383			
	1.49953	1.72954	1.61447				1.49939	8.755	
87 2,4-Dinitrotoluene	+++++	0.32547	0.37320	0.39667	0.40680	0.40255			
	0.40232	0.44512	0.41697				0.39614	8.821	<-
88 2,3,4,6-Tetrachlorophenol	+++++	+++++	0.16823	0.17463	0.21216	0.23155			
	0.24083	0.26308	0.26401				0.22207	17.567	<-
89 1-Naphthylamine	+++++	0.90301	0.92424	0.93057	0.86855	0.86017			
	+++++	+++++	+++++				0.89731	3.555	<-
90 Zinophos	+++++	0.28609	0.28663	0.26240	0.27447	0.29546			
	0.30226	0.33592	0.32526				0.29606	8.340	<-

TestAmerica North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 14-JUN-2010 08:44
End Cal Date : 14-JUN-2010 13:31
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSS\a4ag2.i\00614A.b\8270C-625.m
Last Edit : 14-Jun-2010 14:01 a4ag2.i
Curve Type : Average

Compound	0.05000 Level 1	0.25000 Level 2	0.50000 Level 3	1.000 Level 4	2.500 Level 5	5.000 Level 6	RRF	% RSD	
	7.500 Level 7	10.000 Level 8	12.500 Level 9						
91 2,3,5,6-Tetrachlorophenol	+++++	0.22298	0.22835	0.24888	0.26210	0.26942			
	0.27757	0.31287	0.29377				0.26449	11.673	<-
92 2-Naphthylamine	+++++	0.98874	1.02533	1.00336	0.98639	0.94378			
	0.88182	0.89021	0.85206				0.94646	6.812	<-
93 Diethylphthalate	+++++	1.18572	1.29484	1.29251	1.29238	1.31347			
	1.37064	1.55200	1.45002				1.34395	8.387	<-
94 Fluorene	1.41879	1.10073	1.15854	1.21332	1.20762	1.24716			
	1.30499	1.50109	1.44489				1.28857	10.731	
95 4-Chlorophenyl-phenylether	+++++	0.50365	0.49982	0.54025	0.54087	0.54952			
	0.55258	0.61502	0.58934				0.54888	7.095	<-
96 4-Nitroaniline	+++++	0.26588	0.30811	0.33989	0.35449	0.36035			
	0.38359	0.43640	+++++				0.34982	15.507	<-
97 5-Nitro-o-toluidine	+++++	0.24325	0.27817	0.29812	0.31448	0.32595			
	0.31857	0.34425	0.33117				0.30675	10.667	<-
98 4,6-Dinitro-2-methylphenol	+++++	+++++	0.09836	0.11487	0.13032	0.14180			
	0.15202	0.17001	+++++				0.13456	19.179	<-
99 N-Nitrosodiphenylamine	+++++	0.53337	0.54524	0.55792	0.54944	0.57565			
	0.59313	0.67748	0.62298				0.58190	8.297	<-
100 1,2-Diphenylhydrazine	+++++	0.88534	0.88048	0.96071	0.91368	0.97554			
	0.98581	1.10201	1.03188				0.96693	7.808	<-
101 Diphenylamine	+++++	0.53337	0.54524	0.55792	0.54944	0.57565			
	0.59313	0.67748	0.62298				0.58190	8.297	<-

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Last Edit : 14-Jun-2010 14:01 a4ag2.i
Curve Type : Average

Compound	0.05000 Level 1	0.25000 Level 2	0.50000 Level 3	1.000 Level 4	2.500 Level 5	5.000 Level 6	RRF	% RSD	
	7.500 Level 7	10.000 Level 8	12.500 Level 9						
102 Tetraethyl dithiopyrophosphat	+++++	0.08459	0.08617	0.08181	0.08331	0.08963			
	0.09283	0.10486	0.10564				0.09110	10.328	<-
103 Diallate 1	+++++	0.58602	0.58941	0.56359	0.58615	0.63886			
	0.65756	0.75233	+++++				0.62485	10.440	<-
M 189 Diallate, Total	+++++	2.63649	2.61554	2.55221	2.61296	2.75603			
	2.99187	3.21733	3.19579				2.82228	9.683	<-
104 Phorate	+++++	0.15310	0.15855	0.15728	0.15884	0.17288			
	0.18277	0.20993	0.20501				0.17480	12.811	<-
105 1,3,5-Trinitrobenzene	+++++	0.03965	0.05168	0.05728	0.06766	0.07456			
	0.07619	0.08675	0.08463				0.06730	24.602	<-
106 4-Bromophenyl-phenylether	+++++	0.18024	0.18937	0.19650	0.18667	0.19284			
	0.19064	0.21598	0.20410				0.19454	5.717	<-
107 Hexachlorobenzene	+++++	0.20174	0.20914	0.21395	0.20541	0.21262			
	0.20155	0.23178	0.22078				0.21212	4.843	
108 Phenacetin	+++++	0.28755	0.37255	0.36148	0.41142	0.46422			
	0.47055	0.54376	0.54256				0.43176	20.906	<-
109 Diallate 2	+++++	0.11483	0.11499	0.11214	0.10980	0.11544			
	0.11865	0.13161	0.12737				0.11810	6.405	<-
110 Dimethoate	+++++	0.25848	0.27752	0.27960	0.27632	0.29191			
	0.29346	0.31911	0.29653				0.28662	6.267	<-
111 Pentachlorophenol	+++++	0.07471	0.10151	0.11990	0.13092	0.14593			
	0.14809	0.17165	0.17959				0.13404	26.174	<-

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Compound	0.05000 Level 1	0.25000 Level 2	0.50000 Level 3	1.000 Level 4	2.500 Level 5	5.000 Level 6	RRF	% RSD	
	7.500 Level 7	10.000 Level 8	12.500 Level 9						
112 Pentachloronitrobenzene	+++++	0.08447	0.09169	0.08629	0.08873	0.09443			
	0.09604	0.11190	0.11017				0.09546	10.860	<-
113 4-Aminobiphenyl	+++++	0.66188	0.69960	0.66236	0.63436	0.64461			
	0.59399	+++++	+++++				0.64947	5.406	<-
114 Pronamide	+++++	0.27874	0.31644	0.30650	0.31496	0.34347			
	0.35651	0.41485	0.40341				0.34186	13.958	<-
115 Phenanthrene	1.39102	1.02635	1.06176	1.08334	1.05552	1.09615			
	1.14225	1.30188	1.21539				1.15263	10.835	
116 Anthracene	1.25244	0.98088	1.02192	1.07306	1.05473	1.09414			
	1.15151	1.32443	1.19088				1.12711	9.969	
117 Dinoseb	+++++	0.07924	0.09846	0.12690	0.15359	0.17441			
	0.19016	0.21956	0.22289				0.15815	33.831	<-
118 Disulfoton	+++++	0.37938	0.38340	0.36289	0.38625	0.42654			
	0.43751	0.50568	0.49657				0.42228	12.941	<-
119 Carbazole	+++++	0.97150	0.99695	1.02623	1.02361	1.05716			
	1.09944	1.24719	1.18313				1.07565	8.895	<-
120 Di-n-Butylphthalate	+++++	1.23859	1.22485	1.32552	1.37608	1.43943			
	1.47713	1.60739	1.41102				1.38750	9.126	<-
121 4-Nitroquinoline 1-oxide	+++++	0.03909	0.04956	0.05847	0.08884	0.10359			
	0.11205	0.12404	0.12152				0.08714	38.746	<-
122 Methapyrilene	+++++	0.23089	0.25464	0.27967	0.28276	0.30799			
	0.30823	0.33785	+++++				0.28600	12.556	<-

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	7.500 Level 7	10.000 Level 8	12.500 Level 9						
123 Fluoranthene	1.38583	0.96714	0.98319	1.01070	1.04184	1.08306			
	1.13972	1.28133	1.21556				1.12315	12.888	
124 Benzidine	+++++	+++++	0.49255	0.54433	0.54452	0.56608			
	0.62388	0.71473	0.63879				0.58927	12.643	<-
125 Pyrene	1.26578	1.03086	1.01053	1.06032	1.02231	1.07049			
	1.08717	1.25745	1.14251				1.10527	8.776	
126 Aramite 1	+++++	0.04433	0.04375	0.04368	0.04390	0.04976			
	0.04992	0.05528	0.05300				0.04795	9.710	<-
M 191 Aramite, Total	+++++	0.49607	0.47650	0.48716	0.49618	0.52589			
	0.56170	0.60074	0.57722				0.52768	8.832	<-
127 Aramite 2	+++++	0.08025	0.07669	0.08050	0.08164	0.08984			
	0.09063	0.10116	0.09520				0.08699	9.830	<-
128 p-Dimethylamino azobenzene	+++++	0.17064	0.18027	0.18228	0.19032	0.21074			
	0.21782	0.24226	0.23401				0.20354	13.044	<-
129 p-Chlorobenzilate	+++++	0.41579	0.39093	0.40679	0.40378	0.45422			
	0.45386	0.51594	0.50209				0.44292	10.575	<-
130 Famphur 1	+++++	0.32066	0.33731	0.33282	0.26231	0.23529			
	0.18487	+++++	+++++				0.27888	22.152	<-
131 Butylbenzylphthalate	+++++	0.47296	0.52658	0.55849	0.57093	0.58675			
	0.60157	0.67269	0.62320				0.57665	10.515	<-
132 3,3'-Dimethylbenzidine	+++++	0.48061	0.48808	0.47525	0.42987	0.39616			
	+++++	+++++	+++++				0.45399	8.706	<-

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	7.500 Level 7	10.000 Level 8	12.500 Level 9						
133 3,3'-Dimethoxybenzidine	+++++	+++++	0.22154	0.23624	0.22354	0.24271			
	0.25468	0.26727	0.24706				0.24186	6.790	<-
134 2-Acetylaminofluorene	+++++	0.35127	0.35723	0.37836	0.43438	0.50020			
	0.53334	0.61199	0.59849				0.47066	22.439	<-
135 3,3'-Dichlorobenzidine	+++++	0.34371	0.36509	0.38839	0.39886	0.40870			
	0.41295	0.48536	0.45238				0.40693	11.151	<-
136 Benzo(a)Anthracene	1.31157	1.02026	0.98030	1.02970	0.97190	1.00417			
	1.08573	1.16806	1.10289				1.07495	10.147	
137 Chrysene	1.30099	0.92702	0.95793	0.94759	0.91009	0.92299			
	0.92485	1.09873	1.00070				0.99899	12.753	
138 4,4'-Methylene bis(o-chloroan	+++++	0.16168	0.18470	0.19736	0.19834	0.20528			
	0.22336	0.25251	0.23510				0.20729	13.946	<-
139 bis(2-ethylhexyl)Phthalate	+++++	0.70222	0.76778	0.81575	0.82940	0.86624			
	0.89379	1.03440	0.94390				0.85668	12.070	<-
140 Di-n-octylphthalate	+++++	1.09816	1.21873	1.38075	1.43607	1.57039			
	1.60839	1.88745	+++++				1.45713	18.002	<-
141 Benzo(b)fluoranthene	1.27708	0.95609	1.09032	1.00524	1.00516	1.10938			
	1.24903	1.45822	+++++				1.14382	14.976	
142 Benzo(k)fluoranthene	1.34155	1.05792	1.06071	1.14411	1.13223	1.18610			
	1.07947	1.24483	1.16025				1.15635	8.003	
143 7,12-dimethylbenz[a]anthracen	+++++	0.38700	0.39486	0.40569	0.43467	0.47840			
	0.49643	0.55522	0.54423				0.46206	14.392	<-

TestAmerica North Canton

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	7.500 Level 7	10.000 Level 8	12.500 Level 9						
144 Hexachlorophene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
145 Hexachlorophene product	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
146 Benzo(a)pyrene	1.08542	0.86475	0.94980	0.95037	0.98498	1.01154			
	1.04645	1.19627	1.12991				1.02439	9.951	
148 3-Methylcholanthrene	+++++	0.46573	0.48482	0.49226	0.50618	0.55039			
	0.57207	0.62118	0.62591				0.53982	11.524	<-
149 Indeno(1,2,3-cd)pyrene	1.34751	0.97082	1.08396	1.13053	1.16348	1.21812			
	1.24575	1.42354	1.35229				1.21511	11.906	
150 Dibenz(a,h)anthracene	1.12188	0.88031	0.92494	0.95810	0.97570	1.02632			
	1.04908	1.19467	1.12377				1.02831	10.098	
151 Benzo(g,h,i)perylene	1.16543	0.83489	0.94667	0.93484	0.95220	0.97883			
	1.00118	1.12730	1.06689				1.00091	10.306	
199 3-Picoline	+++++	1.09410	1.17837	1.22092	1.24645	1.39563			
	1.46795	1.57959	1.57056				1.34420	13.758	<-
200 N,N-Dimethylacetamide	+++++	+++++	0.88212	0.84727	0.83274	0.89336			
	0.95288	1.02458	1.01620				0.92131	8.444	<-
201 Quinoline	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
202 Diphenyl	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-

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	7.500 Level 7	10.000 Level 8	12.500 Level 9						
203 Diphenyl ether	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
204 6-Methylchrysene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
205 Benzenethiol	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
207 Indene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
208 Dibenz(a,j)acridine	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
209 Benzaldehyde	+++++	1.07614	1.05421	1.10715	1.01663	0.83815			
	0.63250	+++++	+++++				0.95413	19.275	<-
210 Caprolactam	+++++	0.06126	0.08576	0.10188	0.10638	0.11222			
	0.11626	0.12714	0.11856				0.10368	20.407	<-
211 1,1'-Biphenyl	+++++	1.33268	1.36298	1.38331	1.37802	1.45323			
	1.52780	1.75277	1.67384				1.48308	10.509	<-
212 Atrazine	+++++	0.17298	0.18531	0.19763	0.18990	0.19162			
	0.20045	0.20897	0.19088				0.19222	5.573	<-
213 Benzothiazole	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
214 1,3-Dimethyl-2-Thiourea	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-

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	7.500 Level 7	10.000 Level 8	12.500 Level 9						
215 Phenyl ether	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
216 1,3-Diethyl-2-Thiourea	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
217 1,3-Dibutyl-2-Thiourea	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	
218 1,1,3,3-Tetramethyl-2-Thioure	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
219 o-Benzyl Phenol	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
220 Diphenyl Thiourea	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
221 Hexabromobenzene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
222 Dibenz(a,h)acridine	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
223 1,2-bis(2-chloroethoxy)ethane	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
224 Acrylamide	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
225 Methyl parathion	+++++	+++++	0.22585	0.23302	0.24476	0.25934			
	0.26424	0.28539	0.26643				0.25415	8.177	<-

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Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSS\a4ag2.i\00614A.b\8270C-625.m
Last Edit : 14-Jun-2010 14:01 a4ag2.i
Curve Type : Average

Compound	0.05000 Level 1	0.25000 Level 2	0.50000 Level 3	1.000 Level 4	2.500 Level 5	5.000 Level 6	RRF	% RSD	
	7.500 Level 7	10.000 Level 8	12.500 Level 9						
226 Parathion	+++++	0.13524	0.14736	0.15056	0.15815	0.17674			
	0.17960	0.20338	0.20074				0.16897	14.884	<-
227 Isodrin	+++++	0.13802	0.12412	0.12445	0.12742	0.13586			
	0.13479	0.14987	0.14804				0.13532	7.324	<-
M 229 Famphur,Total	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
230 Famphur 2	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
231 2-Chloroacetophenone	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
232 2-Methylcyclohexanone	+++++	0.71291	0.70139	0.72239	0.73213	0.72187			
	0.74370	0.84799	0.80905				0.74893	6.907	<-
233 3-Methylcyclohexanone	+++++	1.30297	1.27560	1.27109	1.30684	1.26433			
	1.34659	1.53092	1.46603				1.34555	7.391	<-
234 4-Methylcyclohexanone	+++++	0.88035	0.84576	0.87004	0.89382	0.88467			
	0.91828	1.04980	0.99656				0.91741	7.616	<-
235 Tributyl phosphate	+++++	1.45727	1.45182	1.57232	1.56454	1.71873			
	1.76604	2.05468	+++++				1.65506	12.854	<-
236 Phenyl sulfone	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
237 3,4-Dichloronitrobenzene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-

TestAmerica North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 14-JUN-2010 08:44
End Cal Date : 14-JUN-2010 13:31
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSS\a4ag2.i\00614A.b\8270C-625.m
Last Edit : 14-Jun-2010 14:01 a4ag2.i
Curve Type : Average

Compound	0.05000 Level 1	0.25000 Level 2	0.50000 Level 3	1.000 Level 4	2.500 Level 5	5.000 Level 6	RRF	% RSD	
	7.500 Level 7	10.000 Level 8	12.500 Level 9						
238 Bis(2-hydroxyphenyl)methane	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
239 Bis(4-hydroxyphenyl)methane	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
240 4-Chlorophenol	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
241 2,3-Dichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
242 2,5-Dichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
243 Octachlorostyrene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
244 Octachlorocyclopentene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
245 Catechol	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
246 3-methylcatechol	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
247 4-methylcatechol	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
248 Hydroquinone	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-

TestAmerica North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 14-JUN-2010 08:44
End Cal Date : 14-JUN-2010 13:31
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSS\a4ag2.i\00614A.b\8270C-625.m
Last Edit : 14-Jun-2010 14:01 a4ag2.i
Curve Type : Average

Compound	0.05000 Level 1	0.25000 Level 2	0.50000 Level 3	1.000 Level 4	2.500 Level 5	5.000 Level 6	RRF	% RSD	
	7.500 Level 7	10.000 Level 8	12.500 Level 9						
249 Resorcinol	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
250 N-methyl-pyrrolidone	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
$ 154 Nitrobenzene-d5	0.47424	0.41988	0.45216	0.46063	0.44768	0.47222			
	0.45481	0.49266	0.46851				0.46031	4.439	
$ 155 2-Fluorobiphenyl	1.32046	1.20701	1.21664	1.25527	1.19982	1.24288			
	1.20116	1.39435	1.31567				1.26147	5.382	
$ 156 Terphenyl-d14	0.88031	0.69059	0.66104	0.69950	0.67167	0.69524			
	0.67818	0.77408	0.71668				0.71859	9.600	
$ 157 Phenol-d5	+++++	1.43260	1.45432	1.61183	1.58664	1.64012			
	1.66222	1.89667	1.76395				1.63104	9.334	
$ 158 2-Fluorophenol	+++++	1.07828	1.12128	1.24158	1.17255	1.23340			
	1.25940	1.44386	1.34682				1.23715	9.570	
$ 159 2,4,6-Tribromophenol	+++++	0.12653	0.13510	0.14012	0.14530	0.15615			
	0.16123	0.18416	0.17239				0.15262	12.796	<-
$ 186 2-Chlorophenol-d4	+++++	1.15883	1.18636	1.25294	1.21449	1.25039			
	1.29286	1.46762	1.37807				1.27520	8.071	<-
$ 187 1,2-Dichlorobenzene-d4	+++++	0.91394	0.83322	0.91341	0.85806	0.88002			
	0.85170	0.98897	0.93037				0.89621	5.665	<-

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: NORTH CANTON Contract:

Lab Code: TACAN Case No.: SAS No.: SDG No.: 0F11578

Lab File ID: 2DF0616 DFTPP Injection Date: 06/16/10

Instrument ID: A4AG2 DFTPP Injection Time: 0913

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	46.4
68	Less than 2.0% of mass 69	0.2 (0.5)1
69	Mass 69 relative abundance	52.7
70	Less than 2.0% of mass 69	0.5 (0.9)1
127	25.0 - 75.0% of mass 198	58.6
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 30.0% of mass 198	29.2
365	Greater than 0.75% of mass 198	5.29
441	Present, but less than mass 443	15.7
442	40.0 - 110.0% of mass 198	93.4
443	15.0 - 24.0% of mass 442	19.0 (20.4)2

1-Value is % mass 69 2-Value is % mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD006	L6	2SMH0616	06/16/10	0930
02	L2VJ8BLK	L2VJ81AA	L2VJ81AA	06/16/10	1054
03	L2VJ8CHK	L2VJ81AC	L2VJ81AC	06/16/10	1111
04	MRC-MW93D-06	L2TE81AC	L2TE81AC	06/16/10	1128
05	MRC-MW94D-06	L2TFL1AN	L2TFL1AN	06/16/10	1145
06	MRC-96D-0611	L2T531AC	L2T531AC	06/16/10	1417
07	MRC-95D-0611	L2T6X1AN	L2T6X1AN	06/16/10	1434
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4ag2.i
Lab File ID: 2SMH0616.D
Analysis Type:
Lab Sample ID: L6
Method: \\cansvr11\dd\chem\MSS\a4ag2.i\00616A.b\8270C-625.m

Injection Date: 16-JUN-2010 09:30
Init. Cal. Date(s): 14-JUN-2010 14-JUN-2010
Init. Cal. Times: 08:44 13:31
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
198 1,4-Dioxane	0.67541	0.51979	0.51979	0.010	23.04125	50.00000	Averaged
9 Pyridine	1.53658	1.48072	1.48072	0.010	3.63514	50.00000	Averaged
10 N-Nitrosodimethylamine	0.83617	0.80449	0.80449	0.010	3.78940	50.00000	Averaged
12 3-Chloropropionitrile	0.68222	0.65663	0.65663	0.010	3.75100	50.00000	Averaged
209 Benzaldehyde	5.00000	7.13325	0.94348	0.010	-42.66494	0.000e+000	Quadratic
21 Aniline	2.22268	2.13587	2.13587	0.010	3.90528	50.00000	Averaged
22 Phenol	1.73759	1.70918	1.70918	0.010	1.63504	20.00000	Averaged
23 bis(2-Chloroethyl)ether	1.39607	1.50855	1.50855	0.010	-8.05709	50.00000	Averaged
24 2-Chlorophenol	1.41977	1.41724	1.41724	0.010	0.17832	50.00000	Averaged
26 1,3-Dichlorobenzene	1.49864	1.47202	1.47202	0.010	1.77603	50.00000	Averaged
27 1,4-Dichlorobenzene	1.36846	1.37347	1.37347	0.010	-0.36636	20.00000	Averaged
28 1,2-Dichlorobenzene	1.45059	1.43443	1.43443	0.010	1.11379	50.00000	Averaged
29 Benzyl Alcohol	0.89309	0.91794	0.91794	0.010	-2.78257	50.00000	Averaged
30 2-Methylphenol	1.28697	1.29728	1.29728	0.010	-0.80082	50.00000	Averaged
31 bis(2-Chloroisopropyl)ether	1.30876	1.26130	1.26130	0.010	3.62583	50.00000	Averaged
37 Acetophenone	2.00415	1.95759	1.95759	0.010	2.32289	50.00000	Averaged
32 N-Nitroso-di-n-propylamine	1.12215	1.06930	1.06930	0.050	4.70915	50.00000	Averaged
192 4-Methylphenol	1.34269	1.34436	1.34436	0.010	-0.12480	50.00000	Averaged
34 Hexachloroethane	0.58357	0.58030	0.58030	0.010	0.56022	50.00000	Averaged
35 Nitrobenzene	0.42725	0.41981	0.41981	0.010	1.74094	50.00000	Averaged
41 Isophorone	0.72706	0.73096	0.73096	0.010	-0.53619	50.00000	Averaged
42 2-Nitrophenol	0.19189	0.20037	0.20037	0.010	-4.41496	20.00000	Averaged
43 2,4-Dimethylphenol	0.39917	0.39319	0.39319	0.010	1.49892	50.00000	Averaged
44 bis(2-Chloroethoxy)methane	0.40498	0.40588	0.40588	0.010	-0.22124	50.00000	Averaged
46 2,4-Toluenediamene	5.00000	5.32833	0.14477	0.010	-6.56660	0.000e+000	Quadratic
47 1,3,5-Trichlorobenzene	0.30399	0.30771	0.30771	0.010	-1.22662	50.00000	Averaged
48 2,4-Dichlorophenol	0.25518	0.26042	0.26042	0.010	-2.05361	20.00000	Averaged
49 Benzoic Acid	10.00000	7.63594	0.17799	0.010	23.64062	0.000e+000	Quadratic
50 1,2,4-Trichlorobenzene	0.29480	0.29819	0.29819	0.010	-1.14840	50.00000	Averaged
51 Naphthalene	1.04536	1.01448	1.01448	0.010	2.95428	50.00000	Averaged
52 4-Chloroaniline	0.43007	0.44169	0.44169	0.010	-2.70288	50.00000	Averaged
56 Hexachlorobutadiene	0.15850	0.15783	0.15783	0.010	0.42264	20.00000	Averaged
210 Caprolactam	5.00000	5.07960	0.11738	0.010	-1.59198	0.000e+000	Quadratic
57 1,2,3-Trichlorobenzene	0.27335	0.27185	0.27185	0.010	0.54900	50.00000	Averaged
59 4-Chloro-3-Methylphenol	0.33679	0.33691	0.33691	0.010	-0.03492	20.00000	Averaged
62 2-Methylnaphthalene	0.65271	0.64490	0.64490	0.010	1.19645	50.00000	Averaged
63 1-Methylnaphthalene	0.65694	0.64202	0.64202	0.010	2.27059	50.00000	Averaged
64 Hexachlorocyclopentadiene	5.00000	4.66941	0.32050	0.050	6.61185	0.000e+000	Quadratic
66 2,4,6-Trichlorophenol	5.00000	5.14135	0.31848	0.010	-2.82702	0.000e+000	Quadratic
67 2,4,5-Trichlorophenol	0.33060	0.34244	0.34244	0.010	-3.58060	50.00000	Averaged
211 1,1'-Biphenyl	1.48308	1.44555	1.44555	0.010	2.53020	50.00000	Averaged
68 1,2,3,5-Tetrachlorobenzene	0.48588	0.49053	0.49053	0.010	-0.95717	50.00000	Averaged

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4ag2.i
Lab File ID: 2SMH0616.D
Analysis Type:
Lab Sample ID: L6
Method: \\cansvr11\dd\chem\MSS\a4ag2.i\00616A.b\8270C-625.m

Injection Date: 16-JUN-2010 09:30
Init. Cal. Date(s): 14-JUN-2010 14-JUN-2010
Init. Cal. Times: 08:44 13:31
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
70 2-Chloronaphthalene	1.10350	1.09281	1.09281	0.010	0.96827	50.00000	Averaged
73 2-Nitroaniline	0.40335	0.40476	0.40476	0.010	-0.35055	50.00000	Averaged
74 1,2,3,4-Tetrachlorobenzene	0.44643	0.44774	0.44774	0.010	-0.29171	50.00000	Averaged
76 Dimethylphthalate	1.26048	1.28965	1.28965	0.010	-2.31388	50.00000	Averaged
78 2,6-Dinitrotoluene	0.28758	0.31394	0.31394	0.010	-9.16626	50.00000	Averaged
79 Acenaphthylene	1.78559	1.75821	1.75821	0.010	1.53373	50.00000	Averaged
80 1,2-Dinitrobenzene	0.13573	0.14478	0.14478	0.010	-6.66655	50.00000	Averaged
81 3-Nitroaniline	0.31353	0.33748	0.33748	0.010	-7.63807	50.00000	Averaged
82 Acenaphthene	1.15756	1.13962	1.13962	0.010	1.55051	20.00000	Averaged
83 2,4-Dinitrophenol	10.00000	9.33901	0.20315	0.050	6.60990	0.000e+000	Quadratic
85 4-Nitrophenol	5.00000	4.71119	0.23536	0.050	5.77611	0.000e+000	Quadratic
86 Dibenzofuran	1.49939	1.47463	1.47463	0.010	1.65145	50.00000	Averaged
87 2,4-Dinitrotoluene	0.39614	0.41261	0.41261	0.010	-4.15871	50.00000	Averaged
91 2,3,5,6-Tetrachlorophenol	0.26449	0.25085	0.25085	0.010	5.15952	50.00000	Averaged
93 Diethylphthalate	1.34395	1.34279	1.34279	0.010	0.08586	50.00000	Averaged
94 Fluorene	1.28857	1.28318	1.28318	0.010	0.41802	50.00000	Averaged
95 4-Chlorophenyl-phenylether	0.54888	0.55670	0.55670	0.010	-1.42453	50.00000	Averaged
96 4-Nitroaniline	5.00000	5.14006	0.37143	0.010	-2.80112	0.000e+000	Quadratic
98 4,6-Dinitro-2-methylphenol	5.00000	4.61827	0.12862	0.010	7.63458	0.000e+000	Quadratic
99 N-Nitrosodiphenylamine	0.58190	0.57725	0.57725	0.010	0.80002	20.00000	Averaged
100 1,2-Diphenylhydrazine	0.96693	0.95148	0.95148	0.010	1.59794	50.00000	Averaged
106 4-Bromophenyl-phenylether	0.19454	0.20317	0.20317	0.010	-4.43533	50.00000	Averaged
107 Hexachlorobenzene	0.21212	0.21694	0.21694	0.010	-2.27149	50.00000	Averaged
212 Atrazine	0.19222	0.19616	0.19616	0.010	-2.04893	50.00000	Averaged
111 Pentachlorophenol	10.00000	8.57527	0.12118	0.010	14.24726	20.00000	Quadratic
115 Phenanthrene	1.15263	1.10302	1.10302	0.010	4.30410	50.00000	Averaged
116 Anthracene	1.12711	1.15154	1.15154	0.010	-2.16736	50.00000	Averaged
119 Carbazole	1.07565	1.08163	1.08163	0.010	-0.55605	50.00000	Averaged
120 Di-n-Butylphthalate	1.38750	1.46975	1.46975	0.010	-5.92797	50.00000	Averaged
123 Fluoranthene	1.12315	1.12499	1.12499	0.010	-0.16397	20.00000	Averaged
124 Benzidine	0.58927	0.62688	0.62688	0.010	-6.38368	50.00000	Averaged
125 Pyrene	1.10527	1.04648	1.04648	0.010	5.31933	50.00000	Averaged
131 Butylbenzylphthalate	0.57665	0.59947	0.59947	0.010	-3.95855	50.00000	Averaged
133 3,3'-Dimethoxybenzidine	0.24186	0.22752	0.22752	0.010	5.93139	50.00000	Averaged
135 3,3'-Dichlorobenzidine	0.40693	0.40297	0.40297	0.010	0.97348	50.00000	Averaged
136 Benzo(a)Anthracene	1.07495	1.01715	1.01715	0.010	5.37773	50.00000	Averaged
137 Chrysene	0.99899	0.95763	0.95763	0.010	4.13972	50.00000	Averaged
138 4,4'-Methylene bis(o-chloro	0.20729	0.21607	0.21607	0.010	-4.23275	50.00000	Averaged
139 bis(2-ethylhexyl)Phthalate	0.85668	0.88620	0.88620	0.010	-3.44590	50.00000	Averaged
140 Di-n-octylphthalate	5.00000	5.11849	1.56185	0.010	-2.36980	0.000e+000	Quadratic
141 Benzo(b)fluoranthene	1.14382	1.09979	1.09979	0.010	3.84909	50.00000	Averaged
142 Benzo(k)fluoranthene	1.15635	1.11291	1.11291	0.010	3.75643	50.00000	Averaged

TestAmerica North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4ag2.i
Lab File ID: 2SMH0616.D
Analysis Type:
Lab Sample ID: L6
Method: \\cansvr11\dd\chem\MSS\a4ag2.i\00616A.b\8270C-625.m

Injection Date: 16-JUN-2010 09:30
Init. Cal. Date(s): 14-JUN-2010 14-JUN-2010
Init. Cal. Times: 08:44 13:31
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
146 Benzo(a)pyrene	1.02439	1.01516	1.01516	0.010	0.90077	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.21511	1.26317	1.26317	0.010	-3.95471	50.00000	Averaged
150 Dibenz(a,h)anthracene	1.02831	1.05462	1.05462	0.010	-2.55922	50.00000	Averaged
151 Benzo(g,h,i)perylene	1.00091	1.01755	1.01755	0.010	-1.66207	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.46031	0.42259	0.42259	0.010	8.19420	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.26147	1.25654	1.25654	0.010	0.39085	50.00000	Averaged
$ 156 Terphenyl-d14	0.71859	0.70590	0.70590	0.010	1.76526	50.00000	Averaged
$ 157 Phenol-d5	1.63104	1.61838	1.61838	0.010	0.77622	50.00000	Averaged
$ 158 2-Fluorophenol	1.23715	1.21859	1.21859	0.010	1.49986	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	0.15262	0.15901	0.15901	0.010	-4.18701	50.00000	Averaged
$ 186 2-Chlorophenol-d4	1.27520	1.25733	1.25733	0.010	1.40114	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.89621	0.88628	0.88628	0.010	1.10882	50.00000	Averaged
M 195 Cresols, total	2.62966	2.64164	2.64164	0.010	-0.45565	50.00000	Averaged
101 Diphenylamine	0.58190	0.57725	0.57725	0.010	0.80002	50.00000	Averaged

SW846 8270C METHOD BLANK SUMMARY

BLANK WORKORDER NO.: L2VJ81AA

Lab Name: TestAmerica Laboratories, Inc.

Lab Code: TALCAN

SDG Number: 0F11578

Lab File ID: L2VJ81AA.

Lot Number: A0F110578

Date Analyzed: 06/16/10

Time Analyzed: 10:54

Matrix: WATER

Date Extracted: 06/14/10

GC Column: DB-5.625 ID: .18

Extraction Method: 3520C

Instrument ID: AG2

Level: (low/med) LOW

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, LCS, LCSD, MS , MSD:

	CLIENT ID.	SAMPLE WORK ORDER #	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	MRC-MW93D-061010	L2TE81AC	L2TE81AC.	06/16/10	11:28
02	MRC-MW94D-061010	L2TFL1AN	L2TFL1AN.	06/16/10	11:45
03	INTRA-LAB QC	L2T291AH	L2T291AH.	06/16/10	13:10
04	LAB MS/MSD	L2T291GP S	L2T291GP.	06/16/10	13:27
05	LAB MS/MSD	L2T291GQ D	L2T291GQ.	06/16/10	13:44
06	CHECK SAMPLE	L2VJ81AC C	L2VJ81AC.	06/16/10	11:11
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

COMMENTS:

SW846 8270C METHOD BLANK SUMMARY

BLANK WORKORDER NO.: L2VJ81AA

Lab Name: TestAmerica Laboratories, Inc.

Lab Code: TALCAN

SDG Number: 0F11578

Lab File ID: L2VJ81AA.

Lot Number: A0F120439

Date Analyzed: 06/16/10

Time Analyzed: 10:54

Matrix: WATER

Date Extracted: 06/14/10

GC Column: DB-5.625 ID: .18

Extraction Method: 3520C

Instrument ID: AG2

Level: (low/med) LOW

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, LCS, LCSD, MS , MSD:

	CLIENT ID.	SAMPLE WORK ORDER #	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	INTRA-LAB QC	L2T291AH	L2T291AH.	06/16/10	13:10
02	LAB MS/MSD	L2T291GP S	L2T291GP.	06/16/10	13:27
03	LAB MS/MSD	L2T291GQ D	L2T291GQ.	06/16/10	13:44
04	MRC-96D-061110	L2T531AC	L2T531AC.	06/16/10	14:17
05	MRC-95D-061110	L2T6X1AN	L2T6X1AN.	06/16/10	14:34
06	CHECK SAMPLE	L2VJ81AC C	L2VJ81AC.	06/16/10	11:11
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

COMMENTS:

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: 0F11578 **Work Order #...:** L2VJ81AA **Matrix.....:** WATER
MB Lot-Sample #: A0F140000-058

Prep Date.....: 06/14/10 **Final Wgt/Vol..:** 2 mL
Analysis Date..: 06/16/10 **Prep Batch #...:** 0165058
Dilution Factor: 1 **Initial Wgt/Vol:** 1000 mL

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetophenone	ND	1.0	ug/L	SW846 8270C
Atrazine	ND	1.0	ug/L	SW846 8270C
1,4-Dioxane	ND	1.0	ug/L	SW846 8270C
N-Nitrosodimethylamine	ND	1.0	ug/L	SW846 8270C
Dibenzo(a,h)anthracene	ND	0.20	ug/L	SW846 8270C
Benzaldehyde	ND	1.0	ug/L	SW846 8270C
1,1'-Biphenyl	ND	1.0	ug/L	SW846 8270C
Caprolactam	ND	5.0	ug/L	SW846 8270C
Phenol	ND	1.0	ug/L	SW846 8270C
bis(2-Chloroethyl)-ether	ND	1.0	ug/L	SW846 8270C
2-Chlorophenol	ND	1.0	ug/L	SW846 8270C
2-Methylphenol	ND	1.0	ug/L	SW846 8270C
2,2'-oxybis(1-Chloro-propane)	ND	1.0	ug/L	SW846 8270C
4-Methylphenol	ND	1.0	ug/L	SW846 8270C
N-Nitrosodi-n-propyl-amine	ND	1.0	ug/L	SW846 8270C
Hexachloroethane	ND	1.0	ug/L	SW846 8270C
Nitrobenzene	ND	1.0	ug/L	SW846 8270C
Isophorone	ND	1.0	ug/L	SW846 8270C
2-Nitrophenol	ND	2.0	ug/L	SW846 8270C
2,4-Dimethylphenol	ND	2.0	ug/L	SW846 8270C
bis(2-Chloroethoxy) methane	ND	1.0	ug/L	SW846 8270C
2,4-Dichlorophenol	ND	2.0	ug/L	SW846 8270C
Naphthalene	ND	0.20	ug/L	SW846 8270C
4-Chloroaniline	ND	2.0	ug/L	SW846 8270C
Hexachlorobutadiene	ND	1.0	ug/L	SW846 8270C
4-Chloro-3-methylphenol	ND	2.0	ug/L	SW846 8270C
2-Methylnaphthalene	ND	0.20	ug/L	SW846 8270C
Hexachlorocyclopenta-diene	ND	10	ug/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	5.0	ug/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	5.0	ug/L	SW846 8270C
2-Chloronaphthalene	ND	1.0	ug/L	SW846 8270C
2-Nitroaniline	ND	2.0	ug/L	SW846 8270C
Dimethyl phthalate	ND	1.0	ug/L	SW846 8270C
Acenaphthylene	ND	0.20	ug/L	SW846 8270C

(Continued on next page)

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: 0F11578 **Work Order #...:** L2VJ81AA **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
2,6-Dinitrotoluene	ND	5.0	ug/L	SW846 8270C
3-Nitroaniline	ND	2.0	ug/L	SW846 8270C
Acenaphthene	ND	0.20	ug/L	SW846 8270C
2,4-Dinitrophenol	ND	5.0	ug/L	SW846 8270C
4-Nitrophenol	ND	5.0	ug/L	SW846 8270C
Dibenzofuran	ND	1.0	ug/L	SW846 8270C
2,4-Dinitrotoluene	ND	5.0	ug/L	SW846 8270C
Diethyl phthalate	ND	1.0	ug/L	SW846 8270C
4-Chlorophenyl phenyl ether	ND	2.0	ug/L	SW846 8270C
Fluorene	ND	0.20	ug/L	SW846 8270C
4-Nitroaniline	ND	2.0	ug/L	SW846 8270C
4,6-Dinitro-2-methylphenol	ND	5.0	ug/L	SW846 8270C
N-Nitrosodiphenylamine	ND	1.0	ug/L	SW846 8270C
4-Bromophenyl phenyl ether	ND	2.0	ug/L	SW846 8270C
Hexachlorobenzene	ND	0.20	ug/L	SW846 8270C
Pentachlorophenol	ND	5.0	ug/L	SW846 8270C
Phenanthrene	ND	0.20	ug/L	SW846 8270C
Anthracene	ND	0.20	ug/L	SW846 8270C
Carbazole	ND	1.0	ug/L	SW846 8270C
Di-n-butyl phthalate	ND	1.0	ug/L	SW846 8270C
Fluoranthene	ND	0.20	ug/L	SW846 8270C
Pyrene	ND	0.20	ug/L	SW846 8270C
Butyl benzyl phthalate	ND	1.0	ug/L	SW846 8270C
3,3'-Dichlorobenzidine	ND	5.0	ug/L	SW846 8270C
Benzo(a)anthracene	ND	0.20	ug/L	SW846 8270C
Chrysene	ND	0.20	ug/L	SW846 8270C
bis(2-Ethylhexyl) phthalate	**1.9 J**	**2.0**	**ug/L**	**SW846 8270C**
Di-n-octyl phthalate	ND	1.0	ug/L	SW846 8270C
Benzo(b)fluoranthene	ND	0.20	ug/L	SW846 8270C
Benzo(k)fluoranthene	ND	0.20	ug/L	SW846 8270C
Benzo(a)pyrene	ND	0.20	ug/L	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	0.20	ug/L	SW846 8270C
Benzo(ghi)perylene	ND	0.20	ug/L	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	65	(27 - 111)
2-Fluorobiphenyl	59	(28 - 110)
Terphenyl-d14	78	(37 - 119)
Phenol-d5	69	(10 - 110)
2-Fluorophenol	69	(10 - 110)

(Continued on next page)

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: 0F11578 Work Order #...: L2VJ81AA Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
2,4,6-Tribromophenol	70	(22 - 120)		

NOTE(S):

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

J Estimated result. Result is less than RL.

SW846 8270C SURROGATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0F11578

Lot #: A0F110578

Extraction: XXI51QLLB

	CLIENT ID.	SRG01	SRG02	SRG03	SRG04	SRG05	SRG06	TOT OUT
01	MRC-MW93D-061010	60	55	63	68	69	73	00
02	MRC-MW94D-061010	61	61	82	70	72	76	00
03	INTRA-LAB QC	70	68	84	78	80	88	00
04	METHOD BLK. L2VJ81AA	65	59	78	69	69	70	00
05	LCS L2VJ81AC	65	60	79	73	73	81	00
06	LAB MS/MSD D	70	63	73	77	78	79	00
07	LAB MS/MSD S	66	64	77	78	78	81	00

SURROGATES		QC LIMITS
SRG01	= Nitrobenzene-d5	(27-111)
SRG02	= 2-Fluorobiphenyl	(28-110)
SRG03	= Terphenyl-d14	(37-119)
SRG04	= Phenol-d5	(10-110)
SRG05	= 2-Fluorophenol	(10-110)
SRG06	= 2,4,6-Tribromophenol	(22-120)

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

SW846 8270C SURROGATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0F11578

Lot #: A0F120439

Extraction: XXI51QLLB

	CLIENT ID.	SRG01	SRG02	SRG03	SRG04	SRG05	SRG06	TOT OUT
01	INTRA-LAB QC	70	68	84	78	80	88	00
02	MRC-96D-061110	65	62	82	70	70	64	00
03	MRC-95D-061110	56	53	64	61	59	65	00
04	METHOD BLK. L2VJ81AA	65	59	78	69	69	70	00
05	LCS L2VJ81AC	65	60	79	73	73	81	00
06	LAB MS/MSD D	70	63	73	77	78	79	00
07	LAB MS/MSD S	66	64	77	78	78	81	00

SURROGATES		QC LIMITS
SRG01	= Nitrobenzene-d5	(27-111)
SRG02	= 2-Fluorobiphenyl	(28-110)
SRG03	= Terphenyl-d14	(37-119)
SRG04	= Phenol-d5	(10-110)
SRG05	= 2-Fluorophenol	(10-110)
SRG06	= 2,4,6-Tribromophenol	(22-120)

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

SW846 8270C CHECK SAMPLE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0F11578

Lot #: A0F140000 WO #: L2VJ81AC

BATCH: 0165058

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENT. (ug/L)	% REC	QC LIMITS REC	QUAL
1,2,4-Trichlorobenzene	20	8.5	42	25 - 110	
Acenaphthene	20	13	63	40 - 110	
2,4-Dinitrotoluene	20	15	77	52 - 123	
Pyrene	20	14	68	55 - 120	
N-Nitrosodi-n-propylamine	20	15	73	37 - 121	
1,4-Dichlorobenzene	20	9.0	45	19 - 110	
Pentachlorophenol	20	11	56	26 - 110	
Phenol	20	15	76	14 - 112	
2-Chlorophenol	20	14	71	27 - 110	
4-Chloro-3-methylphenol	20	15	77	39 - 110	
4-Nitrophenol	20	14	72	12 - 130	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 11 outside limits

COMMENTS:

FORM III

SW846 8270C MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0F11578

Matrix Spike ID: LAB MS/MSD

Lot #: A0F120429 WO #: L2T291GP
BATCH: 0165058

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENT. (ug/L)	MS CONCENT. (ug/L)	MS % REC	LIMITS REC	QUAL
1,2,4-Trichlorobenzene	38	ND	20	52	25- 110	
Acenaphthene	38	1.5	28	68	36- 110	
2,4-Dinitrotoluene	38	ND	31	81	46- 119	
Pyrene	38	1.0	27	69	54- 115	
N-Nitrosodi-n-propylamine	38	ND	30	79	25- 119	
1,4-Dichlorobenzene	38	ND	22	57	17- 110	
Pentachlorophenol	38	ND	25	65	23- 110	
Phenol	38	ND	31	82	16- 110	
2-Chlorophenol	38	ND	29	77	26- 110	
4-Chloro-3-methylphenol	38	ND	30	78	33- 110	
4-Nitrophenol	38	ND	28	73	13- 127	

NOTES(S):

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 11 outside limits

COMMENTS:

FORM III

SW846 8270C MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Tetra Tech NUS, Inc

Lab Code: TALCAN SDG No: 0F11578

Matrix Spike ID: LAB MS/MSD

Lot #: A0F120429 WO #: L2T291GQ

BATCH: 0165058

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENT. (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	QUAL
1,2,4-Trichlorobenzene	38	19	51	3.5	30	25- 110	
Acenaphthene	38	27	67	1.3	30	36- 110	
2,4-Dinitrotoluene	38	31	82	1.0	30	46- 119	
Pyrene	38	27	69	0.74	30	54- 115	
N-Nitrosodi-n-propylamine	38	30	79	0.20	30	25- 119	
1,4-Dichlorobenzene	38	22	57	0.88	30	17- 110	
Pentachlorophenol	38	25	65	0.92	30	23- 110	
Phenol	38	29	77	6.6	30	16- 110	
2-Chlorophenol	38	29	76	0.91	30	26- 110	
4-Chloro-3-methylphenol	38	30	79	0.39	30	33- 110	
4-Nitrophenol	38	28	74	1.6	30	13- 127	

NOTES(S):

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 11 outside limits

COMMENTS:

FORM III

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: NORTH CANTON Contract:

Lab Code: TACAN Case No.: SAS No.: SDG No.: 0F11578

Lab File ID (Standard): 2SMH0616 Date Analyzed: 06/16/10

Instrument ID: A4AG2 Time Analyzed: 0930

	EPA SAMPLE NO.	IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	159221	3.47	632199	4.37	362536	5.64
	UPPER LIMIT	318442	3.97	1264398	4.87	725072	6.14
	LOWER LIMIT	79611	2.97	316100	3.87	181268	5.14
01	L2VJ8BLK	166931	3.47	638999	4.37	368712	5.64
02	L2VJ8CHK	123536	3.47	489965	4.37	289651	5.64
03	MRC-MW93D-06	118583	3.47	486982	4.37	294026	5.64
04	MRC-MW94D-06	156245	3.47	629472	4.37	362636	5.64
05	MRC-96D-0611	176090	3.47	682039	4.37	401988	5.64
06	MRC-95D-0611	161466	3.47	640265	4.37	382586	5.64
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: NORTH CANTON Contract:

Lab Code: TACAN Case No.: SAS No.: SDG No.: 0F11578

Lab File ID (Standard): 2SMH0616 Date Analyzed: 06/16/10

Instrument ID: A4AG2 Time Analyzed: 0930

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	578012	6.74	642917	8.70	610747	10.06
	UPPER LIMIT	1156024	7.24	1285834	9.20	1221494	10.56
	LOWER LIMIT	289006	6.24	321459	8.20	305374	9.56
	EPA SAMPLE NO.						
01	L2VJ8BLK	600056	6.74	640147	8.70	607573	10.06
02	L2VJ8CHK	461031	6.74	500017	8.70	484559	10.06
03	MRC-MW93D-06	482512	6.73	523645	8.70	511211	10.05
04	MRC-MW94D-06	592211	6.73	627224	8.70	618238	10.05
05	MRC-96D-0611	645504	6.73	689992	8.69	659166	10.05
06	MRC-95D-0611	619559	6.73	650861	8.69	644247	10.05
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

Sample 93D carbon disulfide rep result 0.71 ug/L

$$\frac{(56361)(50)}{(1061468)(0.74645)(5)} = 0.7113 \text{ ug/L}$$

Data File: \\cansvr11\dd\chem\MSV\a3ux11.i\J00621A.b\UXJ0149.D
Report Date: 22-Jun-2010 14:10

TestAmerica North Canton

VOLATILE REPORT SW-846 Method 8260A/8260B

Data file : \\cansvr11\dd\chem\MSV\a3ux11.i\J00621A.b\UXJ0149.D
Lab Smp Id: L2TE81AA Client Smp ID: MRC-MW93D-061010
Inj Date : 21-JUN-2010 16:40
Operator : 1644 Inst ID: a3ux11.i
Smp Info : L2TE81AA,5ML/5ML
Misc Info : J00621A,8260LLUX11,,1644
Comment :
Method : \\cansvr11\dd\chem\MSV\a3ux11.i\J00621A.b\8260LLUX11.m
Meth Date : 22-Jun-2010 13:48 a3ux11.i Quant Type: ISTD
Cal Date : 18-JUN-2010 02:01 Cal File: UXJ0107.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 4-8260+IX.sub
Target Version: 4.14
Processing Host: CANPMSV30

Concentration Formula: Amt * DF * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	Sample volume
Va	100.000	Injection Volume
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
* 1 Fluorobenzene	96	5.354	5.354	(1.000)	1061468	50.0000	
* 2 Chlorobenzene-d5	117	8.040	8.040	(1.000)	820745	50.0000	
* 3 1,4-Dichlorobenzene-d4	152	10.288	10.276	(1.000)	428964	50.0000	
$ 4 Dibromofluoromethane	113	4.774	4.774	(0.892)	318917	49.1191	9.824
$ 5 1,2-Dichloroethane-d4	65	5.058	5.058	(0.945)	396563	48.9490	9.790
$ 6 Toluene-d8	98	6.715	6.715	(0.835)	1328125	45.0256	9.005
$ 7 Bromofluorobenzene	95	9.140	9.140	(1.137)	459222	44.9793	8.996
8 Dichlorodifluoromethane	85	Compound Not Detected.					
9 Chloromethane	50	Compound Not Detected.					
10 Vinyl Chloride	62	Compound Not Detected.					
11 Bromomethane	94	Compound Not Detected.					
12 Chloroethane	64	Compound Not Detected.					
13 Trichlorofluoromethane	101	Compound Not Detected.					
15 Acrolein	56	Compound Not Detected.					
16 Acetone	43	2.952	2.952	(0.551)	173832	83.2156	16.643
17 1,1-Dichloroethene	96	Compound Not Detected.					
18 Freon-113	151	Compound Not Detected.					
19 Iodomethane	142	Compound Not Detected.					
20 Carbon Disulfide	76	3.129	3.129	(0.585)	56361	3.55667	0.7113
21 Methylene Chloride	84	3.319	3.319	(0.620)	18574	2.34815	0.4696

Sample 93D rep. result butyl benzyl phthalate 1.1 ug/L

$$\frac{(43095)(2)(2000)}{(52\,3645)(.57665)(1040)(0.5)} = 1.0978$$

TestAmerica North Canton

Semivolatile REPORT SW-846 Method 8270

Data file : \\cansvr11\dd\chem\MSS\a4ag2.i\00616A.b\L2TE81AC.D
Lab Smp Id: L2TE81AC Client Smp ID: MRC-MW93D-061010
Inj Date : 16-JUN-2010 11:28
Operator : 046900 Inst ID: a4ag2.i
Smp Info : L2TE81AC,00616A.B,8270C-625,3-827042.SUB
Misc Info :
Comment :
Method : \\cansvr11\dd\chem\MSS\a4ag2.i\00616A.b\8270C-625.m
Meth Date : 17-Jun-2010 12:34 hulat Quant Type: ISTD
Cal Date : 14-JUN-2010 12:07 Cal File: 2AH0614.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 3-827042.SUB
Target Version: 4.14
Processing Host: CANPMSSV04

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	2000.000	Volume of final extract (uL)
Vo	1040.000	Volume of sample extracted (mL)
Vi	0.50000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/L)
* 1	1,4-Dichlorobenzene-d4	152	3.473	3.473	(1.000)	118583	2.00000	
* 2	Naphthalene-d8	136	4.366	4.371	(1.000)	486982	2.00000	
* 3	Acenaphthene-d10	164	5.639	5.644	(1.000)	294026	2.00000	
* 4	Phenanthrene-d10	188	6.730	6.735	(1.000)	482512	2.00000	
* 5	Chrysene-d12	240	8.698	8.704	(1.000)	523645	2.00000	
* 6	Perylene-d12	264	10.051	10.062	(1.000)	511211	2.00000	
198	1,4-Dioxane	88	Compound Not Detected.					
9	Pyridine	79	Compound Not Detected.					
10	N-Nitrosodimethylamine	74	Compound Not Detected.					
12	3-Chloropropionitrile	54	Compound Not Detected.					
209	Benzaldehyde	77	Compound Not Detected.					
21	Aniline	93	3.243	3.248	(0.934)	17226	0.13071	0.50274
22	Phenol	94	Compound Not Detected.					
23	bis(2-Chloroethyl)ether	93	Compound Not Detected.					
24	2-Chlorophenol	128	Compound Not Detected.					
26	1,3-Dichlorobenzene	146	Compound Not Detected.					
27	1,4-Dichlorobenzene	146	Compound Not Detected.					
28	1,2-Dichlorobenzene	146	Compound Not Detected.					

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/L)
	116 Anthracene	178	Compound Not Detected.					
	119 Carbazole	167	Compound Not Detected.					
	120 Di-n-Butylphthalate	149	Compound Not Detected.					
	123 Fluoranthene	202	Compound Not Detected.					
	124 Benzidine	184	Compound Not Detected.					
	125 Pyrene	202	Compound Not Detected.					
	131 Butylbenzylphthalate	149	8.217	8.222	(0.945)	43095	0.28544	1.0978
	133 3,3'-Dimethoxybenzidine	244	Compound Not Detected.					
	135 3,3'-Dichlorobenzidine	252	Compound Not Detected.					
	136 Benzo(a)Anthracene	228	Compound Not Detected.					
	137 Chrysene	228	Compound Not Detected.					
	138 4,4'-Methylene bis(o-chloroan	231	Compound Not Detected.					
	139 bis(2-ethylhexyl)Phthalate	149	8.623	8.623	(0.991)	112913	0.50340	1.9362
	140 Di-n-octylphthalate	149	Compound Not Detected.					
	141 Benzo(b)fluoranthene	252	Compound Not Detected.					
	142 Benzo(k)fluoranthene	252	Compound Not Detected.					
	146 Benzo(a)pyrene	252	Compound Not Detected.					
	149 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
	150 Dibenz(a,h)anthracene	278	Compound Not Detected.					
	151 Benzo(g,h,i)perylene	276	Compound Not Detected.					
$	154 Nitrobenzene-d5	82	3.847	3.852	(0.881)	334318	2.98282	11.472
$	155 2-Fluorobiphenyl	172	5.131	5.131	(0.910)	512137	2.76155	10.621
$	156 Terphenyl-d14	244	7.885	7.885	(0.907)	592347	3.14839	12.109
$	157 Phenol-d5	99	3.184	3.189	(0.917)	490446	5.07147	19.506
$	158 2-Fluorophenol	112	2.601	2.606	(0.749)	378730	5.16317	19.858
$	159 2,4,6-Tribromophenol	330	6.216	6.222	(1.102)	122860	5.47564	21.060
$	186 2-Chlorophenol-d4	132	3.317	3.323	(0.955)	413589	5.47015	21.039
$	187 1,2-Dichlorobenzene-d4	152	3.585	3.585	(1.032)	134854	2.53782	9.7608
M	195 Cresols, total	100	Compound Not Detected.					
	101 Diphenylamine	169	Compound Not Detected.					

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **A. APANAVAGE** **DATE: JULY 26, 2010**

FROM: **DANIELLE M. BAUGHMAN** **COPIES: DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – SELECT TOTAL AND DISSOLVED METALS**
MIDDLE RIVER CENTER
SAMPLE DELIVERY GROUP (SDG) – 0F11578

SAMPLES: 4/Aqueous/

MRC-MW93D-061010	MRC-MW94D-061010
MRC-95D-061110	MRC-96D-061110

Overview

The sample set for Middle River Center, SDG 0F11578, consists of four (4) aqueous environmental samples. No field duplicate pairs were included within this SDG.

All samples were analyzed for select total and dissolved metals (-F) including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium and zinc. The samples were collected by Tetra Tech NUS on June 10 and 11, 2010 and analyzed by Test America. Metals analyses were conducted using SW-846 method 6020. Mercury analyses were conducted using SW-846 method 7470A.

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, ICP interference results, laboratory control sample recoveries, matrix spike recoveries, laboratory duplicate results, ICP serial dilution results, detection limits, internal standard recoveries, and analyte quantitation.

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

Major Problems

None.

Minor Problems

- The following contaminants were detected in the laboratory method/preparation blanks at the following maximum concentrations:

Analyte	Maximum Concentration	Action Level
Antimony	0.12 ug/L	0.6 ug/L
Barium(1)	1.3 ug/L	6.5 ug/L
Beryllium	0.069 ug/L	0.345 ug/L
Cadmium	0.081 ug/L	0.405 ug/L
Chromium(1)	0.26 ug/L	1.3 ug/L
Cobalt	0.072 ug/L	0.36 ug/L

Copper(1)	1.2 ug/L	6.0 ug/L
Iron	24.9 ug/L	124.5 ug/L
Lead	0.064 ug/L	0.32 ug/L
Manganese	0.89 ug/L	4.45 ug/L
Molybdenum	0.61 ug/L	3.05 ug/L
Nickel(1)	0.22 ug/L	1.1 ug/L
Selenium	0.15 ug/L	0.75 ug/L
Thallium	0.33 ug/L	1.65 ug/L
Zinc(1)	6.5 ug/L	32.5 ug/L

(1) Maximum concentration present in a preparation blank.

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. Positive results less than the blank action level reported for antimony, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel selenium, thallium, and zinc were qualified "B" as a result of laboratory blank contamination.

- The interfering analyte iron was present in sample MRC-95D-061110 (total metals) at a concentration comparable to the concentration of iron in the interference check sample (ICS) solution. Several analytes namely, antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel, silver and zinc were present in the ICS solution at a concentration that exceeded the absolute value of the instrument detection limit (IDL). Interference effects exist for antimony, cadmium, and silver in the affected sample. No validation actions were warranted for antimony and cadmium as the results were qualified for blank contamination. The result reported for silver was qualified as biased low, "UL".

- The interfering analyte iron was present in sample MRC-MW93D-061010 (total metals) at a concentration comparable to the concentration of iron in the interference check sample (ICS) solution. Several analytes namely, antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel, silver and zinc were present in the ICS solution at a concentration that exceeded the absolute value of the instrument detection limit (IDL). Interference effects exist for antimony, cadmium, and silver in the affected sample. The positive results reported for cadmium and silver were qualified as estimated "J", as a result of conflicting noncompliances. No validation actions were warranted for antimony as the result was qualified for blank contamination.

- The interfering analyte iron was present in sample MRC-MW94D-061010 (total metals) at a concentration comparable to the concentration of iron in the interference check sample (ICS) solution. Several analytes namely, antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel, silver and zinc were present in the ICS solution at a concentration that exceeded the absolute value of the instrument detection limit (IDL). Interference effects exist for antimony, cadmium, and silver in the affected sample. No validation actions were warranted for antimony and cadmium, as the results were qualified for blank contamination. The result reported for silver was qualified as biased low, "UL".

- The interfering analyte iron was present in sample MRC-MW93D-061010 (dissolved metals) at a concentration comparable to the concentration of iron in the interference check sample (ICS) solution. Several analytes namely, antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel, silver and zinc were present in the ICS solution at a concentration that exceeded the absolute value of the instrument detection limit (IDL). Interference effects exist for antimony, cadmium, and silver in the affected sample. No validation actions were warranted for antimony and cadmium as the results were qualified for blank contamination. The positive result reported for silver was qualified as estimated "J" as a result of conflicting noncompliances.

- Positive results greater than the MDL, but less than the RL were qualified as estimated "J" for conflicting noncompliances.

- The CRDL % recoveries for arsenic and nickel were >110% quality control limit affecting all samples. The positive results reported for arsenic and nickel <2x CRDL were qualified as either biased high "K" or estimated "J" as a result of conflicting noncompliances.

Notes

The CRDL % recoveries for copper, iron, lead, and manganese were outside the 90-110% quality control limits. No validation actions were warranted as all sample results were either nondetects or were qualified as blank contamination.

Executive Summary

Laboratory Performance: Several analytes were present in the laboratory method / preparation blanks. Several CRDL % recoveries were outside the 90-110% quality control limits.

Other Factors Affecting Data Quality: The interfering analyte iron was present in several samples. Positive results greater than the MDL, but less than the RL were qualified.

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

The text of this report has been formulated to address only those problem areas affecting data quality.

Tetra Tech NUS
Danielle M. Baughman
Project Engineer

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A
QUALIFIED ANALYTICAL RESULTS

Data Validation Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (e.g. % 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 = GFAA PDS-GFAA MSA's r < 0.995 / ICP PDS Recovery Noncompliance
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 (e.g. base-line drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; e.g. chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DOT and Endrin
U = % Difference between columns/detectors >25% 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 greater than sample activity

PROJ_NO: 02720	NSAMPLE	MRC-95D-061110			MRC-96D-061110			MRC-MW93D-061010			MRC-MW94D-061010		
SDG: 0F11578	LAB_ID	A0F120439002			A0F120439001			A0F110578002			A0F110578003		
FRACTION: MF	SAMP_DATE	6/11/2010			6/11/2010			6/10/2010			6/10/2010		
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		0.35	B	A	0.2	B	A	0.32	B	A	0.13	B	A
ARSENIC		2.8	J	CP	0.16	U		20.5			1.2	J	CP
BARIUM		11.2			7.6			399			43.7		
BERYLLIUM		0.0059	U		0.085	B	A	5.4			0.28	B	A
CADMIUM		0.025	U		0.031	B	A	0.38	B	A	0.028	B	A
CHROMIUM		0.89	B	A	0.17	B	A	108			6.4		
COBALT		0.039	B	A	2.2			8			0.76	J	P
COPPER		2.5	B	A	1.7	B	A	47.4			4.5	B	A
IRON		47.2	B	A	73.4	B	A	51300			4400		
LEAD		0.019	U		0.019	U		63.3			3		
MANGANESE		0.17	B	A	11.1			377			75.6		
MERCURY		0.1	U		0.1	U		0.1	U		0.1	U	
MOLYBDENUM		15.4			0.31	B	A	22.5			3.8		
NICKEL		0.45	B	A	3.5	K	C	32.8			7		
SELENIUM		0.5	B	A	0.18	B	A	4.5	J	P	0.4	B	A
SILVER		0.015	U		0.015	U		0.088	J	KP	0.015	U	
THALLIUM		0.13	U		0.24	B	A	0.34	B	A	0.13	U	
VANADIUM		6.2	J	P	0.43	U		80.8			6.5	J	P
ZINC		4.9	B	A	11.3	B	A	118			14.5	B	A

PROJ_NO: 02720	NSAMPLE	MRC-95D-061110			MRC-96D-061110			MRC-MW93D-061010			MRC-MW94D-061010		
SDG: 0F11578	LAB_ID	A0F120439002			A0F120439001			A0F110578002			A0F110578003		
FRACTION: M	SAMP_DATE	6/11/2010			6/11/2010			6/10/2010			6/10/2010		
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	B	A	0.027	U		0.42	B	A	0.18	B	A
ARSENIC		7.5	K	C	0.16	U		26.1			4.1	J	CP
BARIUM		209			9			515			133		
BERYLLIUM		2.3			0.11	B	A	6.7			1.3		
CADMIUM		0.17	B	A	0.025	U		0.49	J	KP	0.12	B	A
CHROMIUM		72.9			0.51	B	A	143			28.1		
COBALT		5.5			2.4			10			2.6		
COPPER		24.6			2.2	B	A	59.9			13.1		
IRON		40900			202			66400			18100		
LEAD		30.2			0.019	U		78.2			14.5		
MANGANESE		262			12.6			522			214		
MERCURY		0.1	U		0.1	U		0.13	J	P	0.1	U	
MOLYBDENUM		14.1			0.27	U		20			5.2		
NICKEL		21.3			3.9	K	C	40.4			20.4		
SELENIUM		3.2	J	P	0.13	U		6.6			0.96	J	P
SILVER		0.015	UL	K	0.015	U		0.15	J	KP	0.015	UL	K
THALLIUM		0.21	B	A	0.13	U		0.49	B	A	0.14	B	A
VANADIUM		53.2			0.45	J	P	107			28.9		
ZINC		66.8			10.9	B	A	145			35.5		

APPENDIX B
RESULTS AS REPORTED BY THE LABORATORY

Tetra Tech NUS, Inc

Client Sample ID: MRC-95D-061110

TOTAL Metals

Lot-Sample #...: A0F120439-002 Matrix.....: WG
Date Sampled...: 06/11/10 09:28 Date Received..: 06/12/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0165019						
Silver	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1A5
		Dilution Factor: 1		Analysis Time..: 20:42	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.015		
Arsenic	7.5	5.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1AQ
		Dilution Factor: 1		Analysis Time..: 20:42	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		
Barium	209 J	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1AR
		Dilution Factor: 1		Analysis Time..: 20:42	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.027		
Beryllium	2.3	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1AT
		Dilution Factor: 1		Analysis Time..: 20:42	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.0059		
Cadmium	0.17 B	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1AU
		Dilution Factor: 1		Analysis Time..: 20:42	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.025		
Cobalt	5.5	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1AV
		Dilution Factor: 1		Analysis Time..: 20:42	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.015		
Chromium	72.9 J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1A9
		Dilution Factor: 1		Analysis Time..: 20:42	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.044		
Copper	24.6 J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1AW
		Dilution Factor: 1		Analysis Time..: 20:42	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.043		
Iron	40900 J	50.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1AX
		Dilution Factor: 1		Analysis Time..: 20:42	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 6.0		
Manganese	262 J	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1A1
		Dilution Factor: 1		Analysis Time..: 20:42	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		

(Continued on next page)

Tetra Tech NUS, Inc

Client Sample ID: MRC-95D-061110

TOTAL Metals

Lot-Sample #...: A0F120439-002 Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Molybdenum	14.1	2.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1A2
		Dilution Factor: 1		Analysis Time..: 20:42	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.27		
Nickel	21.3 J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1A3
		Dilution Factor: 1		Analysis Time..: 20:42	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		
Lead	30.2	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1A0
		Dilution Factor: 1		Analysis Time..: 20:42	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.019		
Antimony	0.28 B,J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1AP
		Dilution Factor: 1		Analysis Time..: 20:42	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.027		
Selenium	3.2 B	5.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1A4
		Dilution Factor: 1		Analysis Time..: 20:42	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.13		
Thallium	0.21 B,J	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1A6
		Dilution Factor: 1		Analysis Time..: 20:42	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.13		
Vanadium	53.2	20.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1A7
		Dilution Factor: 1		Analysis Time..: 20:42	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.43		
Zinc	66.8 J	20.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1A8
		Dilution Factor: 1		Analysis Time..: 20:42	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.35		
Mercury	ND	0.20	ug/L	SW846 7470A	06/14-06/16/10	L2T6X1AA
		Dilution Factor: 1		Analysis Time..: 08:56	Analyst ID.....: 001576	
		Instrument ID..: H1		MDL.....: 0.10		

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Client Sample ID: MRC-95D-061110

DISSOLVED Metals

Lot-Sample #...: A0F120439-002 Matrix.....: WG
Date Sampled...: 06/11/10 09:28 Date Received..: 06/12/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0165019						
Silver	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1CF
		Dilution Factor: 1		Analysis Time..: 20:47	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.015		
Arsenic	2.8 B	5.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1AD
		Dilution Factor: 1		Analysis Time..: 20:47	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		
Barium	11.2 J	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1AE
		Dilution Factor: 1		Analysis Time..: 20:47	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.027		
Beryllium	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1AF
		Dilution Factor: 1		Analysis Time..: 20:47	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.0059		
Cadmium	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1AG
		Dilution Factor: 1		Analysis Time..: 20:47	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.025		
Cobalt	0.039 B	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1AH
		Dilution Factor: 1		Analysis Time..: 20:47	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.015		
Chromium	0.89 B,J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1CK
		Dilution Factor: 1		Analysis Time..: 20:47	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.044		
Copper	2.5 J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1AJ
		Dilution Factor: 1		Analysis Time..: 20:47	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.043		
Iron	47.2 B,J	50.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1AK
		Dilution Factor: 1		Analysis Time..: 20:47	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 6.0		
Manganese	0.17 B,J	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1CA
		Dilution Factor: 1		Analysis Time..: 20:47	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		

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Tetra Tech NUS, Inc

Client Sample ID: MRC-95D-061110

DISSOLVED Metals

Lot-Sample #...: A0F120439-002 Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Molybdenum	15.4	2.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1CC
		Dilution Factor: 1		Analysis Time..: 20:47	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.27		
Nickel	0.45 B,J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1CD
		Dilution Factor: 1		Analysis Time..: 20:47	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		
Lead	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1AL
		Dilution Factor: 1		Analysis Time..: 20:47	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.019		
Antimony	0.35 B,J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1AC
		Dilution Factor: 1		Analysis Time..: 20:47	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.027		
Selenium	0.50 B	5.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1CE
		Dilution Factor: 1		Analysis Time..: 20:47	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.13		
Thallium	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1CG
		Dilution Factor: 1		Analysis Time..: 20:47	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.13		
Vanadium	6.2 B	20.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1CH
		Dilution Factor: 1		Analysis Time..: 20:47	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.43		
Zinc	4.9 B,J	20.0	ug/L	SW846 6020	06/14-06/16/10	L2T6X1CJ
		Dilution Factor: 1		Analysis Time..: 20:47	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.35		
Mercury	ND	0.20	ug/L	SW846 7470A	06/14-06/16/10	L2T6X1CL
		Dilution Factor: 1		Analysis Time..: 08:57	Analyst ID.....: 001576	
		Instrument ID..: H1		MDL.....: 0.10		

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Tetra Tech NUS, Inc

Client Sample ID: MRC-MW93D-061010

TOTAL Metals

Lot-Sample #...: A0F110578-002 Matrix.....: WG
Date Sampled...: 06/10/10 10:23 Date Received..: 06/11/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0165019						
Silver	0.15 B	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81AT
		Dilution Factor: 1		Analysis Time..: 19:27	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.015		
Arsenic	26.1	5.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81AE
		Dilution Factor: 1		Analysis Time..: 19:27	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		
Barium	515 J	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81AF
		Dilution Factor: 1		Analysis Time..: 19:27	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.027		
Beryllium	6.7	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81AG
		Dilution Factor: 1		Analysis Time..: 19:27	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.0059		
Cadmium	0.49 B	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81AH
		Dilution Factor: 1		Analysis Time..: 19:27	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.025		
Cobalt	10	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81AJ
		Dilution Factor: 1		Analysis Time..: 19:27	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.015		
Chromium	143 J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81AX
		Dilution Factor: 1		Analysis Time..: 19:27	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.044		
Copper	59.9 J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81AK
		Dilution Factor: 1		Analysis Time..: 19:27	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.043		
Iron	66400 J	50.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81AL
		Dilution Factor: 1		Analysis Time..: 19:27	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 6.0		
Manganese	522 J	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81AN
		Dilution Factor: 1		Analysis Time..: 19:27	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		

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Tetra Tech NUS, Inc

Client Sample ID: MRC-MW93D-061010

TOTAL Metals

Lot-Sample #...: A0F110578-002 Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Molybdenum	20.0	2.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81AP
		Dilution Factor: 1		Analysis Time..: 19:27	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.27		
Nickel	40.4 J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81AQ
		Dilution Factor: 1		Analysis Time..: 19:27	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		
Lead	78.2	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81AM
		Dilution Factor: 1		Analysis Time..: 19:27	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.019		
Antimony	0.42 B,J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81AD
		Dilution Factor: 1		Analysis Time..: 19:27	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.027		
Selenium	6.6	5.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81AR
		Dilution Factor: 1		Analysis Time..: 19:27	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.13		
Thallium	0.49 B,J	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81AU
		Dilution Factor: 1		Analysis Time..: 19:27	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.13		
Vanadium	107	20.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81AV
		Dilution Factor: 1		Analysis Time..: 19:27	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.43		
Zinc	145 J	20.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81AW
		Dilution Factor: 1		Analysis Time..: 19:27	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.35		
Mercury	0.13 B	0.20	ug/L	SW846 7470A	06/14-06/16/10	L2TE81A0
		Dilution Factor: 1		Analysis Time..: 09:03	Analyst ID.....: 001576	
		Instrument ID..: H1		MDL.....: 0.10		

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Tetra Tech NUS, Inc

Client Sample ID: MRC-MW93D-061010

DISSOLVED Metals

Lot-Sample #...: A0F110578-002 Matrix.....: WG
Date Sampled...: 06/10/10 10:23 Date Received..: 06/11/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0165019						
Silver	0.088 B	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81CF
		Dilution Factor: 1		Analysis Time..: 19:32	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.015		
Arsenic	20.5	5.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81A2
		Dilution Factor: 1		Analysis Time..: 19:32	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		
Barium	399 J	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81A3
		Dilution Factor: 1		Analysis Time..: 19:32	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.027		
Beryllium	5.4	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81A4
		Dilution Factor: 1		Analysis Time..: 19:32	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.0059		
Cadmium	0.38 B	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81A5
		Dilution Factor: 1		Analysis Time..: 19:32	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.025		
Cobalt	8.0	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81A6
		Dilution Factor: 1		Analysis Time..: 19:32	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.015		
Chromium	108 J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81CK
		Dilution Factor: 1		Analysis Time..: 19:32	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.044		
Copper	47.4 J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81A7
		Dilution Factor: 1		Analysis Time..: 19:32	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.043		
Iron	51300 J	50.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81A8
		Dilution Factor: 1		Analysis Time..: 19:32	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 6.0		
Manganese	377 J	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81CA
		Dilution Factor: 1		Analysis Time..: 19:32	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		

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Tetra Tech NUS, Inc

Client Sample ID: MRC-MW93D-061010

DISSOLVED Metals

Lot-Sample #...: A0F110578-002 Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Molybdenum	22.5	2.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81CC
		Dilution Factor: 1		Analysis Time..: 19:32	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.27		
Nickel	32.8 J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81CD
		Dilution Factor: 1		Analysis Time..: 19:32	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		
Lead	63.3	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81A9
		Dilution Factor: 1		Analysis Time..: 19:32	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.019		
Antimony	0.32 B,J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81A1
		Dilution Factor: 1		Analysis Time..: 19:32	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.027		
Selenium	4.5 B	5.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81CE
		Dilution Factor: 1		Analysis Time..: 19:32	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.13		
Thallium	0.34 B,J	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81CG
		Dilution Factor: 1		Analysis Time..: 19:32	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.13		
Vanadium	80.8	20.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81CH
		Dilution Factor: 1		Analysis Time..: 19:32	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.43		
Zinc	118 J	20.0	ug/L	SW846 6020	06/14-06/16/10	L2TE81CJ
		Dilution Factor: 1		Analysis Time..: 19:32	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.35		
Mercury	ND	0.20	ug/L	SW846 7470A	06/14-06/16/10	L2TE81CL
		Dilution Factor: 1		Analysis Time..: 09:04	Analyst ID.....: 001576	
		Instrument ID..: H1		MDL.....: 0.10		

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Tetra Tech NUS, Inc

Client Sample ID: MRC-MW94D-061010

TOTAL Metals

Lot-Sample #...: A0F110578-003
Date Sampled...: 06/10/10 15:03 Date Received..: 06/11/10
Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0165019						
Silver	ND	1.0 Dilution Factor: 1 Instrument ID..: I8	ug/L	SW846 6020 Analysis Time..: 19:41 MDL.....: 0.015	06/14-06/16/10 Analyst ID.....: 000079	L2TFL1A5
Arsenic	4.1 B	5.0 Dilution Factor: 1 Instrument ID..: I8	ug/L	SW846 6020 Analysis Time..: 19:41 MDL.....: 0.16	06/14-06/16/10 Analyst ID.....: 000079	L2TFL1AQ
Barium	133 J	1.0 Dilution Factor: 1 Instrument ID..: I8	ug/L	SW846 6020 Analysis Time..: 19:41 MDL.....: 0.027	06/14-06/16/10 Analyst ID.....: 000079	L2TFL1AR
Beryllium	1.3	1.0 Dilution Factor: 1 Instrument ID..: I8	ug/L	SW846 6020 Analysis Time..: 19:41 MDL.....: 0.0059	06/14-06/16/10 Analyst ID.....: 000079	L2TFL1AT
Cadmium	0.12 B	1.0 Dilution Factor: 1 Instrument ID..: I8	ug/L	SW846 6020 Analysis Time..: 19:41 MDL.....: 0.025	06/14-06/16/10 Analyst ID.....: 000079	L2TFL1AU
Cobalt	2.6	1.0 Dilution Factor: 1 Instrument ID..: I8	ug/L	SW846 6020 Analysis Time..: 19:41 MDL.....: 0.015	06/14-06/16/10 Analyst ID.....: 000079	L2TFL1AV
Chromium	28.1 J	2.0 Dilution Factor: 1 Instrument ID..: I8	ug/L	SW846 6020 Analysis Time..: 19:41 MDL.....: 0.044	06/14-06/16/10 Analyst ID.....: 000079	L2TFL1A9
Copper	13.1 J	2.0 Dilution Factor: 1 Instrument ID..: I8	ug/L	SW846 6020 Analysis Time..: 19:41 MDL.....: 0.043	06/14-06/16/10 Analyst ID.....: 000079	L2TFL1AW
Iron	18100 J	50.0 Dilution Factor: 1 Instrument ID..: I8	ug/L	SW846 6020 Analysis Time..: 19:41 MDL.....: 6.0	06/14-06/16/10 Analyst ID.....: 000079	L2TFL1AX
Manganese	214 J	1.0 Dilution Factor: 1 Instrument ID..: I8	ug/L	SW846 6020 Analysis Time..: 19:41 MDL.....: 0.16	06/14-06/16/10 Analyst ID.....: 000079	L2TFL1A1

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Tetra Tech NUS, Inc

Client Sample ID: MRC-MW94D-061010

TOTAL Metals

Lot-Sample #...: A0F110578-003 Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Molybdenum	5.2	2.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1A2
		Dilution Factor: 1		Analysis Time..: 19:41	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.27		
Nickel	20.4 J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1A3
		Dilution Factor: 1		Analysis Time..: 19:41	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		
Lead	14.5	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1A0
		Dilution Factor: 1		Analysis Time..: 19:41	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.019		
Antimony	0.18 B,J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1AP
		Dilution Factor: 1		Analysis Time..: 19:41	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.027		
Selenium	0.96 B	5.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1A4
		Dilution Factor: 1		Analysis Time..: 19:41	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.13		
Thallium	0.14 B,J	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1A6
		Dilution Factor: 1		Analysis Time..: 19:41	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.13		
Vanadium	28.9	20.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1A7
		Dilution Factor: 1		Analysis Time..: 19:41	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.43		
Zinc	35.5 J	20.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1A8
		Dilution Factor: 1		Analysis Time..: 19:41	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.35		
Mercury	ND	0.20	ug/L	SW846 7470A	06/14-06/16/10	L2TFL1AA
		Dilution Factor: 1		Analysis Time..: 08:58	Analyst ID.....: 001576	
		Instrument ID..: H1		MDL.....: 0.10		

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Tetra Tech NUS, Inc

Client Sample ID: MRC-MW94D-061010

DISSOLVED Metals

Lot-Sample #...: A0F110578-003 Matrix.....: WG
Date Sampled...: 06/10/10 15:03 Date Received..: 06/11/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0165019						
Silver	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1CF
		Dilution Factor: 1		Analysis Time..: 19:46	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.015		
Arsenic	1.2 B	5.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1AD
		Dilution Factor: 1		Analysis Time..: 19:46	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		
Barium	43.7 J	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1AE
		Dilution Factor: 1		Analysis Time..: 19:46	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.027		
Beryllium	0.28 B	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1AF
		Dilution Factor: 1		Analysis Time..: 19:46	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.0059		
Cadmium	0.028 B	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1AG
		Dilution Factor: 1		Analysis Time..: 19:46	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.025		
Cobalt	0.76 B	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1AH
		Dilution Factor: 1		Analysis Time..: 19:46	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.015		
Chromium	6.4 J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1CK
		Dilution Factor: 1		Analysis Time..: 19:46	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.044		
Copper	4.5 J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1AJ
		Dilution Factor: 1		Analysis Time..: 19:46	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.043		
Iron	4400 J	50.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1AK
		Dilution Factor: 1		Analysis Time..: 19:46	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 6.0		
Manganese	75.6 J	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1CA
		Dilution Factor: 1		Analysis Time..: 19:46	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		

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Tetra Tech NUS, Inc

Client Sample ID: MRC-MW94D-061010

DISSOLVED Metals

Lot-Sample #...: A0F110578-003 Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Molybdenum	3.8	2.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1CC
		Dilution Factor: 1		Analysis Time..: 19:46	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.27		
Nickel	7.0 J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1CD
		Dilution Factor: 1		Analysis Time..: 19:46	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		
Lead	3.0	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1AL
		Dilution Factor: 1		Analysis Time..: 19:46	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.019		
Antimony	0.13 B,J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1AC
		Dilution Factor: 1		Analysis Time..: 19:46	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.027		
Selenium	0.40 B	5.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1CE
		Dilution Factor: 1		Analysis Time..: 19:46	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.13		
Thallium	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1CG
		Dilution Factor: 1		Analysis Time..: 19:46	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.13		
Vanadium	6.5 B	20.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1CH
		Dilution Factor: 1		Analysis Time..: 19:46	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.43		
Zinc	14.5 B,J	20.0	ug/L	SW846 6020	06/14-06/16/10	L2TFL1CJ
		Dilution Factor: 1		Analysis Time..: 19:46	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.35		
Mercury	ND	0.20	ug/L	SW846 7470A	06/14-06/16/10	L2TFL1CL
		Dilution Factor: 1		Analysis Time..: 09:00	Analyst ID.....: 001576	
		Instrument ID..: H1		MDL.....: 0.10		

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Tetra Tech NUS, Inc

Client Sample ID: MRC-96D-061110

TOTAL Metals

Lot-Sample #...: A0F120439-001 Matrix.....: WG
Date Sampled...: 06/11/10 12:45 Date Received..: 06/12/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0165019						
Silver	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T531AT
		Dilution Factor: 1		Analysis Time..: 20:21	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.015		
Arsenic	ND	5.0	ug/L	SW846 6020	06/14-06/16/10	L2T531AE
		Dilution Factor: 1		Analysis Time..: 20:21	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		
Barium	**9.0 J**	**1.0**	**ug/L**	**SW846 6020**	**06/14-06/16/10**	**L2T531AF**
		Dilution Factor: 1		Analysis Time..: 20:21	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.027		
Beryllium	**0.11 B**	**1.0**	**ug/L**	**SW846 6020**	**06/14-06/16/10**	**L2T531AG**
		Dilution Factor: 1		Analysis Time..: 20:21	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.0059		
Cadmium	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T531AH
		Dilution Factor: 1		Analysis Time..: 20:21	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.025		
Cobalt	**2.4**	**1.0**	**ug/L**	**SW846 6020**	**06/14-06/16/10**	**L2T531AJ**
		Dilution Factor: 1		Analysis Time..: 20:21	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.015		
Chromium	**0.51 B,J**	**2.0**	**ug/L**	**SW846 6020**	**06/14-06/16/10**	**L2T531AX**
		Dilution Factor: 1		Analysis Time..: 20:21	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.044		
Copper	**2.2 J**	**2.0**	**ug/L**	**SW846 6020**	**06/14-06/16/10**	**L2T531AK**
		Dilution Factor: 1		Analysis Time..: 20:21	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.043		
Iron	**202 J**	**50.0**	**ug/L**	**SW846 6020**	**06/14-06/16/10**	**L2T531AL**
		Dilution Factor: 1		Analysis Time..: 20:21	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 6.0		
Manganese	**12.6 J**	**1.0**	**ug/L**	**SW846 6020**	**06/14-06/16/10**	**L2T531AN**
		Dilution Factor: 1		Analysis Time..: 20:21	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		

(Continued on next page)

Tetra Tech NUS, Inc

Client Sample ID: MRC-96D-061110

TOTAL Metals

Lot-Sample #...: A0F120439-001 Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Molybdenum	ND	2.0	ug/L	SW846 6020	06/14-06/16/10	L2T531AP
		Dilution Factor: 1		Analysis Time..: 20:21	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.27		
Nickel	3.9 J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2T531AQ
		Dilution Factor: 1		Analysis Time..: 20:21	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		
Lead	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T531AM
		Dilution Factor: 1		Analysis Time..: 20:21	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.019		
Antimony	ND	2.0	ug/L	SW846 6020	06/14-06/16/10	L2T531AD
		Dilution Factor: 1		Analysis Time..: 20:21	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.027		
Selenium	ND	5.0	ug/L	SW846 6020	06/14-06/16/10	L2T531AR
		Dilution Factor: 1		Analysis Time..: 20:21	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.13		
Thallium	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T531AU
		Dilution Factor: 1		Analysis Time..: 20:21	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.13		
Vanadium	0.45 B	20.0	ug/L	SW846 6020	06/14-06/16/10	L2T531AV
		Dilution Factor: 1		Analysis Time..: 20:21	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.43		
Zinc	10.9 B,J	20.0	ug/L	SW846 6020	06/14-06/16/10	L2T531AW
		Dilution Factor: 1		Analysis Time..: 20:21	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.35		
Mercury	ND	0.20	ug/L	SW846 7470A	06/14-06/16/10	L2T531A0
		Dilution Factor: 1		Analysis Time..: 08:51	Analyst ID.....: 001576	
		Instrument ID..: H1		MDL.....: 0.10		

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Client Sample ID: MRC-96D-061110

DISSOLVED Metals

Lot-Sample #...: A0F120439-001 Matrix.....: WG
Date Sampled...: 06/11/10 12:45 Date Received..: 06/12/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0165019						
Silver	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T531CF
		Dilution Factor: 1		Analysis Time..: 20:37	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.015		
Arsenic	ND	5.0	ug/L	SW846 6020	06/14-06/16/10	L2T531A2
		Dilution Factor: 1		Analysis Time..: 20:37	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		
Barium	7.6 J	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T531A3
		Dilution Factor: 1		Analysis Time..: 20:37	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.027		
Beryllium	0.085 B	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T531A4
		Dilution Factor: 1		Analysis Time..: 20:37	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.0059		
Cadmium	0.031 B	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T531A5
		Dilution Factor: 1		Analysis Time..: 20:37	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.025		
Cobalt	2.2	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T531A6
		Dilution Factor: 1		Analysis Time..: 20:37	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.015		
Chromium	0.17 B,J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2T531CK
		Dilution Factor: 1		Analysis Time..: 20:37	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.044		
Copper	1.7 B,J	2.0	ug/L	SW846 6020	06/14-06/16/10	L2T531A7
		Dilution Factor: 1		Analysis Time..: 20:37	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.043		
Iron	73.4 J	50.0	ug/L	SW846 6020	06/14-06/16/10	L2T531A8
		Dilution Factor: 1		Analysis Time..: 20:37	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 6.0		
Manganese	11.1 J	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T531CA
		Dilution Factor: 1		Analysis Time..: 20:37	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		

(Continued on next page)

Tetra Tech NUS, Inc

Client Sample ID: MRC-96D-061110

DISSOLVED Metals

Lot-Sample #...: A0F120439-001 Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Molybdenum	**0.31 B**	**2.0**	**ug/L**	**SW846 6020**	**06/14-06/16/10**	**L2T531CC**
		Dilution Factor: 1		Analysis Time..: 20:37	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.27		
Nickel	**3.5 J**	**2.0**	**ug/L**	**SW846 6020**	**06/14-06/16/10**	**L2T531CD**
		Dilution Factor: 1		Analysis Time..: 20:37	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.16		
Lead	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2T531A9
		Dilution Factor: 1		Analysis Time..: 20:37	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.019		
Antimony	**0.20 B,J**	**2.0**	**ug/L**	**SW846 6020**	**06/14-06/16/10**	**L2T531A1**
		Dilution Factor: 1		Analysis Time..: 20:37	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.027		
Selenium	**0.18 B**	**5.0**	**ug/L**	**SW846 6020**	**06/14-06/16/10**	**L2T531CE**
		Dilution Factor: 1		Analysis Time..: 20:37	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.13		
Thallium	**0.24 B,J**	**1.0**	**ug/L**	**SW846 6020**	**06/14-06/16/10**	**L2T531CG**
		Dilution Factor: 1		Analysis Time..: 20:37	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.13		
Vanadium	ND	20.0	ug/L	SW846 6020	06/14-06/16/10	L2T531CH
		Dilution Factor: 1		Analysis Time..: 20:37	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.43		
Zinc	**11.3 B,J**	**20.0**	**ug/L**	**SW846 6020**	**06/14-06/16/10**	**L2T531CJ**
		Dilution Factor: 1		Analysis Time..: 20:37	Analyst ID.....: 000079	
		Instrument ID..: I8		MDL.....: 0.35		
Mercury	ND	0.20	ug/L	SW846 7470A	06/14-06/16/10	L2T531CL
		Dilution Factor: 1		Analysis Time..: 08:55	Analyst ID.....: 001576	
		Instrument ID..: H1		MDL.....: 0.10		

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B Estimated result. Result is less than RL.

APPENDIX C
SUPPORT DOCUMENTATION

CASE NARRATIVE

0F11578

The following report contains the analytical results for four water samples and two quality control samples submitted to TestAmerica North Canton by Tetra Tech NUS, Inc from the LM-MRC Deep Well GW Sampling Site, project number 112IC02720. The samples were received June 11, 2010 and June 12, 2010, according to documented sample acceptance procedures.

This SDG consists of (2) laboratory ID's: A0F110578 and A0F120439.

TestAmerica utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Kelly Carper and Tony Apanavage on June 24, 2010. A summary of QC data for these analyses is included at the back of the report.

TestAmerica North 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 applicable 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.

All parameters were evaluated to the method detection limit and include qualified results where applicable.

Please refer to the Quality Control Elements Narrative following this case narrative for additional quality control information.

If you have any questions, please call the Project Manager, Patrick J. O'Meara, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

CASE NARRATIVE (continued)

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperatures of the coolers upon sample receipt were 1.6, 2.8 and 2.9°C.

See TestAmerica's Cooler Receipt Form for additional information.

GC/MS VOLATILES

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "B". All target analytes in the Method Blank must be below the reporting limit (RL) or the associated sample(s) must be ND with the exception of common laboratory contaminants.

The sample(s) that contain results between the MDL and the RL were flagged with "J". There is a possibility of false positive or mis-identification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation was performed only down to the standard reporting limit (SRL). The acceptance criteria for QC samples may not be met at these quantitation levels.

2-Chloroethyl vinyl ether cannot be reliably recovered in an acid preserved sample.

GC/MS SEMIVOLATILES

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "B". All target analytes in the Method Blank must be below the reporting limit (RL) or the associated sample(s) must be ND with the exception of common laboratory contaminants.

The sample(s) that contain results between the MDL and the RL were flagged with "J". There is a possibility of false positive or mis-identification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation was performed only down to the standard reporting limit (SRL). The acceptance criteria for QC samples may not be met at these quantitation levels.

CASE NARRATIVE (continued)

METALS

The sample(s) that contain results between the MDL and the RL were flagged with "B". There is the possibility of false positive or mis-identification at these quantitation levels. The acceptance criteria for the ICB, CCB, and Method Blank are +/- the standard reporting limit (SRL).

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "J". Refer to the sample report pages for the affected analyte(s).

The sample duplicate RPD was outside the acceptance limits for some analytes. The result is less than five times the reporting limit; therefore, no corrective action is required. Refer to the sample duplicate report for RPDS that exceed 20%.

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☐ No ☒

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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TAL-4124 (1007)

Client	Project Manager	Date	Chain of Custody Number
Tetra Tech, NUS	Dev Murali	6/11/10	154978
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
20251 Century Blvd.	(301) 528-3063		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Germantown / MD	Dawn MacKiewicz		
Project Name and Location (State)	**Carrier/Waybill Number**		
MRC Deep Well GW Sampling			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: VOC	SVOC	1,4-Dioxane	Total Metals	Dissolved Metals	Special Instructions/ Conditions of Receipt
MRC-96D-061110	6/11/10	1245		X			5		1	3			3	2	2	M	1	*Filter Dissolved metals in lab. Also listed on COC # 154978
MRC-95D-061110	6/11/10	0928		X			5		1	3			3	2	2	M	1	
TB-061110	6/11/10	0700		X						2			2					

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

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	6/11/10		1. Received By	6/12/10	9:30 AM
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

North Canton

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☐ No ☒

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client: Tetra Tech NUS	Project Manager: Tony Aparicio	Date: 6-10-10	Chain of Custody Number: 154077
Address: 20251 Century Blvd Ste 200	Telephone Number (Area Code)/Fax Number: (301) 526-5552	Lab Number: (330) 497-9396	Page 1 of 1
City: Germantown / State: MD / Zip Code: 20874	Site Contact: Walt Prior	Lab Contact:	
Project Name and Location (State): MRL MD Deep well →	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: Groundwater Sampling 2010			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: VOCs	SVOCs	1,4 Dioxane	Total metals	Diss metals	Special Instructions/ Conditions of Receipt
TB-061010	6-10-10	0730		X						X			X					
MRE-MW 930-061010	↓	1023		X			X		X	X			X	X	X	X	X	
MRE-MW 94D-061010	↓	1503		X			X		X	X			X	X	X	X	X	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Walt Prior	6-10-10	1800	1. Received By: TEST AMERICA	11 JUN 2010	0910
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

North Canton

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SDG 0F11578

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
	UG/L	MRC-96D-061110	A0F120439001	NM	06/11/2010	06/14/2010	06/16/2010	3	2	5
	UG/L	MRC-MW93D-061010	A0F110578002	NM	06/10/2010	06/14/2010	06/16/2010	4	2	6
	UG/L	MRC-MW94D-061010	A0F110578003	NM	06/10/2010	06/14/2010	06/16/2010	4	2	6
	UG/L	MRC-95D-061110	A0F120439002	NM	06/11/2010	06/14/2010	06/16/2010	3	2	5
HG	UG/L	MRC-MW94D-061010	A0F110578003	NM	06/10/2010	06/14/2010	06/16/2010	4	2	6
HG	UG/L	MRC-95D-061110	A0F120439002	NM	06/11/2010	06/14/2010	06/16/2010	3	2	5
HG	UG/L	MRC-96D-061110	A0F120439001	NM	06/11/2010	06/14/2010	06/16/2010	3	2	5
HG	UG/L	MRC-MW93D-061010	A0F110578002	NM	06/10/2010	06/14/2010	06/16/2010	4	2	6
OS	UG/L	MRC-96D-061110	A0F120439001	NM	06/11/2010	06/14/2010	06/16/2010	3	2	5
OS	UG/L	MRC-MW93D-061010	A0F110578002	NM	06/10/2010	06/14/2010	06/16/2010	4	2	6
OS	UG/L	MRC-MW94D-061010	A0F110578003	NM	06/10/2010	06/14/2010	06/16/2010	4	2	6
OS	UG/L	MRC-95D-061110	A0F120439002	NM	06/11/2010	06/14/2010	06/16/2010	3	2	5
OV	UG/L	TB-061110	A0F120439003	TB	06/11/2010	06/21/2010	06/21/2010	10	0	10
OV	UG/L	MRC-95D-061110	A0F120439002	NM	06/11/2010	06/21/2010	06/21/2010	10	0	10
OV	UG/L	MRC-96D-061110	A0F120439001	NM	06/11/2010	06/21/2010	06/21/2010	10	0	10

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/L	MRC-MW93D-061010	A0F110578002	NM	06/10/2010	06/21/2010	06/21/2010	11	0	11
OV	UG/L	MRC-MW94D-061010	A0F110578003	NM	06/10/2010	06/21/2010	06/21/2010	11	0	11
OV	UG/L	TB-061010	A0F110578001	TB	06/10/2010	06/21/2010	06/21/2010	11	0	11

TestAmerica North Canton

Metals Data Reporting Form

Initial Calibration Verification Standard

Instrument: CVAA **Units:** ug/L

Chart Number: hg10616a.prn **Acceptable Range:** 90% - 110%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck5ICV 06/16/10 8:43 AM Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Mercury	253.7	2.5	2.40	**96.1**								

TestAmerica North Canton

Metals Data Reporting Form

Initial Calibration Verification Standard

Instrument: ICPMS **Units:** ug/L

Chart Number: I80616A.csv **Acceptable Range:** 90% - 110%

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	True Conc	X ICV 06/16/10 10:14 AM Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Antimony	121	80.0	81.09	**101.4**								
Arsenic	75	80.0	80.64	**100.8**								
Barium	137	80.0	80.05	**100.1**								
Beryllium	9	80.0	81.22	**101.5**								
Cadmium	111	80.0	83.50	**104.4**								
Chromium	52	80.0	79.25	**99.1**								
Cobalt	59	80.0	81.49	**101.9**								
Copper	65	80.0	83.92	**104.9**								
Iron	56	20000.0	19900.00	**99.5**								
Lead	208	80.0	79.98	**100.0**								
Manganese	55	400.0	422.60	**105.7**								
Molybdenum	95	80.0	81.47	**101.8**								
Nickel	60	80.0	82.25	**102.8**								
Selenium	78	80.0	82.75	**103.4**								
Silver	107	80.0	84.45	**105.6**								
Thallium	205	80.0	80.44	**100.6**								
Vanadium	51	80.0	79.46	**99.3**								
Zinc	66	80.0	82.00	**102.5**								

TestAmerica North Canton

Metals Data Reporting Form

Continuing Calibration Verification

Instrument: CVAA **Units:** ug/L

Chart Number: hg10616a.prn **Acceptable Range:** 80% - 120%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck2CCV 06/16/10 8:47 AM		Ck2CCV 06/16/10 9:01 AM		Ck2CCV 06/16/10 9:15 AM					
			Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Mercury	253.7	5.0	5.03	**100.6**	5.10	**102.1**	5.11	**102.1**				

TestAmerica North Canton

Metals Data Reporting Form

Continuing Calibration Verification

Instrument: ICPMS **Units:** ug/L

Chart Number: I80616A.csv **Acceptable Range:** 90% - 110%

Standard Source: **Standard ID:**

Element	WL/ Mass	True Conc	CCV 06/16/10 10:41 AM Found	% Rec	CCV 7 06/16/10 6:05 PM Found	% Rec	CCV 8 06/16/10 7:09 PM Found	% Rec	CCV 9 06/16/10 8:10 PM Found	% Rec	CCV 10 06/16/10 9:13 PM Found	% Rec
Antimony	121	100.0	101.00	**101.0**	100.16	**100.2**	100.39	**100.4**	100.15	**100.2**	100.84	**100.8**
Arsenic	75	100.0	100.15	**100.2**	99.22	**99.2**	99.13	**99.1**	97.30	**97.3**	97.43	**97.4**
Barium	137	100.0	98.61	**98.6**	99.92	**99.9**	99.86	**99.9**	100.85	**100.8**	99.79	**99.8**
Beryllium	9	100.0	101.06	**101.1**	98.78	**98.8**	101.70	**101.7**	101.87	**101.9**	97.20	**97.2**
Cadmium	111	100.0	101.34	**101.3**	100.50	**100.5**	101.27	**101.3**	100.88	**100.9**	100.83	**100.8**
Chromium	52	100.0	100.97	**101.0**	99.50	**99.5**	98.62	**98.6**	97.68	**97.7**	96.92	**96.9**
Cobalt	59	100.0	100.83	**100.8**	98.64	**98.6**	97.28	**97.3**	97.47	**97.5**	96.52	**96.5**
Copper	65	100.0	102.30	**102.3**	99.07	**99.1**	97.38	**97.4**	97.44	**97.4**	97.73	**97.7**
Iron	56	25000.0	25003.33	**100.0**	25370.00	**101.5**	25430.00	**101.7**	25516.67	**102.1**	25613.33	**102.5**
Lead	208	100.0	98.63	**98.6**	97.86	**97.9**	97.44	**97.4**	98.16	**98.2**	97.23	**97.2**
Manganese	55	500.0	517.50	**103.5**	531.63	**106.3**	521.40	**104.3**	525.57	**105.1**	524.87	**105.0**
Molybdenum	95	100.0	106.27	**106.3**	102.60	**102.6**	102.97	**103.0**	101.23	**101.2**	105.23	**105.2**
Nickel	60	100.0	101.73	**101.7**	98.48	**98.5**	97.27	**97.3**	97.58	**97.6**	97.09	**97.1**
Selenium	78	100.0	100.64	**100.6**	98.72	**98.7**	97.35	**97.3**	97.50	**97.5**	100.25	**100.3**
Silver	107	100.0	103.23	**103.2**	101.30	**101.3**	100.48	**100.5**	100.16	**100.2**	100.28	**100.3**
Thallium	205	100.0	100.37	**100.4**	100.06	**100.1**	98.86	**98.9**	99.14	**99.1**	99.05	**99.1**
Vanadium	51	100.0	99.94	**99.9**	97.76	**97.8**	97.12	**97.1**	96.21	**96.2**	96.06	**96.1**
Zinc	66	100.0	103.77	**103.8**	100.53	**100.5**	100.40	**100.4**	99.08	**99.1**	100.70	**100.7**

TestAmerica North Canton

Metals Data Reporting Form

Contract Required Detection Limit Standard

Instrument: CVAA **Units:** ug/L

Chart Number: hg10616a.prn **Acceptable Range:** 50% - 150%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck3CRA\MRL 06/16/10 8:45 AM Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Mercury	253.7	0.2	0.17	**86.6**								

TestAmerica North Canton

Metals Data Reporting Form

Contract Required Detection Limit Standard

Instrument: ICPMS **Units:** ug/L

Chart Number: I80616A.csv **Acceptable Range:** 50% - 150%

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	True Conc	CRI X 06/16/10 10:25 AM Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Antimony	121	2.0	2.05	**102.3**								
Arsenic	75	2.0	2.23	**111.6**								
Barium	137	1.0	0.93	**93.4**								
Beryllium	9	1.0	1.04	**104.4**								
Cadmium	111	0.5	0.50	**99.9**								
Chromium	52	2.0	2.03	**101.4**								
Cobalt	59	1.0	1.07	**106.9**								
Copper	65	2.0	2.25	**112.5**								
Iron	56	50.0	55.84	**111.7**								
Lead	208	1.0	0.62	**62.4**								
Manganese	55	1.0	1.19	**118.9**								
Molybdenu	95	10.0	10.10	**101.0**								
Nickel	60	2.0	2.31	**115.3**								
Selenium	78	2.0	2.20	**110.1**								
Silver	107	0.5	0.45	**90.6**								
Thallium	205	1.0	1.09	**108.7**								
Vanadium	51	5.0	5.15	**102.9**								
Zinc	66	10.0	9.91	**99.1**								

TestAmerica North Canton

Metals Data Reporting Form

Initial Calibration Blank Results

Instrument: CVAA **Units:** ug/L

Chart Number: hg10616a.prn

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	Ck4ICB 06/16/10 8:44 AM Found	Q	Found	Q	Found	Q	Found	Q	Found	Q
Mercury	253.7	0.2	0.1	U								

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

TestAmerica North Canton

Metals Data Reporting Form

Initial Calibration Blank Results

Instrument: ICPMS **Units:** ug/L

Chart Number: I80616A.csv

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	ICB 06/16/10 10:21 AM Found	Q	Found	Q	Found	Q	Found	Q	Found	Q
Antimony	121	2	**0.18**	**B**								
Arsenic	75	5	0.16	U								
Barium	137	1	0.027	U								
Beryllium	9	1	0.0059	U								
Cadmium	111	1	0.025	U								
Chromium	52	2	0.044	U								
Cobalt	59	1	0.015	U								
Copper	65	2	0.043	U								
Iron	56	50	6	U								
Lead	208	1	0.019	U								
Manganese	55	1	0.16	U								
Molybdenum	95	2	0.27	U								
Nickel	60	2	0.16	U								
Selenium	78	5	0.13	U								
Silver	107	1	**-0.1**	**B**								
Thallium	205	1	**0.24**	**B**								
Vanadium	51	20	0.43	U								
Zinc	66	20	0.35	U								

U Result is less than the IDL
B Result is between IDL and RL

Form 3 Equivalent

TestAmerica North Canton

Metals Data Reporting Form

Continuing Calibration Blank Results

Instrument: CVAA **Units:** ug/L

Chart Number: hg10616a.prn

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	Ck1CCB 06/16/10 8:48 AM Found	Q	Ck1CCB 06/16/10 9:02 AM Found	Q	Ck1CCB 06/16/10 9:16 AM Found	Q	Found	Q	Found	Q
Mercury	253.7	0.2	0.1	U	0.1	U	0.1	U				

TestAmerica North Canton

Metals Data Reporting Form

Continuing Calibration Blank Results

Instrument: ICPMS **Units:** ug/L

Chart Number: I80616A.csv

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	CCB 06/16/10 10:48 AM Found	Q	CCB 7 06/16/10 6:11 PM Found	Q	CCB 8 06/16/10 7:16 PM Found	Q	CCB 9 06/16/10 8:17 PM Found	Q	CCB 10 06/16/10 9:20 PM Found	Q
Antimony	121	2	**0.088**	**B**	**0.07**	**B**	**0.11**	**B**	**0.098**	**B**	**0.12**	**B**
Arsenic	75	5	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U
Barium	137	1	0.027	U	**0.085**	**B**	**0.059**	**B**	**0.1**	**B**	**0.1**	**B**
Beryllium	9	1	**0.008**	**B**	**0.036**	**B**	**0.042**	**B**	**0.057**	**B**	**0.069**	**B**
Cadmium	111	1	0.025	U	**0.058**	**B**	**0.062**	**B**	**0.058**	**B**	**0.081**	**B**
Chromium	52	2	0.044	U	0.044	U	0.044	U	**0.066**	**B**	**0.076**	**B**
Cobalt	59	1	0.015	U	**0.047**	**B**	**0.049**	**B**	**0.055**	**B**	**0.072**	**B**
Copper	65	2	0.043	U	**0.075**	**B**	**0.11**	**B**	**0.078**	**B**	**0.092**	**B**
Iron	56	50	6	U	**14.9**	**B**	**16.9**	**B**	**20.9**	**B**	**24.9**	**B**
Lead	208	1	0.019	U	**0.029**	**B**	**0.04**	**B**	**0.048**	**B**	**0.064**	**B**
Manganese	55	1	0.16	U	**0.36**	**B**	**0.41**	**B**	**0.56**	**B**	**0.89**	**B**
Molybdenum	95	2	**0.5**	**B**	0.27	U	0.27	U	0.27	U	**0.61**	**B**
Nickel	60	2	0.16	U	0.16	U	0.16	U	**0.17**	**B**	0.16	U
Selenium	78	5	**0.25**	**B**	0.13	U	**0.14**	**B**	**0.15**	**B**	**0.14**	**B**
Silver	107	1	**-0.12**	**B**	**-0.08**	**B**	**-0.076**	**B**	**-0.064**	**B**	**-0.039**	**B**
Thallium	205	1	**0.26**	**B**	**0.3**	**B**	**0.3**	**B**	**0.27**	**B**	**0.33**	**B**
Vanadium	51	20	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U
Zinc	66	20	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: 0F11578 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: A0F140000-019 Prep Batch #...: 0165019						
Antimony	0.079 B	2.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41AA
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Arsenic	ND	5.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41AC
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Barium	1.3	1.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41AD
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Beryllium	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41AE
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Cadmium	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41AF
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Chromium	0.26 B	2.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41AV
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Cobalt	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41AG
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Copper	1.2 B	2.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41AH
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Iron	7.6 B	50.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41AJ
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Lead	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41AK
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Manganese	0.53 B	1.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41AL
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	

(Continued on next page)

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: 0F11578 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Molybdenum	ND	2.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41AM
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Nickel	0.22 B	2.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41AN
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Selenium	ND	5.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41AP
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Silver	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41AQ
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Thallium	0.18 B	1.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41AR
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Vanadium	ND	20.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41AT
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Zinc	6.5 B	20.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41AU
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Mercury	ND	0.20	ug/L	SW846 7470A	06/14-06/16/10	L2VH41AW
		Dilution Factor: 1				
		Analysis Time..: 08:49		Analyst ID.....: 001576	Instrument ID..: H1	

NOTE(S):

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

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

DISSOLVED Metals

Client Lot #...: 0F11578 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: A0F140000-019 Prep Batch #...: 0165019						
Antimony	0.079 B	2.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41CK
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Arsenic	ND	5.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41CL
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Barium	1.3	1.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41CM
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Beryllium	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41CN
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Cadmium	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41CP
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Chromium	0.26 B	2.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41C5
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Cobalt	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41CQ
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Copper	1.2 B	2.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41CR
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Iron	7.6 B	50.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41CT
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Lead	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41CU
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Manganese	0.53 B	1.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41CV
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	

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METHOD BLANK REPORT

DISSOLVED Metals

Client Lot #...: 0F11578 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Molybdenum	ND	2.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41CW
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Nickel	**0.22 B**	**2.0**	**ug/L**	**SW846 6020**	**06/14-06/16/10**	**L2VH41CX**
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Selenium	ND	5.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41C0
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Silver	ND	1.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41C1
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Thallium	**0.18 B**	**1.0**	**ug/L**	**SW846 6020**	**06/14-06/16/10**	**L2VH41C2**
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Vanadium	ND	20.0	ug/L	SW846 6020	06/14-06/16/10	L2VH41C3
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Zinc	**6.5 B**	**20.0**	**ug/L**	**SW846 6020**	**06/14-06/16/10**	**L2VH41C4**
		Dilution Factor: 1				
		Analysis Time..: 19:04		Analyst ID.....: 000079	Instrument ID..: I8	
Mercury	ND	0.20	ug/L	SW846 7470A	06/14-06/16/10	L2VH41C6
		Dilution Factor: 1				
		Analysis Time..: 08:49		Analyst ID.....: 001576	Instrument ID..: H1	

NOTE(S):

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

B Estimated result. Result is less than RL.

Aqueous

Total

Affected Analyte	Sample	Reported Result	Qualifier	Interferent	Interferent level in ICS	Conc. ICS	Interferent Level	Est. Interference	Validation Action	Validation Action
Sb	MRC-95D-061110	0.28		Fe	50700	0.14	40900	0.11	J	na
Ar	MRC-95D-061110	7.5		Fe	50700	0.21	40900	0.17	na	na
Ba	MRC-95D-061110	209		Fe	50700	0.1	40900	0.08	na	na
Be	MRC-95D-061110	2.3		Fe	50700	0.035	40900	0.03	na	na
Cd	MRC-95D-061110	0.17		Fe	50700	-0.82	40900	-0.66	J	na
Cr	MRC-95D-061110	72.9		Fe	50700	0.67	40900	0.54	na	na
Co	MRC-95D-061110	5.5		Fe	50700	0.09	40900	0.07	na	na
Pb	MRC-95D-061110	30.2		Fe	50700	-0.23	40900	-0.19	na	na
Mn	MRC-95D-061110	262		Fe	50700	0.19	40900	0.15	na	na
Mo	MRC-95D-061110	14.1		Fe	50700	1030	40900	830.91	J	na
Ni	MRC-95D-061110	21.3		Fe	50700	0.43	40900	0.35	na	na
Ag	MRC-95D-061110	0.015		Fe	50700	-0.032	40900	-0.03	J	na
Zn	MRC-95D-061110	66.8		Fe	50700	4	40900	3.23	na	na

Total

Affected Analyte	Sample	Reported Result	Qualifier	Interferent	Interferent level in ICS	Conc. ICS	Interferent Level	Est. Interference	Validation Action	Validation Action
Sb	MRC-MW93D-061010	0.42		Fe	50700	0.14	66400	0.18	J	na
Ar	MRC-MW93D-061010	26.1		Fe	50700	0.21	66400	0.28	na	na
Ba	MRC-MW93D-061010	515		Fe	50700	0.1	66400	0.13	na	na
Be	MRC-MW93D-061010	6.7		Fe	50700	0.035	66400	0.05	na	na
Cd	MRC-MW93D-061010	0.49		Fe	50700	-0.82	66400	-1.07	J	na
Cr	MRC-MW93D-061010	143		Fe	50700	0.67	66400	0.88	na	na
Co	MRC-MW93D-061010	10		Fe	50700	0.09	66400	0.12	na	na
Pb	MRC-MW93D-061010	78.2		Fe	50700	-0.23	66400	-0.30	na	na
Mn	MRC-MW93D-061010	522		Fe	50700	0.19	66400	0.25	na	na
Mo	MRC-MW93D-061010	20		Fe	50700	1030	66400	1348.95	J	na
Ni	MRC-MW93D-061010	40.4		Fe	50700	0.43	66400	0.56	na	na
Ag	MRC-MW93D-061010	0.15		Fe	50700	-0.032	66400	-0.04	J	na
Zn	MRC-MW93D-061010	145		Fe	50700	4	66400	5.24	na	na

Total

Affected Analyte	Sample	Reported Result	Qualifier	Interferent	Interferent level in ICS	Conc. ICS	Interferent Level	Est. Interference	Validation Action	Validation Action
Sb	MRC-MW94D-061010	0.18		Fe	50700	0.14	18100	0.05	J	na
Ar	MRC-MW94D-061010	4.1		Fe	50700	0.21	18100	0.07	na	na
Ba	MRC-MW94D-061010	133		Fe	50700	0.1	18100	0.04	na	na
Be	MRC-MW94D-061010	1.3		Fe	50700	0.035	18100	0.01	na	na
Cd	MRC-MW94D-061010	0.12		Fe	50700	-0.82	18100	-0.29	J	na
Cr	MRC-MW94D-061010	28.1		Fe	50700	0.67	18100	0.24	na	na
Co	MRC-MW94D-061010	2.6		Fe	50700	0.09	18100	0.03	na	na
Pb	MRC-MW94D-061010	14.5		Fe	50700	-0.23	18100	-0.08	na	na
Mn	MRC-MW94D-061010	214		Fe	50700	0.19	18100	0.07	na	na

~~Mo~~	~~MRC-MW94D-061010~~	~~5.2~~		~~Fe~~	~~50700~~	~~1030~~	~~18100~~	~~367.71~~	~~J~~	~~na~~
Ni	MRC-MW94D-061010	20.4		Fe	50700	0.43	18100	0.15	na	na
Ag	MRC-MW94D-061010	0.015		Fe	50700	-0.032	18100	-0.01	J	na
Zn	MRC-MW94D-061010	35.5		Fe	50700	4	18100	1.43	na	na
Dissolved										

Affected Analyte	Sample	Reported Result	Qualifier	Interferent	Interferent level in ICS	Conc. ICS	Interferent Level	Est. Interference	Validation Action	Validation Action
Sb	MRC-MW93D-061010	0.32		Fe	50700	0.14	51300	0.14	J	na
Ar	MRC-MW93D-061010	20.5		Fe	50700	0.21	51300	0.21	na	na
Ba	MRC-MW93D-061010	399		Fe	50700	0.1	51300	0.10	na	na
Be	MRC-MW93D-061010	5.4		Fe	50700	0.035	51300	0.04	na	na
Cd	MRC-MW93D-061010	0.38		Fe	50700	-0.82	51300	-0.83	J	na
Cr	MRC-MW93D-061010	108		Fe	50700	0.67	51300	0.68	na	na
Co	MRC-MW93D-061010	8		Fe	50700	0.09	51300	0.09	na	na
Pb	MRC-MW93D-061010	63.3		Fe	50700	-0.23	51300	-0.23	na	na
Mn	MRC-MW93D-061010	377		Fe	50700	0.19	51300	0.19	na	na
~~Mo~~	~~MRC-MW93D-061010~~	~~22.5~~		~~Fe~~	~~50700~~	~~1030~~	~~51300~~	~~1042.19~~	~~J~~	~~na~~
Ni	MRC-MW93D-061010	32.8		Fe	50700	0.43	51300	0.44	na	na
Ag	MRC-MW93D-061010	0.088		Fe	50700	-0.032	51300	-0.03	J	na
Zn	MRC-MW93D-061010	118		Fe	50700	4	51300	4.05	na	na

TestAmerica North Canton

Metals Data Reporting Form

Interference Check Standard A

Instrument: ICPMS **Units:** ug/L

Chart Number: I80616A.csv **Acceptable Range:** 0% - 0%

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Reporting Limit	True Conc	ICSA 06/16/10 10:30 AM Found	Found	Found	Found	Found
Antimony	121	2		0.140				
Arsenic	75	5		0.210				
Barium	137	1		0.100				
Beryllium	9	1		0.035				
Cadmium	111	1		-0.820				
Chromium	52	2		0.670				
Cobalt	59	1		0.090				
Copper	65	2		0.420				
Iron	56		50000	50700				
Lead	208	1		-0.230				
Manganese	55	1		0.190				
Molybdenum	95	2	1000	1030				
Nickel	60	2		0.430				
Selenium	78	5		-0.027				
Silver	107	1		-0.032				
Thallium	205	1		0.130				
Vanadium	51	20		0.033				
Zinc	66	20		4				

U Result is less than the IDL

B Result is between IDL and RL

Form 4 Equivalent

TestAmerica North Canton

Metals Data Reporting Form

Interference Check Standard AB

Instrument: ICPMS **Units:** ug/L

Chart Number: I80616A.csv **Acceptable Range:** 50% - 150%

Standard Source: **Standard ID:**

Element	WL/ Mass	True Conc	ICSAB 06/16/10 10:35 AM Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Antimony	121	100	99.9	**99.9**								
Arsenic	75	100	99.3	**99.3**								
Barium	137	100	97.9	**97.9**								
Beryllium	9	100	99.4	**99.4**								
Cadmium	111	100	99.4	**99.4**								
Chromium	52	100	99.7	**99.7**								
Cobalt	59	100	97.5	**97.5**								
Copper	65	100	99.0	**99.0**								
Iron	56	50000	50963.3	**101.9**								
Lead	208	100	100.0	**100.0**								
Manganese	55	100	109.3	**109.3**								
Molybdenum	95	1000	1126.0	**112.6**								
Nickel	60	100	99.0	**99.0**								
Selenium	78	100	100.1	**100.1**								
Silver	107	100	100.6	**100.6**								
Thallium	205	100	100.9	**100.9**								
Vanadium	51	100	99.1	**99.1**								
Zinc	66	100	105.4	**105.4**								

N Spike recovery failed
NC Percent recovery was not calculated
U Result is less than the IDL

Form 4 Equivalent

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: 0F11578 **Matrix.....:** WG
Date Sampled...: 06/11/10 12:45 **Date Received..:** 06/12/10

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: A0F120439-001 **Prep Batch #...:** 0165019								
Antimony	ND	100	99.5	ug/L	99	SW846 6020	06/14-06/16/10	L2T531CM
			Dilution Factor: 1		Analysis Time..: 20:21		Instrument ID..: I8	
			Analyst ID.....: 000079					
Arsenic	ND	100	95.9	ug/L	96	SW846 6020	06/14-06/16/10	L2T531CN
			Dilution Factor: 1		Analysis Time..: 20:21		Instrument ID..: I8	
			Analyst ID.....: 000079					
Barium	9.0	100	109	ug/L	100	SW846 6020	06/14-06/16/10	L2T531CP
			Dilution Factor: 1		Analysis Time..: 20:21		Instrument ID..: I8	
			Analyst ID.....: 000079					
Beryllium	0.11	100	102	ug/L	102	SW846 6020	06/14-06/16/10	L2T531CQ
			Dilution Factor: 1		Analysis Time..: 20:21		Instrument ID..: I8	
			Analyst ID.....: 000079					
Cadmium	ND	100	104	ug/L	104	SW846 6020	06/14-06/16/10	L2T531CR
			Dilution Factor: 1		Analysis Time..: 20:21		Instrument ID..: I8	
			Analyst ID.....: 000079					
Chromium	0.51	100	97.3	ug/L	97	SW846 6020	06/14-06/16/10	L2T531C7
			Dilution Factor: 1		Analysis Time..: 20:21		Instrument ID..: I8	
			Analyst ID.....: 000079					
Cobalt	2.4	100	99.2	ug/L	97	SW846 6020	06/14-06/16/10	L2T531CT
			Dilution Factor: 1		Analysis Time..: 20:21		Instrument ID..: I8	
			Analyst ID.....: 000079					
Copper	2.2	100	102	ug/L	100	SW846 6020	06/14-06/16/10	L2T531CU
			Dilution Factor: 1		Analysis Time..: 20:21		Instrument ID..: I8	
			Analyst ID.....: 000079					
Iron	202	10000	10700	ug/L	105	SW846 6020	06/14-06/16/10	L2T531CV
			Dilution Factor: 1		Analysis Time..: 20:21		Instrument ID..: I8	
			Analyst ID.....: 000079					
Lead	ND	100	96.8	ug/L	97	SW846 6020	06/14-06/16/10	L2T531CW
			Dilution Factor: 1		Analysis Time..: 20:21		Instrument ID..: I8	
			Analyst ID.....: 000079					

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: 0F11578 **Matrix.....:** WG
Date Sampled...: 06/11/10 12:45 **Date Received..:** 06/12/10

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Manganese	12.6	100	122	ug/L	110	SW846 6020	06/14-06/16/10	L2T531CX
			Dilution Factor: 1			Analysis Time..: 20:21	Instrument ID..: I8	
			Analyst ID.....: 000079					
Molybdenum	ND	100	96.6	ug/L	97	SW846 6020	06/14-06/16/10	L2T531C0
			Dilution Factor: 1			Analysis Time..: 20:21	Instrument ID..: I8	
			Analyst ID.....: 000079					
Nickel	3.9	100	102	ug/L	98	SW846 6020	06/14-06/16/10	L2T531C1
			Dilution Factor: 1			Analysis Time..: 20:21	Instrument ID..: I8	
			Analyst ID.....: 000079					
Selenium	ND	100	96.2	ug/L	96	SW846 6020	06/14-06/16/10	L2T531C2
			Dilution Factor: 1			Analysis Time..: 20:21	Instrument ID..: I8	
			Analyst ID.....: 000079					
Silver	ND	100	104	ug/L	104	SW846 6020	06/14-06/16/10	L2T531C3
			Dilution Factor: 1			Analysis Time..: 20:21	Instrument ID..: I8	
			Analyst ID.....: 000079					
Thallium	ND	100	96.7	ug/L	97	SW846 6020	06/14-06/16/10	L2T531C4
			Dilution Factor: 1			Analysis Time..: 20:21	Instrument ID..: I8	
			Analyst ID.....: 000079					
Vanadium	0.45	100	96.3	ug/L	96	SW846 6020	06/14-06/16/10	L2T531C5
			Dilution Factor: 1			Analysis Time..: 20:21	Instrument ID..: I8	
			Analyst ID.....: 000079					
Zinc	10.9	100	111	ug/L	100	SW846 6020	06/14-06/16/10	L2T531C6
			Dilution Factor: 1			Analysis Time..: 20:21	Instrument ID..: I8	
			Analyst ID.....: 000079					
Mercury	ND	1.0	1.0	ug/L	104	SW846 7470A	06/14-06/16/10	L2T531C8
			Dilution Factor: 1			Analysis Time..: 08:51	Instrument ID..: H1	
			Analyst ID.....: 001576					

NOTE(S):

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

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: 0F11578 **Matrix.....:** WATER

LCS Lot-Sample#: A0F140000-019 **Prep Batch #...:** 0165019

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Antimony	100	95.6	ug/L	96	SW846 6020	06/14-06/16/10	L2VH41AX
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Arsenic	100	92.9	ug/L	93	SW846 6020	06/14-06/16/10	L2VH41A0
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Barium	100	95.2	ug/L	95	SW846 6020	06/14-06/16/10	L2VH41A1
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Beryllium	100	98.9	ug/L	99	SW846 6020	06/14-06/16/10	L2VH41A2
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Cadmium	100	97.1	ug/L	97	SW846 6020	06/14-06/16/10	L2VH41A3
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Cobalt	100	93.6	ug/L	94	SW846 6020	06/14-06/16/10	L2VH41A4
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Copper	100	98.3	ug/L	98	SW846 6020	06/14-06/16/10	L2VH41A5
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Iron	10000	10100	ug/L	101	SW846 6020	06/14-06/16/10	L2VH41A6
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Lead	100	91.1	ug/L	91	SW846 6020	06/14-06/16/10	L2VH41A7
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Manganese	100	102	ug/L	102	SW846 6020	06/14-06/16/10	L2VH41A8
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				

(Continued on next page)

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: 0F11578 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Molybdenum	100	91.6	ug/L	92	SW846 6020	06/14-06/16/10	L2VH41A9
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Nickel	100	95.7	ug/L	96	SW846 6020	06/14-06/16/10	L2VH41CA
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Selenium	100	96.1	ug/L	96	SW846 6020	06/14-06/16/10	L2VH41CC
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Silver	100	98.9	ug/L	99	SW846 6020	06/14-06/16/10	L2VH41CD
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Thallium	100	91.6	ug/L	92	SW846 6020	06/14-06/16/10	L2VH41CE
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Vanadium	100	91.9	ug/L	92	SW846 6020	06/14-06/16/10	L2VH41CF
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Zinc	100	104	ug/L	104	SW846 6020	06/14-06/16/10	L2VH41CG
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Chromium	100	92.9	ug/L	93	SW846 6020	06/14-06/16/10	L2VH41CH
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Mercury	5.0	4.5	ug/L	90	SW846 7470A	06/14-06/16/10	L2VH41CJ
			Dilution Factor: 1		Analysis Time..: 08:50	Analyst ID.....: 001576	
			Instrument ID..: H1				

NOTE(S):

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

LABORATORY CONTROL SAMPLE DATA REPORT

DISSOLVED Metals

Client Lot #...: 0F11578 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: A0F140000-019 **Prep Batch #...:** 0165019							
Antimony	100	95.6	ug/L	96	SW846 6020	06/14-06/16/10	L2VH41C7
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Arsenic	100	92.9	ug/L	93	SW846 6020	06/14-06/16/10	L2VH41C8
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Barium	100	95.2	ug/L	95	SW846 6020	06/14-06/16/10	L2VH41C9
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Beryllium	100	98.9	ug/L	99	SW846 6020	06/14-06/16/10	L2VH41DA
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Cadmium	100	97.1	ug/L	97	SW846 6020	06/14-06/16/10	L2VH41DC
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Cobalt	100	93.6	ug/L	94	SW846 6020	06/14-06/16/10	L2VH41DD
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Copper	100	98.3	ug/L	98	SW846 6020	06/14-06/16/10	L2VH41DE
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Iron	10000	10100	ug/L	101	SW846 6020	06/14-06/16/10	L2VH41DF
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Lead	100	91.1	ug/L	91	SW846 6020	06/14-06/16/10	L2VH41DG
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Manganese	100	102	ug/L	102	SW846 6020	06/14-06/16/10	L2VH41DH
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				

(Continued on next page)

LABORATORY CONTROL SAMPLE DATA REPORT

DISSOLVED Metals

Client Lot #...: 0F11578 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Molybdenum	100	91.6	ug/L	92	SW846 6020	06/14-06/16/10	L2VH41DJ
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Nickel	100	95.7	ug/L	96	SW846 6020	06/14-06/16/10	L2VH41DK
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Selenium	100	96.1	ug/L	96	SW846 6020	06/14-06/16/10	L2VH41DL
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Silver	100	98.9	ug/L	99	SW846 6020	06/14-06/16/10	L2VH41DM
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Thallium	100	91.6	ug/L	92	SW846 6020	06/14-06/16/10	L2VH41DN
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Vanadium	100	91.9	ug/L	92	SW846 6020	06/14-06/16/10	L2VH41DP
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Zinc	100	104	ug/L	104	SW846 6020	06/14-06/16/10	L2VH41DQ
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Chromium	100	92.9	ug/L	93	SW846 6020	06/14-06/16/10	L2VH41DR
			Dilution Factor: 1		Analysis Time..: 19:20	Analyst ID.....: 000079	
			Instrument ID..: I8				
Mercury	5.0	4.5	ug/L	90	SW846 7470A	06/14-06/16/10	L2VH41DT
			Dilution Factor: 1		Analysis Time..: 08:50	Analyst ID.....: 001576	
			Instrument ID..: H1				

NOTE(S):

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

TestAmerica North Canton

Metals Data Reporting Form

Serial Dilution RPD Report

Serial Dilution Sample ID: L2TE8FL

Original Sample ID: L2TE8F **Client ID:** MRC-MW93D-061010

Matrix: Water **Units:** ug/L **Prep Date:** 06/14/10 **Prep Batch:** 0165019

Weight: NA **Volume:** NA **Percent Moisture:** NA

Element	WL/ Mass	OS Conc	Q	Serial Dilution Conc	Q	Percent Diff	OS DF	Ser Dil DF	Instr	OS Anal Date	OS Anal Time	Ser Dil Anal Date	Ser Dil Anal Time
Antimony	121	0.32	B	0.15	B		1	5	ICPMS	06/16/10	19:32	06/16/10	19:37
Arsenic	75	✓20.5		21.6	B	5.36	1	5	ICPMS	06/16/10	19:32	06/16/10	19:37
Barium	137	399		399		0.1	1	5	ICPMS	06/16/10	19:32	06/16/10	19:37
Beryllium	9	✓ 5.4		5.3		1.85	1	5	ICPMS	06/16/10	19:32	06/16/10	19:37
Cadmium	111	0.38	B	0.34	B		1	5	ICPMS	06/16/10	19:32	06/16/10	19:37
Chromium	52	✓108		109		.926	1	5	ICPMS	06/16/10	19:32	06/16/10	19:37
Cobalt	59	✓ 8.0		8.1		1.25	1	5	ICPMS	06/16/10	19:32	06/16/10	19:37
Copper	65	✓ 47.4		49.3		4.0	1	5	ICPMS	06/16/10	19:32	06/16/10	19:37
Iron	56	51300		52900		3.1	1	5	ICPMS	06/16/10	19:32	06/16/10	19:37
Lead	208	✓63.3		66.0		4.26	1	5	ICPMS	06/16/10	19:32	06/16/10	19:37
Manganese	55	377		390		3.5	1	5	ICPMS	06/16/10	19:32	06/16/10	19:37
Molybdenum	95	✓22.5		23.1		2.67	1	5	ICPMS	06/16/10	19:32	06/16/10	19:37
Nickel	60	✓32.8		35.3		7.62	1	5	ICPMS	06/16/10	19:32	06/16/10	19:37
Selenium	78	4.5	B	4.2	B		1	5	ICPMS	06/16/10	19:32	06/16/10	19:37
Silver	107	0.088	B	0.075	U		1	5	ICPMS	06/16/10	19:32	06/16/10	19:37
Thallium	205	0.34	B	0.76	B		1	5	ICPMS	06/16/10	19:32	06/16/10	19:37
Vanadium	51	✓80.7		79.3	B	1.73	1	5	ICPMS	06/16/10	19:32	06/16/10	19:37
Zinc	66	✓ 118		118		0	1	5	ICPMS	06/16/10	19:32	06/16/10	19:37

Comments: _____

5.04.5

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 9 Equivalent

TestAmerica North Canton

Metals Data Reporting Form

Instrument Detection Limits

Instrument: ICPMS **Units:** ppb

Element	Mass	Reporting Limit	IDL	Date of IDL
Antimony	121	2.0	0.027	04/23/10
Arsenic	75	5.0	0.16	04/23/10
Barium	137	1.0	0.027	04/23/10
Beryllium	9	1.0	0.0059	04/23/10
Cadmium	111	1.0	0.025	04/23/10
Chromium	52	2.0	0.044	04/23/10
Cobalt	59	1.0	0.015	04/23/10
Copper	65	2.0	0.043	04/23/10
Iron	56	50.0	6.0	04/23/10
Lead	208	1.0	0.019	04/23/10
Manganese	55	1.0	0.16	04/23/10
Molybdenum	95	2.0	0.27	04/23/10
Nickel	60	2.0	0.16	04/23/10
Selenium	78	5.0	0.13	04/23/10
Silver	107	1.0	0.015	04/23/10
Thallium	205	1.0	0.13	04/23/10
Vanadium	51	20.0	0.43	04/23/10
Zinc	66	20.0	0.35	04/23/10

TestAmerica North Canton

Metals Data Reporting Form

Instrument Detection Limits

Instrument: CVAA **Units:** ppb

Element	Wavelength	Reporting Limit	IDL	Date of IDL
Mercury	253.700	0.2	0.10	01/08/10

METALS PREPARATION SUMMARY

Preparation Type	Matrix	Amount of Standard added to LCS & MS/MSD		Initial Sample Vol/Wt	Final Sample Volume
		Amount	Standard name		
ICP	water	1 mL 1 mL 1.0 mL	Ag ICP-1 ICP-2A	50 mL	50 mL
ICPMS	water	0.5ml 0.5ml	ICPMS-1 ICPMS-2	50 mL	50 mL
Hg - CVAA	water	5 mL (LCS) 1 mL (MS/MSD)	HG-1 HG-1	100 mL	100 mL
Hg - CVAF (low level)	water	0.2 mL (LCS/MS/MSD)	HG ICAL	40 ml	40 ml
ICP	solid	2 mL 2 mL 2 mL	Ag ICP-1 ICP-2A	1.00 +/- .02g	100 mL
ICPMS	solid	1ml 1ml	ICPMS-1 ICPMS-2	1.00 +/- .02g	100ml
Hg - CVAA	solid	5 mL (LCS) 1 mL (MS/MSD)	HG-1 HG-1	0.60 +/- .01g	100 mL
ICP	TCLP	1 mL (LCS) 1 mL(LCS)	Ag ICP-1	50 mL	50 mL
ICP	TCLP	0.5 mL(MS/MSD)	TCLP Spike I RCRA	50 mL	50 mL
ICP	TCLP	1 mL(MS/MSD)	TCLP Spike II Non-RCRA	50 mL	50 mL
Hg - CVAA	TCLP	5 mL (LCS) 5 mL (MS/MSD)	HG-1 HG-1	100 mL	100 mL

Mercury Standards Preparation			
Final Concentration	Spiking Standard		
	Amount	Standard	Concentration
Calibration Standards:			
0.0002 ppm	0.2 mL	HG-2	0.1 ppm
0.0005 ppm	0.5 mL	HG-2	0.1 ppm
0.001 ppm	1 mL	HG-2	0.1 ppm
0.005 ppm	5 mL	HG-2	0.1 ppm
0.010 ppm	10 mL	HG-2	0.1 ppm
ICV Preparation			
0.0025 ppm	2.5 mL	HG-1	0.1 ppm
CCV Preparation:			
0.005 ppm	5 mL	HG-2	0.1 ppm

Low Level Mercury Standards Preparation			
Final Concentration	Spiking Standard		
	Amount	Standard	Concentration
Calibration Standards:			
0.5 ppt	20 ul	HG ICAL	1.0 ppb
1.0 ppt	40 ul	HG ICAL	1.0 ppb
2 ppt	80 ul	HG ICAL	1.0 ppb
5 ppt	200 ul	HG ICAL	1.0 ppb
10 ppt	400 ul	HG ICAL	1.0 ppb
25 ppt	1000 ul	HG ICAL	1.0 ppb
ICV Preparation			
5 ppt	200 ul	HG ICV	1.0 ppb
CCV Preparation:			
5 ppt	200 ul	HG ICAL	1.0 ppb

: Instrument Upload Run Log - Page 1 :
: Started Thu Jun 17 05:11:12 2010 by TOTHR :
: Data File: UPL$CAN_DATA_ROOT:<LHG>HG10616A.PRN;1 :

#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
1	STD1REP1	1	16-JUN-2010	08:32:12			H1
2	STD2REP1	1	16-JUN-2010	08:33:29			H1
3	STD3REP1	1	16-JUN-2010	08:34:34			H1
4	STD1REP1	1	16-JUN-2010	08:36:14			H1
5	STD2REP1	1	16-JUN-2010	08:37:39			H1
6	STD3REP1	1	16-JUN-2010	08:38:46			H1
7	STD4REP1	1	16-JUN-2010	08:39:51			H1
8	STD5REP1	1	16-JUN-2010	08:40:58			H1
9	STD6REP1	1	16-JUN-2010	08:42:09			H1
10	CK5ICV	1	16-JUN-2010	08:43:32			H1
11	CK4ICB	1	16-JUN-2010	08:44:50			H1
12	CK3CRA\MRL	1	16-JUN-2010	08:45:56			H1
13	CK2CCV	1	16-JUN-2010	08:47:23			H1
14	CK1CCB	1	16-JUN-2010	08:48:31			H1
15	L2VH4B	1	16-JUN-2010	08:49:35	0165019	A0F140000	H1
16	L2VH4C	1	16-JUN-2010	08:50:42	0165019	A0F140000	H1
17	L2T53	1	16-JUN-2010	08:51:56	0165019	0F11578	H1
18	L2T53X	1	16-JUN-2010	08:53:01	0165019	0F11578	H1
19	L2T53S	1	16-JUN-2010	08:54:09	0165019	0F11578	H1
20	L2T53F	1	16-JUN-2010	08:55:26	0165019	0F11578	H1
21	L2T6X	1	16-JUN-2010	08:56:32	0165019	0F11578	H1
22	L2T6XF	1	16-JUN-2010	08:57:38	0165019	0F11578	H1
23	L2TFL	1	16-JUN-2010	08:58:44	0165019	0F11578	H1
24	L2TFLF	1	16-JUN-2010	09:00:00	0165019	0F11578	H1
25	CK2CCV	1	16-JUN-2010	09:01:05			H1
26	CK1CCB	1	16-JUN-2010	09:02:15			H1
27	L2TE8	1	16-JUN-2010	09:03:21	0165019	0F11578	H1
28	L2TE8F	1	16-JUN-2010	09:04:26	0165019	0F11578	H1
29	L2THA	1	16-JUN-2010	09:05:32	0165019	0F09447	H1
30	L2R1F	1	16-JUN-2010	09:06:49	0165018	A0F110537	H1
31	L2TGW	1	16-JUN-2010	09:07:56	0165019	0F09447	H1
32	L2T64	1	16-JUN-2010	09:09:05	0165019	0F09447	H1
33	L2TG7	1	16-JUN-2010	09:10:12	0165019	0F09447	H1
34	L2TG8	1	16-JUN-2010	09:11:22	0165019	0F09447	H1
35	L2VKMBT	1	16-JUN-2010	09:12:49	0166015	A0F140000	H1
36	L2WH9BT	1	16-JUN-2010	09:13:58	0166015	A0F150000	H1
37	CK2CCV	1	16-JUN-2010	09:15:14			H1
38	CK1CCB	1	16-JUN-2010	09:16:18			H1
39	L2WH9CT	1	16-JUN-2010	09:17:25	0166015	A0F150000	H1
40	L2PTHT	1	16-JUN-2010	09:18:50	0166015	A0F100465	H1
41	L2PTHTS	1	16-JUN-2010	09:19:55	0166015	A0F100465	H1
42	L2PTHTD	1	16-JUN-2010	09:21:01	0166015	A0F100465	H1
43	L2WH5B	1	16-JUN-2010	09:22:37	0166013	A0F150000	H1
44	L2WH5C	1	16-JUN-2010	09:23:51	0166013	A0F150000	H1

(continued)

#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
45	L2V2R	1	16-JUN-2010	09:24:57	0166013	0F12484	H1
46	L2V2RS	1	16-JUN-2010	09:26:25	0166013	0F12484	H1
47	L2V2RD	1	16-JUN-2010	09:27:42	0166013	0F12484	H1
48	L2VV9	1	16-JUN-2010	09:28:47	0166013	A0F140417	H1
49	CK2CCV	1	16-JUN-2010	09:29:54			H1
50	CK1CCB	1	16-JUN-2010	09:31:10			H1
51	L2WH7B	1	16-JUN-2010	09:32:17	0166014	A0F150000	H1
52	L2WH7C	1	16-JUN-2010	09:33:26	0166014	A0F150000	H1
53	L2V0C	1	16-JUN-2010	09:34:34	0166014	A0F140425	H1
54	L2V0CL	1	16-JUN-2010	09:35:42			H1
55	L2V0CS	1	16-JUN-2010	09:36:50	0166014	A0F140425	H1
56	L2V0CD	1	16-JUN-2010	09:37:55	0166014	A0F140425	H1
57	L2V0CF	1	16-JUN-2010	09:39:00	0166014	A0F140425	H1
58	L2VH2C	1	16-JUN-2010	09:40:20	0165018	A0F140000	H1
59	L2Q8R	10	16-JUN-2010	09:41:26	0165018	A0F110439	H1
60	L2T3EF	1	16-JUN-2010	09:42:44	0165018	A0F120429	H1
61	CK2CCV	1	16-JUN-2010	09:43:49			H1
62	CK1CCB	1	16-JUN-2010	09:44:57			H1
63	L2VHWC	1	16-JUN-2010	09:46:12	0165016	A0F140000	H1
64	L2Q9K	100	16-JUN-2010	09:47:28	0165016	A0F110442	H1
65	L2Q9KS	100	16-JUN-2010	09:48:37	0165016	A0F110442	H1
66	L2Q9KD	100	16-JUN-2010	09:49:55	0165016	A0F110442	H1
67	L2Q9J	100	16-JUN-2010	09:51:12	0165016	A0F110442	H1
68	L2Q9V	100	16-JUN-2010	09:52:23	0165016	A0F110442	H1
69	L2TAJ	2	16-JUN-2010	09:53:28	0165015	0F10520	H1
70	L2VH8C	1	16-JUN-2010	09:54:34	0165021	A0F140000	H1
71	CK2CCV	1	16-JUN-2010	09:55:54			H1
72	CK1CCB	1	16-JUN-2010	09:57:12			H1
73	CK2CCV	1	16-JUN-2010	14:37:07			H1
74	CK1CCB	1	16-JUN-2010	14:38:14			H1
75	L2X9EB	1	16-JUN-2010	14:39:20	0167014	A0F160000	H1
76	L2X9EC	1	16-JUN-2010	14:40:24	0167014	A0F160000	H1
77	L2XVM	1	16-JUN-2010	14:41:28	0167014	A0F150516	H1
78	L2XVMS	1	16-JUN-2010	14:42:46	0167014	A0F150516	H1
79	L2XVMD	1	16-JUN-2010	14:43:51	0167014	A0F150516	H1
80	L2XA1	1	16-JUN-2010	14:45:08	0167014	A0F150460	H1
81	L2XVN	1	16-JUN-2010	14:46:14	0167014	A0F150516	H1
82	L2WLKBT	1	16-JUN-2010	14:47:21	0167015	A0F150000	H1
83	L2X9GBT	1	16-JUN-2010	14:48:27	0167015	A0F160000	H1
84	L2X9GCT	1	16-JUN-2010	14:49:38	0167015	A0F160000	H1
85	CK2CCV	1	16-JUN-2010	14:50:43			H1
86	CK1CCB	1	16-JUN-2010	14:51:54			H1
87	L2X9GLT	1	16-JUN-2010	14:53:20	0167015	A0F160000	H1
88	L2WEET	1	16-JUN-2010	14:54:28	0167015	A0F140462	H1

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:       Instrument Upload                                        Run Log - Page  3 :
:       Started Thu Jun 17 05:11:13 2010 by TOTHR                                  :
:       Data File: UPL$CAN_DATA_ROOT:<LHG>HG10616A.PRN;1                           :
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#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
89	L2WLNBT	1	16-JUN-2010	14:56:12	0167018	A0F150000	H1
90	L2X9LBT	1	16-JUN-2010	14:57:16	0167017	A0F160000	H1
91	L2X9LCT	1	16-JUN-2010	14:58:21	0167017	A0F160000	H1
92	L2X9LLT	1	16-JUN-2010	14:59:32	0167017	A0F160000	H1
93	L2R15T	10	16-JUN-2010	15:00:40	0167017	A0F110541	H1
94	L2WLTBT	1	16-JUN-2010	15:01:46	0167016	A0F150000	H1
95	L2X9JBT	1	16-JUN-2010	15:03:07	0167016	A0F160000	H1
96	L2X9JCT	1	16-JUN-2010	15:04:22	0167016	A0F160000	H1
97	CK2CCV	1	16-JUN-2010	15:05:27			H1
98	CK1CCB	1	16-JUN-2010	15:06:35			H1
99	L2R2AT	1	16-JUN-2010	15:07:43	0167016	A0F110541	H1
100	L2R2ATS	1	16-JUN-2010	15:08:50	0167016	A0F110541	H1
101	L2R2ATD	1	16-JUN-2010	15:09:58	0167016	A0F110541	H1
102	L2WC2T	1	16-JUN-2010	15:11:03	0167016	A0F140458	H1
103	L2WEFT	1	16-JUN-2010	15:12:07	0167016	A0F140462	H1
104	L2R6MT	1	16-JUN-2010	15:13:13	0167016	A0F110556	H1
105	L2VAKT	1	16-JUN-2010	15:14:30	0167016	A0F120463	H1
106	L2X9CB	1	16-JUN-2010	15:15:51	0167013	A0F160000	H1
107	L2X9CC	1	16-JUN-2010	15:17:01	0167013	A0F160000	H1
108	L2W8V	1	16-JUN-2010	15:18:07	0167013	A0F150454	H1
109	CK2CCV	1	16-JUN-2010	15:19:25			H1
110	CK1CCB	1	16-JUN-2010	15:20:34			H1
111	L2W8VS	1	16-JUN-2010	15:21:40	0167013	A0F150454	H1
112	L2W8VD	1	16-JUN-2010	15:22:48	0167013	A0F150454	H1
113	L2XCX	1	16-JUN-2010	15:24:00	0167013	0F09447	H1
114	L2V8XF	1	16-JUN-2010	15:25:15	0167013	A0F140446	H1
115	L2V84F	1	16-JUN-2010	15:26:24	0167013	A0F140446	H1
116	L2V8QF	1	16-JUN-2010	15:27:29	0167013	A0F140446	H1
117	L2V83F	1	16-JUN-2010	15:28:34	0167013	A0F140446	H1
118	L2V80F	1	16-JUN-2010	15:29:42	0167013	A0F140446	H1
119	L2XDA	1	16-JUN-2010	15:30:48	0167013	0F09447	H1
120	L2XDF	1	16-JUN-2010	15:32:04	0167013	0F09447	H1
121	CK2CCV	1	16-JUN-2010	15:33:39			H1
122	CK1CCB	1	16-JUN-2010	15:34:56			H1
123	L2XC7	1	16-JUN-2010	15:36:11	0167013	0F09447	H1
124	L2V82F	1	16-JUN-2010	15:37:17	0167013	A0F140446	H1
125	L2XDG	1	16-JUN-2010	15:38:24	0167013	0F09447	H1
126	L2XDE	1	16-JUN-2010	15:39:41	0167013	0F09447	H1
127	CK2CCV	1	16-JUN-2010	15:40:49			H1
128	CK1CCB	1	16-JUN-2010	15:42:13			H1

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:       Instrument Upload                                    Run Log - Page  1 :
:       Started Thu Jun 17 07:29:20 2010 by MUSSELMN                           :
:       Data File: UPL$CAN_DATA_ROOT:<REP>I80616A.CSV;1                        :
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#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
1	STD1	1	16-JUN-2010	09:52:38			I8
2	STD2	1	16-JUN-2010	09:57:25			I8
3	STD3	1	16-JUN-2010	10:03:14			I8
4	STD4	1	16-JUN-2010	10:10:10			I8
5	ICV	1	16-JUN-2010	10:14:59			I8
6	ICB	1	16-JUN-2010	10:21:04			I8
7	CRI	1	16-JUN-2010	10:25:45			I8
8	ICSA	1	16-JUN-2010	10:30:32			I8
9	ICSAB	1	16-JUN-2010	10:35:18			I8
10	CCV	1	16-JUN-2010	10:41:36			I8
11	CCB	1	16-JUN-2010	10:48:03			I8
12	L2VH8B	1	16-JUN-2010	10:52:54	0165021	A0F140000	I8
13	L2VH8C	1	16-JUN-2010	10:57:35	0165021	A0F140000	I8
14	L2VD4	1	16-JUN-2010	11:03:36	0165021	0F12484	I8
15	L2VD4S	1	16-JUN-2010	11:08:19	0165021	0F12484	I8
16	L2VD4D	1	16-JUN-2010	11:14:43	0165021	0F12484	I8
17	L2RTM	1	16-JUN-2010	11:21:28	0165021	A0F110511	I8
18	L2RTT	1	16-JUN-2010	11:26:14	0165021	A0F110511	I8
19	L2RTW	1	16-JUN-2010	11:30:58	0165021	A0F110511	I8
20	L2RT2	1	16-JUN-2010	11:35:40	0165021	A0F110511	I8
21	L2RT3	1	16-JUN-2010	11:40:23	0165021	A0F110511	I8
22	CCV	1	16-JUN-2010	11:45:08			I8
23	CCB	1	16-JUN-2010	11:51:35			I8
24	L2RT4	1	16-JUN-2010	11:56:17	0165021	A0F110511	I8
25	L2RT5	1	16-JUN-2010	12:01:00	0165021	A0F110511	I8
26	L2RT7	1	16-JUN-2010	12:05:43	0165021	A0F110511	I8
27	L2VHQB	1	16-JUN-2010	12:10:30	0165014	A0F140000	I8
28	L2VHQC	1	16-JUN-2010	12:15:11	0165014	A0F140000	I8
29	L2RAM	1	16-JUN-2010	12:21:15	0165014	0F10462	I8
30	L2RAN	1	16-JUN-2010	12:26:19	0165014	0F10462	I8
31	L2RAP	1	16-JUN-2010	12:31:12	0165014	0F10462	I8
32	L2RAR	1	16-JUN-2010	12:36:04	0165014	0F10462	I8
33	L2T8P	1	16-JUN-2010	12:40:48	0165014	0F10462	I8
34	CCV	1	16-JUN-2010	12:45:36			I8
35	CCB	1	16-JUN-2010	12:51:56			I8
36	L2T8T	1	16-JUN-2010	12:56:37	0165014	0F10462	I8
37	L2T8V	1	16-JUN-2010	13:01:20	0165014	0F10462	I8
38	L2T8W	1	16-JUN-2010	13:06:05	0165014	0F10462	I8
39	L2T8X	1	16-JUN-2010	13:11:08	0165014	0F10462	I8
40	L2T8X	5	16-JUN-2010	13:16:10	0165014	0F10462	I8
41	L2T80	1	16-JUN-2010	13:21:04	0165014	0F10462	I8
42	L2T82	1	16-JUN-2010	13:26:02	0165014	0F10462	I8
43	L2T97	1	16-JUN-2010	13:30:43	0165014	A0F120459	I8
44	L2T97S	1	16-JUN-2010	13:35:31	0165014	A0F120459	I8

(continued)

#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
45	L2T97D	1	16-JUN-2010	13:41:31	0165014	A0F120459	I8
46	CCV	1	16-JUN-2010	13:48:03			I8
47	CCB	1	16-JUN-2010	13:54:51			I8
48	L1G56B	1	16-JUN-2010	13:59:36	0134015	A0E140000	I8
49	L1G56C	5	16-JUN-2010	14:04:39	0134015	A0E140000	I8
50	L1FV3	1	16-JUN-2010	14:11:39	0134015	0E12495	I8
51	L1FV3L	1	16-JUN-2010	14:16:41			I8
52	L1FV3S	5	16-JUN-2010	14:21:25	0134015	0E12495	I8
53	L1FV3D	5	16-JUN-2010	14:28:24	0134015	0E12495	I8
54	L1FWD	1	16-JUN-2010	14:35:23	0134015	0E12495	I8
55	L1FWF	1	16-JUN-2010	14:40:25	0134015	0E12495	I8
56	L1FWH	1	16-JUN-2010	14:45:09	0134015	0E12495	I8
57	L1FWL	1	16-JUN-2010	14:49:53	0134015	0E12495	I8
58	CCV	1	16-JUN-2010	14:54:36			I8
59	CCB	1	16-JUN-2010	15:01:08			I8
60	L1FWN	1	16-JUN-2010	15:06:03	0134015	0E12495	I8
61	L1FWQ	1	16-JUN-2010	15:10:52	0134015	0E12495	I8
62	L1FWR	1	16-JUN-2010	15:15:35	0134015	0E12495	I8
63	L1FWT	1	16-JUN-2010	15:20:19	0134015	0E12495	I8
64	L1FW2	1	16-JUN-2010	15:25:04	0134015	0E12495	I8
65	L1FW6	1	16-JUN-2010	15:29:50	0134015	0E12495	I8
66	L1FXF	1	16-JUN-2010	15:34:38	0134015	0E12495	I8
67	L1K98B	1	16-JUN-2010	15:39:27	0137018	A0E170000	I8
68	L1K98C	5	16-JUN-2010	15:44:11	0137018	A0E170000	I8
69	L1HND	1	16-JUN-2010	15:51:08	0137018	0E12495	I8
70	CCV	1	16-JUN-2010	15:55:51			I8
71	CCB	1	16-JUN-2010	16:02:26			I8
72	L1HNG	1	16-JUN-2010	16:07:12	0137018	0E12495	I8
73	L1HNGL	1	16-JUN-2010	16:11:58			I8
74	L1HNGS	5	16-JUN-2010	16:16:48	0137018	0E12495	I8
75	L1HNGD	5	16-JUN-2010	16:23:46	0137018	0E12495	I8
76	L1HNM	1	16-JUN-2010	16:30:44	0137018	0E12495	I8
77	L1HNR	1	16-JUN-2010	16:35:39	0137018	0E12495	I8
78	L1HNV	1	16-JUN-2010	16:40:23	0137018	0E12495	I8
79	L1G5WB	1	16-JUN-2010	16:45:08	0134011	A0E140000	I8
80	L1G5WC	5	16-JUN-2010	16:49:58	0134011	A0E140000	I8
81	L1GD6	1	16-JUN-2010	16:56:57	0134011	A0E130527	I8
82	CCV	1	16-JUN-2010	17:01:41			I8
83	CCB	1	16-JUN-2010	17:08:38			I8
84	L1GD6L	1	16-JUN-2010	17:13:22			I8
85	L1GD6S	5	16-JUN-2010	17:18:06	0134011	A0E130527	I8
86	L1GD6D	5	16-JUN-2010	17:25:04	0134011	A0E130527	I8
87	L1EAT	1	16-JUN-2010	17:32:03	0134011	0E12495	I8
88	L1EA0	1	16-JUN-2010	17:36:53	0134011	0E12495	I8

(continued)

#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
89	L1EA2	1	16-JUN-2010	17:41:41	0134011	0E12495	I8
90	L1EA3	1	16-JUN-2010	17:46:25	0134011	0E12495	I8
91	L1EA4	1	16-JUN-2010	17:51:09	0134011	0E12495	I8
92	L1EA9	1	16-JUN-2010	17:55:54	0134011	0E12495	I8
93	L1ECC	1	16-JUN-2010	18:00:39	0134011	0E12495	I8
94	CCV	1	16-JUN-2010	18:05:23			I8
95	CCB	1	16-JUN-2010	18:11:53			I8
96	L1ECD	1	16-JUN-2010	18:16:42	0134011	0E12495	I8
97	L1ECE	1	16-JUN-2010	18:21:28	0134011	0E12495	I8
98	L2WH5B	1	16-JUN-2010	18:26:15	0166013	A0F150000	I8
99	L2WH5C	1	16-JUN-2010	18:31:06	0166013	A0F150000	I8
100	L2V2R	1	16-JUN-2010	18:37:14	0166013	0F12484	I8
101	L2V2RL	1	16-JUN-2010	18:42:00			I8
102	L2V2RS	1	16-JUN-2010	18:46:45	0166013	0F12484	I8
103	L2V2RD	1	16-JUN-2010	18:53:05	0166013	0F12484	I8
104	L2VV9	1	16-JUN-2010	18:59:46	0166013	A0F140417	I8
105	L2VH4B	1	16-JUN-2010	19:04:34	0165019	A0F140000	I8
106	CCV	1	16-JUN-2010	19:09:19			I8
107	CCB	1	16-JUN-2010	19:16:11			I8
108	L2VH4C	1	16-JUN-2010	19:20:59	0165019	A0F140000	I8
109	L2TE8	1	16-JUN-2010	19:27:35	0165019	0F11578	I8
110	L2TE8F	1	16-JUN-2010	19:32:20	0165019	0F11578	I8
111	L2TE8FL	1	16-JUN-2010	19:37:06			I8
112	L2TFL	1	16-JUN-2010	19:41:57	0165019	0F11578	I8
113	L2TFLF	1	16-JUN-2010	19:46:47	0165019	0F11578	I8
114	L2TGW	1	16-JUN-2010	19:51:35	0165019	0F09447	I8
115	L2TG7	1	16-JUN-2010	19:56:21	0165019	0F09447	I8
116	L2TG8	1	16-JUN-2010	20:01:05	0165019	0F09447	I8
117	L2THA	1	16-JUN-2010	20:05:51	0165019	0F09447	I8
118	CCV	1	16-JUN-2010	20:10:39			I8
119	CCB	1	16-JUN-2010	20:17:02			I8
120	L2T53	1	16-JUN-2010	20:21:55	0165019	0F11578	I8
121	L2T53X	1	16-JUN-2010	20:26:44	0165019	0F11578	I8
122	L2T53S	1	16-JUN-2010	20:31:29	0165019	0F11578	I8
123	L2T53F	1	16-JUN-2010	20:37:52	0165019	0F11578	I8
124	L2T6X	1	16-JUN-2010	20:42:38	0165019	0F11578	I8
125	L2T6XF	1	16-JUN-2010	20:47:26	0165019	0F11578	I8
126	L2T64	1	16-JUN-2010	20:52:26	0165019	0F09447	I8
127	L2VHNB	1	16-JUN-2010	20:57:11	0165013	A0F140000	I8
128	ICSA	1	16-JUN-2010	21:02:02			I8
129	ICSAB	1	16-JUN-2010	21:06:50			I8
130	CCV	1	16-JUN-2010	21:13:29			I8
131	CCB	1	16-JUN-2010	21:20:12			I8
132	L2VHNC	1	16-JUN-2010	21:25:01	0165013	A0F140000	I8

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L2TE8 6/16/2010 19:27:35 QC Status: PASS (Initial: PASS)

User Pre -dilution: 1.000

Run	Time	6Li	9Be	10B
		ppb	ppb	ppb
X		83.190%	6.704	107.700
%RSD		1.165	1.338	1.892
Run	**Time**	**23Na**	**25Mg**	**27Al**
		ppb	ppb	ppb
X		TM 99860.000	13470.000	M 90670.000
%RSD		TM 1.327	1.719	M 1.194
Run	**Time**	**35Cl**	**39K**	**43Ca**
		ppb	ppb	ppb
X		0.000	T 27380.000	28720.000
%RSD		0.000	T 1.254	0.304
Run	**Time**	**45Sc**	**45Sc**	**47Ti**
		ppb	ppb	ppb
X		T 98.471%	84.310%	95.670
%RSD		T 0.420	0.825	4.639
Run	**Time**	**51V**	**52Cr**	**53ClO**
		ppb	ppb	ppb
X		107.400	142.900	11.580
%RSD		0.627	1.220	18.730
Run	**Time**	**55Mn**	**56Fe**	**59Co**
		ppb	ppb	ppb
X		T 521.500	TM 66390.000	9.985
%RSD		T 0.747	TM 0.561	0.855
Run	**Time**	**60Ni**	**65Cu**	**66Zn**
		ppb	ppb	ppb
X		40.440	59.860	145.100
%RSD		1.735	0.537	1.145
Run	**Time**	**72Ge**	**75As**	**77ArCl**
		ppb	ppb	ppb
X		86.815%	26.090	0.255
%RSD		1.015	1.189	86.990
Run	**Time**	**78Se**	**88Sr**	**95Mo**
		ppb	ppb	ppb
X		6.601	M 843.900	20.050
%RSD		14.870	M 0.389	1.562
Run	**Time**	**105Pd**	**107Ag**	**108MoO**
		ppb	ppb	ppb
X		0.000	0.154	-3.820
%RSD		0.000	10.360	43.390
Run	**Time**	**111Cd**	**115In**	**118Sn**
		ppb	ppb	ppb
X		0.486	94.009%	13.970
%RSD		11.380	1.290	0.291
Run	**Time**	**121Sb**	**137Ba**	**159Tb**
		ppb	ppb	ppb
X		0.424	M 514.800	0.000
%RSD		21.940	M 0.633	0.000
Run	**Time**	**165Ho**	**182W**	**205Tl**
		ppb	ppb	ppb
X		0.000	0.588	0.487
%RSD		0.000	8.325	2.946
Run	**Time**	**208Pb**	**209Bi**	
		ppb	ppb	
X		78.200	115.626%	
%RSD		0.708	0.904	

Sample Calculation
78.2

Form 1
78.2

L2TE8F 6/16/2010 19:32:20 QC Status: PASS (Initial: PASS)

User Pre -dilution: 1.000

Run	Time	6Li	9Be	10B
		ppb	ppb	ppb
X		82.477%	5.363	104.000
%RSD		0.224	2.366	1.628
Run	**Time**	**23Na**	**25Mg**	**27Al**
		ppb	ppb	ppb
X		TM 103700.000	11060.000	M 75870.000
%RSD		TM 0.881	1.132	M 0.703
Run	**Time**	**35Cl**	**39K**	**43Ca**
		ppb	ppb	ppb
X		0.000	T 25060.000	21430.000
%RSD		0.000	T 1.467	0.863
Run	**Time**	**45Sc**	**45Sc**	**47Ti**
		ppb	ppb	ppb
X		T 96.751%	82.235%	97.140
%RSD		T 0.619	1.141	4.348
Run	**Time**	**51V**	**52Cr**	**53ClO**
		ppb	ppb	ppb
X		80.750	107.600	11.000
%RSD		1.957	0.874	12.870
Run	**Time**	**55Mn**	**56Fe**	**59Co**
		ppb	ppb	ppb
X		T 376.600	TM 51290.000	8.012
%RSD		T 1.118	TM 1.355	2.052
Run	**Time**	**60Ni**	**65Cu**	**66Zn**
		ppb	ppb	ppb
X		32.830	47.420	118.400
%RSD		1.334	1.576	2.150
Run	**Time**	**72Ge**	**75As**	**77ArCl**
		ppb	ppb	ppb
X		85.906%	20.490	0.227
%RSD		1.192	1.421	21.740
Run	**Time**	**78Se**	**88Sr**	**95Mo**
		ppb	ppb	ppb
X		4.501	M 666.000	22.540
%RSD		8.108	M 0.791	2.595
Run	**Time**	**105Pd**	**107Ag**	**108MoO**
		ppb	ppb	ppb
X		0.000	0.088	0.220
%RSD		0.000	26.390	2907.000
Run	**Time**	**111Cd**	**115In**	**118Sn**
		ppb	ppb	ppb
X		0.383	92.540%	11.360
%RSD		17.290	0.419	1.908
Run	**Time**	**121Sb**	**137Ba**	**159Tb**
		ppb	ppb	ppb
X		0.324	M 399.000	0.000
%RSD		14.150	M 1.071	0.000
Run	**Time**	**165Ho**	**182W**	**205Tl**
		ppb	ppb	ppb
X		0.000	0.323	0.343
%RSD		0.000	1.223	0.730
Run	**Time**	**208Pb**	**209Bi**	
		ppb	ppb	
X		63.290	113.085%	
%RSD		0.724	1.353	

L2TFLF 6/16/2010 19:46:47 QC Status: PASS (Initial: PASS)

User Pre -dilution: 1.000

Run	Time	6Li	9Be	10B
		ppb	ppb	ppb
X		81.699%	0.279	21.440
%RSD		0.731	3.976	1.644
Run	**Time**	**23Na**	**25Mg**	**27Al**
		ppb	ppb	ppb
X		35810.000	1190.000	M 5550.000
%RSD		0.673	6.091	M 0.577
Run	**Time**	**35Cl**	**39K**	**43Ca**
		ppb	ppb	ppb
X		0.000	T 1889.000	4164.000
%RSD		0.000	T 1.098	0.802
Run	**Time**	**45Sc**	**45Sc**	**47Ti**
		ppb	ppb	ppb
X		T 84.082%	75.799%	25.540
%RSD		T 0.033	0.954	7.351
Run	**Time**	**51V**	**52Cr**	**53Cl O**
		ppb	ppb	ppb
X		6.549	6.425	0.424
%RSD		7.668	2.220	203.600
Run	**Time**	**55Mn**	**56Fe**	**59Co**
		ppb	ppb	ppb
X		75.650	4400.000	0.766
%RSD		1.624	0.494	5.076
Run	**Time**	**60Ni**	**65Cu**	**66Zn**
		ppb	ppb	ppb
X		6.958	4.517	14.500
%RSD		1.395	7.955	2.845
Run	**Time**	**72Ge**	**75As**	**77Ar Cl**
		ppb	ppb	ppb
X		80.188%	1.151	0.083
%RSD		0.750	14.120	112.500
Run	**Time**	**78Se**	**88Sr**	**95Mo**
		ppb	ppb	ppb
X		0.404	59.750	3.756
%RSD		98.150	2.026	4.216
Run	**Time**	**105Pd**	**107Ag**	**108Mo O**
		ppb	ppb	ppb
X		0.000	-0.123	-0.502
%RSD		0.000	2.611	194.600
Run	**Time**	**111Cd**	**115In**	**118Sn**
		ppb	ppb	ppb
X		0.028	87.991%	1.048
%RSD		40.360	0.028	3.947
Run	**Time**	**121Sb**	**137Ba**	**159Tb**
		ppb	ppb	ppb
X		0.127	43.710	0.000
%RSD		10.150	0.252	0.000
Run	**Time**	**165Ho**	**182W**	**205Tl**
		ppb	ppb	ppb
X		0.000	0.066	0.092
%RSD		0.000	24.610	8.876
Run	**Time**	**208Pb**	**209Bi**	
		ppb	ppb	
X		2.958	105.022%	
%RSD		0.530	0.828	

L2T53 6/16/2010 20:21:55 QC Status: PASS (Initial: PASS)

User Pre -dilution: 1.000

Run	Time	6Li	9Be	10B
		ppb	ppb	ppb
X		80.587%	0.106	15.260
%RSD		0.259	10.200	0.521
Run	**Time**	**23Na**	**25Mg**	**27Al**
		ppb	ppb	ppb
X		2485.000	303.700	323.900
%RSD		0.942	2.190	2.547
Run	**Time**	**35Cl**	**39K**	**43Ca**
		ppb	ppb	ppb
X		0.000	341.900	608.300
%RSD		0.000	1.006	1.676
Run	**Time**	**45Sc**	**45Sc**	**47Ti**
		ppb	ppb	ppb
X		r83.506%	79.821%	2.567
%RSD		r0.815	0.438	42.840
Run	**Time**	**51V**	**52Cr**	**52ClO**
		ppb	ppb	ppb
X		0.452	0.506	-1.046
%RSD		25.370	4.448	32.590
Run	**Time**	**55Mn**	**56Fe**	**59Co**
		ppb	ppb	ppb
X		12.560	202.300	2.364
%RSD		0.754	1.226	7.310
Run	**Time**	**60Ni**	**65Cu**	**66Zn**
		ppb	ppb	ppb
X		3.905	2.228	10.900
%RSD		6.744	4.118	6.988
Run	**Time**	**72Ge**	**75As**	**77ArCl**
		ppb	ppb	ppb
X		85.504%	0.091	0.113
%RSD		1.408	139.600	59.890
Run	**Time**	**78Se**	**88Sr**	**95Mo**
		ppb	ppb	ppb
X		0.087	3.897	0.041
%RSD		54.230	2.456	21.640
Run	**Time**	**105Pd**	**107Ag**	**108MoO**
		ppb	ppb	ppb
X		0.000	-0.135	1.269
%RSD		0.000	0.864	93.800
Run	**Time**	**111Cd**	**115In**	**118Sn**
		ppb	ppb	ppb
X		0.009	92.547%	0.117
%RSD		43.830	0.318	5.415
Run	**Time**	**121Sb**	**137Ba**	**159Tb**
		ppb	ppb	ppb
X		-0.041	9.001	0.000
%RSD		48.660	2.259	0.000
Run	**Time**	**165Ho**	**182W**	**205Tl**
		ppb	ppb	ppb
X		0.000	0.004	0.126
%RSD		0.000	138.900	3.476
Run	**Time**	**208Pb**	**209Bi**	
		ppb	ppb	
X		-0.157	112.146%	
%RSD		5.922	0.806	

L2T53S 6/16/2010 20:31:29 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B
		ppb	ppb	ppb
X		79.978%	101.900	115.400
%RSD		0.601	0.970	0.992
Run	**Time**	**23Na**	**25Mg**	**27Al**
		ppb	ppb	ppb
X		12850.000	10830.000	M 10890.000
%RSD		0.310	0.636	M 0.171
Run	**Time**	**35Cl**	**39K**	**43Ca**
		ppb	ppb	ppb
X		0.000	T 11080.000	11200.000
%RSD		0.000	T 0.820	0.477
Run	**Time**	**45Sc**	**45Sc**	**47Ti**
		ppb	ppb	ppb
X		T 83.745%	78.142%	100.400
%RSD		T 0.254	0.217	10.340
Run	**Time**	**51V**	**52Cr**	**53Cl O**
		ppb	ppb	ppb
X		96.280	97.320	7.965
%RSD		1.901	0.727	14.390
Run	**Time**	**55Mn**	**56Fe**	**59Co**
		ppb	ppb	ppb
X		T 122.300	10700.000	99.180
%RSD		T 1.571	0.784	0.484
Run	**Time**	**60Ni**	**65Cu**	**66Zn**
		ppb	ppb	ppb
X		102.300	102.200	110.600
%RSD		0.277	1.563	0.711
Run	**Time**	**72Ge**	**75As**	**77Ar Cl**
		ppb	ppb	ppb
X		82.052%	95.860	-0.268
%RSD		0.453	0.353	41.320
Run	**Time**	**78Se**	**88Sr**	**95Mo**
		ppb	ppb	ppb
X		96.230	98.940	96.580
%RSD		2.184	0.897	1.786
Run	**Time**	**105Pd**	**107Ag**	**108Mo O**
		ppb	ppb	ppb
X		0.000	103.600	36.290
%RSD		0.000	1.008	191.600
Run	**Time**	**111Cd**	**115In**	**118Sn**
		ppb	ppb	ppb
X		103.900	88.856%	99.060
%RSD		1.307	0.015	1.000
Run	**Time**	**121Sb**	**137Ba**	**159Tb**
		ppb	ppb	ppb
X		99.480	108.700	0.000
%RSD		1.319	1.373	0.000
Run	**Time**	**165Ho**	**182W**	**205Tl**
		ppb	ppb	ppb
X		0.000	100.400	96.690
%RSD		0.000	0.647	0.645
Run	**Time**	**208Pb**	**209Bi**	
		ppb	ppb	
X		96.830	105.324%	
%RSD		0.112	1.144	

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User Pre -dilution: 1.000

Run	Time	6Li	9Be	10B
		ppb	ppb	ppb
X		81.614%	0.085	2.200
%RSD		0.348	7.694	4.101
Run	**Time**	**23Na**	**25Mg**	**27Al**
		ppb	ppb	ppb
X		2526.000	266.200	-6.108
%RSD		0.367	9.691	40.610
Run	**Time**	**35Cl**	**39K**	**43Ca**
		ppb	ppb	ppb
X		0.000	325.900	536.100
%RSD		0.000	1.729	3.689
Run	**Time**	**45Sc**	**45Sc**	**47Ti**
		ppb	ppb	ppb
X		τ83.591%	78.212%	0.303
%RSD		τ0.296	1.829	115.900
Run	**Time**	**51V**	**52Cr**	**53Cl O**
		ppb	ppb	ppb
X		0.249	0.171	-0.338
%RSD		136.600	15.150	122.700
Run	**Time**	**55Mn**	**56Fe**	**59Co**
		ppb	ppb	ppb
X		11.130	73.450	2.213
%RSD		0.857	0.579	7.257
Run	**Time**	**60Ni**	**65Cu**	**66Zn**
		ppb	ppb	ppb
X		3.465	1.666	11.340
%RSD		4.860	11.280	3.505
Run	**Time**	**72Ge**	**75As**	**77Ar Cl**
		ppb	ppb	ppb
X		83.412%	0.090	0.050
%RSD		2.522	98.020	113.300
Run	**Time**	**78Se**	**88Sr**	**95Mo**
		ppb	ppb	ppb
X		0.177	3.460	0.306
%RSD		61.940	4.399	16.850
Run	**Time**	**105Pd**	**107Ag**	**108Mo O**
		ppb	ppb	ppb
X		0.000	-0.126	-0.007
%RSD		0.000	2.272	11290.000
Run	**Time**	**111Cd**	**115In**	**118Sn**
		ppb	ppb	ppb
X		0.031	90.086%	0.242
%RSD		25.210	2.222	18.500
Run	**Time**	**121Sb**	**137Ba**	**159Tb**
		ppb	ppb	ppb
X		0.202	7.621	0.000
%RSD		19.810	3.043	0.000
Run	**Time**	**165Ho**	**182W**	**205Tl**
		ppb	ppb	ppb
X		0.000	0.370	0.240
%RSD		0.000	22.830	7.028
Run	**Time**	**208Pb**	**209Bi**	
		ppb	ppb	
X		-0.206	108.737%	
%RSD		4.173	0.810	

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User Pre -dilution: 1.000

Run	Time	6Li	9Be	10B
		ppb	ppb	ppb
X		83.331%	2.337	38.700
%RSD		0.106	3.329	1.850
Run	**Time**	**23Na**	**25Mg**	**27Al**
		ppb	ppb	ppb
X		T 76080.000	6248.000	M 36070.000
%RSD		T 0.455	1.995	M 0.285
Run	**Time**	**35Cl**	**39K**	**43Ca**
		ppb	ppb	ppb
X		0.000	T 72750.000	17530.000
%RSD		0.000	T 0.563	1.376
Run	**Time**	**45Sc**	**45Sc**	**47Ti**
		ppb	ppb	ppb
X		T 97.164%	87.230%	97.010
%RSD		T 0.871	0.750	3.673
Run	**Time**	**51V**	**52Cr**	**53Cr O**
		ppb	ppb	ppb
X		53.200	72.940	6.302
%RSD		2.078	0.511	21.460
Run	**Time**	**55Mn**	**56Fe**	**59Co**
		ppb	ppb	ppb
X		T 262.200	T 40880.000	5.502
%RSD		T 0.907	T 0.815	1.444
Run	**Time**	**60Ni**	**65Cu**	**66Zn**
		ppb	ppb	ppb
X		21.330	24.600	66.780
%RSD		2.076	3.056	0.872
Run	**Time**	**72Ge**	**75As**	**77Ar Cl**
		ppb	ppb	ppb
X		90.307%	7.492	0.107
%RSD		1.457	5.024	69.880
Run	**Time**	**78Se**	**88Sr**	**95Mo**
		ppb	ppb	ppb
X		3.169	M 2376.000	14.090
%RSD		20.020	M 0.393	3.999
Run	**Time**	**105Pd**	**107Ag**	**108Mo O**
		ppb	ppb	ppb
X		0.000	-0.053	0.011
%RSD		0.000	24.320	48310.000
Run	**Time**	**111Cd**	**115In**	**118Sn**
		ppb	ppb	ppb
X		0.173	97.648%	6.360
%RSD		15.800	1.304	1.730
Run	**Time**	**121Sb**	**137Ba**	**159Tb**
		ppb	ppb	ppb
X		0.284	M 209.200	0.000
%RSD		5.211	M 0.914	0.000
Run	**Time**	**165Ho**	**182W**	**205Tl**
		ppb	ppb	ppb
X		0.000	0.333	0.213
%RSD		0.000	3.405	2.600
Run	**Time**	**208Pb**	**209Bi**	
		ppb	ppb	
X		30.160	111.424%	
%RSD		1.258	1.636	