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LOCKHEED MARTIN

Transmitted by Overnight Mail

Mr. James W. Metz

April 21, 2008

Chief, Voluntary Cleanup Division
Environmental Restoration and Redevelopment Program
Maryland Department of the Environment
1800 Washington Blvd. Ste. 625
Baltimore, MD 21230

Re: Middle River Complex VCP – Soil Response Action Plan, Block H, MRC, Middle River, Maryland

Dear Mr. Metz:

Please find enclosed document for your review and approval.

Please let me know if you have any questions about this transmittal; I can be reached at (301) 214-9958.

Sincerely,

Thomas D. Blackman
Project Lead, Environmental Remediation

Attachment: Soil Response Action Plan, Block H, MRC, Middle River, Maryland
BET 131
cc: Via Email

Brad Owens, Lockheed Martin	Mr. Horacio Tablada, MDE
Christine Kline, Lockheed Martin	Mr. James R. Carroll, MDE
Mary Morningstar, Lockheed Martin	Ms. Richelle Hanson, MDE
Mike Martin, Tetra Tech	Mr. Gary Schold, MDE

SOIL RESPONSE ACTION PLAN
BLOCK H
LOCKHEED MARTIN MIDDLE RIVER COMPLEX

2323 Eastern Boulevard
Middle River, Maryland

LOCKHEED MARTIN

Tetra Tech
Environmental Engineers & Scientists

April 2008

Final Soil Response Action Plan
Block H
Lockheed Martin Middle River Complex
2323 Eastern Boulevard
Middle River, Maryland

Prepared for:

Lockheed Martin Corporation

Prepared by:

Tetra Tech, Inc.

Michael Martin, P.G.
Project Manager

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ACRONYMS

µg/kg	micrograms per kilogram
ARAR	Applicable or Relevant and Appropriate Requirement
ASTM	American Society for Testing and Materials International
ATC	Average Typical Concentration
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COC	chemical of concern
COMAR	Code of Maryland Regulations
COPC	chemical of potential concern
CSF	Cancer Slope Factor
CSM	Conceptual Site Model
cy	cubic yards
DEPRM	Department of Environmental Protection and Resource Management
DRO	diesel range organics
EDD	electronic data deliverable
EM	electromagnetic
EPA	United States Environmental Protection Agency
GLM	Glenn L. Martin Company
GPR	ground penetrating radar
GRA	general response action
GRO	gasoline range organics
HASP	Health and Safety Plan
HHRA	human health risk assessment
LDR	Land Disposal Restriction
LUC	land use control
MDE	Maryland Department of the Environment
mg/kg	milligrams per kilogram

MRAS	Middle River Aircraft Systems
MRC	Middle River Complex
MS2-LS&S	Maritime Systems & Sensors – Littoral Ships & Systems
MSDS	Material Safety Data Sheet
msl	mean sea level
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEPA	National Environmental Policy Act
NIOSH	National Institute of Occupational Safety and Health
NPDES	National Pollutant Discharge Elimination System
NPW	net present worth
O&M	operation and maintenance
OSHA	Occupational Safety and Health Administration
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PLS	pure live seed
PPE	personal protective equipment
RAO	response action objective
RAP	Response Action Plan
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RfD	Reference Dose
sf	square feet
SSO	Site Safety Officer
SVOC	semivolatile organic compound
TBC	To Be Considered
TCE	trichloroethene
TCLP	Toxicity Characteristic Leaching Procedure
TPH	total petroleum hydrocarbon
TSDF	treatment, storage, and disposal facility
Tetra Tech	Tetra Tech, Inc.
UCL	upper confidence limit
UECA	Uniform Environmental Covenants Act
USC	United States Code

USCS	Unified Soil Classification System
UTS	Universal Treatment Standard
VCP	Voluntary Cleanup Program
VOC	volatile organic compound

Executive Summary

This Response Action Plan (RAP) is being submitted by Tetra Tech, Inc. (Tetra Tech) on behalf of Lockheed Martin Corporation (Lockheed Martin) for soil media at Block H of the Lockheed Martin Middle River Complex (MRC) located in Middle River, Maryland. The RAP was prepared in accordance with the requirements of the Maryland Department of the Environment's (MDE's) Voluntary Cleanup Program (VCP) (Section 7-508 of the Environment Article, Annotated Code of Maryland). The purpose of the RAP is to provide the information necessary to support the decision to remove contaminated soil in order to receive a Certificate of Completion from the MDE under a Tier 1A (Residential Unrestricted) future land use and restriction category based on potential future residential development. A separate RAP is being prepared to address contaminated groundwater beneath the MRC, including the groundwater beneath Block H.

The MRC is located in Middle River, Maryland, approximately 11.5 miles northeast of downtown Baltimore and covers approximately 161 acres. Block H (7.9 acres) is located in the northwestern portion of the MRC. No Recognized Environmental Conditions (RECs) are located in Block H. Block H consists of Parking Lot No. 2, which has been used primarily as an employee parking lot. The parking lot is paved with asphalt and a grassy strip of land is located between the paved portion of the block and Cow Pen Creek.

Investigations at Block H were conducted in 2005 and consisted of a geophysical survey and soil and groundwater sampling. The analytical results for the soil and groundwater samples were evaluated in a site-specific human health risk assessment (HHRA), which identified benzo(a)pyrene and mercury as chemicals of concern (COC) in soil. Cleanup goals were developed to satisfy the requirements of the VCP and to be consistent with the requirements of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 Code of Federal Regulations (CFR) Part 400.430, as implemented through the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Attainment of the cleanup goals at Block H will result in a cancer risk less than 1×10^{-5} and a hazard index less than 1.0.

An additional field investigation was completed at Block H prior to the implementation of the response action to determine the extent of soil with COC concentrations greater than the cleanup goals. The field investigation confirmed previous investigation findings and discovered an additional soil boring SB-474 (3 to 4 feet bgs) with benzo(a)pyrene concentrations greater than the cleanup goal (400 µg/kg). The COC concentrations greater than cleanup goals are confined to four soil boring locations SB-200, SB-201, SB-285 and SB-474.

Soil associated with soil boring location SB-201 will be removed to a depth of 1 foot bgs. Soils associated with soil boring locations SB-200 and SB-285 will be removed to a depth of 10 feet bgs or to the depth of the zone of saturation, whichever is less. Soil associated with soil boring location SB-474 will be removed to a depth of 4 feet bgs. The soil removal limits and corresponding soil boring locations are shown in Figure 8-1.

As required by the VCP, selected technologies and land use controls (LUCs) were evaluated. The NCP served as a guide for the process used to arrive at the selected technology (i.e., selected alternative). This process included the identification, screening, and evaluation of potential technologies and process options; preliminary and detailed screening of technologies and process options; selection of representative process options; development and detailed analysis of alternatives; comparative analysis of alternatives; and description of the proposed alternative. The proposed response action selected was Excavation and Off-Site Treatment and Disposal to allow unrestricted residential site use.

The proposed response action would remove soil with COC concentrations greater than the cleanup goals to the extent necessary to allow unrestricted residential use of Block H. A total of 1,500 tons of soil will be removed from four soil boring locations for off-site disposal. Site preparation would include the construction of temporary materials handling pad, decontamination zones, haul routes and clearing of the areas to be excavated. Shallow excavation of soil would be conducted using a bulldozer, front-end loader, hydraulic excavators, backhoe, or similar equipment. Post-removal/confirmation samples would be collected from the sidewalls and base of the excavation(s). Following excavation and confirmation sampling, the excavated areas would be backfilled with certified clean material, graded to original contours, and restored using vegetation or pavement. It is assumed that all excavated soil would be disposed at an off-site permitted Resource Conservation and Recovery Act (RCRA) Subtitle D landfill. Because the soil remaining

on site would no longer contain concentrations of COCs that could be harmful to potential future residential receptors, soil-related LUCs would not be required.

Lockheed Martin will meet local, State, and federal permitting requirements for the response action. Based on a review of requirements of MDE and Baltimore County, permitting requirements for the response action are related to earth-moving activities.

As stipulated by MDE's VCP, administrative requirements, including a written agreement, zoning certification, performance bond or other form of security, and health and safety plan requirements will be met. A written agreement stipulating that if the RAP is approved, the applicant agrees to comply with the provisions of the RAP is provided herein. A zoning certification, a certified written statement that the property meets all applicable county and municipal zoning requirements, is also provided with this RAP. A project-specific Health and Safety Plan (HASP) will be prepared and submitted to MDE prior to implementation of the MDE-approved RAP.

Section 1
Introduction

1.1 PURPOSE

On behalf of Lockheed Martin Corporation (Lockheed Martin), Tetra Tech, Inc. (Tetra Tech) has prepared this Response Action Plan (RAP) for soil media at Block H of the Lockheed Martin Middle River Complex (MRC) located in Middle River, Maryland. The location of the MRC is shown on Figure 1-1. This RAP has been prepared in accordance with the requirements of the Maryland Department of the Environment's (MDE's) Voluntary Cleanup Program (VCP) (Section 7-508 of the Environment Article, Annotated Code of Maryland).

The purpose of the RAP is to provide the background, support, and framework for remediation of soil with chemical of concern (COC) concentrations greater than the cleanup goals in order to receive a Certificate of Completion from the MDE under a Tier IA (Residential Unrestricted) future land use and restriction category based on potential future residential development. Block H and physical features are shown on Figure 1-2.

A Certificate of Completion will be sought from the MDE following the satisfactory implementation and completion of the MDE-approved RAP.

1.2 SCOPE

The response action for Block H, which will address soil and groundwater with COC concentrations greater than the cleanup goals, is summarized as follows:

- The soil response action proposed in this RAP will include removal of soil with COC concentrations greater than the cleanup goals.
- The Groundwater Response Action Plan will address groundwater with COC concentrations greater than the cleanup goals in order to receive a Certificate of Completion from the MDE under a Tier IB (Residential Restricted) future land use and

restriction category. The restriction category would consist of institutional controls designed to prevent potable use of groundwater. The restriction category consisting of institutional controls would remain in place until the groundwater cleanup goals are achieved through remediation. The proposed response action for groundwater associated with Block H is described in the Groundwater Response Action Plan provided under separate cover.

1.3 ORGANIZATION

This RAP is organized as follows:

- Section 1 – Introduction: Presents the purpose, scope, and organization of the RAP.
- Section 2 – Block H Overview: Presents a brief description of MRC and Block H history, environmental investigations and results, nature and extent of contamination, and a summary of the proposed soil response action.
- Section 3 – Additional Investigatory Information: Presents a summary of the additional investigation completed in support of the response action.
- Section 4 – Exposure Assessment: Presents the current and proposed land use, media of concern, and Conceptual Site Model (CSM).
- Section 5 – Cleanup Criteria: Presents cleanup criteria, a risk assessment summary, cleanup goals, and information associated with attainment of cleanup goals.
- Section 6 – Selected Technologies and Land Use Controls: Presents the screening of technologies and process options, development and analysis of alternatives, comparative analysis of alternatives, and the selected alternative to achieve cleanup of Block H.
- Section 7 – Evaluation Criteria for the Selected Technology: Presents the criteria required for a Certificate of Completion.
- Section 8 – Proposed Response Actions: Presents the plan for all work necessary to perform the proposed response action.
- Section 9 – Permits, Notifications, and Contingencies: Presents the local, State, and federal laws and regulations that prescribe the permits and approvals required to implement the MDE-approved RAP.
- Section 10 – Implementation Schedule: Presents the detailed schedule for all work necessary to implement the MDE-approved RAP.
- Section 11 – Administrative Requirements: Presents the administrative documents required to implement the MDE-approved RAP.

- Section 12 – References: Lists references and citations used in compiling this RAP.

Appendix A includes a summary of soil analytical results. Appendix B includes a statistical summary of pre- and post-removal action data. Appendix C includes field documentation notes and boring logs. Appendix D includes data validation reports. Appendix E includes documentation required to comply with administrative requirements.

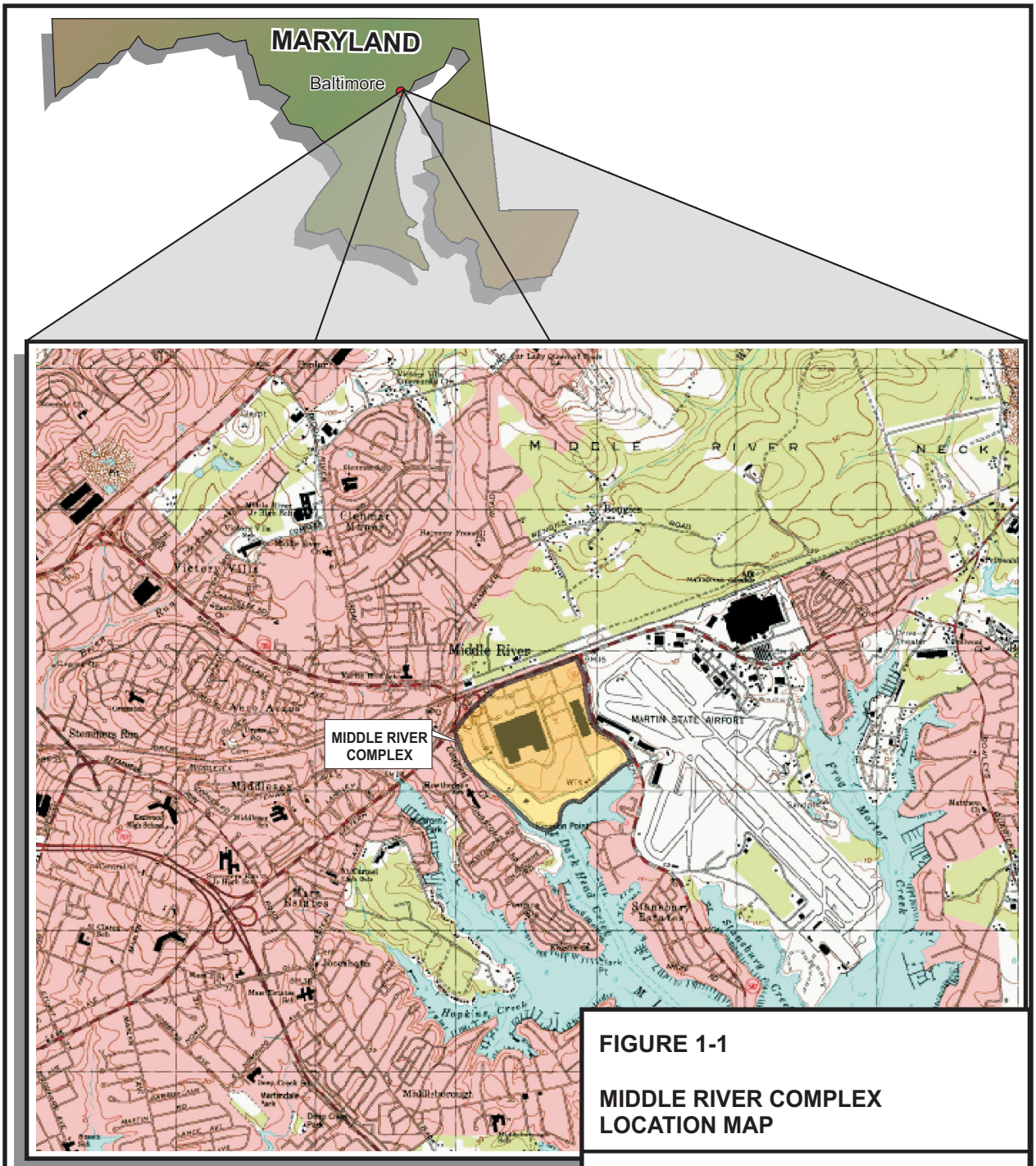


FIGURE 1-1

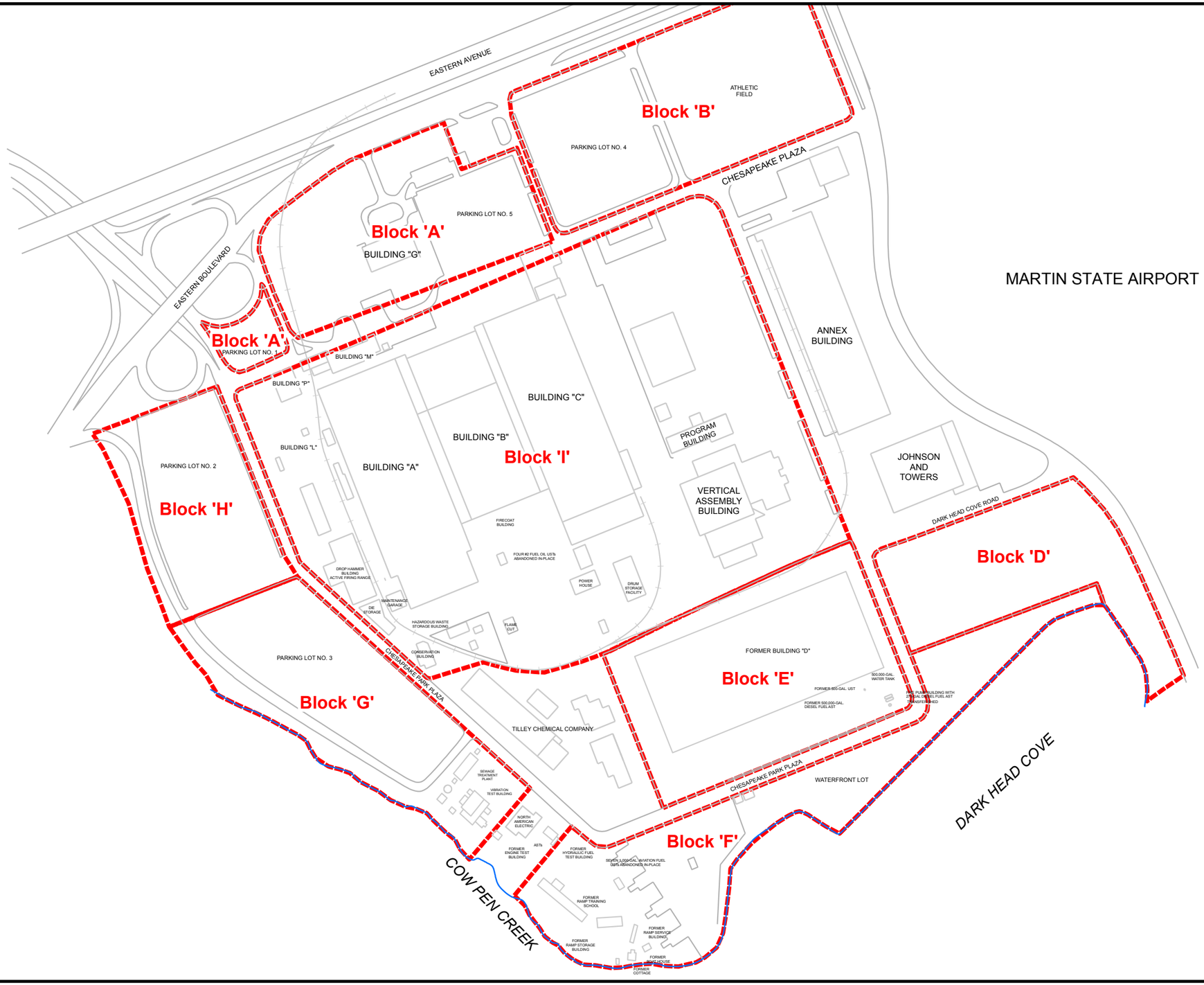
MIDDLE RIVER COMPLEX LOCATION MAP

Lockheed Martin Middle River Complex
Middle River, Maryland

NOT TO SCALE	N
DATE MODIFIED: 1/24/07	CREATED BY: J. F.

Tetra Tech, Inc.

K:\GProject\middle_river\graphics\Middle River Complex Loc Map_Revised.cdr



MARTIN STATE AIRPORT

FIGURE 1-2

MIDDLE RIVER COMPLEX TAX BLOCKS

LEGEND

- TAX BLOCK
- STRUCTURE
- RAILROAD TRACKS

Lockheed Martin Middle River Complex
Middle River, Maryland

0 100 200 400 Feet

N

DATE MODIFIED: 1/24/07

CREATED BY: J. F.

Tetra Tech, Inc.

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Section 2
Block H Overview

2.1 BLOCK H BACKGROUND

The MRC, which is part of the Chesapeake Industrial Park, is located at 2323 Eastern Boulevard in Middle River, Maryland, approximately 11.5 miles northeast of downtown Baltimore. The MRC covers approximately 161 acres and consists of 12 main buildings, an active industrial area and yard, perimeter parking lots, an athletic field, a concrete-covered vacant lot, a trailer and parts storage lot, and numerous grass-covered green spaces along it's 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 Martin State Airport to the east. The location of the MRC is shown in Figure 1-1. A MRC layout map is presented as Figure 2-1.

The MRC is comprised of several tax blocks. Block H, consisting of 7.88 acres, is located in the northwestern portion of the MRC. Block H is bounded to the north by Eastern Boulevard, to the east by the industrial portion of the MRC (Block I), to the south by Parking Lot No. 3 (Block G), and to the west by Cow Pen Creek. There are no Recognized Environmental Conditions (RECs) located in Block H.

2.1.1 Block H Description

Currently, Lockheed Martin's MRC primary activities include facility and building management and maintenance. The MRC has two main tenants: Middle River Aircraft Systems (MRAS), a subsidiary of General Electric that conducts design, manufacturing, fabrication, testing, overhaul, repair, and maintenance of aeronautical structures, parts, and components for military and commercial applications, and Maritime Systems & Sensors – Littoral Ships & Systems (MS2-LS&S), a subsidiary of Lockheed Martin that conducts fabrication, assembly, testing, and

support of vertical launch systems. Lockheed Martin and tenant operations are primarily contained within Block I.

Block H consists of Parking Lot No. 2, which has been used primarily as an employee parking lot. The parking lot is paved with asphalt and a grassy strip of land is located between the paved portion of the block and Cow Pen Creek. Access to the parking lot is from Chesapeake Park Plaza.

2.1.2 Block H History

In 1929, Glenn L. Martin Company (GLM), a predecessor of Lockheed Martin, acquired a large parcel of land in Middle River, Maryland to conduct aircraft manufacturing for the United States government and for commercial clients. Prior to the property's first occupancy, the MRC was undeveloped land. In the early 1960s, GLM merged with American-Marietta Company, forming Martin Marietta Corporation. Around 1975, the adjacent eastern airport (Martin State Airport), totaling approximately 750 acres, was transferred to the State of Maryland. In the mid-1990s, Martin Marietta Corporation merged with Lockheed, forming Lockheed Martin Corporation, with its principal subsidiary specializing in construction and testing of new ordnance for the United States government and for commercial clients. Shortly following the merger, General Electric acquired the majority of Lockheed Martin's aeronautical business in Middle River, which began to function as MRAS.

Based on available aerial photographs, Parking Lot No. 2 was constructed before 1954 and remains in use today for employee parking. No structures are known to have existed within this asphalt parking area.

2.1.3 Block H Characteristics

2.1.3.1 Current and Surrounding Land Use

The MRC is an industrial facility, and the area surrounding the MRC primarily consists of commercial, industrial, and residential establishments. Six facilities comprise the remaining portion of the Chesapeake Industrial Park including Tilley Chemical Company, Inc., a food and

pharmaceutical chemical distributor for personal care and industries; 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 company that produces flexible packaging; Exxon, a gasoline fill station and convenience store; and the Middle River Post Office. Residential developments are present on the opposite shores of Cow Pen Creek, Dark Head Cove, and Dark Head Creek and north of Eastern Boulevard (Route 150).

2.1.3.2 Physiography

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

The topography of Block H is relatively flat with a slight dip toward Cow Pen Creek.

2.1.3.3 Hydrology

The MRC lies 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 lies approximately 3.24 miles (17,100 feet) upstream of Chesapeake Bay.

No surface water bodies lie within or cross the MRC. Excluding areas immediately adjacent to Cow Pen Creek and Dark Head Creek, surface water runoff discharges from the MRC via storm drains. Lockheed Martin maintains a State of Maryland National Pollution Discharge Elimination System (NPDES) permit (State Discharge Permit No.: 00-DP-0298, NPDES No.: MD0002852), issued by MDE Industrial Discharge Permits Division, Water Management Administration. The permit covers stormwater discharge from the entire property rather than individual tenants. The NPDES permitted outfall locations are shown on Figure 2-1.

No surface water bodies cross or emanate from Block H. Due to the topography and the presence of the asphalt paving, surface water runoff in this area would most likely discharge to Cow Pen Creek as overland sheet flow. Surface water runoff generated in the grass covered areas will

generally infiltrate into the underlying soil or discharge to Cow Pen Creek as overland sheet flow. Stormwater management features are located within Block D and are indicated on the MRC utility map included as Appendix J of the Site Characterization Report (Tetra Tech, May 2006). No wetlands have been identified in or around Block H, and Block H is not located within the 100-year floodplain.

2.1.3.4 Soils

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

2.1.3.5 Geology

The surficial geology of Block H is summarized below. The geology of the MRC is described in the Site Characterization Report (Tetra Tech, May 2006).

Based on the lithologic logging of soil borings at Block H, the subsurface soils consisted of a heterogeneous mix of silty sands, fine-grained to medium-grained sands, and silty clay. In most borings, silty sand was encountered immediately below the asphalt cover or ground surface and silty clay was present below the silty sand. In other borings, silty clay was encountered immediately below the asphalt cover or ground surface (SB-201, SB-283, and SB-282).

2.1.3.6 Hydrogeology

A summary of groundwater measurements taken at Block H is presented in Table 2-1. The groundwater elevation contours using the shallow/intermediate surficial aquifer monitoring wells are presented on Figure 2-2. Groundwater flows in a radial fashion 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.

Groundwater was typically encountered at Block H between 0.2 and 12 feet below ground surface (bgs) and occurred in the silty clay unit. Based on the location of Cow Pen Creek, groundwater flow is anticipated to flow to the west.

2.2 SUMMARY OF BLOCK H INVESTIGATIONS

Investigations associated with Block H have been conducted since 2005 and included record reviews, discussions with MRC personnel, geophysical surveys, and soil and groundwater sampling. Investigations[1] included the Phase II Soil Investigation (Summer 2005) (Tetra Tech, May 2006), Groundwater Characterization (Summer 2005) (Tetra Tech, May 2006), Geophysical Survey/Soil Investigation (Fall 2005) (Tetra Tech, May 2006), and Groundwater Investigation (Fall 2005) (Tetra Tech, May 2006). The summary of Block H investigations provided below is limited to the media of concern, soil, whereas a summary of groundwater investigations is provided in the Groundwater Response Action Plan.

2.2.1 Phase II Soil Investigation (Summer 2005)

A baseline sampling event was conducted in the summer of 2005 to confirm that there were no releases of any hazardous substances or petroleum products in Block H. Four soil borings (SB-200 through SB-203) were installed to provide coverage of Block H. Surface soil samples and subsurface soil samples (5 and 10 feet bgs) were collected from each boring and analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), metals, total petroleum hydrocarbons (TPH), gasoline range organics (GRO), and diesel range organics (DRO).

VOCs, polycyclic aromatic hydrocarbons (PAHs), DRO, and metals were detected in the soil samples collected during this investigation. Arsenic, mercury, DRO, and benzo(a)pyrene were detected at concentrations above the MDE soil cleanup levels in the surface and subsurface soil

[1] Investigations cited by investigation title, performance period, and reference.

samples. Chromium was detected at concentrations above the MDE soil cleanup levels in subsurface soil samples only.

Sample locations are shown on Figure 2-3. The results of this investigation are provided in the Site Characterization Report (Tetra Tech, May 2006). Tables AH-1 and AH-2 (Appendix A) provide a summary of the detected concentrations in the surface soil and subsurface soil samples, respectively.

2.2.2 Geophysical Survey/Soil Investigation (Fall 2005)

An electromagnetic (EM) survey was conducted in the fall of 2005 to screen Block H and identified anomalies were evaluated further with ground-penetrating radar (GPR). The results of the geophysical surveys are presented in the Site Characterization Report (Tetra Tech, May 2006). Based on the geophysical survey, several anomalies that could not be resolved as being associated with known features (utilities) were investigated by installing five additional soil borings (SB-282 through SB-286) (most of the anomalies were located in the southern portion of the Block). Subsurface soil samples were collected from three depths in each boring (1.5, 4.5 and 9.5 feet bgs) and the samples were analyzed for VOCs, SVOCs, PCBs, metals, GRO, and DRO.

In addition, two soil borings (SB-293 and SB-294) were installed in the northwest corner of Block H. Although there were no geophysical anomalies identified in this area, the borings were installed to investigate anecdotal evidence that landfilling had occurred in this area. Subsurface soil samples were collected from three depths in each boring (1.5, 4.5 and 9.5 feet bgs) and the samples were analyzed for VOCs, SVOCs, PCBs, metals, GRO, and DRO. A surface soil sample was also collected from soil boring SB-294 and analyzed for the same suite of parameters.

As with the Phase II Soil Investigation (Summer 2005), VOCs, PAHs, DRO, and metals were detected in the soil samples collected during this investigation. There were no exceedances of MDE soil cleanup levels in the surface soil sample (SB-294) and scattered detections of arsenic, chromium and PAHs exceeded the MDE soil cleanup levels in the subsurface soil samples.

Sample locations are shown on Figure 2-3. The results of this investigation are provided in the Site Characterization Report (Tetra Tech, May 2006). Tables AH-1 and AH-2 (Appendix A)

provide a summary of the detected concentrations in the surface soil and subsurface soil samples, respectively.

2.3 NATURE AND EXTENT OF CONTAMINATION

This section presents a summary of the nature and extent of contamination in soil and groundwater at Block H based on the results of all investigations conducted prior to the fall of 2007. Tables AH-1 and AH-2 (Appendix A) provide a summary of the detected concentrations in surface soil and subsurface soil samples, respectively.

2.3.1 Soil

The human health risk assessment (HHRA) prepared for the Site Characterization Report (Tetra Tech, May 2006) identified a number of chemicals of potential concern (COPCs) by comparing maximum concentrations to MDE soil cleanup standards. COPCs detected in soil samples collected within Block H included 11 metals (antimony, arsenic, cadmium, chromium, cobalt, lead, mercury, molybdenum, nickel, vanadium, and zinc), six PAHs [benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene], trichloroethene (TCE), GRO and DRO. Results of the site-specific HHRA were used to assist in determining which COPCs were the principal contributors to risk, also referred to as COCs. When certain metals that are expected to be at background concentrations are discounted PAHs in subsurface soil are the primary contributing COPCs. The COCs identified for Block H were carcinogenic PAHs in subsurface soils and mercury in surface soils.

The highest concentrations of benzo(a)pyrene and other PAHs were detected in subsurface soil samples. Detected benzo(a)pyrene concentrations ranged from 40 micrograms per kilogram (µg/kg) (SB-201-SS) to 367 µg/kg (SB-200-SS) in surface soil and from 63 µg/kg (SB-202-10) to 960 µg/kg (SB-285-0405) in subsurface soil. Figure 2-4 shows the concentrations of benzo(a)pyrene in the soil samples that exceed the cleanup goal established in Section 5.3.

The highest concentrations of mercury were detected in surface soil samples. Detected mercury concentrations ranged from 0.01 milligrams per kilogram (mg/kg) (SB-294-0001) to 1.14 mg/kg (SB-201-SS) in surface soil and from 0.01 mg/kg (several locations) to 0.24 mg/kg (SB-201-05) in subsurface soil. Figure 2-4 shows the concentrations of mercury in the soil samples that exceed the cleanup goal established in Section 5.3.

2.3.2 Groundwater

The primary impacts to groundwater in Block H are chlorinated VOCs (primarily TCE) in monitoring well MW53A and metals in three of the monitoring wells (MW08A, MW52A, and MW53A). The source of the TCE appears to be from the industrial area (Block I). TCE may be of concern should future land use include construction of buildings over impacted groundwater. The area is currently served by public water and there are currently no wells (other than monitoring wells) anywhere on the MRC. Further discussion of impacts to groundwater are discussed in the Groundwater Response Action Plan.

2.4 RESPONSE ACTION SUMMARY

This RAP was developed in accordance with VCP guidance to support Lockheed Martin's application to the VCP for Block H at the MRC. This RAP was prepared to address elevated concentrations of PAHs and mercury in soils within Block H. A separate RAP is being prepared to address contaminated groundwater beneath the MRC.

2.4.1 Proposed Response Actions

Soil at Block H with PAH and mercury concentrations greater than the cleanup goals will be removed and disposed at a permitted off-site disposal facility. Development of the cleanup goals is presented in Section 5. The response action is described in Section 8.

2.4.2 Future Land Use Category

The MRC is currently an industrial facility and the area surrounding the property primarily consists of commercial and industrial establishments. Residential developments are present on the opposite shores of Cow Pen Creek, Dark Head Cove, Dark Head Creek and north of Eastern Boulevard (Route 150). The implementation of the proposed RAP will allow for unrestricted residential use of Block H.

2.4.3 Proposed Land Use Control

The proposed RAP for Block H includes the removal of all soil with concentrations of PAHs and mercury greater than the cleanup goals. Consequently, Block H will be considered for unrestricted residential uses, and land use controls (LUCs) will not be required. LUCs for the groundwater beneath Block H may be required and are discussed in the Groundwater Response Action Plan provided under separate cover.

Table 2-1

Summary of Groundwater Level Measurements
Block H, Soil Response Action Plan
Lockheed Martin Middle River Complex, Middle River, Maryland

Monitoring Well Number	Top of Riser Elevation (ft)	Ground Surface Elevation (ft)	Screened Interval Length (ft)	Elevation of Bottom of Screened Interval (ft)	Measurement Date					
					6/5/2005		10/13/2005		12/6/2005	
					Groundwater Elevation (ft)	Depth to Groundwater (ft bgs)	Groundwater Elevation (ft)	Depth to Groundwater (ft bgs)	Groundwater Elevation (ft)	Depth to Groundwater (ft bgs)
MW08A	11.46	11.66	10	-1.34	11.46	0.20	11.46	0.20	11.46	0.20
MW41A	29.19	29.59	10	13.59	19.89	9.70	18.94	10.65	17.39	12.20
MW51A	23.62	23.86	10	10.86	NA	NA	NA	NA	13.01	10.85
MW52A	22.04	22.33	10	9.33	NA	NA	NA	NA	15.34	6.99
MW53A	20.24	20.56	10	7.56	NA	NA	NA	NA	14.47	6.09
MW54A	18.63	18.86	10	1.86	NA	NA	NA	NA	14.88	3.98

1 Monitoring well data for monitoring wells located within or near the Block H limits.
2 See Figure 2-2 for monitoring well locations.
3 Elevations reference National Geodetic Vertical Datum (NGVD), 1929.
4 Monitoring well information obtained from Site Characterization Report (Tetra Tech, May 2006).

bgs - Below ground surface.
ft - Feet.
NA - Not available.
" - " - Denotes negative number.

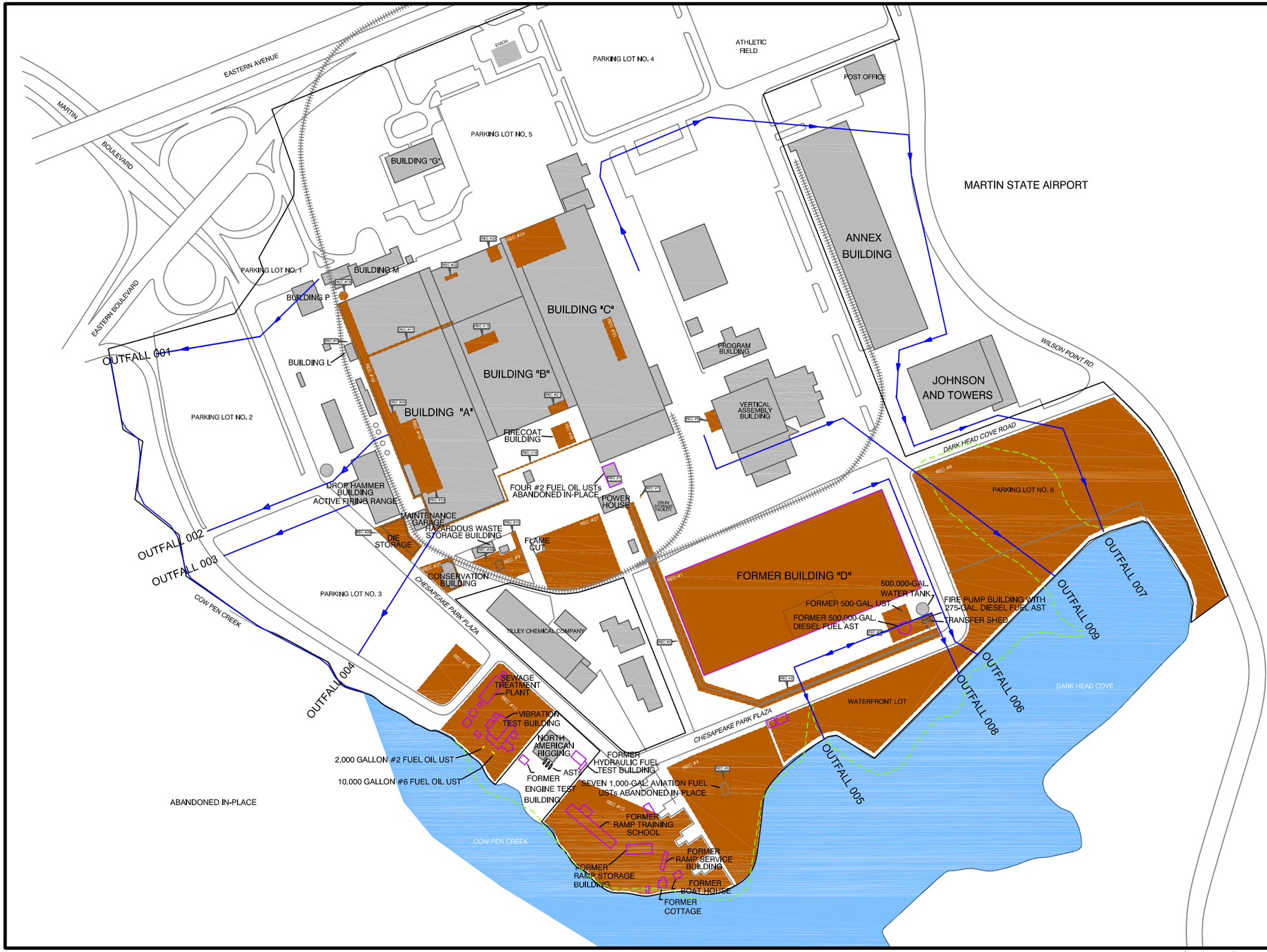

FIGURE 2-1

MIDDLE RIVER COMPLEX LAYOUT MAP

LEGEND

OUTFALL 004 NPDES PERMITTED OUTFALL

STORMWATER AND FLOW DIRECTION

PRE-1950 SHORELINE

EXISTING STRUCTURE

FORMER STRUCTURE

REC LOCATION (APPROXIMATE)

Lockheed Martin Middle River Complex
Middle River, Maryland

0 200 400

N

DATE MODITFIED 3/13/07

CREATED BY J.F.

Tetra Tech Inc.

filename: k:\gproject\middle_river\cad\newfolder\2003SiteLocationMapFigure2_16Jan07.dwg

MARTIN STATE AIRPORT

MW03A 24.92
MW01A 20.69
MW02A 21.27
MW06A 20.16
MW05A 19.50
MW49A 16.13
EXT-MW04 NM
MW51A 13.01
MW50A 16.42
MW52A 15.34
MW41A 17.39
MW53A 14.47
MW08A 11.46
MW54A 14.88
MW17A 28.15
MW64A 25.50
MW18A 22.15
MW19A 26.27
MW20A 26.40
MW07A 23.19
MW16A 15.14
MW09A 9.37
MW21A-B 31.69(A)
EXT-MW06 23.04
MW22A 18.66
MW15A 18.36
MW10A 11.31
MW14A-C 15.22(A)
MW11A
MW11C 13.49(A)
MW12A
MW12C 9.38(A)
MW63A 15.14(A)
MW13A 11.09
MW55A 25.25
MW57A 28.34
MW56A 32.68
MW58A 32.13
MW59A 34.01
MW65A 11.42
MW66A 9.90
MW47A 12.30
MW45A *
MW46A 2.27
MW04A 23.10
MW61A NM
MW23A 17.32
MW60A 24.62
MW48A 17.44
MW24A NM
MW28A 11.01
MW29A 10.12
MW42A 15.12
MW26A 13.94
MW27A-C 12.40(A)
MW25A 15.23
MW30A 11.84
MW62A
MW62C 11.67(A)
MW33A 10.95
MW44A 11.45
MW43A 11.57
MW32A 8.79
MW31A 9.65
MW34A-C 8.42(A) 8.65(B)
MW35A 6.84
MW36A 4.78
MW37A 4.63
MW37B-C 3.55
MW38A 4.14
MW39A 3.55
MW40A 6.24

5 10 15 20 25 30

COW PEN CREEK
DARK HEAD COVE

FIGURE 2-2

GROUNDWATER CONTOURS OF THE UPPER SURFICIAL AQUIFER, DECEMBER 2005

LEGEND

- GROUNDWATER MONITORING WELL
- GROUNDWATER CONTOUR
- INFERRED
- 15.23 WATER ELEVATION (FEET ABOVE MSL)
- NM NOT MEASURED
- * ELEVATION WAS NOT CONSISTENT WITH SURROUNDING ELEVATIONS AND WAS NOT USED FOR CONTOURING.

Lockheed Martin Middle River Complex
Middle River, Maryland

0 85 170 340 Feet

N

DATE MODIFIED: 3/27/07

CREATED BY: LR

Tetra Tech, Inc.

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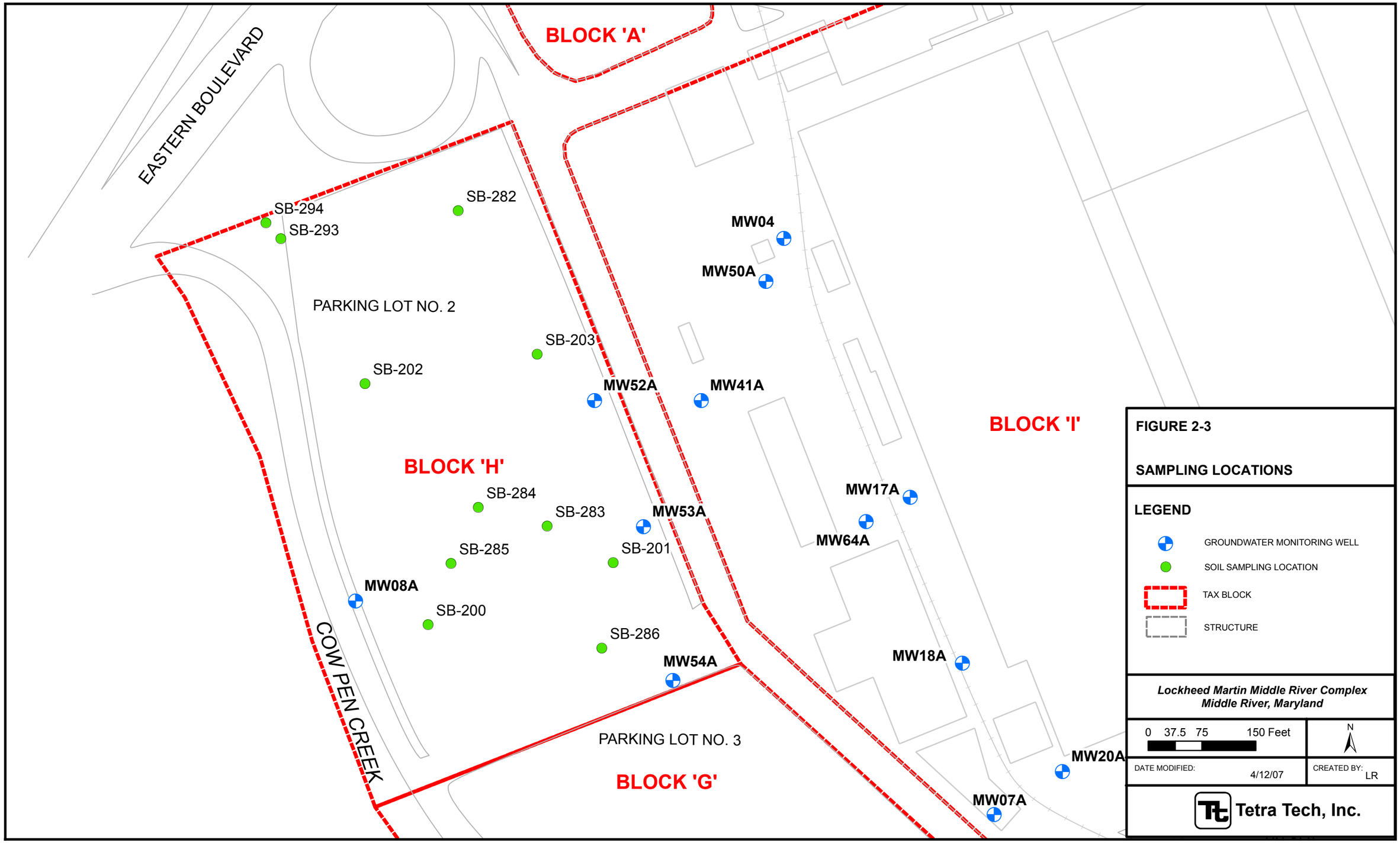
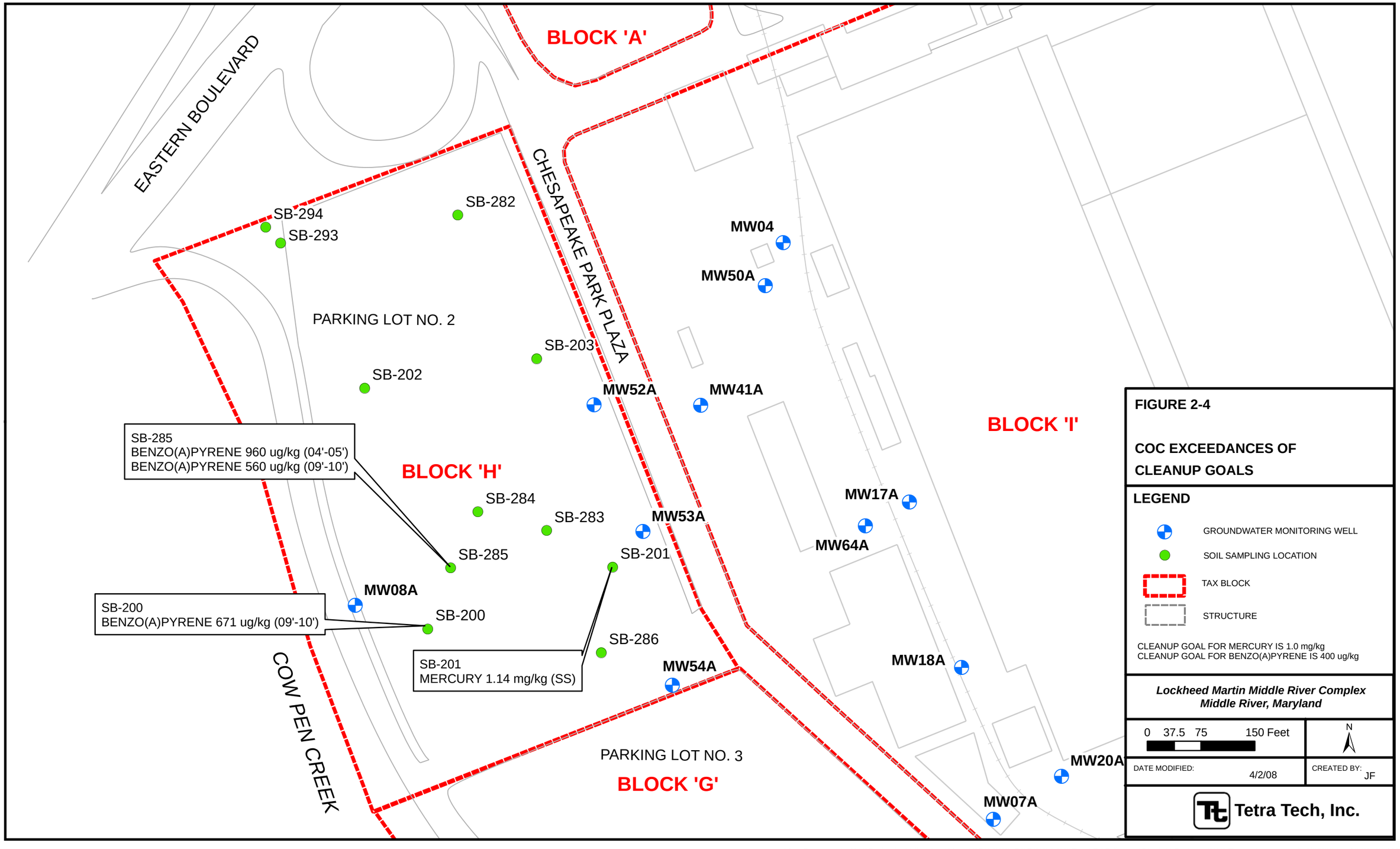


K:\GProject\middle_river\Maps\Draft Response Action Plan\Block H\Sampling Locations.mxd



Map Document: (K:\GProject\middle_river\Maps\GPS SOIL BORING LOC\Final RAP figures\Block H Borings COC Exceedances.mxd) 4/3/2008 -- 10:26:40 AM

Section 3
Additional Investigatory Information

3.1 ADDITIONAL SOIL INVESTIGATIONS

Tetra Tech performed an additional field investigation at Block H during the fall of 2007 to confirm previous results and refine the limits of COCs greater than cleanup goals. The risk assessment included in the Site Characterization Report (Tetra Tech, 2006) identified benzo(a)pyrene and mercury concentration that require mitigation. Concentrations of benzo(a)pyrene and mercury in excess of the cleanup goals were identified at previous soil boring locations, SB-285, SB-200 and SB-201 respectively. These soil boring locations are located in the southern portion of Block H. These areas were further characterized by locating borings in and around SB-285, SB-200 and SB-201 in a grid pattern to determine the extent and confirm previous results. Refer to Figure 3-1 for soil sampling locations. A work plan was prepared in November 2007 (Tetra Tech, 2007) documenting field investigation protocols, sampling procedures, and analytical requirements. The field investigation was performed in accordance with the work plan.

Twenty seven soil borings were installed in the vicinity of soil borings SB-285 and SB-201 using a direct push technology (DPT). The borings were spaced on a grid pattern across the previously identified geophysical anomaly area greater than cleanup goals. Soil boring locations are shown in Figure 3-1. These borings were drilled to a maximum depth of 8 feet bgs. The soil samples were obtained continuously from the ground surface to the termination depth of the borehole with samples submitted for chemical analysis at 2 foot intervals (1 to 2, 2 to 3, 3 to 4, 5 to 6 and 7 to 8 feet bgs). The samples were logged in the field to document geologic description of the lithology for USCS classification, moisture content, and the depth of the water table. The field documentation notes and geologic logs are enclosed in Appendix C. The lithology is consistent with presence of heterogeneous mix of brown silty sands underlain by silty clay. The soils were generally moist with the shallow water table present between 2 to 5 feet bgs. Most of the borings

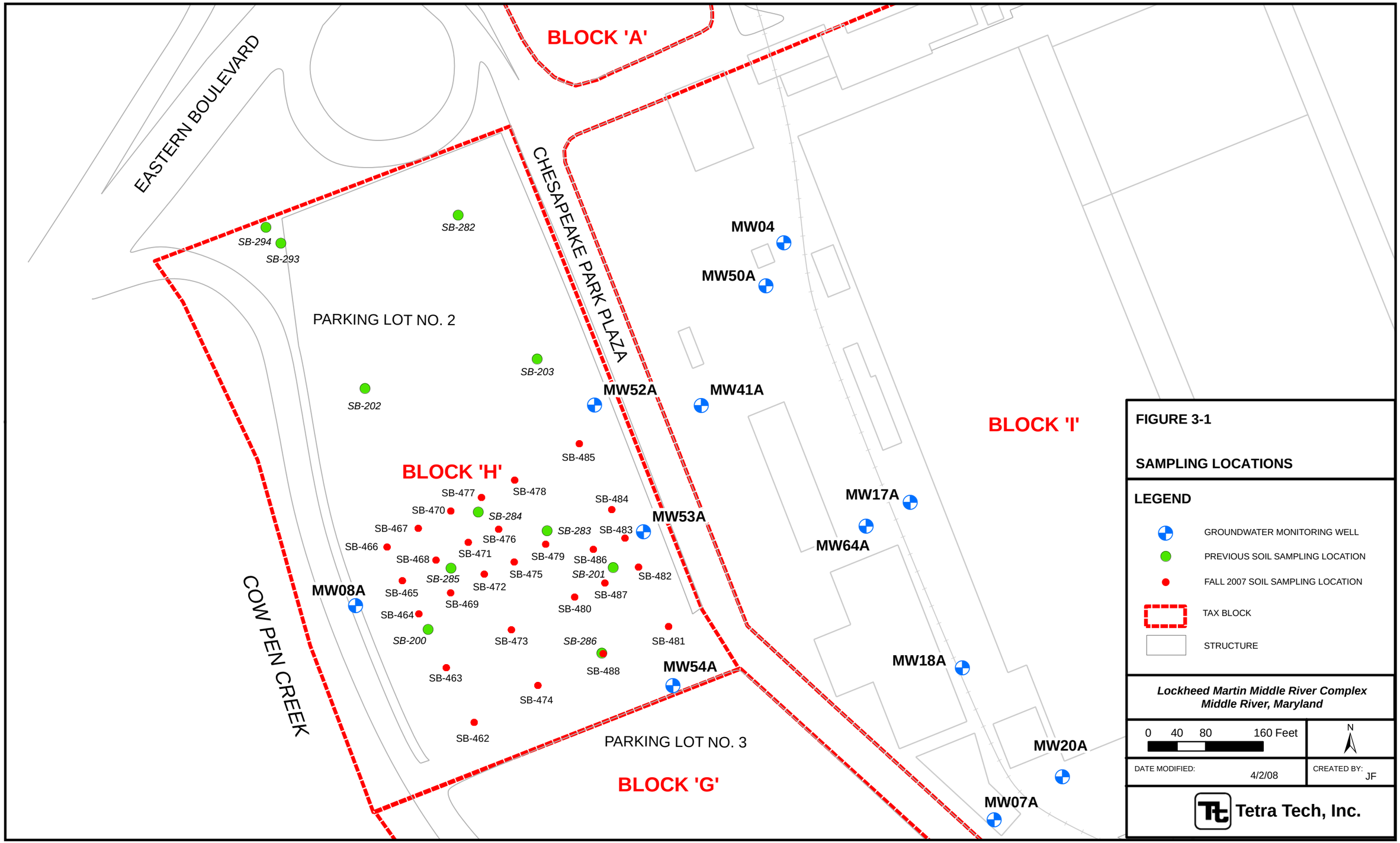
were terminated at 8 feet bgs. Soil samples were collected in precleaned sample containers, packed in coolers, sealed and sent to the contracted laboratory for benzo(a)pyrene (Method EPA 8270) and mercury (Method SW-846 7471A) analysis.

3.2 RESULTS

The evaluation and analysis of the laboratory soil data showed the presence of benzo(a)pyrene and mercury in low concentrations in many of the samples. A total of 135 soil samples were collected from the 27 soil borings and analyzed in the laboratory for benzo(a)pyrene and mercury analysis. These samples underwent Level IV data validation procedures in accordance with USEPA Region III protocols to ensure that the generated laboratory data were valid and accurate. The summary of detected concentrations in subsurface soils is presented in Table AH-3 (Appendix A) and validation reports are provided in Appendix D.

Detected benzo(a)pyrene concentrations in soils ranged from non-detect to a maximum concentration of 490 µg/kg at soil boring SB-474 (3 to 4 feet bgs). The majority of the samples exhibited benzo(a)pyrene concentrations below 100 µg/kg. The nineteen positive detections of benzo(a)pyrene were scattered sporadically at various boring locations. The cleanup goal for benzo(a)pyrene is 400 µg/kg.

The mercury concentrations in fifteen soils ranged from non-detect to a maximum of 0.48 mg/kg at soil boring location SB-470 (1 to 2 feet bgs), with no detections greater than the cleanup goal (1.0 mg/kg). The soil boring sample locations with COC exceedances of cleanup goals is presented on Figure 3-2.



Map Document: (K:\GProject\middle_river\Maps\GPS SOIL BORING LOC\Final RAP figures\Block H Sampling Locations.mxd) 4/2/2008 -- 11:31:04 AM

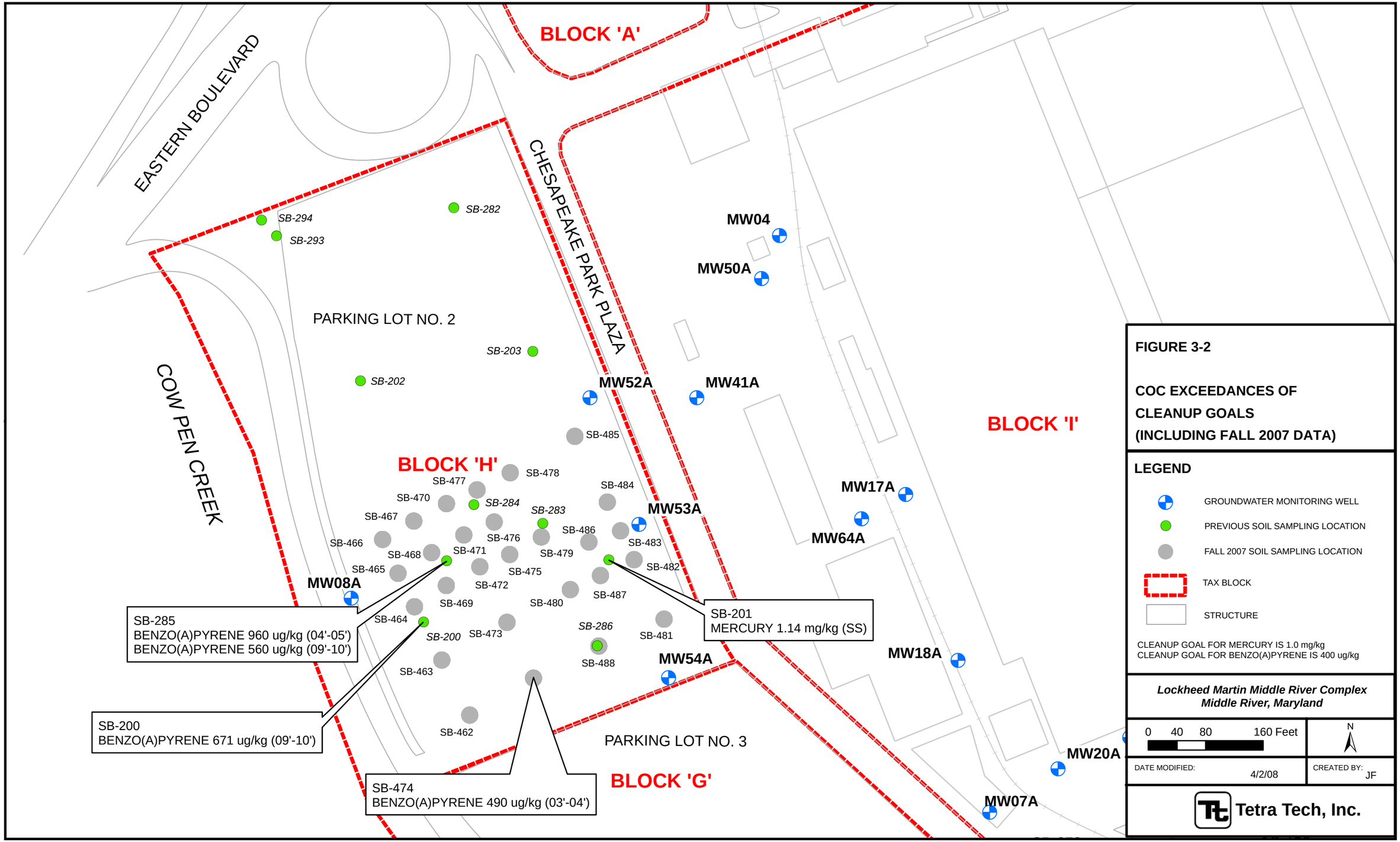


FIGURE 3-2

COC EXCEEDANCES OF CLEANUP GOALS (INCLUDING FALL 2007 DATA)

LEGEND

- GROUNDWATER MONITORING WELL
- PREVIOUS SOIL SAMPLING LOCATION
- FALL 2007 SOIL SAMPLING LOCATION
- TAX BLOCK
- STRUCTURE

CLEANUP GOAL FOR MERCURY IS 1.0 mg/kg
CLEANUP GOAL FOR BENZO(A)PYRENE IS 400 ug/kg

Lockheed Martin Middle River Complex
Middle River, Maryland

0 40 80 160 Feet

N

DATE MODIFIED: 4/2/08

CREATED BY: JF

Tetra Tech, Inc.

Map Document: (K:\GProject\middle_river\Maps\GPS SOIL BORING LOC\Final RAP figures\Block H Borings COC Exceedances with Fall 07 data.mxd) 4/3/2008 -- 10:33:09 AM

Section 4
Exposure Assessment

4.1 INTRODUCTION

The exposure assessment presents the current and future land use as defined by the VCP land use definitions, media of concern, and CSM, which includes potentially exposed populations based on future land use and potential exposure pathways.

4.2 CURRENT AND FUTURE LAND USE

The VCP requires applicants to choose a land use and restriction category based on the planned future use of the property. A No Further Requirements Determination or Certificate of Completion issued for a property is contingent on future use of the property as defined by the VCP.

Currently, Block H consists of Parking Lot No. 2, an employee parking lot. No structures are known to have existed within this asphalt area. It is currently considered to be "Tier 3 Industrial." The VCP defines this land use category as follows:

> *Industrial property to be used by workers over the age of 18, adult workers and construction workers, and other potential expected users. Industrial purposes allow access to the property at a frequency and duration consistent with a typical business day.*

This RAP is evaluating Block H in terms of what would be required to achieve a "Tier 1 Residential Unrestricted" land use and restriction category. The VCP defines this land use and restriction category as follows:

Property usage that allows exposure and access by all populations including infant, children, elderly, and infirmed populations. The "A (Unrestricted)" classification indicates that no LUCs are imposed on the property. Tier 1A properties typically include single-family and multi-family dwellings.

The Tier 1A (Residential Unrestricted) future land use and restriction category is based on the results of the HHRA for Block H, which evaluated potential future residential development.

4.3 MEDIA OF CONCERN

The medium of concern at Block H is surface and subsurface soil. Groundwater was also investigated at Block H; however, groundwater is being addressed separately on a MRC-wide basis rather than on a tax block-specific basis.

4.4 CONCEPTUAL SITE MODEL

The CSM identifies the potential exposure populations at a site, based on current and future use. The CSM also identifies the potential exposure pathways and presents the rationale used to determine whether an exposure pathway is complete. The CSM is the framework for conducting the HHRA.

An HHRA for Block H was conducted as part of the Site Characterization Report (Tetra Tech, May 2006). The CSM in the HHRA postulates human activities that result in exposure to contaminants in soils. The CSM includes individuals who either live at Block H (residents), work at Block H (commercial or industrial workers), develop Block H (construction workers), or visit Block H (recreational users and commercial/industrial establishment visitors) and engage in activities that result in exposure via incidental ingestion of soil, skin contact resulting in dermal absorption of COPCs in soil, and inhalation of dusts and vapors from soil.

Section 5
Cleanup Criteria

5.1 CLEANUP CRITERIA

Development of cleanup goals must be conducted to satisfy the requirements of the VCP and be consistent with the requirements of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 Code of Federal Regulations (CFR) Part 400.430 as implemented through the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The VCP defines a need for remedial action at sites with a cancer risk of 1×10^{-5} or a hazard index of 1.0.

The results of the risk assessment presented in the Site Characterization Report (Tetra Tech, May 2006) provide the information necessary to focus cleanup goal development. If the cancer risk for the current or future land use is greater than 1×10^{-5} or greater than a hazard index of 1.0, then cleanup goals must be developed for the intended future use of the site. Cleanup goals are only being developed for COCs, those chemicals that are the principal contributors to risk. A COC is defined as a chemical detected at a concentration may result in a cancer risk greater than 1×10^{-5} or a hazard quotient greater than 1.0. Results of a site-specific risk assessment determine which COPCs are the COCs. This determination of COCs was based on a Block H-wide approach rather than evaluation of results from individual soil borings.

Soil sampling locations with COC concentrations greater than the remedial action levels to attain the residential cleanup standards for soil and greater than background would be identified for removal. Site-specific background concentrations are only applicable to metals. If the site-specific background concentration for a metal is greater than the MDE residential cleanup standard for soil, the site-specific metal background concentration is the applicable cleanup goal. Generally, soil remediation will be designed to attain cleanup criteria for the COCs as well as attain target risk levels for a site. Verification of post-removal conditions will be conducted to

demonstrate that post-response action risks are less than a cancer risk of 1 x 10^{-5} and a hazard index of 1.0.

5.2 RISK ASSESSMENT SUMMARY

The HHRA was conducted for a range of soil exposure scenarios including residential, commercial, and industrial usage. The assessment indicated that only future residential exposures to soil exceeded MDE's threshold level for cancer risk (1 x 10^{-5}) and the target hazad index of 1.0. The COCs identified in this assessment are arsenic, vanadium, mercury, and carcinogenic PAHs in soil.

5.3 CLEANUP GOALS

A cleanup goal was identified for benzo(a)pyrene to satisfy a VCP Tier 1A (Residential Unrestricted) future land use and restriction category based on potential future residential development. The MDE residential soil cleanup standard for benzo(a)pyrene is 330 micrograms per kilogram (µg/kg). However, benzo(a)pyrene is being used to represent all carcinogenic PAHs. Benzo(a)pyrene is co-located with all the carcinogenic PAHs; therefore, its removal is considered representative of the removal of other carcinogenic PAHs that may be contributing significantly to risk. The site data will be used in concert with the site-specific incremental lifetime cancer risks and hazard indices at individual sampling locations to define a site-specific remedial action level for benzo(a)pyrene to achieve a target risk level of 1 x 10^{-5} and a target hazard index of 1.0.

The MDE identifies a residential soil cleanup standard for arsenic and vanadium of 2 mg/kg and 55 mg/kg, respectively. However, because arsenic and vanadium are naturally occurring, it is appropriate to consider background reference concentrations. A site-wide approach was used to identify a background reference concentration for arsenic at the MRC in Comment Response Document No. 2 of the Site Characterization Report (Tetra Tech, December 2006). The Block H-wide average concentration for arsenic, as represented by the 95 percent upper confidence limit of the mean (UCL), must be less than 6 mg/kg with no individual soil concentration exceeding 12 mg/kg. Similarly, the Block H-wide average concentration for vanadium must be less than 55 mg/kg with no individual soil concentration exceeding 91 mg/kg. This approach provides

conditions where no arsenic or vanadium "hot spots" remain within Block H while attaining protection of human health through exposure to these metals in soil at Block H.

The MDE identifies a residential soil cleanup standard for mercury of 0.1 mg/kg. However, the MDE's Average Typical Concentration (ATC), based on background data collected in the state of Maryland, provides the basis for determining the need for remediation. A block-wide approach for determining if there is a need for remediation was defined in Comment Response Document No. 2 of the Site Characterization Report (Tetra Tech, December 2006). The Block-B wide average concentration, as represented by the UCL, must be less than 0.5 mg/kg.

Cleanup goals are summarized in Table 5-1. Attainment of the cleanup goals at Block H will result in a cancer risk less than 1×10^{-5} and a hazard index less than 1.0.

5.4 ATTAINMENT OF CLEANUP GOALS

To attain cleanup goals, soil with benzo(a)pyrene concentrations greater than 400 µg/kg and mercury concentrations greater than 1.0 mg/kg will be removed. In addition, it must be demonstrated that after soil with mercury concentrations greater than 1.0 mg/kg is removed, the post-response action UCL mercury concentration is less than 0.5 mg/kg. Moreover, the post-response action risk at each soil boring should be less than a cancer risk of 1×10^{-5} and the hazard index of 1.0.

Arsenic and vanadium were identified as COCs based on the results of the HHRA. However, arsenic and vanadium were considered to be present within background levels based on the analysis presented in Comment Response Document No. 2 of the Site Characterization Report (Tetra Tech, December 2006). Because arsenic and vanadium concentrations are currently within background levels, risks associated with these metals would not be included in the post-response action risk calculations. The statistical summary of pre-response action data illustrating that arsenic and vanadium are within background levels and that mercury is present at concentrations greater than the ATC is presented in Table 5-2 and summarized in the Appendix B.

Table 5-3 illustrates which samples will be removed, illustrates which samples are eliminated from the evaluation because they are below the water table, and shows the pre- and post-response action risks associated with those soil borings. Soil in some surface soil locations that have no exceedances of MDE's cleanup standards are being removed because the corresponding subsurface soil sample has concentrations greater than MDE's cleanup standards. The pre-response action risks are based on values presented in the HHRA in the Site Characterization Report (Tetra Tech, May 2006). The post-response action risks for those samples that have been removed are defined as "zero risk." The post-response action risks in those borings that remain exclude risks associated with arsenic and vanadium because their concentrations would then be considered to be within background. Arsenic and vanadium concentrations were less than their background concentrations prior to any proposed response action at the site. A statistical summary of post-response action data illustrating that mercury satisfies the ATC requirements is presented in Table 5-4 and the Appendix B.

Table 5-1
Cleanup Criteria
Block H
Soil Response Action Plan
Lockheed Martin Middle River Complex, Middle River, Maryland

Parameter	Criterion	Test Method
Benzo(a)pyrene	≤ 400 µg/kg	EPA SW-846 8270C
Mercury (1)	--	EPA SW-846 6020
- Individual soil sample result	≤ 1.0 mg/kg	
- Post-response action 95% UCL for Block H soil	≤ 0.5 mg/kg	

1 The cleanup goal for mercury is based on the MDE ATC standard and a statistical analysis of mercury data across Block H.

EPA United States Environmental Protection Agency.
mg/kg Milligrams per kilogram.
UCL Upper confidence limit.
µg/kg Micrograms per kilogram.

Table 5-2
Statistical Comparisons to Background
Block H
Pre-Response Action Concentrations
Soil Response Action Plan
Lockheed Martin Middle River Complex, Middle River, Maryland

COPC	Background Criteria		Pre-Response Action Concentrations	
	Maximum	UCL	Maximum	UCL
Surface Soil				
Mercury	--	0.5	1.14	0.8
Arsenic	12	6	6	4.2
Vanadium	91	55	34.7	28.1
Subsurface Soil				
Mercury	--	0.5	0.24	0.1
Arsenic	12	6	7.4	3.3
Vanadium	91	55	52.9	35.4

Concentrations reported in mg/kg.

Table 5-3
Pre- and Post-Response Action Risks
Block H
Soil Response Action Plan
Lockheed Martin Middle River Complex, Middle River, Maryland

Surface Soil Boring	Residential Risks (Pre-Response Action) [1]		Residential Risks (Post-Response Action) [2]	
	Cancer	Noncancer	Cancer	Noncancer
SB-200	1.0E-05	0.55	9.0E-06	0.15
SB-201	2.0E-05	1.6	0	0
SB-202	3.9E-06	0.45	1.9E-06	0.071
SB-203	5.2E-06	0.69	2.3E-06	0.10
SB-294	1.3E-05	0.56	7.6E-06	0.053
Subsurface Soil Boring	**Residential Risks (Pre-Response Action) [1]**		**Residential Risks (Post-Response Action) [2]**	
	Cancer	**Noncancer**	**Cancer**	**Noncancer**
SB-200[3]	2.5E-05	1.7	1.1E-05	0.17
SB-201	1.1E-05	1.2	2.1E-06	0.14
SB-202	1.4E-05	1.7	2.6E-06	0.14
SB-203	1.3E-05	1.7	2.7E-06	0.19
SB-282	2.6E-05	1.2	8.2E-06	0.075
SB-283	3.2E-05	1.2	5.5E-07	0.11
SB-284	8.8E-06	0.89	8.8E-06	0.11
SB-285	1.7E-05	1.1	0	0
SB-286	1.0E-05	0.58	1.0E-05	0.15
SB-293	1.4E-05	0.68	8.1E-06	0.058
SB-294	1.7E-05	0.77	8.4E-06	0.055

1 Soil boring location risks as identified in the Site Characterization Report (Tetra Tech, May 2006).

2 Soil boring location risks excluding those attributable to arsenic and vanadium (less than Block H-specific background reference concentration of 12 and 91 mg/kg, respectively).

3 Soil boring risks are based on data collected below the water table. Concentrations at boring above water table are less than MDE residential criteria.

Table 5-4
Statistical Comparisons to Background
Block H
Post-Response Action Concentrations
Soil Response Action Plan
Lockheed Martin Middle River Complex, Middle River, Maryland

COPC	Background Criteria		Post-Response Action Concentrations	
	Maximum	UCL	Maximum	UCL
Surface Soil				
Mercury	--	0.5	0.4	0.4
Subsurface Soil				
Mercury	--	0.5	0.24	0.13

Concentrations reported in mg/kg.

Section 6
Selected Technologies and Land Use Controls

6.1 INTRODUCTION

The selected technologies and LUCs for the proposed response action are provided in this section as required by the VCP guidance document. The NCP, 40 CFR Part 400.430 as implemented through CERCLA, served as a guide for the process used to arrive at the selected technology (i.e., selected alternative). This section includes the identification, screening, and evaluation of potential technologies and process options; preliminary and detailed screening of technologies and process options; selection of representative process options; development and detailed analysis of alternatives; comparative analysis of alternatives; and description of the proposed alternative.

The basis for technology identification and screening began with a series of discussions that included the following:

- Development of response action objectives (RAOs)
- Identification of Applicable or Relevant and Appropriate Requirements (ARARs)
- Identification of COCs
- Development of cleanup goals
- Identification of general response actions (GRAs)
- Identification of volumes or areas of the media of concern

6.1.1 Response Action Objectives

The purpose of this section is to develop RAOs for Block H. Development of RAOs is an important step in the CERCLA process. The RAOs are medium-specific goals that define the objective of conducting response actions to protect human health and the environment. The RAOs specify the COCs, potential exposure routes and receptors, and acceptable contaminant levels for

the site. The development of RAOs takes into consideration ARARs and To Be Considered (TBC) criteria.

This RAP addresses soil contamination at Block H. The RAOs were developed to permit consideration of a range of treatment and containment alternatives to obtain a Certificate of Completion from the MDE under a Tier IA (Residential Unrestricted) future land use and restriction category.

The following RAOs were developed for Block H:

- Prevent unacceptable human health risk associated with exposure to surface and subsurface soil containing PAHs and mercury at concentrations greater than the cleanup goals.

6.1.2 Applicable or Relevant and Appropriate Requirements and To Be Considered Criteria

ARARs consist of the following:

- Any standard, requirement, criterion, or limitation under federal environmental law.
- Any promulgated standard, requirement, criterion, or limitation under a State environmental or facility-siting law that is more stringent than the associated federal standard, requirement, criterion, or limitation.

TBC criteria are nonpromulgated, nonenforceable guidelines or criteria that may be useful for developing a response action or are necessary for determining what is protective of human health and/or the environment. Examples of TBC criteria include United States Environmental Protection Agency's (EPA's) Reference Doses (RfDs) and Cancer Slope Factors (CSFs).

One of the primary concerns during the development of response action alternatives for hazardous waste sites is the degree of human health and environmental protection offered by a given remedy. Section 121 of CERCLA requires that primary consideration be given to response alternatives that attain or exceed ARARs. The purpose of this requirement is to make CERCLA response actions consistent with other pertinent federal and state environmental requirements.

The NCP identifies the following three categories of ARARs [40 CFR Section 300.400 (g)]:

- Chemical-Specific: Health-risk-based numerical values or methodologies that establish concentration or discharge limits for particular contaminants. Table 6-1 presents a list of federal and State of Maryland chemical-specific ARARs and TBC criteria. These ARARs and TBC criteria provide some medium-specific guidance on "acceptable" or "permissible" concentrations of contaminants.

- Location-Specific: Restrict actions or contaminant concentrations in certain environmentally sensitive areas. Examples of these areas regulated under various federal laws include floodplains, wetlands, and locations where endangered species or historically significant cultural resources are present. Table 6-2 presents a list of federal and State of Maryland location-specific ARARs and TBC criteria. These ARARs and TBC criteria place restrictions on concentrations of contaminants or the conduct of activities solely based on the site's particular characteristics or location.

- Action-Specific: Technology- or activity-based requirements, limitations on actions, or conditions involving special substances that control or restrict response action. Examples of action-specific ARARs include wastewater discharge standards and performance or design standards, controls, or restrictions on particular types of activities. Table 6-3 presents a list of federal and State of Maryland action-specific ARARs and TBCs.

6.1.3 Chemicals of Concern

The HHRA determined which compounds were the principal contributors to risk, also referred to as COCs. A COC is defined as a chemical that produces a cancer risk greater than 1×10^{-5} or a hazard quotient greater than 1.0. The determination of COCs was based on a Block H-wide approach rather than evaluation of results from individual soil borings. The COC determination is discussed in Section 5.

6.1.4 Cleanup Goals

Cleanup goals are chemical concentrations in environmental media that, when attained, should achieve RAOs. In general, cleanup goals are established with consideration given to the following:

- Protecting human receptors from adverse health effects
- Compliance with federal and state ARARs

Soil cleanup goals were determined for the COCs [benzo(a)pyrene and mercury] in Section 5.3, and attainment of the cleanup goals was discussed in Section 5.4. Cleanup criteria are presented on Table 5-1.

6.1.5 General Response Actions and Action-Specific ARARs

GRAs are broadly defined response approaches that may be used (by themselves or in combination with one or more of the others) to attain RAOs. GRAs describe categories of actions that could be implemented to satisfy or address a component of an RAO for the site. Response action alternatives will then be composed using GRAs individually or in combination to meet the RAOs. The response action alternatives, composed of GRAs, will be capable of achieving the RAOs for contaminated soil at Block H.

The following GRAs were considered for soil at Block H:

- No Action
- Limited Action: LUCs
- Containment
- Removal
- In-Situ Treatment
- Ex-Situ Treatment
- Disposal

6.1.6 Estimated Volume of Contaminated Soil

Preliminary surface areas and volumes of soil that would need to be managed to allow for future land use as VCP Tier 1A (Residential Unrestricted) were estimated as described in Section 8. It is estimated that a total volume of approximately 1,100 in-place cubic yards (cy) of contaminated soil with a surface area of approximately 10,000 square feet (sf) contain concentrations of COCs greater than the cleanup goals.

6.2 SCREENING OF TECHNOLOGIES AND PROCESS OPTIONS

This section identifies, screens, and evaluates the potential technologies and process options that may be applicable to develop the response action alternatives for soil at Block H. The primary objective of this phase of the RAP is to develop an appropriate range of technologies and process options that will be used for developing the response action alternatives.

Technology screening evaluation is performed in this section with the completion of the following analytical steps:

- Identification and preliminary screening of technologies and process options;
- Detailed screening of technologies and process options that pass the preliminary screening step;
- Evaluation and selection of representative process options;

In this section, a variety of technologies and process options are identified under each GRA (discussed in Section 6.1.5) and screened. The selection of technologies and process options for initial screening is based on the Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (EPA, October 1988). The screening is first conducted at a preliminary level to focus on relevant technologies and process options. Then the screening is conducted at a more detailed level based on certain evaluation criteria. Finally, process options are selected to represent the technologies that have passed the screening and detailed evaluation.

The evaluation criteria for detailed screening of technologies and process options that have been retained after the preliminary screening are effectiveness, implementability, and cost. The following are descriptions of these evaluation criteria:

- Effectiveness

    - Protection of human health and environment; reduction in toxicity, mobility, or volume; and permanence of solution.
    - Ability of the technology to address the estimated areas or volumes of contaminated media.
    - Ability of the technology to meet the cleanup goals identified in the RAOs.
    - Technical reliability (innovative versus proven) with respect to contaminants and site conditions.

- Implementability

    - Overall technical feasibility at the site.
    - Availability of vendors, mobile units, storage and disposal services, etc.
    - Administrative feasibility.
    - Special long-term maintenance and operation requirements.

- Cost

    - Capital cost.
    - Operation and maintenance (O&M) costs.

Technologies and process options will be identified for the soil response action in the following sections.

Section 6.3 discusses the development of the response action alternatives developed from the process options retained in this section and provides a description of the conceptual design for these alternatives. This section also presents an evaluation of each response action alternative with respect to the criteria of the NCP of 40 CFR Part 300. These criteria and their relative importance are also discussed in this section.

Section 6.4 compares the analyses that were presented for each of the response action alternatives. The criteria for comparison are identical to those used for the detailed analysis of individual alternatives.

6.2.1 Preliminary Screening of Technologies and Process Options

This section identifies and screens technologies and process options for soil at a preliminary stage based on implementation with respect to site conditions and COCs. Table 6-4 summarizes the preliminary screening of technologies and process options applicable to soil. This table presents the GRAs, identifies the technologies and process options, and provides a brief description of each process option followed by screening comments. The technologies and process options that pass the initial screening step are retained for detailed screening in Section 6.2.2.

The technologies and process options for the soil response action that will be retained for detailed screening are shown below.

General Response Action	Response Action Technology	Process Option
No Action	None	Not Applicable
Removal	Excavation	Mechanical
Disposal	Off-Site	Hazardous/Non-Hazardous Waste Landfill

6.2.2 Detailed Screening of Soil Treatment Technologies and Process Options

This section identifies and develops the representative process options, through a detailed screening procedure, which will be used in the formulation of response action alternatives to accomplish the RAOs and meet the cleanup goals identified for soil in Section 5.

6.2.2.1 No Action

No Action consists of maintaining status quo at Block H. As required under CERCLA regulations, the No Action alternative is carried through to provide a baseline for comparison of alternatives and their effectiveness in mitigating risks posed by site contaminants.

6.2.2.2 Removal

The technology considered under this GRA is excavation.

Excavation

A variety of equipment such as front-end loaders, hydraulic excavators, backhoes, and other mechanical equipment could be used to perform the excavation. The type of equipment selected must take into consideration several factors, such as the type of material to be removed, the load-bearing capacity of the ground surrounding the removal area, the depth and areal extent of removal, the required rate of removal, and the elevation of the groundwater table. Excavation is the preferred technology for the removal of well-consolidated material such as soil with significant load-bearing capacity (i.e., greater than 1,500 pounds per square foot).

Excavation logistics must take into account the available space for stormwater management, equipment decontamination, operating the equipment, loading, unloading, and stockpiling the excavated material, location of the site, etc. After excavation is completed, the location is filled and graded with certified clean fill material or treated soils.

Effectiveness

Shallow excavation is a well-proven and effective method of removing soil with contaminant concentrations greater than the cleanup criteria from a site. Properly designed excavation would remove the soil with contaminant concentrations greater than the cleanup criteria, and the remaining soil would not pose an unacceptable risk to human health or the environment.

Implementability

Excavation of soil with contaminant concentrations greater than the cleanup criteria at Block H would be implementable. Excavation equipment is readily available. This technology is well proven and a common solution in the construction/remediation industry. During excavation, site-specific health and safety procedures and Occupational Safety and Health Administration (OSHA) regulations would be complied with to ensure that the exposure of the workers to COCs is minimized.

The excavation at Block D would extend to approximately 10 feet bgs. The excavation would be cut-back or steeped, supported by trench boxes or personnel would not be permitted to enter the excavation. Existing pavement would have to be removed prior to excavation.

Cost

Cost of excavation at Block H on a unit volume basis would be low to moderate.

Conclusion

Excavation is retained in combination with other process options for the development of response action alternatives.

6.2.2.3 Disposal

The technology considered under this GRA is off-site landfilling.

Off-Site Landfilling

Off-site landfilling would consist of transporting the excavated soil for burial at a permitted off-site treatment, storage, and disposal facility (TSDF). Excavated soil characterized as Resource Conservation and Recovery Act (RCRA) non-hazardous waste could be disposed in a RCRA Subtitle D solid waste landfill. Excavated soil characterized as RCRA hazardous waste would have to be disposed in a RCRA Subtitle C TSDF.

Effectiveness

Off-site landfilling does not permanently or irreversibly reduce contaminant toxicity or mobility. However, although CERCLA preference for treatment relegates landfilling to a less preferable option, this technology can be an effective disposal option for contaminated soil and can be used in conjunction with treatment alternatives. Off-site landfills are only permitted to operate if they meet certain requirements of design and operation governing foundations, liners, leak detection, leachate collection and treatment, daily cover, post-closure inspections and monitoring, etc., which ensure the effectiveness of these facilities. The requirements of a RCRA hazardous (Subtitle C) TSDF are typically more stringent than those of a RCRA non-hazardous (Subtitle D) solid waste landfill.

Implementability

Off-site landfilling would be easily implementable. Facilities and services are available. Disposal at a RCRA Subtitle D landfill may require certain pre-treatment, mainly the removal of free liquids but, because soil would be excavated to a depth of 10 feet bgs or no deeper than to the depth of the zone of saturation under clayey soil conditions, no associated water should be present and this requirement should be easy to meet. In addition, a waste profile would have to be prepared, indicating the contaminant concentrations and their leachability potential. Disposal of any soil with Toxicity Characteristic Leaching Procedure (TCLP) levels exceeding hazardous criteria would require pre-treatment to meet Land Disposal Restrictions (LDRs) prior to landfilling. If treatment achieves Universal Treatment Standards (UTSs), then disposal of the treated soil in a RCRA Subtitle D landfill (i.e., non-hazardous) would be permissible. If not, the treated soil would need to disposed in a RCRA Subtitle C (i.e., hazardous) TSDF.

Cost

Cost of off-site landfilling would be low to moderate depending on volume and distance to the disposal facility.

Conclusion

Off-site landfilling is retained in combination with other process options for the development of response action alternatives.

6.2.3 Selection of Representative Process Options

The following GRAs, technologies, and process options, under the GRAs as noted, are retained for the development of response action alternatives:

- No Action
- Removal: Excavation
- Disposal: Off-Site RCRA Non-Hazardous (Subtitle D) Landfill and Off-Site RCRA Hazardous (Subtitle C) TSDF

The next step is to select representative process options from each technology to assemble an adequate variety of alternatives and evaluate the alternatives in sufficient detail to aid in the final selection process. All process options listed above are retained for the formulation of alternatives because the processes are sufficiently varied in their functions.

6.3 DEVELOPMENT AND DETAILED ANALYSIS OF ALTERNATIVES

This section discusses the development of the soil response action alternatives from the process options retained above and provides a description of the conceptual designs for the alternatives. This section also presents an evaluation of each response action alternative with respect to the criteria of the NCP of 40 CFR Part 300. The criteria and the relative importance of these criteria are also discussed in this section.

6.3.1 Development of Alternatives

The technologies and process options retained after detailed screening in Section 6.2.3 were assembled into the following alternatives:

S-1. No Action:

This alternative is required by the Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (EPA, October 1988) as a baseline for comparison to other alternatives.

S-2. Excavation to Allow Unrestricted Residential Site Use and Off-Site Disposal:

This alternative would remove soil with COC concentrations greater than the cleanup goals to the extent necessary to allow unrestricted residential use of Block H. This would require excavation of the soil with COC concentrations greater than the cleanup goals identified in Section 5.3.

It is assumed that all excavated soil would be disposed at an off-site permitted RCRA Subtitle D landfill. If any excavated material fails TCLP testing, the material would be disposed at an off-site permitted RCRA Subtitle C TSDF. The excavated areas would then be backfilled with certified clean imported fill material and Block H would be restored to pre-response action conditions. Because the soil remaining on site would no longer contain concentrations of COCs that could be harmful to potential future residential receptors, soil-related LUCs would not be required.

6.3.2 Description and Detailed Analysis of Alternatives

This section presents a description of the conceptual design of each alternative, followed by the detailed analysis using the nine criteria of the NCP under 40 CFR Part 300. The evaluation criteria are discussed below.

6.3.2.1 Evaluation Criteria

In accordance with the NCP (40 CFR Part 300.430), the following nine criteria are used for the evaluation of response action alternatives:

- Overall Protection of Human Health and the Environment
- Compliance with ARARs
- Long-Term Effectiveness and Permanence
- Reduction of Toxicity, Mobility, or Volume through Treatment
- Short-Term Effectiveness
- Implementability
- Cost
- State Acceptance
- Community Acceptance

Overall Protection of Human Health and the Environment

Alternatives must be assessed for adequate protection of human health and environment, in the short and long term, from unacceptable risks posed by hazardous substances or contaminants present at Block H by eliminating, reducing, or controlling exposure to levels exceeding response action goals. Overall protection draws on the assessments of other evaluation criteria, especially long-term effectiveness and permanence, short-term effectiveness, and compliance with ARARs.

Compliance with ARARs

Alternatives must be assessed to determine whether they attain ARARs under federal environmental laws and state environmental or facility siting laws. If one or more regulations that are applicable cannot be complied with, a waiver must be invoked. Grounds for invoking a waiver would depend on the following circumstances:

- The alternative will attain a standard of performance that is equivalent to that required under the otherwise applicable standard, requirement, or limitation through use of another method or approach.

- A State requirement has not been consistently applied or the state has not demonstrated the intention to consistently apply the promulgated requirement in similar circumstances at other response actions within the state.

Long-Term Effectiveness and Permanence

Alternatives must be assessed for the long-term effectiveness and permanence they offer, along with a degree of certainty that the alternative will be successful. Factors that should be considered, as appropriate, include the magnitude of residual risk (i.e., risks posed by untreated waste or treatment residuals) and adequacy and reliability of controls (i.e., controls needed to manage untreated waste or treatment residuals).

Reduction of Toxicity, Mobility, or Volume through Treatment

The degree to which the alternative employs recycling or treatment that reduces the toxicity, mobility, or volume of the waste must be assessed, including how treatment is used to address the principal threats posed by the site.

Short-Term Effectiveness

The short-term impacts of the alternative must be assessed considering the following:

- Short-term risks that might be posed to the community during implementation.
- Potential impacts on workers during the response action and the effectiveness and reliability of protective measures.
- Potential environmental impacts of the response action and the effectiveness and reliability of mitigation measures during implementation.
- Time until protection is achieved.

Implementability

The ease or difficulty of implementing the alternatives must be assessed by considering technical feasibility, administrative feasibility, and availability of services and materials.

Cost

Capital costs must include both direct and indirect costs. Annual O&M costs must be provided. A net present worth (NPW) value of the capital and O&M costs must also be provided. Typically, the cost estimate accuracy range is plus 50 percent to minus 30 percent. Because there are no costs associated with the first alternative (No Action), a cost comparison of the two alternatives will not be performed.

State Acceptance

The MDE will review the proposed RAP and will inform Lockheed Martin in writing, on or before the end of a 75-day review period, whether the RAP has been approved or rejected. If the proposed RAP is rejected, MDE will state the modifications necessary to receive approval. The 75-day MDE review period will begin after a notice of the proposed RAP is published in a local newspaper and a sign is posted at the property indicating notice of intent to conduct the RAP.

Community Acceptance

The public will be afforded the opportunity to review and provide commentary on the proposed RAP. The MDE will receive written comments from the public for 30 days after publication of the newspaper notice and posting of the sign at the property or 5 days after the public informational meeting, whichever is later. In addition, a public informational meeting will be held within 40 days after publication of the newspaper notice.

Relative Importance of Criteria

Among the nine criteria, the threshold criteria are considered to be:

- Overall Protection of Human Health and the Environment
- Compliance with ARARs

The threshold criteria must be satisfied for an alternative to be eligible for selection.

Among the remaining criteria, the following five are considered to be the primary balancing criteria:

- Long-Term Effectiveness and Permanence
- Reduction of Toxicity, Mobility, or Volume
- Short-Term Effectiveness
- Implementability
- Cost (not applicable to Block H)

The balancing criteria are used to weigh the relative merits of alternatives.

The remaining two of the nine criteria, State acceptance and community acceptance, are considered to be modifying criteria that must be considered during response action selection.

These last two criteria can only be evaluated after the MDE and community have reviewed the proposed RAP. Therefore, this RAP addresses only seven of the nine criteria. The remaining two criteria will be addressed through the RAP review, comment, and approval process.

6.3.2.2 Selection of Response Action

The selection of a remedy is a two-step process. The first step consists of identification of a preferred alternative and presentation of the alternative in a proposed RAP submitted to MDE and the community for review and comment. The preferred alternative must meet the following criteria:

- Protection of human health and the environment.
- Compliance with ARARs.
- Cost effectiveness in protecting human health and environment and in complying with ARARs.
- Utilization of permanent solutions and alternate treatment technologies or resource recovery technologies to the maximum extent practicable.

The second step consists of the review of the comments and consultation with the MDE to determine whether or not the preferred alternative continues to be the most appropriate response action for the site.

6.3.3 Detailed Analysis of Alternatives

6.3.3.1 Alternative S-1: No Action

Description of Alternative S-1

This alternative would leave Block H in its current condition. The No Action alternative is required under CERCLA to establish a basis for comparison with other alternatives.

Detailed Analysis of Alternative S-1

Overall Protection of Human Health and Environment

Alternative S-1 would not be protective of human health and the environment. Concentrations of benzo(a)pyrene and mercury would remain in the soil at levels that exceed the established site-specific cleanup goals for human health. Therefore, the RAOs for Block H would not be achieved.

Compliance with ARARs

Alternative S-1 would not achieve human health site-specific cleanup goals.

Long-Term Effectiveness and Permanence

Alternative S-1 would not be effective in the long term because soil COCs would remain on site and pose potential human health risks. Although concentrations of soil COCs might gradually decrease to acceptable levels over a long duration of time because of natural processes, monitoring would not be conducted to verify this.

Reduction of Toxicity, Mobility, and Volume through Treatment

Alternative S-1 does not employ any treatment. However, there would most likely be some reduction in toxicity (i.e., concentrations) of benzo(a)pyrene over time due to natural processes, but these processes would not be monitored.

Short-Term Effectiveness

There are no relevant issues under Alternative S-1 because no action would occur.

Implementability

There are no implementability concerns for Alternative S-1 because no action would be implemented.

Cost

There are no costs associated with Alternative S-1.

6.3.3.2 Alternative S-2: Excavation to Allow Unrestricted Residential Site Use and Off-Site Treatment and Disposal

Description of Alternative S-2

Alternative S-2 is illustrated on Figure 8-1 and would consist of two major components: (1) excavation to allow unrestricted residential site use and (2) off-site disposal.

Component 1: Excavation to Allow Unrestricted Residential Site Use

Figure 8-1 shows the areas of Block H that would be excavated to meet the cleanup goals. As part of site preparation, a material handling pad, decontamination zones, and haul routes would be designated to allow equipment to access the areas to be excavated. Small trees and underbrush would be cleared using a bulldozer or similar equipment and mulched. Excavation of soil to a depth of 10 feet would be conducted using a bulldozer, front-end loader, or similar equipment.

Post-removal/confirmation samples would be collected from the sidewalls and base of the excavation and analyzed for benzo(a)pyrene and mercury.

Following excavation and after post-removal/confirmation sample results confirm that soil with concentrations greater than the cleanup goals has been removed, the excavated areas would be backfilled with certified clean material, graded to original contours, and restored to pre-response action conditions.

Component 2: Off-Site Disposal

The following are the expected actions for the excavated soil:

- All excavated material characterized as RCRA non-hazardous waste would be transported to a permitted RCRA Subtitle D facility for direct landfilling.
- Any excavated soil that fails TCLP testing would be characterized as RCRA hazardous waste and would be transported to a permitted RCRA Subtitle C TSDF for treatment to meet TCLP limits followed by direct landfilling.

The volumes estimated for disposal at the various facilities would need to be verified based on sampling and analysis of stockpiled soil, followed by profiling as necessary for each facility.

Detailed Analysis of Alternative S-2

Overall Protection of Human Health and Environment

Alternative S-2 would be protective of human health and the environment. The removal of soil with COC concentrations greater than the cleanup goals will reduce potential risk for any future development. Block H would be suitable for revegetation and potential use as a natural and recreational corridor. All of the RAOs for Block H would be achieved.

Compliance with ARARs

Alternative S-2 would achieve the human health site-specific cleanup goal established in Section 5. Location-specific and action-specific ARARs would be complied with in substance, in particular, the following:

- RCRA regulations including Identification and Listing of Hazardous Wastes and LDRs
- OSHA regulations
- Maryland Hazardous Waste Management System Regulations
- Maryland Regulation of Water Supply, Sewage Disposal, and Solid Waste
- Maryland General Permit for Construction Activity
- Maryland OCP

Long-Term Effectiveness and Permanence

Alternative S-2 would be effective in the long term because the COCs that present an unacceptable risk to residential human receptors would be removed from Block H and deposited in a suitable landfill outside the site, resulting in residual levels that would no longer pose an unacceptable risk to these receptors.

Reduction of Toxicity, Mobility, and Volume through Treatment

Alternative S-2 would permanently and irreversibly reduce the mobility of the contaminants to the environment by depositing them in a RCRA-permitted landfill where their exposure to the environment would be adequately controlled. However, unless the excavated material is treated prior to landfilling, Alternative S-2 would not reduce the toxicity of the contaminated soil.

Short-Term Effectiveness

Alternative S-2 would be effective in the short term. Dust suppression and control measures would be implemented to minimize the emission of contaminated soil particulates during onsite response action activities. Erosion control measures would minimize the migration of COCs into

nearby streams. Transportation of the contaminated soil to an off-site landfill would be conducted in suitable containers and by reputable transporters. In the unlikely event of a traffic accident releasing contaminated soil to the environment, an immediate hazard to the community would not be posed because of the non-volatile nature and relatively low solubility of the COCs present in the soil. However, should such an event occur, measures to prevent washing away of the soil by storm events would be warranted. Workers on site would be adequately protected if suitable health and safety procedures are followed. The approximate timeframe for implementation of this alternative is 3 weeks.

Implementability

Alternative S-2 is implementable. Excavation equipment considered under this alternative are typical in the construction industry and are readily available from several local sources. Time to coordinate with stakeholders and obtain necessary permits can easily be built into the schedule. Suitable landfills are available for treatment and/or direct disposal of the excavated soil and have been identified at nearby locations.

Cost

The capital cost for Alternative S-2 is $280,000. There are no annual O&M costs associated with Alternative S-2. The NPW value of the capital and O&M costs is $280,000.

6.4 COMPARATIVE ANALYSIS OF ALTERNATIVES

This section compares the analyses presented for each of the response action alternatives in Section 6.3. The criteria for comparison are identical to those used for the detailed analysis of individual alternatives.

6.4.1 Soil

The following response action alternatives for soil are being compared in this section:

- Alternative S-1: No Action
- Alternative S-2: Excavation to Allow Unrestricted Residential Site Use and Off-Site Treatment and Disposal

6.4.1.1 Overall Protection of Health and the Environment

Alternative S-1 would not be protective. Alternative S-2 would be protective.

6.4.1.2 Compliance with ARARs and TBCs

There are no chemical-specific ARARs for Block H soil, only chemical-specific TBCs that are the cleanup goals developed in Section 5. Alternative S-1 would not comply with the chemical-specific TBCs. Action-specific ARARs do not apply to Alternative S-1. Alternative S-2 would comply with the chemical-specific TBCs and action-specific ARARs.

6.4.1.3 Long-Term Effectiveness and Permanence

Alternative S-1 would not be effective in the long term and offers no permanent solution. Alternative S-2 would be effective in the long term because it offers a remedy that removes the COCs from Block H without the need for LUCs to prevent residential and commercial/industrial development and recreational use.

6.4.1.4 Reduction of Toxicity, Mobility, or Volume through Treatment

Alternatives S-1 and S-2 do not employ any treatment.

6.4.1.5 Short-Term Effectiveness

Alternative S-1 would not present short-term risks to workers, the community, and the environment because no actions would be taken. Short-term risks to the community, workers, and the environment associated with Alternative S-2 could be adequately controlled.

Alternative S-1 would not achieve the soil RAOs. The approximate timeframe for implementation and attainment of RAOs would be 3 weeks for Alternative S-2.

6.4.1.6 Implementability

There is no action to be implemented for Alternative S-1. Alternative S-2 would be easy to implement because no on-site treatment or long-term maintenance would be required.

6.4.1.7 Cost

There are no costs associated with Alternative S-1. The capital and NPW cost for Alternative S-2 is $280,000.

6.4.2 Summary of Comparative Analysis of Alternatives

Table 6-5 summarizes the comparative analysis of the two soil response action alternatives.

6.5 PROPOSED ALTERNATIVE

The proposed alternative is Alternative S-2. This alternative would remove soil with COC concentrations greater than the cleanup goals to the extent necessary to allow unrestricted residential use of Block H. This would require excavation of the soil with COC concentrations greater than the cleanup goals identified in Section 5. Figure 8-1 shows the areas of Block H that would be excavated to meet the cleanup goals. As part of site preparation, temporary haul routes would be constructed to allow equipment to access the areas to be excavated and these areas would be cleared using a bulldozer or similar equipment and mulched. Excavation of soil would be conducted using a bulldozer, front-end loader, hydraulic excavators, backhoe, or similar equipment.

Post-removal/confirmation samples would be collected from the sidewalls and base of the excavation and analyzed for benzo(a)pyrene and mercury.

Following excavation and after post-removal/confirmation sample results confirm that soil with COC concentrations greater than the cleanup goals has been removed, the excavated areas would be backfilled with certified clean material, graded to original contours, and restored to pre-response action conditions.

It is assumed that all excavated soil would be disposed at an off-site permitted RCRA Subtitle D landfill. If any excavated material fails TCLP testing, the material would be disposed at an off-site permitted RCRA Subtitle C TSDF. Because the soil remaining on site would no longer contain concentrations of COCs that could be harmful to hypothetical future residential receptors, soil-related LUCs would not be required.

Table 6-1

Chemical-Specific ARARs
Block H, Soil Response Action Plan
Lockheed Martin Middle River Complex, Middle River, Maryland

Requirement	Citation	Status	Synopsis	Evaluation/Action to be Taken
Federal				
Cancer Slope Factors (CSFs)	NA	To Be Considered	CSFs are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants.	CSFs would be considered for development of human health protection PRGs for soil at this site.
Reference Doses (RfDs)	NA	To Be Considered	RfDs are guidance values used to evaluate the potential non-carcinogenic hazard caused by exposure to contaminants.	RfDs would be considered for development of human health protection PRGs for soil at this site.
State				
Cleanup Standards for Soil and Groundwater	Maryland Environmental Article 7-508/7-208	To Be Considered	This document presents the approach and supporting documentation used to develop numeric cleanup standards for hazardous substances in the soil and groundwater for the State of Maryland.	These standards maybe considered for use in determining cleanup standards in the absence of a site-specific risk assessment.

ARARs Applicable or Relevant and Appropriate Requirements.
CSFs Cancer slope factors.
NA Not applicable.
PRGs Preliminary remediation goals.
RfDs Reference doses.

Table 6-2

Location-Specific ARARs
Block H, Soil Response Action Plan
Lockheed Martin Middle River Complex, Middle River, Maryland

Requirement	Citation	Status	Synopsis	Evaluation/Action to be Taken
Federal				
Endangered Species Act Regulations	50 CFR Parts 81, 225, and 402	Potentially Applicable	This act requires federal agencies to take action to avoid jeopardizing the continued existence of federally listed endangered or threatened species.	If a site investigation or remediation could potentially affect an endangered species or their habitat, these regulations would apply (There have been no endangered species or their habitat identified at the MRC).
Historic Sites Act Regulations	36 CFR Part 62	Potentially Applicable	Requires federal agencies to consider to existence and location of landmarks on the National Registry of Natural Landmarks to avoid undesirable impacts on such landmarks.	The existence of National Landmarks would be identified prior to remedial activities on site including remedial investigations (There have been no National Landmarks identified at the MRC).
State				
Nongame and Endangered Species Conservation Act	Annotated Code of Maryland 10-2A-01; COMAR 08.03.08 and 08.02.12.	Potentially Applicable	Requires State agencies to use their authority to maintain and enhance nongame wildlife and endangered species populations.	If a site investigation or remediation could potentially affect an endangered species or their habitat, these regulations would apply (There have been no endangered species or their habitat identified at the MRC).
Division of Historical and Cultural Programs	Annotated Code of Maryland 5A	Potentially Applicable	The Maryland Historic Trust formed in 1961 to preserve, protect, and enhance districts, sites, buildings, structures, and objects significant in the prehistory, history, upland and underwater archeology, architecture, engineering, and culture of the State.	The existence of Maryland historic sites would be identified prior to remedial activities on site including remedial investigations (There have been no historic sites identified at the MRC).

ARARs Applicable or Relevant and Appropriate Requirements.
CFR Code of Federal Regulations.
COMAR Code of Maryland Regulations.
MRC Middle River Complex.

Table 6-3

Action-Specific ARARs
Block H, Soil Response Action Plan
Lockheed Martin Middle River Complex, Middle River, Maryland
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Requirement	Citation	Status	Synopsis	Evaluation/Action to be Taken
Federal				
RCRA Regulations, Identification and Listing of Hazardous Wastes	40 CFR Part 261	Potentially Applicable	Defines the listed and characteristic hazardous wastes subject to RCRA. Appendix II contains the TCLP.	These regulations would apply when determining whether or not a solid waste is hazardous, either by being listed or by exhibiting a hazardous characteristic, as described in the regulations.
CAA Regulations, NAAQSs	40 CFR Part 50	Relevant and Appropriate	Establishes primary (health-based) and secondary (welfare-based) air quality standards for carbon monoxide, lead, nitrogen dioxide, particulate matter, ozone, and sulfur oxides emitted from a major source of air emissions. The NAAQSs form the basis for all regulations promulgated under the CAA.	Site remediation activities must comply with NAAQSs. The principal application of these standards is during response action activities resulting in exposures through dust and vapors. In general, emissions from CERCLA activities are not expected to qualify as a major source and are therefore not expected to be applicable requirements. However, the requirements may be determined to be relevant and appropriate for non-major sources with significantly similar emissions.
RCRA Regulations, LDRs	40 CFR Part 268	Potentially Applicable	This regulation prohibits the land disposal of untreated hazardous wastes and provides criteria for the treatment of hazardous waste prior to land disposal.	Response actions that involve excavating, treating, and redepositing hazardous soil would comply with LDRs.
OSHA Regulations, General Industry Standards	29 CFR Part 1910	Applicable	Requires establishment of programs to assure worker health and safety at hazardous waste sites, including employee training requirements.	These regulations would apply to all response activities.
OSHA Regulations, Occupational Health and Safety Regulations	29 CFR Part 1910, Subpart Z	Potentially Applicable	Establishes permissible exposure limits for workplace exposure to a specific listing of chemicals.	Standards are applicable for worker exposure to OSHA hazardous chemicals during response action activities.

Table 6-3

Action-Specific ARARs
Block H, Soil Response Action Plan
Lockheed Martin Middle River Complex, Middle River, Maryland
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Requirement	Citation	Status	Synopsis	Evaluation/Action to be Taken
OSHA Regulations, Recordkeeping, Reporting, and Related Regulations	29 CFR Part 1904	Potentially Applicable	Provides recordkeeping and reporting requirements applicable to response action activities.	These requirements apply to all site contractors and subcontractors and must be followed during all site work.
OSHA Regulations, Health and Safety Standards	29 CFR Part 1926	Potentially Applicable	Specifies the type of safety training, equipment, and procedures to be used during the site investigation and response action.	All phases of the response action would be executed in compliance with this regulation.
RCRA Regulations, Contingency Plan and Emergency Procedures	40 CFR 264, Subpart D	Potentially Relevant and Appropriate	Outlines requirements for emergency procedures to be followed in case of an emergency.	The administrative requirements established in this rule would be met for response actions involving the management of hazardous waste.
RCRA Regulations, Preparedness and Prevention	40 CFR Part 264, Subpart C	Potentially Relevant and Appropriate	Outlines requirements for safety equipment and spill control for hazardous waste facilities. Facilities must be designed, maintained, constructed, and operated to minimize the possibility of an unplanned release that could threaten human health or the environment.	Safety and communication equipment would be incorporated into all aspects of the response action process, and local authorities would be familiarized with site operations.
RCRA Regulations, Standards for Owners and Operators of Hazardous Waste TSDFs.	40 CFR Part 264	Potentially Relevant and Appropriate	Establishes minimum national standards defining the acceptable management of hazardous wastes for owners and operators of facilities that treat, store, or dispose of hazardous wastes.	If response actions involving management of RCRA wastes at an off-site TSDF or if RCRA wastes are managed on site, the requirements of this rule would be followed.
RCRA Regulations, Use and Management of Containers	40 CFR Part 264, Subpart I	Potentially Relevant and Appropriate	Sets standards for the storage of containers of hazardous waste.	This requirement would apply if a response action alternative involves the storage of a hazardous waste (i.e., contaminated soil) in containers prior to treatment or disposal.
Migratory Bird Treaty Act	16 USC 703-711	Potentially Applicable	Protects migratory birds and their nests.	Proposed response action shall not kill migratory birds or destroy their nests and eggs.

Table 6-3

Action-Specific ARARs
Block H, Soil Response Action Plan
Lockheed Martin Middle River Complex, Middle River, Maryland
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Requirement	Citation	Status	Synopsis	Evaluation/Action to be Taken
State				
Maryland Hazardous Waste Management System	Title 26, Subtitle 13 of the COMAR	Potentially Applicable	Requires hazardous waste generators to ship their hazardous waste to a facility permitted to accept it or, with the appropriate permits, treat it themselves. Requires use of a certified hauler to ship hazardous waste off site, and shipment must be accompanied by a manifest. Requires compliance with regulations on the storage of the waste and specifies procedures to prevent the occurrence of circumstances that would threaten human health or the environment.	These regulations would apply if waste on site was deemed hazardous and needed to be stored, transported, or disposed of properly.
Maryland Regulation of Water Supply, Sewage Disposal, and Solid Waste	Title 26, Subtitle 4 of the COMAR	Potentially Applicable	Sets the requirements for construction and operation for solid waste disposal facilities.	These requirements would apply if on-site waste was deemed a non-hazardous solid waste and needed to be stored, transported, or disposed of properly.
Maryland General Permit for Construction Activity	Title 26, Subtitle 17 of the COMAR	Potentially Relevant and Appropriate	Establishes requirements for stormwater management and erosion and sediment control at construction sites.	Response actions involving excavation would require submittal of an erosion and sediment control plan and a stormwater management plan.

ARARs	Applicable or Relevant and Appropriate Requirements.
CAA	Clean Air Act.
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act.
CFR	Code of Federal Regulations.
COMAR	Code of Maryland Regulations.
LDRs	Land Disposal Restrictions.
MDE	Maryland Department of the Environment.
NAAQSs	National Ambient Air Quality Standards.
OSHA	Occupational Safety and Health Act.
RCRA	Resource Conservation and Recovery Act.
TCLP	Toxicity Characteristic Leaching Procedure.
TSDF	Treatment, Storage, and Disposal Facility.
USC	United States Code.

Table 6-4

Preliminary Screening of Technologies and Process Options
Block H, Soil Response Action Plan
Lockheed Martin Middle River Complex, Middle River, Maryland

General Response Action	Response Action Technology	Process Option	Description	Screening Comment
No Action	None	Not applicable	No activities conducted at Block H to address contamination. Biodegradation of PAHs may occur through natural attenuation processes, but would not be verified.	Required by the CERCLA. Retain for baseline comparison to other technologies.
Limited Action	LUCs	Engineered Controls: Physical Barriers	Fencing, markers, warning signs	Eliminate. This technology would leave soil contaminants in place. Fencing may not be compatible with future residential use. Markers and warning signs would not be effective unless combined with formal administrative controls.
		Administrative Controls: Deed or Site Use Restrictions	Administrative action using property deeds or other land use prohibitions to restrict future site activities.	Eliminate. This technology would leave soil contaminants in place leaving Block H unsuitable for residential use.
	Monitoring	Sampling and Analysis	Sampling and analysis of groundwater to evaluate if additional response actions would be warranted.	Addressed in Groundwater Response Action Plan.
Containment	Cover/Barrier	Soil Cover/Multi-Media Cap	Use of semipermeable or low permeability barriers to minimize direct exposure to contaminants and potential migration to groundwater.	Eliminate. This technology would leave soil contaminants in place leaving Block H unsuitable for residential use.
	Erosion Control	Rip-Rap Cover/Vegetation	Use of gravel/cobbles or dense plant growth to minimize migration of wastes/contaminated soils.	Eliminate. Block H is relatively flat and erosion is not a concern. However, revegetation is retained to allow future site use as a green space.
Removal	Excavation	Mechanical	Means for removal of contaminated soils by backhoe, bulldozer, loader, etc.	Retain for removal of contaminated soil.

Table 6-4

Preliminary Screening of Technologies and Process Options
Block H, Soil Response Action Plan
Lockheed Martin Middle River Complex, Middle River, Maryland

General Response Action	Response Action Technology	Process Option	Description	Screening Comment
In-Situ Treatment	Thermal	Vitrification	Use of high-temperature melting to fuse inorganic contaminants into a glass matrix within vadose zone or the use of moderate temperature heating to volatilize contaminants and remove them from the vadose zone.	Eliminate. This technology presents implementability concerns due to the shallow groundwater table and high moisture content of the soil.
		Radio-Frequency Heating	Use of radio-frequency energy to heat soil and cause volatilization of contaminants	Eliminate. Limited thickness and shallow depth of contaminated soil renders this technology difficult to implement with limited, commercially available equipment. Not applicable for treatment of mercury.
	Thermal (Continued)	Electrical Heating	Use of an electrical blanket or electrical heating elements within slotted pipes to volatilize contaminants	Eliminate. The shallow depth to groundwater renders this technology difficult to implement. Not applicable for treatment of mercury.
	Physical/ Chemical	Soil Flushing/ Chemical Extraction	Use of water/solvents to remove contaminants from the vadose zone by flushing and collecting the contaminated wastewater in the saturated zone followed by above-ground pump and treat.	Eliminate. The result of this technology would be the migration of COCs from soil to groundwater. Therefore, the implementation of this technology could contaminate "clean" groundwater.
		Dynamic Underground Stripping	Steam injection at the periphery of the contaminated area resulting in the vaporization of volatile compounds bound to soil and the movement of contaminants to a centrally located extraction well.	Eliminate. Difficult to implement due to the shallow groundwater table. Not applicable for treatment of mercury.
		Soil Vapor Extraction	Use of vacuum and possibly air sparging to volatilize contaminants.	Eliminate. This technology is better suited for VOCs than the PAHs present in the soil at Block H. In addition, it is not applicable to mercury.

Table 6-4

Preliminary Screening of Technologies and Process Options
Block H, Soil Response Action Plan
Lockheed Martin Middle River Complex, Middle River, Maryland

General Response Action	Response Action Technology	Process Option	Description	Screening Comment
In-Situ Treatment	Physical/ Chemical (Continued)	Chemical Fixation/ Solidification	Mixing of chemical agents in the vadose zone to chemically bind, solidify, and reduce contaminant mobility.	Eliminate. COCs would remain at the site.
		Electrokinetic Separation	Use of electrodes with the application of direct current-based electrical fields to induce the migration of metallic contaminants from soil towards electrodes or to induce electrochemical reactions to destroy selected organic contaminants.	Eliminate. Shallow depth to groundwater would minimize the available resistivity required for application of this technology.
	Biological	Biodegradation	Nutrients and amendments are added to surface soil to promote biodegradation of PAHs.	Eliminate. Would be difficult to achieve cleanup levels for PAHs. Not effective for mercury contamination.
		Phytoremediation	Use of selected plants cultivated in contaminated soil to lead to uptake of metallic contaminants or enhancement of biodegradation of organic contaminants by indigenous microorganisms in the root zone.	Eliminate. This innovative technology has limited demonstrated effectiveness for areas with high levels of organic contaminants. Has potential in reducing lower level organic contamination left in place, however not applicable to achieve identified cleanup goals.
	Physical/ Chemical	Soil Washing/ Chemical Extraction	Use of solubilization and chemical (oxidation/reduction/neutralization) processes to remove contaminants from the solid phase and convert them into more concentrated forms or less toxic forms in liquid phase.	Eliminate. When different classes of contaminants are present, such as metals and PAHs, a series of extraction operations using different solvents, pH adjustment, etc. may be required. By-products from the process would consist of spent solvent streams containing the wastes, requiring further treatment/disposal and recovery/recycle of the extractants.

Table 6-4

Preliminary Screening of Technologies and Process Options
Block H, Soil Response Action Plan
Lockheed Martin Middle River Complex, Middle River, Maryland

General Response Action	Response Action Technology	Process Option	Description	Screening Comment
Ex-situ Treatment	Physical/ Chemical	Chemical Fixation/ Solidification	Mixing of chemical agents to bind, solidify, and reduce contaminant mobility.	Eliminate. Traditional chemical fixation/stabilization processes have only limited effectiveness for the immobilization of SVOCs in contaminated soil. Not suitable for use on site to return treated soil to the excavated area because the treated matrix would be unsuitable for unrestricted use of the site (COCs would remain on site).
	Biological	On-Site Landfarming	Tilling of contaminated soils and wastes in layers of surface soil within a treatment bed to aerate and biodegrade organic contaminants.	Eliminate. Limited effectiveness for PAH contamination and not effective for mercury.
	Thermal	Off-Site Incineration	Use of high temperatures to pyrolize or oxidize organic contaminants into less toxic gases.	Eliminate. Although effective for destruction of PAHs, it would be ineffective for mercury contamination.
		Off-Site Thermal Desorption	Use of moderate temperatures to volatilize contaminants and remove them from the solid phase into the gaseous phase.	Eliminate. This technology would not be effective for the removed mercury contamination.
	Solids Processing	Size Reduction	Crushing/grinding/shredding of wastes as a preliminary process to aid in downstream treatment.	Eliminate crushing because it applies to rock that would typically not be further treated. Eliminate grinding and shredding as pretreatment step for vegetative material (tree stumps) because trees, etc. are not present at Block H in contaminated areas.

Table 6-4

Preliminary Screening of Technologies and Process Options
Block H, Soil Response Action Plan
Lockheed Martin Middle River Complex, Middle River, Maryland

General Response Action	Response Action Technology	Process Option	Description	Screening Comment
Ex-situ Treatment	Solids Processing (Continued)	Screening	Removal/segregation of material based on size as a preliminary process to aid in downstream treatment.	Eliminate. Removal of oversized material that is typically not contaminated is not required.
Disposal	Off-Site	Hazardous/ Non-Hazardous Waste Landfilling	Disposal of excavated wastes and treatment residuals in a permitted RCRA Subtitle C or D facility.	Retain landfilling to be used in conjunction with other response action technologies.
	On-Site	Consolidation	Excavation and relocation of contaminated soil to minimize space and closure requirements.	Eliminate. Would trigger on-site issues that are unacceptable to regulatory agencies (COCs still present on site – not suitable for unrestricted use of the site).
		Beneficial Reuse	Reuse of treated soil as fill material.	Eliminate. Soil treatment technologies not retained, eliminating need for disposition of treatment residuals.

CERCLA Comprehensive Environmental Response, Compensation, and Liability Act.
COCs Chemicals of concern.
LUCs Land use controls.
PAHs Polycyclic aromatic hydrocarbons.
RCRA Resource Conservation and Recovery Act.
RAO Response action objective.
SVOCs Semivolatile organic compounds.
VOCs Volatile organic compounds.

Table 6-5

Summary of Comparative Analysis of Alternatives
Block H, Soil Response Action Plan
Lockheed Martin Middle River Complex, Middle River, Maryland

Evaluation Criteria	Alternative S-1: No Action	Alternative S-2: Excavation to Allow Unrestricted Site Use and Off-Site Disposal
Overall Protection of Human Health and Environment	Not protective	Protective
Chemical-Specific ARARs	Would not comply	Would comply
Location-Specific ARARs	Not applicable	Not applicable
Action-Specific ARARs	Not applicable	Would comply
Long-Term Effectiveness and Permanence	Not effective	Effective
Reduction of Contaminant Toxicity, Mobility, or Volume through Treatment	None	None
Short-Term Effectiveness	No relevant issues to address	Would be effective. Minimum potential for short-term risks. Three weeks to attain soil RAOs.
Implementability	Nothing to implement	Easy to implement
Costs: Capital NPW of O&M NPW	 $0 $0 $0	 $280,000 $-0- $280,000

ARARs Applicable or Relevant and Appropriate Requirements.
O&M Operation and maintenance.
RAO Response action objective.
NPW Net present worth.

Section 7
Evaluation Criteria for the Selected Technology

7.1 EVALUATION CRITERIA

The proposed response action will remove and dispose off site soil with COC (i.e. benzo(a)pyrene and mercury) concentrations greater than the cleanup goals. Following removal of this material, the exposed soil on the excavation base and sidewalls will be visually examined for free product, sheen, staining, or other evidence suggesting that residual contamination is present. Additional removal may be performed based on the visual examination. Following completion of removal and visual examination activities, the base and sidewalls of the removal area will be sampled to confirm that all soil with COC concentrations greater than the cleanup goals has been removed. Additional removal and sampling will be performed until it is confirmed that soil with COC concentrations greater than the cleanup goals has been removed. A complete description of the post-removal/confirmation sampling and analysis plan is presented in Section 8.3. Cleanup goals are presented in Section 5.

7.2 CONTINGENCY MEASURES

Considering the limited extent of soil with COC concentrations greater than the cleanup goals and the nature of the proposed response action (i.e., removal), the development of contingency measures to address COC impacts at Block H is not warranted.

Section 8
Proposed Response Actions

8.1 INTRODUCTION

The proposed response action for Block H will address soil and groundwater with COC concentrations greater than the cleanup goals. The proposed response action for soil in Block H is described in this section. The proposed response action for groundwater in Block H is described in the Groundwater Response Action Plan provided under separate cover.

8.2 RESPONSE ACTION PLAN DESCRIPTION

The proposed soil response action is to remove soil with COC concentrations greater than the cleanup goals to obtain a Certificate of Completion under a Tier IA (Residential Unrestricted) future property use based on potential future residential development. The major components of the proposed response action, performance criteria, and sequence are described below.

8.2.1 Summary of Major Components

The major components of the response action necessary to achieve a Certificate of Completion are as follows:

- Removal of soil with COC concentrations greater than cleanup goals. Remove soil associated with soil boring SB-201 to a depth of 1 foot bgs. Remove soil associated with soil boring SB-474 to a depth of 4 feet bgs. Remove soils associated with soil borings SB-285 and SB-200 to a depth of 10 feet bgs or to the depth of the zone of saturation, whichever is less. An excavation base diameter of 20 feet is assumed. Two horizontal to one vertical excavation sideslopes are assumed for the removals. The areal extent of removal for Block H is approximately 10,000 sf and the removed soil quantity is approximately 1,100 cy. The soil boring sample and removal limits are indicated on Figure 8-1.

- Post-removal/confirmation sampling and analysis – Sampling and analysis of the exposed soil on the base and sidewalls of the removal areas will be performed to confirm that soils

with contaminant concentrations greater than the cleanup criteria provided in Table 5-1 are removed. For removal areas where the proposed removal depth cannot be achieved due to the depth of the zone of saturation, post-excavation sampling and analysis of the exposed soil on the base of the removal areas will be performed to obtain data for informational purposes only. Post-removal/confirmation sampling and analysis procedures are presented in Section 8.3.

- Characterization, transport, and off-site disposal of removed soil – Stockpiled soil will be characterized for the purposes of waste disposal, transported to an off-site permitted waste disposal facility, and disposed. Disposal at an off-site non-hazardous waste disposal facility is assumed based on review of the constituent concentrations provided in Tables AH-1, AH-2 and AH-3 (Appendix A). The disposal quantity is approximately 1,500 tons based on the removal limits indicated on Figure 8-1.

- Backfilling and regrading – The removal areas will be backfilled and the final surface graded to match existing grades. The fill material will be certified clean material similar in grain size to removed soils and obtained from an off-site borrow source.

- Restoration - The disturbed areas will either be stabilized by vegetation or repaved. All areas disturbed as a result of response action activities will be permanently stabilized.

8.2.2 Performance Criteria

The performance criteria for the response action are presented below.

Soil Removal

Soil within Block H that is identified as having COC concentrations greater than the cleanup goals will be removed to the proposed depths. The removal limits presented in the RAP were determined based on review of existing soil boring sample results provided in Tables AH-1, AH-2, and AH-3 (Appendix A). The final limits of removal will be determined after completion of post-removal/confirmation sampling. The removal limits will extend to the indicated depths or to the depth of the zone of saturation, whichever is less.

Sediments accumulated in erosion and sediment control devices (see Section 8.4) prior to confirmation that soil with COC concentrations greater than the cleanup goals has been removed will be disposed off site along with the removed soils.

Post-Removal/Confirmation Sampling

Post-removal/confirmation samples will be collected from the excavation base and sidewalls of the removal areas prior to backfilling to confirm that soils with contaminant concentrations greater

than the cleanup criteria provided in Table 5-1 have been removed. Additional removal may be required based on the results of the post-removal/confirmation sampling. For removal areas where the proposed removal depth cannot be achieved due to the depth of the zone of saturation, post-removal samples will be collected from the exposed soil on the base of the removal areas to obtain data for informational purposes only. Post-removal/confirmation sampling and analysis procedures are provided in Section 8.3.

Temporary Storage

Soil from the removal areas will be stockpiled and secured within the Block H boundary on a materials handling pad that will consist of a minimum 8-mil-thick polyethylene geomembrane overlain by a drainage layer. Water from the materials handling pad will drain into the excavation of origin. The stockpiled soil will be completely covered with a minimum 8-mil-thick polyethylene geomembrane during inactive periods to prevent movement of soil to the surrounding area. The geomembrane cover will be secured daily using sandbags and rope or other suitable means. The stockpiled soil will be temporarily stored on site until waste characterization has been completed.

Waste Characterization

Removed soil will be sampled from the stockpile or container for waste disposal characterization at a minimum frequency of one sample per 500 cy. Composite samples consisting of three grab samples will be collected from the stockpile or container. The sampling frequency may be increased depending on the volume of the removed soil and waste disposal facility requirements. Samples will be analyzed for TCLP and parameters required by the waste disposal facility.

Disposal

Removed soil will be transported for off-site disposal after waste characterization has been completed and the waste disposal facility has approved acceptance of the waste. Removed soil will be disposed at an off-site non-hazardous waste disposal facility.

Dewatering

Dewatering of the removal areas may be required to facilitate backfilling. Water that has accumulated in the removal areas will be collected and conveyed through a sediment removal device (i.e. filter). Solids trapped in the filter will be transported to an off-site non-hazardous

waste disposal facility or off-site hazardous waste TSDF. Permits required for the proposed response action are described in Section 9.2.2. Water will be contained, characterized as required following removal of sediment, and disposed at an off-site permitted TSDF if required or discharged to a NPDES permitted outfall or to a stabilized area.

Backfilling

The removal areas will be backfilled after completion of post-removal/confirmation sampling and excavation dewatering. Backfill soil will be certified clean soil similar in grain size to removed soils and obtained from an off-site borrow source. Backfill material acceptance criteria are provided on Table 8-1. The off-site borrow source material will be evaluated in accordance with the procedures described in the MDE document titled Facts About VCP – Clean Imported Fill Material[2]. The off-site borrow source will be identified and environmental site assessment documentation obtained if available. The documentation will be reviewed by an environmental professional to determine the borrow source's suitability for use. If the borrow source is judged acceptable, soil samples will be obtained and analyzed for the target compounds using the method and at the sampling frequency recommended in the MDE document based on the location, history, and size (i.e., area and volume) of the borrow source area. Constituents detected in the samples will be evaluated for risk using the residential cleanup standards provided in MDE's Cleanup Standards for Soil and Groundwater (August 2001).

Backfill material will be compacted to a minimum of 90 percent of the maximum dry density as determined by the Standard Proctor. Additional compactive effort may be required dependent on future use of the area.

Restoration

The top 4 inches of backfill in areas to be restored using vegetation will be medium-textured loam suitable for establishment of vegetation (i.e., topsoil). The backfilled and regraded areas along with other areas disturbed during response action implementation will be restored/stabilized using permanent stabilization practices. Vegetative restoration will consist of surface preparation, fertilizing, seeding, and mulching. Vegetative restoration procedures are presented in detail in Section 8.4.2. Pavement disturbed by response action activities may be restored to pre-response action conditions based on future use of the area.

2 Document available at http://www.mde.state.md.us/assets/document/Clean Imported Fill Material.pdf

Stormwater Management and Erosion and Sediment Control

Erosion and sediment control will be performed in accordance with the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control (MDE, 1994). Erosion and sediment control measures are described in Section 8.4. A stormwater management plan will be prepared in accordance with the Maryland Stormwater Design Manual (MDE, October 2000). Before removal activities begin, erosion and sediment controls will be established to prevent impacts to downgradient areas. During removal, backfilling, and regrading activities and until disturbed areas are stabilized, the erosion and sediment controls will be regularly inspected and maintained.

Stabilized Construction Entrance

Ingress to and egress from the removal area(s) will be controlled using a stabilized layer of aggregate that is underlain with a geotextile (i.e., a stabilized construction entrance).

Decontamination Pad

A temporary decontamination pad will be established to clean equipment used to remove and transport contaminated soils. The pad will be sized to accommodate all the equipment to be used during response action implementation and will be constructed in a manner that contains all the contaminated materials removed from equipment and the liquids used to clean the equipment. Contaminated materials removed from the equipment and solids removed from the wash water will be disposed off site along with the removed soils. Wash water will be contained, characterized as required following removal of sediment, and disposed at an off-site permitted TSDF if required or discharged to a NPDES permitted outfall or to a stabilized area.

8.2.3 Sequence

The field duration, excluding items 1 through 3 below, required to perform the proposed response action is estimated to be approximately 3 weeks. The generalized sequence of response action activities is presented below. The sequence of response action activities is subject to change based on the Contractor's work plan.

1. Obtain permits, notifications, and approvals as identified in Section 9 prior to mobilization.
2. Hold a pre-response action implementation meeting on site with the Contractor.

3. Locate and mark existing site utilities. Notify Miss Utility of Maryland (1-800-257-7777; www.missutility.net) at least 48 hours, but no more than 10 working days, prior to the day excavation will commence. Inspect the site prior to response action implementation to verify existing site conditions.

4. Install perimeter controls for the stabilized construction entrance and construct the stabilized construction entrance. Install the remaining perimeter erosion and sediment controls.

5. Install support features including but not limited to decontamination pad and storage area(s), etc.

6. Protect or remove existing utilities within or in close proximity to the removal limits.

7. Remove soil from the indicated limits. Collect post-removal/confirmation samples from the removal area to determine the need for additional removal.

8. Following post-removal/confirmation that soils with contaminant concentrations greater than the cleanup criteria provided in Table 5-1 have been removed or the depth of the zone of saturation has been reached, restore the area by dewatering removal areas if necessary, backfilling, regrading, and establishing permanent stabilization for all disturbed areas.

9. Remove decontamination pad, material storage area, etc. Following support feature removal, stabilize areas with permanent vegetation or paving.

10. Following permanent stabilization of all disturbed areas, remove all remaining perimeter controls and immediately stabilize all areas disturbed by the placement and removal of perimeter controls.

8.3 POST-REMOVAL/CONFIRMATION SAMPLING AND ANALYSIS

The purpose of post-removal/confirmation sampling and analysis is to obtain sufficient data to confirm that soil with COC concentrations greater than the cleanup goals has been removed. The post-removal/confirmation sampling and analysis plan is summarized below.

8.3.1 Sampling and Sample Evaluation

The response action implementation includes the removal and off-site disposal of soil with COC concentrations greater than the cleanup goals. The removal areas are shown on Figure 8-1. Following removal of this material, the exposed surfaces of the excavation (i.e., base and sidewalls) will be visually examined for evidence of remaining contamination (e.g., free-product,

sheen, staining). Additional excavation may be performed based on the visual examination. The exposed surfaces of the removal area will then be sampled to determine if all the soils with contaminant concentrations greater than the cleanup criteria provided in Table 5-1 have been removed. The purpose of the excavation base and sidewall samples will be to determine whether the depth and lateral extent of removal is sufficient or if the removal depth and lateral extent need to be increased to remove soils with contaminant concentrations greater than the cleanup criteria. For removal areas where the proposed removal depth cannot be achieved due to the depth of the zone of saturation, post-excavation sampling and analysis of the exposed soil on the base of the removal areas will be performed to obtain data for informational purposes only.

Post-removal/confirmation samples will be collected, packaged, and transported to a fixed-base laboratory. The fixed-base laboratory will analyze the samples for the constituents and per the methods indicated on Table 5-1. Post-removal/confirmation sampling results will be reviewed and the need for additional removal evaluated. If additional removal is required, additional post-removal/confirmation samples will be collected from the new exposed surfaces using the following criteria:

- If additional removal is required from the excavation base only, additional post-removal/ confirmation samples will be collected from the new exposed excavation base only (i.e., no sidewall samples).
- If additional removal is required from the excavation sidewalls only, additional post-removal/confirmation samples will be collected from the new excavation sidewalls and the new exposed excavation base.
- If additional removal is required from the excavation base and sidewalls, additional post-removal/confirmation samples will be collected from the new excavation sidewalls and the new exposed excavation base.

Analytical results from the fixed-base laboratory for post-removal/confirmation samples that represent exposed surfaces of the excavation that will remain (i.e., no further removal will be performed) will be validated using EPA's Contract Laboratory Program protocol, EPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses (EPA, 1993), and EPA Region III Modifications to National Functional Guidelines for Organic Data Review, Multi-Media, Multi-Concentration (EPA, 1994) in conjunction with method-specific criteria. Analytical results from the fixed-base laboratory for samples representing soil that is subsequently removed and disposed off-site will not be validated.

8.3.2 Sampling Locations

Samples will be collected from the excavation base and sidewalls of each removal area. The excavation base of each removal area will be divided into areas of no more than 625 sf (i.e., 25-foot by 25-foot area). One post-removal/confirmation base sample will be collected from each 625-sf area. The post-removal/confirmation base sample will be a composite sample created from soil collected at four randomly determined grab locations. A minimum of four post-removal/confirmation sidewall samples will be collected from each removal area having excavation sidewall lengths less than 50 feet. Additional sidewall samples will be collected at a frequency of one sidewall sample for every 50 feet of exposed sidewall. Post-removal/confirmation samples collected from excavation sidewalls will also be composite samples created from soil collected at two randomly determined grab locations.

8.4 EROSION AND SEDIMENT CONTROL

Erosion and sediment control measures will be implemented to minimize and/or eliminate erosion and sedimentation during the response action. The construction, implementation, and maintenance of the erosion and sediment control devices will be in accordance with the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control (MDE, 1994). The number provided below with each control measure, if any, references the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control (MDE, 1994). The erosion and sediment control devices can be modified based on construction equipment and techniques presented in the Contractor's work plan.

The erosion and sediment control measures include the following:

- Silt Fence (E15.0) - Placed along the downslope sides of each removal area to provide a temporary sediment barrier consisting of geotextile filter fabric.
- Stabilized Construction Entrance (17.0) – Placed as a controlled site entrance to reduce the amount of sediment transported by construction vehicles onto public roads. Loose dirt will be removed from the tires of construction vehicles as they traverse the stabilized construction entrance.

- Dust Control – Utilized to prevent surface and air movement of dust from exposed soil surfaces and to reduce the amount of airborne substances that may present health hazards, traffic safety problems, or harm plant/animal life.

- Permanent Seeding (20.0) – Utilized to establish perennial vegetation on disturbed areas by planting seeds of native grasses.

- Mulching (20.0) – Utilized to prevent erosion by protecting the soil surface from raindrop impact and to reduce the velocity of overland flow.

8.4.1 Inspection and Maintenance

In general, all erosion and sediment control measures will be checked daily and after each runoff-producing rainfall event. Any required repairs will be made immediately. The following items will be checked:

- The stabilized construction entrance will be maintained in a condition that will minimize tracking sediment onto public roads.

- Silt fence will be checked for undermining or deterioration of the fabric. Sediment will be removed when the level of sediment causes bulging or reaches one-half of the fabric height.

- Seeded areas will be checked regularly to ensure that a good stand of vegetation is maintained and will be fertilized and reseeded as needed.

- The fuel and lubricant materials storage area will be checked to ensure that stored containers are not leaking and that the lining system is functioning properly.

Erosion and sediment control devices will be inspected and maintained during the response action until the disturbed areas are permanently stabilized. Damaged erosion and sediment control devices will be repaired immediately. The Contractor will maintain a logbook of all erosion and sediment control device inspections and maintenance. The logbook will be available at the site at all times for inspection by duly authorized officials. Post-response action maintenance will consist of performing periodic inspections of the disturbed areas and repair of disturbed areas until the areas are permanently stabilized.

8.4.2 Restoration

All areas disturbed by response action implementation activities (i.e., removal and support facility areas) will be restored/stabilized using permanent stabilization practices. Activities to establish permanent stabilization (i.e., preparing the area for seeding and seed application or paving) will be implemented as soon as possible following the establishing of final grades. The establishment of permanent stabilization includes seed bed preparation, seeding, and mulching. The seed mixture was selected from the list of Maryland standard seed mixtures in Section 20.0 of the Maryland Standards and Specifications for Soil Erosion and Sediment Control (MDE, 1994). The seed was selected based on the applicable hardiness zone, level of maintenance, and erosion resistance. The permanent seed mixture is based on Mixture 5 in Table 25 (page G-20-18) of the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control. Mixture 5 is suited for Plant Hardiness Zone 7a, in which the site is located. The permanent seed mixture consists of perennial ryegrass (*Lolium perenne*) seeded at a rate of 20 pounds of pure live seed (PLS) per acre, flatpea (*Lathyrus sylvestris*) seeded at a rate of 20 pounds PLS per acre. In the event that disturbed areas are brought to final grade outside of the optimal growing season for the permanent seed mixture, the disturbed areas will be temporarily stabilized using a temporary seed mixture. Erosion and sediment control devices will remain in place until permanent stabilization is established over the disturbed areas.

8.5 MISCELLANEOUS RESPONSE ACTION REQUIREMENTS

8.5.1 Utilities

Above- and below-ground utilities are known to exist on and near Block H. Storm water, sanitary sewer, and above- and below-ground electrical service are present in Block H. Known utilities are indicated on the MRC utility map included as Appendix J of the Site Characterization Report (Tetra Tech, May 2006). The Contractor will verify, locate, and stake all utility locations within the limits of the site and adequately implement protection measures or remove the utilities before any earth-disturbing activities. The Contractor will coordinate protection, removal, or temporary utility bypasses with Lockheed Martin.

8.5.2 Groundwater Monitoring Wells

Groundwater monitoring wells MW08A, MW51A, MW52A, and MW53A with flush-mounted protective casings exist within Block H. The monitoring wells will be protected during response action implementation. Groundwaters monitoring well locations within and near Block H are shown on Figure 2-2.

8.5.3 Dust Control

During construction, the Contractor will be required, as necessary, to control the generation of dust to comply with OSHA and National Institute of Occupational Safety and Health (NIOSH) requirements. Systems used for dust control could include a sprinkler systems, water trucks, etc. The Contractor will identify the methods of dust control within the Contractor's work plan.

8.5.4 Spill Mitigation Response Procedures

Potential non-stormwater discharges during response action activities include wash water resulting from decontamination efforts associated with field equipment and vehicles, fuel, lubricant, and hydraulic fluid spills from vehicle fueling, lubrication, and maintenance, and spills of fertilizers and small quantities of laboratory chemicals used in sample collection, and other flammable substances.

All decontamination wash water will be collected in a lined decontamination and equipment wash pad area. All waters generated from decontamination and/or other washing activities will be collected, solids removed, characterized, and transported to an approved off-site permitted TSDF. All vehicle fueling, lubrication, and maintenance will be performed utilizing drip pans to contain discharges and prevent a reportable spill to the ground surface. Containers of detergents and vehicle maintenance fluids (e.g., oil, grease, antifreeze, hydraulic fluid, etc.) will be stored within an enclosed, lined, diked area along with the equipment fuel, which will be stored in tanks. This area, referred to as the materials storage area, will be bermed and lined with a minimum 60-mil-thick polyethylene geomembrane and will be sized to contain 110 percent of the volume stored within the area. A small sump or low point in the geomembrane will be designed to serve as a collection and monitoring point for any leaks or discharge from the containers stored within the

materials storage area. When not in use, chemicals, paints, and other flammable substances will be stored in a flammable storage cabinet located within the Contractor's equipment trailer.

Good housekeeping procedures will be followed to reduce risks associated with these materials. These procedures include, but are not limited to, keeping materials in their original containers whenever possible, maintaining original labels and Material Safety Data Sheets (MSDSs), and using proper disposal methods for surplus materials. Accidental spills that may occur will be contained as appropriate for the spilled medium (liquid or solid) and collected and containerized immediately after discovery of the spill. Containerized material will be characterized for off-site transportation and disposal. The following spill mitigation equipment should be available on site during response action activities:

- Drip pans
- Oil-dry or similar compound
- Absorbent socks
- Shovels
- 55-Gallon drums or storage tank (for containerization)
- Labels for contents identification

Following spill cleanup, the cause of the spill will be investigated and material storage and handling procedures will be reviewed and revised where appropriate.

8.6 REPORTING REQUIREMENTS

Analytical reports and documentation generated as a result of the approved RAP and as necessary to obtain a Certificate of Completion will be included in the Notification of Completion Report. The Notification of Completion Report will be submitted to MDE within 90 days after completion of response action activities. The reports and documentation are described below.

Analytical reports of post-removal confirmation sample and backfill material data deliverables submitted to MDE will be in hardcopy format and electronic data deliverable (EDD) format. The EDD will be provided in Microsoft Excel® format to facilitate efficient and time-sensitive evaluation by MDE.

Removal activities for each discrete removal area will be documented on removal logs. The removal logs will include documentation such as identification and location of the removal area (e.g., associated soil boring sample number), contractor's name, removal date(s), backfill date(s), removal equipment used, removal area dimensions at both the ground surface and base of excavation, removal depth(s), lithology, groundwater elevation, direct-reading instrument and field screening results if applicable, visual observations, olfactory observations if any, and photographs. The final removal area limits at ground surface will be surveyed by a professional land surveyor registered in the State of Maryland. Post-removal/confirmation sampling field documentation including grab sample locations will be documented on a separate Soil Sample Log Sheet.

Waste profiles, waste characterization results, TSDF pre-approval or approval documentation, shipment manifests, delivery tickets or certificates, and treatment and disposal certificates will be provided for all contaminated media removed from Block H.

8.6.1 Recordkeeping

Lockheed Martin will maintain complete records of the response action for a minimum of 5 years.

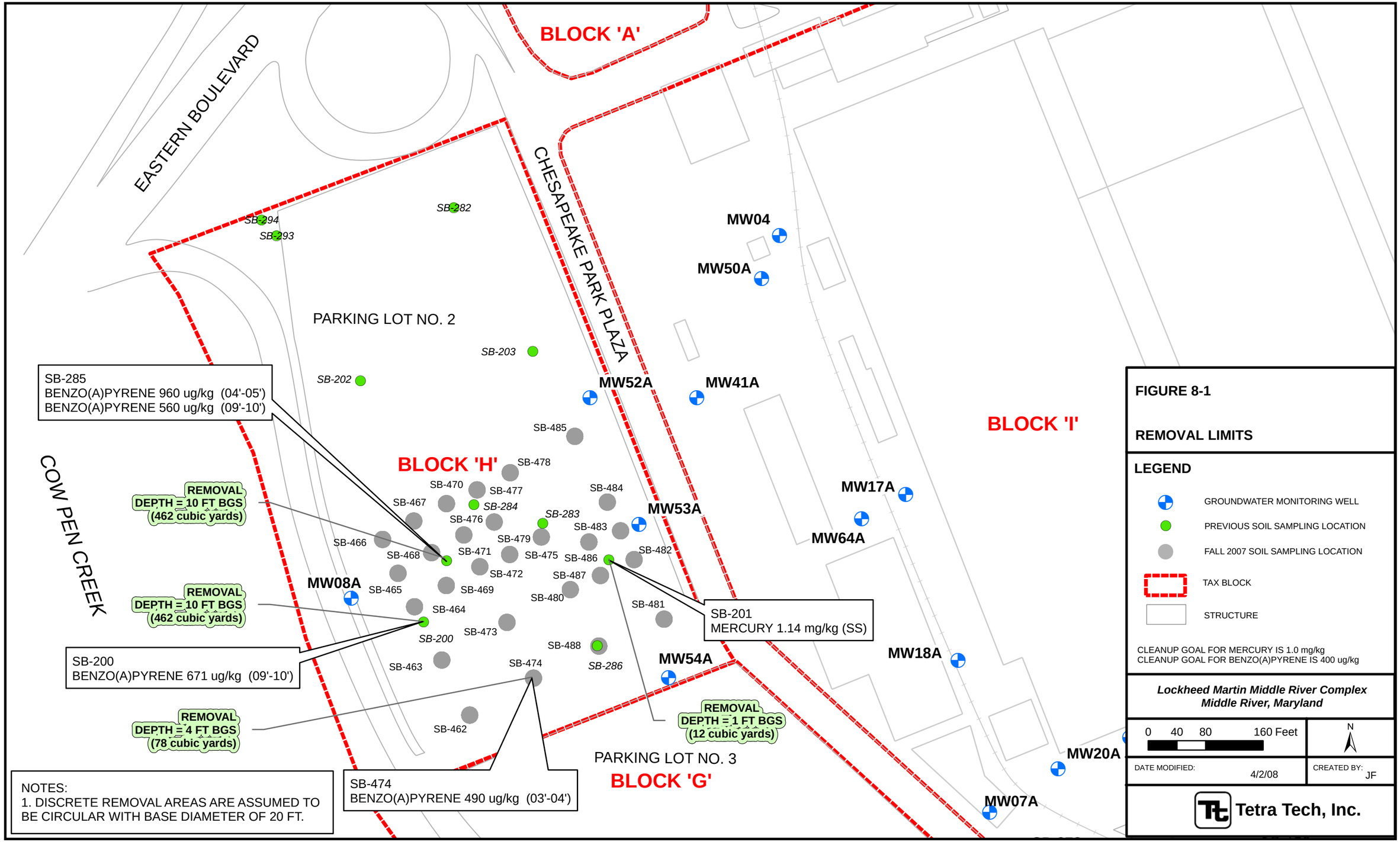
Table 8-1

Backfill Material Acceptance Criteria
Block H, Soil Response Action Plan
Lockheed Martin Middle River Complex, Middle River, Maryland

Parameter	Criteria	Test Method
USCS Classification	GW, GP, GM, SW, SP, and SM	ASTM D 2487
Atterberg Limits	--	ASTM D 4318
Liquid Limit	35 maximum	
- Plasticity Index	12 maximum	
Amount finer than the No. 200 U.S. Standard Sieve	25 percent maximum	ASTM D 1140
Maximum Particle Size	1 inch maximum	ASTM D 422

1 Backfill material will be evaluated for constituents as described in Section 8.2.2 paragraph titled "Backfilling."

ASTM American Society for Testing and Materials International.
USCS Unified Soil Classification System.



Map Document: (K:\GProject\middle_river\Maps\GPS SOIL BORING LOC\Final RAP figures\Block H Removal Limits.mxd) 4/18/2008 -- 11:58:59 AM

Section 9
Permits, Notifications, and Contingencies

9.1 INTRODUCTION

This section describes the permits required for the proposed response action and the required notifications and contingencies if unexpected conditions are encountered during implementation of the RAP.

9.2 PERMITS

Lockheed Martin will meet all local, State, and federal permitting requirements for the response action described in Section 8. Based on a review of requirements of MDE and Baltimore County, permitting requirements for the response action are related to earth-moving activities and excavation dewatering, if necessary.

9.2.1 Earth-Moving Activities

This section describes permits related to earth-moving activities including grading, erosion and sediment control, and stormwater management.

Although the proposed response action will not result in a planned disturbance of 1 acre or more, a Notice of Intent form will be submitted to MDE to obtain coverage under the General Permit for Construction Activity for stormwater discharges. Conditions of the General Permit include compliance with approved erosion and sediment control and stormwater management plans. The erosion and sediment control plan will be submitted to the Baltimore County Soil Conservation District for review and approval, and the stormwater management plan will be submitted to the

Baltimore County Department of Environmental Protection and Resource Management (DEPRM) for review and approval, as discussed below. As a condition of erosion and sediment control plan approval, Lockheed Martin will certify that a "responsible person" trained in techniques and standards of erosion and sediment controls will be on site during construction. After Block H has been finally stabilized and all stormwater discharges from construction sites that are authorized by this permit are eliminated, a Notice of Termination form will be submitted to MDE.

Miss Utility for Maryland will be notified (1-800-257-7777, www.missutility.net) at least 48 hours, but not more than 10 working days, before excavation begins.

A Baltimore County grading permit is required for any land disturbance and any grading activities that disturb greater than 5,000 sf or more than 100 cy of fill material. As a condition of grading permit issuance, a stormwater management plan will be submitted to the Baltimore County DEPRM for review and approval by DEPRM and the Baltimore County Soil Conservation District. The stormwater management plan will be prepared in accordance with the 2000 Maryland Stormwater Design Manual, Volumes I and II (MDE, October 2000). As an additional condition of grading permit issuance, a grading plan will be submitted to the Baltimore County DEPRM for review and approval, and an erosion and sediment control plan will be submitted to the Soil Conservation District for review and approval. The erosion and sediment control plan will be prepared in accordance with the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control (MDE, 1994). The approved plans will be included with the grading permit application.

A Baltimore County stormwater management permit is required because stormwater management devices and practices are required. The approved stormwater management plan will be included with the stormwater management permit application.

9.2.2 Excavation Dewatering

Water resulting from excavation dewatering will be managed in one of the following ways:

- Contained, characterized as required, and disposed at an off-site permitted TSDF
- Filtered and subsequently discharged to surface water (regulated by MDE and EPA)

- Filtered and subsequently discharged to the local sanitary sewer system (regulated by Baltimore County)

The industrial surface water discharge permit is a combined state and federal permit under NPDES. A completed application will be submitted to MDE if required. MDE develops discharge limits based on the information provided in the permit application and issues the permit considering public comments, if any.

A wastewater discharge permit is required to discharge industrial wastewater to the local sanitary sewer system. A completed application for discharge to the Baltimore County sanitary sewer system will be submitted to the Engineering and Regulation Division of the Bureau of Utilities if required. There are specific limits set by the treatment plant for certain pollutants. Discharge limits for these and other pollutants may be set on a case-by-case basis. The discharge permit is issued by the Baltimore County Department of Public Works and Development Management.

9.3 NOTIFICATIONS

MDE will be notified immediately of any previously undiscovered contamination, changes in the RAP schedule, previously undiscovered storage tanks and other oil-related issues, and citations from regulatory entities related to health and safety practices.

9.4 CONTINGENCIES

If soil with COC concentrations greater than the cleanup goals is discovered outside the planned limits of soil removal, based on the results of post-removal/confirmation sampling and analysis, it will be addressed as discussed in Section 8.3.

Section 10
Implementation Schedule

The response action proposed in this The RAP for Block H is anticipated to take approximately two months to complete. The response actions for the six properties that have RAPs submitted to MDE for review. Lockheed Martin (Blocks B, D, E, F, G, and H) will be executed in sequence. Lockheed Martin is committed to commence begin the work within 30 days of approval of the RAPs and the entire project is expected to take approximately twelve months to complete. Upon approval of the RAPs, Lockheed Martin will provide a more detailed schedule for the entire project and then provide the MDE with an updated schedule each month for tracking purposes. Lockheed Martin reserves the right to stage or execute each block in sequential order to minimize site disruption and costs. A draft schedule for the Block H is presented below:

Deliverable/Milestone	Completion Date
Soil RAP Submittal to MDE	On or about April 22, 2008
Soil RAP Approval	On or about July 8, 2008
Submit Permits/Notifications	Within 30 days of approval
Mobilization/Site Preparation	In conjunction with other blocks over a 6 to -12 month time frame
Soil Excavation, Removal and Sampling	2 months after commencing work
Demobilization	Within 30 days of completion of soil removal excavation
Reporting	Within 60 days of demobilization

Section 11
Administrative Requirements

11.1 INTRODUCTION

MDE's VCP stipulates several administrative requirements with which the applicant must comply. The administrative requirements include a written agreement, zoning certification, performance bond or other form of security, and health and safety plan requirements. These administrative requirements are described below.

11.2 WRITTEN AGREEMENT

A written agreement is provided with this RAP in compliance with Section 7-508 of the Environment Article, Annotated Code of Maryland. The written agreement stipulates that if the RAP is approved, the applicant agrees, subject to the withdrawal provisions set forth in Section 7-512 of the Environment Article, to comply with the provisions of the RAP. The written agreement is provided in Appendix E.

11.3 ZONING CERTIFICATION

A zoning certification is provided with this RAP in compliance with Section 7-508 of the Environment Article, Annotated Code of Maryland. Section 7-508 requires that RAPs include a certified written statement that the property meets all applicable county and municipal zoning requirements. The zoning certification is provided in Appendix E.

11.4 PERFORMANCE BOND OR OTHER SECURITY

Lockheed Martin will post a performance bond with MDE within ten days of RAP approval. The bond amount ($35,000) will be adequate to secure and stabilize the property if the RAP is not completed.

11.5 HEALTH AND SAFETY PLAN

A project-specific Health and Safety Plan (HASP) will be prepared and submitted to MDE prior to implementation of the MDE-approved RAP. The HASP will address each planned response action activity that is performed by workers engaged in hazardous waste site activities. The project-specific HASP will reference applicable regulations that may apply to response action activities. At a minimum, the HASP will contain the required elements specified in 29 CFR Parts 1910.120 and 1926.65, as well as other regulatory and Lockheed Martin requirements that apply to the nature of the activities that will be performed. At a minimum, the project-specific HASP will address the following (29 CFR Part 1910 citation in parentheses):

- Health and safety personnel requirements and responsibilities [29 CFR Part 1910.120(b)(4)(iv)]
- Pertinent site information [29 CFR Part 1910.120(b)(4)(iv)]
- Scope of work [29 CFR Part 1910.120(b)(4)(iv)]
- A safety and health risk or hazard analysis for each planned site activity [29 CFR Part 1910.120(b)(4)(iv)]
- Training requirements [29 CFR Part 1910.120(e)]
- Personal protective equipment (PPE) requirements for each planned site activity [29 CFR Part 1910.120(c)(5)]
- Medical surveillance requirements [29 CFR Part 1910.120(h)(1)(i)]
- Air monitoring and sampling requirements
- Site control measures [29 CFR Part 1910.120(d)]
- Decontamination procedures [29 CFR Part 1910.120(k)(1)]

- An Emergency Response Plan [29 CFR Part 1910.120(l)(1)]
- Confined-space entry procedures (29 CFR Part 1910.146)
- Spill containment [29 CFR Part 1910.120(j)(1)(viii)]
- Recordkeeping [29 CFR Part 1910.120(f)(8)]

The HASP will present information to adequately address appropriate hazard recognition and evaluation and control for the potential hazards that may be anticipated for the specific planned activities.

The project-specific HASP is recognized as a dynamic document that is subject to review and possible revision, as appropriate. Potential factors that could warrant the revision of a HASP include a change in the scope of work or as a result of evaluating data collected throughout implementation of the response action.

Implementation of the appropriate portions of the project-specific HASP will be accomplished by the Site Safety Officer (SSO) (with assistance from project management, as appropriate) assigned to the response action. The SSO will be on site during all intrusive activities. Specific health and safety program implementation elements are summarized below.

11.5.1 Training and Medical Surveillance

All personnel who participate in on-site work where there is a potential for exposure to hazardous waste-related safety or health hazards will be current participants in health and safety training and medical surveillance programs. These programs are in accordance with regulatory requirements. In general, the employee training and medical requirements specified in the OSHA hazardous waste regulations are regarded as minimum requirements.

At a minimum, employees who will or may participate in any on-site activities that may involve potential exposures to hazardous waste-related safety or health hazards will first have to satisfy the following health and safety training requirements:

- 40-Hour introductory hazardous waste general worker training [29 CFR Part 1910.120(e)(3)(i)].

- On their first assignment, an additional 24 hours of activity under the direction of a trained, experienced supervisor [29 CFR Part 1910.120(e)(3)(i)].

- Individuals who will be in a supervisory position must also complete an additional 8 hours of management/supervisory health and safety training [29 CFR Part 1910.120(e)(4)].

- 8 Hours of annual health and safety refresher training for all general workers and supervisors [29 CFR Part 1910.120(e)(8)].

- Project-specific training prior to the onset of any on-site intrusive activities.

Additional health and safety training requirements may also be specified in the project-specific HASP depending on the nature of the planned activities (e.g., confined space entry training, fall protection training, excavation safety training, etc.).

11.5.2 On-Site Health and Safety Functions

The SSO will be responsible for ensuring that all health and safety requirements specified in the HASP are adequately performed and documented. This commonly includes activities such as the following:

- Conducting and documenting on-site health and safety training.

- Implementing a project-specific hazard communication program (e.g., chemical inventory, MSDSs, chemical container labeling, etc.).

- Implementing other project-specific health and safety programs that may be relevant based on the response action scope of work and the nature of planned activities (e.g., hearing conservation program, confined space entry program, respiratory protection program, etc.).

- Performing and documenting equipment inspections for equipment that is intended to be used on site.

- Calibration and use of air monitoring devices (e.g., organic vapor meters, particulate meters, etc.) and air sampling devices.

- Ensuring that specified PPE is appropriately used.

- Overseeing personnel and equipment decontamination activities.

- Coordinating with appropriate on- and off-site contacts and agencies and managing the emergency response plan, when/as appropriate.

- Other duties as specified in the HASP.

Section 12
References

1. Aerial Photographs dated: 1954.

2. Cassell, J.R., July 1977. Drainage Area Map – Existing Storm Water Drains, Chesapeake Park Plaza/Dark Head Cove Road; Sheet A1 of 7.

3. United States Environmental Protection Agency (EPA), October 1988. Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, Interim Final EPA/540/G-89/004: Office of Emergency and Remedial Response, Washington, D.C.

4. EPA, 1993. EPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analysis.

5. EPA, 1994. EPA Region III Modifications to National Functional Guidelines for Organic Data Review, Multi-Media, Multi-Concentration.

6. Maryland Department of the Environment (MDE), 1994. 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control, Maryland Department of the Environment, Water Management Administration in association with Soil Conservation Service and State Soil Conservation Committee.

7. MDE, October 2000. 2000 Maryland Stormwater Design Manual Volumes I & II, Maryland Department of the Environment, Water Management Administration.

8. MDE, August 2001. Cleanup Standards for Soil and Groundwater, Interim Final Guidance (Update No. 1).

9. MDE, March 2006. Guidance Document, Voluntary Cleanup Program.

10. Tetra Tech, Inc. (Tetra Tech), May 2006. Site Characterization Report, Revision 1.0, Lockheed Martin Middle River Complex.

11. Tetra Tech, December 2006. Comment Response Document No. 2, Site Characterization Report, Lockheed Martin Middle River Complex.

12. Tetra Tech, November, 2007. Soil Characterization Work Plan, Lockheed Martin Middle River Complex, Middle River, MD.

APPENDIX A - SUMMARY OF DETECTED CONCENTRATIONS IN SOIL

TABLE AH-1

SUMMARY OF DETECTED CONCENTRATIONS IN SURFACE SOIL
BLOCK H, SOIL RESPONSE ACTION PLAN
LMC MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND
PAGE 1 OF 3

SAMPLE ID:	SB-200-SS	SB-201-SS	SB-202-SS	SB-203-SS	SB-294-0001
LABORATORY ID:	9612833001	9612833004	9612833010	9612833007	WV5857-11
SAMPLE DATE:	5/13/2005	5/13/2005	5/13/2005	5/13/2005	10/28/2005
LOCATION:	SB-200	SB-201	SB-202	SB-203	SB-294
INORGANICS (mg/kg)					
ANTIMONY	0.9	1	0.6	1	--
ARSENIC	--	6	0.7	1	2
BARIUM	25	74	23	38	20.1
BERYLLIUM	0.5	1.4	0.3	0.6	0.37 B
CADMIUM	0.09	0.5	0.2	0.06	--
CHROMIUM	8.8	24.8	7.8	12.1	11.1
COBALT	2.8	19.7	3.3	8.5	2.9
COPPER	6	9	6	5	4.7
LEAD	7	18	6	6	4.8
MERCURY	0.4 L	1.14 L	0.06 L	0.04 L	0.01
MOLYBDENUM	--	0.9 B	0.4 B	--	0.55 K
NICKEL	7	11	7	13	7.5
SELENIUM	--	--	2	--	--
SILVER	--	--	--	0.1 B	--
VANADIUM	14.5	34.7	13.1	20.4	15.7
ZINC	20	45	18	35	15.9
MISCELLANEOUS (%)					
TOTAL SOLIDS	NA	NA	NA	NA	91
MISCELLANEOUS (S.U.)					
PH	6	NA	NA	NA	NA
PETROLEUM HYDROCARBONS (mg/kg)					
DIESEL RANGE ORGANICS	168	242	223	37.3	NA
GASOLINE RANGE ORGANICS	6.13 B	--	--	6.48 B	--
TPH (C09-C36)	NA	NA	NA	NA	14
SEMIVOLATILE ORGANIC COMPOUNDS (ug/kg)					
1-METHYLNAPHTHALENE	183	--	--	--	--
2-METHYLNAPHTHALENE	161	--	--	--	--
ACENAPHTHENE	125	--	--	--	--
ANTHRACENE	283	--	--	40 J	--
BENZO(A)ANTHRACENE	372	35 J	--	60 J	--
BENZO(A)PYRENE	367	40 J	--	57 J	--
BENZO(B)FLUORANTHENE	205	46 J	--	30 J	--
BENZO(G,H,I)PERYLENE	159	--	--	37 J	--
BENZO(K)FLUORANTHENE	284	42 J	--	48 J	--

TABLE AH-1

SUMMARY OF DETECTED CONCENTRATIONS IN SURFACE SOIL
BLOCK H, SOIL RESPONSE ACTION PLAN
LMC MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND
PAGE 2 OF 3

SAMPLE ID:	SB-200-SS	SB-201-SS	SB-202-SS	SB-203-SS	SB-294-0001
LABORATORY ID:	9612833001	9612833004	9612833010	9612833007	WV5857-11
SAMPLE DATE:	5/13/2005	5/13/2005	5/13/2005	5/13/2005	10/28/2005
LOCATION:	SB-200	SB-201	SB-202	SB-203	SB-294
SEMIVOLATILE ORGANIC COMPOUNDS (ug/kg) (Continued)					
BENZOIC ACID	100 J	723 J	--	67.4 J	--
CHRYSENE	407	49 J	--	69 J	--
DIBENZO(A,H)ANTHRACENE	56 J	--	--	--	--
DIBENZOFURAN	27 J	--	--	--	--
DI-N-BUTYL PHTHALATE	--	--	--	31 J	--
FLUORANTHENE	840	80 J	--	132	--
FLUORENE	159	--	--	28 J	--
INDENO(1,2,3-CD)PYRENE	147	--	--	34 J	--
NAPHTHALENE	239	--	--	--	--
N-NITROSODIPHENYLAMINE	--	--	--	--	--
PHENANTHRENE	1020	46 J	--	130	--
PYRENE	869	66 J	32 J	131	--
VOLATILE ORGANIC COMPOUNDS (ug/kg)					
1,2,3-TRIMETHYLBENZENE	NA	NA	NA	NA	--
1,2,4-TRIMETHYLBENZENE	--	1.3 B	2 B	1.3 B	--
1,3,5-TRIMETHYLBENZENE	--	--	--	--	NA
2-BUTANONE	9.19	29.4	13.2	13	--
ACETONE	107 J	210 J	138 J	157 J	--
CARBON DISULFIDE	1.7 J	--	3	2	--
CHLOROMETHANE	--	--	--	--	--
ETHYLBENZENE	--	1.5 J	--	0.31 J	--
M+P-XYLENES	--	--	--	--	--
METHYLENE CHLORIDE	--	2.9 J	4.9 J	3 J	14 B
NAPHTHALENE	35.4	0.94 B	--	2 B	--
N-BUTYLBENZENE	--	--	--	--	--
O-XYLENE	--	--	--	--	--
TERTIARY-BUTYL ALCOHOL	5 J	7 J	--	--	--
TOLUENE	--	7.8	13.3	8	--
TRICHLOROETHENE	--	2.9	4.8	3.4	--
TRICHLOROFLUOROMETHANE	--	--	--	--	--

TABLE AH-1

SUMMARY OF DETECTED CONCENTRATIONS IN SURFACE SOIL
BLOCK H, SOIL RESPONSE ACTION PLAN
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

1 Highlighted values indicate positive detection in exceedance of cleanup goals.

µg/kg - Micrograms per kilogram.
MDE - Maryland Department of the Environment.
mg/kg - Milligrams per kilogram.
NA - Not applicable.
NC - No criterion.
SB - Soil boring.
S.U. - Standard Units.
-- - Not detected.
VOC - Volatile organic compound
SVOC - Semi-volatile organic compound
TPH - Total petroleum hydrocarbons

B - Analyte was detected but is considered to be a laboratory contaminant.
J - Positive value is considered estimated as a result of technical noncompliance.
K - Positive value is considered biased high as a result of techical noncompliance.
L - Positive value is considered biased low as a result of technical noncompliance.

TABLE AH-2

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL
BLOCK H, SOIL RESPONSE ACTION PLAN
LMC MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

SAMPLE ID:	SB-200-05	SB-200-10	SB-201-05	SB-201-10	SB-202-05	SB-202-10	SB-203-05	SB-203-10
LABORATORY ID:	9612833002	9612833003	9612833005	9612833006	9612834001	9612834002	9612833008	9612833009
SAMPLE DATE:	5/13/2005	5/13/2005	5/13/2005	5/13/2005	5/13/2005	5/13/2005	5/13/2005	5/13/2005
LOCATION:	SB-200	SB-200	SB-201	SB-201	SB-202	SB-202	SB-203	SB-203
INORGANICS (mg/kg)								
ANTIMONY	--	--	0.9	--	--	--	--	0.8
ARSENIC	5	4	3	1	4	2	3	4
BARIUM	36	79	26	15	25	20	22	15
BERYLLIUM	1.9	3.6	0.6	0.6	3.3	4.5	1.6	0.5
CADMIUM	0.1	0.09	0.08	--	0.2	0.2	0.08	0.09
CHROMIUM	39.4	38.9	18	14.4	31.8	32.1	31.9	20.6
COBALT	27.1	10.8	2.4	8.1	14.9	10.4	30.8	8.3
COPPER	14	17	10	6	12	10	23	12
LEAD	14	17	4 B	5	17	11	13	5
MERCURY	0.02 L	0.01 L	0.24 L	0.17 L	--	--	0.02 L	0.03 L
MOLYBDENUM	--	--	--	0.5 B	--	--	--	--
NICKEL	22	27	5	10	35	33	44	19
SELENIUM	--	3	--	3	--	--	--	--
SILVER	0.2 B	0.3 B	--	0.3 B	--	--	0.3 B	--
THALLIUM	--	--	--	--	--	--	--	--
VANADIUM	45.9	52.9	33.9	25.7	52.2	39.7	49.2	39.2
ZINC	44	62	25	30	51	68	55	26
MISCELLANEOUS (%)								
TOTAL SOLIDS	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS (mg/kg)								
HEXAVALENT CHROMIUM	--	--	NA	NA	--	--	0.78	NA
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS (S.U.)								
PH	4.9	5	NA	NA	NA	NA	NA	NA
PETROLEUM HYDROCARBONS (mg/kg)								
DIESEL RANGE ORGANICS	64.4	173	11.1	30	3.8 B	15.9	13	2.4 B
GASOLINE RANGE ORGANICS	--	--	--	--	--	--	--	--
TPH (C09-C36)	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs (ug/kg)								
1-METHYLNAPHTHALENE	41.7 J	452	--	--	--	--	--	--
2-METHYLNAPHTHALENE	39 J	412	--	--	--	--	--	--
ACENAPHTHENE	36 J	381	--	--	--	--	--	--
ANTHRACENE	72 J	595	--	--	--	--	--	--
BENZO(A)ANTHRACENE	111	752	--	23 J	--	54 J	--	--

TABLE AH-2

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL
BLOCK H, SOIL RESPONSE ACTION PLAN
LMC MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

SAMPLE ID:	SB-200-05	SB-200-10	SB-201-05	SB-201-10	SB-202-05	SB-202-10	SB-203-05	SB-203-10
LABORATORY ID:	9612833002	9612833003	9612833005	9612833006	9612834001	9612834002	9612833008	9612833009
SAMPLE DATE:	5/13/2005	5/13/2005	5/13/2005	5/13/2005	5/13/2005	5/13/2005	5/13/2005	5/13/2005
LOCATION:	SB-200	SB-200	SB-201	SB-201	SB-202	SB-202	SB-203	SB-203
SVOCs (ug/kg) (Continued)								
BENZO(A)PYRENE	100	671	--	--	--	63 J	--	--
BENZO(B)FLUORANTHENE	61 J	435	--	--	--	61 J	--	--
BENZO(G,H,I)PERYLENE	69 J	337	--	--	--	--	--	--
BENZO(K)FLUORANTHENE	78 J	536	--	--	--	55 J	--	--
BENZOIC ACID	--	--	48.7 J	51 J	--	--	43.1 J	43 J
CHRYSENE	118	819	--	30 J	--	63 J	--	--
DIBENZO(A,H)ANTHRACENE	--	116	--	--	--	--	--	--
DIBENZOFURAN	--	91 J	--	--	--	--	--	--
DI-N-BUTYL PHTHALATE	--	--	38 J	--	--	--	--	--
FLUORANTHENE	253	1770	--	42 J	--	86	--	--
FLUORENE	52 J	507	--	--	--	--	--	--
INDENO(1,2,3-CD)PYRENE	55 J	311	--	--	--	--	--	--
NAPHTHALENE	--	260	--	--	--	--	--	--
N-NITROSODIPHENYLAMINE	--	34 J	--	--	--	--	--	--
PHENANTHRENE	329	2610	--	--	--	48 J	--	--
PYRENE	269	1960	--	34 J	--	128	--	--
VOCs (ug/kg)								
1,2,3-TRIMETHYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-TRIMETHYLBENZENE	1.1 B	3.3	0.62 B	1.7 B	0.81 B	0.55 B	0.8 B	1.3 B
1,3,5-TRIMETHYLBENZENE	--	0.94 J	--	--	--	--	--	--
2-BUTANONE	--	2.14 J	7.39 J	5.33 J	4.17 J	--	--	--
ACETONE	12.8 J	12.7 J	111 J	63 J	78 J	4.4 J	9.3 J	30 J
CARBON DISULFIDE	--	0.68 J	1.9 J	--	--	--	--	--
CHLOROMETHANE	--	--	--	--	--	--	--	--
ETHYLBENZENE	--	1.2 J	--	--	--	--	--	--
M+P-XYLENES	--	4.9	--	--	--	--	--	--
METHYLENE CHLORIDE	--	--	--	3.8 J	--	--	--	2.4 J
NAPHTHALENE	28.1	66.4	0.56 J	--	--	--	--	--
N-BUTYLBENZENE	--	--	--	--	--	--	--	--
O-XYLENE	--	1.2 J	--	--	--	--	--	--
TERTIARY-BUTYL ALCOHOL	--	5 J	5 J	6 J	--	--	--	6 J
TOLUENE	--	3.8	1.5 J	7.6	6.4	5.7	5.4	5.3
VOCs (ug/kg) (Continued)								
TRICHLOROETHENE	--	1.1 J	--	2.7	2.7	2.5	2.5	2.4
TRICHLOROFLUOROMETHANE	--	--	--	--	0.74 J	0.74 J	--	--

TABLE AH-2

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL
BLOCK H, SOIL RESPONSE ACTION PLAN
LMC MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

SAMPLE ID:	SB-282-0102	SB-282-0405	SB-282-0910	SB-283-0102	SB-283-0405	SB-283-0910	SB-284-0102	SB-284-0405
LABORATORY ID:	WV5697-11	WV5697-12	WV5697-13	WV5856-1	WV5856-2	WV5856-3	WV5856-4	WV5856-5
SAMPLE DATE:	10/26/2005	10/26/2005	10/26/2005	10/27/2005	10/27/2005	10/27/2005	10/27/2005	10/27/2005
LOCATION:	SB-282	SB-282	SB-282	SB-283	SB-283	SB-283	SB-284	SB-284
INORGANICS (mg/kg)								
ANTIMONY	--	--	--	--	--	--	--	--
ARSENIC	6.1	3.5	5.2	2 B	1.6 B	7.4	1.2 B	5.3 B
BARIUM	29.2	11.6	2.8	39.8	22.7	19.7	16.3	20
BERYLLIUM	1.2	1.8	0.33 L	0.23	0.9	2.1	0.46	2.6
CADMIUM	--	--	--	--	--	--	--	--
CHROMIUM	23.9 K	18.5 K	19.6 K	11.2	39.2	27	8.9	28.9
COBALT	6	6.7	4	4.5	8.4	18.4	5.4	8.4
COPPER	7.3 K	23 K	6.7 K	8.2	5 K	14.5	5.4	16.2
LEAD	7.5	5.7	3.6	4	5	9.4	3.4	9.3
MERCURY	0.01	--	--	--	--	--	0.02	--
MOLYBDENUM	0.6 B	0.43 B	0.53 B	0.3	--	0.34	0.2	--
NICKEL	11.6	17.7	6.8	6	13.5	43.1	8.1	37.2
SELENIUM	--	--	--	--	--	--	--	--
SILVER	--	--	--	--	--	--	--	--
THALLIUM	--	--	--	--	1.5 B	2 B	--	2.6 B
VANADIUM	32.8 K	27.2 K	34.4 K	19.3	20.4	45.9	14.2	43.8
ZINC	38.8 K	28.1 K	9.5 K	18.6	40.2	83.1	18.2	65.5
MISCELLANEOUS (%)								
TOTAL SOLIDS	87	86	87	85	83	84	88	70
MISCELLANEOUS (mg/kg)								
HEXAVALENT CHROMIUM	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS (S.U.)								
PH	NA	NA	NA	NA	NA	NA	NA	NA
PETROLEUM HYDROCARBONS (mg/kg)								
DIESEL RANGE ORGANICS	NA	NA	NA	NA	NA	NA	NA	NA
GASOLINE RANGE ORGANICS	12	--	--	3.2	--	--	--	3.6
TPH (C09-C36)	3.3 J	4.6 J	130	22	19	4.9 B	34	8.7 B
SVOCs (ug/kg)								
1-METHYLNAPHTHALENE	--	--	--	--	--	--	210 J	340 J
2-METHYLNAPHTHALENE	--	--	--	--	--	--	180 J	260 J
ACENAPHTHENE	--	--	--	130 J	--	--	110 J	140 J
ANTHRACENE	--	--	70 J	210 J	--	--	170 J	120 J
BENZO(A)ANTHRACENE	--	--	200 J	350 J	--	--	200 J	--

TABLE AH-2

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL
BLOCK H, SOIL RESPONSE ACTION PLAN
LMC MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

SAMPLE ID:	SB-282-0102	SB-282-0405	SB-282-0910	SB-283-0102	SB-283-0405	SB-283-0910	SB-284-0102	SB-284-0405
LABORATORY ID:	WV5697-11	WV5697-12	WV5697-13	WV5856-1	WV5856-2	WV5856-3	WV5856-4	WV5856-5
SAMPLE DATE:	10/26/2005	10/26/2005	10/26/2005	10/27/2005	10/27/2005	10/27/2005	10/27/2005	10/27/2005
LOCATION:	SB-282	SB-282	SB-282	SB-283	SB-283	SB-283	SB-284	SB-284
SVOCs (ug/kg) (Continued)								
BENZO(A)PYRENE	--	--	150 J	290 J	--	--	170 J	--
BENZO(B)FLUORANTHENE	--	--	170 J	250 J	--	--	150 J	--
BENZO(G,H,I)PERYLENE	--	--	--	180 J	--	--	--	--
BENZO(K)FLUORANTHENE	--	--	97 J	--	--	--	75 J	--
BENZOIC ACID	--	--	--	--	--	--	--	--
CHRYSENE	--	--	240 J	420	--	--	220 J	--
DIBENZO(A,H)ANTHRACENE	--	--	--	--	--	--	--	--
DIBENZOFURAN	--	--	--	--	--	--	--	--
DI-N-BUTYL PHTHALATE	--	--	--	--	--	--	--	--
FLUORANTHENE	--	--	430	590	110 J	--	450	140 J
FLUORENE	--	--	--	180 J	--	--	170 J	210 J
INDENO(1,2,3-CD)PYRENE	--	--	--	170 J	--	--	--	--
NAPHTHALENE	--	--	--	--	--	--	200 J	250 J
N-NITROSODIPHENYLAMINE	--	--	--	--	--	--	--	--
PHENANTHRENE	--	--	530	1000	120 J	--	840	570
PYRENE	--	--	720	970	180 J	--	590	220 J
VOCs (ug/kg)								
1,2,3-TRIMETHYLBENZENE	--	--	--	--	--	--	0.4 J	--
1,2,4-TRIMETHYLBENZENE	--	--	--	--	--	--	--	--
1,3,5-TRIMETHYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA
2-BUTANONE	--	--	--	--	--	--	4 J	--
ACETONE	27 B	15 B	6 B	59 L	14 J	--	69 J	7 J
CARBON DISULFIDE	3 J	--	--	2 J	--	--	--	--
CHLOROMETHANE	--	--	--	--	--	--	3 J	--
ETHYLBENZENE	--	--	--	--	--	--	--	--
M+P-XYLENES	--	--	--	--	--	--	--	--
METHYLENE CHLORIDE	13 B	6 B	9 B	--	3 B	--	4 B	4 B
NAPHTHALENE	--	--	--	--	--	--	180 J	3 J
N-BUTYLBENZENE	--	--	--	--	--	--	0.9 J	--
O-XYLENE	--	--	--	--	--	--	--	--
TERTIARY-BUTYL ALCOHOL	--	--	--	--	--	--	--	--
TOLUENE	--	--	--	--	--	--	--	--
VOCs (ug/kg) (Continued)								
TRICHLOROETHENE	--	--	--	--	--	--	--	--
TRICHLOROFLUOROMETHANE	--	--	--	--	--	--	--	--

TABLE AH-2

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL
BLOCK H, SOIL RESPONSE ACTION PLAN
LMC MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

SAMPLE ID:	SB-284-0910	SB-285-0102	SB-285-0405	SB-285-0910	SB-286-0102	SB-286-0405	SB-286-0910	SB-293-0102
LABORATORY ID:	WV5856-6	WV5856-7	WV5856-8	WV5856-9	WV5856-10	WV5856-11	WV5856-12	WV5857-8
SAMPLE DATE:	10/27/2005	10/27/2005	10/27/2005	10/27/2005	10/27/2005	10/27/2005	10/27/2005	10/28/2005
LOCATION:	SB-284	SB-285	SB-285	SB-285	SB-286	SB-286	SB-286	SB-293
INORGANICS (mg/kg)								
ANTIMONY	--	--	--	--	--	--	--	--
ARSENIC	1.9 B	4.8 B	4.9 B	5.2 B	2.8 B	0.54 B	0.77 B	1.7
BARIUM	46.6	19.9	13.8	41.2	38.4	28.9	17.5	20.9
BERYLLIUM	2	1.3	1.7	2.2	0.56	0.51	0.34	0.43
CADMIUM	--	--	--	--	--	--	--	--
CHROMIUM	24.5	22.4	31.4	27	30.7	90.4	54.1	11.7
COBALT	17.5	6.6	8.1	7.6	7.4	1.8	3	4.4
COPPER	10.7	13.6	14.8	18.2	4.5	4.1	2.3 B	5.8
LEAD	7.1	5.9	6.6	8.9	7.3	5.9	1.8	5
MERCURY	--	--	--	--	0.01	--	--	0.03
MOLYBDENUM	--	0.38	0.33	0.74	0.54	--	0.28	0.34
NICKEL	23.5	15	22.2	30.9	5.1	5.9	2.7	9.3
SELENIUM	--	--	--	--	--	--	--	--
SILVER	--	--	--	--	--	--	--	0.41 L
THALLIUM	1.6 B	1.4 B	--	--	--	1.1 B	0.76 B	--
VANADIUM	30.6	37.9	35.6	42.6	18.7	24.6	5.7	17.4
ZINC	47.3	33.4	45.1	79.2	16.3	11.8	21	20
MISCELLANEOUS (%)								
TOTAL SOLIDS	85	82	81	84	89	75	82	92
MISCELLANEOUS (mg/kg)								
HEXAVALENT CHROMIUM	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS (S.U.)								
PH	NA	NA	NA	NA	NA	NA	NA	NA
PETROLEUM HYDROCARBONS (mg/kg)								
DIESEL RANGE ORGANICS	NA	NA	NA	NA	NA	NA	NA	NA
GASOLINE RANGE ORGANICS	--	--	--	--	--	--	6.1	--
TPH (C09-C36)	2.2 B	--	200	54	30	4.5 B	110	12
SVOCs (ug/kg)								
1-METHYLNAPHTHALENE	--	--	700	340 J	--	--	220 J	--
2-METHYLNAPHTHALENE	--	--	1100	410	--	--	84 J	--
ACENAPHTHENE	--	--	430	240 J	--	--	190 J	--
ANTHRACENE	--	--	580	310 J	--	--	290 J	--
BENZO(A)ANTHRACENE	--	--	900	520	--	--	400 J	--

TABLE AH-2

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL
BLOCK H, SOIL RESPONSE ACTION PLAN
LMC MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

SAMPLE ID:	SB-284-0910	SB-285-0102	SB-285-0405	SB-285-0910	SB-286-0102	SB-286-0405	SB-286-0910	SB-293-0102
LABORATORY ID:	WV5856-6	WV5856-7	WV5856-8	WV5856-9	WV5856-10	WV5856-11	WV5856-12	WV5857-8
SAMPLE DATE:	10/27/2005	10/27/2005	10/27/2005	10/27/2005	10/27/2005	10/27/2005	10/27/2005	10/28/2005
LOCATION:	SB-284	SB-285	SB-285	SB-285	SB-286	SB-286	SB-286	SB-293
SVOCs (ug/kg) (Continued)								
BENZO(A)PYRENE	--	--	960	560	--	--	340 J	--
BENZO(B)FLUORANTHENE	--	--	960	570	--	--	340 J	--
BENZO(G,H,I)PERYLENE	--	--	650	340 J	--	--	210 J	--
BENZO(K)FLUORANTHENE	--	--	360 J	86 J	--	--	--	--
BENZOIC ACID	--	--	--	--	--	--	--	--
CHRYSENE	--	--	1200	650	--	--	490	--
DIBENZO(A,H)ANTHRACENE	--	--	--	--	--	--	--	--
DIBENZOFURAN	--	--	110 J	--	--	--	--	--
DI-N-BUTYL PHTHALATE	--	--	--	--	--	--	--	--
FLUORANTHENE	--	--	1400	820	--	--	620	--
FLUORENE	--	--	480	280 J	--	--	250 J	--
INDENO(1,2,3-CD)PYRENE	--	--	590	330 J	--	--	190 J	--
NAPHTHALENE	--	--	1200	460	--	--	110 J	--
N-NITROSODIPHENYLAMINE	--	--	--	--	--	--	--	--
PHENANTHRENE	--	--	2200	1300	--	--	1300	--
PYRENE	--	--	2900	1700	--	--	1100	--
VOCs (ug/kg)								
1,2,3-TRIMETHYLBENZENE	--	--	0.8 J	--	--	--	--	--
1,2,4-TRIMETHYLBENZENE	--	--	--	--	--	--	--	--
1,3,5-TRIMETHYLBENZENE	NA	NA	NA	NA	NA	NA	NA	NA
2-BUTANONE	--	--	--	--	8 J	--	--	--
ACETONE	--	39 L	13 J	12 J	75 L	70 J	--	--
CARBON DISULFIDE	--	2 J	--	--	3 J	--	--	--
CHLOROMETHANE	--	--	--	--	--	--	--	--
ETHYLBENZENE	--	--	--	--	--	--	--	--
M+P-XYLENES	--	--	--	--	--	--	--	--
METHYLENE CHLORIDE	4 B	3 B	7 B	6 B	8 B	8 B	6 B	16 B
NAPHTHALENE	5 J	5 J	130	34	2 J	12	6 J	--
N-BUTYLBENZENE	--	--	--	--	--	--	--	--
O-XYLENE	--	--	--	--	--	--	--	--
TERTIARY-BUTYL ALCOHOL	--	--	--	--	--	--	--	--
TOLUENE	--	--	--	--	--	--	--	--
VOCs (ug/kg) (Continued)								
TRICHLOROETHENE	--	--	--	--	--	--	--	--
TRICHLOROFLUOROMETHANE	--	--	--	--	--	--	--	--

TABLE AH-2

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL
BLOCK H, SOIL RESPONSE ACTION PLAN
LMC MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

SAMPLE ID:	SB-293-0405	SB-293-0910	SB-294-0405	SB-294-0910
LABORATORY ID:	WV5857-9	WV5857-10	WV5857-12	WV5857-13
SAMPLE DATE:	10/28/2005	10/28/2005	10/28/2005	10/28/2005
LOCATION:	SB-293	SB-293	SB-294	SB-294
INORGANICS (mg/kg)				
ANTIMONY	--	--	--	--
ARSENIC	2.7	1.7	2.4	3.4
BARIUM	11.7	2.9	8.7	11
BERYLLIUM	0.48	0.14 B	0.31 B	0.37 B
CADMIUM	--	--	--	--
CHROMIUM	12.6	7.5	9.4	16.6
COBALT	3.3	1.8	2.6	3
COPPER	8.3	6.6	5.3	9.3
LEAD	3.7	1.6	2.6	3.5
MERCURY	0.02	--	0.01	--
MOLYBDENUM	0.46	0.17	0.3 K	1.2
NICKEL	5.2	3	3.4	5.1
SELENIUM	--	--	--	--
SILVER	--	0.44 L	--	--
THALLIUM	--	--	--	--
VANADIUM	28.6	13.7	17.8	26.3
ZINC	11.9	4	9	10.5
MISCELLANEOUS (%)				
TOTAL SOLIDS	83	84	84	81
MISCELLANEOUS (mg/kg)				
HEXAVALENT CHROMIUM	NA	NA	NA	NA
TOTAL ORGANIC CARBON	NA	NA	NA	NA
MISCELLANEOUS (S.U.)				
PH	NA	NA	NA	NA
PETROLEUM HYDROCARBONS (mg/kg)				
DIESEL RANGE ORGANICS	NA	NA	NA	NA
GASOLINE RANGE ORGANICS	9	--	--	--
TPH (C09-C36)	2.9 J	3.8 J	--	--
SVOCs (ug/kg)				
1-METHYLNAPHTHALENE	--	--	--	--
2-METHYLNAPHTHALENE	--	--	--	--
ACENAPHTHENE	--	--	--	--
ANTHRACENE	--	--	--	--
BENZO(A)ANTHRACENE	--	--	--	--

TABLE AH-2

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL
BLOCK H, SOIL RESPONSE ACTION PLAN
LMC MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

SAMPLE ID:	SB-293-0405	SB-293-0910	SB-294-0405	SB-294-0910
LABORATORY ID:	WV5857-9	WV5857-10	WV5857-12	WV5857-13
SAMPLE DATE:	10/28/2005	10/28/2005	10/28/2005	10/28/2005
LOCATION:	SB-293	SB-293	SB-294	SB-294
SVOCs (ug/kg) (Continued)				
BENZO(A)PYRENE	--	--	--	--
BENZO(B)FLUORANTHENE	--	--	--	--
BENZO(G,H,I)PERYLENE	--	--	--	--
BENZO(K)FLUORANTHENE	--	--	--	--
BENZOIC ACID	--	--	--	--
CHRYSENE	--	--	--	--
DIBENZO(A,H)ANTHRACENE	--	--	--	--
DIBENZOFURAN	--	--	--	--
DI-N-BUTYL PHTHALATE	--	--	--	--
FLUORANTHENE	--	--	--	--
FLUORENE	--	--	--	--
INDENO(1,2,3-CD)PYRENE	--	--	--	--
NAPHTHALENE	--	--	--	--
N-NITROSODIPHENYLAMINE	--	--	--	--
PHENANTHRENE	--	--	--	--
PYRENE	--	--	--	--
VOCs (ug/kg)				
1,2,3-TRIMETHYLBENZENE	--	--	--	--
1,2,4-TRIMETHYLBENZENE	--	--	--	--
1,3,5-TRIMETHYLBENZENE	NA	NA	NA	NA
2-BUTANONE	--	--	--	--
ACETONE	32 J	17 J	37 L	16 J
CARBON DISULFIDE	--	--	--	--
CHLOROMETHANE	--	--	--	--
ETHYLBENZENE	--	--	--	--
M+P-XYLENES	--	--	--	--
METHYLENE CHLORIDE	11 B	9 B	10 B	5 B
NAPHTHALENE	--	--	--	--
N-BUTYLBENZENE	--	--	--	--
O-XYLENE	--	--	--	--
TERTIARY-BUTYL ALCOHOL	--	--	--	--
TOLUENE	--	--	--	--
VOCs (ug/kg) (Continued)				
TRICHLOROETHENE	--	--	--	--
TRICHLOROFLUOROMETHANE	2 J	--	--	--

TABLE AH-2

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL
BLOCK H, SOIL RESPONSE ACTION PLAN
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

1 Highlighted values indicate positive detection in exceedance of cleanup goals

µg/kg - Micrograms per kilogram.
MDE - Maryland Department of the Environment
mg/kg - Milligrams per kilogram.
NA - Not applicable.
NC - No criterion.
SB - Soil boring.
S.U. - Standard Units.
-- - Not detected.
VOC - Volatile organic compound
SVOC - Semi-volatile organic compound
TPH - Total petroleum hydrocarbons

B - Analyte was detected but is considered to be a laboratory contaminant
J - Positive value is considered estimated as a result of technical noncompliance
K - Positive value is considered biased high as a result of techical noncompliance
L - Positive value is considered biased low as a result of technical noncompliance

TABLE AH-3

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL, FALL 2007
BLOCK H, SOIL RESPONSE ACTION PLAN
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

SAMPLE ID:	SB-462-0102	SB-462-0203	SB-462-0304	SB-462-0506	SB-462-0708	SB-463-0102	SB-463-0203	SB-464-0708	SB-465-0102	SB-465-0203
LABORATORY ID:	A7J240271001	A7J240271002	A7J240271003	A7J240271004	A7J240271005	A7J240271006	A7J240271007	A7J240271015	A7J240271016	A7J240271017
SAMPLE DATE:	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007
LOCATION:	SB-462	SB-462	SB-462	SB-462	SB-462	SB-463	SB-463	SB-464	SB-465	SB-465
DEPTH RANGE:	1 - 2	2 - 3	3 - 4	5 - 6	7 - 8	1 - 2	2 - 3	7 - 8	1 - 2	2 - 3
MISCELLANEOUS (%)										
PERCENT SOLIDS	89.1	87.1	87.1	79.1	81.5	86.3	73.9	84.7	88.4	89.9
SEMIVOLATILE SOIL (ug/kg)										
BENZO(A)PYRENE	26 J	--	--	--	--	69 J	--	--	--	--
INORGANICS (mg/kg)										
MERCURY	0.091	0.21	--	--	--	0.036	0.063	--	0.04	--

SAMPLE ID:	SB-463-0304	SB-463-0506	SB-463-0708	SB-464-0102	SB-464-0203	SB-464-0304	SB-464-0506	SB-466-0203	SB-466-0304	SB-466-0506
LABORATORY ID:	A7J240271008	A7J240271009	A7J240271010	A7J240271011	A7J240271012	A7J240271013	A7J240271014	A7J240256002	A7J240256003	A7J240256004
SAMPLE DATE:	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007
LOCATION:	SB-463	SB-463	SB-463	SB-464	SB-464	SB-464	SB-464	SB-466	SB-466	SB-466
DEPTH RANGE:	3 - 4	5 - 6	7 - 8	1 - 2	2 - 3	3 - 4	5 - 6	2 - 3	3 - 4	5 - 6
MISCELLANEOUS (%)										
PERCENT SOLIDS	78.8	81.1	80	89.9	89.4	81	79.3	89.8	88.6	82.9
SEMIVOLATILE SOIL (ug/kg)										
BENZO(A)PYRENE	--	--	--	--	--	--	--	--	--	--
INORGANICS (mg/kg)										
MERCURY	--	--	--	--	--	--	--	--	--	--

TABLE AH-3

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL, FALL 2007
BLOCK H, SOIL RESPONSE ACTION PLAN
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

SAMPLE ID:	SB-465-0304	SB-465-0506	SB-465-0708	SB-466-0102	SB-467-0506	SB-467-0708	SB-468-0102	SB-468-0203	SB-468-0304	SB-468-0506
LABORATORY ID:	A7J240271018	A7J240271019	A7J240271020	A7J240256001	A7J240256009	A7J240256010	A7J240256011	A7J240256012	A7J240256013	A7J240256014
SAMPLE DATE:	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007
LOCATION:	SB-465	SB-465	SB-465	SB-466	SB-467	SB-467	SB-468	SB-468	SB-468	SB-468
DEPTH RANGE:	3 - 4	5 - 6	7 - 8	1 - 2	5 - 6	7 - 8	1 - 2	2 - 3	3 - 4	5 - 6
MISCELLANEOUS (%)										
PERCENT SOLIDS	84.7	83.9	84.2	85	83.6	86.4	88.8	85.5	85.1	83.9
SEMIVOLATILE SOIL (ug/kg)										
BENZO(A)PYRENE	--	--	--	11 J	--	--	--	--	--	--
INORGANICS (mg/kg)										
MERCURY	--	--	--	--	--	--	--	--	--	--

SAMPLE ID:	SB-466-0708	SB-467-0102	SB-467-0203	SB-467-0304	SB-469-0102	SB-469-0203	SB-469-0304	SB-469-0506	SB-469-0708	SB-470-0102
LABORATORY ID:	A7J240256005	A7J240256006	A7J240256007	A7J240256008	A7J240256016	A7J240256017	A7J240256018	A7J240256019	A7J240256020	A7J260310001
SAMPLE DATE:	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007
LOCATION:	SB-466	SB-467	SB-467	SB-467	SB-469	SB-469	SB-469	SB-469	SB-469	SB-470
DEPTH RANGE:	7 - 8	1 - 2	2 - 3	3 - 4	1 - 2	2 - 3	3 - 4	5 - 6	7 - 8	1 - 2
MISCELLANEOUS (%)										
PERCENT SOLIDS	84.4	89.5	88.6	88.5	89.1	87.4	82.2	83.6	84.6	88.9
SEMIVOLATILE SOIL (ug/kg)										
BENZO(A)PYRENE	--	--	--	--	15 J	--	--	--	--	52 J
INORGANICS (mg/kg)										
MERCURY	--	--	--	--	--	--	--	--	--	0.48

TABLE AH-3

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL, FALL 2007
BLOCK H, SOIL RESPONSE ACTION PLAN
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

SAMPLE ID:	SB-468-0708	SB-470-0304	SB-470-0506	SB-470-0708	SB-471-0102	SB-471-0203	SB-471-0304	SB-471-0506	SB-473-0203	SB-473-0304
LABORATORY ID:	A7J240256015	A7J260310003	A7J260310004	A7J260310005	A7J260310006	A7J260310007	A7J260310008	A7J260310009	A7J260310017	A7J260310018
SAMPLE DATE:	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/24/2007	10/24/2007
LOCATION:	SB-468	SB-470	SB-470	SB-470	SB-471	SB-471	SB-471	SB-471	SB-473	SB-473
DEPTH RANGE:	7 - 8	3 - 4	5 - 6	7 - 8	1 - 2	2 - 3	3 - 4	5 - 6	2 - 3	3 - 4
MISCELLANEOUS (%)										
PERCENT SOLIDS	84.6	86.8	82.3	83.7	80.5	81.1	80.7	82.7	87.9	85.1
SEMIVOLATILE SOIL (ug/kg)										
BENZO(A)PYRENE	--	--	--	--	--	21 J	--	--	--	--
INORGANICS (mg/kg)										
MERCURY	--	--	--	--	--	--	--	--	--	--

SAMPLE ID:	SB-470-0203	SB-471-0708	SB-472-0102	SB-472-0203	SB-472-0304	SB-472-0506	SB-472-0708	SB-473-0102	SB-474-0506	SB-474-0708
LABORATORY ID:	A7J260310002	A7J260310010	A7J260310011	A7J260310012	A7J260310013	A7J260310014	A7J260310015	A7J260310016	A7J260337004	A7J260337005
SAMPLE DATE:	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/23/2007	10/24/2007	10/24/2007	10/24/2007
LOCATION:	SB-470	SB-471	SB-472	SB-472	SB-472	SB-472	SB-472	SB-473	SB-474	SB-474
DEPTH RANGE:	2 - 3	7 - 8	1 - 2	2 - 3	3 - 4	5 - 6	7 - 8	1 - 2	5 - 6	7 - 8
MISCELLANEOUS (%)										
PERCENT SOLIDS	88.5	83.7	86.3	86.6	81.5	83.1	83.2	89.3	90.9	86.3
SEMIVOLATILE SOIL (ug/kg)										
BENZO(A)PYRENE	--	--	--	--	--	--	--	--	--	--
INORGANICS (mg/kg)										
MERCURY	0.023 L	--	--	--	--	--	--	--	--	--

TABLE AH-3

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL, FALL 2007
BLOCK H, SOIL RESPONSE ACTION PLAN
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

SAMPLE ID:	SB-473-0506	SB-473-0708	SB-474-0102	SB-474-0203	SB-474-0304	SB-476-0102	SB-476-0203	SB-476-0304	SB-476-0506	SB-476-0708
LABORATORY ID:	A7J260310019	A7J260310020	A7J260337001	A7J260337002	A7J260337003	A7J260337011	A7J260337012	A7J260337013	A7J260337014	A7J260337015
SAMPLE DATE:	10/24/2007	10/24/2007	10/24/2007	10/24/2007	10/24/2007	10/25/2007	10/25/2007	10/25/2007	10/25/2007	10/25/2007
LOCATION:	SB-473	SB-473	SB-474	SB-474	SB-474	SB-476	SB-476	SB-476	SB-476	SB-476
DEPTH RANGE:	5 - 6	7 - 8	1 - 2	2 - 3	3 - 4	1 - 2	2 - 3	3 - 4	5 - 6	7 - 8
MISCELLANEOUS (%)										
PERCENT SOLIDS	76.1	80.5	85.1	86	77.6	87.7	85.8	79.9	83.3	83.6
SEMIVOLATILE SOIL (ug/kg)										
BENZO(A)PYRENE	--	--	24 J	31 J	490	--	--	--	--	--
INORGANICS (mg/kg)										
MERCURY	--	--	--	0.025	0.095	--	--	--	--	--

SAMPLE ID:	SB-475-0102	SB-475-0203	SB-475-0304	SB-475-0506	SB-475-0708	SB-477-0304	SB-477-0506	SB-477-0708	SB-478-0102	SB-478-0203
LABORATORY ID:	A7J260337006	A7J260337007	A7J260337008	A7J260337009	A7J260337010	A7J260337018	A7J260337019	A7J260337020	A7J300180001	A7J300180002
SAMPLE DATE:	10/25/2007	10/25/2007	10/25/2007	10/25/2007	10/25/2007	10/25/2007	10/25/2007	10/25/2007	10/25/2007	10/25/2007
LOCATION:	SB-475	SB-475	SB-475	SB-475	SB-475	SB-477	SB-477	SB-477	SB-478	SB-478
DEPTH RANGE:	1 - 2	2 - 3	3 - 4	5 - 6	7 - 8	3 - 4	5 - 6	7 - 8	1 - 2	2 - 3
MISCELLANEOUS (%)										
PERCENT SOLIDS	88.4	87	81.8	81.4	83.3	79.8	84.6	84.9	90.3	87.7
SEMIVOLATILE SOIL (ug/kg)										
BENZO(A)PYRENE	--	--	--	--	--	--	--	--	--	--
INORGANICS (mg/kg)										
MERCURY	--	--	--	--	--	--	--	--	--	--

TABLE AH-3

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL, FALL 2007
BLOCK H, SOIL RESPONSE ACTION PLAN
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

SAMPLE ID:	SB-477-0102	SB-477-0203	SB-478-0708	SB-479-0102	SB-479-0203	SB-479-0304	SB-479-0506	SB-479-0708	SB-480-0102	SB-481-0506
LABORATORY ID:	A7J260337016	A7J260337017	A7J300180005	A7J300180006	A7J300180007	A7J300180008	A7J300180009	A7J300180010	A7J300180011	A7J300180019
SAMPLE DATE:	10/25/2007	10/25/2007	10/25/2007	10/25/2007	10/25/2007	10/25/2007	10/25/2007	10/25/2007	10/25/2007	10/29/2007
LOCATION:	SB-477	SB-477	SB-478	SB-479	SB-479	SB-479	SB-479	SB-479	SB-480	SB-481
DEPTH RANGE:	1-2	2 - 3	7 - 8	1 - 2	2 - 3	3 - 4	5 - 6	7-8	1 - 2	5 - 6
MISCELLANEOUS (%)										
PERCENT SOLIDS	88.6	78.2	83.8	88	85.9	83.8	84.6	85.9	88.9	82.2
SEMIVOLATILE SOIL (ug/kg)										
BENZO(A)PYRENE	--	--	--	15 J	--	--	--	--	--	--
INORGANICS (mg/kg)										
MERCURY	--	--	--	--	--	--	--	--	--	--

SAMPLE ID:	SB-478-0304	SB-478-0506	SB-480-0203	SB-480-0304	SB-480-0506	SB-480-0708	SB-481-0102	SB-481-0203	SB-481-0304	SB-483-0102
LABORATORY ID:	A7J300180003	A7J300180004	A7J300180012	A7J300180013	A7J300180014	A7J300180015	A7J300180016	A7J300180017	A7J300180018	A7J300202006
SAMPLE DATE:	10/25/2007	10/25/2007	10/25/2007	10/25/2007	10/25/2007	10/25/2007	10/29/2007	10/29/2007	10/29/2007	10/29/2007
LOCATION:	SB-478	SB-478	SB-480	SB-480	SB-480	SB-480	SB-481	SB-481	SB-481	SB-483
DEPTH RANGE:	3 - 4	5 - 6	2 - 3	3 - 4	5 - 6	7 - 8	1 - 2	2 - 3	3 - 4	1 - 2
MISCELLANEOUS (%)										
PERCENT SOLIDS	85.1	86.7	89.5	88.1	84.1	85.6	85	85.8	84.3	86.2
SEMIVOLATILE SOIL (ug/kg)										
BENZO(A)PYRENE	--	--	--	--	--	--	31 J	--	10 J	32 J
INORGANICS (mg/kg)										
MERCURY	--	--	--	--	--	--	0.036	0.21	--	0.054

TABLE AH-3

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL, FALL 2007
BLOCK H, SOIL RESPONSE ACTION PLAN
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

SAMPLE ID:	SB-481-0708	SB-482-0102	SB-482-0203	SB-482-0304	SB-482-0506	SB-482-0708	SB-484-0304	SB-484-0506	SB-484-0708	SB-485-0102
LABORATORY ID:	A7J300180020	A7J300202001	A7J300202002	A7J300202003	A7J300202004	A7J300202005	A7J300202013	A7J300202014	A7J300202015	A7J300202016
SAMPLE DATE:	10/29/2007	10/29/2007	10/29/2007	10/29/2007	10/29/2007	10/29/2007	10/29/2007	10/29/2007	10/29/2007	10/29/2007
LOCATION:	SB-481	SB-482	SB-482	SB-482	SB-482	SB-482	SB-484	SB-484	SB-484	SB-485
DEPTH RANGE:	7 - 8	1 - 2	2 - 3	3 - 4	5-6	7 - 8	3 - 4	5 - 6	7 - 8	1 - 2
MISCELLANEOUS (%)										
PERCENT SOLIDS	82.6	78.1	82.7	85.1	84	82.7	82.7	86.5	84.2	88
SEMIVOLATILE SOIL (ug/kg)										
BENZO(A)PYRENE	--	13 J	--	--	--	--	--	--	--	10 J
INORGANICS (mg/kg)										
MERCURY	--	0.063	--	--	--	--	--	--	--	--

SAMPLE ID:	SB-483-0203	SB-483-0304	SB-483-0506	SB-483-0708	SB-484-0102	SB-484-0203	SB-485-0708	SB-486-0102	SB-486-0203	SB-486-0304
LABORATORY ID:	A7J300202007	A7J300202008	A7J300202009	A7J300202010	A7J300202011	A7J300202012	A7J300202020	A7J300211001	A7J300211002	A7J300211003
SAMPLE DATE:	10/29/2007	10/29/2007	10/29/2007	10/29/2007	10/29/2007	10/29/2007	10/29/2007	10/29/2007	10/29/2007	10/29/2007
LOCATION:	SB-483	SB-483	SB-483	SB-483	SB-484	SB-484	SB-485	SB-486	SB-486	SB-486
DEPTH RANGE:	2 - 3	3 - 4	5 - 6	7 - 8	1 - 2	2 - 3	7 - 8	1 - 2	2 - 3	3 - 4
MISCELLANEOUS (%)										
PERCENT SOLIDS	82.9	81.6	83.5	82.9	82.9	86.2	84.8	89.4	86.3	84.9
SEMIVOLATILE SOIL (ug/kg)										
BENZO(A)PYRENE	28 J	--	--	--	21 J	--	--	--	--	--
INORGANICS (mg/kg)										
MERCURY	0.035	--	--	--	0.028	--	--	--	--	--

TABLE AH-3

SUMMARY OF DETECTED CONCENTRATIONS IN SUBSURFACE SOIL, FALL 2007
BLOCK H, SOIL RESPONSE ACTION PLAN
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

SAMPLE ID:	SB-485-0203	SB-485-0304	SB-485-0506	SB-487-0203	SB-487-0304	SB-487-0506	SB-487-0708	SB-488-0102
LABORATORY ID:	A7J300202017	A7J300202018	A7J300202019	A7J300211007	A7J300211008	A7J300211009	A7J300211010	A7J300211011
SAMPLE DATE:	10/29/2007	10/29/2007	10/29/2007	10/29/2007	10/29/2007	10/29/2007	10/29/2007	10/29/2007
LOCATION:	SB-485	SB-485	SB-485	SB-487	SB-487	SB-487	SB-487	SB-488
DEPTH RANGE:	2 - 3	3-4	5 - 6	2 - 3	3 - 4	5 - 6	7 - 8	1 - 2
MISCELLANEOUS (%)								
PERCENT SOLIDS	88.7	84.4	85	82.4	88	83.8	85.3	88.9
SEMIVOLATILE SOIL (ug/kg)								
BENZO(A)PYRENE	43 J	--	--	--	--	--	--	9 J
INORGANICS (mg/kg)								
MERCURY	--	--	--	--	--	--	--	--

SAMPLE ID:	SB-486-0506	SB-486-0708	SB-487-0102	SB-488-0203	SB-488-0304	SB-488-0506	SB-488-0708
LABORATORY ID:	A7J300211004	A7J300211005	A7J300211006	A7J300211012	A7J300211013	A7J300211014	A7J300211015
SAMPLE DATE:	10/29/2007	10/29/2007	10/29/2007	10/29/2007	10/29/2007	10/29/2007	10/29/2007
LOCATION:	SB-486	SB-486	SB-487	SB-488	SB-488	SB-488	SB-488
DEPTH RANGE:	5 - 6	7 - 8	1 - 2	2 - 3	3 - 4	5 - 6	7 - 8
MISCELLANEOUS (%)							
PERCENT SOLIDS	81.3	85.6	89.6	88.5	86.3	82.1	85.2
SEMIVOLATILE SOIL (ug/kg)							
BENZO(A)PYRENE	--	--	--	--	--	--	--
INORGANICS (mg/kg)							
MERCURY	--	--	--	--	--	--	--

1 Highlighted values indicate positive detection in exceedance of cleanup goals.

µg/kg - Micrograms per kilogram.
MDE - Maryland Department of the Environment.
mg/kg - Milligrams per kilogram.
NA - Not applicable.
NC - No criterion.
SB - Soil boring.
S.U. - Standard Units.
-- - Not detected.
VOC - Volatile organic compound
SVOC - Semi-volatile organic compound
TPH - Total petroleum hydrocarbons

B - Analyte was detected but is considered to be a laboratory contaminant.
J - Positive value is considered estimated as a result of technical noncompliance.
K - Positive value is considered biased high as a result of techical noncompliance.
L - Positive value is considered biased low as a result of technical noncompliance.

APPENDIX B - STATISTICAL SUMMARY OF PRE- AND POST-REMOVAL ACTION DATA

Appendix B

Statistical Summary of Pre- and Post-Removal Data
Block H
Lockheed Martin Middle River Complex
Middle River, Maryland

Arsenic, vanadium, mercury, and carcinogenic polycyclic aromatic hydrocarbons (cPAH) were identified as chemicals of concern (COC) in soil.

Arsenic and vanadium are considered to be present within site-specific background concentrations in surface and subsurface soil. For arsenic, Lockheed Martin, Inc. and the Maryland Department of the Environment (MDE) agreed that no sample can remain on site with a concentration greater than 12 milligrams per kilogram (mg/kg) and the 95 percent upper confidence limit of the mean (UCL) concentration must be less than 6 mg/kg to be considered background. For vanadium, Lockheed Martin, Inc. and the MDE agreed that no sample can remain on site with a concentration greater than 91 mg/kg and the UCL concentration must be less than 55 mg/kg to be considered background. These criteria are attained under current conditions in surface soil and subsurface soil (Tables B-1 and B-2).

For mercury, the criteria being used for remediation is the average typical concentration (ATC). The post-excavation UCL concentration for mercury must be less than the ATC of 0.5 mg/kg. This criterion has not been attained in surface soil (Table B-1), but has been met in subsurface soil (Table B-2).

To attain a UCL concentration less than the cleanup level, the most contaminated soil samples are identified for removal. Iteratively, the highest concentration is virtually removed and replaced with a "post-remediation" concentration, such as a detection limit; then, the UCL is recalculated. If the UCL is less than the cleanup level, there is attainment; otherwise, the next highest concentrations are virtually removed until there is attainment. The maximum concentration remaining provides the basis for defining the remedial action level.

To attain this cleanup criterion for mercury, sample locations with concentrations greater than 1 mg/kg need to be removed. In the surface soil, where the UCL is greater than the cleanup level, surface soil sample SB-210 (1.14 mg/kg mercury) needed to be removed to achieve a UCL mercury concentration less than 0.5 mg/kg (Table B-3). The maximum mercury concentration remaining following the virtual removal is 0.4 mg/kg (Tables B-3 and B-4). Therefore, it was decided that 1 mg/kg would be considered the remedial action level for the block.

To demonstrate that target UCL concentrations are attained for arsenic, vanadium, and mercury, replacement values must be included in the samples that are targeted for excavation. The contract required detection limit identified in the laboratory data were

used as the replacement values. For arsenic, vanadium, and mercury, these values are 0.5 mg/kg, 0.1 mg/kg, and 0.002 mg/kg, respectively (Tables B-5 and B-6).

The UCLs were calculated using EPA's ProUCL software. The output of the software and the data used for the calculations are attached (Tables B-7 through B-18).

In addition, soil sample boring locations must be less than the target incremental lifetime cancer risk of 1×10^{-5} and the target hazard index of 1.0. Because arsenic and vanadium meet the background requirements, risks associated with exposure to arsenic and vanadium are removed from the total risk at each boring. In the surface soil, no risks exceed the MDE target risk levels. In the subsurface soil, the cancer and noncancer risk at SB-285 exceed 1×10^{-5} and 1.0, respectively. Surface soil sample SB-201 is already slated for removal because of mercury being present at a concentration greater than 1.0 mg/kg. SB-285 is slated for removal because of risks associated with carcinogenic PAHs. The maximum benzo[a]pyrene concentration remaining following the virtual removal of soil is 386 ug/kg. Using benzo[a]pyrene to represent risks associated with carcinogenic PAHs, soil with benzo[a]pyrene concentrations greater than 400 ug/kg should be excavated (Table B-19 and B-20).

APPENDIX B

TABLE B-1
SUMMARY OF PRE- AND POST-REMOVAL ANALYSIS
BLOCK H
SURFACE SOIL
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Metal	Pre-Removal			Post-Removal			Individual Soil Sample Result	Post-Response Action UCL
	Maximum	UCL	Basis of UCL	Maximum	UCL	Basis of UCL		
Arsenic	6	4.2	Student's t UCL	2	1.5	Student's t UCL	< 12 mg/kg	< 6 mg/kg
Vanadium	34.7	28.1	Student's t UCL	20.4	20	Student's t UCL	< 91 mg/kg	< 55 mg/kg
Mercury	1.14	0.78	Student's t UCL	0.4	0.4	Maximum	--	< 0.5 mg/kg

1 All concentrations in milligrams per kilogram (mg/kg).

UCL - Upper confidence limit of the mean

APPENDIX B

TABLE B-2
SUMMARY OF PRE- AND POST-REMOVAL ANALYSIS
BLOCK H
SUBSURFACE SOIL
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

Metal	Pre-Removal			Post-Removal			Individual Soil Sample Result	Post-Response Action UCL
	Maximum	UCL	Basis of UCL	Maximum	UCL	Basis of UCL		
Arsenic	7.4	3.3	Student's t UCL	7.4	3.1	Student's t UCL	< 12 mg/kg	< 6 mg/kg
Vanadium	52.9	35.4	Student's t UCL	52.9	33.5	Student's t UCL	< 91 mg/kg	< 55 mg/kg
Mercury	0.24	0.12	99% Chebyshev (Mean, SD)	0.24	0.12	99% Chebyshev (Mean, SD)	--	< 0.5 mg/kg

1 All concentrations in milligrams per kilogram (mg/kg).

UCL - Upper confidence limit of the mean

APPENDIX B

TABLE B-3
PRE-RESPONSE ACTION COC CONCENTRATIONS
BLOCK H
SURFACE SOIL
LOCKHEED MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Soil Boring	Arsenic		Vanadium		Mercury	
MRC-MW08(0809)	NA		NA		NA	
SB-200-SS	0.7	U	14.5		0.4	L
SB-201-SS	6		34.7		1.14	L
SB-202-SS	0.7		13.1		0.06	L
SB-203-SS	1		20.4		0.04	L
SB-294-0001	2		15.7		0.01	

1 All concentrations are in milligrams per kilogram (mg/kg).
2 Highlighted samples are those targeted for removal.

COC - Chemical of concern.
SB - Soil boring
U - Not detected.
L - Concentration is biased low.

APPENDIX B

TABLE B-4
PRE-RESPONSE ACTION COC CONCENTRATIONS
BLOCK H
SUBSURFACE SOIL
LOCKHEED MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Soil Boring	Arsenic		Vanadium		Mercury	
SB-200-05	5		45.9		0.02	L
SB-200-10	4		52.9		0.01	
SB-201-05	3		33.9		0.24	
SB-201-10	1		25.7		0.17	
SB-202-05	4		52.2		0.002	
SB-202-10	2		39.7		0.002	
SB-203-05	3		49.2		0.02	
SB-203-10	4		39.2		0.03	L
SB-282-0102	6.1		32.8	K	0.01	
SB-282-0405	3.5		27.2	K	0.01	U
SB-282-0910	5.2		34.4	K	0.01	U
SB-283-0102	2	B	19.3		0.01	U
SB-283-0405	1.6	B	20.4		0.01	U
SB-283-0910	7.4		45.9		0.01	U
SB-284-0102	1.2	B	14.2		0.02	
SB-284-0405	5.3	B	43.8		0.01	U
SB-284-0910	1.9	B	30.6		0.01	U
SB-285-0102	4.8	B	37.9		0.01	U
SB-285-0405	4.9	B	35.6		0.01	U
SB-285-0910	5.2	B	42.6		0.01	U
SB-286-0102	2.8	B	18.7		0.01	U
SB-286-0405	0.54	B	24.6		0.01	U
SB-286-0910	0.77	B	5.7		0.01	
SB-293-0102	1.7		17.4		0.03	
SB-293-0405	2.7		28.6		0.02	
SB-293-0910	1.7		13.7		0.01	U
SB-294-0405	2.4		17.8		0.01	
SB-294-0910	3.4		26.3		0.01	U

1 All concentrations are in milligrams per kilogram (mg/kg).
2 Highlighted samples are those targeted for removal.

COC - Chemical of concern.
SB - Soil boring
B - Analyte was detected but is considered to be a laboratory contaminant.
U - Not detected.
L - Concentration is biased low.
K - Concentration is biased high.

APPENDIX B

TABLE B-5
POST-RESPONSE ACTION COC CONCENTRATIONS
BLOCK H
SURFACE SOIL
LOCKHEED MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Soil Boring	Arsenic		Vanadium		Mercury	
MRC-MW08(0809)	NA		NA		NA	
SB-200-SS	0.7	U	14.5		0.4	L
SB-201-SS	0.5	U	0.1	U	0.002	U
SB-202-SS	0.7		13.1		0.06	L
SB-203-SS	1		20.4		0.04	L
SB-294-0001	2		15.7		0.01	

1 All concentrations are in milligrams per kilogram (mg/kg).

2 Concentrations of excavated samples are replaced with the following detection limits:

Arsenic	0.5 U mg/kg
Vanadium	0.1 U mg/kg
Mercury	0.002U mg/kg

3 Highlighted samples are those targeted for removal.

COC - Chemical of concern.
SB - Soil boring
U - Not detected.
L - Concentration is biased low.

APPENDIX B

TABLE B-6
POST-RESPONSE ACTION COC CONCENTRATIONS
BLOCK H
SUBSURFACE SOIL
LOCKHEED MIDDLE RIVER COMPLEX, MIDDLE RIVER, MARYLAND

Soil Boring	Arsenic		Vanadium		Mercury	
SB-200-05	5		45.9		0.02	L
SB-200-10	4		52.9		0.01	
SB-201-05	3		33.9		0.24	
SB-201-10	1		25.7		0.17	
SB-202-05	4		52.2		0.002	
SB-202-10	2		39.7		0.002	
SB-203-05	3		49.2		0.02	
SB-203-10	4		39.2		0.03	L
SB-282-0102	6.1		32.8	K	0.01	
SB-282-0405	3.5		27.2	K	0.01	U
SB-282-0910	5.2		34.4	K	0.01	U
SB-283-0102	2	B	19.3		0.01	U
SB-283-0405	1.6	B	20.4		0.01	U
SB-283-0910	7.4		45.9		0.01	U
SB-284-0102	1.2	B	14.2		0.02	
SB-284-0405	5.3	B	43.8		0.01	U
SB-284-0910	1.9	B	30.6		0.01	U
SB-285-0102	0.5	U	0.1	U	0.002	U
SB-285-0405	0.5	U	0.1	U	0.002	U
SB-285-0910	5.2	B	42.6		0.01	U
SB-286-0102	2.8	B	18.7		0.01	U
SB-286-0405	0.54	B	24.6		0.01	U
SB-286-0910	0.77	B	5.7		0.01	
SB-293-0102	1.7		17.4		0.03	
SB-293-0405	2.7		28.6		0.02	
SB-293-0910	1.7		13.7		0.01	U
SB-294-0405	2.4		17.8		0.01	
SB-294-0910	3.4		26.3		0.01	U

1 All concentrations are in milligrams per kilogram (mg/kg).

2 Concentrations of excavated samples are replaced with the following detection limits:

Arsenic	0.5 U mg/kg
Vanadium	0.1 U mg/kg
Mercury	0.002U mg/kg

3 Highlighted samples are those targeted for removal.

COC - Chemical of concern.
SB - Soil boring
B - Analyte was detected but is considered to be a laboratory contaminant.
U - Not detected.
L - Concentration is biased low.
K - Concentration is biased high.

APPENDIX B

TABLE B-7
PRO-UCL PRE-REMOVAL ARSENIC CONCENTRATION
BLOCK H
SURFACE SOIL

Data File:	AS V HG BLOCK H APPENDIX.xls	Variable:	Arsenic (PRE SURF)
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	5	Shapiro-Wilk Test Statistic	0.773125
Number of Unique Samples	5	Shapiro-Wilk 5% Critical Value	0.762
Minimum	0.35	Data are normal at 5% significance level	
Maximum	6		
Mean	2.01	95% UCL (Assuming Normal Distribution)	
Median	1	Student's-t UCL	4.215818
Standard Deviation	2.313655		
Variance	5.353	Gamma Distribution Test	
Coefficient of Variation	1.151072	A-D Test Statistic	0.314139
Skewness	1.872848	A-D 5% Critical Value	0.689585
		K-S Test Statistic	0.238223
Gamma Statistics		K-S 5% Critical Value	0.363455
k hat	1.175036	Data follow approximate gamma distribution	
k star (bias corrected)	0.603348	at 5% significance level	
Theta hat	1.710586		
Theta star	3.331412	95% UCLs (Assuming Gamma Distribution)	
nu hat	11.75036	Approximate Gamma UCL	7.3222
nu star	6.033478	Adjusted Gamma UCL	14.44641
Approx.Chi Square Value (.05)	1.656236		
Adjusted Level of Significance	0.0086	Lognormal Distribution Test	
Adjusted Chi Square Value	0.839467	Shapiro-Wilk Test Statistic	0.978638
		Shapiro-Wilk 5% Critical Value	0.762
Log-transformed Statistics		Data are lognormal at 5% significance level	
Minimum of log data	-1.049822		
Maximum of log data	1.791759	95% UCLs (Assuming Lognormal Distribution	
Mean of log data	0.215682	95% H-UCL	38.47489
Standard Deviation of log data	1.082544	95% Chebyshev (MVUE) UCL	5.773846
Variance of log data	1.171901	97.5% Chebyshev (MVUE) UCL	7.441139
		99% Chebyshev (MVUE) UCL	10.71621
		95% Non-parametric UCLs	
		CLT UCL	3.711927
		Adj-CLT UCL (Adjusted for skewness)	4.637928
		Mod-t UCL (Adjusted for skewness)	4.360255
		Jackknife UCL	4.215818
		Standard Bootstrap UCL	3.472493
		Bootstrap-t UCL	12.8368
RECOMMENDATION		Hall's Bootstrap UCL	11.72852
Data are normal (0.05)		Percentile Bootstrap UCL	3.81
		BCA Bootstrap UCL	4.2
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	6.520144
		97.5% Chebyshev (Mean, Sd) UCL	8.471687
		99% Chebyshev (Mean, Sd) UCL	12.30512

APPENDIX B

TABLE B-8
PRO-UCL PRE-REMOVAL VANADIUM CONCENTRATION
BLOCK H
SURFACE SOIL

Data File:	AS V HG BLOCK H APPENDIX.xls	Variable:	Vanadium (PRE SURF)
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	5	Shapiro-Wilk Test Statistic	0.797781
Number of Unique Samples	5	Shapiro-Wilk 5% Critical Value	0.762
Minimum	13.1	Data are normal at 5% significance level	
Maximum	34.7		
Mean	19.68	95% UCL (Assuming Normal Distribution)	
Median	15.7	Student's-t UCL	28.10131
Standard Deviation	8.833006		
Variance	78.022	Gamma Distribution Test	
Coefficient of Variation	0.448832	A-D Test Statistic	0.483479
Skewness	1.754507	A-D 5% Critical Value	0.679757
		K-S Test Statistic	0.283584
Gamma Statistics		K-S 5% Critical Value	0.357933
k hat	7.618429	Data follow approximate gamma distribution	
k star (bias corrected)	3.180705	at 5% significance level	
Theta hat	2.58321		
Theta star	6.187308	95% UCLs (Assuming Gamma Distribution)	
nu hat	76.18429	Approximate Gamma UCL	31.42499
nu star	31.80705	Adjusted Gamma UCL	39.25673
Approx.Chi Square Value (.05)	19.91927		
Adjusted Level of Significance	0.0086	Lognormal Distribution Test	
Adjusted Chi Square Value	15.94536	Shapiro-Wilk Test Statistic	0.872453
		Shapiro-Wilk 5% Critical Value	0.762
Log-transformed Statistics		Data are lognormal at 5% significance level	
Minimum of log data	2.572612		
Maximum of log data	3.54674	95% UCLs (Assuming Lognormal Distribution	
Mean of log data	2.912539	95% H-UCL	33.17305
Standard Deviation of log data	0.390654	95% Chebyshev (MVUE) UCL	34.35794
Variance of log data	0.15261	97.5% Chebyshev (MVUE) UCL	40.76535
		99% Chebyshev (MVUE) UCL	53.35147
		95% Non-parametric UCLs	
		CLT UCL	26.17757
		Adj-CLT UCL (Adjusted for skewness)	29.48944
		Mod-t UCL (Adjusted for skewness)	28.61789
		Jackknife UCL	28.10131
		Standard Bootstrap UCL	25.4623
		Bootstrap-t UCL	56.01188
RECOMMENDATION		Hall's Bootstrap UCL	63.6209
Data are normal (0.05)		Percentile Bootstrap UCL	26.34
		BCA Bootstrap UCL	27.8
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	36.8987
		97.5% Chebyshev (Mean, Sd) UCL	44.34924
		99% Chebyshev (Mean, Sd) UCL	58.9844

APPENDIX B

TABLE B-9
PRO-UCL PRE-REMOVAL MERCURY CONCENTRATION
BLOCK H
SURFACE SOIL

Data File:	AS V HG BLOCK H APPENDIX.xls	Variable:	Mercury (PRE SURF)
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	5	Shapiro-Wilk Test Statistic	0.762733
Number of Unique Samples	5	Shapiro-Wilk 5% Critical Value	0.762
Minimum	0.01	Data are normal at 5% significance level	
Maximum	1.14		
Mean	0.33	95% UCL (Assuming Normal Distribution)	
Median	0.06	Student's-t UCL	0.78733
Standard Deviation	0.479687		
Variance	0.2301	Gamma Distribution Test	
Coefficient of Variation	1.453598	A-D Test Statistic	0.322817
Skewness	1.717401	A-D 5% Critical Value	0.709239
		K-S Test Statistic	0.28674
Gamma Statistics		K-S 5% Critical Value	0.37092
k hat	0.534669	Data follow approximate gamma distribution	
k star (bias corrected)	0.347201	at 5% significance level	
Theta hat	0.617204		
Theta star	0.950458	95% UCLs (Assuming Gamma Distribution)	
nu hat	5.346689	Approximate Gamma UCL	2.144161
nu star	3.472009	Adjusted Gamma UCL	5.993119
Approx.Chi Square Value (.05)	0.534364		
Adjusted Level of Significance	0.0086	Lognormal Distribution Test	
Adjusted Chi Square Value	0.19118	Shapiro-Wilk Test Statistic	0.962744
		Shapiro-Wilk 5% Critical Value	0.762
Log-transformed Statistics		Data are lognormal at 5% significance level	
Minimum of log data	-4.60517		
Maximum of log data	0.131028	95% UCLs (Assuming Lognormal Distribution	
Mean of log data	-2.284544	95% H-UCL	2612.819
Standard Deviation of log data	1.887133	95% Chebyshev (MVUE) UCL	1.372454
Variance of log data	3.561272	97.5% Chebyshev (MVUE) UCL	1.821511
		99% Chebyshev (MVUE) UCL	2.703596
		95% Non-parametric UCLs	
		CLT UCL	0.682858
		Adj-CLT UCL (Adjusted for skewness)	0.85891
		Mod-t UCL (Adjusted for skewness)	0.81479
		Jackknife UCL	0.78733
		Standard Bootstrap UCL	0.646519
		Bootstrap-t UCL	6.664232
RECOMMENDATION		Hall's Bootstrap UCL	4.519608
Data are normal (0.05)		Percentile Bootstrap UCL	0.698
		BCA Bootstrap UCL	0.766
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	1.265083
		97.5% Chebyshev (Mean, Sd) UCL	1.669694
		99% Chebyshev (Mean, Sd) UCL	2.464474

APPENDIX B

TABLE B-10
PRO-UCL PRE-REMOVAL ARSENIC CONCENTRATION
BLOCK H
SUBSURFACE SOIL

Data File:	AS V HG BLOCK H APPENDIX.xls	Variable:	Arsenic (PRE SUB)
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	28	Shapiro-Wilk Test Statistic	0.942075
Number of Unique Samples	22	Shapiro-Wilk 5% Critical Value	0.924
Minimum	0.27	Data are normal at 5% significance level	
Maximum	7.4		
Mean	2.700179	95% UCL (Assuming Normal Distribution)	
Median	2.525	Student's-t UCL	3.268386
Standard Deviation	1.765216		
Variance	3.115986	Gamma Distribution Test	
Coefficient of Variation	0.65374	A-D Test Statistic	0.256768
Skewness	0.839015	A-D 5% Critical Value	0.757704
		K-S Test Statistic	0.134894
Gamma Statistics		K-S 5% Critical Value	0.167531
k hat	2.068946	Data follow approximate gamma distribution	
k star (bias corrected)	1.871083	at 5% significance level	
Theta hat	1.305098		
Theta star	1.44311	95% UCLs (Assuming Gamma Distribution)	
nu hat	115.861	Approximate Gamma UCL	3.443628
nu star	104.7807	Adjusted Gamma UCL	3.496313
Approx.Chi Square Value (.05)	82.15941		
Adjusted Level of Significance	0.0404	Lognormal Distribution Test	
Adjusted Chi Square Value	80.92139	Shapiro-Wilk Test Statistic	0.941034
		Shapiro-Wilk 5% Critical Value	0.924
Log-transformed Statistics		Data are lognormal at 5% significance level	
Minimum of log data	-1.309333		
Maximum of log data	2.00148	95% UCLs (Assuming Lognormal Distribution	
Mean of log data	0.732594	95% H-UCL	4.147223
Standard Deviation of log data	0.818398	95% Chebyshev (MVUE) UCL	4.994779
Variance of log data	0.669776	97.5% Chebyshev (MVUE) UCL	5.917014
		99% Chebyshev (MVUE) UCL	7.728565
		95% Non-parametric UCLs	
		CLT UCL	3.248893
		Adj-CLT UCL (Adjusted for skewness)	3.305411
		Mod-t UCL (Adjusted for skewness)	3.277202
		Jackknife UCL	3.268386
		Standard Bootstrap UCL	3.250305
		Bootstrap-t UCL	3.319746
RECOMMENDATION		Hall's Bootstrap UCL	3.337562
Data are normal (0.05)		Percentile Bootstrap UCL	3.276786
		BCA Bootstrap UCL	3.274643
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	4.154283
		97.5% Chebyshev (Mean, Sd) UCL	4.783475
		99% Chebyshev (Mean, Sd) UCL	6.019401

APPENDIX B

TABLE B-11
PRO-UCL PRE-REMOVAL VANADIUM CONCENTRATION
BLOCK H
SUBSURFACE SOIL

Data File:	AS V HG BLOCK H APPENDIX.xls	Variable:	Vanadium (PRE SUB)
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	28	Shapiro-Wilk Test Statistic	0.973874
Number of Unique Samples	27	Shapiro-Wilk 5% Critical Value	0.924
Minimum	5.7	Data are normal at 5% significance level	
Maximum	52.9		
Mean	31.29286	95% UCL (Assuming Normal Distribution)	
Median	31.7	Student's-t UCL	35.3683
Standard Deviation	12.66093		
Variance	160.2992	Gamma Distribution Test	
Coefficient of Variation	0.404595	A-D Test Statistic	0.364597
Skewness	-0.037931	A-D 5% Critical Value	0.748458
		K-S Test Statistic	0.10059
Gamma Statistics		K-S 5% Critical Value	0.165891
k hat	5.065249	Data follow approximate gamma distribution	
k star (bias corrected)	4.546353	at 5% significance level	
Theta hat	6.177951		
Theta star	6.883068	95% UCLs (Assuming Gamma Distribution)	
nu hat	283.6539	Approximate Gamma UCL	36.43727
nu star	254.5958	Adjusted Gamma UCL	36.78315
Approx.Chi Square Value (.05)	218.6505		
Adjusted Level of Significance	0.0404	Lognormal Distribution Test	
Adjusted Chi Square Value	216.5945	Shapiro-Wilk Test Statistic	0.90805
		Shapiro-Wilk 5% Critical Value	0.924
Log-transformed Statistics		Data not lognormal at 5% significance level	
Minimum of log data	1.740466		
Maximum of log data	3.968403	95% UCLs (Assuming Lognormal Distribution	
Mean of log data	3.341442	95% H-UCL	38.73739
Standard Deviation of log data	0.503226	95% Chebyshev (MVUE) UCL	45.71753
Variance of log data	0.253237	97.5% Chebyshev (MVUE) UCL	51.69053
		99% Chebyshev (MVUE) UCL	63.42334
		95% Non-parametric UCLs	
		CLT UCL	35.22848
		Adj-CLT UCL (Adjusted for skewness)	35.21016
		Mod-t UCL (Adjusted for skewness)	35.36544
		Jackknife UCL	35.3683
		Standard Bootstrap UCL	35.13759
		Bootstrap-t UCL	35.21174
RECOMMENDATION		Hall's Bootstrap UCL	35.20593
Data are normal (0.05)		Percentile Bootstrap UCL	35.16429
		BCA Bootstrap UCL	35.03929
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	41.72236
		97.5% Chebyshev (Mean, Sd) UCL	46.23521
		99% Chebyshev (Mean, Sd) UCL	55.09983

APPENDIX B

TABLE B-12
PRO-UCL PRE-REMOVAL MERCURY CONCENTRATION
BLOCK H
SUBSURFACE SOIL

Data File:	AS V HG BLOCK H APPENDIX.xls	Variable:	Mercury (PRE SUB)
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	28	Shapiro-Wilk Test Statistic	0.410217
Number of Unique Samples	7	Shapiro-Wilk 5% Critical Value	0.924
Minimum	0.002	Data not normal at 5% significance level	
Maximum	0.24		
Mean	0.023714	95% UCL (Assuming Normal Distribution)	
Median	0.005	Student's-t UCL	0.040669
Standard Deviation	0.052674		
Variance	0.002775	Gamma Distribution Test	
Coefficient of Variation	2.221176	A-D Test Statistic	3.824099
Skewness	3.582381	A-D 5% Critical Value	0.794518
		K-S Test Statistic	0.284144
Gamma Statistics		K-S 5% Critical Value	0.173051
k hat	0.654124	Data does not follow a gamma distribution	
k star (bias corrected)	0.607849	at 5% significance level	
Theta hat	0.036254		
Theta star	0.039013	95% UCLs (Assuming Gamma Distribution)	
nu hat	36.63094	Approximate Gamma UCL	0.037206
nu star	34.03953	Adjusted Gamma UCL	0.038282
Approx.Chi Square Value (.05)	21.69597		
Adjusted Level of Significance	0.0404	Lognormal Distribution Test	
Adjusted Chi Square Value	21.08608	Shapiro-Wilk Test Statistic	0.807988
		Shapiro-Wilk 5% Critical Value	0.924
Log-transformed Statistics		Data not lognormal at 5% significance level	
Minimum of log data	-6.214608		
Maximum of log data	-1.427116	95% UCLs (Assuming Lognormal Distribution	
Mean of log data	-4.674522	95% H-UCL	0.031064
Standard Deviation of log data	1.12604	95% Chebyshev (MVUE) UCL	0.035461
Variance of log data	1.267966	97.5% Chebyshev (MVUE) UCL	0.043456
		99% Chebyshev (MVUE) UCL	0.05916
		95% Non-parametric UCLs	
		CLT UCL	0.040088
		Adj-CLT UCL (Adjusted for skewness)	0.047289
		Mod-t UCL (Adjusted for skewness)	0.041793
		Jackknife UCL	0.040669
		Standard Bootstrap UCL	0.039195
		Bootstrap-t UCL	0.122445
RECOMMENDATION		Hall's Bootstrap UCL	0.121391
Data are Non-parametric (0.05)		Percentile Bootstrap UCL	0.041607
		BCA Bootstrap UCL	0.050429
Use 99% Chebyshev (Mean, Sd) UCL		95% Chebyshev (Mean, Sd) UCL	0.067104
		97.5% Chebyshev (Mean, Sd) UCL	0.085879
		99% Chebyshev (Mean, Sd) UCL	0.122759

APPENDIX B

TABLE B-13
PRO-UCL POST-REMOVAL ARSENIC CONCENTRATION
BLOCK H
SURFACE SOIL

Data File:	AS V HG BLOCK H APPENDIX.xls	Variable:	Arsenic (POST SURF)
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	5	Shapiro-Wilk Test Statistic	0.881195
Number of Unique Samples	5	Shapiro-Wilk 5% Critical Value	0.762
Minimum	0.25	Data are normal at 5% significance level	
Maximum	2		
Mean	0.86	95% UCL (Assuming Normal Distribution)	
Median	0.7	Student's-t UCL	1.530262
Standard Deviation	0.703029		
Variance	0.49425	Gamma Distribution Test	
Coefficient of Variation	0.817476	A-D Test Statistic	0.232695
Skewness	1.343705	A-D 5% Critical Value	0.684483
		K-S Test Statistic	0.204584
Gamma Statistics		K-S 5% Critical Value	0.36049
k hat	2.008716	Data follow approximate gamma distribution	
k star (bias corrected)	0.93682	at 5% significance level	
Theta hat	0.428134		
Theta star	0.917999	95% UCLs (Assuming Gamma Distribution)	
nu hat	20.08716	Approximate Gamma UCL	2.267799
nu star	9.368197	Adjusted Gamma UCL	3.705071
Approx.Chi Square Value (.05)	3.552629		
Adjusted Level of Significance	0.0086	Lognormal Distribution Test	
Adjusted Chi Square Value	2.174493	Shapiro-Wilk Test Statistic	0.972494
		Shapiro-Wilk 5% Critical Value	0.762
Log-transformed Statistics		Data are lognormal at 5% significance level	
Minimum of log data	-1.386294		
Maximum of log data	0.693147	95% UCLs (Assuming Lognormal Distribution	
Mean of log data	-0.419929	95% H-UCL	5.245506
Standard Deviation of log data	0.829142	95% Chebyshev (MVUE) UCL	2.199593
Variance of log data	0.687477	97.5% Chebyshev (MVUE) UCL	2.781342
		99% Chebyshev (MVUE) UCL	3.924076
		95% Non-parametric UCLs	
		CLT UCL	1.377149
		Adj-CLT UCL (Adjusted for skewness)	1.579026
		Mod-t UCL (Adjusted for skewness)	1.56175
		Jackknife UCL	1.530262
		Standard Bootstrap UCL	1.331355
		Bootstrap-t UCL	1.960186
RECOMMENDATION		Hall's Bootstrap UCL	3.892856
Data are normal (0.05)		Percentile Bootstrap UCL	1.39
		BCA Bootstrap UCL	1.45
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	2.230456
		97.5% Chebyshev (Mean, Sd) UCL	2.823454
		99% Chebyshev (Mean, Sd) UCL	3.988282

APPENDIX B

TABLE B-14
PRO-UCL POST-REMOVAL VANADIUM CONCENTRATION
BLOCK H
SURFACE SOIL

Data File:	AS V HG BLOCK H APPENDIX.xls	Variable:	Vanadium (POST SURF)
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	5	Shapiro-Wilk Test Statistic	0.864389
Number of Unique Samples	5	Shapiro-Wilk 5% Critical Value	0.762
Minimum	0.05	Data are normal at 5% significance level	
Maximum	20.4		
Mean	12.75	95% UCL (Assuming Normal Distribution)	
Median	14.5	Student's-t UCL	20.00611
Standard Deviation	7.610848		
Variance	57.925	Gamma Distribution Test	
Coefficient of Variation	0.596929	A-D Test Statistic	1.10385
Skewness	-1.48348	A-D 5% Critical Value	0.703437
		K-S Test Statistic	0.469932
Gamma Statistics		K-S 5% Critical Value	0.368682
k hat	0.64887	Data does not follow a gamma distribution	
k star (bias corrected)	0.392881	at 5% significance level	
Theta hat	19.64954		
Theta star	32.45254	95% UCLs (Assuming Gamma Distribution)	
nu hat	6.488702	Approximate Gamma UCL	72.1471
nu star	3.928814	Adjusted Gamma UCL	186.506
Approx.Chi Square Value (.05)	0.694309		
Adjusted Level of Significance	0.0086	Lognormal Distribution Test	
Adjusted Chi Square Value	0.268583	Shapiro-Wilk Test Statistic	0.614258
		Shapiro-Wilk 5% Critical Value	0.762
Log-transformed Statistics		Data not lognormal at 5% significance level	
Minimum of log data	-2.995732		
Maximum of log data	3.015535	95% UCLs (Assuming Lognormal Distribution	
Mean of log data	1.604045	95% H-UCL	7.31E+08
Standard Deviation of log data	2.576583	95% Chebyshev (MVUE) UCL	171.7312
Variance of log data	6.638779	97.5% Chebyshev (MVUE) UCL	230.1621
		99% Chebyshev (MVUE) UCL	344.9382
		95% Non-parametric UCLs	
		CLT UCL	18.34855
		Adj-CLT UCL (Adjusted for skewness)	15.93572
		Mod-t UCL (Adjusted for skewness)	19.62976
		Jackknife UCL	20.00611
		Standard Bootstrap UCL	17.89183
		Bootstrap-t UCL	17.22789
RECOMMENDATION		Hall's Bootstrap UCL	16.33934
Data are normal (0.05)		Percentile Bootstrap UCL	17.06
		BCA Bootstrap UCL	16.4
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	27.58627
		97.5% Chebyshev (Mean, Sd) UCL	34.00594
		99% Chebyshev (Mean, Sd) UCL	46.61613

APPENDIX B

TABLE B-15
PRO-UCL POST-REMOVAL MERCURY CONCENTRATION
BLOCK H
SURFACE SOIL

Data File:	AS V HG BLOCK H APPENDIX.xls	Variable:	Mercury (POST SURF)
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	5	Shapiro-Wilk Test Statistic	0.679735
Number of Unique Samples	5	Shapiro-Wilk 5% Critical Value	0.762
Minimum	0.001	Data not normal at 5% significance level	
Maximum	0.4		
Mean	0.1022	95% UCL (Assuming Normal Distribution)	
Median	0.04	Student's-t UCL	0.262498
Standard Deviation	0.168134		
Variance	0.028269	Gamma Distribution Test	
Coefficient of Variation	1.645151	A-D Test Statistic	0.244526
Skewness	2.127972	A-D 5% Critical Value	0.717132
		K-S Test Statistic	0.229102
Gamma Statistics		K-S 5% Critical Value	0.373405
k hat	0.45651	Data follow approximate gamma distribution	
k star (bias corrected)	0.315937	at 5% significance level	
Theta hat	0.223872		
Theta star	0.323482	95% UCLs (Assuming Gamma Distribution)	
nu hat	4.5651	Approximate Gamma UCL	0.759918
nu star	3.159373	Adjusted Gamma UCL	2.336295
Approx.Chi Square Value (.05)	0.424899		
Adjusted Level of Significance	0.0086	Lognormal Distribution Test	
Adjusted Chi Square Value	0.138205	Shapiro-Wilk Test Statistic	0.980406
		Shapiro-Wilk 5% Critical Value	0.762
Log-transformed Statistics		Data are lognormal at 5% significance level	
Minimum of log data	-6.907755		
Maximum of log data	-0.916291	95% UCLs (Assuming Lognormal Distribution	
Mean of log data	-3.692301	95% H-UCL	33472.52
Standard Deviation of log data	2.229086	95% Chebyshev (MVUE) UCL	0.53366
Variance of log data	4.968822	97.5% Chebyshev (MVUE) UCL	0.712399
		99% Chebyshev (MVUE) UCL	1.063498
		95% Non-parametric UCLs	
		CLT UCL	0.22588
		Adj-CLT UCL (Adjusted for skewness)	0.30234
		Mod-t UCL (Adjusted for skewness)	0.274424
		Jackknife UCL	0.262498
		Standard Bootstrap UCL	0.215009
		Bootstrap-t UCL	0.849687
RECOMMENDATION		Hall's Bootstrap UCL	0.957833
Assuming gamma distribution (0.05)		Percentile Bootstrap UCL	0.192
		BCA Bootstrap UCL	0.2522
Use Adjusted Gamma 95% UCL		95% Chebyshev (Mean, Sd) UCL	0.429954
		97.5% Chebyshev (Mean, Sd) UCL	0.571774
		99% Chebyshev (Mean, Sd) UCL	0.850351
Recommended UCL exceeds the maximum observation			

APPENDIX B

TABLE B-16
PRO-UCL POST-REMOVAL ARSENIC CONCENTRATION
BLOCK H
SUBSURFACE SOIL

Data File:	AS V HG BLOCK H APPENDIX.xls	Variable:	Arsenic (POST SUB)
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	28	Shapiro-Wilk Test Statistic	0.931735
Number of Unique Samples	22	Shapiro-Wilk 5% Critical Value	0.924
Minimum	0.25	Data are normal at 5% significance level	
Maximum	7.4		
Mean	2.544821	95% UCL (Assuming Normal Distribution)	
Median	2.5	Student's-t UCL	3.1496
Standard Deviation	1.878828		
Variance	3.529995	Gamma Distribution Test	
Coefficient of Variation	0.738295	A-D Test Statistic	0.366261
Skewness	0.78694	A-D 5% Critical Value	0.762514
		K-S Test Statistic	0.117671
Gamma Statistics		K-S 5% Critical Value	0.168368
k hat	1.519742	Data follow approximate gamma distribution	
k star (bias corrected)	1.380722	at 5% significance level	
Theta hat	1.674509		
Theta star	1.843109	95% UCLs (Assuming Gamma Distribution)	
nu hat	85.10555	Approximate Gamma UCL	3.388765
nu star	77.32043	Adjusted Gamma UCL	3.450075
Approx.Chi Square Value (.05)	58.06442		
Adjusted Level of Significance	0.0404	Lognormal Distribution Test	
Adjusted Chi Square Value	57.03258	Shapiro-Wilk Test Statistic	0.916769
		Shapiro-Wilk 5% Critical Value	0.924
Log-transformed Statistics		Data not lognormal at 5% significance level	
Minimum of log data	-1.386294		
Maximum of log data	2.00148	95% UCLs (Assuming Lognormal Distribution	
Mean of log data	0.570303	95% H-UCL	4.581012
Standard Deviation of log data	0.986552	95% Chebyshev (MVUE) UCL	5.411313
Variance of log data	0.973285	97.5% Chebyshev (MVUE) UCL	6.538024
		99% Chebyshev (MVUE) UCL	8.751228
		95% Non-parametric UCLs	
		CLT UCL	3.128852
		Adj-CLT UCL (Adjusted for skewness)	3.185274
		Mod-t UCL (Adjusted for skewness)	3.158401
		Jackknife UCL	3.1496
		Standard Bootstrap UCL	3.115699
		Bootstrap-t UCL	3.231218
RECOMMENDATION		Hall's Bootstrap UCL	3.230622
Data are normal (0.05)		Percentile Bootstrap UCL	3.132857
		BCA Bootstrap UCL	3.2175
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	4.092515
		97.5% Chebyshev (Mean, Sd) UCL	4.762203
		99% Chebyshev (Mean, Sd) UCL	6.077675

APPENDIX B

TABLE B-17
PRO-UCL POST-REMOVAL VANADIUM CONCENTRATION
BLOCK H
SUBSURFACE SOIL

Data File:	AS V HG BLOCK H APPENDIX.xls	Variable:	Vanadium (POST SUB)
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	28	Shapiro-Wilk Test Statistic	0.965609
Number of Unique Samples	26	Shapiro-Wilk 5% Critical Value	0.924
Minimum	0.05	Data are normal at 5% significance level	
Maximum	52.9		
Mean	28.67143	95% UCL (Assuming Normal Distribution)	
Median	27.9	Student's-t UCL	33.48016
Standard Deviation	14.939		
Variance	223.1738	Gamma Distribution Test	
Coefficient of Variation	0.521041	A-D Test Statistic	2.722656
Skewness	-0.184231	A-D 5% Critical Value	0.770079
		K-S Test Statistic	0.25153
Gamma Statistics		K-S 5% Critical Value	0.169597
k hat	1.167625	Data does not follow a gamma distribution	
k star (bias corrected)	1.066331	at 5% significance level	
Theta hat	24.55535		
Theta star	26.88791	95% UCLs (Assuming Gamma Distribution)	
nu hat	65.38698	Approximate Gamma UCL	39.86664
nu star	59.71456	Adjusted Gamma UCL	40.70033
Approx.Chi Square Value (.05)	42.94573		
Adjusted Level of Significance	0.0404	Lognormal Distribution Test	
Adjusted Chi Square Value	42.06604	Shapiro-Wilk Test Statistic	0.540942
		Shapiro-Wilk 5% Critical Value	0.924
Log-transformed Statistics		Data not lognormal at 5% significance level	
Minimum of log data	-2.995732		
Maximum of log data	3.968403	95% UCLs (Assuming Lognormal Distribution	
Mean of log data	2.870058	95% H-UCL	251.7353
Standard Deviation of log data	1.729866	95% Chebyshev (MVUE) UCL	198.8406
Variance of log data	2.992437	97.5% Chebyshev (MVUE) UCL	254.5831
		99% Chebyshev (MVUE) UCL	364.0786
		95% Non-parametric UCLs	
		CLT UCL	33.31519
		Adj-CLT UCL (Adjusted for skewness)	33.21016
		Mod-t UCL (Adjusted for skewness)	33.46378
		Jackknife UCL	33.48016
		Standard Bootstrap UCL	33.31151
		Bootstrap-t UCL	33.40754
RECOMMENDATION		Hall's Bootstrap UCL	33.42118
Data are normal (0.05)		Percentile Bootstrap UCL	33.39464
		BCA Bootstrap UCL	33.27857
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	40.9775
		97.5% Chebyshev (Mean, Sd) UCL	46.30234
		99% Chebyshev (Mean, Sd) UCL	56.76197

APPENDIX B

TABLE B-18
PRO-UCL POST-REMOVAL MERCURY CONCENTRATION
BLOCK H
SUBSURFACE SOIL

Data File:	AS V HG BLOCK H APPENDIX.xls	Variable:	Mercury (POST SUB)
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	28	Shapiro-Wilk Test Statistic	0.41841
Number of Unique Samples	8	Shapiro-Wilk 5% Critical Value	0.924
Minimum	0.001	Data not normal at 5% significance level	
Maximum	0.24		
Mean	0.023429	95% UCL (Assuming Normal Distribution)	
Median	0.005	Student's-t UCL	0.040421
Standard Deviation	0.052789		
Variance	0.002787	Gamma Distribution Test	
Coefficient of Variation	2.253197	A-D Test Statistic	2.972275
Skewness	3.573585	A-D 5% Critical Value	0.800361
		K-S Test Statistic	0.263006
Gamma Statistics		K-S 5% Critical Value	0.173735
k hat	0.597057	Data does not follow a gamma distribution	
k star (bias corrected)	0.556896	at 5% significance level	
Theta hat	0.03924		
Theta star	0.04207	95% UCLs (Assuming Gamma Distribution)	
nu hat	33.43519	Approximate Gamma UCL	0.037608
nu star	31.18618	Adjusted Gamma UCL	0.038754
Approx.Chi Square Value (.05)	19.42795		
Adjusted Level of Significance	0.0404	Lognormal Distribution Test	
Adjusted Chi Square Value	18.85361	Shapiro-Wilk Test Statistic	0.890919
		Shapiro-Wilk 5% Critical Value	0.924
Log-transformed Statistics		Data not lognormal at 5% significance level	
Minimum of log data	-6.907755		
Maximum of log data	-1.427116	95% UCLs (Assuming Lognormal Distribution	
Mean of log data	-4.789482	95% H-UCL	0.036553
Standard Deviation of log data	1.262881	95% Chebyshev (MVUE) UCL	0.039634
Variance of log data	1.594869	97.5% Chebyshev (MVUE) UCL	0.049166
		99% Chebyshev (MVUE) UCL	0.067891
		95% Non-parametric UCLs	
		CLT UCL	0.039838
		Adj-CLT UCL (Adjusted for skewness)	0.047037
		Mod-t UCL (Adjusted for skewness)	0.041544
		Jackknife UCL	0.040421
		Standard Bootstrap UCL	0.039446
		Bootstrap-t UCL	0.116538
RECOMMENDATION		Hall's Bootstrap UCL	0.122564
Data are Non-parametric (0.05)		Percentile Bootstrap UCL	0.040821
		BCA Bootstrap UCL	0.048464
Use 99% Chebyshev (Mean, Sd) UCL		95% Chebyshev (Mean, Sd) UCL	0.066914
		97.5% Chebyshev (Mean, Sd) UCL	0.08573
		99% Chebyshev (Mean, Sd) UCL	0.122691

APPENDIX B

TABLE B-19
PRE- AND POST-RESPONSE ACTION RISKS
BLOCK H
SURFACE SOIL

Surface Soil Boring	Residential Risks (Pre-Response Action) (1)		Residential Risks (Pre-Response Minus Background) (2)		Residential Risks (Post-Response Action) (3)		B[a]P Concentration (ug/kg)(4)
	Cancer	Noncancer	Cancer	Noncancer	Cancer	Noncancer	
SB-200	1.00E-05	0.55	9.00E-06	0.15	9.00E-06	0.15	367
SB-201	2.00E-05	1.6	2.50E-06	0.39	0	0	40
SB-202	3.90E-06	0.45	1.90E-06	0.07	1.90E-06	0.07	ND
SB-203	5.20E-06	0.69	2.30E-06	0.1	2.30E-06	0.1	57
SB-294	1.30E-05	0.56	7.60E-06	0.53	7.60E-06	0.53	ND

1 Soil boring location risks as identified in the Site Characterization Report (Tetra Tech, May 2006).

2 Soil boring location risks as identified in the Site Characterization Report (Tetra Tech, May 2006) minus risks associated with arsenic and vanadium.

3 Soil boring location risks excluding those attributable to arsenic and vanadium (less than Block D-specific background reference concentration of 12 and 91 mg/kg, respectively).

4 Concentration used to calculate risk in the Site Characterization Rerpot (Tetra Tech, May 2006)

ND Not detected

APPENDIX B

TABLE B-20
PRE- AND POST-RESPONSE ACTION RISKS
BLOCK H
SUBSURFACE SOIL

Subsurface Soil Boring	Residential Risks (Pre-Response Action) (1)		Residential Risks (Pre-Response Minus Background) (2)		Residential Risks (Post-Response Action) (3)		B[a]P Concentration (ug/kg)(4)
	Cancer	Noncancer	Cancer	Noncancer	Cancer	Noncancer	
SB-200	2.50E-05	1.7	1.10E-05	0.17	1.10E-05	0.17	386
SB-201	1.10E-05	1.2	2.10E-06	0.14	2.10E-06	0.14	43
SB-202	1.40E-05	1.7	2.60E-06	0.14	2.60E-06	0.14	52
SB-203	1.30E-05	1.7	2.70E-06	0.19	2.70E-06	0.19	ND
SB-282	2.60E-05	1.2	8.20E-06	0.08	8.20E-06	0.08	ND
SB-283	3.20E-05	1.2	1.10E-05	0.11	1.10E-05	0.11	290
SB-284	8.80E-06	0.89	8.80E-06	0.11	8.80E-06	0.11	200
SB-285	1.70E-05	1.1	1.70E-05	0.12	0	0	573
SB-286	1.00E-05	0.58	1.00E-05	0.15	1.00E-05	0.15	248
SB-293	1.40E-05	0.68	8.10E-06	0.06	8.10E-06	0.06	ND
SB-294	1.70E-05	0.77	8.40E-06	0.06	8.40E-06	0.06	ND

1 Soil boring location risks as identified in the Site Characterization Report (Tetra Tech, May 2006).

2 Soil boring location risks as identified in the Site Characterization Report (Tetra Tech, May 2006) minus risks associated with arsenic and vanadium.

3 Soil boring location risks excluding those attributable to arsenic and vanadium (less than Block D-specific background reference concentration of 12 and 91 mg/kg, respectively).

4 Concentration used to calculate risk in the Site Characterization Rerpot (Tetra Tech, May 2006)

ND Not detected

APPENDIX C – FIELD DOCUMENTATION NOTES AND BORING LOGS

Tetra Tech NUS, Inc.

BORING LOG

Page ___ of ___

PROJECT NAME: _____
PROJECT NUMBER: _____
DRILLING COMPANY: _____
DRILLING RIG: _____

BORING No.: SB 462
DATE: 10/23/07
GEOLOGIST: _____
DRILLER: _____

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
			0-4				Weathered Asphalt			0			
										↓			
				18"		Red/Br	Clay Med Plast						
				20"		Green/Br	Silty Clay low plast						
				26"			Moist some gravel						
			4-8										
				65"			Gravel						
						Red	Clay med Plast						
							Lt Gray Clay						
							Same as above						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ____

Remarks: _____

Converted to Well: Yes _____ No _____ Well I.D. #: _____

Tetra Tech NUS, Inc.

BORING LOG

Page ___ of ___

PROJECT NAME: _____
PROJECT NUMBER: _____
DRILLING COMPANY: _____
DRILLING RIG: _____

BORING No.: SB 463
DATE: 10/23/07
GEOLOGIST: _____
DRILLER: _____

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
			0-4				Weathered Asphalt						
			100%										
1				20"	Stiff	Red Br	Clay Med Plast						
2				24"									
					Stiff	Green Br	Silty Clay						
3				35"	Stiff	Red	Clay Med Plast						
							Lt Gray Clay						
4													
			4-8										
			100%										
5													
6													
7													
8							Same As Above						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ____

Remarks: _____

Converted to Well: Yes _____ No _____ Well I.D. #: _____

Tetra Tech NUS, Inc.

BORING LOG

Page ___ of ___

PROJECT NAME: _____
PROJECT NUMBER: _____
DRILLING COMPANY: _____
DRILLING RIG: _____

BORING No.: SB 464
DATE: 10/23/07
GEOLOGIST: _____
DRILLER: _____

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
			0-4				Weathered Asphalt			0			
			1006							↓			
1													
				12"	Stiff	Green Br	Silty Clay						
2													
				26"	Stiff	Or Br	Silty Clay						
				32"									
3					Stiff	Red	Clay Med Plast						
4													
			4-8										
			100%										
5													
6													
7													
8							Same as above						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: _____

Drilling Area Background (ppm): _____

Converted to Well: Yes _____ No _____ Well I.D. #: _____

Tetra Tech NUS, Inc.

BORING LOG

Page ___ of ___

PROJECT NAME: _____
PROJECT NUMBER: _____
DRILLING COMPANY: _____
DRILLING RIG: _____

BORING No.: SB 465
DATE: 10/23/07
GEOLOGIST: _____
DRILLER: _____

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
			0-4				Weathered Asphalt			0			
			1006							↓			
1				20"	Stiff	Green Br	Silt Dry						
2													
				28"			Moist						
3				36"	Stiff	Red Br	Silt some Gravel						
4													
			4-8										
			1002	54"									
5					Stiff	Red	Clay Med Plasti						
6													
7													
8							Same as above						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: _____

Drilling Area Background (ppm): ____

Converted to Well: Yes _____ No _____ Well I.D. #: _____

Tetra Tech NUS, Inc.

BORING LOG

Page ___ of ___

PROJECT NAME: _____
PROJECT NUMBER: _____
DRILLING COMPANY: _____
DRILLING RIG: _____

BORING No.: SB 466
DATE: 10/23/07
GEOLOGIST: _____
DRILLER: _____

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
			0-4				Weathered Asphalt			⊙			
			100%							↓			
1				20"			Grn Br Silt						
2				26"			Or Br Silt w/ Gravel						
3													
				42"			Red Clay Med-High Plast.						
4													
			4-8										
			100%										
5													
6													
7													
8							Same as above						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: _____

Drilling Area Background (ppm): ____

Converted to Well: Yes _____ No _____ Well I.D. #: _____

Tetra Tech NUS, Inc.

BORING LOG

Page ___ of ___

PROJECT NAME: _____
PROJECT NUMBER: _____
DRILLING COMPANY: _____
DRILLING RIG: _____

BORING No.: SB 467
DATE: 10/23/07
GEOLOGIST: _____
DRILLER: _____

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
			0-4				Weathered Asphalt			0			
			100%							↓			
1													
				2"			Gra Br Sand IF Damp						
2													
3				39"			Red Clay Med Plast						
							Lt Gray Lenses						
4													
			4-8										
			100%										
5													
6													
7													
8							Same as above						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ____

Remarks: _____

Converted to Well: Yes _____ No _____ Well I.D. #: _____

Tetra Tech NUS, Inc.

BORING LOG

Page ___ of ___

PROJECT NAME: _____ BORING No.: SB 468
PROJECT NUMBER: _____ DATE: 10/23/07
DRILLING COMPANY: _____ GEOLOGIST: _____
DRILLING RIG: _____ DRILLER: _____

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
			0-4				Weathered Asphalt			0			
			100%							↓			
1				19"									
					Soft	Or Br	Sand VF						
2													
3													
				40"			Red Clay Med Plast						
4							Some Lt Gray Clay lenses						
			4-8										
			100%										
5													
6													
7													
8													

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ____

Remarks: _____

Converted to Well: Yes _____ No _____ Well I.D. #: _____

Tetra Tech NUS, Inc.

BORING LOG

Page ___ of ___

PROJECT NAME: _____
PROJECT NUMBER: _____
DRILLING COMPANY: _____
DRILLING RIG: _____

BORING No.: SB469
DATE: 10/23/07
GEOLOGIST: _____
DRILLER: _____

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
			0-4				Weathered Asphalt			0			
										↓			
1													
				22"	Soft	Green Br	Silt Dry						
2				26"	Soft	O-Br	Silt						
3				36"	Stiff	Red Clay	Med Plast						
							Lt Gray Clay						
4													
			4-8										
5													
6													
7													
8							Same as above						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ____

Remarks: _____

Converted to Well: Yes _____ No _____ Well I.D. #: _____

Tetra Tech NUS, Inc.

BORING LOG

Page 1 of ___

PROJECT NAME:		BORING No.:	SB 470
PROJECT NUMBER:		DATE:	10/23/07
DRILLING COMPANY:		GEOLOGIST:	S. DeLue
DRILLING RIG:		DRILLER:	

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
							0-1' Asphalt/fill						
	1				Soft brown silty (silt/silty sand) fine (SM)								
							moist: soft 7.5YR 6/3						
	2						becomes slightly grayish @ 3'						
							wet 3'-4'		7.5YR 7/1				
	3				denser by 4'								
	4						Staining by 4.5' (black						
							Dense, stiff — w/ mottling						
	5			Δ5			Silty clay/clay (CL) — dry, hard						
							Rd brn 2.5YR 4/4 & 4/6						
	6						2.5YR 7/1 gray						
	7						↓						
	8						↓						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm):

Remarks:

Converted to Well: Yes ______ No ______ Well I.D. #: ______

Tetra Tech NUS, Inc.

BORING LOG

Page ___ of ___

PROJECT NAME: _____ BORING No.: SB-471

PROJECT NUMBER: _____ DATE: 10/23/04

DRILLING COMPANY: _____ GEOLOGIST: S. Dz / DC

DRILLING RIG: _____ DRILLER: _____

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
							0'-1' asphalt						
1							Dry, hard, dense silty clay (CL)						
							low plasticity						
2							10R 5/6	red					
3													
4													
5													
6													
7													
8													

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ☐

Remarks: _____

Converted to Well: Yes _____ No _____ Well I.D. #: _____

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: LOCKHEED MARTIN NRL
PROJECT NUMBER: 112G00598
DRILLING COMPANY: B.L. MYERS
DRILLING RIG: DPT

BORING No.: SB-472
DATE: 10/23/07
GEOLOGIST: CHARLIE WARING
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
							ASPHALT, GRAVELLY FILL						
	0-2'												
					MOIST,	LT BROWN	SILTY,						
	2-3.5'				CLAYEY,	SAND.		SC					
					MOIST	REDDISH	BROWN						
	3.5-8.0'				SILTY	CLAY,	MED. PLASTICITY.	CL					

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm):

Remarks:

Converted to Well: Yes _____ No _____ Well I.D. #: _____

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME:
PROJECT NUMBER: 112TC00885
DRILLING COMPANY:
DRILLING RIG:

BORING No.: SB-473
DATE: 10/24/97
GEOLOGIST: SDALUZ
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
							0-1 asphalt						
							Silty Sand (SM) mostly silt, trace clay mod. stiff, wet by 4' - 3'-4 wet to 5'						
							7.5 YR 7/3		light brown				
				5			clay (CL) soft hard, dense,						
							w/ mottling dry -						
							2.5 Y/R 4/4 & 2.5 Y/R 8/1 (white/gray)						

1 2 3 4 5 6 7 8

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm):

Remarks:

Converted to Well: Yes _____ No _____ Well I.D. #: _____

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: _____
PROJECT NUMBER: _____
DRILLING COMPANY: _____
DRILLING RIG: _____

BORING No.: SB-474
DATE: _____
GEOLOGIST: _____
DRILLER: _____

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
							ASPHALT / FILL						
0-2'													
							MOIST BROWNISH-GRAY						
							SILTY SAND.	SM					
2'-4'													
4-4.5'							SAME AS ABOVE	SM					
4.5'-6.0'							MOIST LT BROWN - REDDISH BROWN						
							SILTY CLAY. MED PLASTICITY.	CL					
6.0'-8.0'							SAME AS ABOVE	CL					

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: _____

Drilling Area Background (ppm): _____

Converted to Well: Yes _____ No _____ Well I.D. #: _____

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: LOCKHEED MARTIN
PROJECT NUMBER: 112COOGB
DRILLING COMPANY: BL MYERS
DRILLING RIG: GEOPROBE
BORING No.: SB-475
DATE: 10/25/07
GEOLOGIST: CHARLIE WINLAND
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
					ASPHALT		FILL						
0-2'					FILL UNDER ASPHALT IS FINE								
					TAN SAND & FINE GRAVELLY								
					MATERIAL								
2-3'					LT BROWN, MOIST, SILTY								
					SAND			SM					
~~2-4'~~													
3-4'					MOIST REDDISH-BROWN								
					SILTY CLAY, MED PLASTICITY			CL					
					SAME AS ABOVE, SOME								
4-6'					GRAY AND BLACK			CL					
					DISCOLORATIONS								
6-8'					SAME AS ABOVE			CL					

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ____

Remarks: _____

Converted to Well: Yes _____ No _____ Well I.D. #: _____

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: Lockheed Martin
PROJECT NUMBER: 112G00248
DRILLING COMPANY: BL Myers
DRILLING RIG: 2" Geoprobe
BORING No.: SB-47L
DATE: 10/25/07
GEOLOGIST: Carrie Warner
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
					ASPHALT / FILL								
0-2'					FILL UNDER ASPHALT IS								
					TAN FINE SAND AND FINE								
					GRAVELLY MATERIAL								
2-3'					MOIST LT BROWN SILTY								
					SAND.			SM					
3-4'					MOIST REDDISH-BROWN								
					SILTY CLAY. MED. PLASTICITY,			CL					
					SAME AS ABOVE, SOME								
4-6					GRAY & BLACK DISCOLORATION			CL					
6-8'					SAME AS ABOVE			CL					

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ____

Remarks: ____

Converted to Well: Yes ____ No ____ Well I.D. #: ____

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: _____ BORING No.: SB-477

PROJECT NUMBER: _____ DATE: _____

DRILLING COMPANY: _____ GEOLOGIST: _____

DRILLING RIG: _____ DRILLER: _____

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	0-1'						ASPHALT						
	1-2'					MOIST	TAN/BROWN SILTY	SM					
							SAND. V. FINE-FINE GRAINED						
						MOIST	REDDISH-BROWN						
							SILTY CLAY. MED. PLASTICITY,						
	2-4'					GRAY & BLACK	DISCOLORATIONS	CL					
						THROUGHOUT.							
						SAME	AS ABOVE						
	4-6'												
	6-8'					SAME	AS ABOVE						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ____

Remarks: _____

Converted to Well: Yes _____ No _____ Well I.D. #: _____

Tetra Tech NUS, Inc.

Page 1 of ___

BORING LOG

PROJECT NAME: LOCKHEED MARTIN
PROJECT NUMBER: 112G00955
DRILLING COMPANY: BL MYERS
DRILLING RIG: GEOPROBE

BORING No.: SB-478
DATE: 10/23/07
GEOLOGIST: CHARLIE WARING
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
1.0'-1.75'					ASPHALT/GRAVEL FILL								
1.75'-2.0'					DK BROWN/GRAY SILTY SAND.			SM					
					V. FINE-FINE GRAINED, MOIST.								
2.0'-4.0'					LT BROWN, MOIST-WET, SILTY								
					SAND, V. FINE-FINE GRAINED			SM					
4.0'-6.0'					SAME AS ABOVE			SM					
					SOME FINE GRAVEL								
6.0'-6.25'					SAME AS ABOVE			SM					
6.25'-7.0'					REDDISH BROWN SILTY CLAY,								
					MOIST, MED. PLASTICITY.			CL					
					SOME FINE GRAVEL FROM 6.25'-7.0'								

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ____

Remarks: ____

Converted to Well: Yes ____ No ____ Well I.D. #: ____

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: [redacted] LOCKHEED MARTIN
PROJECT NUMBER: 112IC 00998
DRILLING COMPANY: B.L. MYERS
DRILLING RIG: GEOPROBE
BORING No.: SB-479
DATE: 10/25/07
GEOLOGIST: CHARLIE WARING
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	0'-1.5'				ASPHALT / FILL								
	1.5'-2.0'				DK BROWN - GRAY, SILTY, CLAYEY								
					SAND, MOIST			SC					
	2.0'-4.0'				MOIST, BROWN - GRAY, V. FINE								
					TO FINE GRAINED SILTY			SM					
					SAND, SOME FINE								
					GRAVEL								
	4.0'-6.0'				SAME AS ABOVE, WET			SM					
	6.0'-7.25'				SAME AS ABOVE, MOIST			SM					
	7.25'-8.0'				REDDISH-BROWN SILTY CLAY.								
					MED PLASTICITY.			CL					

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: _____

Drilling Area Background (ppm): _____

Converted to Well: Yes _____ No _____ Well I.D. #: _____

Tetra Tech NUS, Inc.

BORING LOG

Page ___ of ___

PROJECT NAME: LOCKHEED MARTIN
PROJECT NUMBER: 112C00198
DRILLING COMPANY: B.L. MYERS
DRILLING RIG: GEOPROBE

BORING No.: SB-480
DATE: 10/25/07
GEOLOGIST: CHARLIE WARING
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	0'-1.5'						ASPHALT / FILL						
	1.5'-2.0'						MOIST DK BROWN SILTY						
							SAND. V. FINE-FINE GRAINED	SM					
							MOIST BROWN-GRAY SILTY						
	2.0'-4.0'						SAND. V. FINE- FINE GRAINED	SM					
	4.0'-6.0'						SAME AS ABOVE	SM					
							MOIST BROWN/TAN SILTY						
	6.0'-8.0'						SAND. V. FINE- FINE	SM					
							GRAINED						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ____

Remarks: _____

Converted to Well: Yes _____ No _____ Well I.D. #: _____

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: LOCKHEED MARTIN MRC
PROJECT NUMBER: 112.1600998
DRILLING COMPANY: B.L. MYERS
DRILLING RIG: GEOPROBE

BORING No.: SB-481
DATE: 10/29/07
GEOLOGIST: CHARLIE WARINO
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
0.0-1.5'					ASPHALT / FILL								
1.5'-2.0'					MOIST BROWN SILTY, SANDY CLAY								
					MED. PLASTICITY, SAND IS V. FINE			CL					
2.0'-4.0'					MOIST REDDISH-BROWN SILTY								
					CLAY, MED. PLASTICITY			CL					
4.0'-5.0'					MOIST DK BROWN SILTY CLAY								
					MED. PLASTICITY,			CL					
5.0'-6.0'					WET BROWN SILTY, SANDY, CLAY			CL					
6.0'-7.0'					SAME AS ABOVE			CL					
7.0'-8.0'					MOIST BROWN SILTY SAND			SM					
					V. FINE - FINE GRAINED								

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ____

Remarks: ____

Converted to Well: Yes ____ No ____ Well I.D. #: ____

Tetra Tech NUS, Inc.

BORING LOG

Page 1 of ___

PROJECT NAME: LOCKHEED (MRC)
PROJECT NUMBER: 112IC00998
DRILLING COMPANY: B.L. MYERS
DRILLING RIG: GEOPROBE
BORING No.: SB-482
DATE: 10/29/07
GEOLOGIST: CHARLIE WARING
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	0.0-1.5'						ASPHALT / FILL						
	1.5-2.0'						MOIST, DK BROWN/BLACK, SILTY SANDY CLAY, V. FINE GRAINED SAND	CL	SOME WOOD FRAG				
	2.0-4.0'						MOIST, GRAY/BROWN SILTY LAYER SAND, V. FINE - FINE GRAINED	SC					
							SAND						
	4.0-5.0'						SAME AS ABOVE, SOME FINE GRAVEL	SC					
	5.0-6.0'						MOIST-WET BROWN SILTY SAND V. FINE-FINE GRAINED SOME GRAVEL	SM					
	6.0-8.0'						SAME AS ABOVE	SM					

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ____

Remarks: ____

Converted to Well: Yes ____ No ____ Well I.D. #: ____

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: LOCKHEED MARTIN (MRL)
PROJECT NUMBER: 112C00198
DRILLING COMPANY: B.L. MYERS
DRILLING RIG: GEOPROBE
BORING No.: SB-483
DATE: 10/29/07
GEOLOGIST: CHARLIE WARING
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	0.0-1.5'						ASPHALT / FILL						
	1.5-2.0'						MOIST, DK BROWN/BLACK SILTY, CLAYEY SAND. V. FINE GRAINED	SC					
	2.0-4.0'						MOIST BROWN SILTY, SANDY, CLAY. MED. PLASTICITY. SAND IS V. FINE GRAINED	CL					
	4.0-5.0'						SAME AS ABOVE	CL					
	5.0-6.0'						MOIST GRAY SILTY SAND. V. FINE-FINE GRAINED	SM					
	6.0-8.0'						MOIST BROWN SILTY SAND V. FINE + FINE GRAINED. SOME FINE + MED. GRAVEL	SM					

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ____

Remarks: ____

Converted to Well: Yes ____ No ____ Well I.D. #: ____

Tetra Tech NUS, Inc.

Page 1 of ___

BORING LOG

PROJECT NAME: LOCKHEED ~~[illegible]~~ MARTIN MRC
PROJECT NUMBER: 112ICE099B
DRILLING COMPANY: B.L. MYERS
DRILLING RIG: GEOPROBE
BORING No.: SB-48
DATE: 10/29/07
GEOLOGIST: CHARLIE WARING
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
0.0	1.5				ASPHALT / FILL								
1.5	2.0				MOIST	DK	BROWN/GRAY SILTY CLAYEY SAND. V. FINE GRAINED	SC					
2.0	4.0				GRAY/LT BROWN, MOIST, SILTY CLAYEY, SAND. V. FINE GRAINED			SC					
4.0	6.0				SAME AS ABOVE								
6.0	8.0				WET REDDISH BROWN SILTY SAND, V. FINE - FINE GRAINED SOME FINE GRAVEL.			SM					

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ☐

Remarks: _____

Converted to Well: Yes _____ No _____ Well I.D. #: _____

Tetra Tech NUS, Inc.

Page 1 of ___

BORING LOG

PROJECT NAME: LOCKHEED MARTIN MRC
PROJECT NUMBER: 112IC00998
DRILLING COMPANY: B.L. MYERS
DRILLING RIG: GEOPROBE

BORING No.: SB-45
DATE: 10/29/07
GEOLOGIST: CHARLIE WARNO
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
0.0'-1.5'						ASPHALT/FILL							
						DRY, DK BROWN/GRAY, CLAYEY,							
1.5'-2.0'						SILTY, SAND. VI FINE GRAINED		SM					
2.0'-3.5'						SAME AS ABOVE		SM					
3.0'-4.0'						MOIST, GRAY, SILTY SAND.							
						VI FINE - FINE GRAINED.		SM					
4.0'-5.5'						SAME AS ABOVE		SM					
						REDDISH-BROWN & GRAY SILTY							
5.5'-6.0'						CLAY. MOIST, MED PLASTICITY		CL					
6.0'-8.0'						SAME AS ABOVE		CL					

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ____

Remarks: _____

Converted to Well: Yes _____ No _____ Well I.D. #: _____

Tetra Tech NUS, Inc.

Page 1 of ___

BORING LOG

PROJECT NAME: LOCKHEED MARTIN MRC
PROJECT NUMBER: 112G00998
DRILLING COMPANY: B.L. MYERS
DRILLING RIG: GEOPROBE
BORING No.: SB-486
DATE: 10/29/07
GEOLOGIST: CHARLIE WATKINS
DRILLER: PAUL FECKOS

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	0.0-1.5'						ASPHALT / FILL						
	1.5-2.0'						MOIST, DK BROWN/GRAY, SILTY, CLAYEY, SAND. V. FINE GRAINED	SC					
	2.0-4.0'						MOIST GRAY/BROWN SILTY SAND, V. FINE TO FINE GRAINED	SM					
	4.0-4.5'						SAME AS ABOVE						
	4.5-6.0'						MOIST GRAY/BROWN ~~SILTY~~ SANDY, ~~CLAY~~. MED PLASTICITY.	CL					
	6.0-8.0'						REDDISH-BROWN SILTY CLAY, MOIST, MED. PLASTICITY	CL					

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): [ ]

Remarks: _____

Converted to Well: Yes _____ No _____ Well I.D. #: _____

Tetra Tech NUS, Inc.

Page 1 of ___

BORING LOG

PROJECT NAME: LOCKHEED MRL
PROJECT NUMBER: 112 IC 00998
DRILLING COMPANY: B.L. MYERS
DRILLING RIG: GEOPROBE

BORING No.: SB-487
DATE: 10/29/07
GEOLOGIST: CHARLIE WARING
DRILLER: PAUL

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	0.0-1.5'						ASPHALT / FILL						
	1.5-2.0'						MOIST BROWN/GRAY SILTY, CLAYEY						
							SAND, V FINE GRAINED.	SC					
							MOIST GRAY/BROWN SILTY						
	2.0-4.0'						SAND, V FINE - FINE GRAINED	SM					
	4.0-6.0'						SAME AS ABOVE	SM					
	6.0-8.0'						SAME AS ABOVE	SM					

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ____

Remarks: _____

Converted to Well: Yes _____ No _____ Well I.D. #: _____

Tetra Tech NUS, Inc.

Page 1 of ___

BORING LOG

PROJECT NAME: LOCKHEED MRL
PROJECT NUMBER: 112IC00998
DRILLING COMPANY: B.L. MYERS
DRILLING RIG: GEOPROBE

BORING No.: SB-488
DATE: 10/29/07
GEOLOGIST: CHARLIE WARING
DRILLER: PAUL

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	0.0-1.5'						ASPHALT / FILL						
	1.5-2.0'				MOIST	DK BROWN/GRAY	SILTY SAND, V. FINE - FINE GRAINED	SM					
	2.0-4.0'				MOIST	BROWN	SILTY SAND, V. FINE - FINE GRAIN SOME GRAY LAYERS.	SM					
	4.0-6.0'						SAME AS ABOVE						
	6.0-8.0'						SAME AS ABOVE						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ____

Remarks: ____

Converted to Well: Yes ____ No ____ Well I.D. #: ____

462

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: LMC MR
Project No.:

Sample ID No.: SB-462
Sample Location: Block H
Sampled By: KSK
C.O.C. No.:

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

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/23	0804	0102	See logs	
Method:	0806	0203		
	0808	0304		
Monitor Readings	0810	0506		
(Range in ppm):	0812	0708		
0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + benzo (a) pyrene	2 x 4oz jars per sample		

OBSERVATIONS / NOTES:

~~SB-0102~~ SB-462-0102
-0203
-0304
-0506
-0708

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

463

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: LMC MR
Project No.:

Sample ID No.: SB-463
Sample Location: Block H
Sampled By: TCSL
C.O.C. No.:

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

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

GRAB SAMPLE DATA:

Date: N/A	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date: 10/23	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:	0953	0102	see logs	
	0955	0203		
	0957	0304		
Monitor Readings	0959	0506		
(Range in ppm):	0901	0708		
0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + benzo(a)pyrene	2 + 4oz glass jars per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page ___ of ___

Project Site Name: LMC MR
Project No.:

Sample ID No.: SB-464
Sample Location: Block H
Sampled By: WAM
C.O.C. No.:

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

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: NA			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date: 10/23
Method:
Monitor Readings (Range in ppm): 0

Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
0944	0102	See Log	
0946	0203		
0948	0304		
0950	0506		
0952	0708		

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + Benzo(a)pyrene	2x 4oz glass jars per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

27
5
135
2

465
MS/MSD

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page ___ of ___

Project Site Name: LMC MR
Project No.:

Sample ID No.: SB-465
Sample Location: Block H
Sampled By: NAM
C.O.C. No.:

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

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method: NA			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/23	1040	0102	see log	
Method:	1042	0203	↓	
	1044	0304		
Monitor Readings	1046	0506		
(Range in ppm): 0	1048	0708		

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + Benzo(a)pyrene	2x4oz jars per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD
2x0506

Duplicate ID No.:

Signature(s):

4666

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: LMC MR
Project No.:

Sample ID No.: SB 4666
Sample Location: Block H
Sampled By: NAM
C.O.C. No.:

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

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method: NA			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/23	1120	01 02	see	log
Method:	1122	02 03	↓	
	1124	03 04		
Monitor Readings	1126	05 06		
(Range in ppm):	1128	07 08		
0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + Benzo(a)pyrene	2x4oz glass jar per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

467

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page 1 of 1

Project Site Name: LMC MA
Project No.:

Sample ID No.: SS-467
Sample Location: Block 17
Sampled By: KSL
C.O.C. No.:

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

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date: 10/23
Method:
Monitor Readings (Range in ppm): 0

Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
1141	01-02	See logs	
1143	02-03		
1145	04-05 03 04		
1147	05-06		
1149	07-08		

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg 7470	2 x 4oz glass	for Sample	

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: LMR MR
Project No.:

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

Sample ID No.: SB 468
Sample Location: Block H
Sampled By: NAM
C.O.C. No.:

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: NA			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/23	13:20	01 02	see	Log
Method:	13:22	02 03	↓	
	13:24	03 04		
Monitor Readings	13:26	05 06		
(Range in ppm):	13:28	07 08		
0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + Benzo(a)pyrene	2x4oz glass jar per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

469
MS/SD

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: LMC MP
Project No.:

Sample ID No.: SB-469
Sample Location: Block 17
Sampled By: KSH
C.O.C. No.:

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

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/23	1343	0102	See logs	
Method:	1345	0203		
	1347	0304		
Monitor Readings	1349	0506		
(Range in ppm):	1351	0708		
0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + benzo(a)pyrene	2x 4oz glass	✓	

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

470

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: LMC MR
Project No.:

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

Sample ID No.: SB 470
Sample Location: Block H
Sampled By: NAM
C.O.C. No.:

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method: NA			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/23	14:35	01 02	see log	
Method:	14:37	02 03	↓	
	14:39	03 04		
Monitor Readings	14:41	05 06		
(Range in ppm):	14:43	07 08		
0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + Benzo(a)pyrene	2x4oz glass jar per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

471

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: LMC MR
Project No.:

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

Sample ID No.: SB 471
Sample Location: Block H
Sampled By: NAM
C.O.C. No.:

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: NA			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/23	15:10	01 02	See	Log
Method:	15:12	02 03	↓	
	15:14	03 04		
Monitor Readings	15:16	05 06		
(Range in ppm):	15:18	07 08		
NM - 0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + Benzo(a) Pyrene	2x4oz glass jar per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page ___ of ___

Project Site Name: LMC MR
Project No.:

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

Sample ID No.: SB 472
Sample Location: Block H
Sampled By: DSM
C.O.C. No.:

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

GRAB SAMPLE DATA:

Date: / Time: / Method: / Monitor Reading (ppm):	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 10A			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/23	16:20	01 02	See	Log
Method:	16:22	02 03	↓	
	16:24	03 04		
Monitor Readings	16:26	05 06		
(Range in ppm):	16:28	07 08		
0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg & Benzo(a) Pyrene	2x4oz glass jar per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

473
MS/MSD

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: LMC MR
Project No.:

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

Sample ID No.: SB473
Sample Location: Block H
Sampled By: NAM
C.O.C. No.:

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: NA			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date: 10/24
Method:
Monitor Readings (Range in ppm): 0

Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
9:30	01 02	See Log	
932	02 03		
934	03 04		
936	05 06		
938	07 08		

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + Benzo(a)pyrene	2x 4oz glass jar per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD
2x 0506

Duplicate ID No.:

Signature(s):

474

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: LMC MR
Project No.:

Sample ID No.: SB 474
Sample Location: Block H
Sampled By: NAM
C.O.C. No.:

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

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: NA			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date: 10/24	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:	1030	01 02	See Log	
	1032	02 03		
	1034	03 04		
Monitor Readings (Range in ppm): 0	1036	05 06		
	1038	07 08		

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + Benzo(a) pyrene	2x4oz glass jar per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

475

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: LMC MSR
Project No.:

Sample ID No.: SB 475
Sample Location: Block H
Sampled By: NAM
C.O.C. No.:

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

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method: N/A			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date: 10/25	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:	0755	0102	see log	
	0757	0203		
	0759	0304		
Monitor Readings (Range in ppm): 0	0801	0506		
	0803	0708		

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + Benzo(a)pyrene	2 x 4 oz glass jar per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: LMC MR
Project No.:

Sample ID No.: SB476
Sample Location: Block H
Sampled By: MM
C.O.C. No.:

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

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: NA			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date: 10/25
Method:
Monitor Readings (Range in ppm): 0

Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
0830	0102	See	log
0832	0203	↓	
0834	0304		
0836	0506		
0838	0708		

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + Benzo(a)pyrene	2 x 4oz glass jar per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

~~470~~ 477 MS/SD

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page 1 of 1

Project Site Name: LMC MR
Project No.:

Sample ID No.: SB-477
Sample Location: Block 11
Sampled By: KSH
C.O.C. No.:

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

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

GRAB SAMPLE DATA:

Date: NA	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date: 10/25

Method:

Monitor Readings (Range in ppm): 0

Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
0937	0102	See logs	
0934	0203	↓	
0936	0304		
0938	0506		
0940	0708		

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + benzo(a)pyrene	2x 40z glass Jars per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD 0709

Duplicate ID No.:

Signature(s):

478

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: LMC MR
Project No.:

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

Sample ID No.: SB 478
Sample Location: Block H
Sampled By: NAM
C.O.C. No.:

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: NA			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date: 10/25
Method:
Monitor Readings (Range in ppm): 0

Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10:45	0102	See logs	
10:47	0203	↓	
10:49	0304		
10:51	0506		
10:53	0708		

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg & Benzo (a) pyrene	2x4oz glass jar per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

~~478~~ 479

~~469~~

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: LMC MR
Project No.:

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

Sample ID No.: SB 479
Sample Location: Block H
Sampled By: NAM
C.O.C. No.:

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method: NA			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/25	1122	01 02	See log	
Method:	1124	02 03	↓	
	1126	03 04		
Monitor Readings	1128	05 06		
(Range in ppm):	1130	07 08		
0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + Benzo(a)pyrene	2x4oz glass jar per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

480

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of___

Project Site Name: LMC MR
Project No.:

Sample ID No.: SB 480
Sample Location: Block H
Sampled By: NAM
C.O.C. No.:

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

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method: NA			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date: 10/25
Method:
Monitor Readings (Range in ppm): 0

Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
1350	0102	See Log	
1352	0203		
1354	0304		
1356	0506		
1358	0708		

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + Benzo(a) pyrene	2 x 4oz glass jar per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

487
MS/MSD

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page ___ of ___

Project Site Name: LMC MW
Project No.:

Sample ID No.: SB 481
Sample Location: Block H
Sampled By: MM
C.O.C. No.:

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

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method: NA			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date: 10/29
Method:
Monitor Readings (Range in ppm): 0

Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
0840	01 02	See log	
0842	02 03		
0844	03 04		
0846	05 06		
0848	07 08		

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg & Benzo(a) pyrene	2 x 4oz glass jar per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
0506	

Signature(s):

24

482

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: LMC MR
Project No.:

Sample ID No.: SB 482
Sample Location: Block H
Sampled By: NAM
C.O.C. No.:

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

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method: NA			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/29	9:30	01 02	See Log	
Method:	9:32	02 03		
	9:34	03 04		
Monitor Readings	9:36	0506		
(Range in ppm):	9:38	0708		
0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + Benzo(a)pyrene	2x4oz glass jar per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: LMC MR
Project No.:

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

Sample ID No.: SB 483
Sample Location: Block H
Sampled By: JAM
C.O.C. No.:

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method: 10A			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/29	1010	0102	See log	
Method:	1012	0203		
	1014	0304		
Monitor Readings	1016	0506		
(Range in ppm):	1018	0708		
Ø				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + Benzo(a)pyrene	2x4oz glass jar per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: LMC MR
Project No.:

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

Sample ID No.: SB 484
Sample Location: Block H
Sampled By: NAM
C.O.C. No.:

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: NA			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date: 10/29	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:	10:50	01 02	See	Log
	10:52	02 03		
	10:54	03 04		
Monitor Readings (Range in ppm): 0	10:56	05 06		
	10:58	07 02		

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + Benzo(a)pyrene	2 x 4 oz glass jar per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

485
MS/MSD

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page ___ of ___

Project Site Name: LMC MR
Project No.:

Sample ID No.: SB 485
Sample Location: Block H
Sampled By: NAM
C.O.C. No.:

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

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: N/A			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/29	11:30	0107	See Log	
Method:	11:32	0203		
	11:34	0304		
Monitor Readings	11:36	0506		
(Range in ppm): 0	11:38	0708		

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + Benzo(a) pyrene	2x4oz glass jar per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
2x 0506	

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page ___ of ___

Project Site Name: LMC MR
Project No.:

Sample ID No.: SB 486
Sample Location: Block H
Sampled By: NAM
C.O.C. No.:

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

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: NA			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date: 10/29
Method:
Monitor Readings (Range in ppm): 0

Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
13:20	01 02	See Log	
13:22	02 03		
13:24	03 04		
13:26	05 06		
13:28	07 08		

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + Benzo(a)pyrene	2x 4oz glass jar per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: LMC MR
Project No.:

Sample ID No.: SB 487
Sample Location: Block H
Sampled By: VAM
C.O.C. No.:

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

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method: VA			→
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/29	1335	01 02	See Log	
Method:	1337	02 03	↓	
	1339	03 04		
Monitor Readings	1341	05 06		
(Range in ppm):	1343	07 08		
Ø				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + Benzo(a)pyrene	2 x 4oz glass jar per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page ___ of ___

Project Site Name: LMC MR
Project No.:

Sample ID No.: SB 488
Sample Location: Block H
Sampled By: NAM
C.O.C. No.:

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

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

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: NA			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date: 10/29
Method:
Monitor Readings (Range in ppm): 0

Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
1400	01 02	See log	
1402	02 03		
1404	03 04		
1406	05 06		
1408	07 08		

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Hg + Benzo(a)pyrene	2x4oz glass jar per sample		

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

APPENDIX D – DATA VALIDATION REPORTS

(Appear on CD Only)

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **M. MARTIN** **DATE:** **JANUARY 8, 2008**

FROM: **ROBERT JUPIN** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – BENZO(a)PYRENE**
LOCKHEED MIDDLE RIVER COMPLEX
SAMPLE DELIVERY GROUP (SDG): 7J24256

SAMPLES: 20/Soil/

SB-466-0102	SB-466-0203	SB-466-0304	SB-466-0506	SB-466-0708
SB-467-0102	SB-467-0203	SB-467-0304	SB-467-0506	SB-467-0708
SB-468-0102	SB-468-0203	SB-468-0304	SB-468-0506	SB-468-0708
SB-469-0102	SB-469-0203	SB-469-0304	SB-469-0506	SB-469-0708

Overview

The sample set for SDG 7J24256, Lockheed MRC, consists of twenty (20) soil environmental samples.

All soil samples were analyzed for benzo(a)pyrene. The samples were collected by TetraTech NUS on October 23, 2007 and analyzed by Test America Laboratories, Inc. Analyses were conducted using SW-846 Method 8270C.

The findings in this report are based upon a general review of all available data including: data completeness, GC/MS tuning, holding times, initial/continuing calibrations, laboratory method/preparation and field quality control blank results, surrogate spike/internal standard recoveries, laboratory control sample (LCS)/blank spike results, matrix spike/matrix spike duplicate results, analyte quantitation, and detection limits,. Areas of concern are listed below.

Major Problems

- None.

Minor Problems

- Positive results for benzo(a)pyrene below the reporting limit were qualified as estimated "J".

Notes

The matrix spike sample was not spiked for benzo(a)pyrene therefore, no evaluation of the matrix spike could be performed. All surrogate recoveries were acceptable. No action was taken.

All internal standard areas were below 50% for the matrix spike of sample SB-469-0506. No action was required because quality control samples are not quailed.

According to the laboratory case narrative, sample SB-466-0708 was double spiked with surrogates. The laboratory adjusted the recoveries to take the additional spike into consideration. All recoveries were compliant.

Executive Summary

Laboratory Performance Issues: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (9/94) as modified by Region III.

Tetra Tech NUS
Robert J. Jupin
Risk Assessment Specialist/Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

Data Qualifier Key:

U - Value is a nondetect as reported by the laboratory.

J - Positive result is considered estimated, "J", as a result of technical noncompliances.

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 $r < 0.995$
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 be any number of issues; e.g. poor 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: 00885

SDG: 7J24256 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-466-0102
samp_date	10/23/2007
lab_id	A7J240256001
qc_type	NM
units	UG/KG
Pct_Solids	85.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	11	J	P

nsample	SB-466-0203
samp_date	10/23/2007
lab_id	A7J240256002
qc_type	NM
units	UG/KG
Pct_Solids	90.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.4	U	

nsample	SB-466-0304
samp_date	10/23/2007
lab_id	A7J240256003
qc_type	NM
units	UG/KG
Pct_Solids	89.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J24256 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-466-0506
samp_date	10/23/2007
lab_id	A7J240256004
qc_type	NM
units	UG/KG
Pct_Solids	83.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

nsample	SB-466-0708
samp_date	10/23/2007
lab_id	A7J240256005
qc_type	NM
units	UG/KG
Pct_Solids	84.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

nsample	SB-467-0102
samp_date	10/23/2007
lab_id	A7J240256006
qc_type	NM
units	UG/KG
Pct_Solids	89.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J24256 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-467-0203
samp_date	10/23/2007
lab_id	A7J240256007
qc_type	NM
units	UG/KG
Pct_Solids	89.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

nsample	SB-467-0304
samp_date	10/23/2007
lab_id	A7J240256008
qc_type	NM
units	UG/KG
Pct_Solids	89.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

nsample	SB-467-0506
samp_date	10/23/2007
lab_id	A7J240256009
qc_type	NM
units	UG/KG
Pct_Solids	84.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

PROJ_NO: 00885

SDG: 7J24256 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-467-0708	nsample	SB-468-0102	nsample	SB-468-0203
samp_date	10/23/2007	samp_date	10/23/2007	samp_date	10/23/2007
lab_id	A7J240256010	lab_id	A7J240256011	lab_id	A7J240256012
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	86.0	Pct_Solids	89.0	Pct_Solids	85.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J24256 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-468-0304	nsample	SB-468-0506	nsample	SB-468-0708
samp_date	10/23/2007	samp_date	10/23/2007	samp_date	10/23/2007
lab_id	A7J240256013	lab_id	A7J240256014	lab_id	A7J240256015
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	85.0	Pct_Solids	84.0	Pct_Solids	85.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J24256 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-469-0102	nsample	SB-469-0203	nsample	SB-469-0304
samp_date	10/23/2007	samp_date	10/23/2007	samp_date	10/23/2007
lab_id	A7J240256016	lab_id	A7J240256017	lab_id	A7J240256018
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	89.0	Pct_Solids	87.0	Pct_Solids	82.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	15	J	P

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

PROJ_NO: 00885

SDG: 7J24256 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-469-0506	nsample	SB-469-0708
samp_date	10/23/2007	samp_date	10/23/2007
lab_id	A7J240256019	lab_id	A7J240256020
qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG
Pct_Solids	84.0	Pct_Solids	85.0
DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Tetra Tech NUS, Inc

Client Sample ID: SB-466-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J240256-001 **Work Order #...:** J9P621AD **Matrix.....:** SO
Date Sampled...: 10/23/07 11:20 **Date Received..:** 10/24/07
Prep Date.....: 10/26/07 **Analysis Date..:** 10/31/07
Prep Batch #...: 7298518
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	**11 J**	**390**	**ug/kg**	**1.5**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	65	(24 - 112)
2-Fluorobiphenyl	67	(34 - 110)
Terphenyl-d14	101	(41 - 119)
Phenol-d5	76	(28 - 110)
2-Fluorophenol	73	(26 - 110)
2,4,6-Tribromophenol	76	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Client Sample ID: SB-466-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J240256-002 **Work Order #...:** J9P7D1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 11:22 **Date Received..:** 10/24/07
Prep Date.....: 10/26/07 **Analysis Date..:** 10/31/07
Prep Batch #...: 7298518
Dilution Factor: 1
% Moisture.....: 10 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	370	ug/kg	1.4

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	61	(24 - 112)
2-Fluorobiphenyl	62	(34 - 110)
Terphenyl-d14	91	(41 - 119)
Phenol-d5	69	(28 - 110)
2-Fluorophenol	67	(26 - 110)
2,4,6-Tribromophenol	72	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-466-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J240256-003 **Work Order #...:** J9P7K1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 11:24 **Date Received..:** 10/24/07
Prep Date.....: 10/26/07 **Analysis Date..:** 10/31/07
Prep Batch #...: 7298518
Dilution Factor: 1
% Moisture.....: 11 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	370	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	51	(24 - 112)
2-Fluorobiphenyl	48	(34 - 110)
Terphenyl-d14	95	(41 - 119)
Phenol-d5	63	(28 - 110)
2-Fluorophenol	61	(26 - 110)
2,4,6-Tribromophenol	66	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-466-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J240256-004 **Work Order #...:** J9P7Q1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 11:26 **Date Received..:** 10/24/07
Prep Date.....: 10/26/07 **Analysis Date..:** 10/31/07
Prep Batch #...: 7298518
Dilution Factor: 1
% Moisture.....: 17 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	400	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	30	(24 - 112)
2-Fluorobiphenyl	22 *	(34 - 110)
Terphenyl-d14	81	(41 - 119)
Phenol-d5	47	(28 - 110)
2-Fluorophenol	41	(26 - 110)
2,4,6-Tribromophenol	52	(10 - 118)

NOTE(S):

* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-466-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J240256-005 **Work Order #...:** J9P7V1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 11:28 **Date Received..:** 10/24/07
Prep Date.....: 10/26/07 **Analysis Date..:** 10/31/07
Prep Batch #...: 7298518
Dilution Factor: 1
% Moisture.....: 16 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	63	(24 - 112)
2-Fluorobiphenyl	60	(34 - 110)
Terphenyl-d14	98	(41 - 119)
Phenol-d5	71	(28 - 110)
2-Fluorophenol	71	(26 - 110)
2,4,6-Tribromophenol	68	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-467-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J240256-006 **Work Order #...:** J9P701AD **Matrix.....:** SO
Date Sampled...: 10/23/07 11:41 **Date Received..:** 10/24/07
Prep Date.....: 10/26/07 **Analysis Date..:** 10/31/07
Prep Batch #...: 7298518
Dilution Factor: 1
% Moisture.....: 11 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	370	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	59	(24 - 112)
2-Fluorobiphenyl	55	(34 - 110)
Terphenyl-d14	89	(41 - 119)
Phenol-d5	69	(28 - 110)
2-Fluorophenol	69	(26 - 110)
2,4,6-Tribromophenol	64	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-467-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J240256-007 **Work Order #...:** J9P721AD **Matrix.....:** SO
Date Sampled...: 10/23/07 11:43 **Date Received..:** 10/24/07
Prep Date.....: 10/26/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7298518
Dilution Factor: 1
% Moisture.....: 11 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	370	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	58	(24 - 112)
2-Fluorobiphenyl	55	(34 - 110)
Terphenyl-d14	92	(41 - 119)
Phenol-d5	73	(28 - 110)
2-Fluorophenol	69	(26 - 110)
2,4,6-Tribromophenol	75	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-467-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J240256-008 **Work Order #...:** J9P731AD **Matrix.....:** SO
Date Sampled...: 10/23/07 11:45 **Date Received..:** 10/24/07
Prep Date.....: 10/26/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7298518
Dilution Factor: 1
% Moisture.....: 11 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	370	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	62	(24 - 112)
2-Fluorobiphenyl	59	(34 - 110)
Terphenyl-d14	93	(41 - 119)
Phenol-d5	76	(28 - 110)
2-Fluorophenol	72	(26 - 110)
2,4,6-Tribromophenol	74	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-467-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J240256-009 **Work Order #...:** J9P741AD **Matrix.....:** SO
Date Sampled...: 10/23/07 11:47 **Date Received..:** 10/24/07
Prep Date.....: 10/26/07 **Analysis Date..:** 11/02/07
Prep Batch #...: 7298518
Dilution Factor: 1
% Moisture.....: 16 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	46	(24 - 112)
2-Fluorobiphenyl	35	(34 - 110)
Terphenyl-d14	104	(41 - 119)
Phenol-d5	70	(28 - 110)
2-Fluorophenol	62	(26 - 110)
2,4,6-Tribromophenol	70	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-467-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J240256-010 **Work Order #...:** J9P751AD **Matrix.....:** SO
Date Sampled...: 10/23/07 11:49 **Date Received..:** 10/24/07
Prep Date.....: 10/26/07 **Analysis Date..:** 11/02/07
Prep Batch #...: 7298518
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	68	(24 - 112)
2-Fluorobiphenyl	53	(34 - 110)
Terphenyl-d14	94	(41 - 119)
Phenol-d5	74	(28 - 110)
2-Fluorophenol	73	(26 - 110)
2,4,6-Tribromophenol	59	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-468-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J240256-011 **Work Order #...:** J9P781AD **Matrix.....:** SO
Date Sampled...: 10/23/07 13:20 **Date Received..:** 10/24/07
Prep Date.....: 10/26/07 **Analysis Date..:** 11/02/07
Prep Batch #...: 7298518
Dilution Factor: 1
% Moisture.....: 11 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	370	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	78	(24 - 112)
2-Fluorobiphenyl	65	(34 - 110)
Terphenyl-d14	103	(41 - 119)
Phenol-d5	87	(28 - 110)
2-Fluorophenol	87	(26 - 110)
2,4,6-Tribromophenol	76	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-468-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J240256-012 **Work Order #...:** J9P8A1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 13:22 **Date Received..:** 10/24/07
Prep Date.....: 10/26/07 **Analysis Date..:** 11/02/07
Prep Batch #...: 7298518
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	56	(24 - 112)
2-Fluorobiphenyl	49	(34 - 110)
Terphenyl-d14	95	(41 - 119)
Phenol-d5	70	(28 - 110)
2-Fluorophenol	64	(26 - 110)
2,4,6-Tribromophenol	64	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-468-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J240256-013 **Work Order #...:** J9P8C1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 13:24 **Date Received..:** 10/24/07
Prep Date.....: 10/26/07 **Analysis Date..:** 11/02/07
Prep Batch #...: 7298518
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	81	(24 - 112)
2-Fluorobiphenyl	67	(34 - 110)
Terphenyl-d14	92	(41 - 119)
Phenol-d5	84	(28 - 110)
2-Fluorophenol	88	(26 - 110)
2,4,6-Tribromophenol	67	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-468-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J240256-014 **Work Order #...:** J9P8D1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 13:26 **Date Received..:** 10/24/07
Prep Date.....: 10/26/07 **Analysis Date..:** 11/02/07
Prep Batch #...: 7298518
Dilution Factor: 1
% Moisture.....: 16 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	83	(24 - 112)
2-Fluorobiphenyl	69	(34 - 110)
Terphenyl-d14	111	(41 - 119)
Phenol-d5	91	(28 - 110)
2-Fluorophenol	94	(26 - 110)
2,4,6-Tribromophenol	73	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-468-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J240256-015 **Work Order #...:** J9P8E1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 13:28 **Date Received..:** 10/24/07
Prep Date.....: 10/26/07 **Analysis Date..:** 11/02/07
Prep Batch #...: 7298518
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	61	(24 - 112)
2-Fluorobiphenyl	51	(34 - 110)
Terphenyl-d14	96	(41 - 119)
Phenol-d5	71	(28 - 110)
2-Fluorophenol	71	(26 - 110)
2,4,6-Tribromophenol	59	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-469-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J240256-016 **Work Order #...:** J9P8F1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 13:43 **Date Received..:** 10/24/07
Prep Date.....: 10/26/07 **Analysis Date..:** 11/02/07
Prep Batch #...: 7298518
Dilution Factor: 1
% Moisture.....: 11 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	**15 J**	**370**	**ug/kg**	**1.5**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	72	(24 - 112)
2-Fluorobiphenyl	64	(34 - 110)
Terphenyl-d14	93	(41 - 119)
Phenol-d5	72	(28 - 110)
2-Fluorophenol	77	(26 - 110)
2,4,6-Tribromophenol	57	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Client Sample ID: SB-469-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J240256-017 **Work Order #...:** J9P8G1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 13:45 **Date Received..:** 10/24/07
Prep Date.....: 10/26/07 **Analysis Date..:** 11/02/07
Prep Batch #...: 7298518
Dilution Factor: 1
% Moisture.....: 13 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	77	(24 - 112)
2-Fluorobiphenyl	65	(34 - 110)
Terphenyl-d14	97	(41 - 119)
Phenol-d5	75	(28 - 110)
2-Fluorophenol	77	(26 - 110)
2,4,6-Tribromophenol	58	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-469-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J240256-018 **Work Order #...:** J9P8J1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 13:47 **Date Received..:** 10/24/07
Prep Date.....: 10/26/07 **Analysis Date..:** 11/02/07
Prep Batch #...: 7298518
Dilution Factor: 1
% Moisture.....: 18 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	400	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	72	(24 - 112)
2-Fluorobiphenyl	60	(34 - 110)
Terphenyl-d14	94	(41 - 119)
Phenol-d5	76	(28 - 110)
2-Fluorophenol	70	(26 - 110)
2,4,6-Tribromophenol	58	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-469-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J240256-019 **Work Order #...:** J9P8K1AF **Matrix.....:** SO
Date Sampled...: 10/23/07 13:49 **Date Received..:** 10/24/07
Prep Date.....: 10/26/07 **Analysis Date..:** 10/29/07
Prep Batch #...: 7298518
Dilution Factor: 1
% Moisture.....: 16 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	50	(24 - 112)
2-Fluorobiphenyl	42	(34 - 110)
Terphenyl-d14	99	(41 - 119)
Phenol-d5	66	(28 - 110)
2-Fluorophenol	57	(26 - 110)
2,4,6-Tribromophenol	62	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-469-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J240256-020 **Work Order #...:** J9P861AD **Matrix.....:** SO
Date Sampled...: 10/23/07 13:51 **Date Received..:** 10/24/07
Prep Date.....: 10/26/07 **Analysis Date..:** 10/29/07
Prep Batch #...: 7298518
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	55	(24 - 112)
2-Fluorobiphenyl	54	(34 - 110)
Terphenyl-d14	77	(41 - 119)
Phenol-d5	57	(28 - 110)
2-Fluorophenol	55	(26 - 110)
2,4,6-Tribromophenol	54	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

APPENDIX C

SUPPORT DOCUMENTATION

HOLDTIME

SDG 7J24256

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	SB-468-0506	A7J240256014	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-466-0304	A7J240256003	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-466-0506	A7J240256004	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-466-0708	A7J240256005	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-467-0203	A7J240256007	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-467-0506	A7J240256009	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-467-0708	A7J240256010	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-468-0102	A7J240256011	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-466-0203	A7J240256002	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-468-0304	A7J240256013	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-467-0102	A7J240256006	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-468-0708	A7J240256015	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-469-0102	A7J240256016	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-469-0203	A7J240256017	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-469-0304	A7J240256018	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	SB-469-0506	A7J240256019	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-469-0708	A7J240256020	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-466-0102	A7J240256001	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-468-0203	A7J240256012	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-467-0304	A7J240256008	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
PCS	%	SB-468-0304	A7J240256013	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-469-0506	A7J240256019	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-469-0708	A7J240256020	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-469-0304	A7J240256018	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-469-0203	A7J240256017	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-469-0102	A7J240256016	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-468-0506	A7J240256014	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-466-0102	A7J240256001	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-468-0203	A7J240256012	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-468-0102	A7J240256011	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-466-0304	A7J240256003	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-468-0708	A7J240256015	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-466-0203	A7J240256002	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
PCS	%	SB-467-0708	A7J240256010	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-466-0506	A7J240256004	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-466-0708	A7J240256005	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-467-0102	A7J240256006	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-467-0203	A7J240256007	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-467-0304	A7J240256008	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-467-0506	A7J240256009	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
OS	%	SB-469-0708	A7J240256020	NM	10/23/2007	10/26/2007	10/29/2007	3	3	6
OS	%	SB-467-0506	A7J240256009	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	%	SB-466-0203	A7J240256002	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	%	SB-466-0304	A7J240256003	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	%	SB-466-0506	A7J240256004	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	%	SB-466-0708	A7J240256005	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	%	SB-467-0102	A7J240256006	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	%	SB-467-0203	A7J240256007	NM	10/23/2007	10/26/2007	11/1/2007	3	6	9
OS	%	SB-467-0304	A7J240256008	NM	10/23/2007	10/26/2007	11/1/2007	3	6	9
OS	%	SB-466-0102	A7J240256001	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	%	SB-469-0506	A7J240256019	NM	10/23/2007	10/26/2007	10/29/2007	3	3	6

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OS	%	SB-468-0102	A7J240256011	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	%	SB-468-0203	A7J240256012	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	%	SB-468-0304	A7J240256013	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	%	SB-468-0506	A7J240256014	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	%	SB-468-0708	A7J240256015	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	%	SB-469-0102	A7J240256016	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	%	SB-469-0203	A7J240256017	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	%	SB-469-0304	A7J240256018	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	%	SB-467-0708	A7J240256010	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-468-0304	A7J240256013	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-468-0506	A7J240256014	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-468-0708	A7J240256015	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-469-0102	A7J240256016	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-469-0203	A7J240256017	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-469-0304	A7J240256018	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-468-0203	A7J240256012	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-469-0708	A7J240256020	NM	10/23/2007	10/26/2007	10/29/2007	3	3	6
OS	UG/KG	SB-467-0102	A7J240256006	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OS	UG/KG	SB-469-0506	A7J240256019	NM	10/23/2007	10/26/2007	10/29/2007	3	3	6
OS	UG/KG	SB-468-0102	A7J240256011	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-467-0708	A7J240256010	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-467-0506	A7J240256009	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-466-0102	A7J240256001	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	UG/KG	SB-467-0203	A7J240256007	NM	10/23/2007	10/26/2007	11/1/2007	3	6	9
OS	UG/KG	SB-466-0708	A7J240256005	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	UG/KG	SB-466-0506	A7J240256004	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	UG/KG	SB-466-0304	A7J240256003	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	UG/KG	SB-466-0203	A7J240256002	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	UG/KG	SB-467-0304	A7J240256008	NM	10/23/2007	10/26/2007	11/1/2007	3	6	9

Chain of Custody Record

STL-4124 (0901)

SEVERN TRENT STL
Severn Trent Laboratories, Inc.

Client	Tetra Tech
Address	20251 Century Blvd #200
City	Germantown
State	MD
Zip Code	20874
Project Manager	M. Martin
Telephone Number (Area Code)/Fax Number	301 528 ~~300~~ 3022
Date	10/23/07
Chain of Custody Number	227047
Lab Number	
Page	1 of 2
Site Contact	S. Hadley
Lab Contact	K. Ives
Project Name and Location (State)	LMC MR
Carrier/Waybill Number	Courier
Contract/Purchase Order/Quote No.	112 IC00885

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	8270*	Hg mercury	Special Instructions/Conditions of Receipt
SB-466-0102	10/23	1120				X	2						X	X	Block 'H'
-0203	↓	1122				↓	↓						↓	↓	*benzo(a)pyrene
-0304		1124													↓
-0506		1126													
466 -0708		1128													
467-0102		1141													
-0203		1143													
-0304		1145													
-0506		1147													
467 -0709		1149													
468 -0102		1320													
SB-468 -0203	10/23	1322				X	2						X	X	*benzo(a)pyrene

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 STND

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: [signature]	10/23/07	1630	1. Received By: [signature]	10/23/07	1630
2. Relinquished By			2. Received By: [signature]	10-24-07	1000
3. Relinquished By			3. Received By		

Comments

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

Chain of Custody Record

STL-4124 (0901)

SEVERN TRENT STL
Severn Trent Laboratories, Inc.

Field	Entry
Client	Tetra Tech
Address	20251 Century Blvd #200
City	Germantown
State	MD
Zip Code	20874
Project Name and Location (State)	LMC MD
Contract/Purchase Order/Quote No.	112IC00885
Project Manager	M. Martin
Telephone Number (Area Code)/Fax Number	301-528-3022
Site Contact	S. Hadley
Lab Contact	K. Ives
Carrier/Waybill Number	Carrie
Date	10/23/07
Lab Number	
Chain of Custody Number	227048
Page	2 of 2

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Matrix: Aqueous	Matrix: Sed.	Matrix: Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: 8270*	Analysis: Hg	Special Instructions/Conditions of Receipt
SB-468-0304	10/23	1324				X	2						X	X	Block "H"
↓ -0506	↓	1326				↓	↓						↓	↓	*benzo (a) pyrene ↓
468-0708	↓	1328				↓	↓						↓	↓	↓
469-0102	↓	1343				↓	↓						↓	↓	↓
0203	↓	1345				↓	↓						↓	↓	↓
0304	↓	1347				↓	2						↓	↓	↓
0506 +MS/SD	↓	1349				↓	4						↓	↓	↓
SB-469-0708	10/23	1351				X	2						X	X	*benzo (a) pyrene

KSH 10/23

Analysis (Attach list if more space is needed)

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 STD

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: [signature]	10/23/07	16:30	1. Received By: [signature]	10/23/07	1630
2. Relinquished By			2. Received By: [signature]	10-24-07	[illegible]
3. Relinquished By			3. Received By		

Comments

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

CASE NARRATIVE

7J24256

The following report contains the analytical results for twenty solid samples submitted to TestAmerica North Canton by Tetra Tech NUS Inc from the LMC MR Site, project number 112IC00885. The samples were received October 24, 2007, according to documented sample acceptance procedures.

This SDG consists of (1) laboratory ID: A7J240256.

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 Dev Murali, John Poremba and Michael Martin on November 12, 2007. 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.

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 1.7 and 2.6°C.

GC/MS SEMIVOLATILES

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 sample(s) SB-469-0506 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.

Sample(s) SB-466-0506 had up to one surrogate recovery per fraction outside acceptance limits. However, since the recovery was greater than 10% and all associated QC met criteria, no corrective action was taken.

The internal standard areas were outside acceptance limits for sample(s) SB-469-0506 matrix spike due to matrix effects. "(Refer to IS report following this Case Narrative for additional detail.)"

Double surrogates were added to sample(s) SB-466-0708. Recoveries were adjusted accordingly.

METALS

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

GENERAL CHEMISTRY

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

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica North Canton (formerly STL North Canton) 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.

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 (formerly STL 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.

SW846 8270C SURROGATE RECOVERY

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

Lab Code: TALCAN SDG No: 7J24256

Lot #: A7J240256

Extraction: XXA13QL01

	CLIENT ID.	SRG01	SRG02	SRG03	SRG04	SRG05	SRG06	TOT OUT
01	SB-466-0102	65	67	101	76	73	76	00
02	SB-466-0203	61	62	91	69	67	72	00
03	SB-466-0304	51	48	95	63	61	66	00
04	SB-466-0506	30	22 *	81	47	41	52	01
05	SB-466-0708	63	60	98	71	71	68	00
06	SB-467-0102	59	55	89	69	69	64	00
07	SB-467-0203	58	55	92	73	69	75	00
08	SB-467-0304	62	59	93	76	72	74	00
09	SB-467-0506	46	35	104	70	62	70	00
10	SB-467-0708	68	53	94	74	73	59	00
11	SB-468-0102	78	65	103	87	87	76	00
12	SB-468-0203	56	49	95	70	64	64	00
13	SB-468-0304	81	67	92	84	88	67	00
14	SB-468-0506	83	69	111	91	94	73	00
15	SB-468-0708	61	51	96	71	71	59	00
16	SB-469-0102	72	64	93	72	77	57	00
17	SB-469-0203	77	65	97	75	77	58	00
18	SB-469-0304	72	60	94	76	70	58	00
19	SB-469-0506	50	42	99	66	57	62	00
20	SB-469-0708	55	54	77	57	55	54	00
21	METHOD BLK. J9VA21AD	63	65	89	69	67	53	00
22	LCS J9VA21AE	79	76	92	80	78	77	00
23	SB-469-0506 D	59	57	77	62	61	64	00
24	SB-469-0506 S	51	59	90	57	52	71	00

SURROGATES		QC LIMITS
SRG01	= Nitrobenzene-d5	(24-112)
SRG02	= 2-Fluorobiphenyl	(34-110)
SRG03	= Terphenyl-d14	(41-119)
SRG04	= Phenol-d5	(28-110)
SRG05	= 2-Fluorophenol	(26-110)
SRG06	= 2,4,6-Tribromophenol	(10-118)

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

SW846 8270C METHOD BLANK SUMMARY

BLANK WORKORDER NO.: J9VA21AD

Lab Name: TestAmerica Laboratories, Inc.

Lab Code: TALCAN

SDG Number: 7J24256

Lab File ID: J9VA21AD.

Lot Number: A7J240256

Date Analyzed: 10/29/07

Time Analyzed: 10:38

Matrix: SOLID

Date Extracted: 10/26/07

GC Column: DB-5.625 ID: .18

Extraction Method: 3550B

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	SB-466-0102	J9P621AD	J9P621AD.	10/31/07	17:08
02	SB-466-0203	J9P7D1AD	J9P7D1AD.	10/31/07	17:26
03	SB-466-0304	J9P7K1AD	J9P7K1AD.	10/31/07	17:43
04	SB-466-0506	J9P7Q1AD	J9P7Q1AD.	10/31/07	18:00
05	SB-466-0708	J9P7V1AD	J9P7V1AD.	10/31/07	18:17
06	SB-467-0102	J9P701AD	J9P701AD.	10/31/07	18:35
07	SB-467-0203	J9P721AD	J9P721AD.	11/01/07	12:50
08	SB-467-0304	J9P731AD	J9P731AD.	11/01/07	13:07
09	SB-467-0506	J9P741AD	J9P741AD.	11/02/07	12:55
10	SB-467-0708	J9P751AD	J9P751AD.	11/02/07	13:29
11	SB-468-0102	J9P781AD	J9P781AD.	11/02/07	13:46
12	SB-468-0203	J9P8A1AD	J9P8A1AD.	11/02/07	14:03
13	SB-468-0304	J9P8C1AD	J9P8C1AD.	11/02/07	14:21
14	SB-468-0506	J9P8D1AD	J9P8D1AD.	11/02/07	14:38
15	SB-468-0708	J9P8E1AD	J9P8E1AD.	11/02/07	14:55
16	SB-469-0102	J9P8F1AD	J9P8F1AD.	11/02/07	15:12
17	SB-469-0203	J9P8G1AD	J9P8G1AD.	11/02/07	15:29
18	SB-469-0304	J9P8J1AD	J9P8J1AD.	11/02/07	15:47
19	SB-469-0506	J9P8K1AF	J9P8K1AF.	10/29/07	13:12
20	SB-469-0506	J9P8K1AM S	J9P8K1AM.	10/29/07	13:30
21	SB-469-0506	J9P8K1AN D	J9P8K1AN.	10/29/07	13:47
22	SB-469-0708	J9P861AD	J9P861AD.	10/29/07	14:04
23	CHECK SAMPLE	J9VA21AE C	J9VA21AE.	10/29/07	10:55
24					
25					
26					
27					
28					
29					
30					

COMMENTS:

FORM IV

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24256

Lab File ID: 2DF1029 DFTPP Injection Date: 10/29/07

Instrument ID: A4AG2 DFTPP Injection Time: 0704

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	34.6
68	Less than 2.0% of mass 69	0.6 (1.5)1
69	Mass 69 relative abundance	40.0
70	Less than 2.0% of mass 69	0.1 (0.4)1
127	40.0 - 60.0% of mass 198	49.9
197	Less than 1.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.4
275	10.0 - 30.0% of mass 198	25.2
365	Greater than 1.0% of mass 198	3.4
441	Present, but less than mass 443	11.5
442	Greater than 40.0% of mass 198	82.3
443	17.0 - 23.0% of mass 442	15.3 (18.6)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD009	L9	2SHHH1029	10/29/07	0715
02	SSTD008	L8	2SHH1029	10/29/07	0739
03	SSTD007	L7	2SH1029	10/29/07	0756
04	SSTD006	L6	2SMH1029	10/29/07	0813
05	SSTD005	L5	2SMM1029	10/29/07	0830
06	SSTD004	L4	2SM1029	10/29/07	0847
07	SSTD003	L3	2SML1029	10/29/07	0904
08	SSTD002	L2	2SL1029	10/29/07	0921
09	SSTD001	L1	2SLL1029	10/29/07	0938
10	J9VA2BLK	J9VA21AD	J9VA21AD	10/29/07	1038
11	J9VA2CHK	J9VA21AE	J9VA21AE	10/29/07	1055
12	SB-469-0506	J9P8K1AF	J9P8K1AF	10/29/07	1312
13	SB-469-0506	J9P8K1AM	J9P8K1AM	10/29/07	1330
14	SB-469-0506	J9P8K1AN	J9P8K1AN	10/29/07	1347
15	SB-469-0708	J9P861AD	J9P861AD	10/29/07	1404
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5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24256

Lab File ID: 2DF1031 DFTPP Injection Date: 10/31/07

Instrument ID: A4AG2 DFTPP Injection Time: 0645

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	35.3
68	Less than 2.0% of mass 69	0.2 (0.5)1
69	Mass 69 relative abundance	40.6
70	Less than 2.0% of mass 69	0.2 (0.5)1
127	40.0 - 60.0% of mass 198	49.9
197	Less than 1.0% of mass 198	0.6
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	25.0
365	Greater than 1.0% of mass 198	3.1
441	Present, but less than mass 443	10.6
442	Greater than 40.0% of mass 198	75.2
443	17.0 - 23.0% of mass 442	14.5 (19.2)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD006	L6	2SMH1031	10/31/07	0656
02	SB-466-0102	J9P621AD	J9P621AD	10/31/07	1708
03	SB-466-0203	J9P7D1AD	J9P7D1AD	10/31/07	1726
04	SB-466-0304	J9P7K1AD	J9P7K1AD	10/31/07	1743
05	SB-466-0506	J9P7Q1AD	J9P7Q1AD	10/31/07	1800
06	SB-466-0708	J9P7V1AD	J9P7V1AD	10/31/07	1817
07	SB-467-0102	J9P701AD	J9P701AD	10/31/07	1835
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5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24256

Lab File ID: 2DF1101 DFTPP Injection Date: 11/01/07

Instrument ID: A4AG2 DFTPP Injection Time: 0618

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	35.9
68	Less than 2.0% of mass 69	0.6 (1.6)1
69	Mass 69 relative abundance	41.0
70	Less than 2.0% of mass 69	0.2 (0.5)1
127	40.0 - 60.0% of mass 198	50.5
197	Less than 1.0% of mass 198	0.3
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.5
275	10.0 - 30.0% of mass 198	25.2
365	Greater than 1.0% of mass 198	3.4
441	Present, but less than mass 443	11.2
442	Greater than 40.0% of mass 198	79.6
443	17.0 - 23.0% of mass 442	14.9 (18.8)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD006	L6	2SMH1101	11/01/07	0629
02	SB-467-0203	J9P721AD	J9P721AD	11/01/07	1250
03	SB-467-0304	J9P731AD	J9P731AD	11/01/07	1307
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5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24256

Lab File ID: 2DF1102 DFTPP Injection Date: 11/02/07

Instrument ID: A4AG2 DFTPP Injection Time: 0856

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	40.4
68	Less than 2.0% of mass 69	0.6 (1.4)1
69	Mass 69 relative abundance	45.0
70	Less than 2.0% of mass 69	0.2 (0.5)1
127	40.0 - 60.0% of mass 198	52.9
197	Less than 1.0% of mass 198	0.5
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	24.5
365	Greater than 1.0% of mass 198	3.2
441	Present, but less than mass 443	9.1
442	Greater than 40.0% of mass 198	65.0
443	17.0 - 23.0% of mass 442	12.5 (19.2)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD006	L6	2SMH1102	11/02/07	0907
02	SB-467-0506	J9P741AD	J9P741AD	11/02/07	1255
03	SB-467-0708	J9P751AD	J9P751AD	11/02/07	1329
04	SB-468-0102	J9P781AD	J9P781AD	11/02/07	1346
05	SB-468-0203	J9P8A1AD	J9P8A1AD	11/02/07	1403
06	SB-468-0304	J9P8C1AD	J9P8C1AD	11/02/07	1421
07	SB-468-0506	J9P8D1AD	J9P8D1AD	11/02/07	1438
08	SB-468-0708	J9P8E1AD	J9P8E1AD	11/02/07	1455
09	SB-469-0102	J9P8F1AD	J9P8F1AD	11/02/07	1512
10	SB-469-0203	J9P8G1AD	J9P8G1AD	11/02/07	1529
11	SB-469-0304	J9P8J1AD	J9P8J1AD	11/02/07	1547
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STL North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 29-OCT-2007 07:15
End Cal Date : 29-OCT-2007 09:38
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSS\a4ag2.i\71029A.b\8270p.m
Last Edit : 29-Oct-2007 10:31 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	7.500 Level 7	10.000 Level 8	12.500 Level 9	RRF	% RSD	
144 Hexachlorophene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
145 Hexachlorophene product	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
146 Benzo(a)pyrene	1.19388	0.91500	0.94599	1.00463	0.99585	1.06396	1.10598	1.11559	1.23742	1.06425	10.275	
148 3-Methylcholanthrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
149 Indeno(1,2,3-cd)pyrene	1.22899	1.01257	1.04827	1.12537	1.12255	1.19394	1.24288	1.24889	1.38394	1.17860	9.699	
150 Dibenz(a,h)anthracene	1.02002	0.86564	0.89445	0.94052	0.96776	1.01881	1.06353	1.07575	1.19310	1.00440	10.044	
151 Benzo(g,h,i)perylene	1.00163	0.91708	0.90740	0.94530	0.95685	1.00796	1.03882	1.04345	1.14812	0.99629	7.576	
199 3-Picoline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
200 N,N-Dimethylacetamide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
201 Quinoline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
202 Diphenyl	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-

STL North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4ag2.i Injection Date: 29-OCT-2007 09:55
Lab File ID: ICVTCL.D Init. Cal. Date(s): 29-OCT-2007 29-OCT-2007
Analysis Type: Init. Cal. Times: 07:15 09:38
Lab Sample ID: ICVTCL Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSS\a4ag2.i\71029A.b\8270p.m

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
146 Benzo(a)pyrene	1.06425	1.06595	1.06595	0.010	-0.15952	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.17860	1.19840	1.19840	0.010	-1.68001	50.00000	Averaged
150 Dibenz(a,h)anthracene	1.00440	1.02613	1.02613	0.010	-2.16310	50.00000	Averaged
151 Benzo(g,h,i)perylene	0.99629	1.02560	1.02560	0.010	-2.94146	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.30329	0.31342	0.31342	0.010	-3.34090	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.19472	1.24940	1.24940	0.010	-4.57642	50.00000	Averaged
$ 156 Terphenyl-d14	0.82049	0.85940	0.85940	0.010	-4.74153	50.00000	Averaged
$ 157 Phenol-d5	1.50322	1.50799	1.50799	0.010	-0.31754	50.00000	Averaged
$ 158 2-Fluorophenol	1.14183	1.17848	1.17848	0.010	-3.20947	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	0.15946	0.17206	0.17206	0.010	-7.90069	50.00000	Averaged
$ 186 2-Chlorophenol-d4	1.29469	1.29546	1.29546	0.010	-0.05975	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.82582	0.83692	0.83692	0.010	-1.34346	50.00000	Averaged
M 195 Cresols, total	2.47068	2.50499	2.50499	0.010	-1.38839	50.00000	Averaged
101 Diphenylamine	0.51815	0.52590	0.52590	0.010	-1.49725	50.00000	Averaged

STL North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4ag2.i Injection Date: 31-OCT-2007 06:56
Lab File ID: 2SMH1031.D Init. Cal. Date(s): 29-OCT-2007 29-OCT-2007
Analysis Type: Init. Cal. Times: 07:15 09:38
Lab Sample ID: L6 Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSS\a4ag2.i\71031A.b\8270p.m

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
146 Benzo(a)pyrene	1.06425	1.08196	1.08196	0.010	-1.66387	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.17860	1.20956	1.20956	0.010	-2.62719	50.00000	Averaged
150 Dibenz(a,h)anthracene	1.00440	1.03848	1.03848	0.010	-3.39279	50.00000	Averaged
151 Benzo(g,h,i)perylene	0.99629	1.01820	1.01820	0.010	-2.19948	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.30329	0.31926	0.31926	0.010	-5.26427	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.19472	1.23373	1.23373	0.010	-3.26502	50.00000	Averaged
$ 156 Terphenyl-d14	0.82049	0.85590	0.85590	0.010	-4.31466	50.00000	Averaged
$ 157 Phenol-d5	1.50322	1.53050	1.53050	0.010	-1.81445	50.00000	Averaged
$ 158 2-Fluorophenol	1.14183	1.17548	1.17548	0.010	-2.94695	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	0.15946	0.16777	0.16777	0.010	-5.21554	50.00000	Averaged
$ 186 2-Chlorophenol-d4	1.29469	1.34374	1.34374	0.010	-3.78917	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.82582	0.83982	0.83982	0.010	-1.69466	50.00000	Averaged
M 195 Cresols, total	2.47068	2.46536	2.46536	0.010	0.21541	50.00000	Averaged
101 Diphenylamine	0.51815	0.52502	0.52502	0.010	-1.32733	50.00000	Averaged

STL North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4ag2.i Injection Date: 01-NOV-2007 06:29
Lab File ID: 2SMH1101.D Init. Cal. Date(s): 29-OCT-2007 29-OCT-2007
Analysis Type: Init. Cal. Times: 07:15 09:38
Lab Sample ID: L6 Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSS\a4ag2.i\71101A.b\8270p.m

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
146 Benzo(a)pyrene	1.06425	1.06822	1.06822	0.010	-0.37280	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.17860	1.20289	1.20289	0.010	-2.06112	50.00000	Averaged
150 Dibenz(a,h)anthracene	1.00440	1.01650	1.01650	0.010	-1.20498	50.00000	Averaged
151 Benzo(g,h,i)perylene	0.99629	1.01545	1.01545	0.010	-1.92338	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.30329	0.32761	0.32761	0.010	-8.01921	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.19472	1.23157	1.23157	0.010	-3.08401	50.00000	Averaged
$ 156 Terphenyl-d14	0.82049	0.85715	0.85715	0.010	-4.46707	50.00000	Averaged
$ 157 Phenol-d5	1.50322	1.45362	1.45362	0.010	3.29964	50.00000	Averaged
$ 158 2-Fluorophenol	1.14183	1.06093	1.06093	0.010	7.08531	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	0.15946	0.16631	0.16631	0.010	-4.29608	50.00000	Averaged
$ 186 2-Chlorophenol-d4	1.29469	1.28163	1.28163	0.010	1.00803	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.82582	0.84673	0.84673	0.010	-2.53202	50.00000	Averaged
M 195 Cresols, total	2.47068	2.54962	2.54962	0.010	-3.19496	50.00000	Averaged
101 Diphenylamine	0.51815	0.52771	0.52771	0.010	-1.84488	50.00000	Averaged

STL North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4ag2.i
Lab File ID: 2SMH1102.D
Analysis Type:
Lab Sample ID: L6
Method: \\cansvr11\dd\chem\MSS\a4ag2.i\71102A.b\8270p.m

Injection Date: 02-NOV-2007 09:07
Init. Cal. Date(s): 29-OCT-2007 29-OCT-2007
Init. Cal. Times: 07:15 09:38
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
146 Benzo(a)pyrene	1.06425	1.08452	1.08452	0.010	-1.90395	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.17860	1.21101	1.21101	0.010	-2.75011	50.00000	Averaged
150 Dibenz(a,h)anthracene	1.00440	1.02348	1.02348	0.010	-1.89953	50.00000	Averaged
151 Benzo(g,h,i)perylene	0.99629	1.01449	1.01449	0.010	-1.82701	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.30329	0.32398	0.32398	0.010	-6.82222	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.19472	1.22031	1.22031	0.010	-2.14154	50.00000	Averaged
$ 156 Terphenyl-d14	0.82049	0.85095	0.85095	0.010	-3.71203	50.00000	Averaged
$ 157 Phenol-d5	1.50322	1.48870	1.48870	0.010	0.96601	50.00000	Averaged
$ 158 2-Fluorophenol	1.14183	1.17816	1.17816	0.010	-3.18161	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	0.15946	0.15784	0.15784	0.010	1.01260	50.00000	Averaged
$ 186 2-Chlorophenol-d4	1.29469	1.28467	1.28467	0.010	0.77342	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.82582	0.83897	0.83897	0.010	-1.59167	50.00000	Averaged
M 195 Cresols, total	2.47068	2.72373	2.72373	0.010	-10.24192	50.00000	Averaged
101 Diphenylamine	0.51815	0.52362	0.52362	0.010	-1.05600	50.00000	Averaged

8B
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24256

Lab File ID (Standard): 2SMH1029 Date Analyzed: 10/29/07

Instrument ID: A4AG2 Time Analyzed: 0813

		IS1 (DCB) AREA #	RT	IS2 (NPT) AREA #	RT	IS3 (ANT) AREA #	RT
	12 HOUR STD	286373	3.64	1176499	4.53	607773	5.81
	UPPER LIMIT	572746	4.14	2352998	5.03	1215546	6.31
	LOWER LIMIT	143187	3.14	588250	4.03	303887	5.31
	EPA SAMPLE NO.						
01	J9VA2BLK	372365	3.63	1612698	4.53	855824	5.81
02	J9VA2CHK	381675	3.64	1670973	4.53	869117	5.81
03	SB-469-0506	374717	3.63	1597249	4.53	838669	5.81
04	SB-469-0506	99361*	3.63	423049*	4.53	215367*	5.81
05	SB-469-0506	319451	3.63	1414221	4.53	744075	5.81
06	SB-469-0708	381790	3.63	1684070	4.53	874812	5.81
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24256

Lab File ID (Standard): 2SMH1029 Date Analyzed: 10/29/07

Instrument ID: A4AG2 Time Analyzed: 0813

		IS4 (PHN) AREA #	RT	IS5 (CRY) AREA #	RT	IS6 (PRY) AREA #	RT
	12 HOUR STD	1035448	6.90	962013	8.87	934181	10.38
	UPPER LIMIT	2070896	7.40	1924026	9.37	1868362	10.88
	LOWER LIMIT	517724	6.40	481007	8.37	467091	9.88
	EPA SAMPLE NO.						
01	J9VA2BLK	1455284	6.90	1361379	8.87	1324326	10.38
02	J9VA2CHK	1486609	6.90	1371008	8.88	1330388	10.38
03	SB-469-0506	1411625	6.90	1301407	8.87	1278766	10.38
04	SB-469-0506	373774*	6.90	340175*	8.87	307419*	10.38
05	SB-469-0506	1316730	6.90	1234599	8.88	1185043	10.39
06	SB-469-0708	1520496	6.90	1396484	8.88	1331579	10.38
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24256

Lab File ID (Standard): 2SMH1031 Date Analyzed: 10/31/07

Instrument ID: A4AG2 Time Analyzed: 0656

		IS1 (DCB) AREA #	RT	IS2 (NPT) AREA #	RT	IS3 (ANT) AREA #	RT
	12 HOUR STD	357582	3.61	1543702	4.51	756387	5.78
	UPPER LIMIT	715164	4.11	3087404	5.01	1512774	6.28
	LOWER LIMIT	178791	3.11	771851	4.01	378194	5.28
	EPA SAMPLE NO.						
01	SB-466-0102	324516	3.61	1465090	4.51	784773	5.78
02	SB-466-0203	365984	3.61	1602625	4.51	849932	5.78
03	SB-466-0304	373534	3.61	1621494	4.51	841210	5.78
04	SB-466-0506	369369	3.61	1593803	4.51	828148	5.78
05	SB-466-0708	352861	3.61	1532476	4.51	812112	5.78
06	SB-467-0102	390271	3.61	1710178	4.51	907570	5.78
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24256

Lab File ID (Standard): 2SMH1031 Date Analyzed: 10/31/07

Instrument ID: A4AG2 Time Analyzed: 0656

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	1273448	6.87	1189792	8.85	1146138	10.34
	UPPER LIMIT	2546896	7.37	2379584	9.35	2292276	10.84
	LOWER LIMIT	636724	6.37	594896	8.35	573069	9.84
	EPA SAMPLE NO.						
01	SB-466-0102	1340540	6.87	1061428	8.84	933037	10.34
02	SB-466-0203	1465003	6.87	1176594	8.84	1036870	10.34
03	SB-466-0304	1451884	6.87	1178097	8.84	1028339	10.33
04	SB-466-0506	1439831	6.87	1131360	8.84	987504	10.33
05	SB-466-0708	1393626	6.87	1101329	8.84	962887	10.33
06	SB-467-0102	1574515	6.87	1260108	8.84	1102147	10.33
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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.

8B
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24256

Lab File ID (Standard): 2SMH1101 Date Analyzed: 11/01/07

Instrument ID: A4AG2 Time Analyzed: 0629

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	204046	3.60	864274	4.50	441616	5.77
	UPPER LIMIT	408092	4.10	1728548	5.00	883232	6.27
	LOWER LIMIT	102023	3.10	432137	4.00	220808	5.27
	EPA SAMPLE NO.						
01	SB-467-0203	238542	3.60	1113184	4.50	614861	5.77
02	SB-467-0304	210970	3.60	981730	4.50	550219	5.77
03							
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24256

Lab File ID (Standard): 2SMH1101 Date Analyzed: 11/01/07

Instrument ID: A4AG2 Time Analyzed: 0629

		IS4 (PHN) AREA #	RT	IS5 (CRY) AREA #	RT	IS6 (PRY) AREA #	RT
	12 HOUR STD	754632	6.85	692263	8.82	680042	10.30
	UPPER LIMIT	1509264	7.35	1384526	9.32	1360084	10.80
	LOWER LIMIT	377316	6.35	346132	8.32	340021	9.80
	EPA SAMPLE NO.						
01	SB-467-0203	1164464	6.87	1064617	8.84	1070507	10.32
02	SB-467-0304	1006649	6.87	923364	8.84	917342	10.32
03							
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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.

8B
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24256

Lab File ID (Standard): 2SMH1102 Date Analyzed: 11/02/07

Instrument ID: A4AG2 Time Analyzed: 0907

		IS1 (DCB) AREA #	RT	IS2 (NPT) AREA #	RT	IS3 (ANT) AREA #	RT
	12 HOUR STD	182072	3.57	759534	4.47	380375	5.74
	UPPER LIMIT	364144	4.07	1519068	4.97	760750	6.24
	LOWER LIMIT	91036	3.07	379767	3.97	190188	5.24
	EPA SAMPLE NO.						
01	SB-467-0506	241669	3.57	1040067	4.47	519654	5.74
02	SB-467-0708	180160	3.57	738139	4.47	363452	5.74
03	SB-468-0102	150915	3.57	649798	4.47	322653	5.74
04	SB-468-0203	213047	3.57	924838	4.47	461380	5.74
05	SB-468-0304	248189	3.57	1064939	4.47	529346	5.74
06	SB-468-0506	193655	3.57	828772	4.47	417948	5.74
07	SB-468-0708	251983	3.57	1085799	4.47	536312	5.74
08	SB-469-0102	137037	3.57	587564	4.47	284949	5.74
09	SB-469-0203	197698	3.57	823273	4.47	409674	5.74
10	SB-469-0304	213432	3.57	884533	4.47	438077	5.74
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22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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.

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24256

Lab File ID (Standard): 2SMH1102 Date Analyzed: 11/02/07

Instrument ID: A4AG2 Time Analyzed: 0907

		IS4 (PHN) AREA #	RT	IS5 (CRY) AREA #	RT	IS6 (PRY) AREA #	RT
	12 HOUR STD	631202	6.83	581779	8.80	553071	10.26
	UPPER LIMIT	1262404	7.33	1163558	9.30	1106142	10.76
	LOWER LIMIT	315601	6.33	290890	8.30	276536	9.76
	EPA SAMPLE NO.						
01	SB-467-0506	879504	6.83	784621	8.80	687633	10.27
02	SB-467-0708	614260	6.83	546548	8.81	481507	10.27
03	SB-468-0102	551592	6.83	481698	8.80	470906	10.27
04	SB-468-0203	777648	6.83	684898	8.80	659486	10.27
05	SB-468-0304	904196	6.83	802934	8.81	769340	10.27
06	SB-468-0506	696522	6.83	601752	8.80	576956	10.25
07	SB-468-0708	887790	6.83	793752	8.80	750522	10.26
08	SB-469-0102	478050	6.83	416657	8.80	410627	10.26
09	SB-469-0203	686894	6.83	604823	8.80	584674	10.25
10	SB-469-0304	737020	6.83	659307	8.80	624946	10.26
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22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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.

FORM VIII SV-2 1/87 Rev.

SAMPLE CALC SAMPLE ID: SB-466-0102 COMPOUND: BAP

IS AREA	DILUTION	COMPOUND OF INTEREST AREA	IS AMOUNT (NG)	Final Extract Volume (UL)	AVE RRF	PERCENT SOLIDS	AMOUNT INJECTED (UL)	CONCENTRATION PPB
933037	1	34706	2	2000	1.0643	0.85	0.5	10.96

Sample Amount (g)
30.02

Tetra Tech NUS, Inc

Client Sample ID: SB-466-0102

GC/MS Semivolatiles

Lot-Sample #...:	A7J240256-001	**Work Order #...:**	J9P621AD	**Matrix.....:**	SO
Date Sampled...:	10/23/07 11:20	**Date Received..:**	10/24/07		
Prep Date.....:	10/26/07	**Analysis Date..:**	10/31/07		
Prep Batch #...:	7298518				
Dilution Factor:	1	**Initial Wgt/Vol:**	30.02 g	**Final Wgt/Vol..:**	2 mL
% Moisture.....:	15	**Method.....:**	SW846 8270C		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo(a)pyrene	**11 J**	**390**	**ug/kg**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	65	(24 - 112)
2-Fluorobiphenyl	67	(34 - 110)
Terphenyl-d14	101	(41 - 119)
Phenol-d5	76	(28 - 110)
2-Fluorophenol	73	(26 - 110)
2,4,6-Tribromophenol	76	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

STL North Canton

Semivolatile REPORT SW-846 Method 8270

Data file : \\cansvr11\dd\chem\MSS\a4ag2.i\71031A.b\J9P621AD.D
Lab Smp Id: J9P621AD Client Smp ID: SB-466-0102
Inj Date : 31-OCT-2007 17:08
Operator : 046900 Inst ID: a4ag2.i
Smp Info : J9P621AD,71031A.b,8270P,BAP.SUB
Misc Info :
Comment :
Method : \\cansvr11\dd\chem\MSS\a4ag2.i\71031A.b\8270p.m
Meth Date : 01-Nov-2007 07:46 hulat Quant Type: ISTD
Cal Date : 29-OCT-2007 07:15 Cal File: 2SHHH1029.D
Als bottle: 37
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BAP.SUB
Target Version: 4.14
Processing Host: CANPMSSV04

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	2000.000	Volume of final extract (uL)(1000 low, 2
Vi	0.50000	Volume injected (uL)
Ws	30.020	Weight of sample extracted (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/kg)	
* 1 1,4-Dichlorobenzene-d4	152	3.613	3.613	(1.000)	324516	2.00000		(Q)
* 2 Naphthalene-d8	136	4.513	4.513	(1.000)	1465090	2.00000		
* 3 Acenaphthene-d10	164	5.783	5.783	(1.000)	784773	2.00000		
* 4 Phenanthrene-d10	188	6.871	6.871	(1.000)	1340540	2.00000		
* 5 Chrysene-d12	240	8.842	8.848	(1.000)	1061428	2.00000		
* 6 Perylene-d12	264	10.336	10.336	(1.000)	933037	2.00000		
146 Benzo(a)pyrene	252	10.265	10.271	(0.993)	34706	0.06990	9.3141	
$ 154 Nitrobenzene-d5	82	3.989	3.995	(0.884)	718284	3.23297	430.78	
$ 155 2-Fluorobiphenyl	172	5.266	5.272	(0.911)	1581108	3.37271	449.40	
$ 156 Terphenyl-d14	244	8.018	8.018	(0.907)	2188986	5.02697	669.82	
$ 157 Phenol-d5	99	3.319	3.313	(0.919)	1388266	5.69173	758.39	
$ 158 2-Fluorophenol	112	2.748	2.736	(0.761)	1012843	5.46681	728.42	
$ 159 2,4,6-Tribromophenol	330	6.354	6.354	(1.099)	355207	5.67703	756.43	
$ 186 2-Chlorophenol-d4	132	3.460	3.460	(0.958)	1147008	5.46004	727.52	
$ 187 1,2-Dichlorobenzene-d4	152	3.725	3.725	(1.031)	310898	2.32020	309.15	

QC Flag Legend

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**M. MARTIN**	**DATE:**	**JANUARY 8, 2008**
FROM:	**MATTHEW D. KRAUS**	**COPIES:**	**DV FILE**
SUBJECT:	**INORGANIC DATA VALIDATION – MERCURY LOCKHEED MIDDLE RIVER SDG – 7J24256**		
SAMPLES:	20/Solid/		

SB-466-0102	SB-466-0203	SB-660-0304
SB-466-0506	SB-466-0708	SB-467-0102
SB-467-0203	SB-467-0304	SB-467-0506
SB-467-0708	SB-468-0102	SB-468-0203
SB-468-0304	SB-468-0506	SB-468-0708
SB-469-0102	SB-469-0203	SB-469-0304
SB-469-0506	SB-469-0708	

Overview

The sample set for Lockheed Middle River, SDG 7J24256, consists of twenty soil environmental samples which were all analyzed for mercury and percent solids.

The samples were collected on October 23, 2007 and analyzed by Test America Laboratories.. All of the samples were analyzed for mercury in accordance with SW 846 method 7471A and cold vapor atomic absorption (CVAA) methodologies.

Summary

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

Major Problems

- None.

Minor Problems

- None.

Executive Summary

Laboratory Performance: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the "Region III Modifications to National Functional Guidelines for Inorganic Data Validation", April 1993.

Tetra Tech NUS
Matthew D. Kraus
Environmental Chemist

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

Data Qualifier Key

U - Value is considered non-detected as reported by the laboratory.

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 $r < 0.995$
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: 00885

SDG: 7J24256 MEDIA: SOIL DATA FRACTION: M

nsample	SB-466-0102
samp_date	10/23/2007
lab_id	A7J240256001
qc_type	NM
units	MG/KG
Pct_Solids	85.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

nsample	SB-466-0203
samp_date	10/23/2007
lab_id	A7J240256002
qc_type	NM
units	MG/KG
Pct_Solids	90.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

nsample	SB-466-0304
samp_date	10/23/2007
lab_id	A7J240256003
qc_type	NM
units	MG/KG
Pct_Solids	89.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

PROJ_NO: 00885

SDG: 7J24256 MEDIA: SOIL DATA FRACTION: M

nsample	SB-466-0506	nsample	SB-466-0708	nsample	SB-467-0102
samp_date	10/23/2007	samp_date	10/23/2007	samp_date	10/23/2007
lab_id	A7J240256004	lab_id	A7J240256005	lab_id	A7J240256006
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	83.0	Pct_Solids	84.0	Pct_Solids	89.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

PROJ_NO: 00885

SDG: 7J24256 MEDIA: SOIL DATA FRACTION: M

nsample	SB-467-0203
samp_date	10/23/2007
lab_id	A7J240256007
qc_type	NM
units	MG/KG
Pct_Solids	89.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

nsample	SB-467-0304
samp_date	10/23/2007
lab_id	A7J240256008
qc_type	NM
units	MG/KG
Pct_Solids	89.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

nsample	SB-467-0506
samp_date	10/23/2007
lab_id	A7J240256009
qc_type	NM
units	MG/KG
Pct_Solids	84.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

PROJ_NO: 00885

SDG: 7J24256 MEDIA: SOIL DATA FRACTION: M

nsample	SB-467-0708
samp_date	10/23/2007
lab_id	A7J240256010
qc_type	NM
units	MG/KG
Pct_Solids	86.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

nsample	SB-468-0102
samp_date	10/23/2007
lab_id	A7J240256011
qc_type	NM
units	MG/KG
Pct_Solids	89.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

nsample	SB-468-0203
samp_date	10/23/2007
lab_id	A7J240256012
qc_type	NM
units	MG/KG
Pct_Solids	85.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

PROJ_NO: 00885

SDG: 7J24256 MEDIA: SOIL DATA FRACTION: M

nsample	SB-468-0304	nsample	SB-468-0506	nsample	SB-468-0708
samp_date	10/23/2007	samp_date	10/23/2007	samp_date	10/23/2007
lab_id	A7J240256013	lab_id	A7J240256014	lab_id	A7J240256015
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	85.0	Pct_Solids	84.0	Pct_Solids	85.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

PROJ_NO: 00885

SDG: 7J24256 MEDIA: SOIL DATA FRACTION: M

nsample	SB-469-0102	nsample	SB-469-0203	nsample	SB-469-0304
samp_date	10/23/2007	samp_date	10/23/2007	samp_date	10/23/2007
lab_id	A7J240256016	lab_id	A7J240256017	lab_id	A7J240256018
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	89.0	Pct_Solids	87.0	Pct_Solids	82.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

PROJ_NO: 00885

SDG: 7J24256 MEDIA: SOIL DATA FRACTION: M

nsample	SB-469-0506
samp_date	10/23/2007
lab_id	A7J240256019
qc_type	NM
units	MG/KG
Pct_Solids	84.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

nsample	SB-469-0708
samp_date	10/23/2007
lab_id	A7J240256020
qc_type	NM
units	MG/KG
Pct_Solids	85.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

APPENDIX B
RESULTS AS REPORTED BY THE LABORATORY

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9P62 **Client ID:** SB-466-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 15.028

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/26/2007	11:43

Comments: Lot #: A7J240256 Sample #: 1

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9P7D **Client ID:** SB-466-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 10.167

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/26/2007	11:53

Comments: Lot #: A7J240256 Sample #: 2

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9P7K **Client ID:** SB-466-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 11.43

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/26/2007	11:54

Comments: Lot #: A7J240256 Sample #: 3

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9P7Q **Client ID:** SB-466-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.07

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/26/2007	11:55

Comments: Lot #: A7J240256 Sample #: 4

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9P7V **Client ID:** SB-466-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 15.633

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/26/2007	11:56

Comments: Lot #: A7J240256 Sample #: 5

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9P70 **Client ID:** SB-467-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 10.535

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/26/2007	11:44

Comments: Lot #: A7J240256 Sample #: 6

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9P72 **Client ID:** SB-467-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 11.416

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/26/2007	11:45

Comments: Lot #: A7J240256 Sample #: 7

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9P73 **Client ID:** SB-467-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 11.483

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/26/2007	11:46

Comments: Lot #: A7J240256 Sample #: 8

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9P74 **Client ID:** SB-467-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.365

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/26/2007	11:50

Comments: Lot #: A7J240256 Sample #: 9

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9P75 **Client ID:** SB-467-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 13.635

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.12	0.019	U	1	CVAA	10/26/2007	11:51

Comments: Lot #: A7J240256 Sample #: 10

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9P78 **Client ID:** SB-468-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 11.201

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/26/2007	11:52

Comments: Lot #: A7J240256 Sample #: 11

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9P8A **Client ID:** SB-468-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 14.543

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/26/2007	11:59

Comments: Lot #: A7J240256 Sample #: 12

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9P8C **Client ID:** SB-468-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 14.867

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/26/2007	12:00

Comments: Lot #: A7J240256 Sample #: 13

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9P8D **Client ID:** SB-468-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.086

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/26/2007	12:04

Comments: Lot #: A7J240256 Sample #: 14

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9P8E **Client ID:** SB-468-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 15.362

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/26/2007	12:05

Comments: Lot #: A7J240256 Sample #: 15

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9P8F **Client ID:** SB-469-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 10.933

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/26/2007	12:06

Comments: Lot #: A7J240256 Sample #: 16

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9P8G **Client ID:** SB-469-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 12.576

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/26/2007	12:07

Comments: Lot #: A7J240256 Sample #: 17

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9P8J **Client ID:** SB-469-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.768

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/26/2007	12:08

Comments: Lot #: A7J240256 Sample #: 18

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9P8K **Client ID:** SB-469-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.384

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/26/2007	12:09

Comments: Lot #: A7J240256 Sample #: 19

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9P86 **Client ID:** SB-469-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 15.384

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/26/2007	11:58

Comments: Lot #: A7J240256 Sample #: 20

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Tetra Tech NUS, Inc

Client Sample ID: SB-466-0102

General Chemistry

Lot-Sample #...: A7J240256-001 Work Order #...: J9P62 Matrix.....: SO
Date Sampled...: 10/23/07 11:20 Date Received..: 10/24/07
% Moisture.....: 15

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	85.0	10.0	%	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-466-0203

General Chemistry

Lot-Sample #...: A7J240256-002 Work Order #...: J9P7D Matrix.....: SO
Date Sampled...: 10/23/07 11:22 Date Received..: 10/24/07
% Moisture.....: 10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	89.8	10.0	%	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-466-0304

General Chemistry

Lot-Sample #...: A7J240256-003 **Work Order #...:** J9P7K **Matrix.....:** SO
Date Sampled...: 10/23/07 11:24 **Date Received..:** 10/24/07
% Moisture.....: 11

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	88.6	10.0	%	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-466-0506

General Chemistry

Lot-Sample #...: A7J240256-004 **Work Order #...:** J9P7Q **Matrix.....:** SO
Date Sampled...: 10/23/07 11:26 **Date Received..:** 10/24/07
% Moisture.....: 17

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	82.9	10.0	%	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-466-0708

General Chemistry

Lot-Sample #...: A7J240256-005 Work Order #...: J9P7V Matrix.....: SO
Date Sampled...: 10/23/07 11:28 Date Received..: 10/24/07
% Moisture.....: 16

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	84.4	10.0	%	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-467-0102

General Chemistry

Lot-Sample #...: A7J240256-006 **Work Order #...:** J9P70 **Matrix.....:** SO
Date Sampled...: 10/23/07 11:41 **Date Received..:** 10/24/07
% Moisture.....: 11

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	89.5	10.0	%	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-467-0203

General Chemistry

Lot-Sample #...: A7J240256-007 **Work Order #...:** J9P72 **Matrix.....:** SO
Date Sampled...: 10/23/07 11:43 **Date Received..:** 10/24/07
% Moisture.....: 11

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	88.6	10.0	%	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-467-0304

General Chemistry

Lot-Sample #...: A7J240256-008 Work Order #...: J9P73 Matrix.....: SO
Date Sampled...: 10/23/07 11:45 Date Received..: 10/24/07
% Moisture.....: 11

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	88.5	10.0	%	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-467-0506

General Chemistry

Lot-Sample #...: A7J240256-009 **Work Order #...:** J9P74 **Matrix.....:** SO
Date Sampled...: 10/23/07 11:47 **Date Received..:** 10/24/07
% Moisture.....: 16

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	83.6	10.0	%	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-467-0708

General Chemistry

Lot-Sample #...: A7J240256-010 **Work Order #...:** J9P75 **Matrix.....:** SO
Date Sampled...: 10/23/07 11:49 **Date Received..:** 10/24/07
% Moisture.....: 14

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	86.4	10.0	%	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-468-0102

General Chemistry

Lot-Sample #...: A7J240256-011 **Work Order #...:** J9P78 **Matrix.....:** SO
Date Sampled...: 10/23/07 13:20 **Date Received..:** 10/24/07
% Moisture.....: 11

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	88.8	10.0	%	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-468-0203

General Chemistry

Lot-Sample #...: A7J240256-012 **Work Order #...:** J9P8A **Matrix.....:** SO
Date Sampled...: 10/23/07 13:22 **Date Received..:** 10/24/07
% Moisture.....: 15

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	85.5	10.0	%	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-468-0304

General Chemistry

Lot-Sample #...: A7J240256-013 **Work Order #...:** J9P8C **Matrix.....:** SO
Date Sampled...: 10/23/07 13:24 **Date Received..:** 10/24/07
% Moisture.....: 15

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	85.1	10.0	%	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-468-0506

General Chemistry

Lot-Sample #...: A7J240256-014 Work Order #...: J9P8D Matrix.....: SO
Date Sampled...: 10/23/07 13:26 Date Received..: 10/24/07
% Moisture.....: 16

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	83.9	10.0	%	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-468-0708

General Chemistry

Lot-Sample #...: A7J240256-015 **Work Order #...:** J9P8E **Matrix.....:** SO
Date Sampled...: 10/23/07 13:28 **Date Received..:** 10/24/07
% Moisture.....: 15

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	84.6	10.0	%	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-469-0102

General Chemistry

Lot-Sample #...: A7J240256-016 Work Order #...: J9P8F Matrix.....: SO
Date Sampled...: 10/23/07 13:43 Date Received..: 10/24/07
% Moisture.....: 11

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	89.1	10.0	%	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-469-0203

General Chemistry

Lot-Sample #...: A7J240256-017 Work Order #...: J9P8G Matrix.....: SO
Date Sampled...: 10/23/07 13:45 Date Received..: 10/24/07
% Moisture.....: 13

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	87.4	10.0	%	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-469-0304

General Chemistry

Lot-Sample #...: A7J240256-018 Work Order #...: J9P8J Matrix.....: SO
Date Sampled...: 10/23/07 13:47 Date Received..: 10/24/07
% Moisture.....: 18

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	82.2	10.0	%	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-469-0506

General Chemistry

Lot-Sample #...: A7J240256-019 Work Order #...: J9P8K Matrix.....: SO
Date Sampled...: 10/23/07 13:49 Date Received..: 10/24/07
% Moisture.....: 16

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	83.6	10.0	%	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-469-0708

General Chemistry

Lot-Sample #...: A7J240256-020 Work Order #...: J9P86 Matrix.....: SO
Date Sampled...: 10/23/07 13:51 Date Received..: 10/24/07
% Moisture.....: 15

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	84.6	10.0	%	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

APPENDIX C
SUPPORT DOCUMENTATION

HOLDTIME

SDG 7J24256

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	SB-468-0506	A7J240256014	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-466-0304	A7J240256003	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-466-0506	A7J240256004	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-466-0708	A7J240256005	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-467-0203	A7J240256007	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-467-0506	A7J240256009	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-467-0708	A7J240256010	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-468-0102	A7J240256011	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-466-0203	A7J240256002	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-468-0304	A7J240256013	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-467-0102	A7J240256006	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-468-0708	A7J240256015	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-469-0102	A7J240256016	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-469-0203	A7J240256017	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-469-0304	A7J240256018	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	SB-469-0506	A7J240256019	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-469-0708	A7J240256020	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-466-0102	A7J240256001	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-468-0203	A7J240256012	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-467-0304	A7J240256008	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
PCS	%	SB-468-0304	A7J240256013	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-469-0506	A7J240256019	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-469-0708	A7J240256020	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-469-0304	A7J240256018	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-469-0203	A7J240256017	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-469-0102	A7J240256016	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-468-0506	A7J240256014	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-466-0102	A7J240256001	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-468-0203	A7J240256012	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-468-0102	A7J240256011	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-466-0304	A7J240256003	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-468-0708	A7J240256015	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-466-0203	A7J240256002	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
PCS	%	SB-467-0708	A7J240256010	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-466-0506	A7J240256004	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-466-0708	A7J240256005	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-467-0102	A7J240256006	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-467-0203	A7J240256007	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-467-0304	A7J240256008	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-467-0506	A7J240256009	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
OS	%	SB-469-0708	A7J240256020	NM	10/23/2007	10/26/2007	10/29/2007	3	3	6
OS	%	SB-467-0506	A7J240256009	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	%	SB-466-0203	A7J240256002	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	%	SB-466-0304	A7J240256003	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	%	SB-466-0506	A7J240256004	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	%	SB-466-0708	A7J240256005	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	%	SB-467-0102	A7J240256006	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	%	SB-467-0203	A7J240256007	NM	10/23/2007	10/26/2007	11/1/2007	3	6	9
OS	%	SB-467-0304	A7J240256008	NM	10/23/2007	10/26/2007	11/1/2007	3	6	9
OS	%	SB-466-0102	A7J240256001	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	%	SB-469-0506	A7J240256019	NM	10/23/2007	10/26/2007	10/29/2007	3	3	6

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OS	%	SB-468-0102	A7J240256011	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	%	SB-468-0203	A7J240256012	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	%	SB-468-0304	A7J240256013	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	%	SB-468-0506	A7J240256014	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	%	SB-468-0708	A7J240256015	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	%	SB-469-0102	A7J240256016	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	%	SB-469-0203	A7J240256017	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	%	SB-469-0304	A7J240256018	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	%	SB-467-0708	A7J240256010	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-468-0304	A7J240256013	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-468-0506	A7J240256014	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-468-0708	A7J240256015	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-469-0102	A7J240256016	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-469-0203	A7J240256017	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-469-0304	A7J240256018	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-468-0203	A7J240256012	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-469-0708	A7J240256020	NM	10/23/2007	10/26/2007	10/29/2007	3	3	6
OS	UG/KG	SB-467-0102	A7J240256006	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OS	UG/KG	SB-469-0506	A7J240256019	NM	10/23/2007	10/26/2007	10/29/2007	3	3	6
OS	UG/KG	SB-468-0102	A7J240256011	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-467-0708	A7J240256010	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-467-0506	A7J240256009	NM	10/23/2007	10/26/2007	11/2/2007	3	7	10
OS	UG/KG	SB-466-0102	A7J240256001	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	UG/KG	SB-467-0203	A7J240256007	NM	10/23/2007	10/26/2007	11/1/2007	3	6	9
OS	UG/KG	SB-466-0708	A7J240256005	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	UG/KG	SB-466-0506	A7J240256004	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	UG/KG	SB-466-0304	A7J240256003	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	UG/KG	SB-466-0203	A7J240256002	NM	10/23/2007	10/26/2007	10/31/2007	3	5	8
OS	UG/KG	SB-467-0304	A7J240256008	NM	10/23/2007	10/26/2007	11/1/2007	3	6	9

Chain of Custody Record

SEVERN TRENT **STL**

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: Tetra Tech	Project Manager: M. Martin	Date: 10/23/07	Chain of Custody Number: 227047
Address: 20251 Century Blvd #200	Telephone Number (Area Code)/Fax Number: 301 528 ~~300~~ 3022	Lab Number:	Page 1 of 2
City: Germantown / State: MD / Zip Code: 20874	Site Contact: S. Hadley	Lab Contact: K. Ivos	
Project Name and Location (State): LMC MR	Carrier/Waybill Number: Courier		
Contract/Purchase Order/Quote No.: 112 DC 00885			

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: 8270 *	Hg mercury	Special Instructions/ Conditions of Receipt
SB-466-0102	10/23	1120				X	2						X	X	Block 'H'
-0203		1122													*benzo(a)pyrene
-0304		1124													
-0506		1126													
466-0708		1128													
467-0102		1141													
-0203		1143													
-0304		1145													
-0506		1147													
467-0708		1149													
468-0102		1320													
SB-468-0203	10/23	1322			X		2						X	X	*benzo(a)pyrene

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 SDN

QC Requirements (Specify)

1. Relinquished By	Date	Time	1. Received By	Date	Time
	10/23/07	16:20		10/23/07	1630
2. Relinquished By	Date	Time	2. Received By	Date	Time
				10-24-07	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

TestAmerica North Canton

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Chain of Custody Record

STL-4124 (0901)

SEVERN TRENT STL
Severn Trent Laboratories, Inc.

Client: Tetra Tech	Project Manager: M. Martin	Date: 10/23/07	Chain of Custody Number: 227048
Address: 20251 Century Blvd #200	Telephone Number (Area Code)/Fax Number: 301-528-3022	Lab Number:	Page 2 of 2
City: Germantown State: MD Zip Code: 20874	Site Contact: S. Hadley	Lab Contact: K. Ives	
Project Name and Location (State): LMC MR	Carrier/Waybill Number: Courier		
Contract/Purchase Order/Quote No.: 112IC00885			

Matrix: Air, Aqueous, Sed., Soil
Containers & Preservatives: Unpres., H2SO4, HNO3, HCl, NaOH, ZnAc/NaOH
Analysis (Attach list if more space is needed): 8270 *, Hg

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	8270 *	Hg	Special Instructions/ Conditions of Receipt
SB-468-0304	10/23	1324				X	2								Block "H"
↓ -0506	↓	1326				↓	↓						X	X	*benzo(a)pyrene
468-0708	↓	1328				↓	↓						↓	↓	↓
469-0102	↓	1343				↓	↓						↓	↓	↓
0203	↓	1345				↓	↓						↓	↓	↓
0304	↓	1347				↓	2						↓	↓	↓
0506 +ms/sd	↓	1349				↓	4						↓	↓	↓
SB-469-0708	10/23	1351				X	2						X	X	*benzo(a)pyrene

KSH 10/23

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 STND

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By: [signature]	10/23/07	16:20	1. Received By: [signature]	10/23/07	1630
2. Relinquished By:			2. Received By: [signature]	10-24-07	[illegible]
3. Relinquished By:			3. Received By:		

Comments

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

TestAmerica Cooler Receipt Form/Narrative
North Canton Facility

Lot Number: ATS-40256

Client: TetraTech Project: _____ Quote#: 77083

Cooler Received on: 10-24-07 Opened on: 10-24-07 By: _____

FedEx ☑ Client Drop Off ☐ UPS ☐ DHL ☐ FAS ☐ TestAmerica Courier ☐

Stetson ☐ US Cargo ☐ Other: _____ (Signature)

TestAmerica Cooler No# Rack-2 Foam Box ☐ Client Cooler ☐ Other _____

1. Were custody seals on the outside of the cooler? Yes ☐ No ☑ Intact? Yes ☐ No ☐ NA ☑
   If YES, Quantity _____
   Were custody seals on the outside of cooler signed and dated? Yes ☐ No ☐ NA ☑
   Were custody seals on the bottles? Yes ☐ No ☑
   If YES, are there any exceptions _____
2. Shipper's packing slip attached to this form? Yes ☑ No ☐
3. Did custody papers accompany the samples? Yes ☑ No ☐ Relinquished by client? Yes ☑ No ☐
4. Did you sign the custody papers in the appropriate place? Yes ☑ No ☐
5. Packing material used: Bubble Wrap ☑ Foam ☐ None ☐ Other: _____
6. Cooler temperature upon receipt _____ °C (see back of form for multiple coolers/temp)

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 and/or tags be reconciled with the COC? Yes ☑ No ☐
9. Were samples at the correct pH upon receipt? Yes ☐ No ☐ NA ☑
10. Were correct bottles used for the tests 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? Yes ☐ No ☑ Were VOAs on the COC? Yes ☐ No ☑

Contacted PM _____ Date: _____ by: _____ via Voice Mail ☐ Verbal ☐ 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.

16. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in sample receiving to meet recommended pH level(s). *Nitric Acid Lot #042607-HNO3 - Sulfuric Acid Lot # 092006-H2SO4; Sodium Hydroxide Lot # 122805 -NaOH; Hydrochloric Acid Lot # 092006-HCl; Sodium Hydroxide and Zinc Acetate Lot # 050205-CH3COO2ZN/NaOH*

What time was preservative added to samples? _____

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

Client ID	pH	Date	Initials

TestAmerica Cooler Receipt Form/Narrative
North Canton Facility

Client ID	pH	Date	Initials

Cooler	Temp °C	Method	Coolant
client cooler	2.6	IR	ICE
2660	1.7	1	1

Discrepancies Cont'd

CASE NARRATIVE

7J24256

The following report contains the analytical results for twenty solid samples submitted to TestAmerica North Canton by Tetra Tech NUS Inc from the LMC MR Site, project number 112IC00885. The samples were received October 24, 2007, according to documented sample acceptance procedures.

This SDG consists of (1) laboratory ID: A7J240256.

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 Dev Murali, John Poremba and Michael Martin on November 12, 2007. 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.

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 1.7 and 2.6°C.

GC/MS SEMIVOLATILES

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 sample(s) SB-469-0506 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.

Sample(s) SB-466-0506 had up to one surrogate recovery per fraction outside acceptance limits. However, since the recovery was greater than 10% and all associated QC met criteria, no corrective action was taken.

The internal standard areas were outside acceptance limits for sample(s) SB-469-0506 matrix spike due to matrix effects. "(Refer to IS report following this Case Narrative for additional detail.)"

Double surrogates were added to sample(s) SB-466-0708. Recoveries were adjusted accordingly.

METALS

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

GENERAL CHEMISTRY

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

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica North Canton (formerly STL North Canton) 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.

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 (formerly STL 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 North Canton (formerly STL North Canton)Certifications and Approvals:

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),
Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), OhioVAP (#CL0024), West Virginia (#210), Wisconsin (#999518190),NAVY, ARMY, USDA Soil Permit,

ANALYTICAL METHODS SUMMARY

7J24256

PARAMETER	ANALYTICAL METHOD
Mercury in Solid Waste (Manual Cold-Vapor)	SW846 7471A
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD

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

7J24256 : A7J240256

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
J9P62	001	SB-466-0102	10/23/07	11:20
J9P7D	002	SB-466-0203	10/23/07	11:22
J9P7K	003	SB-466-0304	10/23/07	11:24
J9P7Q	004	SB-466-0506	10/23/07	11:26
J9P7V	005	SB-466-0708	10/23/07	11:28
J9P70	006	SB-467-0102	10/23/07	11:41
J9P72	007	SB-467-0203	10/23/07	11:43
J9P73	008	SB-467-0304	10/23/07	11:45
J9P74	009	SB-467-0506	10/23/07	11:47
J9P75	010	SB-467-0708	10/23/07	11:49
J9P78	011	SB-468-0102	10/23/07	13:20
J9P8A	012	SB-468-0203	10/23/07	13:22
J9P8C	013	SB-468-0304	10/23/07	13:24
J9P8D	014	SB-468-0506	10/23/07	13:26
J9P8E	015	SB-468-0708	10/23/07	13:28
J9P8F	016	SB-469-0102	10/23/07	13:43
J9P8G	017	SB-469-0203	10/23/07	13:45
J9P8J	018	SB-469-0304	10/23/07	13:47
J9P8K	019	SB-469-0506	10/23/07	13:49
J9P86	020	SB-469-0708	10/23/07	13:51

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.

Test America North Canton

Metals Data Reporting Form

Initial Calibration Verification Standard

Instrument: CVAA **Units:** ug/L

Chart Number: hg11026a.prn **Acceptable Range:** 90% - 110%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck5ICV 10/26/2007 10:59 AM Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Mercury	253.7	2.5	2.53	**101.2**								

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Verification

Instrument: CVAA **Units:** ug/L

Chart Number: hg11026a.prn **Acceptable Range:** 80% - 120%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck2CCV 10/26/2007 11:04 AM Found	% Rec	Ck2CCV 10/26/2007 11:18 AM Found	% Rec	Ck2CCV 10/26/2007 11:33 AM Found	% Rec	Ck2CCV 10/26/2007 11:48 AM Found	% Rec	Ck2CCV 10/26/2007 12:01 PM Found	% Rec
Mercury	253.7	5.0	5.24	**104.9**	5.11	**102.2**	5.15	**103.0**	5.21	**104.2**	5.19	**103.8**

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Verification

Instrument: CVAA **Units:** ug/L

Chart Number: hg11026a.prn **Acceptable Range:** 80% - 120%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck2CCV 10/26/2007 12:15 PM Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Mercury	253.7	5.0	5.18	**103.5**								

Test America North Canton

Metals Data Reporting Form

Contract Required Detection Limit Standard

Instrument: CVAA **Units:** ug/L

Chart Number: hg11026a.prn **Acceptable Range:** 50% - 150%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck3CRA\MRL 10/26/2007 11:03 AM Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Mercury	253.7	0.2	0.17	**84.1**								

Test America North Canton

Metals Data Reporting Form

Initial Calibration Blank Results

Instrument: CVAA **Units:** ug/L

Chart Number: hg11026a.prn

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	Ck4ICB 10/26/2007 11:00 AM Found	Q	Found	Q	Found	Q	Found	Q	Found	Q
Mercury	253.7	0.6	0.1	U								

5.21.0

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Blank Results

Instrument: CVAA **Units:** ug/L

Chart Number: hg11026a.prn

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	Ck1CCB 10/26/2007 11:05 AM Found	Q	Ck1CCB 10/26/2007 11:20 AM Found	Q	Ck1CCB 10/26/2007 11:34 AM Found	Q	Ck1CCB 10/26/2007 11:49 AM Found	Q	Ck1CCB 10/26/2007 12:02 PM Found	Q
Mercury	253.7	0.6	0.1	U	0.1	U	0.1	U	0.1	U	**-0.1**	**B**

U Result is less than the IDL

B Result is between IDL and RL

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Blank Results

Instrument: CVAA **Units:** ug/L

Chart Number: hg11026a.prn

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	Ck1CCB 10/26/2007 12:16 PM Found	Q	Found	Q	Found	Q	Found	Q	Found	Q
Mercury	253.7	0.6	0.1	U								

U Result is less than the IDL

B Result is between IDL and RL

Test America North Canton

Metals Data Reporting Form

Preparation Blank Results

Lab Sample ID: J9RJGB

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.017	0.10	0.017	U	1	CVAA	10/26/2007	11:41

Comments: Lot #: A7J240256

5.21.0

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

Test America North Canton

Metals Data Reporting Form

Matrix Spike Sample Results

Spike Sample ID: J9P8KS

Original Sample ID: J9P8K **Client ID:** SB-469-0506S

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.384

Element	WL/ Mass	OS Conc	Q	MS Conc	Q	Spike Level	% Rec	OS DF	MS DF	Instr	OS Anal Date	OS Anal Time	MS Anal Date	MS Anal Time
Mercury	253.7	0.020	U	0.19		0.1993	94.6	1	1	CVAA	10/26/2007	12:09	10/26/2007	12:11

Comments: Lot #: A7J240256 Sample #: 19

5.21.0

N Spike recovery failed
NC Percent recovery was not calculated
* Duplicate analysis RPD was not within limits
E Serial dilution percent difference not within limits
U Result is less than the IDL

Form 5A Equivalent

Test America North Canton

Metals Data Reporting Form

Duplicate Sample Results

Lab Sample ID: J9P8KX **Client ID:** SB-469-0506X

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.384

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/26/2007	12:10

Comments: Lot #: A7J240256 Sample #: 19

U Result is less than the IDL

Test America North Canton

Metals Data Reporting Form

Sample Duplicate RPD Report

Duplicate Sample ID: J9P8KX

Original Sample ID: J9P8K **Client ID:** SB-469-0506X

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.384

Element	WL/ Mass	OS Conc	Q	Dupe Conc	Q	% RPD	OS DF	Dupe DF	Instr	OS Anal Date	OS Anal Time	Dupe Anal Date	Dupe Anal Time
Mercury	253.7	0.020	U	0.020	U		1	1	CVAA	0/26/200	12:09	10/26/2007	12:10

Test America North Canton

Metals Data Reporting Form

Laboratory Control Sample Results

Lab Sample ID: J9RJGC

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298023

Weight: 0.60 **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	Spike Level	Conc	Percent Recovery	Q	Range	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.83	0.83	99.6		81-116	1	CVAA	10/26/2007	11:42

Comments: Lot #: A7J240256

5.21.0

N Spike recovery failed

NC Percent recovery was not calculated

Form 7 Equivalent

Test America North Canton

Metals Data Reporting Form

Instrument Detection Limits

Instrument: CVAA **Units:** ppb

Element	Wavelength	Reporting Limit	IDL	Date of IDL
Mercury	253.700	0.6	0.10	2/1/2007

Batch Number: **7298023**

TestAmerica Laboratories, Inc.
Metals Prep Log/ Batch Summary

Prepared By:
Lisa McGall
(e-Signature)

Prep Date: 10/25/07
Due Date: 11/07/07

Lot	Work Order			ICP Weight	ICPMS Weight	Hg Weight
A7J250000 Solid	J9RJG	B	Due Date: SDG:			0.60 g
A7J250000 Solid	J9RJG	C	Due Date: SDG:			0.60 g
A7J240256 Solid	J9P62 Total		Due Date: 11/07/07 SDG: 7J24256			0.60 g
A7J240256 Solid	J9P7D Total		Due Date: 11/07/07 SDG: 7J24256			0.60 g
A7J240256 Solid	J9P7K Total		Due Date: 11/07/07 SDG: 7J24256			0.60 g
A7J240256 Solid	J9P7Q Total		Due Date: 11/07/07 SDG: 7J24256			0.60 g
A7J240256 Solid	J9P7V Total		Due Date: 11/07/07 SDG: 7J24256			0.60 g
A7J240256 Solid	J9P70 Total		Due Date: 11/07/07 SDG: 7J24256			0.60 g
A7J240256 Solid	J9P72 Total		Due Date: 11/07/07 SDG: 7J24256			0.60 g
A7J240256 Solid	J9P73 Total		Due Date: 11/07/07 SDG: 7J24256			0.60 g
A7J240256 Solid	J9P74 Total		Due Date: 11/07/07 SDG: 7J24256			0.60 g
A7J240256 Solid	J9P75 Total		Due Date: 11/07/07 SDG: 7J24256			0.60 g
A7J240256 Solid	J9P78 Total		Due Date: 11/07/07 SDG: 7J24256			0.60 g
A7J240256 Solid	J9P8A Total		Due Date: 11/07/07 SDG: 7J24256			0.60 g
A7J240256 Solid	J9P8C Total		Due Date: 11/07/07 SDG: 7J24256			0.60 g
A7J240256 Solid	J9P8D Total		Due Date: 11/07/07 SDG: 7J24256			0.60 g
A7J240256 Solid	J9P8E Total		Due Date: 11/07/07 SDG: 7J24256			0.60 g
A7J240256 Solid	J9P8F Total		Due Date: 11/07/07 SDG: 7J24256			0.60 g
A7J240256 Solid	J9P8G Total		Due Date: 11/07/07 SDG: 7J24256			0.60 g
A7J240256 Solid	J9P8J Total		Due Date: 11/07/07 SDG: 7J24256			0.60 g
A7J240256 Solid	J9P8K Total		Due Date: 11/07/07 SDG: 7J24256			0.60 g
A7J240256 Solid	J9P8K Total	S	Due Date: 11/07/07 SDG: 7J24256			0.60 g

Batch Number: **7298023**

TestAmerica Laboratories, Inc.
Metals Prep Log/ Batch Summary

Prepared By:
Lisa McGall
(e-Signature)

Prep Date: 10/25/07
Due Date: 11/07/07

Lot	Work Order			ICP Weight	ICPMS Weight	Hg Weight
A7J240256 Solid	J9P8K Total	X	Due Date: 11/07/07 SDG: 7J24256			0.60 g
A7J240256 Solid	J9P86 Total		Due Date: 11/07/07 SDG: 7J24256			0.60 g

LEVEL 2

BLANK AND CHECK STANDARD ON BATCH	X
MS/MSD AND PDS ON BATCH	X
CORRECT SPIKES ADDED	X
SPIKING SOLUTIONS DOCUMENTED ON BATCH LOG	X

Comments:

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE

Matrix Spike Information:
J9P8K Hg

Check Sample Information:
J9RJG Hg

Prep Method(s): SW846 7471A

METHOD BLANK REPORT

General Chemistry

Client Lot #...: 7J24256 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids		Work Order #: KADXH1AA		MB Lot-Sample #:	A7K010000-443	
	ND	10.0	%	MCAWW 160.3 MOD	11/01-11/02/07	7305443
		Dilution Factor: 1				

NOTE(S):

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

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A7J240256 **Work Order #...:** J9P8K-SMP J9P8K-DUP **Matrix.....:** SO

Date Sampled...: 10/23/07 13:49 **Date Received..:** 10/24/07

% Moisture.....: 16

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids						SD Lot-Sample #: A7J240256-019		
	83.6	83.9	%	0.39	(0-20)	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A7J240256 **Work Order #...:** J9P86-SMP J9P86-DUP **Matrix.....:** SO

Date Sampled...: 10/23/07 13:51 **Date Received..:** 10/24/07

% Moisture.....: 15

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids						SD Lot-Sample #: A7J240256-020		
	84.6	84.7	%	0.12	(0-20)	MCAWW 160.3 MOD	11/01-11/02/07	7305443

Dilution Factor: 1

SRV: J9RJGL = LCS [Hg] = 0.83 mg/kg as reported by the lab

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: J9QDR Seq: 30 11:28:43 26 Oct 2007 HG
SOLID
Hg .1858 ppb .0000 % .1858

*** Sample ID: J9QDW Seq: 31 11:30:00 26 Oct 2007 HG
SOLID
Hg .2785 ppb .0000 % .2785

*** Sample ID: J9QEA Seq: 32 11:31:17 26 Oct 2007 HG
SOLID
Hg .0464 ppb .0000 % .0464

*** Sample ID: J9QED Seq: 33 11:32:26 26 Oct 2007 HG
SOLID
Hg .0554 ppb .0000 % .0554

*** Check Standard: 2 Ck2CCV Seq: 34 11:33:41 26 Oct 2007 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		103.0	5.148	5.000	ppb	.0000 %

*** Check Standard: 1 Ck1CCB Seq: 35 11:34:48 26 Oct 2007 HG

Line	Flag	Found	Range(+/-)	Units	SD/RSD
Hg		-.0674	.2000	ppb	.0000 %

*** Sample ID: J9QEE Seq: 36 11:35:54 26 Oct 2007 HG
SOLID
Hg -.0172 ppb .0000 % -.0172

*** Sample ID: J9QEEX Seq: 37 11:37:00 26 Oct 2007 HG
SOLID
Hg -.0118 ppb .0000 % -.0118

*** Sample ID: J9QEES Seq: 38 11:38:25 26 Oct 2007 HG
SOLID
Hg .9684 ppb .0000 % .9684

*** Sample ID: J9QEF Seq: 39 11:39:49 26 Oct 2007 HG
SOLID
Hg -.0006 ppb .0000 % -.0006

*** Sample ID: J9RJGB Seq: 40 11:41:06 26 Oct 2007 HG
7298023
Hg -.0085 ppb .0000 % -.0085

Do not upload

*** Sample ID: J9RJGC Seq: 41 11:42:15 26 Oct 2007 HG
SOLID
Hg 4.982 ppb .0000 % 4.982

$\frac{4.982\ ug}{L} \cdot \frac{0.100\ L}{0.60\ g} \cdot \frac{1000\ g}{1\ kg} \cdot \frac{1\ mg}{1000\ ug} = 0.83\ mg/kg$

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **M. MARTIN** **DATE:** **JANUARY 8, 2008**

FROM: **ROBERT JUPIN** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – BENZO(a)PYRENE**
LOCKHEED MIDDLE RIVER COMPLEX
SAMPLE DELIVERY GROUP (SDG): 7J24271

SAMPLES: 20/Soil/

SB-462-0102	SB-462-0203	SB-462-0304	SB-462-0506	SB-462-0708
SB-463-0102	SB-463-0203	SB-463-0304	SB-463-0506	SB-463-0708
SB-464-0102	SB-464-0203	SB-464-0304	SB-464-0506	SB-464-0708
SB-465-0102	SB-465-0203	SB-465-0304	SB-465-0506	SB-465-0708

Overview

The sample set for SDG 7J24271, Lockheed MRC, consists of twenty (20) soil environmental samples.

All soil samples were analyzed for benzo(a)pyrene. The samples were collected by TetraTech NUS on October 23, 2007 and analyzed by Test America Laboratories, Inc. Analyses were conducted using SW-846 Method 8270C.

The findings in this report are based upon a general review of all available data including: data completeness, GC/MS tuning, holding times, initial/continuing calibrations, laboratory method/preparation and field quality control blank results, surrogate spike/internal standard recoveries, laboratory control sample (LCS)/blank spike results, matrix spike/matrix spike duplicate results, analyte quantitation, and detection limits,. Areas of concern are listed below.

Major Problems

- None.

Minor Problems

- The internal standard area for perylene-d12 was below the 50% acceptance limit for sample SB-465-0506. The nondetected result for benzo(a)pyrene was qualified as estimated "UJ".

Notes

The matrix spike sample was not spiked for benzo(a)pyrene therefore, no evaluation of the matrix spike could be performed. All surrogate recoveries were acceptable. No action was taken.

Executive Summary

Laboratory Performance Issues: The internal standard area for perylene-d12 was below the 50% acceptance limit for sample SB-465-0506.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (9/94) as modified by Region III.

Tetra Tech NUS
Robert J. Jubin
Risk Assessment Specialist/Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

Data Qualifier Key:

U - Value is a nondetect as reported by the laboratory.

J - Positive result is considered estimated, "J", as a result of technical noncompliances.

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 $r < 0.995$
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 be any number of issues; e.g. poor 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: 00885

SDG: 7J24271 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-462-0102	nsample	SB-462-0203	nsample	SB-462-0304
samp_date	10/23/2007	samp_date	10/23/2007	samp_date	10/23/2007
lab_id	A7J240271001	lab_id	A7J240271002	lab_id	A7J240271003
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	89.0	Pct_Solids	87.0	Pct_Solids	87.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	26	J	P

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J24271 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-462-0506	nsample	SB-462-0708	nsample	SB-463-0102
samp_date	10/23/2007	samp_date	10/23/2007	samp_date	10/23/2007
lab_id	A7J240271004	lab_id	A7J240271005	lab_id	A7J240271006
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	79.0	Pct_Solids	82.0	Pct_Solids	86.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	69	J	P

PROJ_NO: 00885

SDG: 7J24271 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-463-0203	nsample	SB-463-0304	nsample	SB-463-0506
samp_date	10/23/2007	samp_date	10/23/2007	samp_date	10/23/2007
lab_id	A7J240271007	lab_id	A7J240271008	lab_id	A7J240271009
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	74.0	Pct_Solids	79.0	Pct_Solids	81.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.8	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

PROJ_NO: 00885

SDG: 7J24271 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-463-0708
samp_date	10/23/2007
lab_id	A7J240271010
qc_type	NM
units	UG/KG
Pct_Solids	80.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

nsample	SB-464-0102
samp_date	10/23/2007
lab_id	A7J240271011
qc_type	NM
units	UG/KG
Pct_Solids	90.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.4	U	

nsample	SB-464-0203
samp_date	10/23/2007
lab_id	A7J240271012
qc_type	NM
units	UG/KG
Pct_Solids	89.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J24271 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-464-0304	nsample	SB-464-0506	nsample	SB-464-0708
samp_date	10/23/2007	samp_date	10/23/2007	samp_date	10/23/2007
lab_id	A7J240271013	lab_id	A7J240271014	lab_id	A7J240271015
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	81.0	Pct_Solids	79.0	Pct_Solids	85.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J24271 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-465-0102	nsample	SB-465-0203	nsample	SB-465-0304
samp_date	10/23/2007	samp_date	10/23/2007	samp_date	10/23/2007
lab_id	A7J240271016	lab_id	A7J240271017	lab_id	A7J240271018
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	88.0	Pct_Solids	90.0	Pct_Solids	85.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.4	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J24271 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-465-0506	nsample	SB-465-0708
samp_date	10/23/2007	samp_date	10/23/2007
lab_id	A7J240271019	lab_id	A7J240271020
qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG
Pct_Solids	84.0	Pct_Solids	84.0
DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	UJ	N

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Tetra Tech NUS, Inc

Client Sample ID: SB-462-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J240271-001 **Work Order #...:** J9QDG1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 08:04 **Date Received..:** 10/24/07
Prep Date.....: 10/27/07 **Analysis Date..:** 10/29/07
Prep Batch #...: 7299474
Dilution Factor: 1
% Moisture.....: 11 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	**26 J**	**370**	**ug/kg**	**1.5**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	52	(24 - 112)
2-Fluorobiphenyl	61	(34 - 110)
Terphenyl-d14	80	(41 - 119)
Phenol-d5	60	(28 - 110)
2-Fluorophenol	54	(26 - 110)
2,4,6-Tribromophenol	58	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Client Sample ID: SB-462-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J240271-002 **Work Order #...:** J9QDH1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 08:06 **Date Received..:** 10/24/07
Prep Date.....: 10/27/07 **Analysis Date..:** 10/29/07
Prep Batch #...: 7299474
Dilution Factor: 1
% Moisture.....: 13 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	55	(24 - 112)
2-Fluorobiphenyl	57	(34 - 110)
Terphenyl-d14	82	(41 - 119)
Phenol-d5	61	(28 - 110)
2-Fluorophenol	59	(26 - 110)
2,4,6-Tribromophenol	59	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-462-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J240271-003 **Work Order #...:** J9QDK1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 08:08 **Date Received..:** 10/24/07
Prep Date.....: 10/27/07 **Analysis Date..:** 10/29/07
Prep Batch #...: 7299474
Dilution Factor: 1
% Moisture.....: 13 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	62	(24 - 112)
2-Fluorobiphenyl	64	(34 - 110)
Terphenyl-d14	87	(41 - 119)
Phenol-d5	66	(28 - 110)
2-Fluorophenol	61	(26 - 110)
2,4,6-Tribromophenol	56	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-462-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J240271-004 **Work Order #...:** J9QDL1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 08:10 **Date Received..:** 10/24/07
Prep Date.....: 10/27/07 **Analysis Date..:** 10/29/07
Prep Batch #...: 7299474
Dilution Factor: 1
% Moisture.....: 21 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	420	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	48	(24 - 112)
2-Fluorobiphenyl	60	(34 - 110)
Terphenyl-d14	77	(41 - 119)
Phenol-d5	67	(28 - 110)
2-Fluorophenol	65	(26 - 110)
2,4,6-Tribromophenol	52	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-462-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J240271-005 **Work Order #...:** J9QDM1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 08:12 **Date Received..:** 10/24/07
Prep Date.....: 10/27/07 **Analysis Date..:** 10/29/07
Prep Batch #...: 7299474
Dilution Factor: 1
% Moisture.....: 18 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	400	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	47	(24 - 112)
2-Fluorobiphenyl	50	(34 - 110)
Terphenyl-d14	62	(41 - 119)
Phenol-d5	52	(28 - 110)
2-Fluorophenol	49	(26 - 110)
2,4,6-Tribromophenol	29	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-463-0102

GC/MS Semivolatiles

Lot-Sample #...:	A7J240271-006	**Work Order #...:**	J9QDR1AD	**Matrix.....:**	SO
Date Sampled...:	10/23/07 08:53	**Date Received..:**	10/24/07		
Prep Date.....:	10/27/07	**Analysis Date..:**	10/30/07		
Prep Batch #...:	7299474				
Dilution Factor:	1				
% Moisture.....:	14	**Method.....:**	SW846 8270C		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	**69 J**	**380**	**ug/kg**	**1.5**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	56	(24 - 112)
2-Fluorobiphenyl	62	(34 - 110)
Terphenyl-d14	74	(41 - 119)
Phenol-d5	61	(28 - 110)
2-Fluorophenol	57	(26 - 110)
2,4,6-Tribromophenol	65	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Client Sample ID: SB-463-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J240271-007 **Work Order #...:** J9QDW1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 08:55 **Date Received..:** 10/24/07
Prep Date.....: 10/27/07 **Analysis Date..:** 10/30/07
Prep Batch #...: 7299474
Dilution Factor: 1
% Moisture.....: 26 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	450	ug/kg	1.8

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	39	(24 - 112)
2-Fluorobiphenyl	42	(34 - 110)
Terphenyl-d14	50	(41 - 119)
Phenol-d5	45	(28 - 110)
2-Fluorophenol	40	(26 - 110)
2,4,6-Tribromophenol	45	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-463-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J240271-008 **Work Order #...:** J9QD01AD **Matrix.....:** SO
Date Sampled...: 10/23/07 08:57 **Date Received..:** 10/24/07
Prep Date.....: 10/27/07 **Analysis Date..:** 10/29/07
Prep Batch #...: 7299474
Dilution Factor: 1
% Moisture.....: 21 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	420	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	33	(24 - 112)
2-Fluorobiphenyl	34	(34 - 110)
Terphenyl-d14	43	(41 - 119)
Phenol-d5	34	(28 - 110)
2-Fluorophenol	33	(26 - 110)
2,4,6-Tribromophenol	33	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-463-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J240271-009 **Work Order #...:** J9QD11AD **Matrix.....:** SO
Date Sampled...: 10/23/07 08:59 **Date Received..:** 10/24/07
Prep Date.....: 10/27/07 **Analysis Date..:** 10/29/07
Prep Batch #...: 7299474
Dilution Factor: 1
% Moisture.....: 19 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	410	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	62	(24 - 112)
2-Fluorobiphenyl	66	(34 - 110)
Terphenyl-d14	71	(41 - 119)
Phenol-d5	64	(28 - 110)
2-Fluorophenol	62	(26 - 110)
2,4,6-Tribromophenol	38	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-463-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J240271-010 **Work Order #...:** J9QD21AD **Matrix.....:** SO
Date Sampled...: 10/23/07 09:01 **Date Received..:** 10/24/07
Prep Date.....: 10/27/07 **Analysis Date..:** 10/29/07
Prep Batch #...: 7299474
Dilution Factor: 1
% Moisture.....: 20 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	410	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	61	(24 - 112)
2-Fluorobiphenyl	62	(34 - 110)
Terphenyl-d14	71	(41 - 119)
Phenol-d5	62	(28 - 110)
2-Fluorophenol	63	(26 - 110)
2,4,6-Tribromophenol	59	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-464-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J240271-011 **Work Order #...:** J9QD31AD **Matrix.....:** SO
Date Sampled...: 10/23/07 09:44 **Date Received..:** 10/24/07
Prep Date.....: 10/27/07 **Analysis Date..:** 10/29/07
Prep Batch #...: 7299474
Dilution Factor: 1
% Moisture.....: 10 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	370	ug/kg	1.4

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	65	(24 - 112)
2-Fluorobiphenyl	65	(34 - 110)
Terphenyl-d14	76	(41 - 119)
Phenol-d5	68	(28 - 110)
2-Fluorophenol	66	(26 - 110)
2,4,6-Tribromophenol	56	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-464-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J240271-012 **Work Order #...:** J9QD41AD **Matrix.....:** SO
Date Sampled...: 10/23/07 09:46 **Date Received..:** 10/24/07
Prep Date.....: 10/27/07 **Analysis Date..:** 10/29/07
Prep Batch #...: 7299474
Dilution Factor: 1
% Moisture.....: 11 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	370	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	63	(24 - 112)
2-Fluorobiphenyl	62	(34 - 110)
Terphenyl-d14	75	(41 - 119)
Phenol-d5	65	(28 - 110)
2-Fluorophenol	62	(26 - 110)
2,4,6-Tribromophenol	36	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-464-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J240271-013 **Work Order #...:** J9QD51AD **Matrix.....:** SO
Date Sampled...: 10/23/07 09:48 **Date Received..:** 10/24/07
Prep Date.....: 10/27/07 **Analysis Date..:** 10/29/07
Prep Batch #...: 7299474
Dilution Factor: 1
% Moisture.....: 19 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	410	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	55	(24 - 112)
2-Fluorobiphenyl	56	(34 - 110)
Terphenyl-d14	67	(41 - 119)
Phenol-d5	58	(28 - 110)
2-Fluorophenol	55	(26 - 110)
2,4,6-Tribromophenol	38	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-464-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J240271-014 **Work Order #...:** J9QD61AD **Matrix.....:** SO
Date Sampled...: 10/23/07 09:50 **Date Received..:** 10/24/07
Prep Date.....: 10/27/07 **Analysis Date..:** 10/31/07
Prep Batch #...: 7299475
Dilution Factor: 1
% Moisture.....: 21 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	420	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	63	(24 - 112)
2-Fluorobiphenyl	59	(34 - 110)
Terphenyl-d14	88	(41 - 119)
Phenol-d5	68	(28 - 110)
2-Fluorophenol	67	(26 - 110)
2,4,6-Tribromophenol	44	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-464-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J240271-015 **Work Order #...:** J9QD71AD **Matrix.....:** SO
Date Sampled...: 10/23/07 09:52 **Date Received..:** 10/24/07
Prep Date.....: 10/27/07 **Analysis Date..:** 10/31/07
Prep Batch #...: 7299475
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	66	(24 - 112)
2-Fluorobiphenyl	65	(34 - 110)
Terphenyl-d14	86	(41 - 119)
Phenol-d5	66	(28 - 110)
2-Fluorophenol	64	(26 - 110)
2,4,6-Tribromophenol	41	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-465-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J240271-016 **Work Order #...:** J9QD81AD **Matrix.....:** SO
Date Sampled...: 10/23/07 10:40 **Date Received..:** 10/24/07
Prep Date.....: 10/27/07 **Analysis Date..:** 10/31/07
Prep Batch #...: 7299475
Dilution Factor: 1
% Moisture.....: 12 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	370	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	58	(24 - 112)
2-Fluorobiphenyl	56	(34 - 110)
Terphenyl-d14	79	(41 - 119)
Phenol-d5	58	(28 - 110)
2-Fluorophenol	54	(26 - 110)
2,4,6-Tribromophenol	41	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-465-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J240271-017 **Work Order #...:** J9QEA1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 10:42 **Date Received..:** 10/24/07
Prep Date.....: 10/27/07 **Analysis Date..:** 10/31/07
Prep Batch #...: 7299475
Dilution Factor: 1
% Moisture.....: 10 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	370	ug/kg	1.4

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	70	(24 - 112)
2-Fluorobiphenyl	66	(34 - 110)
Terphenyl-d14	84	(41 - 119)
Phenol-d5	67	(28 - 110)
2-Fluorophenol	70	(26 - 110)
2,4,6-Tribromophenol	47	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-465-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J240271-018 **Work Order #...:** J9QED1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 10:44 **Date Received..:** 10/24/07
Prep Date.....: 10/27/07 **Analysis Date..:** 10/31/07
Prep Batch #...: 7299475
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	64	(24 - 112)
2-Fluorobiphenyl	60	(34 - 110)
Terphenyl-d14	90	(41 - 119)
Phenol-d5	72	(28 - 110)
2-Fluorophenol	73	(26 - 110)
2,4,6-Tribromophenol	57	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-465-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J240271-019 **Work Order #...:** J9QEE1AF **Matrix.....:** SO
Date Sampled...: 10/23/07 10:46 **Date Received..:** 10/24/07
Prep Date.....: 10/27/07 **Analysis Date..:** 10/30/07
Prep Batch #...: 7299475
Dilution Factor: 1
% Moisture.....: 16 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	58	(24 - 112)
2-Fluorobiphenyl	54	(34 - 110)
Terphenyl-d14	96	(41 - 119)
Phenol-d5	56	(28 - 110)
2-Fluorophenol	56	(26 - 110)
2,4,6-Tribromophenol	31	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-465-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J240271-020 **Work Order #...:** J9QEF1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 10:48 **Date Received..:** 10/24/07
Prep Date.....: 10/27/07 **Analysis Date..:** 10/31/07
Prep Batch #...: 7299475
Dilution Factor: 1
% Moisture.....: 16 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	63	(24 - 112)
2-Fluorobiphenyl	58	(34 - 110)
Terphenyl-d14	87	(41 - 119)
Phenol-d5	68	(28 - 110)
2-Fluorophenol	64	(26 - 110)
2,4,6-Tribromophenol	38	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

APPENDIX C

SUPPORT DOCUMENTATION

HOLDTIME

SDG 7J24271

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	SB-464-0506	A7J240271014	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-462-0304	A7J240271003	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-462-0506	A7J240271004	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-462-0708	A7J240271005	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-463-0203	A7J240271007	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-463-0506	A7J240271009	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-463-0708	A7J240271010	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-464-0102	A7J240271011	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-462-0203	A7J240271002	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-464-0304	A7J240271013	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-463-0102	A7J240271006	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-464-0708	A7J240271015	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-465-0102	A7J240271016	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-465-0203	A7J240271017	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-465-0304	A7J240271018	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	SB-465-0506	A7J240271019	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-465-0708	A7J240271020	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-462-0102	A7J240271001	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-464-0203	A7J240271012	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-463-0304	A7J240271008	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
PCS	%	SB-464-0304	A7J240271013	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-465-0506	A7J240271019	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-465-0708	A7J240271020	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-465-0304	A7J240271018	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-465-0203	A7J240271017	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-465-0102	A7J240271016	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-464-0506	A7J240271014	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-462-0102	A7J240271001	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-464-0203	A7J240271012	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-464-0102	A7J240271011	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-462-0304	A7J240271003	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-464-0708	A7J240271015	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-462-0203	A7J240271002	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
PCS	%	SB-463-0708	A7J240271010	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-462-0506	A7J240271004	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-462-0708	A7J240271005	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-463-0102	A7J240271006	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-463-0203	A7J240271007	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-463-0304	A7J240271008	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-463-0506	A7J240271009	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
OS	%	SB-465-0708	A7J240271020	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	%	SB-463-0506	A7J240271009	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	%	SB-462-0203	A7J240271002	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	%	SB-462-0304	A7J240271003	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	%	SB-462-0506	A7J240271004	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	%	SB-462-0708	A7J240271005	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	%	SB-463-0102	A7J240271006	NM	10/23/2007	10/27/2007	10/30/2007	4	3	7
OS	%	SB-463-0203	A7J240271007	NM	10/23/2007	10/27/2007	10/30/2007	4	3	7
OS	%	SB-463-0304	A7J240271008	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	%	SB-462-0102	A7J240271001	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	%	SB-465-0506	A7J240271019	NM	10/23/2007	10/27/2007	10/30/2007	4	3	7

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OS	%	SB-464-0102	A7J240271011	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	%	SB-464-0203	A7J240271012	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	%	SB-464-0304	A7J240271013	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	%	SB-464-0506	A7J240271014	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	%	SB-464-0708	A7J240271015	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	%	SB-465-0102	A7J240271016	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	%	SB-465-0203	A7J240271017	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	%	SB-465-0304	A7J240271018	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	%	SB-463-0708	A7J240271010	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-464-0304	A7J240271013	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-464-0506	A7J240271014	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	UG/KG	SB-464-0708	A7J240271015	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	UG/KG	SB-465-0102	A7J240271016	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	UG/KG	SB-465-0203	A7J240271017	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	UG/KG	SB-465-0304	A7J240271018	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	UG/KG	SB-464-0203	A7J240271012	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-465-0708	A7J240271020	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	UG/KG	SB-463-0102	A7J240271006	NM	10/23/2007	10/27/2007	10/30/2007	4	3	7

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OS	UG/KG	SB-465-0506	A7J240271019	NM	10/23/2007	10/27/2007	10/30/2007	4	3	7
OS	UG/KG	SB-464-0102	A7J240271011	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-463-0708	A7J240271010	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-463-0506	A7J240271009	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-462-0102	A7J240271001	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-463-0203	A7J240271007	NM	10/23/2007	10/27/2007	10/30/2007	4	3	7
OS	UG/KG	SB-462-0708	A7J240271005	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-462-0506	A7J240271004	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-462-0304	A7J240271003	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-462-0203	A7J240271002	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-463-0304	A7J240271008	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6

Chain of Custody Record

SEVERN TRENT STL

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: Tetra Tech	Project Manager: M. Martin	Date: 10/23/07	Chain of Custody Number: 227045
Address: 20251 Century Blvd #200	Telephone Number (Area Code)/Fax Number: 301 528 3022	Lab Number:	Page 1 of 2
City: Germantown / State: MD / Zip Code: 20874	Site Contact: Siladi	Lab Contact: K Ives	
Project Name and Location (State): LMC MR	Carrier/Waybill Number: Courier		
Contract/Purchase Order/Quote No.: 112IC00885			

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 (Attach list if more space is needed): LL 8270 *	Pb	Hg Mercury	Special Instructions/ Conditions of Receipt
SB-462-0102	10/23	0804				X	2						X	X	X	Block 'H'
-0203		0806														*benzo (a) pyrene
-0304		0808														
-0506		0810														
462-0708		0812														
463-0102		0853														
-0203		0855														
-0304		0857														
-0506		0859														
463-0708		0901														
464-0102		0944														
SB-464-0203	10/23	0946				X	2						X	X	X	*benzo (a) pyrene

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 STND

QC Requirements (Specify)

1. Relinquished By	Date	Time	1. Received By	Date	Time
	10/23/07	1630		10-23-07	1630
2. Relinquished By	Date	Time	2. Received By	Date	Time
				10-24-07	1200
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

TestAmerica North Canton

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Chain of Custody Record

STL-4124 (0901)

SEVERN TRENT STL
Severn Trent Laboratories, Inc.

Client	Tetra Tech
Address	20251 Century Blvd # 200
City	Germantown
State	MD
Zip Code	20874
Project Name and Location (State)	LMC MA
Contract/Purchase Order/Quote No.	112IC 00885
Project Manager	M. Martin
Telephone Number (Area Code)/Fax Number	301 528 3022
Site Contact	S. Hadley
Lab Contact	K. Ives
Carrier/Waybill Number	Courier
Date	10/23/07
Lab Number	
Chain of Custody Number	227046
Page	2 of 2

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	8270*	Hg Mercury	Special Instructions/ Conditions of Receipt
SB-464-0304	10/23	0948				X	2						X	X	Block 'H'
~~0405~~ -0506	↓	0950				↓	↓						↓	↓	*benzo(a)pyrene
464 ~~0506~~ -0708		0952													↓
465 ~~464~~ ~~0708~~ -0102		0102													
465 - 0203		0203													
- 0304		0304													
- 0506 + MS/SD	↓	0506				↓	4						↓	↓	MS/SD
SB-465-0708	10/23	0708				X	2						X	X	*benzo (a) Pyrene

KSH 10/23

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 STM

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By [signature]	10/23/07	16:30	1. Received By [signature]	10/23/07	1630
2. Relinquished By			2. Received By [signature]	10-24-07	[illegible]
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the S... Field Copy

CASE NARRATIVE

7J24271

The following report contains the analytical results for twenty solid samples submitted to TestAmerica North Canton by Tetra Tech NUS Inc from the LMC MR Site, project number 112IC00885. The samples were received October 24, 2007, according to documented sample acceptance procedures.

This SDG consists of (1) laboratory ID: A7J240271.

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 Dev Murali, John Poremba and Michael Martin on November 12, 2007. 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.

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 1.7 and 2.6°C.

See TestAmerica's Cooler Receipt Form for additional information.

GC/MS SEMIVOLATILES

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 sample(s) SB-465-0506 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.

The matrix spike/matrix spike duplicate(s) for batch(es) 7299474 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.

Sample(s) SB-463-0304 had up to one surrogate recovery per fraction outside acceptance limits. However, since the recovery was greater than 10% and all associated QC met criteria, no corrective action was taken.

The internal standard areas were outside acceptance limits for sample(s) SB-465-0506 due to matrix effects. "(Refer to IS report following this Case Narrative for additional detail.)"

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).

GENERAL CHEMISTRY

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

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica North Canton (formerly STL North Canton) 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.

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 (formerly STL 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.

SW846 8270C SURROGATE RECOVERY

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

Lab Code: TALCAN SDG No: 7J24271

Lot #: A7J240271

Extraction: XXA11QL01

	CLIENT ID.	SRG01	SRG02	SRG03	SRG04	SRG05	SRG06	TOT OUT
01	INTRA-LAB QC	64	63	81	64	60	51	00
02	SB-462-0102	52	61	80	60	54	58	00
03	SB-462-0203	55	57	82	61	59	59	00
04	SB-462-0304	62	64	87	66	61	56	00
05	SB-462-0506	48	60	77	67	65	52	00
06	SB-462-0708	47	50	62	52	49	29	00
07	SB-463-0102	56	62	74	61	57	65	00
08	SB-463-0203	39	42	50	45	40	45	00
09	SB-463-0304	33	34	43	34	33	33	00
10	SB-463-0506	62	66	71	64	62	38	00
11	SB-463-0708	61	62	71	62	63	59	00
12	SB-464-0102	65	65	76	68	66	56	00
13	SB-464-0203	63	62	75	65	62	36	00
14	SB-464-0304	55	56	67	58	55	38	00
15	SB-464-0506	63	59	88	68	67	44	00
16	SB-464-0708	66	65	86	66	64	41	00
17	SB-465-0102	58	56	79	58	54	41	00
18	SB-465-0203	70	66	84	67	70	47	00
19	SB-465-0304	64	60	90	72	73	57	00
20	SB-465-0506	58	54	96	56	56	31	00
21	SB-465-0708	63	58	87	68	64	38	00
22	METHOD BLK. J90FK1AA	59	59	78	60	58	30	00
23	METHOD BLK. J90GA1AA	64	66	84	66	66	30	00
24	LCS J90FK1AC	62	59	78	60	60	29	00
25	LCS J90GA1AC	62	64	87	62	59	49	00
26	LAB MS/MSD D	76	75	83	75	73	42	00
27	SB-465-0506 D	68	64	90	65	66	52	00

\# 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: 7J24271

Lot #: A7J240271

Extraction: XXA11QL01

	CLIENT ID.	SRG01	SRG02	SRG03	SRG04	SRG05	SRG06	TOT OUT
01	LAB MS/MSD S	53	53	71	67	54	36	00
02	SB-465-0506 S	70	63	91	62	52	44	00

SURROGATES		QC LIMITS
SRG01	= Nitrobenzene-d5	(24-112)
SRG02	= 2-Fluorobiphenyl	(34-110)
SRG03	= Terphenyl-d14	(41-119)
SRG04	= Phenol-d5	(28-110)
SRG05	= 2-Fluorophenol	(26-110)
SRG06	= 2,4,6-Tribromophenol	(10-118)

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

SW846 8270C METHOD BLANK SUMMARY

BLANK WORKORDER NO.: J90FK1AA

Lab Name: TestAmerica Laboratories, Inc.

Lab Code: TALCAN

SDG Number:7J24271

Lab File ID: J90FK1AA.

Lot Number: A7J240271

Date Analyzed: 10/29/07

Time Analyzed: 16:08

Matrix: SOLID

Date Extracted:10/27/07

GC Column: DB-5.625 ID: .32

Extraction Method: 3540C

Instrument ID: HP7

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	J9MPA1AD	J9MPA1AD.	10/31/07	16:41
02	LAB MS/MSD	J9MPA1AR S	J9MPA1AR.	10/31/07	17:00
03	LAB MS/MSD	J9MPA1AT D	J9MPA1AT.	10/31/07	17:20
04	SB-462-0102	J9QDG1AD	J9QDG1AD.	10/29/07	23:14
05	SB-462-0203	J9QDH1AD	J9QDH1AD.	10/29/07	23:33
06	SB-462-0304	J9QDK1AD	J9QDK1AD.	10/29/07	23:52
07	SB-462-0506	J9QDL1AD	J9QDL1AD.	10/29/07	22:16
08	SB-462-0708	J9QDM1AD	J9QDM1AD.	10/29/07	20:59
09	SB-463-0102	J9QDR1AD	J9QDR1AD.	10/30/07	00:31
10	SB-463-0203	J9QDW1AD	J9QDW1AD.	10/30/07	00:12
11	SB-463-0304	J9QD01AD	J9QD01AD.	10/29/07	21:57
12	SB-463-0506	J9QD11AD	J9QD11AD.	10/29/07	21:18
13	SB-463-0708	J9QD21AD	J9QD21AD.	10/29/07	21:38
14	SB-464-0102	J9QD31AD	J9QD31AD.	10/29/07	22:35
15	SB-464-0203	J9QD41AD	J9QD41AD.	10/29/07	22:55
16	SB-464-0304	J9QD51AD	J9QD51AD.	10/29/07	20:40
17	CHECK SAMPLE	J90FK1AC C	J90FK1AC.	10/29/07	16:28
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

COMMENTS:

FORM IV

SW846 8270C METHOD BLANK SUMMARY

BLANK WORKORDER NO.: J90GA1AA

Lab Name: TestAmerica Laboratories, Inc.

Lab Code: TALCAN

SDG Number:7J24271

Lab File ID: J90GA1AA.

Lot Number: A7J240271

Date Analyzed: 10/29/07

Time Analyzed: 10:40

Matrix: SOLID

Date Extracted:10/27/07

GC Column: DB 5.625 ID: .00

Extraction Method: 3540C

Instrument ID: HP8

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	SB-464-0506	J9QD61AD	J9QD61AD.	10/31/07	20:49
02	SB-464-0708	J9QD71AD	J9QD71AD.	10/31/07	19:51
03	SB-465-0102	J9QD81AD	J9QD81AD.	10/31/07	23:43
04	SB-465-0203	J9QEA1AD	J9QEA1AD.	10/31/07	22:45
05	SB-465-0304	J9QED1AD	J9QED1AD.	10/31/07	21:08
06	SB-465-0506	J9QEE1AF	J9QEE1AF.	10/30/07	18:08
07	SB-465-0506	J9QEE1AN S	J9QEE1AN.	10/30/07	18:27
08	SB-465-0506	J9QEE1AP D	J9QEE1AP.	10/30/07	18:45
09	SB-465-0708	J9QEF1AD	J9QEF1AD.	10/31/07	20:30
10	CHECK SAMPLE	J90GA1AC C	J90GA1AC.	10/29/07	10:59
11					
12					
13					
14					
15					
16					
17					
18					
19					
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22					
23					
24					
25					
26					
27					
28					
29					
30					

COMMENTS:

FORM IV

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24271

Lab File ID: 7DF1029 DFTPP Injection Date: 10/29/07

Instrument ID: A4HP7 DFTPP Injection Time: 1336

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	52.0
68	Less than 2.0% of mass 69	0.9 (1.4)1
69	Mass 69 relative abundance	66.3
70	Less than 2.0% of mass 69	0.3 (0.4)1
127	40.0 - 60.0% of mass 198	54.5
197	Less than 1.0% of mass 198	0.9
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	7.0
275	10.0 - 30.0% of mass 198	23.1
365	Greater than 1.0% of mass 198	2.4
441	Present, but less than mass 443	9.9
442	40.0 - 100.0% of mass 198	66.9
443	17.0 - 23.0% of mass 442	12.3 (18.4)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD006	L6	7SMH1029	10/29/07	1356
02	J90FKBLK	J90FK1AA	J90FK1AA	10/29/07	1608
03	J90FKCHK	J90FK1AC	J90FK1AC	10/29/07	1628
04	SB-464-0304	J9QD51AD	J9QD51AD	10/29/07	2040
05	SB-462-0708	J9QDM1AD	J9QDM1AD	10/29/07	2059
06	SB-463-0506	J9QD11AD	J9QD11AD	10/29/07	2118
07	SB-463-0708	J9QD21AD	J9QD21AD	10/29/07	2138
08	SB-463-0304	J9QD01AD	J9QD01AD	10/29/07	2157
09	SB-462-0506	J9QDL1AD	J9QDL1AD	10/29/07	2216
10	SB-464-0102	J9QD31AD	J9QD31AD	10/29/07	2235
11	SB-464-0203	J9QD41AD	J9QD41AD	10/29/07	2255
12	SB-462-0102	J9QDG1AD	J9QDG1AD	10/29/07	2314
13	SB-462-0203	J9QDH1AD	J9QDH1AD	10/29/07	2333
14	SB-462-0304	J9QDK1AD	J9QDK1AD	10/29/07	2352
15	SB-463-0203	J9QDW1AD	J9QDW1AD	10/30/07	0012
16	SB-463-0102	J9QDR1AD	J9QDR1AD	10/30/07	0031
17					
18					
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20					
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22					

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24271

Lab File ID: 8DF1029 DFTPP Injection Date: 10/29/07

Instrument ID: A4HP8 DFTPP Injection Time: 1001

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	41.9
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	51.1
70	Less than 2.0% of mass 69	0.3 (0.6)1
127	40.0 - 60.0% of mass 198	49.5
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.5
275	10.0 - 30.0% of mass 198	25.5
365	Greater than 1.0% of mass 198	3.2
441	Present, but less than mass 443	8.6
442	Greater than 40.0% of mass 198	55.3
443	17.0 - 23.0% of mass 442	10.6 (19.2)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD006	L6	8SMH1029	10/29/07	1020
02	J90GABLK	J90GA1AA	J90GA1AA	10/29/07	1040
03	J90GACHK	J90GA1AC	J90GA1AC	10/29/07	1059
04					
05					
06					
07					
08					
09					
10					
11					
12					
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18					
19					
20					
21					
22					

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24271

Lab File ID: 8DF1030 DFTPP Injection Date: 10/30/07

Instrument ID: A4HP8 DFTPP Injection Time: 1235

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	46.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	57.0
70	Less than 2.0% of mass 69	0.3 (0.6)1
127	40.0 - 60.0% of mass 198	51.2
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	25.9
365	Greater than 1.0% of mass 198	4.1
441	Present, but less than mass 443	10.0
442	Greater than 40.0% of mass 198	63.0
443	17.0 - 23.0% of mass 442	12.0 (19.0)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD006	L6	8SMH1030	10/30/07	1253
02	SB-465-0506	J9QEE1AF	J9QEE1AF	10/30/07	1808
03	SB-465-0506	J9QEE1AN	J9QEE1AN	10/30/07	1827
04	SB-465-0506	J9QEE1AP	J9QEE1AP	10/30/07	1845
05					
06					
07					
08					
09					
10					
11					
12					
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20					
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22					

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24271

Lab File ID: 8DF1031 DFTPP Injection Date: 10/31/07

Instrument ID: A4HP8 DFTPP Injection Time: 1539

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	38.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	47.5
70	Less than 2.0% of mass 69	0.2 (0.5)1
127	40.0 - 60.0% of mass 198	48.4
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.8
275	10.0 - 30.0% of mass 198	26.7
365	Greater than 1.0% of mass 198	3.4
441	Present, but less than mass 443	9.4
442	Greater than 40.0% of mass 198	61.4
443	17.0 - 23.0% of mass 442	11.6 (18.9)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD005	L5	8SMM1031	10/31/07	1558
02	SSTD004	L4	8SM1031	10/31/07	1618
03	SSTD003	L3	8SML1031	10/31/07	1637
04	SSTD002	L2	8SL1031	10/31/07	1656
05	SSTD001	L1	8SLL1031	10/31/07	1716
06	SSTD009	L9	8HHH1031	10/31/07	1735
07	SSTD008	L8	8SHH1031	10/31/07	1754
08	SSTD007	L7	8SH1031	10/31/07	1814
09	SSTD006	L6	8SMH1031	10/31/07	1833
10	SB-464-0708	J9QD71AD	J9QD71AD	10/31/07	1951
11	SB-465-0708	J9QEF1AD	J9QEF1AD	10/31/07	2030
12	SB-464-0506	J9QD61AD	J9QD61AD	10/31/07	2049
13	SB-465-0304	J9QED1AD	J9QED1AD	10/31/07	2108
14	SB-465-0203	J9QEA1AD	J9QEA1AD	10/31/07	2245
15	SB-465-0102	J9QD81AD	J9QD81AD	10/31/07	2343
16					
17					
18					
19					
20					
21					
22					

STL North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 26-OCT-2007 16:09
End Cal Date : 26-OCT-2007 18:50
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSS\a4hp7.i\71026a.b\8270P.m
Last Edit : 27-Oct-2007 08:58 ulmanm
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						
144 Hexachlorophene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
145 Hexachlorophene product	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
146 Benzo(a)pyrene	1.17968	0.97166	1.01188	1.05737	1.09953	1.12316			
	1.13493	1.16596	1.25556				1.11108	7.898	
148 3-Methylcholanthrene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
149 Indeno(1,2,3-cd)pyrene	1.23781	1.06242	1.07379	1.12596	1.20599	1.23476			
	1.22933	1.27705	1.37576				1.20254	8.349	
150 Dibenz(a,h)anthracene	1.02771	0.83559	0.86017	0.92198	0.95752	0.97952			
	0.98402	1.01704	1.10090				0.96494	8.618	
151 Benzo(g,h,i)perylene	1.07704	0.89128	0.93016	0.97952	1.02707	1.01343			
	1.01579	1.05027	1.13828				1.01365	7.332	
230 2-Chloroacetophenone	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
199 3-Picoline	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
200 N,N-Dimethylacetamide	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
201 Quinoline	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-

STL North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4hp7.i Injection Date: 26-OCT-2007 19:10
Lab File ID: ICVTCL.D Init. Cal. Date(s): 26-OCT-2007 26-OCT-2007
Analysis Type: Init. Cal. Times: 16:09 18:50
Lab Sample ID: icvtcl Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSS\a4hp7.i\71026a.b\8270p.m

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
142 Benzo(k)fluoranthene	1.23514	1.24352	1.24352	0.010	-0.67844	50.00000	Averaged
146 Benzo(a)pyrene	1.11108	1.09988	1.09988	0.010	1.00818	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.20254	1.20684	1.20684	0.010	-0.35780	50.00000	Averaged
150 Dibenz(a,h)anthracene	0.96494	0.96783	0.96783	0.010	-0.29970	50.00000	Averaged
151 Benzo(g,h,i)perylene	1.01365	1.00657	1.00657	0.010	0.69806	50.00000	Averaged
198 1,4-Dioxane	0.61560	0.56917	0.56917	0.010	7.54182	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.49422	0.47455	0.47455	0.010	3.97951	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.18482	1.15622	1.15622	0.010	2.41377	50.00000	Averaged
$ 156 Terphenyl-d14	0.83872	0.82434	0.82434	0.010	1.71412	50.00000	Averaged
$ 157 Phenol-d5	2.11606	2.10526	2.10526	0.010	0.51082	50.00000	Averaged
$ 158 2-Fluorophenol	1.40529	1.45395	1.45395	0.010	-3.46269	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	0.12914	0.12743	0.12743	0.010	1.32220	50.00000	Averaged
$ 186 2-Chlorophenol-d4	1.29270	1.25441	1.25441	0.010	2.96186	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.79872	0.82063	0.82063	0.010	-2.74298	50.00000	Averaged
M 195 Cresols, total	3.14307	3.15047	3.15047	0.010	-0.23558	50.00000	Averaged
101 Diphenylamine	0.48469	0.48104	0.48104	0.010	0.75302	50.00000	Averaged

STL North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4hp7.i
Lab File ID: 7SMH1029.D
Analysis Type:
Lab Sample ID: L6
Method: \\cansvr11\dd\chem\MSS\a4hp7.i\71029a.b\8270p.m

Injection Date: 29-OCT-2007 13:56
Init. Cal. Date(s): 26-OCT-2007 26-OCT-2007
Init. Cal. Times: 16:09 18:50
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
142 Benzo(k)fluoranthene	1.23514	1.28164	1.28164	0.010	-3.76456	50.00000	Averaged
146 Benzo(a)pyrene	1.11108	1.18651	1.18651	0.010	-6.78888	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.20254	1.27651	1.27651	0.010	-6.15130	50.00000	Averaged
150 Dibenz(a,h)anthracene	0.96494	1.04434	1.04434	0.010	-8.22840	50.00000	Averaged
151 Benzo(g,h,i)perylene	1.01365	1.06676	1.06676	0.010	-5.23978	50.00000	Averaged
198 1,4-Dioxane	0.61560	0.68945	0.68945	0.010	-11.99635	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.49422	0.50730	0.50730	0.010	-2.64848	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.18482	1.27589	1.27589	0.010	-7.68610	50.00000	Averaged
$ 156 Terphenyl-d14	0.83872	0.88559	0.88559	0.010	-5.58872	50.00000	Averaged
$ 157 Phenol-d5	2.11606	2.26398	2.26398	0.010	-6.99005	50.00000	Averaged
$ 158 2-Fluorophenol	1.40529	1.46514	1.46514	0.010	-4.25925	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	0.12914	0.14740	0.14740	0.010	-14.14062	50.00000	Averaged
$ 186 2-Chlorophenol-d4	1.29270	1.36074	1.36074	0.010	-5.26339	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.79872	0.85425	0.85425	0.010	-6.95237	50.00000	Averaged
M 195 Cresols, total	3.14307	3.29988	3.29988	0.010	-4.98906	50.00000	Averaged
101 Diphenylamine	0.48469	0.51722	0.51722	0.010	-6.71121	50.00000	Averaged

STL North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 24-OCT-2007 15:22
End Cal Date : 24-OCT-2007 17:53
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSS\a4hp8.i\71024a.b\8270P.m
Last Edit : 24-Oct-2007 17:15 gruberj
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						
144 Hexachlorophene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
145 Hexachlorophene product	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
146 Benzo(a)pyrene	1.16862	0.94500	0.99660	1.06264	1.04702	1.14009			
	1.17535	1.24000	1.40500				1.13115	12.298	
148 3-Methylcholanthrene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
149 Indeno(1,2,3-cd)pyrene	1.15525	1.02036	1.08130	1.16366	1.14381	1.23994			
	1.26288	1.32864	1.47228				1.20757	11.285	
150 Dibenz(a,h)anthracene	0.98770	0.87713	0.89316	0.96975	0.95807	1.05400			
	1.09661	1.15927	1.28968				1.03171	12.905	
151 Benzo(g,h,i)perylene	1.12101	0.90918	0.87601	0.98078	0.94801	1.00857			
	1.02246	1.07093	1.17786				1.01275	9.694	
232 Bis(2-hydroxyphenyl)methane	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
233 Bis(4-hydroxyphenyl)methane	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
234 4-Chlorophenol	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
235 2,3-Dichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-

STL North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4hp8.i
Lab File ID: ICVTCL.D
Analysis Type:
Lab Sample ID: icvtcl
Method: \\cansvr11\dd\chem\MSS\a4hp8.i\71024a.b\8270p.m

Injection Date: 24-OCT-2007 18:12
Init. Cal. Date(s): 24-OCT-2007 24-OCT-2007
Init. Cal. Times: 15:22 17:53
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
142 Benzo(k)fluoranthene	1.27628	1.28668	1.28668	0.010	-0.81506	50.00000	Averaged
146 Benzo(a)pyrene	1.13115	1.11216	1.11216	0.010	1.67860	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.20757	1.20643	1.20643	0.010	0.09417	50.00000	Averaged
150 Dibenz(a,h)anthracene	1.03171	1.02848	1.02848	0.010	0.31240	50.00000	Averaged
151 Benzo(g,h,i)perylene	1.01275	0.96293	0.96293	0.010	4.91974	50.00000	Averaged
198 1,4-Dioxane	0.61653	0.56331	0.56331	0.010	8.63212	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.49725	0.48504	0.48504	0.010	2.45568	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.28432	1.25695	1.25695	0.010	2.13125	50.00000	Averaged
$ 156 Terphenyl-d14	0.79730	0.79942	0.79942	0.010	-0.26527	50.00000	Averaged
$ 157 Phenol-d5	1.85917	1.81077	1.81077	0.010	2.60337	50.00000	Averaged
$ 158 2-Fluorophenol	1.28007	1.22639	1.22639	0.010	4.19358	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	0.14264	0.14093	0.14093	0.010	1.19563	50.00000	Averaged
$ 186 2-Chlorophenol-d4	1.23332	1.20697	1.20697	0.010	2.13638	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.82588	0.82261	0.82261	0.010	0.39586	50.00000	Averaged
M 195 Cresols, total	2.85006	2.88600	2.88600	0.010	-1.26094	50.00000	Averaged
101 Diphenylamine	0.50153	0.49164	0.49164	0.010	1.97267	50.00000	Averaged

STL North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4hp8.i
Lab File ID: 8SMH1029.D
Analysis Type:
Lab Sample ID: L6
Method: \\cansvr11\dd\chem\MSS\a4hp8.i\71029a.b\8270p.m

Injection Date: 29-OCT-2007 10:20
Init. Cal. Date(s): 24-OCT-2007 24-OCT-2007
Init. Cal. Times: 15:22 17:53
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
142 Benzo(k)fluoranthene	1.27628	1.38094	1.38094	0.010	-8.20028	50.00000	Averaged
146 Benzo(a)pyrene	1.13115	1.21421	1.21421	0.010	-7.34356	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.20757	1.31849	1.31849	0.010	-9.18538	50.00000	Averaged
150 Dibenz(a,h)anthracene	1.03171	1.11948	1.11948	0.010	-8.50778	50.00000	Averaged
151 Benzo(g,h,i)perylene	1.01275	1.08001	1.08001	0.010	-6.64054	50.00000	Averaged
198 1,4-Dioxane	0.61653	0.49897	0.49897	0.010	19.06790	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.49725	0.50747	0.50747	0.010	-2.05536	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.28432	1.39391	1.39391	0.010	-8.53257	50.00000	Averaged
$ 156 Terphenyl-d14	0.79730	0.86509	0.86509	0.010	-8.50150	50.00000	Averaged
$ 157 Phenol-d5	1.85917	1.93240	1.93240	0.010	-3.93874	50.00000	Averaged
$ 158 2-Fluorophenol	1.28007	1.28357	1.28357	0.010	-0.27316	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	0.14264	0.14936	0.14936	0.010	-4.71595	50.00000	Averaged
$ 186 2-Chlorophenol-d4	1.23332	1.30061	1.30061	0.010	-5.45612	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.82588	0.87349	0.87349	0.010	-5.76451	50.00000	Averaged
M 195 Cresols, total	2.85006	3.11050	3.11050	0.010	-9.13792	50.00000	Averaged
101 Diphenylamine	0.50153	0.56377	0.56377	0.010	-12.40883	50.00000	Averaged

STL North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4hp8.i
Lab File ID: 8SMH1030.D
Analysis Type:
Lab Sample ID: L6
Method: \\cansvr11\dd\chem\MSS\a4hp8.i\71030a.b\8270p.m

Injection Date: 30-OCT-2007 12:53
Init. Cal. Date(s): 24-OCT-2007 24-OCT-2007
Init. Cal. Times: 15:22 17:53
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
142 Benzo(k)fluoranthene	1.27628	1.54331	1.54331	0.010	-20.92199	50.00000	Averaged
146 Benzo(a)pyrene	1.13115	1.32237	1.32237	0.010	-16.90488	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.20757	1.41719	1.41719	0.010	-17.35859	50.00000	Averaged
150 Dibenz(a,h)anthracene	1.03171	1.25451	1.25451	0.010	-21.59545	50.00000	Averaged
151 Benzo(g,h,i)perylene	1.01275	1.12170	1.12170	0.010	-10.75761	50.00000	Averaged
198 1,4-Dioxane	0.61653	0.59338	0.59338	0.010	3.75595	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.49725	0.55672	0.55672	0.010	-11.95991	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.28432	1.44671	1.44671	0.010	-12.64378	50.00000	Averaged
$ 156 Terphenyl-d14	0.79730	0.87588	0.87588	0.010	-9.85482	50.00000	Averaged
$ 157 Phenol-d5	1.85917	2.00280	2.00280	0.010	-7.72523	50.00000	Averaged
$ 158 2-Fluorophenol	1.28007	1.25462	1.25462	0.010	1.98805	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	0.14264	0.14849	0.14849	0.010	-4.10635	50.00000	Averaged
$ 186 2-Chlorophenol-d4	1.23332	1.30017	1.30017	0.010	-5.42043	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.82588	0.89032	0.89032	0.010	-7.80245	50.00000	Averaged
M 195 Cresols, total	2.85006	3.09760	3.09760	0.010	-8.68528	50.00000	Averaged
101 Diphenylamine	0.50153	0.56898	0.56898	0.010	-13.44825	50.00000	Averaged

STL North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 31-OCT-2007 15:58
End Cal Date : 31-OCT-2007 18:33
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSS\a4hp8.i\71031a.b\8270P.m
Last Edit : 01-Nov-2007 08:44 gruberj
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						
144 Hexachlorophene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
145 Hexachlorophene product	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
146 Benzo(a)pyrene	1.00609	0.85680	0.92839	1.01385	1.07984	1.14780			
	1.21126	1.27667	+++++				1.06509	13.342	
148 3-Methylcholanthrene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
149 Indeno(1,2,3-cd)pyrene	1.05215	0.94193	1.02882	1.10916	1.16710	1.23713			
	1.28978	1.35821	1.49504				1.18659	14.808	
150 Dibenz(a,h)anthracene	0.91651	0.79502	0.83997	0.94796	0.97157	1.06074			
	1.12563	1.18816	1.32919				1.01942	16.918	
151 Benzo(g,h,i)perylene	1.06388	0.84710	0.86775	0.94119	0.96347	0.98910			
	1.03120	1.08506	1.18240				0.99679	10.714	
232 Bis(2-hydroxyphenyl)methane	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
233 Bis(4-hydroxyphenyl)methane	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
234 4-Chlorophenol	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
235 2,3-Dichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-

STL North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4hp8.i Injection Date: 31-OCT-2007 18:53
Lab File ID: ICVTCL.D Init. Cal. Date(s): 31-OCT-2007 31-OCT-2007
Analysis Type: Init. Cal. Times: 15:58 18:33
Lab Sample ID: icvtcl Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSS\a4hp8.i\71031a.b\8270P.m

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
142 Benzo(k)fluoranthene	1.31598	1.31479	1.31479	0.010	0.09048	50.00000	Averaged
146 Benzo(a)pyrene	1.06509	1.14284	1.14284	0.010	-7.30045	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.18659	1.23697	1.23697	0.010	-4.24562	50.00000	Averaged
150 Dibenz(a,h)anthracene	5.00000	5.03216	1.05822	0.010	-0.64321	0.000e+000	Quadratic
151 Benzo(g,h,i)perylene	0.99679	0.99112	0.99112	0.010	0.56931	50.00000	Averaged
198 1,4-Dioxane	0.59367	0.58021	0.58021	0.010	2.26632	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.44581	0.46280	0.46280	0.010	-3.81005	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.31614	1.32545	1.32545	0.010	-0.70694	50.00000	Averaged
$ 156 Terphenyl-d14	0.77529	0.80908	0.80908	0.010	-4.35732	50.00000	Averaged
$ 157 Phenol-d5	1.75954	1.73764	1.73764	0.010	1.24445	50.00000	Averaged
$ 158 2-Fluorophenol	1.21919	1.21403	1.21403	0.010	0.42366	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	5.00000	5.06941	0.15059	0.010	-1.38825	0.000e+000	Quadratic
$ 186 2-Chlorophenol-d4	1.22310	1.18894	1.18894	0.010	2.79346	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.82744	0.82746	0.82746	0.010	-0.00269	50.00000	Averaged
M 195 Cresols, total	2.80785	2.76041	2.76041	0.010	1.68951	50.00000	Averaged
101 Diphenylamine	5.00000	5.20967	0.50019	0.010	-4.19348	0.000e+000	Quadratic

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24271

Lab File ID (Standard): 7SMH1029 Date Analyzed: 10/29/07

Instrument ID: A4HP7 Time Analyzed: 1356

		IS1 (DCB) AREA #	RT	IS2 (NPT) AREA #	RT	IS3 (ANT) AREA #	RT
	12 HOUR STD	109618	3.49	488130	4.38	237985	5.64
	UPPER LIMIT	219236	3.99	976260	4.88	475970	6.14
	LOWER LIMIT	54809	2.99	244065	3.88	118993	5.14
	EPA SAMPLE NO.						
01	J90FKBLK	136773	3.48	603250	4.38	302403	5.64
02	J90FKCHK	135545	3.49	587008	4.38	301805	5.64
03	SB-464-0304	134003	3.49	584115	4.38	298629	5.65
04	SB-462-0708	123027	3.49	561270	4.38	286311	5.65
05	SB-463-0506	107331	3.49	479932	4.38	237243	5.65
06	SB-463-0708	141054	3.49	620701	4.38	314392	5.65
07	SB-463-0304	134913	3.49	583407	4.39	292191	5.65
08	SB-462-0506	150187	3.49	654767	4.39	338259	5.65
09	SB-464-0102	118320	3.49	519743	4.39	265293	5.65
10	SB-464-0203	141222	3.49	626701	4.39	323363	5.65
11	SB-462-0102	146087	3.49	643077	4.39	319792	5.65
12	SB-462-0203	137560	3.49	627803	4.39	321870	5.65
13	SB-462-0304	119202	3.49	522190	4.39	277036	5.65
14	SB-463-0203	123533	3.50	568476	4.39	298026	5.65
15	SB-463-0102	91236	3.51	392952	4.40	202134	5.66
16							
17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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.

8C
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24271

Lab File ID (Standard): 7SMH1029 Date Analyzed: 10/29/07

Instrument ID: A4HP7 Time Analyzed: 1356

		IS4 (PHN) AREA #	RT	IS5 (CRY) AREA #	RT	IS6 (PRY) AREA #	RT
	12 HOUR STD	433552	6.73	363098	8.70	334250	10.11
	UPPER LIMIT	867104	7.23	726196	9.20	668500	10.61
	LOWER LIMIT	216776	6.23	181549	8.20	167125	9.61
	EPA SAMPLE NO.						
01	J90FKBLK	536687	6.72	463914	8.69	430036	10.11
02	J90FKCHK	549297	6.73	463784	8.69	440284	10.10
03	SB-464-0304	506501	6.73	438120	8.68	396068	10.10
04	SB-462-0708	499724	6.73	444966	8.68	396260	10.10
05	SB-463-0506	409513	6.73	368108	8.68	330213	10.10
06	SB-463-0708	548628	6.73	472875	8.69	430023	10.11
07	SB-463-0304	498478	6.73	441155	8.69	401300	10.11
08	SB-462-0506	588509	6.73	512281	8.68	458480	10.10
09	SB-464-0102	458832	6.73	420413	8.69	369281	10.11
10	SB-464-0203	553498	6.73	476745	8.69	436266	10.11
11	SB-462-0102	549914	6.73	454901	8.68	398507	10.10
12	SB-462-0203	570662	6.73	443054	8.68	387622	10.11
13	SB-462-0304	475621	6.73	372143	8.68	335906	10.11
14	SB-463-0203	474432	6.74	391873	8.70	335731	10.13
15	SB-463-0102	322568	6.75	257086	8.70	229341	10.14
16							
17							
18							
19							
20							
21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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.

FORM VIII SV-2 1/87 Rev.

8B
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24271

Lab File ID (Standard): 8SMH1029 Date Analyzed: 10/29/07

Instrument ID: A4HP8 Time Analyzed: 1020

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	112026	3.53	467439	4.43	254744	5.70
	UPPER LIMIT	224052	4.03	934878	4.93	509488	6.20
	LOWER LIMIT	56013	3.03	233720	3.93	127372	5.20
	EPA SAMPLE NO.						
01	J90GABLK	111943	3.54	470010	4.43	255363	5.70
02	J90GACHK	97620	3.54	400397	4.43	216778	5.70
03							
04							
05							
06							
07							
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20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24271

Lab File ID (Standard): 8SMH1029 Date Analyzed: 10/29/07

Instrument ID: A4HP8 Time Analyzed: 1020

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	475947	6.78	478295	8.79	383129	10.27
	UPPER LIMIT	951894	7.28	956590	9.29	766258	10.77
	LOWER LIMIT	237974	6.28	239148	8.29	191565	9.77
	EPA SAMPLE NO.						
01	J90GABLK	483711	6.79	475644	8.80	411030	10.28
02	J90GACHK	412630	6.79	398873	8.79	332856	10.27
03							
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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.

8B
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24271

Lab File ID (Standard): 8SMH1030 Date Analyzed: 10/30/07

Instrument ID: A4HP8 Time Analyzed: 1253

		IS1 (DCB) AREA #	RT	IS2 (NPT) AREA #	RT	IS3 (ANT) AREA #	RT
	12 HOUR STD	167290	3.54	690169	4.44	384600	5.71
	UPPER LIMIT	334580	4.04	1380338	4.94	769200	6.21
	LOWER LIMIT	83645	3.04	345085	3.94	192300	5.21
	EPA SAMPLE NO.						
01	SB-465-0506	85539	3.54	342606*	4.44	193599	5.71
02	SB-465-0506	77472*	3.54	318132*	4.44	191966*	5.71
03	SB-465-0506	87256	3.54	374603	4.44	220377	5.71
04							
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22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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.

FORM VIII SV-1 1/87 Rev.

8C
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24271

Lab File ID (Standard): 8SMH1030 Date Analyzed: 10/30/07

Instrument ID: A4HP8 Time Analyzed: 1253

		IS4 (PHN) AREA #	RT	IS5 (CRY) AREA #	RT	IS6 (PRY) AREA #	RT
	12 HOUR STD	734419	6.79	784977	8.79	576317	10.28
	UPPER LIMIT	1468838	7.29	1569954	9.29	1152634	10.78
	LOWER LIMIT	367210	6.29	392489	8.29	288159	9.78
	EPA SAMPLE NO.						
01	SB-465-0506	379259	6.79	337903*	8.79	281522*	10.28
02	SB-465-0506	366270*	6.80	376527*	8.78	295676	10.27
03	SB-465-0506	423362	6.80	424551	8.78	344585	10.27
04							
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22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24271

Lab File ID (Standard): 8SMH1031 Date Analyzed: 10/31/07

Instrument ID: A4HP8 Time Analyzed: 1833

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	285499	3.56	1160062	4.46	660271	5.73
	UPPER LIMIT	570998	4.06	2320124	4.96	1320542	6.23
	LOWER LIMIT	142750	3.06	580031	3.96	330136	5.23
	EPA SAMPLE NO.						
01	SB-464-0708	221940	3.56	895494	4.45	482365	5.73
02	SB-465-0708	203302	3.56	844166	4.46	461339	5.73
03	SB-464-0506	202415	3.56	844111	4.45	458218	5.73
04	SB-465-0304	196979	3.56	835745	4.45	470585	5.73
05	SB-465-0203	166810	3.56	688324	4.45	383024	5.72
06	SB-465-0102	156638	3.56	662883	4.45	375922	5.72
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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.

FORM VIII SV-1 1/87 Rev.

8C
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J24271

Lab File ID (Standard): 8SMH1031 Date Analyzed: 10/31/07

Instrument ID: A4HP8 Time Analyzed: 1833

		IS4 (PHN) AREA #	RT	IS5 (CRY) AREA #	RT	IS6 (PRY) AREA #	RT
	12 HOUR STD	1283416	6.82	1390290	8.81	1092312	10.31
	UPPER LIMIT	2566832	7.32	2780580	9.31	2184624	10.81
	LOWER LIMIT	641708	6.32	695145	8.31	546156	9.81
	EPA SAMPLE NO.						
01	SB-464-0708	960295	6.81	959753	8.79	827198	10.29
02	SB-465-0708	918011	6.81	959641	8.82	809816	10.32
03	SB-464-0506	902057	6.81	898135	8.80	773292	10.30
04	SB-465-0304	924419	6.81	946832	8.79	812134	10.29
05	SB-465-0203	751392	6.81	789249	8.80	666266	10.30
06	SB-465-0102	751757	6.81	745582	8.80	627850	10.30
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22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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.

SAMPLE CALC SAMPLE ID: SB-446-0102 COMPOUND: BAP

IS AREA	DILUTION	COMPOUND OF INTEREST AREA	IS AMOUNT (NG)	Final Extract Volume (UL)	AVE RRF	PERCENT SOLIDS	AMOUNT INJECTED (UL)	CONCENTRATION PPB
398507	1	38418	2	2000	1.1111	0.89	0.5	25.97

Sample Amount (g)
30.03

Tetra Tech NUS, Inc

Client Sample ID: SB-462-0102

GC/MS Semivolatiles

Lot-Sample #...:	A7J240271-001	**Work Order #...:**	J9QDG1AD	**Matrix.....:**	SO
Date Sampled...:	10/23/07 08:04	**Date Received..:**	10/24/07		
Prep Date.....:	10/27/07	**Analysis Date..:**	10/29/07		
Prep Batch #...:	7299474				
Dilution Factor:	1	**Initial Wgt/Vol:**	30.03 g	**Final Wgt/Vol..:**	2 mL
% Moisture.....:	11	**Method.....:**	SW846 8270C		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo(a)pyrene	**26 J**	**370**	**ug/kg**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	52	(24 - 112)
2-Fluorobiphenyl	61	(34 - 110)
Terphenyl-d14	80	(41 - 119)
Phenol-d5	60	(28 - 110)
2-Fluorophenol	54	(26 - 110)
2,4,6-Tribromophenol	58	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

STL North Canton

Semivolatile REPORT SW-846 Method 8270

Data file : \\cansvr11\dd\chem\MSS\a4hp7.i\71029a.b\J9QDG1AD.D
Lab Smp Id: j9qdg1ad Client Smp ID: SB-462-0102
Inj Date : 29-OCT-2007 23:14
Operator : 001710 Inst ID: a4hp7.i
Smp Info : j9qdg1ad,71029a.b,8270p,bap.sub
Misc Info :
Comment :
Method : \\cansvr11\dd\chem\MSS\a4hp7.i\71029a.b\8270P.m
Meth Date : 30-Oct-2007 14:12 gruberj Quant Type: ISTD
Cal Date : 26-OCT-2007 18:10 Cal File: 7SHH1026.D
Als bottle: 30
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bap.sub
Target Version: 4.14
Processing Host: CANPMSSV01

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws *) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	2000.000	Volume of final extract (uL)(1000 low, 2
Vi	0.50000	Volume injected (uL)
Ws	30.030	Weight of sample extracted (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/kg)	
* 1 1,4-Dichlorobenzene-d4	152	3.492	3.487	(1.000)	146087	2.00000		(Q)
* 2 Naphthalene-d8	136	4.386	4.380	(1.000)	643077	2.00000		
* 3 Acenaphthene-d10	164	5.648	5.642	(1.000)	319792	2.00000		
* 4 Phenanthrene-d10	188	6.734	6.728	(1.000)	549914	2.00000		
* 5 Chrysene-d12	240	8.681	8.697	(1.000)	454901	2.00000		
* 6 Perylene-d12	264	10.103	10.114	(1.000)	398507	2.00000		
146 Benzo(a)pyrene	252	10.034	10.055	(0.993)	38418	0.17353	23.115	
$ 154 Nitrobenzene-d5	82	3.867	3.861	(0.882)	416933	2.62372	349.48	
$ 155 2-Fluorobiphenyl	172	5.140	5.134	(0.910)	579505	3.05891	407.45	
$ 156 Terphenyl-d14	244	7.868	7.868	(0.906)	763191	4.00065	532.89	
$ 157 Phenol-d5	99	3.209	3.193	(0.919)	699013	4.52246	602.39	
$ 158 2-Fluorophenol	112	2.637	2.615	(0.755)	413628	4.02961	536.74	
$ 159 2,4,6-Tribromophenol	330	6.220	6.215	(1.101)	89799	4.34885	579.27	
$ 186 2-Chlorophenol-d4	132	3.343	3.332	(0.957)	398621	4.22165	562.32	
$ 187 1,2-Dichlorobenzene-d4	152	3.599	3.594	(1.031)	102902	1.76379	234.94	(Q)

QC Flag Legend

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO :	**MIKE MARTIN**	**DATE:**	**JANUARY 8, 2008**
FROM:	**THOMAS JACKMAN**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – MERCURY**
LOCKHEED MIDDLE RIVER FACILITY
SAMPLE DELIVERY GROUP (SDG) – 7J24271

SAMPLES: 20/Solid

SB-462-0102	SB-462-0203	SB-462-0304	SB-462-0506	SB-462-0708
SB-463-0102	SB-463-0203	SB-463-0304	SB-463-0506	SB-463-0708
SB-464-0102	SB-464-0203	SB-464-0304	SB-464-0506	SB-464-0708
SB-465-0102	SB-465-0203	SB-465-0304	SB-465-0506	SB-465-0708

Overview

This sample set for the Lockheed Middle River, SDG 7J24271, consists of 20 environmental soil samples. The samples were analyzed for mercury. No field duplicates were included in this data set.

The samples were collected by Tetra Tech NUS, Inc. on October 23, 2007 and analyzed by Test America. The samples were analyzed by SW-846 Method 7471A [Cold Vapor Atomic Absorption (CVAA)].

Summary

All samples were successfully analyzed. The findings in this report are based upon a general review of all available data including: data completeness, holding times, calibrations, laboratory method/preparation blanks, matrix spike results, laboratory duplicate results, laboratory control sample (LCS) results, analyte quantitation, and detection limits. Areas of concern are listed below; documentation supporting these findings is presented in Appendix C. Qualified analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

Major Problems

- None.

Minor Problems

- None.

Executive Summary

Laboratory Performance: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the "Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analysis" (4/93). The text of this report has been formulated to address only those problem areas affecting data quality.

Tetra Tech NUS
Thomas Jackman
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 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: 00885

SDG: 7J24271 MEDIA: SOIL DATA FRACTION: M

nsample	SB-462-0102
samp_date	10/23/2007
lab_id	A7J240271001
qc_type	NM
units	MG/KG
Pct_Solids	89.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.091		

nsample	SB-462-0203
samp_date	10/23/2007
lab_id	A7J240271002
qc_type	NM
units	MG/KG
Pct_Solids	87.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.21		

nsample	SB-462-0304
samp_date	10/23/2007
lab_id	A7J240271003
qc_type	NM
units	MG/KG
Pct_Solids	87.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

PROJ_NO: 00885

SDG: 7J24271 MEDIA: SOIL DATA FRACTION: M

nsample	SB-462-0506
samp_date	10/23/2007
lab_id	A7J240271004
qc_type	NM
units	MG/KG
Pct_Solids	79.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.021	U	

nsample	SB-462-0708
samp_date	10/23/2007
lab_id	A7J240271005
qc_type	NM
units	MG/KG
Pct_Solids	82.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

nsample	SB-463-0102
samp_date	10/23/2007
lab_id	A7J240271006
qc_type	NM
units	MG/KG
Pct_Solids	86.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.036		

PROJ_NO: 00885

SDG: 7J24271 MEDIA: SOIL DATA FRACTION: M

nsample	SB-463-0203
samp_date	10/23/2007
lab_id	A7J240271007
qc_type	NM
units	MG/KG
Pct_Solids	74.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.063		

nsample	SB-463-0304
samp_date	10/23/2007
lab_id	A7J240271008
qc_type	NM
units	MG/KG
Pct_Solids	79.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.021	U	

nsample	SB-463-0506
samp_date	10/23/2007
lab_id	A7J240271009
qc_type	NM
units	MG/KG
Pct_Solids	81.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.021	U	

PROJ_NO: 00885

SDG: 7J24271 MEDIA: SOIL DATA FRACTION: M

nsample	SB-463-0708	nsample	SB-464-0102	nsample	SB-464-0203
samp_date	10/23/2007	samp_date	10/23/2007	samp_date	10/23/2007
lab_id	A7J240271010	lab_id	A7J240271011	lab_id	A7J240271012
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	80.0	Pct_Solids	90.0	Pct_Solids	89.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.021	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

PROJ_NO: 00885

SDG: 7J24271 MEDIA: SOIL DATA FRACTION: M

nsample	SB-464-0304
samp_date	10/23/2007
lab_id	A7J240271013
qc_type	NM
units	MG/KG
Pct_Solids	81.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.021	U	

nsample	SB-464-0506
samp_date	10/23/2007
lab_id	A7J240271014
qc_type	NM
units	MG/KG
Pct_Solids	79.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.021	U	

nsample	SB-464-0708
samp_date	10/23/2007
lab_id	A7J240271015
qc_type	NM
units	MG/KG
Pct_Solids	85.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

PROJ_NO: 00885

SDG: 7J24271 MEDIA: SOIL DATA FRACTION: M

nsample	SB-465-0102
samp_date	10/23/2007
lab_id	A7J240271016
qc_type	NM
units	MG/KG
Pct_Solids	88.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.04		

nsample	SB-465-0203
samp_date	10/23/2007
lab_id	A7J240271017
qc_type	NM
units	MG/KG
Pct_Solids	90.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

nsample	SB-465-0304
samp_date	10/23/2007
lab_id	A7J240271018
qc_type	NM
units	MG/KG
Pct_Solids	85.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

PROJ_NO: 00885

SDG: 7J24271 MEDIA: SOIL DATA FRACTION: M

nsample	SB-465-0506
samp_date	10/23/2007
lab_id	A7J240271019
qc_type	NM
units	MG/KG
Pct_Solids	84.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

nsample	SB-465-0708
samp_date	10/23/2007
lab_id	A7J240271020
qc_type	NM
units	MG/KG
Pct_Solids	84.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9QD0 **Client ID:** SB-463-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298022

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 21.196

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.021	0.13	0.021	U	1	CVAA	10/26/2007	11:09

Comments: Lot #: A7J240271 Sample #: 8

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9QD1 **Client ID:** SB-463-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298022

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 18.948

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.021	0.12	0.021	U	1	CVAA	10/26/2007	11:10

Comments: Lot #: A7J240271 Sample #: 9

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9QD2 **Client ID:** SB-463-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298022

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 19.963

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.021	0.12	0.021	U	1	CVAA	10/26/2007	11:11

Comments: Lot #: A7J240271 Sample #: 10

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9QD3 **Client ID:** SB-464-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298022

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 10.077

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/26/2007	11:12

Comments: Lot #: A7J240271 Sample #: 11

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9QD4 **Client ID:** SB-464-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298022

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 10.566

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/26/2007	11:13

Comments: Lot #: A7J240271 Sample #: 12

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9QD5 **Client ID:** SB-464-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298022

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 18.982

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.021	0.12	0.021	U	1	CVAA	10/26/2007	11:15

Comments: Lot #: A7J240271 Sample #: 13

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9QD6 **Client ID:** SB-464-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298022

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 20.657

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.021	0.13	0.021	U	1	CVAA	10/26/2007	11:16

Comments: Lot #: A7J240271 Sample #: 14

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9QD7 **Client ID:** SB-464-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298022

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 15.317

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/26/2007	11:17

Comments: Lot #: A7J240271 Sample #: 15

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9QD8 **Client ID:** SB-465-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298022

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 11.576

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.040	B	1	CVAA	10/26/2007	11:21

Comments: Lot #: A7J240271 Sample #: 16

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9QDG **Client ID:** SB-462-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298022

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 10.915

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.091	B	1	CVAA	10/26/2007	11:22

Comments: Lot #: A7J240271 Sample #: 1

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9QDH **Client ID:** SB-462-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298022

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 12.921

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.21		1	CVAA	10/26/2007	11:23

Comments: Lot #: A7J240271 Sample #: 2

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9QDK **Client ID:** SB-462-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298022

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 12.925

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/26/2007	11:24

Comments: Lot #: A7J240271 Sample #: 3

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9QDL **Client ID:** SB-462-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298022

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 20.949

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.021	0.13	0.021	U	1	CVAA	10/26/2007	11:26

Comments: Lot #: A7J240271 Sample #: 4

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9QDM **Client ID:** SB-462-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298022

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 18.489

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/26/2007	11:27

Comments: Lot #: A7J240271 Sample #: 5

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9QDR **Client ID:** SB-463-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298022

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 13.713

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.12	0.036	B	1	CVAA	10/26/2007	11:28

Comments: Lot #: A7J240271 Sample #: 6

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9QDW **Client ID:** SB-463-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298022

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 26.059

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.023	0.14	0.063	B	1	CVAA	10/26/2007	11:30

Comments: Lot #: A7J240271 Sample #: 7

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9QEA **Client ID:** SB-465-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298022

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 10.071

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/26/2007	11:31

Comments: Lot #: A7J240271 Sample #: 17

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9QED **Client ID:** SB-465-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298022

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 15.331

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/26/2007	11:32

Comments: Lot #: A7J240271 Sample #: 18

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9QEE **Client ID:** SB-465-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298022

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.132

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/26/2007	11:35

Comments: Lot #: A7J240271 Sample #: 19

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J9QEF **Client ID:** SB-465-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/25/2007 **Prep Batch:** 7298022

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 15.833

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/26/2007	11:39

Comments: Lot #: A7J240271 Sample #: 20

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

APPENDIX C

SUPPORT DOCUMENTATION

CASE NARRATIVE (continued)

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperatures of the coolers upon sample receipt were 1.7 and 2.6°C.

See TestAmerica's Cooler Receipt Form for additional information.

GC/MS SEMIVOLATILES

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 sample(s) SB-465-0506 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.

The matrix spike/matrix spike duplicate(s) for batch(es) 7299474 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.

Sample(s) SB-463-0304 had up to one surrogate recovery per fraction outside acceptance limits. However, since the recovery was greater than 10% and all associated QC met criteria, no corrective action was taken.

The internal standard areas were outside acceptance limits for sample(s) SB-465-0506 due to matrix effects. "(Refer to IS report following this Case Narrative for additional detail.)"

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).

GENERAL CHEMISTRY

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

CASE NARRATIVE

7J24271

The following report contains the analytical results for twenty solid samples submitted to TestAmerica North Canton by Tetra Tech NUS Inc from the LMC MR Site, project number 112IC00885. The samples were received October 24, 2007, according to documented sample acceptance procedures.

This SDG consists of (1) laboratory ID: A7J240271.

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 Dev Murali, John Poremba and Michael Martin on November 12, 2007. 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.

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."

Chain of Custody Record

SEVERN TRENT **STL**

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: Tetra Tech	Project Manager: M. Mahon	Date: 10/23/07	Chain of Custody Number: 227045
Address: 20251 Century Blvd #200	Telephone Number (Area Code)/Fax Number: 301 528 3022	Lab Number:	Page 1 of 2
City: Germantown / State: MD / Zip Code: 20874	Site Contact: S. Hadley	Lab Contact: K Ives	
Project Name and Location (State): LMC MR	Carrier/Waybill Number: Courier		
Contract/Purchase Order/Quote No.: 112IC00885			

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: LL 8270 Kepone	Hg Mercury	Special Instructions/ Conditions of Receipt
SB-462-0102	10/23	0804				X	2						X	X	Block 'H'
-0203		0806													*benzo (a) pyrene
-0304		0808													
-0506		0810													
462-0708		0812													
463-0102		0853													
-0203		0855													
-0304		0857													
-0506		0859													
463-0708		0901													
464-0102		0944													
SB-464-0203	10/23	0946				X	2						X	X	*benzo (a) pyrene

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 STND

QC Requirements (Specify)

1. Relinquished By	Date: 10/23/07	Time: 1630	1. Received By	Date: 10-23-07	Time: 1630
2. Relinquished By	Date:	Time:	2. Received By	Date: 10-24-07	Time: 1200
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

TestAmerica North Canton

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Chain of Custody Record

STL-4124 (0901)

SEVERN TRENT STL
Severn Trent Laboratories, Inc.

Field	Entry
Client	Tetra Tech
Address	20251 Century Blvd # 200
City	Germantown
State	MD
Zip Code	208711
Project Manager	M, Martin
Telephone Number (Area Code)/Fax Number	301 528 3022
Date	10/23/07
Chain of Custody Number	227046
Lab Number	
Page	2 of 2
Site Contact	S. Hartley
Lab Contact	K, Rves
Project Name and Location (State)	LMC MA
Carrier/Waybill Number	Courier
Contract/Purchase Order/Quote No.	112IC 00885

Analysis (Attach list if more space is needed): LL8270*, Hg Mercury

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	LL8270*	Hg Mercury	Special Instructions/Conditions of Receipt
SB-464-0304	10/23	0949				X	2						X	X	Block 'H'
~~0405~~ -0506	↓	0950				↓	↓						↓	↓	*benzo(a)pyrene
464 ~~0506~~ -0708		0952													↓
465 ~~464~~ ~~0708~~ -0102		0102													
465 ~ 0203		0203													
~ 0304		0304													
~ 0506 + MS/SD	↓	0506				↓	4						↓	↓	MS/SD
SB-465 ~ 0708	10/23	0708				X	2						X	X	*benzo (a) Pyrene

KCS 10/23

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 STM

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By [signature]	10/23/07	16:30	1. Received By [signature]	10/23/07	1630
2. Relinquished By			2. Received By [signature]	10-24-07	[illegible]
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the S... ...Field Copy

HOLDTIME

SDG 7J24271

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	SB-464-0506	A7J240271014	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-462-0304	A7J240271003	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-462-0506	A7J240271004	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-462-0708	A7J240271005	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-463-0203	A7J240271007	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-463-0506	A7J240271009	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-463-0708	A7J240271010	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-464-0102	A7J240271011	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-462-0203	A7J240271002	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-464-0304	A7J240271013	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-463-0102	A7J240271006	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-464-0708	A7J240271015	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-465-0102	A7J240271016	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-465-0203	A7J240271017	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-465-0304	A7J240271018	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	SB-465-0506	A7J240271019	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-465-0708	A7J240271020	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-462-0102	A7J240271001	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-464-0203	A7J240271012	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
HG	MG/KG	SB-463-0304	A7J240271008	NM	10/23/2007	10/25/2007	10/26/2007	2	1	3
PCS	%	SB-464-0304	A7J240271013	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-465-0506	A7J240271019	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-465-0708	A7J240271020	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-465-0304	A7J240271018	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-465-0203	A7J240271017	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-465-0102	A7J240271016	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-464-0506	A7J240271014	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-462-0102	A7J240271001	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-464-0203	A7J240271012	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-464-0102	A7J240271011	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-462-0304	A7J240271003	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-464-0708	A7J240271015	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-462-0203	A7J240271002	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
PCS	%	SB-463-0708	A7J240271010	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-462-0506	A7J240271004	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-462-0708	A7J240271005	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-463-0102	A7J240271006	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-463-0203	A7J240271007	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-463-0304	A7J240271008	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
PCS	%	SB-463-0506	A7J240271009	NM	10/23/2007	11/1/2007	11/2/2007	9	1	10
OS	%	SB-465-0708	A7J240271020	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	%	SB-463-0506	A7J240271009	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	%	SB-462-0203	A7J240271002	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	%	SB-462-0304	A7J240271003	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	%	SB-462-0506	A7J240271004	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	%	SB-462-0708	A7J240271005	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	%	SB-463-0102	A7J240271006	NM	10/23/2007	10/27/2007	10/30/2007	4	3	7
OS	%	SB-463-0203	A7J240271007	NM	10/23/2007	10/27/2007	10/30/2007	4	3	7
OS	%	SB-463-0304	A7J240271008	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	%	SB-462-0102	A7J240271001	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	%	SB-465-0506	A7J240271019	NM	10/23/2007	10/27/2007	10/30/2007	4	3	7

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OS	%	SB-464-0102	A7J240271011	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	%	SB-464-0203	A7J240271012	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	%	SB-464-0304	A7J240271013	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	%	SB-464-0506	A7J240271014	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	%	SB-464-0708	A7J240271015	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	%	SB-465-0102	A7J240271016	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	%	SB-465-0203	A7J240271017	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	%	SB-465-0304	A7J240271018	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	%	SB-463-0708	A7J240271010	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-464-0304	A7J240271013	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-464-0506	A7J240271014	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	UG/KG	SB-464-0708	A7J240271015	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	UG/KG	SB-465-0102	A7J240271016	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	UG/KG	SB-465-0203	A7J240271017	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	UG/KG	SB-465-0304	A7J240271018	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	UG/KG	SB-464-0203	A7J240271012	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-465-0708	A7J240271020	NM	10/23/2007	10/27/2007	10/31/2007	4	4	8
OS	UG/KG	SB-463-0102	A7J240271006	NM	10/23/2007	10/27/2007	10/30/2007	4	3	7

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OS	UG/KG	SB-465-0506	A7J240271019	NM	10/23/2007	10/27/2007	10/30/2007	4	3	7
OS	UG/KG	SB-464-0102	A7J240271011	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-463-0708	A7J240271010	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-463-0506	A7J240271009	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-462-0102	A7J240271001	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-463-0203	A7J240271007	NM	10/23/2007	10/27/2007	10/30/2007	4	3	7
OS	UG/KG	SB-462-0708	A7J240271005	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-462-0506	A7J240271004	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-462-0304	A7J240271003	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-462-0203	A7J240271002	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6
OS	UG/KG	SB-463-0304	A7J240271008	NM	10/23/2007	10/27/2007	10/29/2007	4	2	6

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **M. MARTIN** **DATE:** **DECEMBER 6, 2007**

FROM: **ROBERT JUPIN** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – BENZO(a)PYRENE**
LOCKHEED MIDDLE RIVER COMPLEX
SAMPLE DELIVERY GROUP (SDG): 7J26310

SAMPLES: 20/Soil/

SB-470-0102	SB-470-0203	SB-470-0304	SB-470-0506	SB-470-0708
SB-471-0102	SB-471-0203	SB-471-0304	SB-471-0506	SB-471-0708
SB-472-0102	SB-472-0203	SB-472-0304	SB-472-0506	SB-472-0708
SB-473-0102	SB-473-0203	SB-473-0304	SB-473-0506	SB-473-0708

Overview

The sample set for SDG 7J26310, Lockheed MRC, consists of twenty (20) soil environmental samples.

All soil samples were analyzed for benzo(a)pyrene. The samples were collected by TetraTech NUS on October 23 and 24, 2007 and analyzed by Test America Laboratories, Inc. Analyses were conducted using SW-846 Method 8270C.

The findings in this report are based upon a general review of all available data including: data completeness, GC/MS tuning, holding times, initial/continuing calibrations, laboratory method/preparation and field quality control blank results, surrogate spike/internal standard recoveries, laboratory control sample (LCS)/blank spike results, matrix spike/matrix spike duplicate results, analyte quantitation, and detection limits. Areas of concern are listed below.

Major Problems

- None.

Minor Problems

- Positive results reported below the detection limit have been qualified as estimated, "J".

Notes

The matrix spike sample was not spiked with benzo(a)pyrene therefore, no evaluation of the matrix spike could be performed.

Executive Summary

Laboratory Performance Issues: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (9/94) as modified by Region III.

Tetra Tech NUS
Robert J. Jupin
Risk Assessment Specialist/Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

Data Qualifier Key:

U - Value is a nondetect as reported by the laboratory.

J - Positive result is considered estimated, "J", as a result of technical noncompliances.

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 $r < 0.995$
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 be any number of issues; e.g. poor 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: 00885

SDG: 7J26310 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-470-0102	nsample	SB-470-0203	nsample	SB-470-0304
samp_date	10/23/2007	samp_date	10/23/2007	samp_date	10/23/2007
lab_id	A7J260310001	lab_id	A7J260310002	lab_id	A7J260310003
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	89.0	Pct_Solids	89.0	Pct_Solids	87.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	52	J	P

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J26310 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-470-0506	nsample	SB-470-0708	nsample	SB-471-0102
samp_date	10/23/2007	samp_date	10/23/2007	samp_date	10/23/2007
lab_id	A7J260310004	lab_id	A7J260310005	lab_id	A7J260310006
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	82.0	Pct_Solids	84.0	Pct_Solids	81.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

PROJ_NO: 00885

SDG: 7J26310 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-471-0203	nsample	SB-471-0304	nsample	SB-471-0506
samp_date	10/23/2007	samp_date	10/23/2007	samp_date	10/23/2007
lab_id	A7J260310007	lab_id	A7J260310008	lab_id	A7J260310009
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	81.0	Pct_Solids	81.0	Pct_Solids	83.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	21	J	P

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

PROJ_NO: 00885

SDG: 7J26310 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-471-0708	nsample	SB-472-0102	nsample	SB-472-0203
samp_date	10/23/2007	samp_date	10/23/2007	samp_date	10/23/2007
lab_id	A7J260310010	lab_id	A7J260310011	lab_id	A7J260310012
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	84.0	Pct_Solids	86.0	Pct_Solids	87.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J26310 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-472-0304	nsample	SB-472-0506	nsample	SB-472-0708
samp_date	10/23/2007	samp_date	10/23/2007	samp_date	10/23/2007
lab_id	A7J260310013	lab_id	A7J260310014	lab_id	A7J260310015
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	82.0	Pct_Solids	83.0	Pct_Solids	83.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

PROJ_NO: 00885

SDG: 7J26310 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-473-0102	nsample	SB-473-0203	nsample	SB-473-0304
samp_date	10/24/2007	samp_date	10/24/2007	samp_date	10/24/2007
lab_id	A7J260310016	lab_id	A7J260310017	lab_id	A7J260310018
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	89.0	Pct_Solids	88.0	Pct_Solids	85.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J26310 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-473-0506	nsample	SB-473-0708
samp_date	10/24/2007	samp_date	10/24/2007
lab_id	A7J260310019	lab_id	A7J260310020
qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG
Pct_Solids	76.0	Pct_Solids	80.0
DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.7	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Tetra Tech NUS, Inc

Client Sample ID: SB-470-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J260310-001 **Work Order #...:** J90M91AD **Matrix.....:** SO
Date Sampled...: 10/23/07 14:35 **Date Received..:** 10/26/07
Prep Date.....: 10/28/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7300109
Dilution Factor: 1
% Moisture.....: 11 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	**52 J**	**370**	**ug/kg**	**1.5**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	71	(24 - 112)
2-Fluorobiphenyl	73	(34 - 110)
Terphenyl-d14	97	(41 - 119)
Phenol-d5	65	(28 - 110)
2-Fluorophenol	60	(26 - 110)
2,4,6-Tribromophenol	56	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Client Sample ID: SB-470-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J260310-002 **Work Order #...:** J90ND1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 14:37 **Date Received..:** 10/26/07
Prep Date.....: 10/28/07 **Analysis Date..:** 10/31/07
Prep Batch #...: 7300109
Dilution Factor: 1
% Moisture.....: 11 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	370	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	58	(24 - 112)
2-Fluorobiphenyl	60	(34 - 110)
Terphenyl-d14	89	(41 - 119)
Phenol-d5	63	(28 - 110)
2-Fluorophenol	59	(26 - 110)
2,4,6-Tribromophenol	51	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-470-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J260310-003 **Work Order #...:** J90NE1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 14:39 **Date Received..:** 10/26/07
Prep Date.....: 10/28/07 **Analysis Date..:** 10/31/07
Prep Batch #...: 7300109
Dilution Factor: 1
% Moisture.....: 13 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	75	(24 - 112)
2-Fluorobiphenyl	73	(34 - 110)
Terphenyl-d14	96	(41 - 119)
Phenol-d5	76	(28 - 110)
2-Fluorophenol	79	(26 - 110)
2,4,6-Tribromophenol	53	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-470-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J260310-004 **Work Order #...:** J90NF1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 14:41 **Date Received..:** 10/26/07
Prep Date.....: 10/28/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7300109
Dilution Factor: 1
% Moisture.....: 18 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	400	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	76	(24 - 112)
2-Fluorobiphenyl	65	(34 - 110)
Terphenyl-d14	95	(41 - 119)
Phenol-d5	76	(28 - 110)
2-Fluorophenol	76	(26 - 110)
2,4,6-Tribromophenol	54	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-470-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J260310-005 **Work Order #...:** J90NH1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 14:43 **Date Received..:** 10/26/07
Prep Date.....: 10/28/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7300109
Dilution Factor: 1
% Moisture.....: 16 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	79	(24 - 112)
2-Fluorobiphenyl	71	(34 - 110)
Terphenyl-d14	95	(41 - 119)
Phenol-d5	74	(28 - 110)
2-Fluorophenol	73	(26 - 110)
2,4,6-Tribromophenol	44	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-471-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J260310-006 **Work Order #...:** J90NJ1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 15:10 **Date Received..:** 10/26/07
Prep Date.....: 10/28/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7300109
Dilution Factor: 1
% Moisture.....: 19 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	410	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	77	(24 - 112)
2-Fluorobiphenyl	65	(34 - 110)
Terphenyl-d14	99	(41 - 119)
Phenol-d5	77	(28 - 110)
2-Fluorophenol	78	(26 - 110)
2,4,6-Tribromophenol	59	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-471-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J260310-007 **Work Order #...:** J90NK1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 15:12 **Date Received..:** 10/26/07
Prep Date.....: 10/28/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7300109
Dilution Factor: 1
% Moisture.....: 19 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	**21 J**	**410**	**ug/kg**	**1.6**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	72	(24 - 112)
2-Fluorobiphenyl	65	(34 - 110)
Terphenyl-d14	95	(41 - 119)
Phenol-d5	70	(28 - 110)
2-Fluorophenol	69	(26 - 110)
2,4,6-Tribromophenol	37	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Client Sample ID: SB-471-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J260310-008 **Work Order #...:** J90NL1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 15:14 **Date Received..:** 10/26/07
Prep Date.....: 10/28/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7300109
Dilution Factor: 1
% Moisture.....: 19 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	410	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	76	(24 - 112)
2-Fluorobiphenyl	64	(34 - 110)
Terphenyl-d14	92	(41 - 119)
Phenol-d5	74	(28 - 110)
2-Fluorophenol	74	(26 - 110)
2,4,6-Tribromophenol	50	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-471-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J260310-009 **Work Order #...:** J90NN1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 15:16 **Date Received..:** 10/26/07
Prep Date.....: 10/28/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7300109
Dilution Factor: 1
% Moisture.....: 17 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	400	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	78	(24 - 112)
2-Fluorobiphenyl	71	(34 - 110)
Terphenyl-d14	90	(41 - 119)
Phenol-d5	66	(28 - 110)
2-Fluorophenol	62	(26 - 110)
2,4,6-Tribromophenol	30	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-471-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J260310-010 **Work Order #...:** J90NP1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 15:18 **Date Received..:** 10/26/07
Prep Date.....: 10/28/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7300109
Dilution Factor: 1
% Moisture.....: 16 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	80	(24 - 112)
2-Fluorobiphenyl	72	(34 - 110)
Terphenyl-d14	89	(41 - 119)
Phenol-d5	73	(28 - 110)
2-Fluorophenol	71	(26 - 110)
2,4,6-Tribromophenol	50	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-472-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J260310-011 **Work Order #...:** J90NQ1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 16:20 **Date Received..:** 10/26/07
Prep Date.....: 10/28/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7300109
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	68	(24 - 112)
2-Fluorobiphenyl	65	(34 - 110)
Terphenyl-d14	80	(41 - 119)
Phenol-d5	68	(28 - 110)
2-Fluorophenol	64	(26 - 110)
2,4,6-Tribromophenol	39	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-472-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J260310-012 **Work Order #...:** J90NV1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 16:22 **Date Received..:** 10/26/07
Prep Date.....: 10/28/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7300109
Dilution Factor: 1
% Moisture.....: 13 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	78	(24 - 112)
2-Fluorobiphenyl	70	(34 - 110)
Terphenyl-d14	89	(41 - 119)
Phenol-d5	74	(28 - 110)
2-Fluorophenol	74	(26 - 110)
2,4,6-Tribromophenol	37	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-472-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J260310-013 **Work Order #...:** J90NW1AD **Matrix.....:** SO
Date Sampled...: 10/23/07 16:24 **Date Received..:** 10/26/07
Prep Date.....: 10/28/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7300109
Dilution Factor: 1
% Moisture.....: 18 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	400	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	68	(24 - 112)
2-Fluorobiphenyl	66	(34 - 110)
Terphenyl-d14	91	(41 - 119)
Phenol-d5	66	(28 - 110)
2-Fluorophenol	66	(26 - 110)
2,4,6-Tribromophenol	34	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-472-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J260310-014 **Work Order #...:** J90N01AD **Matrix.....:** SO
Date Sampled...: 10/23/07 16:26 **Date Received..:** 10/26/07
Prep Date.....: 10/28/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7300109
Dilution Factor: 1
% Moisture.....: 17 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	400	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	78	(24 - 112)
2-Fluorobiphenyl	70	(34 - 110)
Terphenyl-d14	98	(41 - 119)
Phenol-d5	74	(28 - 110)
2-Fluorophenol	69	(26 - 110)
2,4,6-Tribromophenol	38	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-472-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J260310-015 **Work Order #...:** J90N11AD **Matrix.....:** SO
Date Sampled...: 10/23/07 16:28 **Date Received..:** 10/26/07
Prep Date.....: 10/28/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7300109
Dilution Factor: 1
% Moisture.....: 17 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	400	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	81	(24 - 112)
2-Fluorobiphenyl	73	(34 - 110)
Terphenyl-d14	98	(41 - 119)
Phenol-d5	79	(28 - 110)
2-Fluorophenol	79	(26 - 110)
2,4,6-Tribromophenol	65	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-473-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J260310-016 **Work Order #...:** J90N31AD **Matrix.....:** SO
Date Sampled...: 10/24/07 09:30 **Date Received..:** 10/26/07
Prep Date.....: 10/28/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7300109
Dilution Factor: 1
% Moisture.....: 11 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	370	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	77	(24 - 112)
2-Fluorobiphenyl	72	(34 - 110)
Terphenyl-d14	92	(41 - 119)
Phenol-d5	77	(28 - 110)
2-Fluorophenol	79	(26 - 110)
2,4,6-Tribromophenol	57	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-473-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J260310-017 **Work Order #...:** J90N41AD **Matrix.....:** SO
Date Sampled...: 10/24/07 09:32 **Date Received..:** 10/26/07
Prep Date.....: 10/28/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7300109
Dilution Factor: 1
% Moisture.....: 12 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	77	(24 - 112)
2-Fluorobiphenyl	70	(34 - 110)
Terphenyl-d14	90	(41 - 119)
Phenol-d5	72	(28 - 110)
2-Fluorophenol	72	(26 - 110)
2,4,6-Tribromophenol	51	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-473-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J260310-018 **Work Order #...:** J90N61AD **Matrix.....:** SO
Date Sampled...: 10/24/07 09:34 **Date Received..:** 10/26/07
Prep Date.....: 10/28/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7300109
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	75	(24 - 112)
2-Fluorobiphenyl	67	(34 - 110)
Terphenyl-d14	86	(41 - 119)
Phenol-d5	64	(28 - 110)
2-Fluorophenol	65	(26 - 110)
2,4,6-Tribromophenol	41	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-473-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J260310-019 **Work Order #...:** J90N71AF **Matrix.....:** SO
Date Sampled...: 10/24/07 09:36 **Date Received..:** 10/26/07
Prep Date.....: 10/28/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7300109
Dilution Factor: 1
% Moisture.....: 24 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	430	ug/kg	1.7

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	82	(24 - 112)
2-Fluorobiphenyl	76	(34 - 110)
Terphenyl-d14	92	(41 - 119)
Phenol-d5	79	(28 - 110)
2-Fluorophenol	80	(26 - 110)
2,4,6-Tribromophenol	50	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-473-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J260310-020 **Work Order #...:** J90PH1AD **Matrix.....:** SO
Date Sampled...: 10/24/07 09:38 **Date Received..:** 10/26/07
Prep Date.....: 10/28/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7300109
Dilution Factor: 1
% Moisture.....: 20 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	410	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	79	(24 - 112)
2-Fluorobiphenyl	66	(34 - 110)
Terphenyl-d14	90	(41 - 119)
Phenol-d5	67	(28 - 110)
2-Fluorophenol	70	(26 - 110)
2,4,6-Tribromophenol	46	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

APPENDIX C

SUPPORT DOCUMENTATION

HOLDTIME

SDG 7J26310

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	SB-472-0506	A7J260310014	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-470-0304	A7J260310003	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-470-0506	A7J260310004	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-470-0708	A7J260310005	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-471-0203	A7J260310007	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-471-0506	A7J260310009	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-471-0708	A7J260310010	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-472-0102	A7J260310011	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-470-0203	A7J260310002	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-472-0304	A7J260310013	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-471-0102	A7J260310006	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-472-0708	A7J260310015	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-473-0102	A7J260310016	NM	10/24/2007	11/2/2007	11/2/2007	9	0	9
HG	MG/KG	SB-473-0203	A7J260310017	NM	10/24/2007	11/2/2007	11/2/2007	9	0	9
HG	MG/KG	SB-473-0304	A7J260310018	NM	10/24/2007	11/2/2007	11/2/2007	9	0	9

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	SB-473-0506	A7J260310019	NM	10/24/2007	11/2/2007	11/2/2007	9	0	9
HG	MG/KG	SB-473-0708	A7J260310020	NM	10/24/2007	11/2/2007	11/2/2007	9	0	9
HG	MG/KG	SB-470-0102	A7J260310001	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-472-0203	A7J260310012	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-471-0304	A7J260310008	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
PCS	%	SB-472-0304	A7J260310013	NM	10/23/2007	11/2/2007	11/3/2007	10	1	11
PCS	%	SB-473-0506	A7J260310019	NM	10/24/2007	11/2/2007	11/3/2007	9	1	10
PCS	%	SB-473-0708	A7J260310020	NM	10/24/2007	11/2/2007	11/3/2007	9	1	10
PCS	%	SB-473-0304	A7J260310018	NM	10/24/2007	11/2/2007	11/3/2007	9	1	10
PCS	%	SB-473-0203	A7J260310017	NM	10/24/2007	11/2/2007	11/3/2007	9	1	10
PCS	%	SB-473-0102	A7J260310016	NM	10/24/2007	11/2/2007	11/3/2007	9	1	10
PCS	%	SB-472-0506	A7J260310014	NM	10/23/2007	11/2/2007	11/3/2007	10	1	11
PCS	%	SB-470-0102	A7J260310001	NM	10/23/2007	11/2/2007	11/3/2007	10	1	11
PCS	%	SB-472-0203	A7J260310012	NM	10/23/2007	11/2/2007	11/3/2007	10	1	11
PCS	%	SB-472-0102	A7J260310011	NM	10/23/2007	11/2/2007	11/3/2007	10	1	11
PCS	%	SB-470-0304	A7J260310003	NM	10/23/2007	11/2/2007	11/3/2007	10	1	11
PCS	%	SB-472-0708	A7J260310015	NM	10/23/2007	11/2/2007	11/3/2007	10	1	11
PCS	%	SB-470-0203	A7J260310002	NM	10/23/2007	11/2/2007	11/3/2007	10	1	11

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
PCS	%	SB-471-0708	A7J260310010	NM	10/23/2007	11/2/2007	11/3/2007	10	1	11
PCS	%	SB-470-0506	A7J260310004	NM	10/23/2007	11/2/2007	11/3/2007	10	1	11
PCS	%	SB-470-0708	A7J260310005	NM	10/23/2007	11/2/2007	11/3/2007	10	1	11
PCS	%	SB-471-0102	A7J260310006	NM	10/23/2007	11/2/2007	11/3/2007	10	1	11
PCS	%	SB-471-0203	A7J260310007	NM	10/23/2007	11/2/2007	11/3/2007	10	1	11
PCS	%	SB-471-0304	A7J260310008	NM	10/23/2007	11/2/2007	11/3/2007	10	1	11
PCS	%	SB-471-0506	A7J260310009	NM	10/23/2007	11/2/2007	11/3/2007	10	1	11
OS	%	SB-473-0708	A7J260310020	NM	10/24/2007	10/28/2007	11/1/2007	4	4	8
OS	%	SB-471-0506	A7J260310009	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	%	SB-470-0203	A7J260310002	NM	10/23/2007	10/28/2007	10/31/2007	5	3	8
OS	%	SB-470-0304	A7J260310003	NM	10/23/2007	10/28/2007	10/31/2007	5	3	8
OS	%	SB-470-0506	A7J260310004	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	%	SB-470-0708	A7J260310005	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	%	SB-471-0102	A7J260310006	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	%	SB-471-0203	A7J260310007	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	%	SB-471-0304	A7J260310008	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	%	SB-470-0102	A7J260310001	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	%	SB-473-0506	A7J260310019	NM	10/24/2007	10/28/2007	11/1/2007	4	4	8

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OS	%	SB-472-0102	A7J260310011	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	%	SB-472-0203	A7J260310012	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	%	SB-472-0304	A7J260310013	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	%	SB-472-0506	A7J260310014	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	%	SB-472-0708	A7J260310015	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	%	SB-473-0102	A7J260310016	NM	10/24/2007	10/28/2007	11/1/2007	4	4	8
OS	%	SB-473-0203	A7J260310017	NM	10/24/2007	10/28/2007	11/1/2007	4	4	8
OS	%	SB-473-0304	A7J260310018	NM	10/24/2007	10/28/2007	11/1/2007	4	4	8
OS	%	SB-471-0708	A7J260310010	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	UG/KG	SB-472-0304	A7J260310013	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	UG/KG	SB-472-0506	A7J260310014	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	UG/KG	SB-472-0708	A7J260310015	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	UG/KG	SB-473-0102	A7J260310016	NM	10/24/2007	10/28/2007	11/1/2007	4	4	8
OS	UG/KG	SB-473-0203	A7J260310017	NM	10/24/2007	10/28/2007	11/1/2007	4	4	8
OS	UG/KG	SB-473-0304	A7J260310018	NM	10/24/2007	10/28/2007	11/1/2007	4	4	8
OS	UG/KG	SB-472-0203	A7J260310012	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	UG/KG	SB-473-0708	A7J260310020	NM	10/24/2007	10/28/2007	11/1/2007	4	4	8
OS	UG/KG	SB-471-0102	A7J260310006	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OS	UG/KG	SB-473-0506	A7J260310019	NM	10/24/2007	10/28/2007	11/1/2007	4	4	8
OS	UG/KG	SB-472-0102	A7J260310011	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	UG/KG	SB-471-0708	A7J260310010	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	UG/KG	SB-471-0506	A7J260310009	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	UG/KG	SB-470-0102	A7J260310001	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	UG/KG	SB-471-0203	A7J260310007	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	UG/KG	SB-470-0708	A7J260310005	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	UG/KG	SB-470-0506	A7J260310004	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9
OS	UG/KG	SB-470-0304	A7J260310003	NM	10/23/2007	10/28/2007	10/31/2007	5	3	8
OS	UG/KG	SB-470-0203	A7J260310002	NM	10/23/2007	10/28/2007	10/31/2007	5	3	8
OS	UG/KG	SB-471-0304	A7J260310008	NM	10/23/2007	10/28/2007	11/1/2007	5	4	9

Chain of Custody Record

SEVERN TRENT **STL**

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: Tetra Tech	Project Manager: M. Martin	Date: 10/25/07	Chain of Custody Number: 227050
Address: 20251 Century Blvd #200	Telephone Number (Area Code)/Fax Number: 301-528-3022	Lab Number:	Page 2 of 2
City: Germantown / State: MD / Zip Code: 20874	Site Contact: S. Hadley	Lab Contact: K. Ives	
Project Name and Location (State): CMC MD	Carrier/Waybill Number: Courier		
Contract/Purchase Order/Quote No.: 112I600985			

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: 8270	Hg	Special Instructions/ Conditions of Receipt
SB-472-0304	10/23	1624				X	2						X	X	Block H
-0506	↓	1626				↓	↓						↓	↓	Benzo (a) pyrene
472-0708	10/23	1628													
473-0102	10/24	0930													
-0203		0932													
-0304		0934													
-0506		0936													
-0506 MS/SD		0936				↓	↓						↓	↓	
SB-473-0708	10/23 10/24	0938				X	2						X	X	Benzo (a) pyrene

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 5 DAYS

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	10/25/07	16:00	1. Received By	10-25-07	1600
2. Relinquished By			2. Received By	10/26/07	1000
3. Relinquished By			3. Received By		

Comments

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

TestAmerica North Canton

15

Chain of Custody Record

SEVERN TRENT **STL**

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
Tetra Tech	M. Martin	10/25/07	227049
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** 1 of 2
20251 Century Blvd #200	301-528-3022		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Germantown / MD / 20874	S. Hadley	K. Ives	
Project Name and Location (State)	**Carrier/Waybill Number**		
LMC MR	Courier		
Contract/Purchase Order/Quote No.			
112IC00485			

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: 8270 #	Hg	Special Instructions/ Conditions of Receipt
SB-470-0102	10/23	1435				X	2						X	X	Block H
0203		1437													
0304		1439													
0506		1441													
470-0708		1443													
471-0102		1510													
-0203		1512													
-0304		1514													
-0506		1516													
471-0708		1518													
472-0102		1620													
SB-472-0203	10/23	1622				X	2						X	X	

Benzo (a) pyrene

Benzo (a) pyrene

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 STM

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	10/26/07	16:00	1. Received By	10-25-07	1600
2. Relinquished By			2. Received By	10/26/07	1000
3. Relinquished By			3. Received By		

Comments

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

TestAmerica North Canton

CASE NARRATIVE

7J26310

The following report contains the analytical results for twenty solid samples submitted to TestAmerica North Canton by Tetra Tech NUS Inc. from the LMC MR Site, project number 112IC00885. The samples were received October 26, 2007, according to documented sample acceptance procedures.

This SDG consists of (1) laboratory ID's: A7J260310.

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. 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.

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 temperature of the cooler upon sample receipt was 4.7°C.

GC/MS SEMIVOLATILES

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.

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).

GENERAL CHEMISTRY

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

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica North Canton (formerly STL North Canton) 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.

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 (formerly STL 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 North Canton (formerly STL North Canton)Certifications and Approvals:

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),
Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), OhioVAP (#CL0024), West Virginia (#210), Wisconsin (#999518190),NAVY, ARMY, USDA Soil Permit,

N:\QAQC\Customer Service\Narrative - Combined RCRA _CWA 061807.doc

SW846 8270C SURROGATE RECOVERY

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

Lab Code: TALCAN SDG No: 7J26310

Lot #: A7J260310

Extraction: XXA11QL01

	CLIENT ID.	SRG01	SRG02	SRG03	SRG04	SRG05	SRG06	TOT OUT
01	SB-470-0102	71	73	97	65	60	56	00
02	SB-470-0203	58	60	89	63	59	51	00
03	SB-470-0304	75	73	96	76	79	53	00
04	SB-470-0506	76	65	95	76	76	54	00
05	SB-470-0708	79	71	95	74	73	44	00
06	SB-471-0102	77	65	99	77	78	59	00
07	SB-471-0203	72	65	95	70	69	37	00
08	SB-471-0304	76	64	92	74	74	50	00
09	SB-471-0506	78	71	90	66	62	30	00
10	SB-471-0708	80	72	89	73	71	50	00
11	SB-472-0102	68	65	80	68	64	39	00
12	SB-472-0203	78	70	89	74	74	37	00
13	SB-472-0304	68	66	91	66	66	34	00
14	SB-472-0506	78	70	98	74	69	38	00
15	SB-472-0708	81	73	98	79	79	65	00
16	SB-473-0102	77	72	92	77	79	57	00
17	SB-473-0203	77	70	90	72	72	51	00
18	SB-473-0304	75	67	86	64	65	41	00
19	SB-473-0506	82	76	92	79	80	50	00
20	SB-473-0708	79	66	90	67	70	46	00
21	METHOD BLK. J91WV1AA	74	68	90	69	72	44	00
22	LCS J91WV1AC	79	72	88	76	76	65	00
23	SB-473-0506 D	72	74	93	74	70	70	00
24	SB-473-0506 S	80	71	87	78	78	63	00

SURROGATES		QC LIMITS
SRG01	= Nitrobenzene-d5	(24-112)
SRG02	= 2-Fluorobiphenyl	(34-110)
SRG03	= Terphenyl-d14	(41-119)
SRG04	= Phenol-d5	(28-110)
SRG05	= 2-Fluorophenol	(26-110)
SRG06	= 2,4,6-Tribromophenol	(10-118)

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

SW846 8270C METHOD BLANK SUMMARY

BLANK WORKORDER NO.: J91WV1AA

Lab Name: TestAmerica Laboratories, Inc.

Lab Code: TALCAN

SDG Number:7J26310

Lab File ID: J91WV1AA.

Lot Number: A7J260310

Date Analyzed: 11/01/07

Time Analyzed: 10:52

Matrix: SOLID

Date Extracted:10/28/07

GC Column: DB 5.625 ID: .00

Extraction Method: 3540C

Instrument ID: HP8

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	SB-470-0102	J90M91AD	J90M91AD.	11/01/07	21:02
02	SB-470-0203	J90ND1AD	J90ND1AD.	10/31/07	21:47
03	SB-470-0304	J90NE1AD	J90NE1AD.	10/31/07	22:06
04	SB-470-0506	J90NF1AD	J90NF1AD.	11/01/07	01:40
05	SB-470-0708	J90NH1AD	J90NH1AD.	11/01/07	01:59
06	SB-471-0102	J90NJ1AD	J90NJ1AD.	11/01/07	02:18
07	SB-471-0203	J90NK1AD	J90NK1AD.	11/01/07	02:38
08	SB-471-0304	J90NL1AD	J90NL1AD.	11/01/07	14:41
09	SB-471-0506	J90NN1AD	J90NN1AD.	11/01/07	15:00
10	SB-471-0708	J90NP1AD	J90NP1AD.	11/01/07	15:19
11	SB-472-0102	J90NQ1AD	J90NQ1AD.	11/01/07	21:21
12	SB-472-0203	J90NV1AD	J90NV1AD.	11/01/07	15:38
13	SB-472-0304	J90NW1AD	J90NW1AD.	11/01/07	15:57
14	SB-472-0506	J90N01AD	J90N01AD.	11/01/07	16:16
15	SB-472-0708	J90N11AD	J90N11AD.	11/01/07	16:35
16	SB-473-0102	J90N31AD	J90N31AD.	11/01/07	16:54
17	SB-473-0203	J90N41AD	J90N41AD.	11/01/07	17:32
18	SB-473-0304	J90N61AD	J90N61AD.	11/01/07	17:51
19	SB-473-0506	J90N71AF	J90N71AF.	11/01/07	12:09
20	SB-473-0506	J90N71AJ S	J90N71AJ.	11/01/07	12:28
21	SB-473-0506	J90N71AK D	J90N71AK.	11/01/07	12:47
22	SB-473-0708	J90PH1AD	J90PH1AD.	11/01/07	17:13
23	CHECK SAMPLE	J91WV1AC C	J91WV1AC.	11/01/07	11:12
24					
25					
26					
27					
28					
29					
30					

COMMENTS:

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J26310

Lab File ID: 8DF1031 DFTPP Injection Date: 10/31/07

Instrument ID: A4HP8 DFTPP Injection Time: 1539

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	38.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	47.5
70	Less than 2.0% of mass 69	0.2 (0.5)1
127	40.0 - 60.0% of mass 198	48.4
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.8
275	10.0 - 30.0% of mass 198	26.7
365	Greater than 1.0% of mass 198	3.4
441	Present, but less than mass 443	9.4
442	Greater than 40.0% of mass 198	61.4
443	17.0 - 23.0% of mass 442	11.6 (18.9)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD005	L5	8SMM1031	10/31/07	1558
02	SSTD004	L4	8SM1031	10/31/07	1618
03	SSTD003	L3	8SML1031	10/31/07	1637
04	SSTD002	L2	8SL1031	10/31/07	1656
05	SSTD001	L1	8SLL1031	10/31/07	1716
06	SSTD009	L9	8HHH1031	10/31/07	1735
07	SSTD008	L8	8SHH1031	10/31/07	1754
08	SSTD007	L7	8SH1031	10/31/07	1814
09	SSTD006	L6	8SMH1031	10/31/07	1833
10	SB-470-0203	J90ND1AD	J90ND1AD	10/31/07	2147
11	SB-470-0304	J90NE1AD	J90NE1AD	10/31/07	2206
12	SB-470-0506	J90NF1AD	J90NF1AD	11/01/07	0140
13	SB-470-0708	J90NH1AD	J90NH1AD	11/01/07	0159
14	SB-471-0102	J90NJ1AD	J90NJ1AD	11/01/07	0218
15	SB-471-0203	J90NK1AD	J90NK1AD	11/01/07	0238
16					
17					
18					
19					
20					
21					
22					

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J26310

Lab File ID: 8DF1101 DFTPP Injection Date: 11/01/07

Instrument ID: A4HP8 DFTPP Injection Time: 1013

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	36.8
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	44.4
70	Less than 2.0% of mass 69	0.2 (0.4)1
127	40.0 - 60.0% of mass 198	46.9
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.5
275	10.0 - 30.0% of mass 198	26.7
365	Greater than 1.0% of mass 198	3.5
441	Present, but less than mass 443	10.0
442	Greater than 40.0% of mass 198	66.8
443	17.0 - 23.0% of mass 442	12.6 (18.9)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD006	L6	8SMH1101	11/01/07	1032
02	J91WVBLK	J91WV1AA	J91WV1AA	11/01/07	1052
03	J91WVCHK	J91WV1AC	J91WV1AC	11/01/07	1112
04	SB-473-0506	J90N71AF	J90N71AF	11/01/07	1209
05	SB-473-0506	J90N71AJ	J90N71AJ	11/01/07	1228
06	SB-473-0506	J90N71AK	J90N71AK	11/01/07	1247
07	SB-471-0304	J90NL1AD	J90NL1AD	11/01/07	1441
08	SB-471-0506	J90NN1AD	J90NN1AD	11/01/07	1500
09	SB-471-0708	J90NP1AD	J90NP1AD	11/01/07	1519
10	SB-472-0203	J90NV1AD	J90NV1AD	11/01/07	1538
11	SB-472-0304	J90NW1AD	J90NW1AD	11/01/07	1557
12	SB-472-0506	J90N01AD	J90N01AD	11/01/07	1616
13	SB-472-0708	J90N11AD	J90N11AD	11/01/07	1635
14	SB-473-0102	J90N31AD	J90N31AD	11/01/07	1654
15	SB-473-0708	J90PH1AD	J90PH1AD	11/01/07	1713
16	SB-473-0203	J90N41AD	J90N41AD	11/01/07	1732
17	SB-473-0304	J90N61AD	J90N61AD	11/01/07	1751
18	SB-470-0102	J90M91AD	J90M91AD	11/01/07	2102
19	SB-472-0102	J90NQ1AD	J90NQ1AD	11/01/07	2121
20					
21					
22					

STL North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 31-OCT-2007 15:58
End Cal Date : 31-OCT-2007 18:33
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSS\a4hp8.i\71031a.b\8270P.m
Last Edit : 01-Nov-2007 08:44 gruberj
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						
144 Hexachlorophene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
145 Hexachlorophene product	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
146 Benzo(a)pyrene	1.00609	0.85680	0.92839	1.01385	1.07984	1.14780			
	1.21126	1.27667	+++++				1.06509	13.342	
148 3-Methylcholanthrene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
149 Indeno(1,2,3-cd)pyrene	1.05215	0.94193	1.02882	1.10916	1.16710	1.23713			
	1.28978	1.35821	1.49504				1.18659	14.808	
150 Dibenz(a,h)anthracene	0.91651	0.79502	0.83997	0.94796	0.97157	1.06074			
	1.12563	1.18816	1.32919				1.01942	16.918	
151 Benzo(g,h,i)perylene	1.06388	0.84710	0.86775	0.94119	0.96347	0.98910			
	1.03120	1.08506	1.18240				0.99679	10.714	
232 Bis(2-hydroxyphenyl)methane	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
233 Bis(4-hydroxyphenyl)methane	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
234 4-Chlorophenol	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
235 2,3-Dichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-

STL North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4hp8.i Injection Date: 31-OCT-2007 18:53
Lab File ID: ICVTCL.D Init. Cal. Date(s): 31-OCT-2007 31-OCT-2007
Analysis Type: Init. Cal. Times: 15:58 18:33
Lab Sample ID: icvtcl Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSS\a4hp8.i\71031a.b\8270P.m

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
142 Benzo(k)fluoranthene	1.31598	1.31479	1.31479	0.010	0.09048	50.00000	Averaged
146 Benzo(a)pyrene	1.06509	1.14284	1.14284	0.010	-7.30045	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.18659	1.23697	1.23697	0.010	-4.24562	50.00000	Averaged
150 Dibenz(a,h)anthracene	5.00000	5.03216	1.05822	0.010	-0.64321	0.000e+000	Quadratic
151 Benzo(g,h,i)perylene	0.99679	0.99112	0.99112	0.010	0.56931	50.00000	Averaged
198 1,4-Dioxane	0.59367	0.58021	0.58021	0.010	2.26632	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.44581	0.46280	0.46280	0.010	-3.81005	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.31614	1.32545	1.32545	0.010	-0.70694	50.00000	Averaged
$ 156 Terphenyl-d14	0.77529	0.80908	0.80908	0.010	-4.35732	50.00000	Averaged
$ 157 Phenol-d5	1.75954	1.73764	1.73764	0.010	1.24445	50.00000	Averaged
$ 158 2-Fluorophenol	1.21919	1.21403	1.21403	0.010	0.42366	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	5.00000	5.06941	0.15059	0.010	-1.38825	0.000e+000	Quadratic
$ 186 2-Chlorophenol-d4	1.22310	1.18894	1.18894	0.010	2.79346	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.82744	0.82746	0.82746	0.010	-0.00269	50.00000	Averaged
M 195 Cresols, total	2.80785	2.76041	2.76041	0.010	1.68951	50.00000	Averaged
101 Diphenylamine	5.00000	5.20967	0.50019	0.010	-4.19348	0.000e+000	Quadratic

STL North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4hp8.i Injection Date: 01-NOV-2007 10:32
Lab File ID: 8SMH1101.D Init. Cal. Date(s): 31-OCT-2007 31-OCT-2007
Analysis Type: Init. Cal. Times: 15:58 18:33
Lab Sample ID: L6 Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSS\a4hp8.i\71101a.b\8270p.m

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
142 Benzo(k)fluoranthene	1.31598	1.31861	1.31861	0.010	-0.19959	50.00000	Averaged
146 Benzo(a)pyrene	1.06509	1.17408	1.17408	0.010	-10.23312	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.18659	1.27416	1.27416	0.010	-7.38015	50.00000	Averaged
150 Dibenz(a,h)anthracene	5.00000	5.13427	1.08220	0.010	-2.68540	0.000e+000	Quadratic
151 Benzo(g,h,i)perylene	0.99679	1.05320	1.05320	0.010	-5.65836	50.00000	Averaged
198 1,4-Dioxane	0.59367	0.62502	0.62502	0.010	-5.28091	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.44581	0.49392	0.49392	0.010	-10.79019	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.31614	1.32483	1.32483	0.010	-0.66033	50.00000	Averaged
$ 156 Terphenyl-d14	0.77529	0.80478	0.80478	0.010	-3.80303	50.00000	Averaged
$ 157 Phenol-d5	1.75954	1.81571	1.81571	0.010	-3.19229	50.00000	Averaged
$ 158 2-Fluorophenol	1.21919	1.28951	1.28951	0.010	-5.76740	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	5.00000	4.91061	0.14539	0.010	1.78781	0.000e+000	Quadratic
$ 186 2-Chlorophenol-d4	1.22310	1.25277	1.25277	0.010	-2.42549	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.82744	0.87635	0.87635	0.010	-5.91198	50.00000	Averaged
M 195 Cresols, total	2.80785	2.97145	2.97145	0.010	-5.82669	50.00000	Averaged
101 Diphenylamine	5.00000	5.09131	0.48747	0.010	-1.82617	0.000e+000	Quadratic

8B
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J26310

Lab File ID (Standard): 8SMH1031 Date Analyzed: 10/31/07

Instrument ID: A4HP8 Time Analyzed: 1833

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	285499	3.56	1160062	4.46	660271	5.73
	UPPER LIMIT	570998	4.06	2320124	4.96	1320542	6.23
	LOWER LIMIT	142750	3.06	580031	3.96	330136	5.23
	EPA SAMPLE NO.						
01	SB-470-0203	207840	3.56	872487	4.45	483418	5.73
02	SB-470-0304	210367	3.56	870150	4.45	472197	5.73
03	SB-470-0506	159576	3.56	660347	4.46	394036	5.73
04	SB-470-0708	164217	3.56	679504	4.45	396125	5.72
05	SB-471-0102	158936	3.56	658996	4.46	391079	5.73
06	SB-471-0203	157558	3.56	666049	4.45	391805	5.73
07							
08							
09							
10							
11							
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17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J26310

Lab File ID (Standard): 8SMH1031 Date Analyzed: 10/31/07

Instrument ID: A4HP8 Time Analyzed: 1833

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	1283416	6.82	1390290	8.81	1092312	10.31
	UPPER LIMIT	2566832	7.32	2780580	9.31	2184624	10.81
	LOWER LIMIT	641708	6.32	695145	8.31	546156	9.81
	EPA SAMPLE NO.						
01	SB-470-0203	959568	6.81	969993	8.81	822670	10.32
02	SB-470-0304	932862	6.81	948042	8.80	812105	10.30
03	SB-470-0506	778389	6.81	767359	8.80	661461	10.30
04	SB-470-0708	812760	6.82	811209	8.79	697886	10.29
05	SB-471-0102	780613	6.82	802739	8.80	677679	10.30
06	SB-471-0203	785196	6.81	799684	8.81	675502	10.31
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

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.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J26310

Lab File ID (Standard): 8SMH1101 Date Analyzed: 11/01/07

Instrument ID: A4HP8 Time Analyzed: 1032

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	181143	3.49	740183	4.39	417773	5.66
	UPPER LIMIT	362286	3.99	1480366	4.89	835546	6.16
	LOWER LIMIT	90572	2.99	370092	3.89	208887	5.16
	EPA SAMPLE NO.						
01	J91WVBLK	197859	3.50	809663	4.39	450884	5.66
02	J91WVCHK	190086	3.50	778772	4.39	441122	5.66
03	SB-473-0506	200506	3.50	815431	4.39	461547	5.66
04	SB-473-0506	120878	3.49	508510	4.39	286840	5.66
05	SB-473-0506	153173	3.49	641320	4.39	366301	5.66
06	SB-471-0304	185545	3.49	750148	4.39	422476	5.66
07	SB-471-0506	193032	3.50	762525	4.39	435755	5.66
08	SB-471-0708	167893	3.49	660438	4.39	378276	5.66
09	SB-472-0203	185366	3.50	744045	4.39	422979	5.66
10	SB-472-0304	196047	3.49	805673	4.39	436220	5.66
11	SB-472-0506	158619	3.50	633640	4.39	365783	5.66
12	SB-472-0708	176183	3.49	729450	4.39	415939	5.66
13	SB-473-0102	180984	3.49	770768	4.39	421234	5.66
14	SB-473-0708	156062	3.49	614762	4.39	363139	5.66
15	SB-473-0203	145405	3.50	590472	4.39	336020	5.66
16	SB-473-0304	110307	3.49	431785	4.39	250405	5.66
17	SB-470-0102	124966	3.49	503235	4.39	285725	5.66
18	SB-472-0102	134943	3.49	576972	4.39	357437	5.66
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J26310

Lab File ID (Standard): 8SMH1101 Date Analyzed: 11/01/07

Instrument ID: A4HP8 Time Analyzed: 1032

		IS4 (PHN) AREA #	RT	IS5 (CRY) AREA #	RT	IS6 (PRY) AREA #	RT
	12 HOUR STD	809192	6.75	824405	8.74	663613	10.18
	UPPER LIMIT	1618384	7.25	1648810	9.24	1327226	10.68
	LOWER LIMIT	404596	6.25	412203	8.24	331807	9.68
	EPA SAMPLE NO.						
01	J91WVBLK	861449	6.75	845862	8.75	733488	10.20
02	J91WVCHK	839636	6.75	847780	8.75	703442	10.19
03	SB-473-0506	889202	6.74	889528	8.72	773016	10.17
04	SB-473-0506	547281	6.74	560233	8.73	465756	10.17
05	SB-473-0506	726205	6.74	748644	8.73	618915	10.17
06	SB-471-0304	812860	6.74	821434	8.73	704771	10.17
07	SB-471-0506	839252	6.74	852939	8.74	733027	10.19
08	SB-471-0708	728234	6.74	763504	8.74	654815	10.19
09	SB-472-0203	808480	6.74	822445	8.74	708214	10.20
10	SB-472-0304	847861	6.75	829816	8.73	722008	10.17
11	SB-472-0506	688264	6.74	690632	8.74	603840	10.19
12	SB-472-0708	806841	6.74	795801	8.73	696756	10.19
13	SB-473-0102	835314	6.74	812709	8.74	710071	10.19
14	SB-473-0708	718030	6.74	736681	8.72	619619	10.17
15	SB-473-0203	645386	6.75	656629	8.73	568360	10.18
16	SB-473-0304	477967	6.74	467589	8.74	410273	10.18
17	SB-470-0102	566524	6.74	553403	8.72	450553	10.16
18	SB-472-0102	700937	6.74	671334	8.72	568632	10.17
19							
20							
21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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.

SAMPLE CALC **SAMPLE ID: SB-470-0102** **COMPOUND: BAP**

IS AREA	DILUTION	COMPOUND OF INTEREST AREA	IS AMOUNT (NG)	Final Extract Volume (UL)	AVE RRF	PERCENT SOLIDS	AMOUNT INJECTED (UL)	CONCENTRATION PPB
450553	1	83750	2	2000	1.0651	0.89	0.5	52.15

Sample Amount (g)
30.08

Tetra Tech NUS, Inc

Client Sample ID: SB-470-0102

GC/MS Semivolatiles

Lot-Sample #...:	A7J260310-001	**Work Order #...:**	J90M91AD	**Matrix.....:**	SO
Date Sampled...:	10/23/07 14:35	**Date Received..:**	10/26/07		
Prep Date.....:	10/28/07	**Analysis Date..:**	11/01/07		
Prep Batch #...:	7300109				
Dilution Factor:	1	**Initial Wgt/Vol:**	30.08 g	**Final Wgt/Vol..:**	2 mL
% Moisture.....:	11	**Method.....:**	SW846 8270C		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo(a)pyrene	**52 J**	**370**	**ug/kg**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	71	(24 - 112)
2-Fluorobiphenyl	73	(34 - 110)
Terphenyl-d14	97	(41 - 119)
Phenol-d5	65	(28 - 110)
2-Fluorophenol	60	(26 - 110)
2,4,6-Tribromophenol	56	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

STL North Canton

Semivolatile REPORT SW-846 Method 8270

Data file : \\cansvr11\dd\chem\MSS\a4hp8.i\71101a.b\J90M91AD.D
Lab Smp Id: j90m91ad Client Smp ID: SB-470-0102
Inj Date : 01-NOV-2007 21:02
Operator : 001710 Inst ID: a4hp8.i
Smp Info : j90m91ad,71101a.b,8270p,bap.sub
Misc Info :
Comment :
Method : \\cansvr11\dd\chem\MSS\a4hp8.i\71101a.b\8270P.m
Meth Date : 05-Nov-2007 16:20 gruberj Quant Type: ISTD
Cal Date : 31-OCT-2007 18:33 Cal File: 8SMH1031.D
Als bottle: 35
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bap.sub
Target Version: 4.14
Processing Host: CANPMSSV01

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws *) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	2000.000	Volume of final extract (uL)(1000 low, 2
Vi	0.50000	Volume injected (uL)
Ws	30.080	Weight of sample extracted (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/kg)	
* 1 1,4-Dichlorobenzene-d4	152	3.492	3.494	(1.000)	124966	2.00000		(Q)
* 2 Naphthalene-d8	136	4.387	4.389	(1.000)	503235	2.00000		
* 3 Acenaphthene-d10	164	5.656	5.658	(1.000)	285725	2.00000		
* 4 Phenanthrene-d10	188	6.743	6.745	(1.000)	566524	2.00000		
* 5 Chrysene-d12	240	8.719	8.736	(1.000)	553403	2.00000		
* 6 Perylene-d12	264	10.162	10.183	(1.000)	450553	2.00000		
146 Benzo(a)pyrene	252	10.095	10.121	(0.993)	83750	0.34905	46.416	
$ 154 Nitrobenzene-d5	82	3.872	3.874	(0.883)	398351	3.55119	472.23	
$ 155 2-Fluorobiphenyl	172	5.151	5.148	(0.911)	690033	3.66985	488.01	
$ 156 Terphenyl-d14	244	7.892	7.899	(0.905)	1036265	4.83050	642.35	
$ 157 Phenol-d5	99	3.209	3.201	(0.919)	533882	4.85607	645.75	
$ 158 2-Fluorophenol	112	2.636	2.624	(0.755)	344674	4.52454	601.67	
$ 159 2,4,6-Tribromophenol	330	6.229	6.230	(1.101)	87327	4.19104	557.32	
$ 186 2-Chlorophenol-d4	132	3.343	3.340	(0.957)	343154	4.49018	597.10	
$ 187 1,2-Dichlorobenzene-d4	152	3.603	3.605	(1.032)	128676	2.48887	330.97	

QC Flag Legend

Tetra Tech NUS

INTERNAL CORRESPONDENCE

TO: M. MARTIN **DATE:** JANUARY 15, 2008

FROM: MATTHEW D. KRAUS **COPIES:** DV FILE

SUBJECT: INORGANIC DATA VALIDATION – MERCURY
LOCKHEED MIDDLE RIVER
SDG – 7J26310

SAMPLES: 20/Solid/

SB-470-0102	SB-470-0203	SB-670-0304
SB-470-0506	SB-470-0708	SB-471-0102
SB-471-0203	SB-471-0304	SB-471-0506
SB-471-0708	SB-472-0102	SB-472-0203
SB-472-0304	SB-472-0506	SB-472-0708
SB-473-0102	SB-473-0203	SB-473-0304
SB-473-0506	SB-473-0708	

Overview

The sample set for Lockheed Middle River, SDG 7J26310, consists of twenty soil environmental samples which were all analyzed for mercury and percent solids. The samples were collected from October 23-24, 2007 and analyzed by TestAmerica Laboratories, Inc. All of the samples were analyzed for mercury in accordance with SW 846 method 7471A and cold vapor atomic absorption (CVAA) methodologies.

Summary

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

Major Problems

- None.

Minor Problems

- The contract required detection limit standard percent recovery (%R) for mercury was less than the lower quality control limit but greater than 50% affecting all samples. The positive and non-detected results (< 2X CRDL) reported for mercury were qualified as biased low, "L" or "UL", respectively.

Executive Summary

Laboratory Performance: Mercury results were qualified due to calibration noncompliance.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the "Region III Modifications to 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
Matthew D. Kraus
Environmental Chemist

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

Data Qualifier Key

U	-	Value is considered non-detected as reported by the laboratory.
J	-	Positive result is considered estimated, "J", as a result of technical noncompliance.
UJ	-	Non-detected result is considered estimated, "UJ", as a result of technical noncompliance.
L	-	Positive result is considered biased low, "L", as a result of technical noncompliance.
UL	-	Non-detected result is considered biased low, "UL", as a result of technical noncompliance.

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 $r < 0.995$
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: 00885

SDG: 7J26310 MEDIA: SOIL DATA FRACTION: M

nsample	SB-470-0102	nsample	SB-470-0203	nsample	SB-470-0304
samp_date	10/23/2007	samp_date	10/23/2007	samp_date	10/23/2007
lab_id	A7J260310001	lab_id	A7J260310002	lab_id	A7J260310003
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	89.0	Pct_Solids	89.0	Pct_Solids	87.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.48		

Parameter	Result	Val Qual	Qual Code
MERCURY	0.023	L	C

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	UL	C

PROJ_NO: 00885

SDG: 7J26310 MEDIA: SOIL DATA FRACTION: M

nsample	SB-470-0506
samp_date	10/23/2007
lab_id	A7J260310004
qc_type	NM
units	MG/KG
Pct_Solids	82.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	UL	C

nsample	SB-470-0708
samp_date	10/23/2007
lab_id	A7J260310005
qc_type	NM
units	MG/KG
Pct_Solids	84.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	UL	C

nsample	SB-471-0102
samp_date	10/23/2007
lab_id	A7J260310006
qc_type	NM
units	MG/KG
Pct_Solids	81.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.021	UL	C

PROJ_NO: 00885

SDG: 7J26310 MEDIA: SOIL DATA FRACTION: M

nsample	SB-471-0203
samp_date	10/23/2007
lab_id	A7J260310007
qc_type	NM
units	MG/KG
Pct_Solids	81.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.021	UL	C

nsample	SB-471-0304
samp_date	10/23/2007
lab_id	A7J260310008
qc_type	NM
units	MG/KG
Pct_Solids	81.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.021	UL	C

nsample	SB-471-0506
samp_date	10/23/2007
lab_id	A7J260310009
qc_type	NM
units	MG/KG
Pct_Solids	83.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	UL	C

PROJ_NO: 00885

SDG: 7J26310 MEDIA: SOIL DATA FRACTION: M

nsample	SB-471-0708	nsample	SB-472-0102	nsample	SB-472-0203
samp_date	10/23/2007	samp_date	10/23/2007	samp_date	10/23/2007
lab_id	A7J260310010	lab_id	A7J260310011	lab_id	A7J260310012
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	84.0	Pct_Solids	86.0	Pct_Solids	87.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	UL	C

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	UL	C

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	UL	C

PROJ_NO: 00885

SDG: 7J26310 MEDIA: SOIL DATA FRACTION: M

nsample	SB-472-0304
samp_date	10/23/2007
lab_id	A7J260310013
qc_type	NM
units	MG/KG
Pct_Solids	82.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	UL	C

nsample	SB-472-0506
samp_date	10/23/2007
lab_id	A7J260310014
qc_type	NM
units	MG/KG
Pct_Solids	83.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	UL	C

nsample	SB-472-0708
samp_date	10/23/2007
lab_id	A7J260310015
qc_type	NM
units	MG/KG
Pct_Solids	83.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	UJ	C

PROJ_NO: 00885

SDG: 7J26310 MEDIA: SOIL DATA FRACTION: M

nsample	SB-473-0102	nsample	SB-473-0203	nsample	SB-473-0304
samp_date	10/24/2007	samp_date	10/24/2007	samp_date	10/24/2007
lab_id	A7J260310016	lab_id	A7J260310017	lab_id	A7J260310018
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	89.0	Pct_Solids	88.0	Pct_Solids	85.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	UL	C

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	UL	C

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	UL	C

PROJ_NO: 00885

SDG: 7J26310 MEDIA: SOIL DATA FRACTION: M

nsample	SB-473-0506	nsample	SB-473-0708
samp_date	10/24/2007	samp_date	10/24/2007
lab_id	A7J260310019	lab_id	A7J260310020
qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG
Pct_Solids	76.0	Pct_Solids	80.0
DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.022	UL	C

Parameter	Result	Val Qual	Qual Code
MERCURY	0.021	UL	C

APPENDIX B
RESULTS AS REPORTED BY THE LABORATORY

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90M9 **Client ID:** SB-470-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 11.108

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.48		1	CVAA	11/2/2007	14:43

Comments: Lot #: A7J260310 Sample #: 1

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90ND **Client ID:** SB-470-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 11.481

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.023	B	1	CVAA	11/2/2007	14:56

Comments: Lot #: A7J260310 Sample #: 2

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90NE **Client ID:** SB-470-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 13.208

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.12	0.019	U	1	CVAA	11/2/2007	14:57

Comments: Lot #: A7J260310 Sample #: 3

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form I Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90NF **Client ID:** SB-470-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.749

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	11/2/2007	14:58

Comments: Lot #: A7J260310 Sample #: 4

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90NH **Client ID:** SB-470-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.251

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	11/2/2007	14:59

Comments: Lot #: A7J260310 Sample #: 5

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90NJ **Client ID:** SB-471-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 19.468

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.021	0.12	0.021	U	1	CVAA	11/2/2007	15:01

Comments: Lot #: A7J260310 Sample #: 6

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90NK **Client ID:** SB-471-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 18.927

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.021	0.12	0.021	U	1	CVAA	11/2/2007	15:02

Comments: Lot #: A7J260310 Sample #: 7

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90NL **Client ID:** SB-471-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 19.277

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.021	0.12	0.021	U	1	CVAA	11/2/2007	15:03

Comments: Lot #: A7J260310 Sample #: 8

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90NN **Client ID:** SB-471-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.332

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	11/2/2007	15:04

Comments: Lot #: A7J260310 Sample #: 9

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90NP **Client ID:** SB-471-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.289

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	11/2/2007	15:05

Comments: Lot #: A7J260310 Sample #: 10

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90NQ **Client ID:** SB-472-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 13.663

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.12	0.019	U	1	CVAA	11/2/2007	15:09

Comments: Lot #: A7J260310 Sample #: 11

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90NV **Client ID:** SB-472-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 13.407

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.12	0.019	U	1	CVAA	11/2/2007	15:10

Comments: Lot #: A7J260310 Sample #: 12

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90NW **Client ID:** SB-472-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 18.469

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	11/2/2007	15:11

Comments: Lot #: A7J260310 Sample #: 13

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90N0 **Client ID:** SB-472-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.876

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	11/2/2007	14:44

Comments: Lot #: A7J260310 Sample #: 14

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90N1 **Client ID:** SB-472-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.821

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	11/2/2007	14:46

Comments: Lot #: A7J260310 Sample #: 15

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90N3 **Client ID:** SB-473-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 10.668

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	11/2/2007	14:47

Comments: Lot #: A7J260310 Sample #: 16

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90N4 **Client ID:** SB-473-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 12.089

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	11/2/2007	14:48

Comments: Lot #: A7J260310 Sample #: 17

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90N6 **Client ID:** SB-473-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 14.926

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	11/2/2007	14:49

Comments: Lot #: A7J260310 Sample #: 18

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90N7 **Client ID:** SB-473-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 23.859

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.022	0.13	0.022	U	1	CVAA	11/2/2007	14:50

Comments: Lot #: A7J260310 Sample #: 19

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90PH **Client ID:** SB-473-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 19.511

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.021	0.12	0.021	U	1	CVAA	11/2/2007	15:12

Comments: Lot #: A7J260310 Sample #: 20

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Tetra Tech NUS, Inc

Client Sample ID: SB-470-0102

General Chemistry

Lot-Sample #...: A7J260310-001 Work Order #...: J90M9 Matrix.....: SO
Date Sampled...: 10/23/07 14:35 Date Received..: 10/26/07
% Moisture.....: 11

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	88.9	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306395

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-470-0203

General Chemistry

Lot-Sample #...: A7J260310-002 Work Order #...: J90ND Matrix.....: SO
Date Sampled...: 10/23/07 14:37 Date Received..: 10/26/07
% Moisture.....: 11

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	88.5	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306395

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-470-0304

General Chemistry

Lot-Sample #...: A7J260310-003 Work Order #...: J90NE Matrix.....: SO
Date Sampled...: 10/23/07 14:39 Date Received..: 10/26/07
% Moisture.....: 13

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	86.8	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306395

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-470-0506

General Chemistry

Lot-Sample #...: A7J260310-004 **Work Order #...:** J90NF **Matrix.....:** SO
Date Sampled...: 10/23/07 14:41 **Date Received..:** 10/26/07
% Moisture.....: 18

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	82.3	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306395

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-470-0708

General Chemistry

Lot-Sample #...: A7J260310-005 **Work Order #...:** J90NH **Matrix.....:** SO
Date Sampled...: 10/23/07 14:43 **Date Received..:** 10/26/07
% Moisture.....: 16

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	83.7	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306395

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-471-0102

General Chemistry

Lot-Sample #...: A7J260310-006 Work Order #...: J90NJ Matrix.....: SO
Date Sampled...: 10/23/07 15:10 Date Received..: 10/26/07
% Moisture.....: 19

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	80.5	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306395

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-471-0203

General Chemistry

Lot-Sample #...: A7J260310-007 Work Order #...: J90NK Matrix.....: SO
Date Sampled...: 10/23/07 15:12 Date Received..: 10/26/07
% Moisture.....: 19

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	81.1	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306395

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-471-0304

General Chemistry

Lot-Sample #...: A7J260310-008 **Work Order #...:** J90NL **Matrix.....:** SO
Date Sampled...: 10/23/07 15:14 **Date Received..:** 10/26/07
% Moisture.....: 19

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	80.7	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306395

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-471-0506

General Chemistry

Lot-Sample #...: A7J260310-009 Work Order #...: J90NN Matrix.....: SO
Date Sampled...: 10/23/07 15:16 Date Received..: 10/26/07
% Moisture.....: 17

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	82.7	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306395

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-471-0708

General Chemistry

Lot-Sample #...: A7J260310-010 Work Order #...: J90NP Matrix.....: SO
Date Sampled...: 10/23/07 15:18 Date Received..: 10/26/07
% Moisture.....: 16

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	83.7	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306395

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-472-0102

General Chemistry

Lot-Sample #...: A7J260310-011 **Work Order #...:** J90NQ **Matrix.....:** SO
Date Sampled...: 10/23/07 16:20 **Date Received..:** 10/26/07
% Moisture.....: 14

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	86.3	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306395

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-472-0203

General Chemistry

Lot-Sample #...: A7J260310-012 Work Order #...: J90NV Matrix.....: SO
Date Sampled...: 10/23/07 16:22 Date Received..: 10/26/07
% Moisture.....: 13

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	86.6	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306395

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-472-0304

General Chemistry

Lot-Sample #...: A7J260310-013 Work Order #...: J90NW Matrix.....: SO
Date Sampled...: 10/23/07 16:24 Date Received..: 10/26/07
% Moisture.....: 18

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	81.5	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306395

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-472-0506

General Chemistry

Lot-Sample #...: A7J260310-014 Work Order #...: J90N0 Matrix.....: SO
Date Sampled...: 10/23/07 16:26 Date Received..: 10/26/07
% Moisture.....: 17

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	83.1	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306400
		Dilution Factor: 1				

Tetra Tech NUS, Inc

Client Sample ID: SB-472-0708

General Chemistry

Lot-Sample #...: A7J260310-015 Work Order #...: J90N1 Matrix.....: SO
Date Sampled...: 10/23/07 16:28 Date Received..: 10/26/07
% Moisture.....: 17

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	83.2	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306400

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-473-0102

General Chemistry

Lot-Sample #...: A7J260310-016 Work Order #...: J90N3 Matrix.....: SO
Date Sampled...: 10/24/07 09:30 Date Received..: 10/26/07
% Moisture.....: 11

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	89.3	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306400

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-473-0203

General Chemistry

Lot-Sample #...: A7J260310-017 Work Order #...: J90N4 Matrix.....: SO
Date Sampled...: 10/24/07 09:32 Date Received..: 10/26/07
% Moisture.....: 12

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	87.9	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306400

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-473-0304

General Chemistry

Lot-Sample #...: A7J260310-018 Work Order #...: J90N6 Matrix.....: SO
Date Sampled...: 10/24/07 09:34 Date Received..: 10/26/07
% Moisture.....: 15

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	85.1	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306400

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-473-0506

General Chemistry

Lot-Sample #...: A7J260310-019 Work Order #...: J90N7 Matrix.....: SO
Date Sampled...: 10/24/07 09:36 Date Received..: 10/26/07
% Moisture.....: 24

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	76.1	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306400

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-473-0708

General Chemistry

Lot-Sample #...: A7J260310-020 Work Order #...: J90PH Matrix.....: SO
Date Sampled...: 10/24/07 09:38 Date Received..: 10/26/07
% Moisture.....: 20

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	80.5	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306400

Dilution Factor: 1

APPENDIX C
SUPPORT DOCUMENTATION

HOLDTIME

SDG 7J26310

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	SB-472-0506	A7J260310014	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-470-0304	A7J260310003	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-470-0506	A7J260310004	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-470-0708	A7J260310005	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-471-0203	A7J260310007	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-471-0506	A7J260310009	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-471-0708	A7J260310010	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-472-0102	A7J260310011	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-470-0203	A7J260310002	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-472-0304	A7J260310013	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-471-0102	A7J260310006	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-472-0708	A7J260310015	NM	10/23/2007	11/2/2007	11/2/2007	10	0	10
HG	MG/KG	SB-473-0102	A7J260310016	NM	10/24/2007	11/2/2007	11/2/2007	9	0	9
HG	MG/KG	SB-473-0203	A7J260310017	NM	10/24/2007	11/2/2007	11/2/2007	9	0	9
HG	MG/KG	SB-473-0304	A7J260310018	NM	10/24/2007	11/2/2007	11/2/2007	9	0	9

Chain of Custody Record

SEVERN TRENT **STL**

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
Tetra Tech	M. Martin	10/25/07	227049
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 2**
20251 Century Blvd #200	301-528-3022		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Germantown / MD / 20874	S. Hadley	K. Ives	
Project Name and Location (State)	**Carrier/Waybill Number**		
LMC MR	Courier		
Contract/Purchase Order/Quote No.			
112IC00485			

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: 8270 #	Hg	Special Instructions/ Conditions of Receipt
															Block H
SB-470-0102	10/23	1435				X	2						X	X	benzo(a)pyrene
0203		1437													
0304		1439													
0506		1441													
470-0708		1443													
471-0102		1510													
-0203		1512													
-0304		1514													
-0506		1516													
471-0708		1518													
472-0102		1620													
SB-472-0203	10/23	1622				X	2						X	X	benzo(a)pyrene

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 SIM

QC Requirements (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1.		10/25/07	16:00		10-25-07	1600
2.					10/26/07	1000
3.						

Comments

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

Chain of Custody Record

SEVERN TRENT **STL**

Severn Trent Laboratories, Inc.

15

STL-4124 (0901)

Client: Tetra Tech	Project Manager: M. Marin	Date: 10/25/07	Chain of Custody Number: 227050
Address: 20251 Century Blvd #200	Telephone Number (Area Code)/Fax Number: 301-528-3022	Lab Number:	Page 2 of 2
City: Germantown / State: MD / Zip Code: 20874	Site Contact: S. Hadley	Lab Contact: K. Ives	
Project Name and Location (State): LMC MK	Carrier/Waybill Number: Courier		
Contract/Purchase Order/Quote No.: 112I600985			

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: 8270 PAH	Hg	Special Instructions/ Conditions of Receipt
SB-472-0304	10/23	1624				X	2						X	X	Block H
-0506		1626													
472-0708		1628													
473-0102	10/24	0930													
-0203		0932													
-0304		0934													
-0506		0936													
-0506 MS/SD		0936													
SB-473-0708	10/24	0938				X	2						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 STND

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By	10/25/07	1600	1. Received By	10-25-07	1600
2. Relinquished By			2. Received By	10/26/07	1010
3. Relinquished By			3. Received By		

Comments:

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

TestAmerica North Canton

TestAmerica Cooler Receipt Form/Narrative Lot Number: A7J260376
North Canton Facility 77038

Client: Tetra Tech Project:______ Quote#:______

Cooler Received on: 10-26-07 Opened on: 10-26-07 By: [signature] (Signature)

FedEx ☒ Client Drop Off ☐ UPS ☐ DHL ☐ FAS ☐ TestAmerica Courier ☐
Stetson ☐ US Cargo ☐ Other:______

TestAmerica Cooler No#______ Foam Box ☐ Client Cooler ☒ Other______

1. Were custody seals on the outside of the cooler? Yes ☐ No ☐ Intact? Yes ☐ No ☐ NA ☐
   If YES, Quantity______
   Were custody seals on the outside of cooler signed and dated? Yes ☐ No ☐ NA ☐
   Were custody seals on the bottles? Yes ☐ No ☒
   If YES, are there any exceptions ______
2. Shipper's packing slip attached to this form? Yes ☒ No ☐
3. Did custody papers accompany the samples? Yes ☒ No ☐ Relinquished by client? Yes ☒ No ☐
4. Did you sign the custody papers in the appropriate place? Yes ☒ No ☐
5. Packing material used: Bubble Wrap ☒ Foam ☐ None ☐ Other :______
6. Cooler temperature upon receipt 4.7 °C (see back of form for multiple coolers/temp)

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 and/or tags be reconciled with the COC? Yes ☒ No ☐
9. Were samples at the correct pH upon receipt? Yes ☐ No ☐ NA ☒
10. Were correct bottles used for the tests 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? Yes ☐ No ☒ Were VOAs on the COC? Yes ☐ No ☒

Contacted PM ______ Date:______ by:______ via Voice Mail ☐ Verbal ☐ Other ☐
Concerning:

14. CHAIN OF CUSTODY

The following discrepancies occurred:
~~COC = 2x60mL received 3x60 mL for ID SB-474-03? & SB-474-05?~~

15. SAMPLE CONDITION

Sample(s)______ were received after the recommended holding time had expired.
Sample(s)______ were received in a broken container.

16. SAMPLE PRESERVATION

Sample(s) ______ were further preserved in sample receiving to meet recommended pH level(s). *Nitric Acid Lot #042607-HNO3 - Sulfuric Acid Lot #* 092006-*H2SO4; Sodium Hydroxide Lot #* 122805 *-NaOH; Hydrochloric Acid Lot #* 092006-*HCl; Sodium Hydroxide and Zinc Acetate Lot #* 050205-*CH3COO2ZN/NaOH*
What time was preservative added to samples? ______
Sample(s)______ were received with bubble > 6 mm in diameter (Notify PM)

Client ID	pH	Date	Initials

CASE NARRATIVE

7J26310

The following report contains the analytical results for twenty solid samples submitted to TestAmerica North Canton by Tetra Tech NUS Inc. from the LMC MR Site, project number 112IC00885. The samples were received October 26, 2007, according to documented sample acceptance procedures.

This SDG consists of (1) laboratory ID's: A7J260310.

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. 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.

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 temperature of the cooler upon sample receipt was 4.7°C.

GC/MS SEMIVOLATILES

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.

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).

GENERAL CHEMISTRY

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

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica North Canton (formerly STL North Canton) 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.

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 (formerly STL 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 North Canton (formerly STL North Canton)Certifications and Approvals:

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),
Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), OhioVAP (#CL0024), West Virginia (#210), Wisconsin (#999518190),NAVY, ARMY, USDA Soil Permit,

ANALYTICAL METHODS SUMMARY

7J26310

PARAMETER	ANALYTICAL METHOD
Mercury in Solid Waste (Manual Cold-Vapor)	SW846 7471A
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD

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

7J26310 : A7J260310

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
J90M9	001	SB-470-0102	10/23/07	14:35
J90ND	002	SB-470-0203	10/23/07	14:37
J90NE	003	SB-470-0304	10/23/07	14:39
J90NF	004	SB-470-0506	10/23/07	14:41
J90NH	005	SB-470-0708	10/23/07	14:43
J90NJ	006	SB-471-0102	10/23/07	15:10
J90NK	007	SB-471-0203	10/23/07	15:12
J90NL	008	SB-471-0304	10/23/07	15:14
J90NN	009	SB-471-0506	10/23/07	15:16
J90NP	010	SB-471-0708	10/23/07	15:18
J90NQ	011	SB-472-0102	10/23/07	16:20
J90NV	012	SB-472-0203	10/23/07	16:22
J90NW	013	SB-472-0304	10/23/07	16:24
J90N0	014	SB-472-0506	10/23/07	16:26
J90N1	015	SB-472-0708	10/23/07	16:28
J90N3	016	SB-473-0102	10/24/07	09:30
J90N4	017	SB-473-0203	10/24/07	09:32
J90N6	018	SB-473-0304	10/24/07	09:34
J90N7	019	SB-473-0506	10/24/07	09:36
J90PH	020	SB-473-0708	10/24/07	09:38

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.

Test America North Canton

Metals Data Reporting Form

Initial Calibration Verification Standard

Instrument: CVAA **Units:** ug/L

Chart Number: hg11102a.prn **Acceptable Range:** 90% - 110%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck5ICV 11/2/2007 11:04 AM Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Mercury	253.7	2.5	2.44	97.4								

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Verification

Instrument: CVAA **Units:** ug/L

Chart Number: hg11102a.prn **Acceptable Range:** 80% - 120%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck2CCV 11/2/2007 11:07 AM Found	% Rec	Ck2CCV 11/2/2007 11:15 AM Found	% Rec	Ck2CCV 11/2/2007 11:19 AM Found	% Rec	Ck2CCV 11/2/2007 11:33 AM Found	% Rec	Ck2CCV 11/2/2007 11:48 AM Found	% Rec
Mercury	253.7	5.0	4.97	**99.5**	5.15	**102.9**	5.11	**102.3**	5.26	**105.2**	5.24	**104.8**

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Verification

Instrument: CVAA **Units:** ug/L

Chart Number: hg11102a.prn **Acceptable Range:** 80% - 120%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck2CCV 11/2/2007 12:02 PM Found	% Rec	Ck2CCV 11/2/2007 12:16 PM Found	% Rec	Ck2CCV 11/2/2007 12:32 PM Found	% Rec	Ck2CCV 11/2/2007 12:46 PM Found	% Rec	Ck2CCV 11/2/2007 1:01 PM Found	% Rec
Mercury	253.7	5.0	5.26	**105.3**	5.18	**103.5**	5.22	**104.3**	5.21	**104.3**	5.33	**106.6**

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Verification

Instrument: CVAA **Units:** ug/L

Chart Number: hg11102a.prn **Acceptable Range:** 80% - 120%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck2CCV 11/2/2007 1:12 PM Found	% Rec	Ck2CCV 11/2/2007 1:19 PM Found	% Rec	Ck2CCV 11/2/2007 1:33 PM Found	% Rec	Ck2CCV 11/2/2007 1:48 PM Found	% Rec	Ck2CCV 11/2/2007 2:02 PM Found	% Rec
Mercury	253.7	5.0	5.28	**105.6**	5.08	**101.5**	5.11	**102.3**	5.02	**100.5**	5.07	**101.4**

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Verification

Instrument: CVAA **Units:** ug/L

Chart Number: hg11102a.prn **Acceptable Range:** 80% - 120%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck2CCV 11/2/2007 2:16 PM		Ck2CCV 11/2/2007 2:30 PM		Ck2CCV 11/2/2007 2:38 PM		Ck2CCV 11/2/2007 2:53 PM		Ck2CCV 11/2/2007 3:06 PM	
			Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Mercury	253.7	5.0	5.02	**100.4**	5.07	**101.3**	5.07	**101.4**	5.06	**101.3**	5.11	**102.2**

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Verification

Instrument: CVAA **Units:** ug/L

Chart Number: hg11102a.prn **Acceptable Range:** 80% - 120%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck2CCV 11/2/2007 3:20 PM Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Mercury	253.7	5.0	5.03	**100.5**								

Test America North Canton

Metals Data Reporting Form

Contract Required Detection Limit Standard

Instrument: CVAA **Units:** ug/L

Chart Number: hg11102a.prn **Acceptable Range:** 50% - 150%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck3CRA\MRL 11/2/2007 11:06 AM Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Mercury	253.7	0.2	0.12	**58.9**								

Test America North Canton

Metals Data Reporting Form

Initial Calibration Blank Results

Instrument: CVAA **Units:** ug/L

Chart Number: hg11102a.prn

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	Ck4ICB 11/2/2007 11:05 AM Found	Q	Found	Q	Found	Q	Found	Q	Found	Q
Mercury	253.7	0.6	0.1	U								

5.21.0

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Blank Results

Instrument: CVAA **Units:** ug/L

Chart Number: hg11102a.prn

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	CklCCB 11/2/2007 11:08 AM Found	Q	CklCCB 11/2/2007 11:17 AM Found	Q	CklCCB 11/2/2007 11:21 AM Found	Q	CklCCB 11/2/2007 11:35 AM Found	Q	CklCCB 11/2/2007 11:49 AM Found	Q
Mercury	253.7	0.6	**-0.1**	**B**	0.1	U	0.1	U	0.1	U	0.1	U

U Result is less than the IDL

B Result is between IDL and RL

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Blank Results

Instrument: CVAA **Units:** ug/L

Chart Number: hg11102a.prn

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	Ck1CCB 11/2/2007 12:03 PM		Ck1CCB 11/2/2007 12:18 PM		Ck1CCB 11/2/2007 12:33 PM		Ck1CCB 11/2/2007 12:47 PM		Ck1CCB 11/2/2007 1:02 PM	
			Found	Q	Found	Q	Found	Q	Found	Q	Found	Q
Mercury	253.7	0.6	0.1	U	**-0.1**	**B**	0.1	U	0.1	U	0.1	U

5.21.0

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Blank Results

Instrument: CVAA **Units:** ug/L

Chart Number: hg11102a.prn

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	Ck1CCB 11/2/2007 1:13 PM Found	Q	Ck1CCB 11/2/2007 1:20 PM Found	Q	Ck1CCB 11/2/2007 1:34 PM Found	Q	Ck1CCB 11/2/2007 1:49 PM Found	Q	Ck1CCB 11/2/2007 2:03 PM Found	Q
Mercury	253.7	0.6	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Blank Results

Instrument: CVAA **Units:** ug/L

Chart Number: hg11102a.prn

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	Ck1CCB 11/2/2007 2:17 PM		Ck1CCB 11/2/2007 2:31 PM		Ck1CCB 11/2/2007 2:39 PM		Ck1CCB 11/2/2007 2:54 PM		Ck1CCB 11/2/2007 3:07 PM	
			Found	Q	Found	Q	Found	Q	Found	Q	Found	Q
Mercury	253.7	0.6	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Blank Results

Instrument: CVAA **Units:** ug/L

Chart Number: hg11102a.prn

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	Ck1CCB 11/2/2007 3:22 PM Found	Q	Found	Q	Found	Q	Found	Q	Found	Q
Mercury	253.7	0.6	0.1	U								

5.21.0

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

Test America North Canton

Metals Data Reporting Form

Preparation Blank Results

Lab Sample ID: J924RB

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.017	0.10	0.017	U	1	CVAA	11/2/2007	14:41

Comments: Lot #: A7J260310

5.21.0

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

Test America North Canton

Metals Data Reporting Form

Matrix Spike Sample Results

Spike Sample ID: J90N7S

Original Sample ID: J90N7 **Client ID:** SB-473-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 23.859

Element	WL/ Mass	OS Conc	Q	MS Conc	Q	Spike Level	% Rec	OS DF	MS DF	Instr	OS Anal Date	OS Anal Time	MS Anal Date	MS Anal Time
Mercury	253.7	0.022	U	0.21		0.2189	97.4	1	1	CVAA	11/2/2007	14:50	11/2/2007	14:55

Comments: Lot #: A7J260310 Sample #: 19

5.21.0

N Spike recovery failed
NC Percent recovery was not calculated
* Duplicate analysis RPD was not within limits
E Serial dilution percent difference not within limits
U Result is less than the IDL

Form 5A Equivalent

Test America North Canton

Metals Data Reporting Form

Duplicate Sample Results

Lab Sample ID: J90N7X **Client ID:** SB-473-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 23.859

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.022	0.13	0.022	U	1	CVAA	11/2/2007	14:51

Comments: Lot #: A7J260310 Sample #: 19

U Result is less than the IDL

Test America North Canton

Metals Data Reporting Form

Sample Duplicate RPD Report

Duplicate Sample ID: J90N7X

Original Sample ID: J90N7 **Client ID:** SB-473-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 23.859

Element	WL/ Mass	OS Conc	Q	Dupe Conc	Q	% RPD	OS DF	Dupe DF	Instr	OS Anal Date	OS Anal Time	Dupe Anal Date	Dupe Anal Time
Mercury	253.7	0.022	U	0.022	U		1	1	CVAA	11/2/2007	14:50	11/2/2007	14:51

* Duplicate analysis RPD was not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 6 Equivalent

Test America North Canton

Metals Data Reporting Form

Laboratory Control Sample Results

Lab Sample ID: J924RC

Matrix: Soil **Units:** mg/kg **Prep Date:** 11/2/2007 **Prep Batch:** 7302034

Weight: 0.60 **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	Spike Level	Conc	Percent Recovery	Q	Range	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.83	0.86	103.6		81-123	1	CVAA	11/2/2007	14:42

Comments: Lot #: A7J260310

N Spike recovery failed

NC Percent recovery was not calculated

Test America North Canton

Metals Data Reporting Form

Instrument Detection Limits

Instrument: CVAA **Units:** ppb

Element	Wavelength	Reporting Limit	IDL	Date of IDL
Mercury	253.700	0.6	0.10	2/1/2007

Batch Number: **7302034**

TestAmerica Laboratories, Inc.
Metals Prep Log/ Batch Summary

Prepared By:
Lisa McGall
(e-Signature)

Prep Date: 11/02/07
Due Date: 11/09/07

Lot	Work Order			ICP Weight	ICPMS Weight	Hg Weight
A7J290000 Solid	J924R	B	Due Date: SDG:			0.60 g
A7J290000 Solid	J924R	C	Due Date: SDG:			0.60 g
A7J260310 Solid	J90M9 Total		Due Date: 11/09/07 SDG: 7J26310			0.60 g
A7J260310 Solid	J90ND Total		Due Date: 11/09/07 SDG: 7J26310			0.60 g
A7J260310 Solid	J90NE Total		Due Date: 11/09/07 SDG: 7J26310			0.60 g
A7J260310 Solid	J90NF Total		Due Date: 11/09/07 SDG: 7J26310			0.60 g
A7J260310 Solid	J90NH Total		Due Date: 11/09/07 SDG: 7J26310			0.60 g
A7J260310 Solid	J90NJ Total		Due Date: 11/09/07 SDG: 7J26310			0.60 g
A7J260310 Solid	J90NK Total		Due Date: 11/09/07 SDG: 7J26310			0.60 g
A7J260310 Solid	J90NL Total		Due Date: 11/09/07 SDG: 7J26310			0.60 g
A7J260310 Solid	J90NN Total		Due Date: 11/09/07 SDG: 7J26310			0.60 g
A7J260310 Solid	J90NP Total		Due Date: 11/09/07 SDG: 7J26310			0.60 g
A7J260310 Solid	J90NQ Total		Due Date: 11/09/07 SDG: 7J26310			0.60 g
A7J260310 Solid	J90NV Total		Due Date: 11/09/07 SDG: 7J26310			0.60 g
A7J260310 Solid	J90NW Total		Due Date: 11/09/07 SDG: 7J26310			0.60 g
A7J260310 Solid	J90N0 Total		Due Date: 11/09/07 SDG: 7J26310			0.60 g
A7J260310 Solid	J90N1 Total		Due Date: 11/09/07 SDG: 7J26310			0.60 g
A7J260310 Solid	J90N3 Total		Due Date: 11/09/07 SDG: 7J26310			0.60 g
A7J260310 Solid	J90N4 Total		Due Date: 11/09/07 SDG: 7J26310			0.60 g
A7J260310 Solid	J90N6 Total		Due Date: 11/09/07 SDG: 7J26310			0.60 g
A7J260310 Solid	J90N7 Total		Due Date: 11/09/07 SDG: 7J26310			0.60 g
A7J260310 Solid	J90N7 Total	S	Due Date: 11/09/07 SDG: 7J26310			0.60 g

Batch Number: **7302034**

TestAmerica Laboratories, Inc.
Metals Prep Log/ Batch Summary

Prepared By:
Lisa McGall
(e-Signature)

Prep Date: 11/02/07
Due Date: 11/09/07

Lot	Work Order			ICP Weight	ICPMS Weight	Hg Weight
A7J260310 Solid	J90N7 Total	X	Due Date: 11/09/07 SDG: 7J26310			0.60 g
A7J260310 Solid	J90PH Total		Due Date: 11/09/07 SDG: 7J26310			0.60 g

LEVEL 2

BLANK AND CHECK STANDARD ON BATCH	X
MS/MSD AND PDS ON BATCH	X
CORRECT SPIKES ADDED	X
SPIKING SOLUTIONS DOCUMENTED ON BATCH LOG	X

Comments:

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE

Matrix Spike Information:
J90N7 Hg

Check Sample Information:
J924R Hg

Prep Method(s): SW846 7471A

METHOD BLANK REPORT

General Chemistry

Client Lot #...: 7J26310 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids		Work Order #: KAFCF1AA		MB Lot-Sample #:	A7K020000-395	
	ND	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306395
		Dilution Factor: 1				
Percent Solids		Work Order #: KAFC41AA		MB Lot-Sample #:	A7K020000-400	
	ND	10.0	%	MCAWW 160.3 MOD	11/02-11/03/07	7306400
		Dilution Factor: 1				

NOTE(S):

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

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A7J260310 **Work Order #...:** J90NW-SMP J90NW-DUP **Matrix.....:** SO

Date Sampled...: 10/23/07 16:24 **Date Received..:** 10/26/07

% Moisture.....: 18

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids						SD Lot-Sample #: A7J260310-013		
	81.5	82.7	%	1.4	(0-20)	MCAWW 160.3 MOD	11/02-11/03/07	7306395

Dilution Factor: 1

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A7J260310 **Work Order #...:** KAEAV-SMP KAEAV-DUP **Matrix.....:** SOLID

Date Sampled...: 10/30/07 09:00 **Date Received..:** 11/02/07

% Moisture.....: 17

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids						SD Lot-Sample #: A7K020144-001		
	82.6	83.8	%	1.5	(0-20)	MCAWW 160.3 MOD	11/02-11/03/07	7306395

Dilution Factor: 1

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A7J260310 **Work Order #...:** J90N7-SMP **Matrix.....:** SO
J90N7-DUP
Date Sampled...: 10/24/07 09:36 **Date Received..:** 10/26/07
% Moisture.....: 24

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids						SD Lot-Sample #: A7J260310-019		
	76.1	79.2	%	3.9	(0-20)	MCAWW 160.3 MOD	11/02-11/03/07	7306400

Dilution Factor: 1

SRV: J90M9 = SB-470-0102 [Hg] = 0.48mg/kg as reported by the lab.

Line Conc. Units SD/RSD 1 2 3 4 5

*** Check Standard: 1 Ck1CCB Seq: 174 14:31:44 02 Nov 2007 HG
Line Flag Found Range(+/-) Units SD/RSD
Hg -.0225 .2000 ppb .0000 %

*** Check Standard: 2 Ck2CCV Seq: 175 14:38:42 02 Nov 2007 HG
Line Flag %Rcv. Found True Units SD/RSD
Hg 101.4 5.071 5.000 ppb .0000 %

*** Check Standard: 1 Ck1CCB Seq: 176 14:39:47 02 Nov 2007 HG
Line Flag Found Range(+/-) Units SD/RSD
Hg -.0600 .2000 ppb .0000 %

DO NOT UPLOAD

*** Sample ID: J924RB Seq: 177 14:41:04 02 Nov 2007 HG
7302034
Hg -.0313 ppb .0000 % -.0313

*** Sample ID: J924RC Seq: 178 14:42:13 02 Nov 2007 HG
SOLID
Hg 5.179 ppb .0000 % 5.179

*** Sample ID: J90M9 Seq: 179 14:43:28 02 Nov 2007 HG
SOLID
Hg 2.578 ppb .0000 % 2.578

*** Sample ID: J90N0 Seq: 180 14:44:36 02 Nov 2007 HG
SOLID
Hg -.0637 ppb .0000 % -.0637

*** Sample ID: J90N1 Seq: 181 14:46:01 02 Nov 2007 HG
SOLID
Hg -.0379 ppb .0000 % -.0379

*** Sample ID: J90N3 Seq: 182 14:47:05 02 Nov 2007 HG
SOLID
Hg .0525 ppb .0000 % .0525

*** Sample ID: J90N4 Seq: 183 14:48:10 02 Nov 2007 HG
SOLID
Hg .0157 ppb .0000 % .0157

*** Sample ID: J90N6 Seq: 184 14:49:28 02 Nov 2007 HG
SOLID
Hg .0077 ppb .0000 % .0077

*** Sample ID: J90N7 Seq: 185 14:50:44 02 Nov 2007 HG
SOLID
Hg -.0032 ppb .0000 % -.0032

$$\frac{2.578\ \mu g}{L} \cdot \frac{0.1\ L}{0.60\ g} \cdot \frac{1000\ g}{1\ kg} \cdot \frac{X\ mg}{1000\ \mu g} = \frac{0.43\ mg}{1\ kg} / 0.89 = \boxed{0.48\ mg/kg}$$

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO : **MIKE MARTIN** **DATE:** **JANUARY 10, 2008**

FROM: **THOMAS JACKMAN** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC AND INORGANIC DATA VALIDATION – BENZO(A)PYRENE / MERCURY**
LOCKHEED MIDDLE RIVER FACILITY
SAMPLE DELIVERY GROUP (SDG) – 7J26337

SAMPLES: 20/Solid

SB-474-0102	SB-474-0203	SB-474-0304	SB-474-0506	SB-474-0708
SB-475-0102	SB-475-0203	SB-475-0304	SB-475-0506	SB-475-0708
SB-476-0102	SB-476-0203	SB-476-0304	SB-476-0506	SB-476-0708
SB-477-0102	SB-477-0203	SB-477-0304	SB-477-0506	SB-477-0708

Overview

This sample set for the Lockheed Middle River, SDG 7J26337, consists of 20 environmental soil samples. The samples were analyzed for benzo(a)pyrene and mercury. No field duplicates were included in this data set.

The samples were collected by Tetra Tech NUS, Inc. on October 24 and 25, 2007 and analyzed by Test America. The samples were analyzed by SW-846 Method 8270C for benzo(a)pyrene and by SW-846 Method 7471A for mercury.

Summary

All samples were successfully analyzed. The organic findings in this report are based upon a general review of all available data including: data completeness, holding times, GC/MS tuning, initial/continuing calibrations, laboratory method blank contamination, surrogate spike, matrix spike/matrix spike duplicate (MS/MSD) results, Laboratory Control Sample (LCS) results, compound identification, compound quantitation, and detection limits.

The inorganic findings in this report are based upon a general review of all available data including: data completeness, holding times, calibrations, laboratory method/preparation blanks, matrix spike results, laboratory duplicate results, laboratory control sample (LCS) results, analyte quantitation, and detection limits.

Areas of concern are listed below; documentation supporting these findings is presented in Appendix C. Qualified analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

Major Problems

- None.

Minor Problems

- Positive results reported below the reporting limit (RL) but above the method detection limit (MDL) for the organic analyses were qualified as estimated, "J".

Notes

In the analysis of benzo(a)pyrene, matrix spike/matrix spike duplicate RPDs were outside quality criteria for sample SB-477-0708 MS/MSD and the batch MS/MSD used by the laboratory. No data were qualified on the basis of the MS/MSD results because benzo(a)pyrene was not one of the spiked compounds.

Executive Summary

Laboratory Performance: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the "Region III Modifications to the National Functional Guidelines for Organic Data Review" (9/94) and "Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analysis" (4/93). The text of this report has been formulated to address only those problem areas affecting data quality.

Tetra Tech NUS
Thomas Jackman
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 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: 00885

SDG: 7J26337 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-474-0102	nsample	SB-474-0203	nsample	SB-474-0304
samp_date	10/24/2007	samp_date	10/24/2007	samp_date	10/24/2007
lab_id	A7J260337001	lab_id	A7J260337002	lab_id	A7J260337003
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	85.0	Pct_Solids	86.0	Pct_Solids	78.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	24	J	P

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	31	J	P

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	490		

PROJ_NO: 00885

SDG: 7J26337 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-474-0506	nsample	SB-474-0708	nsample	SB-475-0102
samp_date	10/24/2007	samp_date	10/24/2007	samp_date	10/25/2007
lab_id	A7J260337004	lab_id	A7J260337005	lab_id	A7J260337006
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	90.9	Pct_Solids	86.0	Pct_Solids	88.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.4	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J26337 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-475-0203	nsample	SB-475-0304	nsample	SB-475-0506
samp_date	10/25/2007	samp_date	10/25/2007	samp_date	10/25/2007
lab_id	A7J260337007	lab_id	A7J260337008	lab_id	A7J260337009
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	87.0	Pct_Solids	82.0	Pct_Solids	81.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

PROJ_NO: 00885

SDG: 7J26337 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-475-0708	nsample	SB-476-0102	nsample	SB-476-0203
samp_date	10/25/2007	samp_date	10/25/2007	samp_date	10/25/2007
lab_id	A7J260337010	lab_id	A7J260337011	lab_id	A7J260337012
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	83.0	Pct_Solids	88.0	Pct_Solids	86.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J26337 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-476-0304	nsample	SB-476-0506RE	nsample	SB-476-0708
samp_date	10/25/2007	samp_date	10/25/2007	samp_date	10/25/2007
lab_id	A7J260337013	lab_id	A7J260337014	lab_id	A7J260337015
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	80.0	Pct_Solids	83.0	Pct_Solids	84.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

PROJ_NO: 00885

SDG: 7J26337 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-477-0102	nsample	SB-477-0203	nsample	SB-477-0304
samp_date	10/25/2007	samp_date	10/25/2007	samp_date	10/25/2007
lab_id	A7J260337016	lab_id	A7J260337017	lab_id	A7J260337018
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	89.0	Pct_Solids	78.0	Pct_Solids	80.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.7	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

PROJ_NO: 00885

SDG: 7J26337 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-477-0506RE	nsample	SB-477-0708RE
samp_date	10/25/2007	samp_date	10/25/2007
lab_id	A7J260337019	lab_id	A7J260337020
qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG
Pct_Solids	85.0	Pct_Solids	85.0
DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J26337 MEDIA: SOIL DATA FRACTION: M

nsample	SB-474-0102	nsample	SB-474-0203	nsample	SB-474-0304
samp_date	10/24/2007	samp_date	10/24/2007	samp_date	10/24/2007
lab_id	A7J260337001	lab_id	A7J260337002	lab_id	A7J260337003
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	85.0	Pct_Solids	86.0	Pct_Solids	78.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.025		

Parameter	Result	Val Qual	Qual Code
MERCURY	0.095		

PROJ_NO: 00885

SDG: 7J26337 MEDIA: SOIL DATA FRACTION: M

nsample	SB-474-0506
samp_date	10/24/2007
lab_id	A7J260337004
qc_type	NM
units	MG/KG
Pct_Solids	90.9
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.018	U	

nsample	SB-474-0708
samp_date	10/24/2007
lab_id	A7J260337005
qc_type	NM
units	MG/KG
Pct_Solids	86.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

nsample	SB-475-0102
samp_date	10/25/2007
lab_id	A7J260337006
qc_type	NM
units	MG/KG
Pct_Solids	88.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

PROJ_NO: 00885

SDG: 7J26337 MEDIA: SOIL DATA FRACTION: M

nsample	SB-475-0203	nsample	SB-475-0304	nsample	SB-475-0506
samp_date	10/25/2007	samp_date	10/25/2007	samp_date	10/25/2007
lab_id	A7J260337007	lab_id	A7J260337008	lab_id	A7J260337009
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	87.0	Pct_Solids	82.0	Pct_Solids	81.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

PROJ_NO: 00885

SDG: 7J26337 MEDIA: SOIL DATA FRACTION: M

nsample	SB-475-0708	nsample	SB-476-0102	nsample	SB-476-0203
samp_date	10/25/2007	samp_date	10/25/2007	samp_date	10/25/2007
lab_id	A7J260337010	lab_id	A7J260337011	lab_id	A7J260337012
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	83.0	Pct_Solids	88.0	Pct_Solids	86.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

PROJ_NO: 00885

SDG: 7J26337 MEDIA: SOIL DATA FRACTION: M

nsample	SB-476-0304	nsample	SB-476-0506	nsample	SB-476-0708
samp_date	10/25/2007	samp_date	10/25/2007	samp_date	10/25/2007
lab_id	A7J260337013	lab_id	A7J260337014	lab_id	A7J260337015
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	80.0	Pct_Solids	83.0	Pct_Solids	84.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.021	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

PROJ_NO: 00885

SDG: 7J26337 MEDIA: SOIL DATA FRACTION: M

nsample	SB-477-0102
samp_date	10/25/2007
lab_id	A7J260337016
qc_type	NM
units	MG/KG
Pct_Solids	89.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

nsample	SB-477-0203
samp_date	10/25/2007
lab_id	A7J260337017
qc_type	NM
units	MG/KG
Pct_Solids	78.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.021	U	

nsample	SB-477-0304
samp_date	10/25/2007
lab_id	A7J260337018
qc_type	NM
units	MG/KG
Pct_Solids	80.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.021	U	

PROJ_NO: 00885

SDG: 7J26337 MEDIA: SOIL DATA FRACTION: M

nsample	SB-477-0506
samp_date	10/25/2007
lab_id	A7J260337019
qc_type	NM
units	MG/KG
Pct_Solids	85.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

nsample	SB-477-0708
samp_date	10/25/2007
lab_id	A7J260337020
qc_type	NM
units	MG/KG
Pct_Solids	85.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Tetra Tech NUS, Inc

Client Sample ID: SB-474-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J260337-001 **Work Order #...:** J90W81AD **Matrix.....:** SO
Date Sampled...: 10/24/07 10:30 **Date Received..:** 10/26/07
Prep Date.....: 10/29/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7302362
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	**24 J**	**390**	**ug/kg**	**1.5**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	63	(24 - 112)
2-Fluorobiphenyl	60	(34 - 110)
Terphenyl-d14	86	(41 - 119)
Phenol-d5	58	(28 - 110)
2-Fluorophenol	61	(26 - 110)
2,4,6-Tribromophenol	56	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Client Sample ID: SB-474-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J260337-002 **Work Order #...:** J90W91AD **Matrix.....:** SO
Date Sampled...: 10/24/07 10:32 **Date Received..:** 10/26/07
Prep Date.....: 10/29/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7302362
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	31 J	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	70	(24 - 112)
2-Fluorobiphenyl	64	(34 - 110)
Terphenyl-d14	92	(41 - 119)
Phenol-d5	63	(28 - 110)
2-Fluorophenol	63	(26 - 110)
2,4,6-Tribromophenol	55	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Client Sample ID: SB-474-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J260337-003 **Work Order #...:** J90XA1AD **Matrix.....:** SO
Date Sampled...: 10/24/07 10:34 **Date Received..:** 10/26/07
Prep Date.....: 10/29/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7302362
Dilution Factor: 1
% Moisture.....: 22 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	**490**	**430**	**ug/kg**	**1.7**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	68	(24 - 112)
2-Fluorobiphenyl	65	(34 - 110)
Terphenyl-d14	72	(41 - 119)
Phenol-d5	68	(28 - 110)
2-Fluorophenol	63	(26 - 110)
2,4,6-Tribromophenol	52	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-474-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J260337-004 **Work Order #...:** J90XC1AD **Matrix.....:** SO
Date Sampled...: 10/24/07 10:36 **Date Received..:** 10/26/07
Prep Date.....: 10/29/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7302362
Dilution Factor: 1
% Moisture.....: 9.1 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	360	ug/kg	1.4

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	57	(24 - 112)
2-Fluorobiphenyl	55	(34 - 110)
Terphenyl-d14	76	(41 - 119)
Phenol-d5	58	(28 - 110)
2-Fluorophenol	56	(26 - 110)
2,4,6-Tribromophenol	53	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-474-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J260337-005 **Work Order #...:** J90XD1AD **Matrix.....:** SO
Date Sampled...: 10/24/07 10:38 **Date Received..:** 10/26/07
Prep Date.....: 10/29/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7302362
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	59	(24 - 112)
2-Fluorobiphenyl	57	(34 - 110)
Terphenyl-d14	88	(41 - 119)
Phenol-d5	57	(28 - 110)
2-Fluorophenol	60	(26 - 110)
2,4,6-Tribromophenol	38	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-475-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J260337-006 **Work Order #...:** J90XE1AD **Matrix.....:** SO
Date Sampled...: 10/25/07 07:55 **Date Received..:** 10/26/07
Prep Date.....: 10/29/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7302362
Dilution Factor: 1
% Moisture.....: 12 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	370	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	61	(24 - 112)
2-Fluorobiphenyl	61	(34 - 110)
Terphenyl-d14	91	(41 - 119)
Phenol-d5	61	(28 - 110)
2-Fluorophenol	60	(26 - 110)
2,4,6-Tribromophenol	60	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-475-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J260337-007 **Work Order #...:** J90XF1AD **Matrix.....:** SO
Date Sampled...: 10/25/07 07:57 **Date Received..:** 10/26/07
Prep Date.....: 10/29/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7302362
Dilution Factor: 1
% Moisture.....: 13 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	73	(24 - 112)
2-Fluorobiphenyl	67	(34 - 110)
Terphenyl-d14	90	(41 - 119)
Phenol-d5	65	(28 - 110)
2-Fluorophenol	67	(26 - 110)
2,4,6-Tribromophenol	43	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-475-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J260337-008 **Work Order #...:** J90XG1AD **Matrix.....:** SO
Date Sampled...: 10/25/07 07:59 **Date Received..:** 10/26/07
Prep Date.....: 10/29/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7302362
Dilution Factor: 1
% Moisture.....: 18 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	400	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	67	(24 - 112)
2-Fluorobiphenyl	61	(34 - 110)
Terphenyl-d14	89	(41 - 119)
Phenol-d5	58	(28 - 110)
2-Fluorophenol	62	(26 - 110)
2,4,6-Tribromophenol	37	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-475-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J260337-009 **Work Order #...:** J90XH1AD **Matrix.....:** SO
Date Sampled...: 10/25/07 08:01 **Date Received..:** 10/26/07
Prep Date.....: 10/29/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7302362
Dilution Factor: 1
% Moisture.....: 19 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	410	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	48	(24 - 112)
2-Fluorobiphenyl	47	(34 - 110)
Terphenyl-d14	88	(41 - 119)
Phenol-d5	49	(28 - 110)
2-Fluorophenol	47	(26 - 110)
2,4,6-Tribromophenol	36	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-475-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J260337-010 **Work Order #...:** J90XK1AD **Matrix.....:** SO
Date Sampled...: 10/25/07 08:03 **Date Received..:** 10/26/07
Prep Date.....: 10/29/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7302362
Dilution Factor: 1
% Moisture.....: 17 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	400	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	51	(24 - 112)
2-Fluorobiphenyl	48	(34 - 110)
Terphenyl-d14	79	(41 - 119)
Phenol-d5	47	(28 - 110)
2-Fluorophenol	45	(26 - 110)
2,4,6-Tribromophenol	44	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-476-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J260337-011 **Work Order #...:** J90XL1AD **Matrix.....:** SO
Date Sampled...: 10/25/07 08:30 **Date Received..:** 10/26/07
Prep Date.....: 10/29/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7302362
Dilution Factor: 1
% Moisture.....: 12 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	18 *	(24 - 112)
2-Fluorobiphenyl	34	(34 - 110)
Terphenyl-d14	63	(41 - 119)
Phenol-d5	28	(28 - 110)
2-Fluorophenol	18 *	(26 - 110)
2,4,6-Tribromophenol	14	(10 - 118)

NOTE(S):

* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-476-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J260337-012 **Work Order #...:** J90XM1AD **Matrix.....:** SO
Date Sampled...: 10/25/07 08:32 **Date Received..:** 10/26/07
Prep Date.....: 10/29/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7302362
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	68	(24 - 112)
2-Fluorobiphenyl	60	(34 - 110)
Terphenyl-d14	96	(41 - 119)
Phenol-d5	66	(28 - 110)
2-Fluorophenol	61	(26 - 110)
2,4,6-Tribromophenol	74	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-476-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J260337-013 **Work Order #...:** J90XP1AD **Matrix.....:** SO
Date Sampled...: 10/25/07 08:34 **Date Received..:** 10/26/07
Prep Date.....: 10/29/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7302362
Dilution Factor: 1
% Moisture.....: 20 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	410	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	24	(24 - 112)
2-Fluorobiphenyl	32 *	(34 - 110)
Terphenyl-d14	82	(41 - 119)
Phenol-d5	30	(28 - 110)
2-Fluorophenol	29	(26 - 110)
2,4,6-Tribromophenol	53	(10 - 118)

NOTE(S):

* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-476-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J260337-014 **Work Order #...:** J90XT2AD **Matrix.....:** SO
Date Sampled...: 10/25/07 08:36 **Date Received..:** 10/26/07
Prep Date.....: 11/07/07 **Analysis Date..:** 11/08/07
Prep Batch #...: 7311315
Dilution Factor: 1
% Moisture.....: 17 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	400	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	56	(24 - 112)
2-Fluorobiphenyl	57	(34 - 110)
Terphenyl-d14	75	(41 - 119)
Phenol-d5	57	(28 - 110)
2-Fluorophenol	56	(26 - 110)
2,4,6-Tribromophenol	63	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-476-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J260337-015 **Work Order #...:** J90XV1AD **Matrix.....:** SO
Date Sampled...: 10/25/07 08:38 **Date Received..:** 10/26/07
Prep Date.....: 10/29/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7302362
Dilution Factor: 1
% Moisture.....: 16 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	58	(24 - 112)
2-Fluorobiphenyl	61	(34 - 110)
Terphenyl-d14	87	(41 - 119)
Phenol-d5	62	(28 - 110)
2-Fluorophenol	54	(26 - 110)
2,4,6-Tribromophenol	54	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-477-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J260337-016 **Work Order #...:** J90XX1AD **Matrix.....:** SO
Date Sampled...: 10/25/07 09:32 **Date Received..:** 10/26/07
Prep Date.....: 10/29/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7302362
Dilution Factor: 1
% Moisture.....: 11 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	370	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	47	(24 - 112)
2-Fluorobiphenyl	48	(34 - 110)
Terphenyl-d14	72	(41 - 119)
Phenol-d5	56	(28 - 110)
2-Fluorophenol	50	(26 - 110)
2,4,6-Tribromophenol	49	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-477-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J260337-017 **Work Order #...:** J90X11AD **Matrix.....:** SO
Date Sampled...: 10/25/07 09:34 **Date Received..:** 10/26/07
Prep Date.....: 10/29/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7302362
Dilution Factor: 1
% Moisture.....: 22 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	420	ug/kg	1.7

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	60	(24 - 112)
2-Fluorobiphenyl	54	(34 - 110)
Terphenyl-d14	77	(41 - 119)
Phenol-d5	56	(28 - 110)
2-Fluorophenol	57	(26 - 110)
2,4,6-Tribromophenol	61	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-477-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J260337-018 **Work Order #...:** J90X31AD **Matrix.....:** SO
Date Sampled...: 10/25/07 09:36 **Date Received..:** 10/26/07
Prep Date.....: 10/29/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7302362
Dilution Factor: 1
% Moisture.....: 20 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	410	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	59	(24 - 112)
2-Fluorobiphenyl	53	(34 - 110)
Terphenyl-d14	86	(41 - 119)
Phenol-d5	62	(28 - 110)
2-Fluorophenol	56	(26 - 110)
2,4,6-Tribromophenol	59	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-477-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J260337-019 **Work Order #...:** J90X52AD **Matrix.....:** SO
Date Sampled...: 10/25/07 09:38 **Date Received..:** 10/26/07
Prep Date.....: 11/07/07 **Analysis Date..:** 11/08/07
Prep Batch #...: 7311315
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	29	(24 - 112)
2-Fluorobiphenyl	34	(34 - 110)
Terphenyl-d14	66	(41 - 119)
Phenol-d5	33	(28 - 110)
2-Fluorophenol	28	(26 - 110)
2,4,6-Tribromophenol	51	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-477-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J260337-020 **Work Order #...:** J90X62AD **Matrix.....:** SO
Date Sampled...: 10/25/07 09:40 **Date Received..:** 10/26/07
Prep Date.....: 11/06/07 **Analysis Date..:** 11/07/07
Prep Batch #...: 7310037
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	70	(24 - 112)
2-Fluorobiphenyl	73	(34 - 110)
Terphenyl-d14	92	(41 - 119)
Phenol-d5	74	(28 - 110)
2-Fluorophenol	76	(26 - 110)
2,4,6-Tribromophenol	75	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90W8 **Client ID:** SB-474-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/29/2007 **Prep Batch:** 7302035

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 14.911

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	11:20

Comments: Lot #: A7J260337 Sample #: 1

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90W9 **Client ID:** SB-474-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/29/2007 **Prep Batch:** 7302035

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 13.993

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.12	0.025	B	1	CVAA	10/31/2007	11:23

Comments: Lot #: A7J260337 Sample #: 2

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90XA **Client ID:** SB-474-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/29/2007 **Prep Batch:** 7302035

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 22.361

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.021	0.13	0.095	B	1	CVAA	10/31/2007	11:31

Comments: Lot #: A7J260337 Sample #: 3

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90XC **Client ID:** SB-474-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/29/2007 **Prep Batch:** 7302035

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 9.134

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.018	0.11	0.018	U	1	CVAA	10/31/2007	11:32

Comments: Lot #: A7J260337 Sample #: 4

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90XD **Client ID:** SB-474-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/29/2007 **Prep Batch:** 7302035

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 13.739

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.12	0.019	U	1	CVAA	10/31/2007	11:34

Comments: Lot #: A7J260337 Sample #: 5

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90XE **Client ID:** SB-475-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/29/2007 **Prep Batch:** 7302035

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 11.626

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/31/2007	11:37

Comments: Lot #: A7J260337 Sample #: 6

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90XF **Client ID:** SB-475-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/29/2007 **Prep Batch:** 7302035

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 12.95

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/31/2007	11:38

Comments: Lot #: A7J260337 Sample #: 7

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90XG **Client ID:** SB-475-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/29/2007 **Prep Batch:** 7302035

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 18.229

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	11:39

Comments: Lot #: A7J260337 Sample #: 8

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90XH **Client ID:** SB-475-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/29/2007 **Prep Batch:** 7302035

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 18.641

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	11:40

Comments: Lot #: A7J260337 Sample #: 9

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90XK **Client ID:** SB-475-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/29/2007 **Prep Batch:** 7302035

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.666

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	11:41

Comments: Lot #: A7J260337 Sample #: 10

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90XL **Client ID:** SB-476-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/29/2007 **Prep Batch:** 7302035

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 12.307

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/31/2007	11:43

Comments: Lot #: A7J260337 Sample #: 11

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90XM **Client ID:** SB-476-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/29/2007 **Prep Batch:** 7302035

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 14.219

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.12	0.019	U	1	CVAA	10/31/2007	11:44

Comments: Lot #: A7J260337 Sample #: 12

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90XP **Client ID:** SB-476-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/29/2007 **Prep Batch:** 7302035

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 20.109

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.021	0.13	0.021	U	1	CVAA	10/31/2007	11:45

Comments: Lot #: A7J260337 Sample #: 13

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90XT **Client ID:** SB-476-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/29/2007 **Prep Batch:** 7302035

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.721

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	11:47

Comments: Lot #: A7J260337 Sample #: 14

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90XV **Client ID:** SB-476-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/29/2007 **Prep Batch:** 7302035

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.379

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	11:48

Comments: Lot #: A7J260337 Sample #: 15

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90XX **Client ID:** SB-477-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/29/2007 **Prep Batch:** 7302035

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 11.419

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/31/2007	11:51

Comments: Lot #: A7J260337 Sample #: 16

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90X1 **Client ID:** SB-477-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/29/2007 **Prep Batch:** 7302035

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 21.835

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.021	0.13	0.021	U	1	CVAA	10/31/2007	11:24

Comments: Lot #: A7J260337 Sample #: 17

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90X3 **Client ID:** SB-477-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/29/2007 **Prep Batch:** 7302035

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 20.229

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.021	0.13	0.021	U	1	CVAA	10/31/2007	11:26

Comments: Lot #: A7J260337 Sample #: 18

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90X5 **Client ID:** SB-477-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/29/2007 **Prep Batch:** 7302035

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 15.361

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	11:27

Comments: Lot #: A7J260337 Sample #: 19

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J90X6 **Client ID:** SB-477-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/29/2007 **Prep Batch:** 7302035

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 15.08

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	11:28

Comments: Lot #: A7J260337 Sample #: 20

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

APPENDIX C
SUPPORT DOCUMENTATION

SW846 8270C MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

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

Lab Code: TALCAN SDG No: 7J26337

Matrix Spike ID: SB-477-0708

Lot #: A7J260337 WO #: J90X61AQ
BATCH: 7310037

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	MS CONCENT. (ug/kg)	MS % REC	LIMITS REC	QUAL
1,2,4-Trichlorobenzene	780	ND	350	45	33 - 110	
Acenaphthene	780	ND	370	47	10 - 200	
2,4-Dinitrotoluene	780	ND	420	54	42 - 118	
Pyrene	780	ND	420	53	10 - 200	
N-Nitrosodi-n-propylamine	780	ND	370	47	30 - 121	
1,4-Dichlorobenzene	780	ND	300	39	26 - 110	
Pentachlorophenol	780	ND	330	42	10 - 182	
Phenol	780	ND	370	47	10 - 144	
2-Chlorophenol	780	ND	360	46	32 - 110	
4-Chloro-3-methylphenol	780	ND	380	48	32 - 117	
4-Nitrophenol	780	ND	320	41	10 - 125	

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 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: 7J26337

Matrix Spike ID: SB-477-0708

Lot #: A7J260337 WO #: J90X61AR
BATCH: 7310037

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENT. (ug/kg)	MSD % REC	% RPD		QC LIMITS RPD	QC LIMITS REC	QUAL
1,2,4-Trichlorobenzene	780	270	34	27		30	33 - 110	
Acenaphthene	780	260	33	34	*	30	10 - 200	p
2,4-Dinitrotoluene	780	300	38*	34	*	30	42 - 118	a p
Pyrene	780	280	35	41	*	30	10 - 200	p
N-Nitrosodi-n-propylamine	780	270	34	32	*	30	30 - 121	p
1,4-Dichlorobenzene	780	240	31	23		30	26 - 110	
Pentachlorophenol	780	210	26	45	*	30	10 - 182	p
Phenol	780	260	33	34	*	30	10 - 144	p
2-Chlorophenol	780	260	33	32	*	30	32 - 110	p
4-Chloro-3-methylphenol	780	270	34	34	*	30	32 - 117	p
4-Nitrophenol	780	200	25	48	*	30	10 - 125	p

NOTES (S) :

Results and reporting limits have been adjusted for dry weight.

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

a Spiked analyte recovery is outside stated control limits.

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

RPD: 9 out of 11 outside limits
Spike Recovery: 1 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: 7J26337

Matrix Spike ID: LAB MS/MSD Level:(low/med) LOW

Lot #: A7K070148 WO #: KANG01AD
BATCH: 7311315

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	MS CONCENT. (ug/kg)	MS % REC	LIMITS REC	QUAL
1,2,4-Trichlorobenzene	1300	ND		47	33 - 110	DIL
Acenaphthene	1300	1300	1400	9*	10 - 200	DIL a
2,4-Dinitrotoluene	1300	ND		52	42 - 118	DIL
Pyrene	1300	31000	9900	0*	10 - 200	DIL a
N-Nitrosodi-n-propylamine	1300	ND		50	30 - 121	DIL
1,4-Dichlorobenzene	1300	ND		48	26 - 110	DIL
Pentachlorophenol	1300	ND		180	10 - 182	DIL
Phenol	1300	ND		46	10 - 144	DIL
2-Chlorophenol	1300	ND		44	32 - 110	DIL
4-Chloro-3-methylphenol	1300	ND		43	32 - 117	DIL
4-Nitrophenol	1300	ND		100	10 - 125	DIL

NOTES(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

a Spiked analyte recovery is outside stated control limits.

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: 2 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: 7J26337

Matrix Spike ID: LAB MS/MSD Level: (low/med) LOW

Lot #: A7K070148 WO #: KANG01AE
BATCH: 7311315

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENT. (ug/kg)	MSD % REC	% RPD		QC LIMITS RPD	QC LIMITS REC	QUAL
1,2,4-Trichlorobenzene	1300		46	1.5		30	33 - 110	DIL
Acenaphthene	1300	1100	0*	0.0		30	10 - 200	DIL a
2,4-Dinitrotoluene	1300		41*	24		30	42 - 118	DIL a
Pyrene	1300	5200	0*	0.0		30	10 - 200	DIL a
N-Nitrosodi-n-propylamine	1300		58	13		30	30 - 121	DIL
1,4-Dichlorobenzene	1300		49	2.5		30	26 - 110	DIL
Pentachlorophenol	1300	0.0	0*	200	*	30	10 - 182	DIL a p
Phenol	1300		54	15		30	10 - 144	DIL
2-Chlorophenol	1300		51	16		30	32 - 110	DIL
4-Chloro-3-methylphenol	1300		53	22		30	32 - 117	DIL
4-Nitrophenol	1300	0.0	0*	200	*	30	10 - 125	DIL a p

NOTES(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

a Spiked analyte recovery is outside stated control limits.

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: 2 out of 11 outside limits
Spike Recovery: 5 out of 11 outside limits

COMMENTS:

FORM III

CALCULATION WORKSHEET

CLIENT: LOCKHEED MIDDLE RIVER	**SDG No.** 7J26337
SUBJECT: EXAMPLE CALCULATION - BENZO(A)PYRENE - SOIL	
BY: T. JACKMAN	**DATE:** **12/05/07**

Sample ID = SB-474-0304
Concentration = 490 ug/kg

Benzo(a)pyrene

EQUATION:

$$C_s = \frac{A_x \times Is \times Vt \times Df}{Ais \times RRF \times V_i \times W_s \times D}$$

Where:

C_s	=	analyte concentration in soil		ug/kg
A_x	=	analyte response	= 952966	
Is	=	amount of internal standard	= 2	ng
V_t	=	volume of final extract	= 2000	uL
Df	=	dilution factor	= 1	
Ais	=	response of internal standard	= 621956	
RRF	=	response factor of compound	= 1.06509	
V_i	=	volume injected	= 0.5	uL
Ws	=	sample weight	= 30.1	g
D	=	percent solids	= 0.78	

Therefore: benzo(a)pyrene concentration in soil =

$$\frac{952966 \times 2ng \times 2000uL \times 1}{621956 \times 1.06509 \times 0.5uL \times 30.1g \times 0.78}$$

C_s = 490.2 ug/kg

Tetra Tech NUS, Inc

Client Sample ID: SB-474-0304

GC/MS Semivolatiles

Lot-Sample #...:	A7J260337-003	**Work Order #...:**	J90XA1AD	**Matrix.....:**	SO
Date Sampled...:	10/24/07 10:34	**Date Received..:**	10/26/07		
Prep Date.....:	10/29/07	**Analysis Date..:**	11/01/07		
Prep Batch #...:	7302362				
Dilution Factor:	1	**Initial Wgt/Vol:**	30.1 g	**Final Wgt/Vol..:**	2 mL
% Moisture.....:	22	**Method.....:**	SW846 8270C		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo(a)pyrene	**490**	**430**	**ug/kg**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	68	(24 - 112)
2-Fluorobiphenyl	65	(34 - 110)
Terphenyl-d14	72	(41 - 119)
Phenol-d5	68	(28 - 110)
2-Fluorophenol	63	(26 - 110)
2,4,6-Tribromophenol	52	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

STL North Canton

Semivolatile REPORT SW-846 Method 8270

Data file : \\cansvr11\dd\chem\MSS\a4hp8.i\71101a.b\J90XA1AD.D
Lab Smp Id: j90xa1ad Client Smp ID: SB-474-0304
Inj Date : 01-NOV-2007 21:40
Operator : 001710 Inst ID: a4hp8.i
Smp Info : j90xa1ad,71101a.b,8270p,bap.sub
Misc Info :
Comment :
Method : \\cansvr11\dd\chem\MSS\a4hp8.i\71101a.b\8270P.m
Meth Date : 05-Nov-2007 16:20 gruberj Quant Type: ISTD
Cal Date : 31-OCT-2007 18:33 Cal File: 8SMH1031.D
Als bottle: 37
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bap.sub
Target Version: 4.14
Processing Host: CANPMSSV01

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws *) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	2000.000	Volume of final extract (uL)(1000 low, 2
Vi	0.50000	Volume injected (uL)
Ws	30.100	Weight of sample extracted (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/kg)	
* 1 1,4-Dichlorobenzene-d4	152	3.495	3.494	(1.000)	126162	2.00000		(Q)
* 2 Naphthalene-d8	136	4.389	4.389	(1.000)	549070	2.00000		
* 3 Acenaphthene-d10	164	5.659	5.658	(1.000)	318893	2.00000		
* 4 Phenanthrene-d10	188	6.746	6.745	(1.000)	609661	2.00000		
* 5 Chrysene-d12	240	8.732	8.736	(1.000)	736875	2.00000		
* 6 Perylene-d12	264	10.199	10.183	(1.000)	621956	2.00000		
146 Benzo(a)pyrene	252	10.131	10.121	(0.993)	952966	2.87715	382.34	
$ 154 Nitrobenzene-d5	82	3.870	3.874	(0.882)	414456	3.38633	450.01	
$ 155 2-Fluorobiphenyl	172	5.149	5.148	(0.910)	686318	3.27045	434.61	
$ 156 Terphenyl-d14	244	7.895	7.899	(0.904)	1025170	3.58893	476.93	
$ 157 Phenol-d5	99	3.207	3.201	(0.917)	563507	5.07695	674.68	
$ 158 2-Fluorophenol	112	2.634	2.624	(0.754)	361377	4.69882	624.43	
$ 159 2,4,6-Tribromophenol	330	6.231	6.230	(1.101)	90697	3.92175	521.16	
$ 186 2-Chlorophenol-d4	132	3.341	3.340	(0.956)	369182	4.78497	635.88	
$ 187 1,2-Dichlorobenzene-d4	152	3.606	3.605	(1.032)	143048	2.74062	364.20	

QC Flag Legend

STL North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 31-OCT-2007 15:58
End Cal Date : 31-OCT-2007 18:33
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSS\a4hp8.i\71031a.b\8270P.m
Last Edit : 01-Nov-2007 08:44 gruberj
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						
144 Hexachlorophene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
145 Hexachlorophene product	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
146 Benzo(a)pyrene	1.00609	0.85680	0.92839	1.01385	1.07984	1.14780			
	1.21126	1.27667	+++++				1.06509	13.342	
148 3-Methylcholanthrene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
149 Indeno(1,2,3-cd)pyrene	1.05215	0.94193	1.02882	1.10916	1.16710	1.23713			
	1.28978	1.35821	1.49504				1.18659	14.808	
150 Dibenz(a,h)anthracene	0.91651	0.79502	0.83997	0.94796	0.97157	1.06074			
	1.12563	1.18816	1.32919				1.01942	16.918	
151 Benzo(g,h,i)perylene	1.06388	0.84710	0.86775	0.94119	0.96347	0.98910			
	1.03120	1.08506	1.18240				0.99679	10.714	
232 Bis(2-hydroxyphenyl)methane	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
233 Bis(4-hydroxyphenyl)methane	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
234 4-Chlorophenol	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
235 2,3-Dichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **M. MARTIN** **DATE:** **JANUARY 10, 2008**

FROM: **ROBERT JUPIN** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – BENZO(a)PYRENE**
LOCKHEED MIDDLE RIVER COMPLEX
SAMPLE DELIVERY GROUP (SDG): 7J30180

SAMPLES: 20/Soil/

SB-478-0102	SB-478-0203	SB-478-0304	SB-478-0506	SB-478-0708
SB-479-0102	SB-479-0203	SB-479-0304	SB-479-0506	SB-479-0708
SB-480-0102	SB-480-0203	SB-480-0304	SB-480-0506	SB-480-0708
SB-481-0102	SB-481-0203	SB-481-0304	SB-481-0506	SB-481-0708

Overview

The sample set for SDG 7J30180, Lockheed MRC, consists of twenty (20) soil environmental samples.

All soil samples were analyzed for benzo(a)pyrene. The samples were collected by TetraTech NUS on October 25 and 29, 2007 and analyzed by Test America Laboratories, Inc. Analyses were conducted using SW-846 Method 8270C.

The findings in this report are based upon a general review of all available data including: data completeness, GC/MS tuning, holding times, initial/continuing calibrations, laboratory method/preparation and field quality control blank results, surrogate spike/internal standard recoveries, laboratory control sample (LCS)/blank spike results, matrix spike/matrix spike duplicate results, analyte quantitation, and detection limits,. Areas of concern are listed below.

Major Problems

- None.

Minor Problems

- Positive results reported below the detection limit have been qualified as estimated, "J".
- The internal standard area for perylene-d12 was below acceptance limits for sample SB-478-0102. The nondetected result for benzo(a)pyrene was qualified as estimated "UJ".

Notes

The matrix spike sample was not spiked for benzo(a)pyrene therefore, no evaluation of the matrix spike could be performed. All surrogate recoveries were compliant. No action was taken.

Executive Summary

Laboratory Performance Issues: The internal standard perylene-d12 was low in sample SB-478-0102 .

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (9/94) as modified by Region III.

for

Tetra Tech NUS
Robert J. Jupin
Risk Assessment Specialist/Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

Data Qualifier Key:

U - Value is a nondetect as reported by the laboratory.

UJ - Nondetected result is considered estimated, "UJ", as a result of technical noncompliances.

J - Positive result is considered estimated, "J", as a result of technical noncompliances.

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 $r < 0.995$
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 be any number of issues; e.g. poor 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: 00885

SDG: 7J30180 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-478-0102	nsample	SB-478-0203	nsample	SB-478-0304
samp_date	10/25/2007	samp_date	10/25/2007	samp_date	10/25/2007
lab_id	A7J300180001	lab_id	A7J300180002	lab_id	A7J300180003
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	90.3	Pct_Solids	88.0	Pct_Solids	85.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.4	UJ	N

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J30180 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-478-0506	nsample	SB-478-0708	nsample	SB-479-0102
samp_date	10/25/2007	samp_date	10/25/2007	samp_date	10/25/2007
lab_id	A7J300180004	lab_id	A7J300180005	lab_id	A7J300180006
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	87.0	Pct_Solids	84.0	Pct_Solids	88.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	15	J	P

PROJ_NO: 00885

SDG: 7J30180 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-479-0203	nsample	SB-479-0304	nsample	SB-479-0506
samp_date	10/25/2007	samp_date	10/25/2007	samp_date	10/25/2007
lab_id	A7J300180007	lab_id	A7J300180008	lab_id	A7J300180009
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	86.0	Pct_Solids	84.0	Pct_Solids	85.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J30180 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-479-0708	nsample	SB-480-0102	nsample	SB-480-0203
samp_date	10/25/2007	samp_date	10/25/2007	samp_date	10/25/2007
lab_id	A7J300180010	lab_id	A7J300180011	lab_id	A7J300180012
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	86.0	Pct_Solids	89.0	Pct_Solids	89.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J30180 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-480-0304	nsample	SB-480-0506	nsample	SB-480-0708
samp_date	10/25/2007	samp_date	10/25/2007	samp_date	10/25/2007
lab_id	A7J300180013	lab_id	A7J300180014	lab_id	A7J300180015
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	88.0	Pct_Solids	84.0	Pct_Solids	86.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J30180 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-481-0102
samp_date	10/29/2007
lab_id	A7J300180016
qc_type	NM
units	UG/KG
Pct_Solids	85.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	31	J	P

nsample	SB-481-0203
samp_date	10/29/2007
lab_id	A7J300180017
qc_type	NM
units	UG/KG
Pct_Solids	86.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

nsample	SB-481-0304
samp_date	10/29/2007
lab_id	A7J300180018
qc_type	NM
units	UG/KG
Pct_Solids	84.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	10	J	P

PROJ_NO: 00885

SDG: 7J30180 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-481-0506
samp_date	10/29/2007
lab_id	A7J300180019
qc_type	NM
units	UG/KG
Pct_Solids	82.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

nsample	SB-481-0708
samp_date	10/29/2007
lab_id	A7J300180020
qc_type	NM
units	UG/KG
Pct_Solids	83.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Tetra Tech NUS, Inc

Client Sample ID: SB-478-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J300180-001 **Work Order #...:** J95K01AD **Matrix.....:** SO
Date Sampled...: 10/25/07 10:45 **Date Received..:** 10/30/07
Prep Date.....: 10/30/07 **Analysis Date..:** 11/08/07
Prep Batch #...: 7303328
Dilution Factor: 1
% Moisture.....: 9.7 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	370	ug/kg	1.4

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	61	(24 - 112)
2-Fluorobiphenyl	62	(34 - 110)
Terphenyl-d14	90	(41 - 119)
Phenol-d5	64	(28 - 110)
2-Fluorophenol	62	(26 - 110)
2,4,6-Tribromophenol	70	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-478-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J300180-002 **Work Order #...:** J95K61AD **Matrix.....:** SO
Date Sampled...: 10/25/07 10:47 **Date Received..:** 10/30/07
Prep Date.....: 10/30/07 **Analysis Date..:** 11/08/07
Prep Batch #...: 7303328
Dilution Factor: 1
% Moisture.....: 12 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	65	(24 - 112)
2-Fluorobiphenyl	62	(34 - 110)
Terphenyl-d14	89	(41 - 119)
Phenol-d5	64	(28 - 110)
2-Fluorophenol	62	(26 - 110)
2,4,6-Tribromophenol	68	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-478-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J300180-003 **Work Order #...:** J95K71AD **Matrix.....:** SO
Date Sampled...: 10/25/07 10:49 **Date Received..:** 10/30/07
Prep Date.....: 10/30/07 **Analysis Date..:** 11/08/07
Prep Batch #...: 7303328
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	65	(24 - 112)
2-Fluorobiphenyl	63	(34 - 110)
Terphenyl-d14	86	(41 - 119)
Phenol-d5	66	(28 - 110)
2-Fluorophenol	61	(26 - 110)
2,4,6-Tribromophenol	71	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-478-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J300180-004 **Work Order #...:** J95K91AD **Matrix.....:** SO
Date Sampled...: 10/25/07 10:51 **Date Received..:** 10/30/07
Prep Date.....: 10/30/07 **Analysis Date..:** 11/08/07
Prep Batch #...: 7303328
Dilution Factor: 1
% Moisture.....: 13 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	59	(24 - 112)
2-Fluorobiphenyl	53	(34 - 110)
Terphenyl-d14	83	(41 - 119)
Phenol-d5	60	(28 - 110)
2-Fluorophenol	59	(26 - 110)
2,4,6-Tribromophenol	63	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-478-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J300180-005 **Work Order #...:** J95LA1AD **Matrix.....:** SO
Date Sampled...: 10/25/07 10:53 **Date Received..:** 10/30/07
Prep Date.....: 10/30/07 **Analysis Date..:** 11/08/07
Prep Batch #...: 7303328
Dilution Factor: 1
% Moisture.....: 16 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	51	(24 - 112)
2-Fluorobiphenyl	49	(34 - 110)
Terphenyl-d14	70	(41 - 119)
Phenol-d5	48	(28 - 110)
2-Fluorophenol	45	(26 - 110)
2,4,6-Tribromophenol	38	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-479-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J300180-006 **Work Order #...:** J95LC1AD **Matrix.....:** SO
Date Sampled...: 10/25/07 11:22 **Date Received..:** 10/30/07
Prep Date.....: 10/30/07 **Analysis Date..:** 11/09/07
Prep Batch #...: 7303328
Dilution Factor: 1
% Moisture.....: 12 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	**15 J**	**380**	**ug/kg**	**1.5**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	53	(24 - 112)
2-Fluorobiphenyl	55	(34 - 110)
Terphenyl-d14	82	(41 - 119)
Phenol-d5	58	(28 - 110)
2-Fluorophenol	54	(26 - 110)
2,4,6-Tribromophenol	66	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Client Sample ID: SB-479-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J300180-007 **Work Order #...:** J95LE1AD **Matrix.....:** SO
Date Sampled...: 10/25/07 11:24 **Date Received..:** 10/30/07
Prep Date.....: 10/30/07 **Analysis Date..:** 11/08/07
Prep Batch #...: 7303328
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	71	(24 - 112)
2-Fluorobiphenyl	64	(34 - 110)
Terphenyl-d14	84	(41 - 119)
Phenol-d5	63	(28 - 110)
2-Fluorophenol	63	(26 - 110)
2,4,6-Tribromophenol	71	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-479-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J300180-008 **Work Order #...:** J95LH1AD **Matrix.....:** SO
Date Sampled...: 10/25/07 11:26 **Date Received..:** 10/30/07
Prep Date.....: 10/30/07 **Analysis Date..:** 11/08/07
Prep Batch #...: 7303328
Dilution Factor: 1
% Moisture.....: 16 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	64	(24 - 112)
2-Fluorobiphenyl	59	(34 - 110)
Terphenyl-d14	90	(41 - 119)
Phenol-d5	64	(28 - 110)
2-Fluorophenol	60	(26 - 110)
2,4,6-Tribromophenol	62	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-479-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J300180-009 **Work Order #...:** J95LJ1AD **Matrix.....:** SO
Date Sampled...: 10/25/07 11:28 **Date Received..:** 10/30/07
Prep Date.....: 10/30/07 **Analysis Date..:** 11/08/07
Prep Batch #...: 7303328
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	58	(24 - 112)
2-Fluorobiphenyl	54	(34 - 110)
Terphenyl-d14	81	(41 - 119)
Phenol-d5	59	(28 - 110)
2-Fluorophenol	57	(26 - 110)
2,4,6-Tribromophenol	67	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-479-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J300180-010 **Work Order #...:** J95LM1AD **Matrix.....:** SO
Date Sampled...: 10/25/07 11:30 **Date Received..:** 10/30/07
Prep Date.....: 10/30/07 **Analysis Date..:** 11/08/07
Prep Batch #...: 7303328
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	61	(24 - 112)
2-Fluorobiphenyl	53	(34 - 110)
Terphenyl-d14	85	(41 - 119)
Phenol-d5	62	(28 - 110)
2-Fluorophenol	58	(26 - 110)
2,4,6-Tribromophenol	61	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-480-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J300180-011 **Work Order #...:** J95LN1AD **Matrix.....:** SO
Date Sampled...: 10/25/07 13:50 **Date Received..:** 10/30/07
Prep Date.....: 10/30/07 **Analysis Date..:** 11/08/07
Prep Batch #...: 7303328
Dilution Factor: 1
% Moisture.....: 11 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	370	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	45	(24 - 112)
2-Fluorobiphenyl	47	(34 - 110)
Terphenyl-d14	86	(41 - 119)
Phenol-d5	50	(28 - 110)
2-Fluorophenol	46	(26 - 110)
2,4,6-Tribromophenol	68	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-480-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J300180-012 **Work Order #...:** J95LT1AD **Matrix.....:** SO
Date Sampled...: 10/25/07 13:52 **Date Received..:** 10/30/07
Prep Date.....: 10/30/07 **Analysis Date..:** 11/08/07
Prep Batch #...: 7303328
Dilution Factor: 1
% Moisture.....: 11 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	370	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	57	(24 - 112)
2-Fluorobiphenyl	59	(34 - 110)
Terphenyl-d14	92	(41 - 119)
Phenol-d5	54	(28 - 110)
2-Fluorophenol	54	(26 - 110)
2,4,6-Tribromophenol	68	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-480-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J300180-013 **Work Order #...:** J95P11AD **Matrix.....:** SO
Date Sampled...: 10/25/07 13:54 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7304047
Dilution Factor: 1
% Moisture.....: 12 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	370	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	62	(24 - 112)
2-Fluorobiphenyl	62	(34 - 110)
Terphenyl-d14	80	(41 - 119)
Phenol-d5	65	(28 - 110)
2-Fluorophenol	64	(26 - 110)
2,4,6-Tribromophenol	66	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-480-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J300180-014 **Work Order #...:** J95P21AD **Matrix.....:** SO
Date Sampled...: 10/25/07 13:56 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7304047
Dilution Factor: 1
% Moisture.....: 16 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	73	(24 - 112)
2-Fluorobiphenyl	72	(34 - 110)
Terphenyl-d14	92	(41 - 119)
Phenol-d5	70	(28 - 110)
2-Fluorophenol	71	(26 - 110)
2,4,6-Tribromophenol	79	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-480-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J300180-015 **Work Order #...:** J95P41AD **Matrix.....:** SO
Date Sampled...: 10/25/07 13:58 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7304047
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	64	(24 - 112)
2-Fluorobiphenyl	62	(34 - 110)
Terphenyl-d14	82	(41 - 119)
Phenol-d5	65	(28 - 110)
2-Fluorophenol	65	(26 - 110)
2,4,6-Tribromophenol	67	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-481-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J300180-016 **Work Order #...:** J95P61AD **Matrix.....:** SO
Date Sampled...: 10/29/07 08:40 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7304047
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	**31 J**	**390**	**ug/kg**	**1.5**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	43	(24 - 112)
2-Fluorobiphenyl	54	(34 - 110)
Terphenyl-d14	70	(41 - 119)
Phenol-d5	50	(28 - 110)
2-Fluorophenol	45	(26 - 110)
2,4,6-Tribromophenol	61	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Client Sample ID: SB-481-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J300180-017 **Work Order #...:** J95P71AD **Matrix.....:** SO
Date Sampled...: 10/29/07 08:42 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7304047
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	61	(24 - 112)
2-Fluorobiphenyl	62	(34 - 110)
Terphenyl-d14	85	(41 - 119)
Phenol-d5	67	(28 - 110)
2-Fluorophenol	66	(26 - 110)
2,4,6-Tribromophenol	73	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-481-0304

GC/MS Semivolatiles

Lot-Sample #...:	A7J300180-018	**Work Order #...:**	J95P91AD	**Matrix.....:**	SO
Date Sampled...:	10/29/07 08:44	**Date Received..:**	10/30/07		
Prep Date.....:	10/31/07	**Analysis Date..:**	11/01/07		
Prep Batch #...:	7304047				
Dilution Factor:	1				
% Moisture.....:	16	**Method.....:**	SW846 8270C		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	**10 J**	**390**	**ug/kg**	**1.5**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	66	(24 - 112)
2-Fluorobiphenyl	65	(34 - 110)
Terphenyl-d14	85	(41 - 119)
Phenol-d5	72	(28 - 110)
2-Fluorophenol	71	(26 - 110)
2,4,6-Tribromophenol	73	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Client Sample ID: SB-481-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J300180-019 **Work Order #...:** J95QC1AF **Matrix.....:** SO
Date Sampled...: 10/29/07 08:46 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7304047
Dilution Factor: 1
% Moisture.....: 18 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	400	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	68	(24 - 112)
2-Fluorobiphenyl	66	(34 - 110)
Terphenyl-d14	86	(41 - 119)
Phenol-d5	71	(28 - 110)
2-Fluorophenol	71	(26 - 110)
2,4,6-Tribromophenol	72	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-481-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J300180-020 **Work Order #...:** J95QF1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 08:48 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7304047
Dilution Factor: 1
% Moisture.....: 17 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	400	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	73	(24 - 112)
2-Fluorobiphenyl	71	(34 - 110)
Terphenyl-d14	90	(41 - 119)
Phenol-d5	78	(28 - 110)
2-Fluorophenol	79	(26 - 110)
2,4,6-Tribromophenol	80	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

APPENDIX C

SUPPORT DOCUMENTATION

HOLDTIME

SDG 7J30180

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	SB-480-0506	A7J300180014	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-478-0304	A7J300180003	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-478-0506	A7J300180004	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-478-0708	A7J300180005	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-479-0203	A7J300180007	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-479-0506	A7J300180009	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-479-0708	A7J300180010	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-480-0102	A7J300180011	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-478-0203	A7J300180002	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-480-0304	A7J300180013	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-479-0102	A7J300180006	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-480-0708	A7J300180015	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-481-0102	A7J300180016	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-481-0203	A7J300180017	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-481-0304	A7J300180018	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	SB-481-0506	A7J300180019	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-481-0708	A7J300180020	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-478-0102	A7J300180001	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-480-0203	A7J300180012	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-479-0304	A7J300180008	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
PCS	%	SB-480-0304	A7J300180013	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-481-0506	A7J300180019	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-481-0708	A7J300180020	NM	10/29/2007	11/6/2007	11/8/2007	8	2	10
PCS	%	SB-481-0304	A7J300180018	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-481-0203	A7J300180017	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-481-0102	A7J300180016	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-480-0506	A7J300180014	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-478-0102	A7J300180001	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-480-0203	A7J300180012	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-480-0102	A7J300180011	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-478-0304	A7J300180003	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-480-0708	A7J300180015	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-478-0203	A7J300180002	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
PCS	%	SB-479-0708	A7J300180010	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-478-0506	A7J300180004	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-478-0708	A7J300180005	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-479-0102	A7J300180006	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-479-0203	A7J300180007	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-479-0304	A7J300180008	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-479-0506	A7J300180009	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
OS	%	SB-481-0708	A7J300180020	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	%	SB-479-0506	A7J300180009	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	%	SB-478-0203	A7J300180002	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	%	SB-478-0304	A7J300180003	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	%	SB-478-0506	A7J300180004	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	%	SB-478-0708	A7J300180005	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	%	SB-479-0102	A7J300180006	NM	10/25/2007	10/30/2007	11/9/2007	5	10	15
OS	%	SB-479-0203	A7J300180007	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	%	SB-479-0304	A7J300180008	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	%	SB-478-0102	A7J300180001	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	%	SB-481-0506	A7J300180019	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OS	%	SB-480-0102	A7J300180011	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	%	SB-480-0203	A7J300180012	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	%	SB-480-0304	A7J300180013	NM	10/25/2007	10/31/2007	11/1/2007	6	1	7
OS	%	SB-480-0506	A7J300180014	NM	10/25/2007	10/31/2007	11/1/2007	6	1	7
OS	%	SB-480-0708	A7J300180015	NM	10/25/2007	10/31/2007	11/1/2007	6	1	7
OS	%	SB-481-0102	A7J300180016	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	%	SB-481-0203	A7J300180017	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	%	SB-481-0304	A7J300180018	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	%	SB-479-0708	A7J300180010	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	UG/KG	SB-480-0304	A7J300180013	NM	10/25/2007	10/31/2007	11/1/2007	6	1	7
OS	UG/KG	SB-480-0506	A7J300180014	NM	10/25/2007	10/31/2007	11/1/2007	6	1	7
OS	UG/KG	SB-480-0708	A7J300180015	NM	10/25/2007	10/31/2007	11/1/2007	6	1	7
OS	UG/KG	SB-481-0102	A7J300180016	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	UG/KG	SB-481-0203	A7J300180017	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	UG/KG	SB-481-0304	A7J300180018	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	UG/KG	SB-480-0203	A7J300180012	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	UG/KG	SB-481-0708	A7J300180020	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	UG/KG	SB-479-0102	A7J300180006	NM	10/25/2007	10/30/2007	11/9/2007	5	10	15

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OS	UG/KG	SB-481-0506	A7J300180019	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	UG/KG	SB-480-0102	A7J300180011	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	UG/KG	SB-479-0708	A7J300180010	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	UG/KG	SB-479-0506	A7J300180009	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	UG/KG	SB-478-0102	A7J300180001	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	UG/KG	SB-479-0203	A7J300180007	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	UG/KG	SB-478-0708	A7J300180005	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	UG/KG	SB-478-0506	A7J300180004	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	UG/KG	SB-478-0304	A7J300180003	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	UG/KG	SB-478-0203	A7J300180002	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	UG/KG	SB-479-0304	A7J300180008	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14

Chain of Custody Record

SEVERN TRENT STL
Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
Tetra Tech	Mr Marsh	10/25/07	227053
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** 1 of 2
20251 Century Blvd #700	301-528-3022		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Germantown / MD / 20874	S. Hadley	K. Ives	
Project Name and Location (State)	**Carrier/Waybill Number**		
LMC MA	Carrier		
Contract/Purchase Order/Quote No.			
112IC00885			

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: 8270 #	Hg	Special Instructions/ Conditions of Receipt
SB-478-0102	10/25	1045				X	2						X	X	Black 'H'
-0203		1047													*benzo(a)pyrene
-0304		1049													
-0506		1057													
478 -0708		1053													
479-0102		1122													
-0203		1124													
-0304		1126													
-0506		1128													
479 -0708		1130													
480 -0102		1350													
SB-480-0203	10/25	1352				X	2						X	X	*benzo(a)pyrene

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 STND

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	10/29/07	1445	1. Received By Kenneth M. Ives	10/29/07	16:40
2. Relinquished By	10-29-07	17:45	2. Received By	10/30/07	0840
3. Relinquished By			3. Received By		

Comments

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

TestAmerica North Canton

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Chain of Custody Record

SEVERN TRENT STL

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: Tetra Tech	Project Manager: M. Martin	Date: 10/25/07	Chain of Custody Number: 227054
Address: 20251 Century Blvd #200	Telephone Number (Area Code)/Fax Number: 301-528-3022	Lab Number:	Page 2 of 2
City: Germantown / State: MD / Zip Code: 20874	Site Contact: S. Hadley	Lab Contact: K. Lyles	
Project Name and Location (State): LMC MD	Carrier/Waybill Number: Courier		
Contract/Purchase Order/Quote No.: 112IC00885			

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: LL8270 #	Hg	Special Instructions/ Conditions of Receipt
SB-480-0304	10/25	1354				X	2						X	X	*Blank "H"
" -0506	"	1356													*Benzo(g)perylene
" 480-0708	"	1358													
SB-481-0102	10/29/07	0840													
481-0203		0842													
481-0304		0844													
481-0506 MS/DS		0846													MS/DS
481-0708		0848				X	X						X	X	*BENZO(a) PYRENE
SB-481-0506	10/29/07	0846				X	X						X	X	*BENZO(a) PYRENE

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 SDMD

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By	10/29/07	1445	1. Received By	10-29-07	16:40
2. Relinquished By	10-29-07	17:45	2. Received By	10/30/07	0840
3. Relinquished By			3. Received By		

Comments:

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

TestAmerica North Canton

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CASE NARRATIVE

7J30180

The following report contains the analytical results for twenty solid samples submitted to TestAmerica North Canton by Tetra Tech NUS Inc. from the LMC MR Site, project number 112IC00885. The samples were received October 30, 2007, according to documented sample acceptance procedures.

This SDG consists of (1) laboratory ID's: A7J300180.

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. 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.

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 2.7, 3.3, and 4.1°C.

GC/MS SEMIVOLATILES

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.

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).

GENERAL CHEMISTRY

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

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica North Canton (formerly STL North Canton) 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.

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 (formerly STL 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.

SW846 8270C SURROGATE RECOVERY

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

Lab Code: TALCAN SDG No: 7J30180

Lot #: A7J300180

Extraction: XXA13QL01

	CLIENT ID.	SRG01	SRG02	SRG03	SRG04	SRG05	SRG06	TOT OUT
01	SB-478-0102	61	62	90	64	62	70	00
02	SB-478-0203	65	62	89	64	62	68	00
03	SB-478-0304	65	63	86	66	61	71	00
04	SB-478-0506	59	53	83	60	59	63	00
05	SB-478-0708	51	49	70	48	45	38	00
06	SB-479-0102	53	55	82	58	54	66	00
07	SB-479-0203	71	64	84	63	63	71	00
08	SB-479-0304	64	59	90	64	60	62	00
09	SB-479-0506	58	54	81	59	57	67	00
10	SB-479-0708	61	53	85	62	58	61	00
11	SB-480-0102	45	47	86	50	46	68	00
12	SB-480-0203	57	59	92	54	54	68	00
13	SB-480-0304	62	62	80	65	64	66	00
14	SB-480-0506	73	72	92	70	71	79	00
15	SB-480-0708	64	62	82	65	65	67	00
16	SB-481-0102	43	54	70	50	45	61	00
17	SB-481-0203	61	62	85	67	66	73	00
18	SB-481-0304	66	65	85	72	71	73	00
19	SB-481-0506	68	66	86	71	71	72	00
20	SB-481-0708	73	71	90	78	79	80	00
21	METHOD BLK. J95V71AA	76	75	88	74	73	61	00
22	METHOD BLK. J97GM1AA	76	76	95	78	80	71	00
23	LCS J95V71AC	64	65	88	55	53	71	00
24	LCS J97GM1AC	82	80	92	81	83	82	00
25	SB-478-0102 D	67	67	89	65	62	71	00
26	SB-481-0506 D	69	70	90	76	73	86	00
27	SB-478-0102 S	59	69	92	58	55	73	00

\# 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: 7J30180

Lot #: A7J300180

Extraction: XXA13QL01

	CLIENT ID.	SRG01	SRG02	SRG03	SRG04	SRG05	SRG06	TOT OUT
01	SB-481-0506 S	64	67	83	71	67	79	00

SURROGATES		QC LIMITS
SRG01	= Nitrobenzene-d5	(24-112)
SRG02	= 2-Fluorobiphenyl	(34-110)
SRG03	= Terphenyl-d14	(41-119)
SRG04	= Phenol-d5	(28-110)
SRG05	= 2-Fluorophenol	(26-110)
SRG06	= 2,4,6-Tribromophenol	(10-118)

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

SW846 8270C METHOD BLANK SUMMARY

BLANK WORKORDER NO.: J97GM1AA

Lab Name: TestAmerica Laboratories, Inc.

Lab Code: TALCAN

SDG Number:7J30180

Lab File ID: J97GM1AA.

Lot Number: A7J300180

Date Analyzed: 11/01/07

Time Analyzed: 06:49

Matrix: SOLID

Date Extracted:10/31/07

GC Column: DB-5.625 ID: .18

Extraction Method: 3550B

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	SB-480-0304	J95P11AD	J95P11AD.	11/01/07	07:24
02	SB-480-0506	J95P21AD	J95P21AD.	11/01/07	07:41
03	SB-480-0708	J95P41AD	J95P41AD.	11/01/07	08:15
04	SB-481-0102	J95P61AD	J95P61AD.	11/01/07	07:58
05	SB-481-0203	J95P71AD	J95P71AD.	11/01/07	10:50
06	SB-481-0304	J95P91AD	J95P91AD.	11/01/07	11:07
07	SB-481-0506	J95QC1AF	J95QC1AF.	11/01/07	11:24
08	SB-481-0506	J95QC1AG S	J95QC1AG.	11/01/07	11:41
09	SB-481-0506	J95QC1AH D	J95QC1AH.	11/01/07	11:58
10	SB-481-0708	J95QF1AD	J95QF1AD.	11/01/07	10:33
11	CHECK SAMPLE	J97GM1AC C	J97GM1AC.	11/01/07	07:07
12					
13					
14					
15					
16					
17					
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19					
20					
21					
22					
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26					
27					
28					
29					
30					

COMMENTS:

FORM IV

SW846 8270C METHOD BLANK SUMMARY

BLANK WORKORDER NO.: J95V71AA

Lab Name: TestAmerica Laboratories, Inc.

Lab Code: TALCAN

SDG Number:7J30180

Lab File ID: J95V71AA.

Lot Number: A7J300180

Date Analyzed: 11/01/07

Time Analyzed: 15:42

Matrix: SOLID

Date Extracted:10/30/07

GC Column: DB-5.625 ID: .32

Extraction Method: 3550B

Instrument ID: HP7

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	SB-478-0102	J95K01AD	J95K01AD.	11/08/07	16:40
02	SB-478-0102	J95K01AE S	J95K01AE.	11/08/07	17:00
03	SB-478-0102	J95K01AF D	J95K01AF.	11/08/07	17:20
04	SB-478-0203	J95K61AD	J95K61AD.	11/08/07	17:40
05	SB-478-0304	J95K71AD	J95K71AD.	11/08/07	18:00
06	SB-478-0506	J95K91AD	J95K91AD.	11/08/07	18:19
07	SB-478-0708	J95LA1AD	J95LA1AD.	11/08/07	18:39
08	SB-479-0102	J95LC1AD	J95LC1AD.	11/09/07	13:28
09	SB-479-0203	J95LE1AD	J95LE1AD.	11/08/07	20:38
10	SB-479-0304	J95LH1AD	J95LH1AD.	11/08/07	19:38
11	SB-479-0506	J95LJ1AD	J95LJ1AD.	11/08/07	19:58
12	SB-479-0708	J95LM1AD	J95LM1AD.	11/08/07	20:18
13	SB-480-0102	J95LN1AD	J95LN1AD.	11/08/07	18:59
14	SB-480-0203	J95LT1AD	J95LT1AD.	11/08/07	19:19
15	CHECK SAMPLE	J95V71AC C	J95V71AC.	11/01/07	16:01
16					
17					
18					
19					
20					
21					
22					
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25					
26					
27					
28					
29					
30					

COMMENTS:

FORM IV

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30180

Lab File ID: 2DF1029 DFTPP Injection Date: 10/29/07

Instrument ID: A4AG2 DFTPP Injection Time: 0704

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	34.6
68	Less than 2.0% of mass 69	0.6 (1.5)1
69	Mass 69 relative abundance	40.0
70	Less than 2.0% of mass 69	0.1 (0.4)1
127	40.0 - 60.0% of mass 198	49.9
197	Less than 1.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.4
275	10.0 - 30.0% of mass 198	25.2
365	Greater than 1.0% of mass 198	3.4
441	Present, but less than mass 443	11.5
442	Greater than 40.0% of mass 198	82.3
443	17.0 - 23.0% of mass 442	15.3 (18.6)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD009	L9	2SHHH1029	10/29/07	0715
02	SSTD008	L8	2SHH1029	10/29/07	0739
03	SSTD007	L7	2SH1029	10/29/07	0756
04	SSTD006	L6	2SMH1029	10/29/07	0813
05	SSTD005	L5	2SMM1029	10/29/07	0830
06	SSTD004	L4	2SM1029	10/29/07	0847
07	SSTD003	L3	2SML1029	10/29/07	0904
08	SSTD002	L2	2SL1029	10/29/07	0921
09	SSTD001	L1	2SLL1029	10/29/07	0938
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30180

Lab File ID: 2DF1101 DFTPP Injection Date: 11/01/07

Instrument ID: A4AG2 DFTPP Injection Time: 0618

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	35.9
68	Less than 2.0% of mass 69	0.6 (1.6)1
69	Mass 69 relative abundance	41.0
70	Less than 2.0% of mass 69	0.2 (0.5)1
127	40.0 - 60.0% of mass 198	50.5
197	Less than 1.0% of mass 198	0.3
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.5
275	10.0 - 30.0% of mass 198	25.2
365	Greater than 1.0% of mass 198	3.4
441	Present, but less than mass 443	11.2
442	Greater than 40.0% of mass 198	79.6
443	17.0 - 23.0% of mass 442	14.9 (18.8)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD006	L6	2SMH1101	11/01/07	0629
02	J97GMBLK	J97GM1AA	J97GM1AA	11/01/07	0649
03	J97GMCHK	J97GM1AC	J97GM1AC	11/01/07	0707
04	SB-480-0304	J95P11AD	J95P11AD	11/01/07	0724
05	SB-480-0506	J95P21AD	J95P21AD	11/01/07	0741
06	SB-481-0102	J95P61AD	J95P61AD	11/01/07	0758
07	SB-480-0708	J95P41AD	J95P41AD	11/01/07	0815
08	SB-481-0708	J95QF1AD	J95QF1AD	11/01/07	1033
09	SB-481-0203	J95P71AD	J95P71AD	11/01/07	1050
10	SB-481-0304	J95P91AD	J95P91AD	11/01/07	1107
11	SB-481-0506	J95QC1AF	J95QC1AF	11/01/07	1124
12	SB-481-0506	J95QC1AG	J95QC1AG	11/01/07	1141
13	SB-481-0506	J95QC1AH	J95QC1AH	11/01/07	1158
14					
15					
16					
17					
18					
19					
20					
21					
22					

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30180

Lab File ID: 7DF1026 DFTPP Injection Date: 10/26/07

Instrument ID: A4HP7 DFTPP Injection Time: 1549

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	50.4
68	Less than 2.0% of mass 69	0.8 (1.2)1
69	Mass 69 relative abundance	63.5
70	Less than 2.0% of mass 69	0.3 (0.5)1
127	40.0 - 60.0% of mass 198	55.9
197	Less than 1.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.5
275	10.0 - 30.0% of mass 198	22.9
365	Greater than 1.0% of mass 198	2.6
441	Present, but less than mass 443	9.6
442	40.0 - 100.0% of mass 198	69.0
443	17.0 - 23.0% of mass 442	13.1 (18.9)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD005	L5	7SMM1026	10/26/07	1609
02	SSTD004	L4	7SM1026	10/26/07	1629
03	SSTD003	L3	7SML1026	10/26/07	1649
04	SSTD002	L2	7SL1026	10/26/07	1709
05	SSTD001	L1	7SLL1026	10/26/07	1729
06	SSTD009	L9	7HHH1026	10/26/07	1750
07	SSTD008	L8	7SHH1026	10/26/07	1810
08	SSTD007	L7	7SH1026	10/26/07	1830
09	SSTD006	L6	7SMH1026	10/26/07	1850
10					
11					
12					
13					
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19					
20					
21					
22					

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30180

Lab File ID: 7DF1101 DFTPP Injection Date: 11/01/07

Instrument ID: A4HP7 DFTPP Injection Time: 1027

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	48.9
68	Less than 2.0% of mass 69	1.1 (1.8)1
69	Mass 69 relative abundance	62.7
70	Less than 2.0% of mass 69	0.2 (0.4)1
127	40.0 - 60.0% of mass 198	53.9
197	Less than 1.0% of mass 198	0.7
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	24.1
365	Greater than 1.0% of mass 198	2.7
441	Present, but less than mass 443	10.2
442	40.0 - 100.0% of mass 198	73.5
443	17.0 - 23.0% of mass 442	14.1 (19.1)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD006	L6	7SMH1101	11/01/07	1046
02	J95V7BLK	J95V71AA	J95V71AA	11/01/07	1542
03	J95V7CHK	J95V71AC	J95V71AC	11/01/07	1601
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
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22					

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30180

Lab File ID: 7DF1107 DFTPP Injection Date: 11/07/07

Instrument ID: A4HP7 DFTPP Injection Time: 1215

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	56.0
68	Less than 2.0% of mass 69	0.5 (0.8)1
69	Mass 69 relative abundance	67.7
70	Less than 2.0% of mass 69	0.3 (0.5)1
127	40.0 - 60.0% of mass 198	54.1
197	Less than 1.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	24.4
365	Greater than 1.0% of mass 198	3.3
441	Present, but less than mass 443	11.4
442	40.0 - 100.0% of mass 198	78.6
443	17.0 - 23.0% of mass 442	14.8 (18.8)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD005	L5	7SMM1107	11/07/07	1247
02	SSTD004	L4	7SM1107	11/07/07	1307
03	SSTD003	L3	7SML1107	11/07/07	1326
04	SSTD002	L2	7SL1107	11/07/07	1346
05	SSTD001	L1	7SLL1107	11/07/07	1406
06	SSTD009	L9	7HHH1107	11/07/07	1426
07	SSTD008	L8	7SHH1107	11/07/07	1446
08	SSTD007	L7	7SH1107	11/07/07	1506
09	SSTD006	L6	7SMH1107	11/07/07	1526
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30180

Lab File ID: 7DF1108 DFTPP Injection Date: 11/08/07

Instrument ID: A4HP7 DFTPP Injection Time: 0903

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	42.0
68	Less than 2.0% of mass 69	0.5 (0.9)1
69	Mass 69 relative abundance	53.7
70	Less than 2.0% of mass 69	0.3 (0.5)1
127	40.0 - 60.0% of mass 198	51.5
197	Less than 1.0% of mass 198	0.2
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.4
275	10.0 - 30.0% of mass 198	22.8
365	Greater than 1.0% of mass 198	2.6
441	Present, but less than mass 443	9.8
442	40.0 - 100.0% of mass 198	69.2
443	17.0 - 23.0% of mass 442	13.2 (19.1)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD006	L6	7SMH1108	11/08/07	0923
02	SB-478-0102	J95K01AD	J95K01AD	11/08/07	1640
03	SB-478-0102	J95K01AE	J95K01AE	11/08/07	1700
04	SB-478-0102	J95K01AF	J95K01AF	11/08/07	1720
05	SB-478-0203	J95K61AD	J95K61AD	11/08/07	1740
06	SB-478-0304	J95K71AD	J95K71AD	11/08/07	1800
07	SB-478-0506	J95K91AD	J95K91AD	11/08/07	1819
08	SB-478-0708	J95LA1AD	J95LA1AD	11/08/07	1839
09	SB-480-0102	J95LN1AD	J95LN1AD	11/08/07	1859
10	SB-480-0203	J95LT1AD	J95LT1AD	11/08/07	1919
11	SB-479-0304	J95LH1AD	J95LH1AD	11/08/07	1938
12	SB-479-0506	J95LJ1AD	J95LJ1AD	11/08/07	1958
13	SB-479-0708	J95LM1AD	J95LM1AD	11/08/07	2018
14	SB-479-0203	J95LE1AD	J95LE1AD	11/08/07	2038
15					
16					
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18					
19					
20					
21					
22					

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30180

Lab File ID: 7DF1109 DFTPP Injection Date: 11/09/07

Instrument ID: A4HP7 DFTPP Injection Time: 0852

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	59.0
68	Less than 2.0% of mass 69	1.4 (1.9)1
69	Mass 69 relative abundance	74.8
70	Less than 2.0% of mass 69	0.3 (0.4)1
127	40.0 - 60.0% of mass 198	57.3
197	Less than 1.0% of mass 198	0.8
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	22.3
365	Greater than 1.0% of mass 198	2.6
441	Present, but less than mass 443	7.6
442	40.0 - 100.0% of mass 198	52.7
443	17.0 - 23.0% of mass 442	10.7 (20.3)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD006	L6	7SMH1109	11/09/07	0911
02	SB-479-0102	J95LC1AD	J95LC1AD	11/09/07	1328
03					
04					
05					
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08					
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11					
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19					
20					
21					
22					

STL North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 29-OCT-2007 07:15
End Cal Date : 29-OCT-2007 09:38
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSS\a4ag2.i\71029A.b\8270p.m
Last Edit : 29-Oct-2007 10:31 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						
144 Hexachlorophene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
145 Hexachlorophene product	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
146 Benzo(a)pyrene	1.19388	0.91500	0.94599	1.00463	0.99585	1.06396			
	1.10598	1.11559	1.23742				1.06425	10.275	
148 3-Methylcholanthrene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
149 Indeno(1,2,3-cd)pyrene	1.22899	1.01257	1.04827	1.12537	1.12255	1.19394			
	1.24288	1.24889	1.38394				1.17860	9.699	
150 Dibenz(a,h)anthracene	1.02002	0.86564	0.89445	0.94052	0.96776	1.01881			
	1.06353	1.07575	1.19310				1.00440	10.044	
151 Benzo(g,h,i)perylene	1.00163	0.91708	0.90740	0.94530	0.95685	1.00796			
	1.03882	1.04345	1.14812				0.99629	7.576	
199 3-Picoline	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
200 N,N-Dimethylacetamide	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
201 Quinoline	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
202 Diphenyl	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-

STL North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 26-OCT-2007 16:09
End Cal Date : 26-OCT-2007 18:50
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSS\a4hp7.i\71026a.b\8270P.m
Last Edit : 27-Oct-2007 08:58 ulmanm
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						
144 Hexachlorophene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
145 Hexachlorophene product	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
146 Benzo(a)pyrene	1.17968	0.97166	1.01188	1.05737	1.09953	1.12316			
	1.13493	1.16596	1.25556				1.11108	7.898	
148 3-Methylcholanthrene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
149 Indeno(1,2,3-cd)pyrene	1.23781	1.06242	1.07379	1.12596	1.20599	1.23476			
	1.22933	1.27705	1.37576				1.20254	8.349	
150 Dibenz(a,h)anthracene	1.02771	0.83559	0.86017	0.92198	0.95752	0.97952			
	0.98402	1.01704	1.10090				0.96494	8.618	
151 Benzo(g,h,i)perylene	1.07704	0.89128	0.93016	0.97952	1.02707	1.01343			
	1.01579	1.05027	1.13828				1.01365	7.332	
230 2-Chloroacetophenone	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
199 3-Picoline	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
200 N,N-Dimethylacetamide	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
201 Quinoline	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-

STL North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 07-NOV-2007 12:47
End Cal Date : 07-NOV-2007 15:26
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSS\a4hp7.i\71107a.b\8270P.m
Last Edit : 07-Nov-2007 15:38 gruberj
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						
144 Hexachlorophene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
145 Hexachlorophene product	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
146 Benzo(a)pyrene	1.18237	0.99856	0.97035	1.04607	1.04982	1.16117			
	1.17759	1.22428	1.36031				1.13006	11.024	
148 3-Methylcholanthrene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
149 Indeno(1,2,3-cd)pyrene	1.29621	1.04624	1.07401	1.15574	1.15932	1.27464			
	1.28237	1.31478	1.47927				1.23140	11.010	
150 Dibenz(a,h)anthracene	0.95210	0.89247	0.88007	0.91160	0.92137	1.03277			
	1.04151	1.07269	1.20853				0.99035	10.885	
151 Benzo(g,h,i)perylene	1.13679	0.92594	0.92030	0.96199	0.96555	1.03355			
	1.05222	1.06936	1.19892				1.02940	9.320	
230 2-Chloroacetophenone	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
199 3-Picoline	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
200 N,N-Dimethylacetamide	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
201 Quinoline	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-

STL North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4ag2.i Injection Date: 29-OCT-2007 09:55
Lab File ID: ICVTCL.D Init. Cal. Date(s): 29-OCT-2007 29-OCT-2007
Analysis Type: Init. Cal. Times: 07:15 09:38
Lab Sample ID: ICVTCL Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSS\a4ag2.i\71029A.b\8270p.m

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
146 Benzo(a)pyrene	1.06425	1.06595	1.06595	0.010	-0.15952	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.17860	1.19840	1.19840	0.010	-1.68001	50.00000	Averaged
150 Dibenz(a,h)anthracene	1.00440	1.02613	1.02613	0.010	-2.16310	50.00000	Averaged
151 Benzo(g,h,i)perylene	0.99629	1.02560	1.02560	0.010	-2.94146	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.30329	0.31342	0.31342	0.010	-3.34090	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.19472	1.24940	1.24940	0.010	-4.57642	50.00000	Averaged
$ 156 Terphenyl-d14	0.82049	0.85940	0.85940	0.010	-4.74153	50.00000	Averaged
$ 157 Phenol-d5	1.50322	1.50799	1.50799	0.010	-0.31754	50.00000	Averaged
$ 158 2-Fluorophenol	1.14183	1.17848	1.17848	0.010	-3.20947	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	0.15946	0.17206	0.17206	0.010	-7.90069	50.00000	Averaged
$ 186 2-Chlorophenol-d4	1.29469	1.29546	1.29546	0.010	-0.05975	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.82582	0.83692	0.83692	0.010	-1.34346	50.00000	Averaged
M 195 Cresols, total	2.47068	2.50499	2.50499	0.010	-1.38839	50.00000	Averaged
101 Diphenylamine	0.51815	0.52590	0.52590	0.010	-1.49725	50.00000	Averaged

STL North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4ag2.i Injection Date: 01-NOV-2007 06:29
Lab File ID: 2SMH1101.D Init. Cal. Date(s): 29-OCT-2007 29-OCT-2007
Analysis Type: Init. Cal. Times: 07:15 09:38
Lab Sample ID: L6 Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSS\a4ag2.i\71101A.b\8270p.m

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
146 Benzo(a)pyrene	1.06425	1.06822	1.06822	0.010	-0.37280	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.17860	1.20289	1.20289	0.010	-2.06112	50.00000	Averaged
150 Dibenz(a,h)anthracene	1.00440	1.01650	1.01650	0.010	-1.20498	50.00000	Averaged
151 Benzo(g,h,i)perylene	0.99629	1.01545	1.01545	0.010	-1.92338	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.30329	0.32761	0.32761	0.010	-8.01921	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.19472	1.23157	1.23157	0.010	-3.08401	50.00000	Averaged
$ 156 Terphenyl-d14	0.82049	0.85715	0.85715	0.010	-4.46707	50.00000	Averaged
$ 157 Phenol-d5	1.50322	1.45362	1.45362	0.010	3.29964	50.00000	Averaged
$ 158 2-Fluorophenol	1.14183	1.06093	1.06093	0.010	7.08531	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	0.15946	0.16631	0.16631	0.010	-4.29608	50.00000	Averaged
$ 186 2-Chlorophenol-d4	1.29469	1.28163	1.28163	0.010	1.00803	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.82582	0.84673	0.84673	0.010	-2.53202	50.00000	Averaged
M 195 Cresols, total	2.47068	2.54962	2.54962	0.010	-3.19496	50.00000	Averaged
101 Diphenylamine	0.51815	0.52771	0.52771	0.010	-1.84488	50.00000	Averaged

STL North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4hp7.i Injection Date: 26-OCT-2007 19:10
Lab File ID: ICVTCL.D Init. Cal. Date(s): 26-OCT-2007 26-OCT-2007
Analysis Type: Init. Cal. Times: 16:09 18:50
Lab Sample ID: icvtcl Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSS\a4hp7.i\71026a.b\8270p.m

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
142 Benzo(k)fluoranthene	1.23514	1.24352	1.24352	0.010	-0.67844	50.00000	Averaged
146 Benzo(a)pyrene	1.11108	1.09988	1.09988	0.010	1.00818	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.20254	1.20684	1.20684	0.010	-0.35780	50.00000	Averaged
150 Dibenz(a,h)anthracene	0.96494	0.96783	0.96783	0.010	-0.29970	50.00000	Averaged
151 Benzo(g,h,i)perylene	1.01365	1.00657	1.00657	0.010	0.69806	50.00000	Averaged
198 1,4-Dioxane	0.61560	0.56917	0.56917	0.010	7.54182	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.49422	0.47455	0.47455	0.010	3.97951	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.18482	1.15622	1.15622	0.010	2.41377	50.00000	Averaged
$ 156 Terphenyl-d14	0.83872	0.82434	0.82434	0.010	1.71412	50.00000	Averaged
$ 157 Phenol-d5	2.11606	2.10526	2.10526	0.010	0.51082	50.00000	Averaged
$ 158 2-Fluorophenol	1.40529	1.45395	1.45395	0.010	-3.46269	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	0.12914	0.12743	0.12743	0.010	1.32220	50.00000	Averaged
$ 186 2-Chlorophenol-d4	1.29270	1.25441	1.25441	0.010	2.96186	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.79872	0.82063	0.82063	0.010	-2.74298	50.00000	Averaged
M 195 Cresols, total	3.14307	3.15047	3.15047	0.010	-0.23558	50.00000	Averaged
101 Diphenylamine	0.48469	0.48104	0.48104	0.010	0.75302	50.00000	Averaged

STL North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4hp7.i
Lab File ID: 7SMH1101.D
Analysis Type:
Lab Sample ID: L6
Method: \\cansvr11\dd\chem\MSS\a4hp7.i\71101a.b\8270p.m

Injection Date: 01-NOV-2007 10:46
Init. Cal. Date(s): 26-OCT-2007 01-NOV-2007
Init. Cal. Times: 16:09 13:27
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
142 Benzo(k)fluoranthene	1.23514	1.27062	1.27062	0.010	-2.87230	50.00000	Averaged
146 Benzo(a)pyrene	1.11108	1.17721	1.17721	0.010	-5.95193	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.20254	1.26178	1.26178	0.010	-4.92637	50.00000	Averaged
150 Dibenz(a,h)anthracene	0.96494	1.01673	1.01673	0.010	-5.36764	50.00000	Averaged
151 Benzo(g,h,i)perylene	1.01365	1.05699	1.05699	0.010	-4.27634	50.00000	Averaged
198 1,4-Dioxane	0.61560	0.64624	0.64624	0.010	-4.97657	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.49422	0.53647	0.53647	0.010	-8.54928	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.18482	1.23548	1.23548	0.010	-4.27555	50.00000	Averaged
$ 156 Terphenyl-d14	0.83872	0.88687	0.88687	0.010	-5.74191	50.00000	Averaged
$ 157 Phenol-d5	2.11606	2.26742	2.26742	0.010	-7.15250	50.00000	Averaged
$ 158 2-Fluorophenol	1.40529	1.48807	1.48807	0.010	-5.89094	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	0.12914	0.14094	0.14094	0.010	-9.13861	50.00000	Averaged
$ 186 2-Chlorophenol-d4	1.29270	1.36922	1.36922	0.010	-5.91997	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.79872	0.86972	0.86972	0.010	-8.88924	50.00000	Averaged
M 195 Cresols, total	3.14307	3.30923	3.30923	0.010	-5.28663	50.00000	Averaged
101 Diphenylamine	0.48469	0.49903	0.49903	0.010	-2.95925	50.00000	Averaged

STL North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4hp7.i Injection Date: 07-NOV-2007 15:46
Lab File ID: ICVTCL.D Init. Cal. Date(s): 07-NOV-2007 07-NOV-2007
Analysis Type: Init. Cal. Times: 12:47 15:26
Lab Sample ID: icvtcl Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSS\a4hp7.i\71107a.b\8270p.m

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
142 Benzo(k)fluoranthene	1.24866	1.26024	1.26024	0.010	-0.92782	50.00000	Averaged
146 Benzo(a)pyrene	1.13006	1.10529	1.10529	0.010	2.19135	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.23140	1.20373	1.20373	0.010	2.24673	50.00000	Averaged
150 Dibenz(a,h)anthracene	0.99035	0.96960	0.96960	0.010	2.09520	50.00000	Averaged
151 Benzo(g,h,i)perylene	1.02940	0.98529	0.98529	0.010	4.28546	50.00000	Averaged
198 1,4-Dioxane	0.67627	0.61307	0.61307	0.010	9.34523	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.55818	0.52998	0.52998	0.010	5.05056	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.24188	1.20909	1.20909	0.010	2.64072	50.00000	Averaged
$ 156 Terphenyl-d14	0.86739	0.87164	0.87164	0.010	-0.48916	50.00000	Averaged
$ 157 Phenol-d5	2.12392	2.10899	2.10899	0.010	0.70304	50.00000	Averaged
$ 158 2-Fluorophenol	1.38120	1.38285	1.38285	0.010	-0.11940	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	5.00000	5.11017	0.14736	0.010	-2.20337	0.000e+000	Quadratic
$ 186 2-Chlorophenol-d4	1.24733	1.25997	1.25997	0.010	-1.01296	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.81369	0.82422	0.82422	0.010	-1.29408	50.00000	Averaged
M 195 Cresols, total	3.02842	3.05616	3.05616	0.010	-0.91612	50.00000	Averaged
101 Diphenylamine	0.49817	0.48717	0.48717	0.010	2.20866	50.00000	Averaged

STL North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4hp7.i
Lab File ID: 7SMH1108.D
Analysis Type:
Lab Sample ID: L6
Method: \\cansvr11\dd\chem\MSS\a4hp7.i\71108a.b\8270p.m

Injection Date: 08-NOV-2007 09:23
Init. Cal. Date(s): 07-NOV-2007 07-NOV-2007
Init. Cal. Times: 12:47 15:26
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
142 Benzo(k)fluoranthene	1.24866	1.31935	1.31935	0.010	-5.66162	50.00000	Averaged
146 Benzo(a)pyrene	1.13006	1.18484	1.18484	0.010	-4.84787	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.23140	1.30663	1.30663	0.010	-6.10940	50.00000	Averaged
150 Dibenz(a,h)anthracene	0.99035	1.03831	1.03831	0.010	-4.84308	50.00000	Averaged
151 Benzo(g,h,i)perylene	1.02940	1.06229	1.06229	0.010	-3.19500	50.00000	Averaged
198 1,4-Dioxane	0.67627	0.56016	0.56016	0.010	17.16931	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.55818	0.56063	0.56063	0.010	-0.43886	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.24188	1.22273	1.22273	0.010	1.54194	50.00000	Averaged
$ 156 Terphenyl-d14	0.86739	0.94430	0.94430	0.010	-8.86684	50.00000	Averaged
$ 157 Phenol-d5	2.12392	2.11479	2.11479	0.010	0.43005	50.00000	Averaged
$ 158 2-Fluorophenol	1.38120	1.35964	1.35964	0.010	1.56117	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	5.00000	5.20584	0.15044	0.010	-4.11684	0.000e+000	Quadratic
$ 186 2-Chlorophenol-d4	1.24733	1.25040	1.25040	0.010	-0.24620	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.81369	0.83862	0.83862	0.010	-3.06421	50.00000	Averaged
M 195 Cresols, total	3.02842	3.09461	3.09461	0.010	-2.18561	50.00000	Averaged
101 Diphenylamine	0.49817	0.47492	0.47492	0.010	4.66673	50.00000	Averaged

STL North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4hp7.i Injection Date: 09-NOV-2007 09:11
Lab File ID: 7SMH1109.D Init. Cal. Date(s): 07-NOV-2007 07-NOV-2007
Analysis Type: Init. Cal. Times: 12:47 15:26
Lab Sample ID: L6 Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSS\a4hp7.i\71109a.b\8270p.m

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
142 Benzo(k)fluoranthene	1.24866	1.40668	1.40668	0.010	-12.65528	50.00000	Averaged
146 Benzo(a)pyrene	1.13006	1.21815	1.21815	0.010	-7.79497	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.23140	1.34947	1.34947	0.010	-9.58880	50.00000	Averaged
150 Dibenz(a,h)anthracene	0.99035	1.07923	1.07923	0.010	-8.97467	50.00000	Averaged
151 Benzo(g,h,i)perylene	1.02940	1.09891	1.09891	0.010	-6.75282	50.00000	Averaged
198 1,4-Dioxane	0.67627	0.62150	0.62150	0.010	8.09837	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.55818	0.60127	0.60127	0.010	-7.72081	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.24188	1.25928	1.25928	0.010	-1.40074	50.00000	Averaged
$ 156 Terphenyl-d14	0.86739	0.93509	0.93509	0.010	-7.80431	50.00000	Averaged
$ 157 Phenol-d5	2.12392	2.22737	2.22737	0.010	-4.87082	50.00000	Averaged
$ 158 2-Fluorophenol	1.38120	1.43750	1.43750	0.010	-4.07630	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	5.00000	5.30170	0.15354	0.010	-6.03400	0.000e+000	Quadratic
$ 186 2-Chlorophenol-d4	1.24733	1.35022	1.35022	0.010	-8.24826	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.81369	0.86676	0.86676	0.010	-6.52295	50.00000	Averaged
M 195 Cresols, total	3.02842	3.20510	3.20510	0.010	-5.83423	50.00000	Averaged
101 Diphenylamine	0.49817	0.46316	0.46316	0.010	7.02849	50.00000	Averaged

8B
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30180

Lab File ID (Standard): 2SMH1101 Date Analyzed: 11/01/07

Instrument ID: A4AG2 Time Analyzed: 0629

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	204046	3.60	864274	4.50	441616	5.77
	UPPER LIMIT	408092	4.10	1728548	5.00	883232	6.27
	LOWER LIMIT	102023	3.10	432137	4.00	220808	5.27
	EPA SAMPLE NO.						
01	J97GMBLK	246137	3.60	1080106	4.50	550595	5.77
02	J97GMCHK	344049	3.60	1479819	4.50	749213	5.77
03	SB-480-0304	320648	3.60	1410747	4.50	725988	5.77
04	SB-480-0506	273927	3.60	1153064	4.50	593243	5.76
05	SB-481-0102	316589	3.60	1380381	4.50	710664	5.77
06	SB-480-0708	383425	3.60	1636256	4.50	841051	5.77
07	SB-481-0708	262622	3.60	1184958	4.50	661427	5.77
08	SB-481-0203	189596	3.60	886781	4.50	491877	5.77
09	SB-481-0304	202135	3.60	937656	4.50	523662	5.77
10	SB-481-0506	266039	3.60	1183672	4.50	641555	5.77
11	SB-481-0506	229959	3.60	1088321	4.50	596749	5.77
12	SB-481-0506	248527	3.60	1180028	4.50	655414	5.77
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30180

Lab File ID (Standard): 2SMH1101 Date Analyzed: 11/01/07

Instrument ID: A4AG2 Time Analyzed: 0629

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	754632	6.85	692263	8.82	680042	10.30
	UPPER LIMIT	1509264	7.35	1384526	9.32	1360084	10.80
	LOWER LIMIT	377316	6.35	346132	8.32	340021	9.80
	EPA SAMPLE NO.						
01	J97GMBLK	955175	6.86	860143	8.83	839074	10.31
02	J97GMCHK	1285219	6.85	1193967	8.82	1154303	10.30
03	SB-480-0304	1241013	6.85	1144195	8.82	1105793	10.30
04	SB-480-0506	1008272	6.85	902050	8.82	876660	10.30
05	SB-481-0102	1184880	6.85	1097006	8.82	1091845	10.30
06	SB-480-0708	1425902	6.85	1297291	8.82	1276535	10.30
07	SB-481-0708	1212943	6.87	1151239	8.84	1144958	10.33
08	SB-481-0203	911676	6.87	845526	8.84	835497	10.32
09	SB-481-0304	896435	6.86	851847	8.84	862816	10.32
10	SB-481-0506	1131464	6.86	1062713	8.84	1049859	10.32
11	SB-481-0506	1093920	6.86	1072399	8.84	1047183	10.32
12	SB-481-0506	1187626	6.87	1100081	8.84	1070376	10.32
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30180

Lab File ID (Standard): 7SMH1101 Date Analyzed: 11/01/07

Instrument ID: A4HP7 Time Analyzed: 1046

		IS1 (DCB) AREA #	RT	IS2 (NPT) AREA #	RT	IS3 (ANT) AREA #	RT
	12 HOUR STD	167773	3.37	729144	4.26	378796	5.52
	UPPER LIMIT	335546	3.87	1458288	4.76	757592	6.02
	LOWER LIMIT	83887	2.87	364572	3.76	189398	5.02
	EPA SAMPLE NO.						
01	J95V7BLK	145099	3.36	640939	4.25	320214	5.51
02	J95V7CHK	99361	3.36	411473	4.25	213486	5.51
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30180

Lab File ID (Standard): 7SMH1101 Date Analyzed: 11/01/07

Instrument ID: A4HP7 Time Analyzed: 1046

		IS4 (PHN) AREA #	RT	IS5 (CRY) AREA #	RT	IS6 (PRY) AREA #	RT
	12 HOUR STD	681769	6.60	563610	8.56	506098	9.89
	UPPER LIMIT	1363538	7.10	1127220	9.06	1012196	10.39
	LOWER LIMIT	340885	6.10	281805	8.06	253049	9.39
	EPA SAMPLE NO.						
01	J95V7BLK	565424	6.59	515266	8.53	458800	9.86
02	J95V7CHK	371978	6.59	333365	8.54	287450	9.86
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30180

Lab File ID (Standard): 7SMH1108 Date Analyzed: 11/08/07

Instrument ID: A4HP7 Time Analyzed: 0923

		IS1 (DCB) AREA #	RT	IS2 (NPT) AREA #	RT	IS3 (ANT) AREA #	RT
	12 HOUR STD	152896	3.52	629787	4.42	340264	5.69
	UPPER LIMIT	305792	4.02	1259574	4.92	680528	6.19
	LOWER LIMIT	76448	3.02	314894	3.92	170132	5.19
	EPA SAMPLE NO.						
01	SB-478-0102	99055	3.52	453795	4.42	238603	5.69
02	SB-478-0102	74571*	3.53	296126*	4.42	158581*	5.69
03	SB-478-0102	128445	3.52	547058	4.42	291738	5.69
04	SB-478-0203	137522	3.52	596870	4.42	323247	5.69
05	SB-478-0304	109009	3.53	474821	4.42	258898	5.69
06	SB-478-0506	118322	3.52	526245	4.42	282129	5.69
07	SB-478-0708	146440	3.52	631287	4.42	326630	5.69
08	SB-480-0102	130784	3.52	584706	4.42	316170	5.69
09	SB-480-0203	99754	3.52	426973	4.42	223822	5.69
10	SB-479-0304	86103	3.52	392604	4.42	218664	5.69
11	SB-479-0506	131318	3.52	553730	4.42	304267	5.69
12	SB-479-0708	94542	3.52	414919	4.42	231599	5.69
13	SB-479-0203	131703	3.53	527315	4.42	287391	5.69
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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.

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30180

Lab File ID (Standard): 7SMH1108 Date Analyzed: 11/08/07

Instrument ID: A4HP7 Time Analyzed: 0923

		IS4 (PHN) AREA #	RT	IS5 (CRY) AREA #	RT	IS6 (PRY) AREA #	RT
	12 HOUR STD	617724	6.78	496170	8.75	447105	10.20
	UPPER LIMIT	1235448	7.28	992340	9.25	894210	10.70
	LOWER LIMIT	308862	6.28	248085	8.25	223553	9.70
	EPA SAMPLE NO.						
01	SB-478-0102	433365	6.78	376833	8.74	333776	10.20
02	SB-478-0102	272955*	6.78	210556*	8.75	194651*	10.20
03	SB-478-0102	513785	6.78	405517	8.75	382775	10.21
04	SB-478-0203	594535	6.78	480971	8.75	458270	10.21
05	SB-478-0304	477889	6.78	410960	8.73	371516	10.19
06	SB-478-0506	518342	6.78	440886	8.73	411090	10.19
07	SB-478-0708	596654	6.78	507778	8.74	462296	10.20
08	SB-480-0102	575238	6.78	481386	8.74	438042	10.20
09	SB-480-0203	377588	6.78	286811	8.74	303077	10.19
10	SB-479-0304	388103	6.78	320362	8.74	302248	10.19
11	SB-479-0506	558066	6.78	452214	8.74	436587	10.21
12	SB-479-0708	405939	6.78	344317	8.73	332400	10.19
13	SB-479-0203	528498	6.78	444750	8.74	428000	10.20
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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.

8B
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30180

Lab File ID (Standard): 7SMH1109 Date Analyzed: 11/09/07

Instrument ID: A4HP7 Time Analyzed: 0911

		IS1 (DCB) AREA #	RT	IS2 (NPT) AREA #	RT	IS3 (ANT) AREA #	RT
	12 HOUR STD	122523	3.47	513214	4.36	278167	5.63
	UPPER LIMIT	245046	3.97	1026428	4.86	556334	6.13
	LOWER LIMIT	61262	2.97	256607	3.86	139084	5.13
	EPA SAMPLE NO.						
01	SB-479-0102	126461	3.46	567537	4.36	292701	5.63
02							
03							
04							
05							
06							
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

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.

8C
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30180

Lab File ID (Standard): 7SMH1109 Date Analyzed: 11/09/07

Instrument ID: A4HP7 Time Analyzed: 0911

		IS4 (PHN) AREA #	RT	IS5 (CRY) AREA #	RT	IS6 (PRY) AREA #	RT
	12 HOUR STD	516630	6.71	422017	8.68	376366	10.09
	UPPER LIMIT	1033260	7.21	844034	9.18	752732	10.59
	LOWER LIMIT	258315	6.21	211009	8.18	188183	9.59
	EPA SAMPLE NO.						
01	SB-479-0102	542638	6.71	432255	8.67	415692	10.09
02							
03							
04							
05							
06							
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

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.

SAMPLE CALC SAMPLE ID: SB-449-0102 COMPOUND: BAP

IS AREA	DILUTION	COMPOUND OF INTEREST AREA	IS AMOUNT (NG)	Final Extract Volume (UL)	AVE RRF	PERCENT SOLIDS	AMOUNT INJECTED (UL)	CONCENTRATION PPB
415692	1	23270	2	2000	1.1301	0.88	0.5	15.01

Sample Amount (g)
30.01

Tetra Tech NUS, Inc

Client Sample ID: SB-479-0102

GC/MS Semivolatiles

Lot-Sample #...:	A7J300180-006	**Work Order #...:**	J95LC1AD	**Matrix.....:**	SO
Date Sampled...:	10/25/07 11:22	**Date Received..:**	10/30/07		
Prep Date.....:	10/30/07	**Analysis Date..:**	11/09/07		
Prep Batch #...:	7303328				
Dilution Factor:	1	**Initial Wgt/Vol:**	30.01 g	**Final Wgt/Vol..:**	2 mL
% Moisture.....:	12	**Method.....:**	SW846 8270C		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo(a)pyrene	**15 J**	**380**	**ug/kg**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	53	(24 - 112)
2-Fluorobiphenyl	55	(34 - 110)
Terphenyl-d14	82	(41 - 119)
Phenol-d5	58	(28 - 110)
2-Fluorophenol	54	(26 - 110)
2,4,6-Tribromophenol	66	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

TestAmerica North Canton

Semivolatile REPORT SW-846 Method 8270

Data file : \\cansvr11\dd\chem\MSS\a4hp7.i\71109a.b\J95LC1AD.D
Lab Smp Id: j95lc1ad Client Smp ID: SB-479-0102
Inj Date : 09-NOV-2007 13:28
Operator : 001710 Inst ID: a4hp7.i
Smp Info : j95lc1ad,71109a.b,8270p,bap.sub
Misc Info :
Comment :
Method : \\cansvr11\dd\chem\MSS\a4hp7.i\71109a.b\8270P.m
Meth Date : 13-Nov-2007 09:52 gruberj Quant Type: ISTD
Cal Date : 07-NOV-2007 15:26 Cal File: 7SMH1107.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bap.sub
Target Version: 4.14
Processing Host: CANPMSSV01

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws *) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	2000.000	Volume of final extract (uL)(1000 low, 2
Vi	0.50000	Volume injected (uL)
Ws	30.010	Weight of sample extracted (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/kg)	
* 1 1,4-Dichlorobenzene-d4	152	3.464	3.466	(1.000)	126461	2.00000		(Q)
* 2 Naphthalene-d8	136	4.357	4.359	(1.000)	567537	2.00000		
* 3 Acenaphthene-d10	164	5.625	5.626	(1.000)	292701	2.00000		
* 4 Phenanthrene-d10	188	6.710	6.712	(1.000)	542638	2.00000		
* 5 Chrysene-d12	240	8.673	8.680	(1.000)	432255	2.00000		
* 6 Perylene-d12	264	10.085	10.092	(1.000)	415692	2.00000		
146 Benzo(a)pyrene	252	10.016	10.028	(0.993)	23270	0.09907	13.205	
$ 154 Nitrobenzene-d5	82	3.843	3.845	(0.882)	419069	2.64576	352.65	
$ 155 2-Fluorobiphenyl	172	5.116	5.118	(0.910)	496356	2.73099	364.01	
$ 156 Terphenyl-d14	244	7.850	7.851	(0.905)	765195	4.08175	544.05	
$ 157 Phenol-d5	99	3.175	3.171	(0.917)	580236	4.32056	575.88	
$ 158 2-Fluorophenol	112	2.608	2.594	(0.753)	355588	4.07159	542.70	
$ 159 2,4,6-Tribromophenol	330	6.197	6.199	(1.102)	103778	4.93715	658.07	
$ 186 2-Chlorophenol-d4	132	3.314	3.310	(0.957)	347944	4.41165	588.02	
$ 187 1,2-Dichlorobenzene-d4	152	3.571	3.578	(1.031)	100079	1.94518	259.27	

QC Flag Legend

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **M.MARTIN** **DATE:** **DECEMBER 13, 2007**

FROM: **TERRI L. SOLOMON** **COPIES:** **DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – MERCURY, PERCENT SOLIDS**
LOCKHEED MARTIN MIDDLE RIVER
SAMPLE DELIVERY GROUP (SDG) – 7J30180

SAMPLES: 20/Soils/

SB-478-0102	SB-478-0203	SB-478-0304
SB-478-0506	SB-478-0708	SB-479-0102
SB-479-0203	SB-479-0304	SB-479-0506
SB-479-0708	SB-480-0102	SB-480-0203
SB-480-0304	SB-480-0506	SB-480-0708
SB-481-0102	SB-481-0203	SB-481-0304
SB-481-0506	SB-481-0708	

Overview

The sample set for Lockheed Martin Middle River, SDG 7J30180, consists of eighteen (18) soil environmental samples. No field duplicate pairs were included within this SDG.

All samples were analyzed for mercury and percent solids. The samples were collected by Tetra Tech NUS on October 25 and 29, 2007 and analyzed by Test America. Mercury analyses were conducted using SW-846 method 7471A. Percent solid analyses were conducted using MCAWW method 160.3 MOD.

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, matrix spike / matrix spike duplicate recoveries, laboratory duplicate results, detection limits and analyte quantitation.

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

Major Problems – None.

Minor Problems – None.

Notes – None.

Executive Summary

Laboratory Performance: None.

Other Factors Affecting Data Quality: None.

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
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: 00885

SDG: 7J30180 MEDIA: SOIL DATA FRACTION: M

nsample	SB-478-0102
samp_date	10/25/2007
lab_id	A7J300180001
qc_type	NM
units	MG/KG
Pct_Solids	90.3
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.018	U	

nsample	SB-478-0203
samp_date	10/25/2007
lab_id	A7J300180002
qc_type	NM
units	MG/KG
Pct_Solids	88.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

nsample	SB-478-0304
samp_date	10/25/2007
lab_id	A7J300180003
qc_type	NM
units	MG/KG
Pct_Solids	85.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

PROJ_NO: 00885

SDG: 7J30180 MEDIA: SOIL DATA FRACTION: M

nsample	SB-478-0506	nsample	SB-478-0708	nsample	SB-479-0102
samp_date	10/25/2007	samp_date	10/25/2007	samp_date	10/25/2007
lab_id	A7J300180004	lab_id	A7J300180005	lab_id	A7J300180006
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	87.0	Pct_Solids	84.0	Pct_Solids	88.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

PROJ_NO: 00885

SDG: 7J30180 MEDIA: SOIL DATA FRACTION: M

nsample	SB-479-0203
samp_date	10/25/2007
lab_id	A7J300180007
qc_type	NM
units	MG/KG
Pct_Solids	86.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

nsample	SB-479-0304
samp_date	10/25/2007
lab_id	A7J300180008
qc_type	NM
units	MG/KG
Pct_Solids	84.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

nsample	SB-479-0506
samp_date	10/25/2007
lab_id	A7J300180009
qc_type	NM
units	MG/KG
Pct_Solids	85.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

PROJ_NO: 00885

SDG: 7J30180 MEDIA: SOIL DATA FRACTION: M

nsample	SB-479-0708	nsample	SB-480-0102	nsample	SB-480-0203
samp_date	10/25/2007	samp_date	10/25/2007	samp_date	10/25/2007
lab_id	A7J300180010	lab_id	A7J300180011	lab_id	A7J300180012
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	86.0	Pct_Solids	89.0	Pct_Solids	89.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

PROJ_NO: 00885

SDG: 7J30180 MEDIA: SOIL DATA FRACTION: M

nsample	SB-480-0304
samp_date	10/25/2007
lab_id	A7J300180013
qc_type	NM
units	MG/KG
Pct_Solids	88.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

nsample	SB-480-0506
samp_date	10/25/2007
lab_id	A7J300180014
qc_type	NM
units	MG/KG
Pct_Solids	84.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

nsample	SB-480-0708
samp_date	10/25/2007
lab_id	A7J300180015
qc_type	NM
units	MG/KG
Pct_Solids	86.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

PROJ_NO: 00885

SDG: 7J30180 MEDIA: SOIL DATA FRACTION: M

nsample	SB-481-0102	nsample	SB-481-0203	nsample	SB-481-0304
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300180016	lab_id	A7J300180017	lab_id	A7J300180018
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	85.0	Pct_Solids	86.0	Pct_Solids	84.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.036		

Parameter	Result	Val Qual	Qual Code
MERCURY	0.21		

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

PROJ_NO: 00885

SDG: 7J30180 MEDIA: SOIL DATA FRACTION: M

nsample	SB-481-0506	nsample	SB-481-0708
samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300180019	lab_id	A7J300180020
qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG
Pct_Solids	82.0	Pct_Solids	83.0
DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

APPENDIX B
RESULTS AS REPORTED BY THE LABORATORY

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95K0 **Client ID:** SB-478-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 9.67100000

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.018	0.11	0.018	U	1	CVAA	10/31/2007	14:38

Comments: Lot #: A7J300180 Sample #: 1

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95K6 **Client ID:** SB-478-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 12.333

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/31/2007	14:39

Comments: Lot #: A7J300180 Sample #: 2

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95K7 **Client ID:** SB-478-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 14.853

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	14:41

Comments: Lot #: A7J300180 Sample #: 3

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95K9 **Client ID:** SB-478-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 13.256

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.12	0.019	U	1	CVAA	10/31/2007	14:42

Comments: Lot #: A7J300180 Sample #: 4

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95LA **Client ID:** SB-478-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.241

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	14:43

Comments: Lot #: A7J300180 Sample #: 5

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95LC **Client ID:** SB-479-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 12.05

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/31/2007	14:44

Comments: Lot #: A7J300180 Sample #: 6

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95LE **Client ID:** SB-479-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 14.051

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.12	0.019	U	1	CVAA	10/31/2007	14:46

Comments: Lot #: A7J300180 Sample #: 7

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95LH **Client ID:** SB-479-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.168

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	14:47

Comments: Lot #: A7J300180 Sample #: 8

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95LJ **Client ID:** SB-479-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 15.361

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	14:50

Comments: Lot #: A7J300180 Sample #: 9

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95LM **Client ID:** SB-479-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 14.105

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.12	0.019	U	1	CVAA	10/31/2007	14:51

Comments: Lot #: A7J300180 Sample #: 10

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95LN **Client ID:** SB-480-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 11.096

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/31/2007	14:52

Comments: Lot #: A7J300180 Sample #: 11

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95LT **Client ID:** SB-480-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 10.54

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/31/2007	14:54

Comments: Lot #: A7J300180 Sample #: 12

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95P1 **Client ID:** SB-480-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 11.896

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/31/2007	14:55

Comments: Lot #: A7J300180 Sample #: 13

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95P2 **Client ID:** SB-480-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 15.934

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	14:56

Comments: Lot #: A7J300180 Sample #: 14

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95P4 **Client ID:** SB-480-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 14.415

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.12	0.019	U	1	CVAA	10/31/2007	14:57

Comments: Lot #: A7J300180 Sample #: 15

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95P6 **Client ID:** SB-481-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 15.014

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.036	B	1	CVAA	10/31/2007	14:59

Comments: Lot #: A7J300180 Sample #: 16

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95P7 **Client ID:** SB-481-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 14.2

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.12	0.21		1	CVAA	10/31/2007	15:00

Comments: Lot #: A7J300180 Sample #: 17

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95P9 **Client ID:** SB-481-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 15.729

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	15:01

Comments: Lot #: A7J300180 Sample #: 18

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95QC **Client ID:** SB-481-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.758

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	15:05

Comments: Lot #: A7J300180 Sample #: 19

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95QF **Client ID:** SB-481-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.436

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	15:10

Comments: Lot #: A7J300180 Sample #: 20

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Tetra Tech NUS, Inc

Client Sample ID: SB-478-0102

General Chemistry

Lot-Sample #...: A7J300180-001 Work Order #...: J95K0 Matrix.....: SO
Date Sampled...: 10/25/07 10:45 Date Received..: 10/30/07
% Moisture.....: 9.7

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	90.3	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310054

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-478-0203

General Chemistry

Lot-Sample #...: A7J300180-002 Work Order #...: J95K6 Matrix.....: SO
Date Sampled...: 10/25/07 10:47 Date Received..: 10/30/07
% Moisture.....: 12

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	87.7	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310054

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-478-0304

General Chemistry

Lot-Sample #...: A7J300180-003 Work Order #...: J95K7 Matrix.....: SO
Date Sampled...: 10/25/07 10:49 Date Received..: 10/30/07
% Moisture.....: 15

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	85.1	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310054

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-478-0506

General Chemistry

Lot-Sample #...: A7J300180-004 Work Order #...: J95K9 Matrix.....: SO
Date Sampled...: 10/25/07 10:51 Date Received..: 10/30/07
% Moisture.....: 13

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	86.7	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310054

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-478-0708

General Chemistry

Lot-Sample #...: A7J300180-005 Work Order #...: J95LA Matrix.....: SO
Date Sampled...: 10/25/07 10:53 Date Received..: 10/30/07
% Moisture.....: 16

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	83.8	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310054

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-479-0102

General Chemistry

Lot-Sample #...: A7J300180-006 Work Order #...: J95LC Matrix.....: SO
Date Sampled...: 10/25/07 11:22 Date Received..: 10/30/07
% Moisture.....: 12

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	88.0	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310054

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-479-0203

General Chemistry

Lot-Sample #...: A7J300180-007 Work Order #...: J95LE Matrix.....: SO
Date Sampled...: 10/25/07 11:24 Date Received..: 10/30/07
% Moisture.....: 14

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	85.9	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310054

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-479-0304

General Chemistry

Lot-Sample #...: A7J300180-008 Work Order #...: J95LH Matrix.....: SO
Date Sampled...: 10/25/07 11:26 Date Received..: 10/30/07
% Moisture.....: 16

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	83.8	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310054

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-479-0506

General Chemistry

Lot-Sample #...: A7J300180-009 Work Order #...: J95LJ Matrix.....: SO
Date Sampled...: 10/25/07 11:28 Date Received..: 10/30/07
% Moisture.....: 15

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	84.6	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310054

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-479-0708

General Chemistry

Lot-Sample #...: A7J300180-010 Work Order #...: J95LM Matrix.....: SO
Date Sampled...: 10/25/07 11:30 Date Received..: 10/30/07
% Moisture.....: 14

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	85.9	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310054

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-480-0102

General Chemistry

Lot-Sample #...: A7J300180-011 Work Order #...: J95LN Matrix.....: SO
Date Sampled...: 10/25/07 13:50 Date Received..: 10/30/07
% Moisture.....: 11

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	88.9	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310054

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-480-0203

General Chemistry

Lot-Sample #...: A7J300180-012 Work Order #...: J95LT Matrix.....: SO
Date Sampled...: 10/25/07 13:52 Date Received..: 10/30/07
% Moisture.....: 11

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	89.5	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310054

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-480-0304

General Chemistry

Lot-Sample #...: A7J300180-013 Work Order #...: J95P1 Matrix.....: SO
Date Sampled...: 10/25/07 13:54 Date Received..: 10/30/07
% Moisture.....: 12

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	88.1	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310054

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-480-0506

General Chemistry

Lot-Sample #...: A7J300180-014 **Work Order #...:** J95P2 **Matrix.....:** SO
Date Sampled...: 10/25/07 13:56 **Date Received..:** 10/30/07
% Moisture.....: 16

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	84.1	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310054

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-480-0708

General Chemistry

Lot-Sample #...: A7J300180-015 Work Order #...: J95P4 Matrix.....: SO
Date Sampled...: 10/25/07 13:58 Date Received..: 10/30/07
% Moisture.....: 14

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	85.6	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310054

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-481-0102

General Chemistry

Lot-Sample #...: A7J300180-016 Work Order #...: J95P6 Matrix.....: SO
Date Sampled...: 10/29/07 08:40 Date Received..: 10/30/07
% Moisture.....: 15

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	85.0	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310054

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-481-0203

General Chemistry

Lot-Sample #...: A7J300180-017 Work Order #...: J95P7 Matrix.....: SO
Date Sampled...: 10/29/07 08:42 Date Received..: 10/30/07
% Moisture.....: 14

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	85.8	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310054

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-481-0304

General Chemistry

Lot-Sample #...: A7J300180-018 **Work Order #...:** J95P9 **Matrix.....:** SO
Date Sampled...: 10/29/07 08:44 **Date Received..:** 10/30/07
% Moisture.....: 16

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	84.3	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310054

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-481-0506

General Chemistry

Lot-Sample #...: A7J300180-019 Work Order #...: J95QC Matrix.....: SO
Date Sampled...: 10/29/07 08:46 Date Received..: 10/30/07
% Moisture.....: 18

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	82.2	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310054

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-481-0708

General Chemistry

Lot-Sample #...: A7J300180-020 Work Order #...: J95QF Matrix.....: SO
Date Sampled...: 10/29/07 08:48 Date Received..: 10/30/07
% Moisture.....: 17

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	82.6	10.0	%	MCAWW 160.3 MOD	11/06-11/08/07	7310054

Dilution Factor: 1

APPENDIX C
SUPPORT DOCUMENTATION

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

PROJECT NO. 112IC00885

LMC MR

Lot #: A7J300180
SDG #: 7J30180

Michael Martin

Tetra Tech NUS Inc
20251 Century Blvd
Suite 200
Germantown, MD 20874

TESTAMERICA LABORATORIES, INC.

Patrick J. O'Meara
Project Manager

November 19, 2007

4101 Shuffel Street N.W. North Canton, OH 44720 tel 330.497.9396 fax 330.497.0772 www.testamericainc.com

CASE NARRATIVE

7J30180

The following report contains the analytical results for twenty solid samples submitted to TestAmerica North Canton by Tetra Tech NUS Inc. from the LMC MR Site, project number 112IC00885. The samples were received October 30, 2007, according to documented sample acceptance procedures.

This SDG consists of (1) laboratory ID's: A7J300180.

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. 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.

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 2.7, 3.3, and 4.1°C.

GC/MS SEMIVOLATILES

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.

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).

GENERAL CHEMISTRY

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

ANALYTICAL METHODS SUMMARY

7J30180

PARAMETER	ANALYTICAL METHOD
Mercury in Solid Waste (Manual Cold-Vapor)	SW846 7471A
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD

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.

Chain of Custody Record

SEVERN TRENT STL
Severn Trent Laboratories, Inc.

STL-4124 (0901)

Field	Value
Client	Tetra Tech
Address	20251 Century Blvd #200
City	Germantown
State	MD
Zip Code	20874
Project Name and Location (State)	LMC MA
Contract/Purchase Order/Quote No.	112IC00885
Project Manager	McMahon
Telephone Number (Area Code)/Fax Number	301-528-3022
Site Contact	S. Hadley
Lab Contact	K. Ives
Carrier/Waybill Number	Courier
Date	10/25/07
Chain of Custody Number	227053
Lab Number	
Page	1 of 2

Analysis (Attach list if more space is needed)

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	*8270	Hg	Special Instructions/ Conditions of Receipt
															Block 'H'
SB-478-0102 ✓	10/25	1045				X	2						X	X	*benzo(a)pyrene
-0203 ✓	[arrow]	1047				[arrow]	[arrow]						[arrow]	[arrow]	[arrow]
-0304 ✓		1049													
-0506 ✓		1051													
478 -0708 ✓		1053													
479-0102 ✓		1122													
-0203 ✓		1124													
-0304 ✓		1126													
-0506 ✓		1128													
479 -0708 ✓		1130													
480 -0102 ✓		1350													
SB- 480 -0203 ✓	10/25	1352				X	2						X	X	*benzo(a)pyrene

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 STND

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By [signature]	10/29/07	1445	1. Received By Kenneth M. Lye	10-29-07	16:40
2. Relinquished By [signature]	10-29-07	17:45	2. Received By [signature]	10/30/07	0840
3. Relinquished By			3. Received By		

Comments

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

TestAmerica North Canton

Chain of Custody Record

SEVERN TRENT **STL**

Severn Trent Laboratories, Inc.

16

STL-4124 (0901)

Client: Tetra Tech	Project Manager: M. McMinn	Date: 10/25/07	Chain of Custody Number: 227054
Address: 20251 Century Blvd #200	Telephone Number (Area Code)/Fax Number: 301-528-3022	Lab Number:	Page 2 of 2
City: Germantown / State: MD / Zip Code: 20874	Site Contact: S. Hadley	Lab Contact: K. Ives	
Project Name and Location (State): LMC MD	Carrier/Waybill Number: Courier		
Contract/Purchase Order/Quote No.: 112IC00885			

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: 8270 #	Hg	Special Instructions/ Conditions of Receipt
SB-480-0304 ✓	10/25	1354				X	2						X	X	#Black 'H'
" -0506 ✓	"	1356													
" 480-0708 ✓	"	1358													#benzo(g)pyrene
SB-481-0102 ✓	10/29/07	0840													
" 481-0203 ✓		0842													
" 481-0304 ✓		0844													
" 481-0506 MS/DS		0846													MS/DS
" 481-0708 ✓		0848				X	X						X	X	* BENZO(a) PYRENE
SB-481-0506	10/29/07	0846				X	X						X	X	* BENZO(a) PYRENE

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 SDMS

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	10/26/07	1445	1. Received By: K. Ives	10/29/07	1640
2. Relinquished By	10-29-07	17:45	2. Received By	10/30/07	0840
3. Relinquished By			3. Received By		

Comments

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

TestAmerica North Canton

HOLDTIME

SDG 7J30180

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	SB-480-0506	A7J300180014	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-478-0304	A7J300180003	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-478-0506	A7J300180004	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-478-0708	A7J300180005	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-479-0203	A7J300180007	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-479-0506	A7J300180009	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-479-0708	A7J300180010	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-480-0102	A7J300180011	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-478-0203	A7J300180002	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-480-0304	A7J300180013	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-479-0102	A7J300180006	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-480-0708	A7J300180015	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-481-0102	A7J300180016	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-481-0203	A7J300180017	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-481-0304	A7J300180018	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	SB-481-0506	A7J300180019	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-481-0708	A7J300180020	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-478-0102	A7J300180001	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-480-0203	A7J300180012	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
HG	MG/KG	SB-479-0304	A7J300180008	NM	10/25/2007	10/31/2007	10/31/2007	6	0	6
PCS	%	SB-480-0304	A7J300180013	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-481-0506	A7J300180019	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-481-0708	A7J300180020	NM	10/29/2007	11/6/2007	11/8/2007	8	2	10
PCS	%	SB-481-0304	A7J300180018	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-481-0203	A7J300180017	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-481-0102	A7J300180016	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-480-0506	A7J300180014	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-478-0102	A7J300180001	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-480-0203	A7J300180012	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-480-0102	A7J300180011	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-478-0304	A7J300180003	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-480-0708	A7J300180015	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-478-0203	A7J300180002	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
PCS	%	SB-479-0708	A7J300180010	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-478-0506	A7J300180004	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-478-0708	A7J300180005	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-479-0102	A7J300180006	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-479-0203	A7J300180007	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-479-0304	A7J300180008	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
PCS	%	SB-479-0506	A7J300180009	NM	10/25/2007	11/6/2007	11/7/2007	12	1	13
OS	%	SB-481-0708	A7J300180020	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	%	SB-479-0506	A7J300180009	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	%	SB-478-0203	A7J300180002	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	%	SB-478-0304	A7J300180003	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	%	SB-478-0506	A7J300180004	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	%	SB-478-0708	A7J300180005	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	%	SB-479-0102	A7J300180006	NM	10/25/2007	10/30/2007	11/9/2007	5	10	15
OS	%	SB-479-0203	A7J300180007	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	%	SB-479-0304	A7J300180008	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	%	SB-478-0102	A7J300180001	NM	10/25/2007	10/30/2007	11/8/2007	5	9	14
OS	%	SB-481-0506	A7J300180019	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3

Test America North Canton

Metals Data Reporting Form

Initial Calibration Verification Standard

Instrument: CVAA

Units: ug/L

Chart Number: hg11031a.prn

Acceptable Range: 90% - 110%

Standard Source: Ultra

Standard ID:

Element	WL/ Mass	True Conc	Ck5ICV 10/31/2007 10:19 AM Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Mercury	253.7	2.5	2.53	**101.0**								

5.21.0

Form 2A Equivalent

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Verification

Instrument: CVAA

Units: ug/L

Chart Number: hg11031a.prn

Acceptable Range: 80% - 120%

Standard Source: Ultra

Standard ID:

Element	WL/ Mass	True Conc	Ck2CCV 10/31/2007 10:23 AM Found	% Rec	Ck2CCV 10/31/2007 10:38 AM Found	% Rec	Ck2CCV 10/31/2007 10:52 AM Found	% Rec	Ck2CCV 10/31/2007 11:07 AM Found	% Rec	Ck2CCV 10/31/2007 11:21 AM Found	% Rec
Mercury	253.7	5.0	5.27	**105.5**	5.32	**106.5**	5.42	**108.4**	5.47	**109.3**	5.41	**108.2**

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Verification

Instrument: CVAA **Units:** ug/L

Chart Number: hg11031a.prn **Acceptable Range:** 80% - 120%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck2CCV 10/31/2007 11:35 AM Found	% Rec	Ck2CCV 10/31/2007 11:49 AM Found	% Rec	Ck2CCV 10/31/2007 11:53 AM Found	% Rec	Ck2CCV 10/31/2007 12:03 PM Found	% Rec	Ck2CCV 10/31/2007 12:07 PM Found	% Rec
Mercury	253.7	5.0	5.48	**109.5**	5.42	**108.3**	5.45	**109.1**	5.44	**108.7**	5.37	**107.3**

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Verification

Instrument: CVAA **Units:** ug/L

Chart Number: hg11031a.prn **Acceptable Range:** 80% - 120%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck2CCV 10/31/2007 1:39 PM		Ck2CCV 10/31/2007 1:52 PM		Ck2CCV 10/31/2007 2:07 PM		Ck2CCV 10/31/2007 2:18 PM		Ck2CCV 10/31/2007 2:34 PM	
			Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Mercury	253.7	5.0	5.05	**101.1**	5.22	**104.4**	5.42	**108.3**	5.49	**109.7**	5.10	**102.0**

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Verification

Instrument: CVAA **Units:** ug/L

Chart Number: hg11031a.prn **Acceptable Range:** 80% - 120%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck2CCV 10/31/2007 2:48 PM Found	% Rec	Ck2CCV 10/31/2007 3:02 PM Found	% Rec	Ck2CCV 10/31/2007 3:17 PM Found	% Rec	Found	% Rec	Found	% Rec
Mercury	253.7	5.0	5.36	**107.3**	5.42	**108.3**	5.44	**108.9**				

Test America North Canton

Metals Data Reporting Form

Contract Required Detection Limit Standard

Instrument: CVAA **Units:** ug/L

Chart Number: hg11031a.prn **Acceptable Range:** 50% - 150%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck3CRA\MRL 10/31/2007 10:22 AM Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Mercury	253.7	0.2	0.17	**83.0**								

Test America North Canton

Metals Data Reporting Form

Initial Calibration Blank Results

Instrument: CVAA **Units:** ug/L

Chart Number: hg11031a.prn

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	Ck4ICB 10/31/2007 10:20 AM Found	Q	Found	Q	Found	Q	Found	Q	Found	Q
Mercury	253.7	0.6	0.1	U								

5.21.0

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Blank Results

Instrument: CVAA **Units:** ug/L

Chart Number: hg11031a.prn

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	Ck1CCB 10/31/2007 10:24 AM Found	Q	Ck1CCB 10/31/2007 10:39 AM Found	Q	Ck1CCB 10/31/2007 10:53 AM Found	Q	Ck1CCB 10/31/2007 11:08 AM Found	Q	Ck1CCB 10/31/2007 11:22 AM Found	Q
Mercury	253.7	0.6	0.1	U	0.1	U	**-0.1**	**B**	0.1	U	**-0.1**	**B**

5.21.0

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Blank Results

Instrument: CVAA **Units:** ug/L

Chart Number: hg11031a.prn

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	Ck1CCB 10/31/2007 11:36 AM Found	Q	Ck1CCB 10/31/2007 11:50 AM Found	Q	Ck1CCB 10/31/2007 11:54 AM Found	Q	Ck1CCB 10/31/2007 12:04 PM Found	Q	Ck1CCB 10/31/2007 12:08 PM Found	Q
Mercury	253.7	0.6	0.1	U	0.1	U	0.1	U	**-0.1**	**B**	**-0.1**	**B**

5.21.0

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Blank Results

Instrument: CVAA **Units:** ug/L

Chart Number: hg11031a.prn

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	Ck1CCB 10/31/2007 1:40 PM		Ck1CCB 10/31/2007 1:53 PM		Ck1CCB 10/31/2007 2:08 PM		Ck1CCB 10/31/2007 2:20 PM		Ck1CCB 10/31/2007 2:35 PM	
			Found	Q	Found	Q	Found	Q	Found	Q	Found	Q
Mercury	253.7	0.6	0.1	U	**-0.1**	**B**	0.1	U	0.1	U	0.1	U

U Result is less than the IDL

B Result is between IDL and RL

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Blank Results

Instrument: CVAA **Units:** ug/L

Chart Number: hg11031a.prn

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	Ck1CCB 10/31/2007 2:49 PM Found	Q	Ck1CCB 10/31/2007 3:04 PM Found	Q	Ck1CCB 10/31/2007 3:18 PM Found	Q	Found	Q	Found	Q
Mercury	253.7	0.6	0.1	U	0.1	U	**-0.1**	**B**				

5.21.0

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

Test America North Canton

Metals Data Reporting Form

Preparation Blank Results

Lab Sample ID: J97FQB

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.017	0.10	0.017	U	1	CVAA	10/31/2007	14:36

Comments: Lot #: A7J300180

5.21.0

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

METHOD BLANK REPORT

General Chemistry

Client Lot #...: 7J30180 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids		Work Order #: KAQ4T1AA		MB Lot-Sample #:	A7K060000-054	
	ND	10.0	%	MCAWW 160.3 MOD	11/06-11/08/07	7310054
		Dilution Factor: 1				

NOTE(S):

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

Test America North Canton

Metals Data Reporting Form

Matrix Spike Sample Results

Spike Sample ID: J95QCS

Original Sample ID: J95QC **Client ID:** SB-481-0506S

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.758

Element	WL/ Mass	OS Conc	Q	MS Conc	Q	Spike Level	% Rec	OS DF	MS DF	Instr	OS Anal Date	OS Anal Time	MS Anal Date	MS Anal Time
Mercury	253.7	0.020	U	0.21		0.2027	105.0	1	1	CVAA	10/31/2007	15:05	10/31/2007	15:08

Comments: Lot #: A7J300180 Sample #: 19

5.21.0

N Spike recovery failed
NC Percent recovery was not calculated
* Duplicate analysis RPD was not within limits
E Serial dilution percent difference not within limits
U Result is less than the IDL

Form 5A Equivalent

Test America North Canton

Metals Data Reporting Form

Matrix Spike Duplicate Sample Results

Spike Sample ID: J95QCD

Original Sample ID: J95QC **Client ID:** SB-481-0506D

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.758

Element	WL/ Mass	OS Conc	Q	MSD Conc	Q	Spike Level	% Rec	OS DF	MSD DF	Instr	OS Anal Date	OS Anal Time	MSD Anal Date	MSD Anal Time
Mercury	253.7	0.020	U	0.23		0.2027	113.9	1	1	CVAA	10/31/2007	15:05	10/31/2007	15:09

Comments: Lot #: A7J300180 Sample #: 19

5.21.0

N Spike recovery failed
NC Percent recovery was not calculated
* Duplicate analysis RPD was not within limits
E Serial dilution percent difference not within limits
U Result is less than the IDL

Form 5A Equivalent

Test America North Canton

Metals Data Reporting Form

Matrix Spike Duplicate RPD Report

Matrix Spike Duplicate Sample ID: J95QCD

Matrix Spike Sample ID: J95QCS **Client ID:** SB-481-0506D

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.758

Element	WL/ Mass	MS Conc	Q	MSD Conc	Q	% RPD	MS DF	MSD DF	Instr	MS Anal Date	MS Anal Time	MSD Anal Date	MSD Anal Time
Mercury	253.7	0.21		0.23		0.0	1	1	CVAA	10/31/2007	15:08	10/31/2007	15:09

Comments: Lot #: A7J300180 Sample #: 19

5.21.0

N Spike recovery failed
NC Percent recovery was not calculated
* Duplicate analysis RPD was not within limits
E Serial dilution percent difference not within limits
U Result is less than the IDL

Form 6 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Duplicate RPD Report

Duplicate Sample ID: J95QCX

Original Sample ID: J95QC **Client ID:** SB-481-0506X

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.758

Element	WL/ Mass	OS Conc	Q	Dupe Conc	Q	% RPD	OS DF	Dupe DF	Instr	OS Anal Date	OS Anal Time	Dupe Anal Date	Dupe Anal Time
Mercury	253.7	0.020	U	0.020	U		1	1	CVAA	0/31/200	15:05	10/31/2007	15:07

* Duplicate analysis RPD was not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 6 Equivalent

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A7J300180 **Work Order #...:** J95QC-SMP J95QC-DUP **Matrix.....:** SO

Date Sampled...: 10/29/07 08:46 **Date Received..:** 10/30/07

% Moisture.....: 18

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids						SD Lot-Sample #: A7J300180-019		
	82.2	80.2	%	2.5	(0-20)	MCAWW 160.3 MOD	11/06-11/07/07	7310054

Dilution Factor: 1

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A7J300180 **Work Order #...:** J95QF-SMP J95QF-DUP **Matrix.....:** SO

Date Sampled...: 10/29/07 08:48 **Date Received..:** 10/30/07

% Moisture.....: 17

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids						SD Lot-Sample #: A7J300180-020		
	82.6	82.8	%	0.28	(0-20)	MCAWW 160.3 MOD	11/06-11/08/07	7310054

Dilution Factor: 1

Test America North Canton

Metals Data Reporting Form

Laboratory Control Sample Results

Lab Sample ID: J97FQC

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304027

Weight: 0.60 **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	Spike Level	Conc	Percent Recovery	Q	Range	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.83	0.85	102.3		81-123	1	CVAA	10/31/2007	14:37

Comments: Lot #: A7J300180

N Spike recovery failed

NC Percent recovery was not calculated

Test America North Canton

Metals Data Reporting Form

Instrument Detection Limits

Instrument: CVAA **Units:** ppb

Element	Wavelength	Reporting Limit	IDL	Date of IDL
Mercury	253.700	0.6	0.10	2/1/2007

Batch Number: **7304027**

TestAmerica Laboratories, Inc.
Metals Prep Log/ Batch Summary

Prepared By:
Lisa McGall
(e-Signature)

Prep Date: 10/31/07
Due Date: 11/13/07

Lot	Work Order			ICP Weight	ICPMS Weight	Hg Weight
A7J310000 Solid	J97FQ	B	Due Date: SDG:			0.60 g
A7J310000 Solid	J97FQ	C	Due Date: SDG:			0.60 g
A7J300180 Solid	J95K0 Total		Due Date: 11/13/07 SDG: 7J30180			0.60 g
A7J300180 Solid	J95K6 Total		Due Date: 11/13/07 SDG: 7J30180			0.60 g
A7J300180 Solid	J95K7 Total		Due Date: 11/13/07 SDG: 7J30180			0.60 g
A7J300180 Solid	J95K9 Total		Due Date: 11/13/07 SDG: 7J30180			0.60 g
A7J300180 Solid	J95LA Total		Due Date: 11/13/07 SDG: 7J30180			0.60 g
A7J300180 Solid	J95LC Total		Due Date: 11/13/07 SDG: 7J30180			0.60 g
A7J300180 Solid	J95LE Total		Due Date: 11/13/07 SDG: 7J30180			0.60 g
A7J300180 Solid	J95LH Total		Due Date: 11/13/07 SDG: 7J30180			0.60 g
A7J300180 Solid	J95LJ Total		Due Date: 11/13/07 SDG: 7J30180			0.60 g
A7J300180 Solid	J95LM Total		Due Date: 11/13/07 SDG: 7J30180			0.60 g
A7J300180 Solid	J95LN Total		Due Date: 11/13/07 SDG: 7J30180			0.60 g
A7J300180 Solid	J95LT Total		Due Date: 11/13/07 SDG: 7J30180			0.60 g
A7J300180 Solid	J95P1 Total		Due Date: 11/13/07 SDG: 7J30180			0.60 g
A7J300180 Solid	J95P2 Total		Due Date: 11/13/07 SDG: 7J30180			0.60 g
A7J300180 Solid	J95P4 Total		Due Date: 11/13/07 SDG: 7J30180			0.60 g
A7J300180 Solid	J95P6 Total		Due Date: 11/13/07 SDG: 7J30180			0.60 g
A7J300180 Solid	J95P7 Total		Due Date: 11/13/07 SDG: 7J30180			0.60 g
A7J300180 Solid	J95P9 Total		Due Date: 11/13/07 SDG: 7J30180			0.60 g
A7J300180 Solid	J95QC Total		Due Date: 11/13/07 SDG: 7J30180			0.60 g
A7J300180 Solid	J95QC Total	S	Due Date: 11/13/07 SDG: 7J30180			0.60 g

Batch Number: **7304027**

TestAmerica Laboratories, Inc.
Metals Prep Log/ Batch Summary

Prepared By: Lisa McGall (e-Signature)

Prep Date: 10/31/07
Due Date: 11/13/07

Lot	Work Order			ICP Weight	ICPMS Weight	Hg Weight
A7J300180 Solid	J95QC Total	D	Due Date: 11/13/07 SDG: 7J30180			0.60 g
A7J300180 Solid	J95QC Total	X	Due Date: 11/13/07 SDG: 7J30180			0.60 g
A7J300180 Solid	J95QF Total		Due Date: 11/13/07 SDG: 7J30180			0.60 g

LEVEL 2

BLANK AND CHECK STANDARD ON BATCH	X
MS/MSD AND PDS ON BATCH	X
CORRECT SPIKES ADDED	X
SPIKING SOLUTIONS DOCUMENTED ON BATCH LOG	X

Comments:

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE

Matrix Spike Information:
J95QC Hg

Check Sample Information:
J97FQ Hg

Prep Method(s): SW846 7471A

```
:       Instrument Upload                                    Run Log - Page  1 :
:       Started Thu Nov  1 05:59:43 2007 by LISTM                              :
:       Data File: UPL$CAN_DATA_ROOT:<LHG>HG11031A.PRN;1                       :
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#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
1	STD1REP1	1	31-OCT-2007	10:12:43			H1
2	STD2REP1	1	31-OCT-2007	10:13:58			H1
3	STD3REP1	1	31-OCT-2007	10:15:03			H1
4	STD4REP1	1	31-OCT-2007	10:16:14			H1
5	STD5REP1	1	31-OCT-2007	10:17:32			H1
6	STD6REP1	1	31-OCT-2007	10:18:38			H1
7	CK5ICV	1	31-OCT-2007	10:19:50			H1
8	CK4ICB	1	31-OCT-2007	10:20:55			H1
9	CK3CRA\MRL	1	31-OCT-2007	10:22:22			H1
10	CK2CCV	1	31-OCT-2007	10:23:29			H1
11	CK1CCB	1	31-OCT-2007	10:24:54			H1
12	J924PB	1	31-OCT-2007	10:25:59	7302033	A7J290000	H1
13	J924PC	1	31-OCT-2007	10:27:16	7302033	A7J290000	H1
14	J9XCT	1	31-OCT-2007	10:28:32	7302033	A7J260162	H1
15	J9XCTS	1	31-OCT-2007	10:29:36	7302033	A7J260162	H1
16	J9XCTD	1	31-OCT-2007	10:30:51	7302033	A7J260162	H1
17	J9XCTL	1	31-OCT-2007	10:32:10			H1
18	J902F	1	31-OCT-2007	10:33:27	7302033	A7J260345	H1
19	J9033	1	31-OCT-2007	10:34:43	7302033	A7J260345	H1
20	J9035	1	31-OCT-2007	10:35:49	7302033	A7J260345	H1
21	J9038	1	31-OCT-2007	10:37:05	7302033	A7J260345	H1
22	CK2CCV	1	31-OCT-2007	10:38:10			H1
23	CK1CCB	1	31-OCT-2007	10:39:14			H1
24	J903P	1	31-OCT-2007	10:40:22	7302033	A7J260345	H1
25	J903W	1	31-OCT-2007	10:41:32	7302033	A7J260345	H1
26	J904E	1	31-OCT-2007	10:42:46	7302033	A7J260345	H1
27	J924RB	1	31-OCT-2007	10:43:52	7302034	A7J290000	H1
28	J924RC	1	31-OCT-2007	10:45:21	7302034	A7J290000	H1
29	J90M9	1	31-OCT-2007	10:46:47	7302034	7J26310	H1
30	J90N0	1	31-OCT-2007	10:47:53	7302034	7J26310	H1
31	J90N1	1	31-OCT-2007	10:49:20	7302034	7J26310	H1
32	J90N3	1	31-OCT-2007	10:50:25	7302034	7J26310	H1
33	J90N4	1	31-OCT-2007	10:51:31	7302034	7J26310	H1
34	CK2CCV	1	31-OCT-2007	10:52:47			H1
35	CK1CCB	1	31-OCT-2007	10:53:56			H1
36	J90N6	1	31-OCT-2007	10:55:34	7302034	7J26310	H1
37	J90N7	1	31-OCT-2007	10:56:43	7302034	7J26310	H1
38	J90N7X	1	31-OCT-2007	10:57:48	7302034	7J26310	H1
39	J90N7S	1	31-OCT-2007	10:59:12	7302034	7J26310	H1
40	J90ND	1	31-OCT-2007	11:00:17	7302034	7J26310	H1
41	J90NE	1	31-OCT-2007	11:01:32	7302034	7J26310	H1
42	J90NF	1	31-OCT-2007	11:02:40	7302034	7J26310	H1
43	J90NH	1	31-OCT-2007	11:03:47	7302034	7J26310	H1
44	J90NJ	1	31-OCT-2007	11:04:57	7302034	7J26310	H1

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#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
45	J90NK	1	31-OCT-2007	11:06:08	7302034	7J26310	H1
46	CK2CCV	1	31-OCT-2007	11:07:27			H1
47	CK1CCB	1	31-OCT-2007	11:08:36			H1
48	J90NL	1	31-OCT-2007	11:09:51	7302034	7J26310	H1
49	J90NN	1	31-OCT-2007	11:10:58	7302034	7J26310	H1
50	J90NP	1	31-OCT-2007	11:12:17	7302034	7J26310	H1
51	J90NQ	1	31-OCT-2007	11:13:25	7302034	7J26310	H1
52	J90NV	1	31-OCT-2007	11:14:32	7302034	7J26310	H1
53	J90NW	1	31-OCT-2007	11:15:39	7302034	7J26310	H1
54	J90PH	1	31-OCT-2007	11:16:44	7302034	7J26310	H1
55	J924VB	1	31-OCT-2007	11:17:49	7302035	A7J290000	H1
56	J924VC	1	31-OCT-2007	11:18:59	7302035	A7J290000	H1
57	J90W8	1	31-OCT-2007	11:20:05	7302035	7J26337	H1
58	CK2CCV	1	31-OCT-2007	11:21:21			H1
59	CK1CCB	1	31-OCT-2007	11:22:32			H1
60	J90W9	1	31-OCT-2007	11:23:37	7302035	7J26337	H1
61	J90X1	1	31-OCT-2007	11:24:45	7302035	7J26337	H1
62	J90X3	1	31-OCT-2007	11:26:06	7302035	7J26337	H1
63	J90X5	1	31-OCT-2007	11:27:24	7302035	7J26337	H1
64	J90X6	1	31-OCT-2007	11:28:30	7302035	7J26337	H1
65	J90X6X	1	31-OCT-2007	11:29:37	7302035	7J26337	H1
66	J90X6S	1	31-OCT-2007	11:30:42	7302035	7J26337	H1
67	J90XA	1	31-OCT-2007	11:31:49	7302035	7J26337	H1
68	J90XC	1	31-OCT-2007	11:32:55	7302035	7J26337	H1
69	J90XD	1	31-OCT-2007	11:34:02	7302035	7J26337	H1
70	CK2CCV	1	31-OCT-2007	11:35:07			H1
71	CK1CCB	1	31-OCT-2007	11:36:15			H1
72	J90XE	1	31-OCT-2007	11:37:23	7302035	7J26337	H1
73	J90XF	1	31-OCT-2007	11:38:31	7302035	7J26337	H1
74	J90XG	1	31-OCT-2007	11:39:38	7302035	7J26337	H1
75	J90XH	1	31-OCT-2007	11:40:46	7302035	7J26337	H1
76	J90XK	1	31-OCT-2007	11:41:55	7302035	7J26337	H1
77	J90XL	1	31-OCT-2007	11:43:04	7302035	7J26337	H1
78	J90XM	1	31-OCT-2007	11:44:10	7302035	7J26337	H1
79	J90XP	1	31-OCT-2007	11:45:29	7302035	7J26337	H1
80	J90XT	1	31-OCT-2007	11:47:25	7302035	7J26337	H1
81	J90XV	1	31-OCT-2007	11:48:34	7302035	7J26337	H1
82	CK2CCV	1	31-OCT-2007	11:49:40			H1
83	CK1CCB	1	31-OCT-2007	11:50:45			H1
84	J90XX	1	31-OCT-2007	11:51:50	7302035	7J26337	H1
85	CK2CCV	1	31-OCT-2007	11:53:11			H1
86	CK1CCB	1	31-OCT-2007	11:54:17			H1
87	CK2CCV	1	31-OCT-2007	12:03:15			H1
88	CK1CCB	1	31-OCT-2007	12:04:20			H1

(continued)

#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
89	J924RC	1	31-OCT-2007	12:05:25	7302034	A7J290000	H1
90	CK2CCV	1	31-OCT-2007	12:07:00			H1
91	CK1CCB	1	31-OCT-2007	12:08:05			H1
92	CK2CCV	1	31-OCT-2007	13:39:10			H1
93	CK1CCB	1	31-OCT-2007	13:40:15			H1
94	J97FJB	1	31-OCT-2007	13:41:20	7304024	A7J310000	H1
95	J97FJC	1	31-OCT-2007	13:42:24	7304024	A7J310000	H1
96	J9597	1	31-OCT-2007	13:43:33	7304024	A7J300253	H1
97	J9597S	1	31-OCT-2007	13:44:37	7304024	A7J300253	H1
98	J9597D	1	31-OCT-2007	13:45:44	7304024	A7J300253	H1
99	J97FLB	1	31-OCT-2007	13:46:51	7304025	A7J310000	H1
100	J97FLC	1	31-OCT-2007	13:48:07	7304025	A7J310000	H1
101	J95T0	1	31-OCT-2007	13:49:17	7304025	7J30211	H1
102	J95T1	1	31-OCT-2007	13:50:25	7304025	7J30211	H1
103	J95T2	1	31-OCT-2007	13:51:30	7304025	7J30211	H1
104	CK2CCV	1	31-OCT-2007	13:52:38			H1
105	CK1CCB	1	31-OCT-2007	13:53:47			H1
106	J95T3	1	31-OCT-2007	13:55:02	7304025	7J30211	H1
107	J95T4	1	31-OCT-2007	13:56:09	7304025	7J30211	H1
108	J95T6	1	31-OCT-2007	13:57:24	7304025	7J30211	H1
109	J95T7	1	31-OCT-2007	13:58:32	7304025	7J30211	H1
110	J95T7X	1	31-OCT-2007	13:59:40	7304025	7J30211	H1
111	J95T7S	1	31-OCT-2007	14:00:51	7304025	7J30211	H1
112	J95TJ	1	31-OCT-2007	14:01:55	7304025	7J30211	H1
113	J95TK	1	31-OCT-2007	14:03:10	7304025	7J30211	H1
114	J95TL	1	31-OCT-2007	14:04:46	7304025	7J30211	H1
115	J95TM	1	31-OCT-2007	14:06:12	7304025	7J30211	H1
116	CK2CCV	1	31-OCT-2007	14:07:29			H1
117	CK1CCB	1	31-OCT-2007	14:08:34			H1
118	J95TN	1	31-OCT-2007	14:09:45	7304025	7J30211	H1
119	J95TR	1	31-OCT-2007	14:10:52	7304025	7J30211	H1
120	J95TT	1	31-OCT-2007	14:11:57	7304025	7J30211	H1
121	J95TV	1	31-OCT-2007	14:13:11	7304025	7J30211	H1
122	J95TW	1	31-OCT-2007	14:14:18	7304025	7J30211	H1
123	J95TX	1	31-OCT-2007	14:15:24	7304025	7J30211	H1
124	J95VG	1	31-OCT-2007	14:16:31	7304025	7J30211	H1
125	J95VJ	1	31-OCT-2007	14:17:47	7304025	7J30211	H1
126	CK2CCV	1	31-OCT-2007	14:18:57			H1
127	CK1CCB	1	31-OCT-2007	14:20:02			H1
128	CK2CCV	1	31-OCT-2007	14:34:18			H1
129	CK1CCB	1	31-OCT-2007	14:35:23			H1
130	J97FQB	1	31-OCT-2007	14:36:27	7304027	A7J310000	H1
131	J97FQC	1	31-OCT-2007	14:37:32	7304027	A7J310000	H1
132	J95K0	1	31-OCT-2007	14:38:39	7304027	7J30180	H1

(continued)

#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
133	J95K6	1	31-OCT-2007	14:39:44	7304027	7J30180	H1
134	J95K7	1	31-OCT-2007	14:41:01	7304027	7J30180	H1
135	J95K9	1	31-OCT-2007	14:42:06	7304027	7J30180	H1
136	J95LA	1	31-OCT-2007	14:43:20	7304027	7J30180	H1
137	J95LC	1	31-OCT-2007	14:44:41	7304027	7J30180	H1
138	J95LE	1	31-OCT-2007	14:46:01	7304027	7J30180	H1
139	J95LH	1	31-OCT-2007	14:47:19	7304027	7J30180	H1
140	CK2CCV	1	31-OCT-2007	14:48:24			H1
141	CK1CCB	1	31-OCT-2007	14:49:30			H1
142	J95LJ	1	31-OCT-2007	14:50:38	7304027	7J30180	H1
143	J95LM	1	31-OCT-2007	14:51:44	7304027	7J30180	H1
144	J95LN	1	31-OCT-2007	14:52:48	7304027	7J30180	H1
145	J95LT	1	31-OCT-2007	14:54:16	7304027	7J30180	H1
146	J95P1	1	31-OCT-2007	14:55:24	7304027	7J30180	H1
147	J95P2	1	31-OCT-2007	14:56:29	7304027	7J30180	H1
148	J95P4	1	31-OCT-2007	14:57:47	7304027	7J30180	H1
149	J95P6	1	31-OCT-2007	14:59:12	7304027	7J30180	H1
150	J95P7	1	31-OCT-2007	15:00:18	7304027	7J30180	H1
151	J95P9	1	31-OCT-2007	15:01:46	7304027	7J30180	H1
152	CK2CCV	1	31-OCT-2007	15:02:52			H1
153	CK1CCB	1	31-OCT-2007	15:04:41			H1
154	J95QC	1	31-OCT-2007	15:05:47	7304027	7J30180	H1
155	J95QCX	1	31-OCT-2007	15:07:13	7304027	7J30180	H1
156	J95QCS	1	31-OCT-2007	15:08:20	7304027	7J30180	H1
157	J95QCD	1	31-OCT-2007	15:09:31	7304027	7J30180	H1
158	J95QF	1	31-OCT-2007	15:10:47	7304027	7J30180	H1
159	J97FNB	1	31-OCT-2007	15:11:52	7304026	A7J310000	H1
160	J97FNC	1	31-OCT-2007	15:12:56	7304026	A7J310000	H1
161	J95Q8	1	31-OCT-2007	15:14:03	7304026	7J30202	H1
162	J95R0	1	31-OCT-2007	15:15:09	7304026	7J30202	H1
163	J95R1	1	31-OCT-2007	15:16:15	7304026	7J30202	H1
164	CK2CCV	1	31-OCT-2007	15:17:24			H1
165	CK1CCB	1	31-OCT-2007	15:18:30			H1
166	J95R2	1	31-OCT-2007	15:19:38	7304026	7J30202	H1
167	J95R4	1	31-OCT-2007	15:20:45	7304026	7J30202	H1
168	J95R4X	1	31-OCT-2007	15:22:02	7304026	7J30202	H1
169	J95R4S	1	31-OCT-2007	15:23:08	7304026	7J30202	H1
170	J95R5	1	31-OCT-2007	15:24:12	7304026	7J30202	H1
171	J95RD	1	31-OCT-2007	15:25:17	7304026	7J30202	H1
172	J95RE	1	31-OCT-2007	15:26:26	7304026	7J30202	H1
173	J95RG	1	31-OCT-2007	15:27:32	7304026	7J30202	H1
174	J95RH	1	31-OCT-2007	15:28:39	7304026	7J30202	H1
175	J95RK	1	31-OCT-2007	15:29:47	7304026	7J30202	H1
176	CK2CCV	1	31-OCT-2007	15:30:54			H1

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:       Instrument Upload                                    Run Log - Page  5 :
:       Started Thu Nov  1 05:59:44 2007 by LISTM                              :
:       Data File: UPL$CAN_DATA_ROOT:<LHG>HG11031A.PRN;1                       :
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#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
177	CK1CCB	1	31-OCT-2007	15:32:00			H1
178	J95RL	1	31-OCT-2007	15:33:05	7304026	7J30202	H1
179	J95RM	1	31-OCT-2007	15:34:23	7304026	7J30202	H1
180	J95RN	1	31-OCT-2007	15:35:31	7304026	7J30202	H1
181	J95RP	1	31-OCT-2007	15:36:42	7304026	7J30202	H1
182	J95RQ	1	31-OCT-2007	15:37:59	7304026	7J30202	H1
183	J95RR	1	31-OCT-2007	15:39:17	7304026	7J30202	H1
184	J95RT	1	31-OCT-2007	15:40:42	7304026	7J30202	H1
185	J95RV	1	31-OCT-2007	15:41:58	7304026	7J30202	H1
186	J95RW	1	31-OCT-2007	15:43:05	7304026	7J30202	H1
187	CRA	1	31-OCT-2007	15:44:12			H1
188	CK2CCV	1	31-OCT-2007	15:45:19			H1
189	CK1CCB	1	31-OCT-2007	15:46:24			H1

```
---------------------------------- End of Report -----------------------------
```

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: J95LH Seq: 138 14:47:19 31 Oct 2007 HG

SOLID

Hg -.0368 ppb .0000 % -.0368

*** Check Standard: 2 Ck2CCV Seq: 139 14:48:24 31 Oct 2007 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		107.3	5.363	5.000	ppb	.0000 %

*** Check Standard: 1 Ck1CCB Seq: 140 14:49:30 31 Oct 2007 HG

Line	Flag	Found	Range(+/-)	Units	SD/RSD
Hg		-.0891	.2000	ppb	.0000 %

*** Sample ID: J95LJ Seq: 141 14:50:38 31 Oct 2007 HG

SOLID

Hg -.0528 ppb .0000 % -.0528

*** Sample ID: J95LM Seq: 142 14:51:44 31 Oct 2007 HG

SOLID

Hg -.0404 ppb .0000 % -.0404

*** Sample ID: J95LN Seq: 143 14:52:48 31 Oct 2007 HG

SOLID

Hg .0175 ppb .0000 % .0175

*** Sample ID: J95LT Seq: 144 14:54:16 31 Oct 2007 HG

SOLID

Hg -.0297 ppb .0000 % -.0297

*** Sample ID: J95P1 Seq: 145 14:55:24 31 Oct 2007 HG

SOLID

Hg -.0003 ppb .0000 % -.0003

*** Sample ID: J95P2 Seq: 146 14:56:29 31 Oct 2007 HG

SOLID

Hg -.0356 ppb .0000 % -.0356

*** Sample ID: J95P4 Seq: 147 14:57:47 31 Oct 2007 HG

SOLID

Hg -.0998 ppb .0000 % -.0998

*** Sample ID: J95P6 Seq: 148 14:59:12 31 Oct 2007 HG

SOLID

Hg .1856 ppb .0000 % .1856

*** Sample ID: J95P7 Seq: 149 15:00:18 31 Oct 2007 HG

SOLID

Hg 1.100 ppb .0000 % 1.100

Sample SB-481-0203

$$\left(1.100 \times \frac{100\,ml}{.6\,g} \times \frac{1}{85.8} \times \frac{1}{1000}\right) = 0.214\ mg/kg$$

			TestAmerica, North Canton			
		Percent Total Solid/Percent Moisture Logsheet				
Analysis	TS			Batch	7310054	
Prep Date	11/6/2007	Time In	7:00	Analyst	NAP	
Anal date	11/7/2007	Time Out	8:00	RL	10	

Sample ID	Tare wt	Wet wt	Dry wt	Result TS %	Result MS %	comments
BLK B	4.6622	4.7446	4.7325	2.75	ND	
J95K0	4.6622	9.8903	9.3847	90.329	9.671	
J95K6	4.6622	17.9748	16.3330	87.667	12.333	
J95K7	4.6622	20.5381	18.1800	85.147	14.853	
J95K9	4.6622	16.1963	14.6673	86.744	13.256	
J95LA	4.6622	12.8870	11.5512	83.759	16.241	
J95LC	4.6622	20.5091	18.5995	87.950	12.050	
J95LE	4.6622	17.3791	15.5922	85.949	14.051	
J95LH	4.6622	28.0676	24.2834	83.832	16.168	
J95LJ	4.6622	21.0734	18.5524	84.639	15.361	
J95LM	4.6622	17.7630	15.9151	85.895	14.105	
J95LN	4.6622	22.5275	20.5451	88.904	11.096	
J95LT	4.6622	15.9572	14.7667	89.460	10.540	
J95P1	4.6622	18.6227	16.9620	88.104	11.896	
J95P2	4.6622	24.2039	21.0902	84.066	15.934	
J95P4	4.6622	14.6781	13.2343	85.585	14.415	
J95P6	4.6622	24.7862	21.7648	84.986	15.014	
J95P7	4.6622	17.1964	15.4165	85.800	14.200	
J95P9	4.6622	19.1906	16.9055	84.271	15.729	
J95QC	4.6622	15.0730	13.2242	82.242	17.758	
J95QCX	4.6622	18.2507	15.5620	80.213	19.787	
J95QF	4.6622	17.7122	15.4368	82.564	17.436	
J95QFX	4.6622	14.2033	12.5618	82.795	17.205	

Sample SB-478-0102 percent solids 90.3

$$\left(\frac{9.8903 - 9.3847}{9.8903 - 4.6622}\right)(100) - 100$$

90.33

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **M. MARTIN** **DATE:** **DECEMBER 11, 2007**

FROM: **ROBERT JUPIN** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – BENZO(a)PYRENE**
LOCKHEED MIDDLE RIVER COMPLEX
SAMPLE DELIVERY GROUP (SDG): 7J30202

SAMPLES: 20/Soil/

SB-482-0102	SB-482-0203	SB-482-0304	SB-482-0506	SB-482-0708
SB-483-0102	SB-483-0203	SB-483-0304	SB-483-0506	SB-483-0708
SB-484-0102	SB-484-0203	SB-484-0304	SB-484-0506	SB-484-0708
SB-485-0102	SB-485-0203	SB-485-0304	SB-485-0506	SB-485-0708

Overview

The sample set for SDG 7J30202 Lockheed MRC, consists of twenty (20) soil environmental samples.

All soil samples were analyzed for benzo(a)pyrene. The samples were collected by TetraTech NUS on October 29, 2007 and analyzed by Test America Laboratories, Inc. Analyses were conducted using SW-846 Method 8270C.

The findings in this report are based upon a general review of all available data including: data completeness, GC/MS tuning, holding times, initial/continuing calibrations, laboratory method/preparation and field quality control blank results, surrogate spike/internal standard recoveries, laboratory control sample (LCS)/blank spike results, matrix spike/matrix spike duplicate results, analyte quantitation, and detection limits,. Areas of concern are listed below.

Major Problems

- None.

Minor Problems

- Positive results reported below the detection limit have been qualified as estimated, "J".

Notes

The matrix spike sample was not spiked for benzo(a)pyrene therefore, no evaluation of the matrix spike could be performed.

Executive Summary

Laboratory Performance Issues: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (9/94) as modified by Region III.

Tetra Tech NUS
Robert J. Jupin
Risk Assessment Specialist/Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

Data Qualifier Key:

U - Value is a nondetect as reported by the laboratory.

J - Positive result is considered estimated, "J", as a result of technical noncompliances.

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 $r < 0.995$
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 be any number of issues; e.g. poor 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: 00885

SDG: 7J30202 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-482-0102	nsample	SB-482-0203	nsample	SB-482-0304
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300202001	lab_id	A7J300202002	lab_id	A7J300202003
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	78.0	Pct_Solids	83.0	Pct_Solids	85.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	13	J	P

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J30202 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-482-0506	nsample	SB-482-0708	nsample	SB-483-0102
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300202004	lab_id	A7J300202005	lab_id	A7J300202006
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	84.0	Pct_Solids	83.0	Pct_Solids	86.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	32	J	P

PROJ_NO: 00885

SDG: 7J30202 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-483-0203	nsample	SB-483-0304	nsample	SB-483-0506
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300202007	lab_id	A7J300202008	lab_id	A7J300202009
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	83.0	Pct_Solids	82.0	Pct_Solids	83.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	28	J	P

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

PROJ_NO: 00885

SDG: 7J30202 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-483-0708	nsample	SB-484-0102	nsample	SB-484-0203
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300202010	lab_id	A7J300202011	lab_id	A7J300202012
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	83.0	Pct_Solids	83.0	Pct_Solids	86.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	21	J	P

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J30202 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-484-0304	nsample	SB-484-0506	nsample	SB-484-0708
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300202013	lab_id	A7J300202014	lab_id	A7J300202015
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	83.0	Pct_Solids	86.0	Pct_Solids	84.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J30202 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-485-0102	nsample	SB-485-0203	nsample	SB-485-0304
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300202016	lab_id	A7J300202017	lab_id	A7J300202018
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	88.0	Pct_Solids	89.0	Pct_Solids	84.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	10	J	P

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	43	J	P

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

PROJ_NO: 00885

SDG: 7J30202 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-485-0506	nsample	SB-485-0708
samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300202019	lab_id	A7J300202020
qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG
Pct_Solids	85.0	Pct_Solids	85.0
DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Tetra Tech NUS, Inc

Client Sample ID: SB-482-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J300202-001 **Work Order #...:** J95Q81AD **Matrix.....:** SO
Date Sampled...: 10/29/07 09:30 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7304048
Dilution Factor: 1
% Moisture.....: 22 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	**13 J**	**420**	**ug/kg**	**1.7**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	61	(24 - 112)
2-Fluorobiphenyl	65	(34 - 110)
Terphenyl-d14	84	(41 - 119)
Phenol-d5	66	(28 - 110)
2-Fluorophenol	73	(26 - 110)
2,4,6-Tribromophenol	73	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Client Sample ID: SB-482-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J300202-002 **Work Order #...:** J95RD1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 09:32 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7304048
Dilution Factor: 1
% Moisture.....: 17 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	400	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	58	(24 - 112)
2-Fluorobiphenyl	66	(34 - 110)
Terphenyl-d14	89	(41 - 119)
Phenol-d5	63	(28 - 110)
2-Fluorophenol	70	(26 - 110)
2,4,6-Tribromophenol	77	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-482-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J300202-003 **Work Order #...:** J95RE1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 09:34 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7304048
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	70	(24 - 112)
2-Fluorobiphenyl	68	(34 - 110)
Terphenyl-d14	93	(41 - 119)
Phenol-d5	62	(28 - 110)
2-Fluorophenol	70	(26 - 110)
2,4,6-Tribromophenol	72	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-482-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J300202-004 **Work Order #...:** J95RG1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 09:36 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7304048
Dilution Factor: 1
% Moisture.....: 16 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	61	(24 - 112)
2-Fluorobiphenyl	61	(34 - 110)
Terphenyl-d14	84	(41 - 119)
Phenol-d5	54	(28 - 110)
2-Fluorophenol	56	(26 - 110)
2,4,6-Tribromophenol	70	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-482-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J300202-005 **Work Order #...:** J95RH1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 09:38 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7304048
Dilution Factor: 1
% Moisture.....: 17 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	400	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	59	(24 - 112)
2-Fluorobiphenyl	61	(34 - 110)
Terphenyl-d14	75	(41 - 119)
Phenol-d5	59	(28 - 110)
2-Fluorophenol	58	(26 - 110)
2,4,6-Tribromophenol	39	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-483-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J300202-006 **Work Order #...:** J95RK1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 10:10 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7304048
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	**32 J**	**380**	**ug/kg**	**1.5**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	61	(24 - 112)
2-Fluorobiphenyl	63	(34 - 110)
Terphenyl-d14	47	(41 - 119)
Phenol-d5	68	(28 - 110)
2-Fluorophenol	53	(26 - 110)
2,4,6-Tribromophenol	71	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Client Sample ID: SB-483-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J300202-007 **Work Order #...:** J95RL1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 10:12 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7304048
Dilution Factor: 1
% Moisture.....: 17 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	**28 J**	**400**	**ug/kg**	**1.6**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	60	(24 - 112)
2-Fluorobiphenyl	69	(34 - 110)
Terphenyl-d14	77	(41 - 119)
Phenol-d5	58	(28 - 110)
2-Fluorophenol	64	(26 - 110)
2,4,6-Tribromophenol	77	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Client Sample ID: SB-483-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J300202-008 **Work Order #...:** J95RM1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 10:14 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7304048
Dilution Factor: 1
% Moisture.....: 18 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	400	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	59	(24 - 112)
2-Fluorobiphenyl	58	(34 - 110)
Terphenyl-d14	84	(41 - 119)
Phenol-d5	64	(28 - 110)
2-Fluorophenol	59	(26 - 110)
2,4,6-Tribromophenol	75	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-483-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J300202-009 **Work Order #...:** J95RN1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 10:16 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7304048
Dilution Factor: 1
% Moisture.....: 17 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	400	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	65	(24 - 112)
2-Fluorobiphenyl	63	(34 - 110)
Terphenyl-d14	90	(41 - 119)
Phenol-d5	67	(28 - 110)
2-Fluorophenol	71	(26 - 110)
2,4,6-Tribromophenol	67	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-483-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J300202-010 **Work Order #...:** J95RP1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 10:18 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7304048
Dilution Factor: 1
% Moisture.....: 17 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	400	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	64	(24 - 112)
2-Fluorobiphenyl	68	(34 - 110)
Terphenyl-d14	81	(41 - 119)
Phenol-d5	68	(28 - 110)
2-Fluorophenol	68	(26 - 110)
2,4,6-Tribromophenol	52	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-484-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J300202-011 **Work Order #...:** J95RQ1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 10:50 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7304048
Dilution Factor: 1
% Moisture.....: 17 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	**21 J**	**400**	**ug/kg**	**1.6**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	70	(24 - 112)
2-Fluorobiphenyl	74	(34 - 110)
Terphenyl-d14	87	(41 - 119)
Phenol-d5	72	(28 - 110)
2-Fluorophenol	81	(26 - 110)
2,4,6-Tribromophenol	85	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Client Sample ID: SB-484-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J300202-012 **Work Order #...:** J95RR1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 10:52 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7304048
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	71	(24 - 112)
2-Fluorobiphenyl	68	(34 - 110)
Terphenyl-d14	80	(41 - 119)
Phenol-d5	61	(28 - 110)
2-Fluorophenol	66	(26 - 110)
2,4,6-Tribromophenol	78	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-484-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J300202-013 **Work Order #...:** J95RT1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 10:54 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7304048
Dilution Factor: 1
% Moisture.....: 17 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	400	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	54	(24 - 112)
2-Fluorobiphenyl	63	(34 - 110)
Terphenyl-d14	85	(41 - 119)
Phenol-d5	54	(28 - 110)
2-Fluorophenol	52	(26 - 110)
2,4,6-Tribromophenol	71	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-484-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J300202-014 **Work Order #...:** J95RV1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 10:56 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7304048
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	54	(24 - 112)
2-Fluorobiphenyl	53	(34 - 110)
Terphenyl-d14	80	(41 - 119)
Phenol-d5	49	(28 - 110)
2-Fluorophenol	56	(26 - 110)
2,4,6-Tribromophenol	42	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-484-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J300202-015 **Work Order #...:** J95RW1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 10:58 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7304048
Dilution Factor: 1
% Moisture.....: 16 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	40	(24 - 112)
2-Fluorobiphenyl	48	(34 - 110)
Terphenyl-d14	76	(41 - 119)
Phenol-d5	47	(28 - 110)
2-Fluorophenol	48	(26 - 110)
2,4,6-Tribromophenol	37	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-485-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J300202-016 **Work Order #...:** J95R01AD **Matrix.....:** SO
Date Sampled...: 10/29/07 11:30 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7304048
Dilution Factor: 1
% Moisture.....: 12 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	**10 J**	**380**	**ug/kg**	**1.5**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	69	(24 - 112)
2-Fluorobiphenyl	72	(34 - 110)
Terphenyl-d14	99	(41 - 119)
Phenol-d5	70	(28 - 110)
2-Fluorophenol	69	(26 - 110)
2,4,6-Tribromophenol	84	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Client Sample ID: SB-485-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J300202-017 **Work Order #...:** J95R11AD **Matrix.....:** SO
Date Sampled...: 10/29/07 11:32 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7304048
Dilution Factor: 1
% Moisture.....: 11 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	**43 J**	**370**	**ug/kg**	**1.5**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	68	(24 - 112)
2-Fluorobiphenyl	71	(34 - 110)
Terphenyl-d14	93	(41 - 119)
Phenol-d5	59	(28 - 110)
2-Fluorophenol	71	(26 - 110)
2,4,6-Tribromophenol	75	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Client Sample ID: SB-485-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J300202-018 **Work Order #...:** J95R21AD **Matrix.....:** SO
Date Sampled...: 10/29/07 11:34 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7304048
Dilution Factor: 1
% Moisture.....: 16 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	57	(24 - 112)
2-Fluorobiphenyl	64	(34 - 110)
Terphenyl-d14	77	(41 - 119)
Phenol-d5	67	(28 - 110)
2-Fluorophenol	67	(26 - 110)
2,4,6-Tribromophenol	74	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-485-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J300202-019 **Work Order #...:** J95R41AD **Matrix.....:** SO
Date Sampled...: 10/29/07 11:36 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7304048
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	61	(24 - 112)
2-Fluorobiphenyl	59	(34 - 110)
Terphenyl-d14	79	(41 - 119)
Phenol-d5	61	(28 - 110)
2-Fluorophenol	63	(26 - 110)
2,4,6-Tribromophenol	69	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-485-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J300202-020 **Work Order #...:** J95R51AD **Matrix.....:** SO
Date Sampled...: 10/29/07 11:38 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/06/07
Prep Batch #...: 7304048
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	72	(24 - 112)
2-Fluorobiphenyl	58	(34 - 110)
Terphenyl-d14	85	(41 - 119)
Phenol-d5	64	(28 - 110)
2-Fluorophenol	69	(26 - 110)
2,4,6-Tribromophenol	65	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

APPENDIX C

SUPPORT DOCUMENTATION

HOLDTIME

SDG 7J30202

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	SB-484-0506	A7J300202014	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-482-0304	A7J300202003	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-482-0506	A7J300202004	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-482-0708	A7J300202005	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-483-0203	A7J300202007	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-483-0506	A7J300202009	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-483-0708	A7J300202010	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-484-0102	A7J300202011	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-482-0203	A7J300202002	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-484-0304	A7J300202013	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-483-0102	A7J300202006	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-484-0708	A7J300202015	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-485-0102	A7J300202016	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-485-0203	A7J300202017	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-485-0304	A7J300202018	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	SB-485-0506	A7J300202019	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-485-0708	A7J300202020	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-482-0102	A7J300202001	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-484-0203	A7J300202012	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-483-0304	A7J300202008	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
PCS	%	SB-484-0304	A7J300202013	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-485-0506	A7J300202019	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-485-0708	A7J300202020	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-485-0304	A7J300202018	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-485-0203	A7J300202017	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-485-0102	A7J300202016	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-484-0506	A7J300202014	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-482-0102	A7J300202001	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-484-0203	A7J300202012	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-484-0102	A7J300202011	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-482-0304	A7J300202003	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-484-0708	A7J300202015	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-482-0203	A7J300202002	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
PCS	%	SB-483-0708	A7J300202010	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-482-0506	A7J300202004	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-482-0708	A7J300202005	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-483-0102	A7J300202006	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-483-0203	A7J300202007	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-483-0304	A7J300202008	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-483-0506	A7J300202009	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
OS	%	SB-485-0708	A7J300202020	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	%	SB-483-0506	A7J300202009	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	%	SB-482-0203	A7J300202002	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	%	SB-482-0304	A7J300202003	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	%	SB-482-0506	A7J300202004	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	%	SB-482-0708	A7J300202005	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	%	SB-483-0102	A7J300202006	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	%	SB-483-0203	A7J300202007	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	%	SB-483-0304	A7J300202008	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	%	SB-482-0102	A7J300202001	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	%	SB-485-0506	A7J300202019	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OS	%	SB-484-0102	A7J300202011	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	%	SB-484-0203	A7J300202012	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	%	SB-484-0304	A7J300202013	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	%	SB-484-0506	A7J300202014	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	%	SB-484-0708	A7J300202015	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	%	SB-485-0102	A7J300202016	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	%	SB-485-0203	A7J300202017	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	%	SB-485-0304	A7J300202018	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	%	SB-483-0708	A7J300202010	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	UG/KG	SB-484-0304	A7J300202013	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	UG/KG	SB-484-0506	A7J300202014	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	UG/KG	SB-484-0708	A7J300202015	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	UG/KG	SB-485-0102	A7J300202016	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	UG/KG	SB-485-0203	A7J300202017	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	UG/KG	SB-485-0304	A7J300202018	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	UG/KG	SB-484-0203	A7J300202012	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	UG/KG	SB-485-0708	A7J300202020	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	UG/KG	SB-483-0102	A7J300202006	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OS	UG/KG	SB-485-0506	A7J300202019	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	UG/KG	SB-484-0102	A7J300202011	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	UG/KG	SB-483-0708	A7J300202010	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	UG/KG	SB-483-0506	A7J300202009	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	UG/KG	SB-482-0102	A7J300202001	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	UG/KG	SB-483-0203	A7J300202007	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	UG/KG	SB-482-0708	A7J300202005	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	UG/KG	SB-482-0506	A7J300202004	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	UG/KG	SB-482-0304	A7J300202003	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	UG/KG	SB-482-0203	A7J300202002	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
OS	UG/KG	SB-483-0304	A7J300202008	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8

Chain of Custody Record

SEVERN TRENT **STL**

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
TETRA TECH	MIKE MARTIN	10/29/07	322985
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 2**
20251 CENTURY BLVD #200	301-528-3022		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
GERMANTOWN / MD / 20879	S. HADLEY	K. IVES	
Project Name and Location (State)	**Carrier/Waybill Number**		
LMC MR	COURIER		
Contract/Purchase Order/Quote No.			
112ICO0998			

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: 8270 *	Hg	Special Instructions/ Conditions of Receipt
															BLOCK "H"
SB-482-0102	10/29	0930				X	2						X	X	* benzo(a)pyrene
0203		0932													
0304		0934													
0506		0936													
482-0708		0938													
483-0102		1010													
0203		1012													
0304		1014													
0506		1016													
483-0708		1018													
484-0102		1050													
SB-484-0203	10/29	1052				X	2					1	X	X	* benzo(a)pyrene

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 STD

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	10/29/07	1440	1. Received By	12/29/07	16:40
2. Relinquished By	10-29-07	17:45	2. Received By	10/30/07	0940
3. Relinquished By			3. Received By		

Comments

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

TestAmerica North Canton

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Chain of Custody Record

SEVERN TRENT **STL**

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
TETRA TECH	M. MARTIN	10/29/07	322986
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 2 of 2**
20251 CENTURY BLVD # 200	301-528-3022		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
GERMANTOWN / MD / 20874	S. HADLEY	K. IVES	
Project Name and Location (State)	**Carrier/Waybill Number**		
LMC MR	COURIER		
Contract/Purchase Order/Quote No.			
112 IL009998			

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: LL 8270 *	Hg	Special Instructions/ Conditions of Receipt
SB-484-0304	10/29	1054				X	2						X	X	Block 'H'
484-0506		1056													* benzo(a)pyrene
484-0708		1058													
485-0102		1130													
0203		1132													
0304		1134													
0506		1136													
0506 MS/SD		1138													MS/SD
SB-485-0708	10/29	1138				X	2						X	X	* benzo(a)pyrene

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 STND

QC Requirements (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1.		10/29/07	1440		10/29/07	16:45
2.		10-29-07	17:45		10/30/07	0940
3.						

Comments

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

TestAmerica North Canton

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CASE NARRATIVE

7J30202

The following report contains the analytical results for twenty solid samples submitted to TestAmerica North Canton by Tetra Tech NUS Inc. from the LMC MR Site, project number 112IC0098. The samples were received October 30, 2007, according to documented sample acceptance procedures.

This SDG consists of (1) laboratory ID's: A7J300202.

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. 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.

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 2.7, 3.3, and 4.1°C.

GC/MS SEMIVOLATILES

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 SB-485-0506 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.

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).

GENERAL CHEMISTRY

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

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica North Canton (formerly STL North Canton) 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.

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 (formerly STL 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.

SW846 8270C SURROGATE RECOVERY

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

Lab Code: TALCAN SDG No: 7J30202

Lot #: A7J300202

Extraction: XXA13QL01

	CLIENT ID.	SRG01	SRG02	SRG03	SRG04	SRG05	SRG06	TOT OUT
01	SB-482-0102	61	65	84	66	73	73	00
02	SB-482-0203	58	66	89	63	70	77	00
03	SB-482-0304	70	68	93	62	70	72	00
04	SB-482-0506	61	61	84	54	56	70	00
05	SB-482-0708	59	61	75	59	58	39	00
06	SB-483-0102	61	63	47	68	53	71	00
07	SB-483-0203	60	69	77	58	64	77	00
08	SB-483-0304	59	58	84	64	59	75	00
09	SB-483-0506	65	63	90	67	71	67	00
10	SB-483-0708	64	68	81	68	68	52	00
11	SB-484-0102	70	74	87	72	81	85	00
12	SB-484-0203	71	68	80	61	66	78	00
13	SB-484-0304	54	63	85	54	52	71	00
14	SB-484-0506	54	53	80	49	56	42	00
15	SB-484-0708	40	48	76	47	48	37	00
16	SB-485-0102	69	72	99	70	69	84	00
17	SB-485-0203	68	71	93	59	71	75	00
18	SB-485-0304	57	64	77	67	67	74	00
19	SB-485-0506	61	59	79	61	63	69	00
20	SB-485-0708	72	58	85	64	69	65	00
21	METHOD BLK. J97GN1AA	60	69	86	62	62	54	00
22	LCS J97GN1AC	71	70	85	73	75	67	00
23	SB-485-0506 D	67	68	83	65	66	74	00
24	SB-485-0506 S	57	64	81	58	51	73	00

SURROGATES		QC LIMITS
SRG01	= Nitrobenzene-d5	(24-112)
SRG02	= 2-Fluorobiphenyl	(34-110)
SRG03	= Terphenyl-d14	(41-119)
SRG04	= Phenol-d5	(28-110)
SRG05	= 2-Fluorophenol	(26-110)
SRG06	= 2,4,6-Tribromophenol	(10-118)

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

SW846 8270C METHOD BLANK SUMMARY

BLANK WORKORDER NO.: J97GN1AA

Lab Name: TestAmerica Laboratories, Inc.

Lab Code: TALCAN — SDG Number: 7J30202

Lab File ID: J97GN1AA. — Lot Number: A7J300202

Date Analyzed: 11/06/07 — Time Analyzed: 12:25

Matrix: SOLID — Date Extracted: 10/31/07

GC Column: DB 5.625 ID: .00 — Extraction Method: 3550B

Instrument ID: HP8 — 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	SB-482-0102	J95Q81AD	J95Q81AD.	11/06/07	17:05
02	SB-482-0203	J95RD1AD	J95RD1AD.	11/06/07	17:23
03	SB-482-0304	J95RE1AD	J95RE1AD.	11/06/07	17:42
04	SB-482-0506	J95RG1AD	J95RG1AD.	11/06/07	18:01
05	SB-482-0708	J95RH1AD	J95RH1AD.	11/06/07	18:19
06	SB-483-0102	J95RK1AD	J95RK1AD.	11/06/07	18:56
07	SB-483-0203	J95RL1AD	J95RL1AD.	11/06/07	19:15
08	SB-483-0304	J95RM1AD	J95RM1AD.	11/06/07	19:34
09	SB-483-0506	J95RN1AD	J95RN1AD.	11/06/07	19:52
10	SB-483-0708	J95RP1AD	J95RP1AD.	11/06/07	20:11
11	SB-484-0102	J95RQ1AD	J95RQ1AD.	11/06/07	20:29
12	SB-484-0203	J95RR1AD	J95RR1AD.	11/06/07	20:48
13	SB-484-0304	J95RT1AD	J95RT1AD.	11/06/07	21:07
14	SB-484-0506	J95RV1AD	J95RV1AD.	11/06/07	21:25
15	SB-484-0708	J95RW1AD	J95RW1AD.	11/06/07	21:44
16	SB-485-0102	J95R01AD	J95R01AD.	11/06/07	22:02
17	SB-485-0203	J95R11AD	J95R11AD.	11/06/07	22:21
18	SB-485-0304	J95R21AD	J95R21AD.	11/06/07	22:40
19	SB-485-0506	J95R41AD	J95R41AD.	11/06/07	13:40
20	SB-485-0506	J95R41AM S	J95R41AM.	11/06/07	13:58
21	SB-485-0506	J95R41AN D	J95R41AN.	11/06/07	14:17
22	SB-485-0708	J95R51AD	J95R51AD.	11/06/07	22:58
23	CHECK SAMPLE	J97GN1AC C	J97GN1AC.	11/06/07	12:44
24					
25					
26					
27					
28					
29					
30					

COMMENTS:

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30202

Lab File ID: 8DF1031 DFTPP Injection Date: 10/31/07

Instrument ID: A4HP8 DFTPP Injection Time: 1539

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	38.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	47.5
70	Less than 2.0% of mass 69	0.2 (0.5)1
127	40.0 - 60.0% of mass 198	48.4
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.8
275	10.0 - 30.0% of mass 198	26.7
365	Greater than 1.0% of mass 198	3.4
441	Present, but less than mass 443	9.4
442	Greater than 40.0% of mass 198	61.4
443	17.0 - 23.0% of mass 442	11.6 (18.9)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD005	L5	8SMM1031	10/31/07	1558
02	SSTD004	L4	8SM1031	10/31/07	1618
03	SSTD003	L3	8SML1031	10/31/07	1637
04	SSTD002	L2	8SL1031	10/31/07	1656
05	SSTD001	L1	8SLL1031	10/31/07	1716
06	SSTD009	L9	8HHH1031	10/31/07	1735
07	SSTD008	L8	8SHH1031	10/31/07	1754
08	SSTD007	L7	8SH1031	10/31/07	1814
09	SSTD006	L6	8SMH1031	10/31/07	1833
10					
11					
12					
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5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30202

Lab File ID: 8DF1106 DFTPP Injection Date: 11/06/07

Instrument ID: A4HP8 DFTPP Injection Time: 1122

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	34.6
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	44.5
70	Less than 2.0% of mass 69	0.3 (0.6)1
127	40.0 - 60.0% of mass 198	46.0
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	26.5
365	Greater than 1.0% of mass 198	3.4
441	Present, but less than mass 443	10.7
442	Greater than 40.0% of mass 198	70.1
443	17.0 - 23.0% of mass 442	13.6 (19.4)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD006	L6	8SMH1106	11/06/07	1205
02	J97GNBLK	J97GN1AA	J97GN1AA	11/06/07	1225
03	J97GNCHK	J97GN1AC	J97GN1AC	11/06/07	1244
04	SB-485-0506	J95R41AD	J95R41AD	11/06/07	1340
05	SB-485-0506	J95R41AM	J95R41AM	11/06/07	1358
06	SB-485-0506	J95R41AN	J95R41AN	11/06/07	1417
07	SB-482-0102	J95Q81AD	J95Q81AD	11/06/07	1705
08	SB-482-0203	J95RD1AD	J95RD1AD	11/06/07	1723
09	SB-482-0304	J95RE1AD	J95RE1AD	11/06/07	1742
10	SB-482-0506	J95RG1AD	J95RG1AD	11/06/07	1801
11	SB-482-0708	J95RH1AD	J95RH1AD	11/06/07	1819
12	SB-483-0102	J95RK1AD	J95RK1AD	11/06/07	1856
13	SB-483-0203	J95RL1AD	J95RL1AD	11/06/07	1915
14	SB-483-0304	J95RM1AD	J95RM1AD	11/06/07	1934
15	SB-483-0506	J95RN1AD	J95RN1AD	11/06/07	1952
16	SB-483-0708	J95RP1AD	J95RP1AD	11/06/07	2011
17	SB-484-0102	J95RQ1AD	J95RQ1AD	11/06/07	2029
18	SB-484-0203	J95RR1AD	J95RR1AD	11/06/07	2048
19	SB-484-0304	J95RT1AD	J95RT1AD	11/06/07	2107
20	SB-484-0506	J95RV1AD	J95RV1AD	11/06/07	2125
21	SB-484-0708	J95RW1AD	J95RW1AD	11/06/07	2144
22	SB-485-0102	J95R01AD	J95R01AD	11/06/07	2202

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30202

Lab File ID: 8DF1106 DFTPP Injection Date: 11/06/07

Instrument ID: A4HP8 DFTPP Injection Time: 1122

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	34.6
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	44.5
70	Less than 2.0% of mass 69	0.3 (0.6)1
127	40.0 - 60.0% of mass 198	46.0
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	26.5
365	Greater than 1.0% of mass 198	3.4
441	Present, but less than mass 443	10.7
442	Greater than 40.0% of mass 198	70.1
443	17.0 - 23.0% of mass 442	13.6 (19.4)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SB-485-0203	J95R11AD	J95R11AD	11/06/07	2221
02	SB-485-0304	J95R21AD	J95R21AD	11/06/07	2240
03	SB-485-0708	J95R51AD	J95R51AD	11/06/07	2258
04					
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STL North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 31-OCT-2007 15:58
End Cal Date : 31-OCT-2007 18:33
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSS\a4hp8.i\71031a.b\8270P.m
Last Edit : 01-Nov-2007 08:44 gruberj
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						
144 Hexachlorophene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
145 Hexachlorophene product	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
146 Benzo(a)pyrene	1.00609	0.85680	0.92839	1.01385	1.07984	1.14780			
	1.21126	1.27667	+++++				1.06509	13.342	
148 3-Methylcholanthrene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
149 Indeno(1,2,3-cd)pyrene	1.05215	0.94193	1.02882	1.10916	1.16710	1.23713			
	1.28978	1.35821	1.49504				1.18659	14.808	
150 Dibenz(a,h)anthracene	0.91651	0.79502	0.83997	0.94796	0.97157	1.06074			
	1.12563	1.18816	1.32919				1.01942	16.918	
151 Benzo(g,h,i)perylene	1.06388	0.84710	0.86775	0.94119	0.96347	0.98910			
	1.03120	1.08506	1.18240				0.99679	10.714	
232 Bis(2-hydroxyphenyl)methane	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
233 Bis(4-hydroxyphenyl)methane	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
234 4-Chlorophenol	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
235 2,3-Dichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-

STL North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4hp8.i Injection Date: 31-OCT-2007 18:53
Lab File ID: ICVTCL.D Init. Cal. Date(s): 31-OCT-2007 31-OCT-2007
Analysis Type: Init. Cal. Times: 15:58 18:33
Lab Sample ID: icvtcl Quant Type: ISTD
Method: \\cansvr11\dd\chem\MSS\a4hp8.i\71031a.b\8270P.m

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
142 Benzo(k)fluoranthene	1.31598	1.31479	1.31479	0.010	0.09048	50.00000	Averaged
146 Benzo(a)pyrene	1.06509	1.14284	1.14284	0.010	-7.30045	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.18659	1.23697	1.23697	0.010	-4.24562	50.00000	Averaged
150 Dibenz(a,h)anthracene	5.00000	5.03216	1.05822	0.010	-0.64321	0.000e+000	Quadratic
151 Benzo(g,h,i)perylene	0.99679	0.99112	0.99112	0.010	0.56931	50.00000	Averaged
198 1,4-Dioxane	0.59367	0.58021	0.58021	0.010	2.26632	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.44581	0.46280	0.46280	0.010	-3.81005	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.31614	1.32545	1.32545	0.010	-0.70694	50.00000	Averaged
$ 156 Terphenyl-d14	0.77529	0.80908	0.80908	0.010	-4.35732	50.00000	Averaged
$ 157 Phenol-d5	1.75954	1.73764	1.73764	0.010	1.24445	50.00000	Averaged
$ 158 2-Fluorophenol	1.21919	1.21403	1.21403	0.010	0.42366	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	5.00000	5.06941	0.15059	0.010	-1.38825	0.000e+000	Quadratic
$ 186 2-Chlorophenol-d4	1.22310	1.18894	1.18894	0.010	2.79346	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.82744	0.82746	0.82746	0.010	-0.00269	50.00000	Averaged
M 195 Cresols, total	2.80785	2.76041	2.76041	0.010	1.68951	50.00000	Averaged
101 Diphenylamine	5.00000	5.20967	0.50019	0.010	-4.19348	0.000e+000	Quadratic

STL North Canton

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: a4hp8.i
Lab File ID: 8SMH1106.D
Analysis Type:
Lab Sample ID: L6
Method: \\cansvr11\dd\chem\MSS\a4hp8.i\71106a.b\8270p.m

Injection Date: 06-NOV-2007 12:05
Init. Cal. Date(s): 31-OCT-2007 31-OCT-2007
Init. Cal. Times: 15:58 18:33
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF5	CCAL RRF5	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
142 Benzo(k)fluoranthene	1.31598	1.23101	1.23101	0.010	6.45743	50.00000	Averaged
146 Benzo(a)pyrene	1.06509	1.15900	1.15900	0.010	-8.81757	20.00000	Averaged
149 Indeno(1,2,3-cd)pyrene	1.18659	1.18830	1.18830	0.010	-0.14448	50.00000	Averaged
150 Dibenz(a,h)anthracene	5.00000	4.71922	0.98543	0.010	5.61566	0.000e+000	Quadratic
151 Benzo(g,h,i)perylene	0.99679	1.01919	1.01919	0.010	-2.24662	50.00000	Averaged
198 1,4-Dioxane	0.59367	0.67382	0.67382	0.010	-13.50109	50.00000	Averaged
$ 154 Nitrobenzene-d5	0.44581	0.48665	0.48665	0.010	-9.15967	50.00000	Averaged
$ 155 2-Fluorobiphenyl	1.31614	1.51931	1.51931	0.010	-15.43641	50.00000	Averaged
$ 156 Terphenyl-d14	0.77529	0.79757	0.79757	0.010	-2.87284	50.00000	Averaged
$ 157 Phenol-d5	1.75954	1.87936	1.87936	0.010	-6.80992	50.00000	Averaged
$ 158 2-Fluorophenol	1.21919	1.35468	1.35468	0.010	-11.11320	50.00000	Averaged
$ 159 2,4,6-Tribromophenol	5.00000	5.96692	0.18067	0.010	-19.33841	0.000e+000	Quadratic
$ 186 2-Chlorophenol-d4	1.22310	1.29540	1.29540	0.010	-5.91108	50.00000	Averaged
$ 187 1,2-Dichlorobenzene-d4	0.82744	0.86955	0.86955	0.010	-5.09001	50.00000	Averaged
M 195 Cresols, total	2.80785	2.74784	2.74784	0.010	2.13732	50.00000	Averaged
101 Diphenylamine	5.00000	5.27278	0.50701	0.010	-5.45557	0.000e+000	Quadratic

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30202

Lab File ID (Standard): 8SMH1106 Date Analyzed: 11/06/07

Instrument ID: A4HP8 Time Analyzed: 1205

	EPA SAMPLE NO.	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	189787	3.44	791874	4.33	395805	5.60
	UPPER LIMIT	379574	3.94	1583748	4.83	791610	6.10
	LOWER LIMIT	94894	2.94	395937	3.83	197903	5.10
01	J97GNBLK	219733	3.44	898412	4.33	468891	5.60
02	J97GNCHK	166401	3.43	661627	4.33	368190	5.60
03	SB-485-0506	198603	3.43	793012	4.32	456406	5.59
04	SB-485-0506	184817	3.43	723283	4.33	414041	5.59
05	SB-485-0506	150619	3.43	617130	4.33	334031	5.59
06	SB-482-0102	158539	3.43	695601	4.32	381776	5.59
07	SB-482-0203	156905	3.43	659081	4.33	361336	5.59
08	SB-482-0304	156024	3.43	641846	4.33	353634	5.59
09	SB-482-0506	153121	3.43	599284	4.33	326877	5.59
10	SB-482-0708	181488	3.43	680614	4.33	391284	5.59
11	SB-483-0102	117986	3.43	479281	4.33	287758	5.60
12	SB-483-0203	128707	3.43	560207	4.33	307232	5.59
13	SB-483-0304	118746	3.43	510730	4.33	320945	5.60
14	SB-483-0506	116368	3.43	445358	4.33	292093	5.60
15	SB-483-0708	135804	3.44	573778	4.33	335825	5.60
16	SB-484-0102	128855	3.43	584395	4.33	302630	5.60
17	SB-484-0203	143879	3.43	536330	4.33	311066	5.60
18	SB-484-0304	143655	3.43	584185	4.33	314107	5.60
19	SB-484-0506	154026	3.44	582130	4.33	358040	5.60
20	SB-484-0708	134178	3.44	594625	4.33	326295	5.60
21	SB-485-0102	138142	3.43	570722	4.33	348703	5.60
22	SB-485-0203	127413	3.43	510815	4.33	292387	5.60

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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.

8C
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30202

Lab File ID (Standard): 8SMH1106 Date Analyzed: 11/06/07

Instrument ID: A4HP8 Time Analyzed: 1205

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	823657	6.68	876294	8.71	713724	10.12
	UPPER LIMIT	1647314	7.18	1752588	9.21	1427448	10.62
	LOWER LIMIT	411829	6.18	438147	8.21	356862	9.62
	EPA SAMPLE NO.						
01	J97GNBLK	871886	6.68	927497	8.66	795934	10.06
02	J97GNCHK	665498	6.68	697868	8.68	581546	10.08
03	SB-485-0506	889025	6.67	848069	8.65	680248	10.04
04	SB-485-0506	804305	6.68	792074	8.68	647651	10.08
05	SB-485-0506	620032	6.68	597095	8.66	455558	10.06
06	SB-482-0102	670231	6.68	712929	8.66	590613	10.06
07	SB-482-0203	677477	6.68	673261	8.66	585445	10.05
08	SB-482-0304	700268	6.68	628374	8.65	503149	10.05
09	SB-482-0506	596934	6.68	660195	8.66	514392	10.06
10	SB-482-0708	748001	6.68	740893	8.67	650572	10.06
11	SB-483-0102	554375	6.68	972791	8.65	504341	10.05
12	SB-483-0203	645795	6.68	711400	8.67	607147	10.07
13	SB-483-0304	639409	6.68	614939	8.67	559346	10.07
14	SB-483-0506	591145	6.68	532736	8.67	462999	10.07
15	SB-483-0708	692666	6.68	699084	8.66	583540	10.07
16	SB-484-0102	660391	6.68	701597	8.65	612232	10.05
17	SB-484-0203	638556	6.68	663633	8.68	578692	10.08
18	SB-484-0304	660696	6.68	695154	8.67	613245	10.07
19	SB-484-0506	704764	6.68	723058	8.65	593571	10.05
20	SB-484-0708	741597	6.68	751373	8.66	601942	10.05
21	SB-485-0102	730885	6.68	677774	8.66	583687	10.06
22	SB-485-0203	568614	6.68	559194	8.66	501188	10.05

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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.

8B
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30202

Lab File ID (Standard): 8SMH1106 Date Analyzed: 11/06/07

Instrument ID: A4HP8 Time Analyzed: 1205

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	189787	3.44	791874	4.33	395805	5.60
	UPPER LIMIT	379574	3.94	1583748	4.83	791610	6.10
	LOWER LIMIT	94894	2.94	395937	3.83	197903	5.10
	EPA SAMPLE NO.						
01	SB-485-0304	120852	3.43	548938	4.33	304701	5.60
02	SB-485-0708	138629	3.43	534667	4.33	338861	5.60
03							
04							
05							
06							
07							
08							
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16							
17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30202

Lab File ID (Standard): 8SMH1106 Date Analyzed: 11/06/07

Instrument ID: A4HP8 Time Analyzed: 1205

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	823657	6.68	876294	8.71	713724	10.12
	UPPER LIMIT	1647314	7.18	1752588	9.21	1427448	10.62
	LOWER LIMIT	411829	6.18	438147	8.21	356862	9.62
	EPA SAMPLE NO.						
01	SB-485-0304	717655	6.68	662446	8.67	570443	10.07
02	SB-485-0708	726955	6.68	728883	8.66	607183	10.06
03							
04							
05							
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21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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.

SAMPLE CALC **SAMPLE ID: SB-482-0102** **COMPOUND: BAP**

IS AREA	DILUTION	COMPOUND OF INTEREST AREA	IS AMOUNT (NG)	Final Extract Volume (UL)	AVE RRF	PERCENT SOLIDS	AMOUNT INJECTED (UL)	CONCENTRATION PPB
590613	1	23829	2	2000	1.0651	0.78	0.5	12.90

Sample Amount (g)
30.12

Tetra Tech NUS, Inc

Client Sample ID: SB-482-0102

GC/MS Semivolatiles

Lot-Sample #...:	A7J300202-001	**Work Order #...:**	J95Q81AD	**Matrix.....:**	SO
Date Sampled...:	10/29/07 09:30	**Date Received..:**	10/30/07		
Prep Date.....:	10/31/07	**Analysis Date..:**	11/06/07		
Prep Batch #...:	7304048				
Dilution Factor:	1	**Initial Wgt/Vol:**	30.12 g	**Final Wgt/Vol..:**	2 mL
% Moisture.....:	22	**Method.....:**	SW846 8270C		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo(a)pyrene	**13 J**	**420**	**ug/kg**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	61	(24 - 112)
2-Fluorobiphenyl	65	(34 - 110)
Terphenyl-d14	84	(41 - 119)
Phenol-d5	66	(28 - 110)
2-Fluorophenol	73	(26 - 110)
2,4,6-Tribromophenol	73	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

STL North Canton

Semivolatile REPORT SW-846 Method 8270

Data file : \\cansvr11\dd\chem\MSS\a4hp8.i\71106a.b\J95Q81AD.D
Lab Smp Id: j95q81ad Client Smp ID: SB-482-0102
Inj Date : 06-NOV-2007 17:05
Operator : 001710 Inst ID: a4hp8.i
Smp Info : j95q81ad,71106a.b,8270p,bap.sub
Misc Info :
Comment :
Method : \\cansvr11\dd\chem\MSS\a4hp8.i\71106a.b\8270P.m
Meth Date : 07-Nov-2007 11:02 gruberj Quant Type: ISTD
Cal Date : 31-OCT-2007 18:33 Cal File: 8SMH1031.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: bap.sub
Target Version: 4.14
Processing Host: CANPMSSV01

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws *) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	2000.000	Volume of final extract (uL)(1000 low, 2
Vi	0.50000	Volume injected (uL)
Ws	30.120	Weight of sample extracted (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/kg)
* 1 1,4-Dichlorobenzene-d4	152	3.434	3.440	(1.000)	158539	2.00000	(Q)
* 2 Naphthalene-d8	136	4.323	4.329	(1.000)	695601	2.00000	
* 3 Acenaphthene-d10	164	5.593	5.599	(1.000)	381776	2.00000	
* 4 Phenanthrene-d10	188	6.675	6.681	(1.000)	670231	2.00000	
* 5 Chrysene-d12	240	8.656	8.710	(1.000)	712929	2.00000	(H)
* 6 Perylene-d12	264	10.056	10.119	(1.000)	590613	2.00000	(H)
146 Benzo(a)pyrene	252	9.988	10.056	(0.993)	23829	0.07576	10.061(H)
$ 154 Nitrobenzene-d5	82	3.809	3.815	(0.881)	471437	3.04048	403.78
$ 155 2-Fluorobiphenyl	172	5.088	5.089	(0.910)	810262	3.22510	428.30
$ 156 Terphenyl-d14	244	7.824	7.849	(0.904)	1157495	4.18828	556.21
$ 157 Phenol-d5	99	3.145	3.146	(0.916)	686358	4.92092	653.51
$ 158 2-Fluorophenol	112	2.578	2.569	(0.751)	528033	5.46364	725.58
$ 159 2,4,6-Tribromophenol	330	6.165	6.171	(1.102)	157719	5.51116	731.89
$ 186 2-Chlorophenol-d4	132	3.280	3.286	(0.955)	481253	4.96369	659.19
$ 187 1,2-Dichlorobenzene-d4	152	3.540	3.545	(1.031)	211653	3.22689	428.54

QC Flag Legend

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**M. MARTIN**	**DATE:**	**JANUARY 15, 2008**
FROM:	**MATTHEW D. KRAUS**	**COPIES:**	**DV FILE**
SUBJECT:	**INORGANIC DATA VALIDATION – MERCURY LOCKHEED MIDDLE RIVER SDG – 7J30202**		
SAMPLES:	20/Solid/		

SB-482-0102	SB-482-0203	SB-482-0304
SB-482-0506	SB-482-0708	SB-483-0102
SB-483-0203	SB-483-0304	SB-483-0506
SB-483-0708	SB-484-0102	SB-484-0203
SB-484-0304	SB-484-0506	SB-484-0708
SB-485-0102	SB-485-0203	SB-485-0304
SB-485-0506	SB-485-0708	

Overview

The sample set for Lockheed Middle River, SDG 7J30202, consists of twenty soil environmental samples which were all analyzed for mercury and percent solids. The samples were collected from October 29, 2007 and analyzed by TestAmerica Laboratories, Inc. All of the samples were analyzed for mercury in accordance with SW 846 method 7471A and cold vapor atomic absorption (CVAA) methodologies.

Summary

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

Major Problems

- None.

Minor Problems

- None.

Executive Summary

Laboratory Performance: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the "Region III Modifications to 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
Matthew D. Kraus
Environmental Chemist

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

Data Qualifier Key

U - Value is considered non-detected as reported by the laboratory.

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

UJ - Non-detected result is considered estimated, "UJ", as a result of technical noncompliance.

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 $r < 0.995$
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: 00885

SDG: 7J30202 MEDIA: SOIL DATA FRACTION: M

nsample	SB-482-0102	nsample	SB-482-0203	nsample	SB-482-0304
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300202001	lab_id	A7J300202002	lab_id	A7J300202003
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	78.0	Pct_Solids	83.0	Pct_Solids	85.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.063		

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

PROJ_NO: 00885

SDG: 7J30202 MEDIA: SOIL DATA FRACTION: M

nsample	SB-482-0506	nsample	SB-482-0708	nsample	SB-483-0102
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300202004	lab_id	A7J300202005	lab_id	A7J300202006
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	84.0	Pct_Solids	83.0	Pct_Solids	86.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.054		

PROJ_NO: 00885

SDG: 7J30202 MEDIA: SOIL DATA FRACTION: M

nsample	SB-483-0203	nsample	SB-483-0304	nsample	SB-483-0506
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300202007	lab_id	A7J300202008	lab_id	A7J300202009
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	83.0	Pct_Solids	82.0	Pct_Solids	83.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.035		

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

PROJ_NO: 00885

SDG: 7J30202 MEDIA: SOIL DATA FRACTION: M

nsample	SB-483-0708	nsample	SB-484-0102	nsample	SB-484-0203
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300202010	lab_id	A7J300202011	lab_id	A7J300202012
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	83.0	Pct_Solids	83.0	Pct_Solids	86.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.028		

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

PROJ_NO: 00885

SDG: 7J30202 MEDIA: SOIL DATA FRACTION: M

nsample	SB-484-0304	nsample	SB-484-0506	nsample	SB-484-0708
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300202013	lab_id	A7J300202014	lab_id	A7J300202015
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	83.0	Pct_Solids	86.0	Pct_Solids	84.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

PROJ_NO: 00885

SDG: 7J30202 MEDIA: SOIL DATA FRACTION: M

nsample	SB-485-0102
samp_date	10/29/2007
lab_id	A7J300202016
qc_type	NM
units	MG/KG
Pct_Solids	88.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

nsample	SB-485-0203
samp_date	10/29/2007
lab_id	A7J300202017
qc_type	NM
units	MG/KG
Pct_Solids	89.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

nsample	SB-485-0304
samp_date	10/29/2007
lab_id	A7J300202018
qc_type	NM
units	MG/KG
Pct_Solids	84.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

PROJ_NO: 00885

SDG: 7J30202 MEDIA: SOIL DATA FRACTION: M

nsample	SB-485-0506
samp_date	10/29/2007
lab_id	A7J300202019
qc_type	NM
units	MG/KG
Pct_Solids	85.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

nsample	SB-485-0708
samp_date	10/29/2007
lab_id	A7J300202020
qc_type	NM
units	MG/KG
Pct_Solids	85.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

APPENDIX B
RESULTS AS REPORTED BY THE LABORATORY

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95Q8 **Client ID:** SB-482-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 21.875

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.021	0.13	0.063	B	1	CVAA	10/31/2007	15:14

Comments: Lot #: A7J300202 Sample #: 1

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95RD **Client ID:** SB-482-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.289

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	15:25

Comments: Lot #: A7J300202 Sample #: 2

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95RE **Client ID:** SB-482-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 14.87

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	15:26

Comments: Lot #: A7J300202 Sample #: 3

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95RG **Client ID:** SB-482-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.023

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	15:27

Comments: Lot #: A7J300202 Sample #: 4

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95RH **Client ID:** SB-482-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.274

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	15:28

Comments: Lot #: A7J300202 Sample #: 5

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95RK **Client ID:** SB-483-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 13.82

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.12	0.054	B	1	CVAA	10/31/2007	15:29

Comments: Lot #: A7J300202 Sample #: 6

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95RL **Client ID:** SB-483-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.063

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.035	B	1	CVAA	10/31/2007	15:33

Comments: Lot #: A7J300202 Sample #: 7

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95RM **Client ID:** SB-483-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 18.433

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	15:34

Comments: Lot #: A7J300202 Sample #: 8

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95RN **Client ID:** SB-483-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.524

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	15:35

Comments: Lot #: A7J300202 Sample #: 9

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95RP **Client ID:** SB-483-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.133

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	15:36

Comments: Lot #: A7J300202 Sample #: 10

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95RQ **Client ID:** SB-484-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.101

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.028	B	1	CVAA	10/31/2007	15:37

Comments: Lot #: A7J300202 Sample #: 11

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95RR **Client ID:** SB-484-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 13.847

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.12	0.019	U	1	CVAA	10/31/2007	15:39

Comments: Lot #: A7J300202 Sample #: 12

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95RT **Client ID:** SB-484-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.325

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	15:40

Comments: Lot #: A7J300202 Sample #: 13

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95RV **Client ID:** SB-484-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 13.545

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.12	0.019	U	1	CVAA	10/31/2007	15:41

Comments: Lot #: A7J300202 Sample #: 14

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95RW **Client ID:** SB-484-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 15.833

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	15:43

Comments: Lot #: A7J300202 Sample #: 15

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95R0 **Client ID:** SB-485-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 12.001

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/31/2007	15:15

Comments: Lot #: A7J300202 Sample #: 16

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95R1 **Client ID:** SB-485-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 11.261

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/31/2007	15:16

Comments: Lot #: A7J300202 Sample #: 17

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95R2 **Client ID:** SB-485-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 15.622

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	15:19

Comments: Lot #: A7J300202 Sample #: 18

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95R4 **Client ID:** SB-485-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 14.952

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	15:20

Comments: Lot #: A7J300202 Sample #: 19

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95R5 **Client ID:** SB-485-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 15.25

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	15:24

Comments: Lot #: A7J300202 Sample #: 20

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Tetra Tech NUS, Inc

Client Sample ID: SB-482-0102

General Chemistry

Lot-Sample #...: A7J300202-001 **Work Order #...:** J95Q8 **Matrix.....:** SO
Date Sampled...: 10/29/07 09:30 **Date Received..:** 10/30/07
% Moisture.....: 22

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	78.1	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-482-0203

General Chemistry

Lot-Sample #...: A7J300202-002 Work Order #...: J95RD Matrix.....: SO
Date Sampled...: 10/29/07 09:32 Date Received..: 10/30/07
% Moisture.....: 17

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	82.7	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-482-0304

General Chemistry

Lot-Sample #...: A7J300202-003 **Work Order #...:** J95RE **Matrix.....:** SO
Date Sampled...: 10/29/07 09:34 **Date Received..:** 10/30/07
% Moisture.....: 15

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	85.1	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-482-0506

General Chemistry

Lot-Sample #...: A7J300202-004 Work Order #...: J95RG Matrix.....: SO
Date Sampled...: 10/29/07 09:36 Date Received..: 10/30/07
% Moisture.....: 16

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	84.0	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-482-0708

General Chemistry

Lot-Sample #...: A7J300202-005 **Work Order #...:** J95RH **Matrix.....:** SO
Date Sampled...: 10/29/07 09:38 **Date Received..:** 10/30/07
% Moisture.....: 17

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	82.7	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-483-0102

General Chemistry

Lot-Sample #...: A7J300202-006 Work Order #...: J95RK Matrix.....: SO
Date Sampled...: 10/29/07 10:10 Date Received..: 10/30/07
% Moisture.....: 14

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	86.2	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-483-0203

General Chemistry

Lot-Sample #...: A7J300202-007 **Work Order #...:** J95RL **Matrix.....:** SO
Date Sampled...: 10/29/07 10:12 **Date Received..:** 10/30/07
% Moisture.....: 17

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	82.9	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-483-0304

General Chemistry

Lot-Sample #...: A7J300202-008 Work Order #...: J95RM Matrix.....: SO
Date Sampled...: 10/29/07 10:14 Date Received..: 10/30/07
% Moisture.....: 18

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	81.6	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-483-0506

General Chemistry

Lot-Sample #...: A7J300202-009 **Work Order #...:** J95RN **Matrix.....:** SO
Date Sampled...: 10/29/07 10:16 **Date Received..:** 10/30/07
% Moisture.....: 17

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	83.5	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-483-0708

General Chemistry

Lot-Sample #...: A7J300202-010 **Work Order #...:** J95RP **Matrix.....:** SO
Date Sampled...: 10/29/07 10:18 **Date Received..:** 10/30/07
% Moisture.....: 17

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	82.9	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-484-0102

General Chemistry

Lot-Sample #...: A7J300202-011 Work Order #...: J95RQ Matrix.....: SO
Date Sampled...: 10/29/07 10:50 Date Received..: 10/30/07
% Moisture.....: 17

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	82.9	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-484-0203

General Chemistry

Lot-Sample #...: A7J300202-012 Work Order #...: J95RR Matrix.....: SO
Date Sampled...: 10/29/07 10:52 Date Received..: 10/30/07
% Moisture.....: 14

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	86.2	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-484-0304

General Chemistry

Lot-Sample #...: A7J300202-013 Work Order #...: J95RT Matrix.....: SO
Date Sampled...: 10/29/07 10:54 Date Received..: 10/30/07
% Moisture.....: 17

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	82.7	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-484-0506

General Chemistry

Lot-Sample #...: A7J300202-014 **Work Order #...:** J95RV **Matrix.....:** SO
Date Sampled...: 10/29/07 10:56 **Date Received..:** 10/30/07
% Moisture.....: 14

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	86.5	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-484-0708

General Chemistry

Lot-Sample #...: A7J300202-015 **Work Order #...:** J95RW **Matrix.....:** SO
Date Sampled...: 10/29/07 10:58 **Date Received..:** 10/30/07
% Moisture.....: 16

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	84.2	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-485-0102

General Chemistry

Lot-Sample #...: A7J300202-016 Work Order #...: J95R0 Matrix.....: SO
Date Sampled...: 10/29/07 11:30 Date Received..: 10/30/07
% Moisture.....: 12

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	88.0	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-485-0203

General Chemistry

Lot-Sample #...: A7J300202-017 **Work Order #...:** J95R1 **Matrix.....:** SO
Date Sampled...: 10/29/07 11:32 **Date Received..:** 10/30/07
% Moisture.....: 11

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	88.7	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-485-0304

General Chemistry

Lot-Sample #...: A7J300202-018 **Work Order #...:** J95R2 **Matrix.....:** SO
Date Sampled...: 10/29/07 11:34 **Date Received..:** 10/30/07
% Moisture.....: 16

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	84.4	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-485-0506

General Chemistry

Lot-Sample #...: A7J300202-019 **Work Order #...:** J95R4 **Matrix.....:** SO
Date Sampled...: 10/29/07 11:36 **Date Received..:** 10/30/07
% Moisture.....: 15

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	85.0	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

Tetra Tech NUS, Inc

Client Sample ID: SB-485-0708

General Chemistry

Lot-Sample #...: A7J300202-020 **Work Order #...:** J95R5 **Matrix.....:** SO
Date Sampled...: 10/29/07 11:38 **Date Received..:** 10/30/07
% Moisture.....: 15

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	84.8	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

APPENDIX C
SUPPORT DOCUMENTATION

HOLDTIME

SDG 7J30202

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	SB-484-0506	A7J300202014	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-482-0304	A7J300202003	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-482-0506	A7J300202004	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-482-0708	A7J300202005	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-483-0203	A7J300202007	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-483-0506	A7J300202009	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-483-0708	A7J300202010	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-484-0102	A7J300202011	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-482-0203	A7J300202002	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-484-0304	A7J300202013	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-483-0102	A7J300202006	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-484-0708	A7J300202015	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-485-0102	A7J300202016	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-485-0203	A7J300202017	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-485-0304	A7J300202018	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	SB-485-0506	A7J300202019	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-485-0708	A7J300202020	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-482-0102	A7J300202001	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-484-0203	A7J300202012	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-483-0304	A7J300202008	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
PCS	%	SB-484-0304	A7J300202013	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-485-0506	A7J300202019	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-485-0708	A7J300202020	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-485-0304	A7J300202018	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-485-0203	A7J300202017	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-485-0102	A7J300202016	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-484-0506	A7J300202014	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-482-0102	A7J300202001	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-484-0203	A7J300202012	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-484-0102	A7J300202011	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-482-0304	A7J300202003	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-484-0708	A7J300202015	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-482-0203	A7J300202002	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9

Chain of Custody Record

SEVERN TRENT **STL**

Severn Trent Laboratories, Inc.

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STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
TETRA TECH	MIKE MARTIN	10/29/07	322985
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** 1 of 2
20251 CENTURY BLVD #200	301-528-3022		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
GERMANTOWN / MD / 20879	S. HADLEY	K. IVES	
Project Name and Location (State)	**Carrier/Waybill Number**		
LMC MR	COURIER		
Contract/Purchase Order/Quote No.			
112IC00998			

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: Pb 6010 *	Hg	Special Instructions/ Conditions of Receipt
															BLOCK "H"
SB-482-0102	10/29	0930				X	2						X	X	* benzo(a)pyrene
0203		0932													
0304		0934													
0506		0936													
482-0708		0938													
483-0102		1010													
0203		1012													
0304		1014													
0506		1016													
483-0708		1018													
484-0102		1050													
SB-484-0203	10/29	1052				X	2						X	X	* benzo(a)pyrene

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 STND

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	10/29/07	1440	1. Received By	12/29/07	16:40
2. Relinquished By	10-29-07	17:45	2. Received By	10/30/07	0940
3. Relinquished By			3. Received By		

Comments

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

TestAmerica North Canton

Chain of Custody Record

SEVERN TRENT **STL**

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
TETRA TECH	M. MARTIN	10/29/07	322986
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 2 of 2**
20251 CENTURY BLVD # 200	301-528-3027		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
GERMANTOWN / MD / 20874	S. HADLEY	K. IVES	
Project Name and Location (State)	**Carrier/Waybill Number**		
LMC MR	COURIER		
Contract/Purchase Order/Quote No.			
112 IL00998			

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: LL 8270 *	Hg	Special Instructions/ Conditions of Receipt
SB-484-0304	10/29	1054				X	2						X	X	* benzo(a)pyrene
484-0506		1056													
484-0708		1058													
485-0102		1130													
0203		1132													
0304		1134													
0506		1136													
0506 MS/SD		1136													MS/SD
SB-485-0708	10/29	1138				X	2						X	X	* benzo(a)pyrene

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 STND

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	10/29/07	1440	1. Received By	10/29/07	16:45
2. Relinquished By	10-29-07	17:45	2. Received By	10/30/07	0940
3. Relinquished By			3. Received By		

Comments

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

TestAmerica North Canton

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TestAmerica Cooler Receipt Form/Narrative Lot Number: 475300202
North Canton Facility

Client: Tetra Tech Project: Quote#: 41083
Cooler Received on: 10/30/07 Opened on: 10/30/07 By: (Signature)
FedEx ☒ Client Drop Off ☐ UPS ☐ DHL ☐ FAS ☐ TestAmerica Courier ☐
Stetson ☐ US Cargo ☐ Other:
TestAmerica Cooler No# See back Foam Box ☐ Client Cooler ☐ Other
1. Were custody seals on the outside of the cooler? Yes ☒ No ☐ Intact? Yes ☒ No ☐ NA ☐
   If YES, Quantity 3
   Were custody seals on the outside of cooler signed and dated? Yes ☒ No ☐ NA ☐
   Were custody seals on the bottles? Yes ☐ No ☒
   If YES, are there any exceptions
2. Shipper's packing slip attached to this form? Yes ☒ No ☐
3. Did custody papers accompany the samples? Yes ☒ No ☐ Relinquished by client? Yes ☒ No ☐
4. Did you sign the custody papers in the appropriate place? Yes ☒ No ☐
5. Packing material used: Bubble Wrap ☒ Foam ☐ None ☐ Other :
6. Cooler temperature upon receipt °C (see back of form for multiple coolers/temp)

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 and/or tags be reconciled with the COC? Yes ☒ No ☐
9. Were samples at the correct pH upon receipt? Yes ☐ No ☐ NA ☒
10. Were correct bottles used for the tests 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? Yes ☐ No ☒ Were VOAs on the COC? Yes ☐ No ☒

Contacted PM Date: by: via Voice Mail ☐ Verbal ☐ 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.

16. SAMPLE PRESERVATION

Sample(s) were further preserved in sample receiving to meet recommended pH level(s). *Nitric Acid Lot #042607-HNO3 - Sulfuric Acid Lot # 092006-H2SO4; Sodium Hydroxide Lot # 122805 -NaOH; Hydrochloric Acid Lot # 092006-HCl; Sodium Hydroxide and Zinc Acetate Lot # 050205-CH3COO2ZN/NaOH*
What time was preservative added to samples?
Sample(s) were received with bubble > 6 mm in diameter (Notify PM)

Client ID	pH	Date	Initials

TestAmerica Cooler Receipt Form/Narrative
North Canton Facility

Client ID	pH	Date	Initials

Cooler	Temp °C	Method	Coolant
Client cooler	4.1°C	IR	Ice
A007	3.3°C	↓	↓
241-404	2.7°C		

Discrepancies Cont'd

CASE NARRATIVE

7J30202

The following report contains the analytical results for twenty solid samples submitted to TestAmerica North Canton by Tetra Tech NUS Inc. from the LMC MR Site, project number 112IC0098. The samples were received October 30, 2007, according to documented sample acceptance procedures.

This SDG consists of (1) laboratory ID's: A7J300202.

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. 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.

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 2.7, 3.3, and 4.1°C.

GC/MS SEMIVOLATILES

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 SB-485-0506 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.

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).

GENERAL CHEMISTRY

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

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica North Canton (formerly STL North Canton) 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.

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 (formerly STL 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.

ANALYTICAL METHODS SUMMARY

7J30202

PARAMETER	ANALYTICAL METHOD
Mercury in Solid Waste (Manual Cold-Vapor)	SW846 7471A
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD

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

7J30202 : A7J300202

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
J95Q8	001	SB-482-0102	10/29/07	09:30
J95RD	002	SB-482-0203	10/29/07	09:32
J95RE	003	SB-482-0304	10/29/07	09:34
J95RG	004	SB-482-0506	10/29/07	09:36
J95RH	005	SB-482-0708	10/29/07	09:38
J95RK	006	SB-483-0102	10/29/07	10:10
J95RL	007	SB-483-0203	10/29/07	10:12
J95RM	008	SB-483-0304	10/29/07	10:14
J95RN	009	SB-483-0506	10/29/07	10:16
J95RP	010	SB-483-0708	10/29/07	10:18
J95RQ	011	SB-484-0102	10/29/07	10:50
J95RR	012	SB-484-0203	10/29/07	10:52
J95RT	013	SB-484-0304	10/29/07	10:54
J95RV	014	SB-484-0506	10/29/07	10:56
J95RW	015	SB-484-0708	10/29/07	10:58
J95R0	016	SB-485-0102	10/29/07	11:30
J95R1	017	SB-485-0203	10/29/07	11:32
J95R2	018	SB-485-0304	10/29/07	11:34
J95R4	019	SB-485-0506	10/29/07	11:36
J95R5	020	SB-485-0708	10/29/07	11:38

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.

Test America North Canton

Metals Data Reporting Form

Initial Calibration Verification Standard

Instrument: CVAA **Units:** ug/L

Chart Number: hg11031a.prn **Acceptable Range:** 90% - 110%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck5ICV 10/31/2007 10:19 AM Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Mercury	253.7	2.5	2.53	**101.0**								

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Verification

Instrument: CVAA **Units:** ug/L

Chart Number: hg11031a.prn **Acceptable Range:** 80% - 120%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck2CCV 10/31/2007 10:23 AM Found	% Rec	Ck2CCV 10/31/2007 10:38 AM Found	% Rec	Ck2CCV 10/31/2007 10:52 AM Found	% Rec	Ck2CCV 10/31/2007 11:07 AM Found	% Rec	Ck2CCV 10/31/2007 11:21 AM Found	% Rec
Mercury	253.7	5.0	5.27	**105.5**	5.32	**106.5**	5.42	**108.4**	5.47	**109.3**	5.41	**108.2**

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Verification

Instrument: CVAA **Units:** ug/L

Chart Number: hg11031a.prn **Acceptable Range:** 80% - 120%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck2CCV 10/31/2007 11:35 AM Found	% Rec	Ck2CCV 10/31/2007 11:49 AM Found	% Rec	Ck2CCV 10/31/2007 11:53 AM Found	% Rec	Ck2CCV 10/31/2007 12:03 PM Found	% Rec	Ck2CCV 10/31/2007 12:07 PM Found	% Rec
Mercury	253.7	5.0	5.48	**109.5**	5.42	**108.3**	5.45	**109.1**	5.44	**108.7**	5.37	**107.3**

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Verification

Instrument: CVAA **Units:** ug/L

Chart Number: hg11031a.prn **Acceptable Range:** 80% - 120%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck2CCV 10/31/2007 1:39 PM Found	% Rec	Ck2CCV 10/31/2007 1:52 PM Found	% Rec	Ck2CCV 10/31/2007 2:07 PM Found	% Rec	Ck2CCV 10/31/2007 2:18 PM Found	% Rec	Ck2CCV 10/31/2007 2:34 PM Found	% Rec
Mercury	253.7	5.0	5.05	**101.1**	5.22	**104.4**	5.42	**108.3**	5.49	**109.7**	5.10	**102.0**

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Verification

Instrument: CVAA **Units:** ug/L

Chart Number: hg11031a.prn **Acceptable Range:** 80% - 120%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck2CCV 10/31/2007 2:48 PM		Ck2CCV 10/31/2007 3:02 PM		Ck2CCV 10/31/2007 3:17 PM		Ck2CCV 10/31/2007 3:30 PM		Ck2CCV 10/31/2007 3:45 PM	
			Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Mercury	253.7	5.0	5.36	**107.3**	5.42	**108.3**	5.44	**108.9**	5.51	**110.2**	5.38	**107.6**

Test America North Canton

Metals Data Reporting Form

Contract Required Detection Limit Standard

Instrument: CVAA **Units:** ug/L

Chart Number: hg11031a.prn **Acceptable Range:** 50% - 150%

Standard Source: Ultra **Standard ID:**

Element	WL/ Mass	True Conc	Ck3CRA\MRL 10/31/2007 10:22 AM Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Mercury	253.7	0.2	0.17	**83.0**								

Test America North Canton

Metals Data Reporting Form

Initial Calibration Blank Results

Instrument: CVAA **Units:** ug/L

Chart Number: hg11031a.prn

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	Ck4ICB 10/31/2007 10:20 AM Found	Q	Found	Q	Found	Q	Found	Q	Found	Q
Mercury	253.7	0.6	0.1	U								

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Blank Results

Instrument: CVAA **Units:** ug/L

Chart Number: hg11031a.prn

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	CklCCB 10/31/2007 10:24 AM		CklCCB 10/31/2007 10:39 AM		CklCCB 10/31/2007 10:53 AM		CklCCB 10/31/2007 11:08 AM		CklCCB 10/31/2007 11:22 AM	
			Found	Q	Found	Q	Found	Q	Found	Q	Found	Q
Mercury	253.7	0.6	0.1	U	0.1	U	**-0.1**	**B**	0.1	U	**-0.1**	**B**

5.21.0

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Blank Results

Instrument: CVAA **Units:** ug/L

Chart Number: hg11031a.prn

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	Ck1CCB 10/31/2007 11:36 AM		Ck1CCB 10/31/2007 11:50 AM		Ck1CCB 10/31/2007 11:54 AM		Ck1CCB 10/31/2007 12:04 PM		Ck1CCB 10/31/2007 12:08 PM	
			Found	Q	Found	Q	Found	Q	Found	Q	Found	Q
Mercury	253.7	0.6	0.1	U	0.1	U	0.1	U	**-0.1**	**B**	**-0.1**	**B**

5.21.0

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Blank Results

Instrument: CVAA **Units:** ug/L

Chart Number: hg11031a.prn

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	Ck1CCB 10/31/2007 1:40 PM		Ck1CCB 10/31/2007 1:53 PM		Ck1CCB 10/31/2007 2:08 PM		Ck1CCB 10/31/2007 2:20 PM		Ck1CCB 10/31/2007 2:35 PM	
			Found	Q	Found	Q	Found	Q	Found	Q	Found	Q
Mercury	253.7	0.6	0.1	U	**-0.1**	**B**	0.1	U	0.1	U	0.1	U

U Result is less than the IDL

B Result is between IDL and RL

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Blank Results

Instrument: CVAA **Units:** ug/L

Chart Number: hg11031a.prn

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	Ck1CCB 10/31/2007 2:49 PM		Ck1CCB 10/31/2007 3:04 PM		Ck1CCB 10/31/2007 3:18 PM		Ck1CCB 10/31/2007 3:32 PM		Ck1CCB 10/31/2007 3:46 PM	
			Found	Q	Found	Q	Found	Q	Found	Q	Found	Q
Mercury	253.7	0.6	0.1	U	0.1	U	**-0.1**	**B**	**-0.1**	**B**	**-0.1**	**B**

5.21.0

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

Test America North Canton

Metals Data Reporting Form

Preparation Blank Results

Lab Sample ID: J97FNB

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.017	0.10	-0.018	B	1	CVAA	10/31/2007	15:11

Comments: Lot #: A7J300202

5.21.0

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

Test America North Canton

Metals Data Reporting Form

Matrix Spike Sample Results

Spike Sample ID: J95R4S

Original Sample ID: J95R4 **Client ID:** SB-485-0506S

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 14.952

Element	WL/ Mass	OS Conc	Q	MS Conc	Q	Spike Level	% Rec	OS DF	MS DF	Instr	OS Anal Date	OS Anal Time	MS Anal Date	MS Anal Time
Mercury	253.7	0.020	U	0.19		0.196	97.1	1	1	CVAA	10/31/2007	15:20	10/31/2007	15:23

Comments: Lot #: A7J300202 Sample #: 19

5.21.0

N Spike recovery failed
NC Percent recovery was not calculated
* Duplicate analysis RPD was not within limits
E Serial dilution percent difference not within limits
U Result is less than the IDL

Form 5A Equivalent

Test America North Canton

Metals Data Reporting Form

Duplicate Sample Results

Lab Sample ID: J95R4X **Client ID:** SB-485-0506X

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 14.952

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	15:22

Comments: Lot #: A7J300202 Sample #: 19

U Result is less than the IDL

Test America North Canton

Metals Data Reporting Form

Sample Duplicate RPD Report

Duplicate Sample ID: J95R4X

Original Sample ID: J95R4 **Client ID:** SB-485-0506X

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 14.952

Element	WL/ Mass	OS Conc	Q	Dupe Conc	Q	% RPD	OS DF	Dupe DF	Instr	OS Anal Date	OS Anal Time	Dupe Anal Date	Dupe Anal Time
Mercury	253.7	0.020	U	0.020	U		1	1	CVAA	0/31/200	15:20	10/31/2007	15:22

Test America North Canton

Metals Data Reporting Form

Laboratory Control Sample Results

Lab Sample ID: J97FNC

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304026

Weight: 0.60 **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	Spike Level	Conc	Percent Recovery	Q	Range	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.83	0.90	108.1		81-123	1	CVAA	10/31/2007	15:12

Comments: Lot #: A7J300202

N Spike recovery failed

NC Percent recovery was not calculated

Test America North Canton

Metals Data Reporting Form

Instrument Detection Limits

Instrument: CVAA **Units:** ppb

Element	Wavelength	Reporting Limit	IDL	Date of IDL
Mercury	253.700	0.6	0.10	2/1/2007

Batch Number: **7304026**

TestAmerica Laboratories, Inc.
Metals Prep Log/ Batch Summary

Prepared By: Lisa McGall (e-Signature)

Prep Date: 10/31/07
Due Date: 11/13/07

Lot	Work Order			ICP Weight	ICPMS Weight	Hg Weight
A7J310000 Solid	J97FN	B	Due Date: SDG:			0.60 g
A7J310000 Solid	J97FN	C	Due Date: SDG:			0.60 g
A7J300202 Solid	J95Q8 Total		Due Date: 11/13/07 SDG: 7J30202			0.60 g
A7J300202 Solid	J95RD Total		Due Date: 11/13/07 SDG: 7J30202			0.60 g
A7J300202 Solid	J95RE Total		Due Date: 11/13/07 SDG: 7J30202			0.60 g
A7J300202 Solid	J95RG Total		Due Date: 11/13/07 SDG: 7J30202			0.60 g
A7J300202 Solid	J95RH Total		Due Date: 11/13/07 SDG: 7J30202			0.60 g
A7J300202 Solid	J95RK Total		Due Date: 11/13/07 SDG: 7J30202			0.60 g
A7J300202 Solid	J95RL Total		Due Date: 11/13/07 SDG: 7J30202			0.60 g
A7J300202 Solid	J95RM Total		Due Date: 11/13/07 SDG: 7J30202			0.60 g
A7J300202 Solid	J95RN Total		Due Date: 11/13/07 SDG: 7J30202			0.60 g
A7J300202 Solid	J95RP Total		Due Date: 11/13/07 SDG: 7J30202			0.60 g
A7J300202 Solid	J95RQ Total		Due Date: 11/13/07 SDG: 7J30202			0.60 g
A7J300202 Solid	J95RR Total		Due Date: 11/13/07 SDG: 7J30202			0.60 g
A7J300202 Solid	J95RT Total		Due Date: 11/13/07 SDG: 7J30202			0.60 g
A7J300202 Solid	J95RV Total		Due Date: 11/13/07 SDG: 7J30202			0.60 g
A7J300202 Solid	J95RW Total		Due Date: 11/13/07 SDG: 7J30202			0.60 g
A7J300202 Solid	J95R0 Total		Due Date: 11/13/07 SDG: 7J30202			0.60 g
A7J300202 Solid	J95R1 Total		Due Date: 11/13/07 SDG: 7J30202			0.60 g
A7J300202 Solid	J95R2 Total		Due Date: 11/13/07 SDG: 7J30202			0.60 g
A7J300202 Solid	J95R4 Total		Due Date: 11/13/07 SDG: 7J30202			0.60 g
A7J300202 Solid	J95R4 Total	S	Due Date: 11/13/07 SDG: 7J30202			0.60 g

Batch Number: **7304026**

TestAmerica Laboratories, Inc.
Metals Prep Log/ Batch Summary

Prepared By: Lisa McGall (e-Signature)

Prep Date: 10/31/07
Due Date: 11/13/07

Lot	Work Order			ICP Weight	ICPMS Weight	Hg Weight
A7J300202 Solid	J95R4 Total	X	Due Date: 11/13/07 SDG: 7J30202			0.60 g
A7J300202 Solid	J95R5 Total		Due Date: 11/13/07 SDG: 7J30202			0.60 g

LEVEL 2

BLANK AND CHECK STANDARD ON BATCH	X
MS/MSD AND PDS ON BATCH	X
CORRECT SPIKES ADDED	X
SPIKING SOLUTIONS DOCUMENTED ON BATCH LOG	X

Comments:

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE

Matrix Spike Information:
J95R4 Hg

Check Sample Information:
J97FN Hg

Prep Method(s): SW846 7471A

```
:       Instrument Upload                                    Run Log - Page  1 :
:       Started Thu Nov  1 05:59:43 2007 by LISTM                              :
:       Data File: UPL$CAN_DATA_ROOT:<LHG>HG11031A.PRN;1                       :
```

#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
1	STD1REP1	1	31-OCT-2007	10:12:43			H1
2	STD2REP1	1	31-OCT-2007	10:13:58			H1
3	STD3REP1	1	31-OCT-2007	10:15:03			H1
4	STD4REP1	1	31-OCT-2007	10:16:14			H1
5	STD5REP1	1	31-OCT-2007	10:17:32			H1
6	STD6REP1	1	31-OCT-2007	10:18:38			H1
7	CK5ICV	1	31-OCT-2007	10:19:50			H1
8	CK4ICB	1	31-OCT-2007	10:20:55			H1
9	CK3CRA\MRL	1	31-OCT-2007	10:22:22			H1
10	CK2CCV	1	31-OCT-2007	10:23:29			H1
11	CK1CCB	1	31-OCT-2007	10:24:54			H1
12	J924PB	1	31-OCT-2007	10:25:59	7302033	A7J290000	H1
13	J924PC	1	31-OCT-2007	10:27:16	7302033	A7J290000	H1
14	J9XCT	1	31-OCT-2007	10:28:32	7302033	A7J260162	H1
15	J9XCTS	1	31-OCT-2007	10:29:36	7302033	A7J260162	H1
16	J9XCTD	1	31-OCT-2007	10:30:51	7302033	A7J260162	H1
17	J9XCTL	1	31-OCT-2007	10:32:10			H1
18	J902F	1	31-OCT-2007	10:33:27	7302033	A7J260345	H1
19	J9033	1	31-OCT-2007	10:34:43	7302033	A7J260345	H1
20	J9035	1	31-OCT-2007	10:35:49	7302033	A7J260345	H1
21	J9038	1	31-OCT-2007	10:37:05	7302033	A7J260345	H1
22	CK2CCV	1	31-OCT-2007	10:38:10			H1
23	CK1CCB	1	31-OCT-2007	10:39:14			H1
24	J903P	1	31-OCT-2007	10:40:22	7302033	A7J260345	H1
25	J903W	1	31-OCT-2007	10:41:32	7302033	A7J260345	H1
26	J904E	1	31-OCT-2007	10:42:46	7302033	A7J260345	H1
27	J924RB	1	31-OCT-2007	10:43:52	7302034	A7J290000	H1
28	J924RC	1	31-OCT-2007	10:45:21	7302034	A7J290000	H1
29	J90M9	1	31-OCT-2007	10:46:47	7302034	7J26310	H1
30	J90N0	1	31-OCT-2007	10:47:53	7302034	7J26310	H1
31	J90N1	1	31-OCT-2007	10:49:20	7302034	7J26310	H1
32	J90N3	1	31-OCT-2007	10:50:25	7302034	7J26310	H1
33	J90N4	1	31-OCT-2007	10:51:31	7302034	7J26310	H1
34	CK2CCV	1	31-OCT-2007	10:52:47			H1
35	CK1CCB	1	31-OCT-2007	10:53:56			H1
36	J90N6	1	31-OCT-2007	10:55:34	7302034	7J26310	H1
37	J90N7	1	31-OCT-2007	10:56:43	7302034	7J26310	H1
38	J90N7X	1	31-OCT-2007	10:57:48	7302034	7J26310	H1
39	J90N7S	1	31-OCT-2007	10:59:12	7302034	7J26310	H1
40	J90ND	1	31-OCT-2007	11:00:17	7302034	7J26310	H1
41	J90NE	1	31-OCT-2007	11:01:32	7302034	7J26310	H1
42	J90NF	1	31-OCT-2007	11:02:40	7302034	7J26310	H1
43	J90NH	1	31-OCT-2007	11:03:47	7302034	7J26310	H1
44	J90NJ	1	31-OCT-2007	11:04:57	7302034	7J26310	H1

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```
:       Instrument Upload                                    Run Log - Page  2 :
:       Started Thu Nov  1 05:59:44 2007 by LISTM                              :
:       Data File: UPL$CAN_DATA_ROOT:<LHG>HG11031A.PRN;1                       :
```

#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
45	J90NK	1	31-OCT-2007	11:06:08	7302034	7J26310	H1
46	CK2CCV	1	31-OCT-2007	11:07:27			H1
47	CK1CCB	1	31-OCT-2007	11:08:36			H1
48	J90NL	1	31-OCT-2007	11:09:51	7302034	7J26310	H1
49	J90NN	1	31-OCT-2007	11:10:58	7302034	7J26310	H1
50	J90NP	1	31-OCT-2007	11:12:17	7302034	7J26310	H1
51	J90NQ	1	31-OCT-2007	11:13:25	7302034	7J26310	H1
52	J90NV	1	31-OCT-2007	11:14:32	7302034	7J26310	H1
53	J90NW	1	31-OCT-2007	11:15:39	7302034	7J26310	H1
54	J90PH	1	31-OCT-2007	11:16:44	7302034	7J26310	H1
55	J924VB	1	31-OCT-2007	11:17:49	7302035	A7J290000	H1
56	J924VC	1	31-OCT-2007	11:18:59	7302035	A7J290000	H1
57	J90W8	1	31-OCT-2007	11:20:05	7302035	7J26337	H1
58	CK2CCV	1	31-OCT-2007	11:21:21			H1
59	CK1CCB	1	31-OCT-2007	11:22:32			H1
60	J90W9	1	31-OCT-2007	11:23:37	7302035	7J26337	H1
61	J90X1	1	31-OCT-2007	11:24:45	7302035	7J26337	H1
62	J90X3	1	31-OCT-2007	11:26:06	7302035	7J26337	H1
63	J90X5	1	31-OCT-2007	11:27:24	7302035	7J26337	H1
64	J90X6	1	31-OCT-2007	11:28:30	7302035	7J26337	H1
65	J90X6X	1	31-OCT-2007	11:29:37	7302035	7J26337	H1
66	J90X6S	1	31-OCT-2007	11:30:42	7302035	7J26337	H1
67	J90XA	1	31-OCT-2007	11:31:49	7302035	7J26337	H1
68	J90XC	1	31-OCT-2007	11:32:55	7302035	7J26337	H1
69	J90XD	1	31-OCT-2007	11:34:02	7302035	7J26337	H1
70	CK2CCV	1	31-OCT-2007	11:35:07			H1
71	CK1CCB	1	31-OCT-2007	11:36:15			H1
72	J90XE	1	31-OCT-2007	11:37:23	7302035	7J26337	H1
73	J90XF	1	31-OCT-2007	11:38:31	7302035	7J26337	H1
74	J90XG	1	31-OCT-2007	11:39:38	7302035	7J26337	H1
75	J90XH	1	31-OCT-2007	11:40:46	7302035	7J26337	H1
76	J90XK	1	31-OCT-2007	11:41:55	7302035	7J26337	H1
77	J90XL	1	31-OCT-2007	11:43:04	7302035	7J26337	H1
78	J90XM	1	31-OCT-2007	11:44:10	7302035	7J26337	H1
79	J90XP	1	31-OCT-2007	11:45:29	7302035	7J26337	H1
80	J90XT	1	31-OCT-2007	11:47:25	7302035	7J26337	H1
81	J90XV	1	31-OCT-2007	11:48:34	7302035	7J26337	H1
82	CK2CCV	1	31-OCT-2007	11:49:40			H1
83	CK1CCB	1	31-OCT-2007	11:50:45			H1
84	J90XX	1	31-OCT-2007	11:51:50	7302035	7J26337	H1
85	CK2CCV	1	31-OCT-2007	11:53:11			H1
86	CK1CCB	1	31-OCT-2007	11:54:17			H1
87	CK2CCV	1	31-OCT-2007	12:03:15			H1
88	CK1CCB	1	31-OCT-2007	12:04:20			H1

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#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
89	J924RC	1	31-OCT-2007	12:05:25	7302034	A7J290000	H1
90	CK2CCV	1	31-OCT-2007	12:07:00			H1
91	CK1CCB	1	31-OCT-2007	12:08:05			H1
92	CK2CCV	1	31-OCT-2007	13:39:10			H1
93	CK1CCB	1	31-OCT-2007	13:40:15			H1
94	J97FJB	1	31-OCT-2007	13:41:20	7304024	A7J310000	H1
95	J97FJC	1	31-OCT-2007	13:42:24	7304024	A7J310000	H1
96	J9597	1	31-OCT-2007	13:43:33	7304024	A7J300253	H1
97	J9597S	1	31-OCT-2007	13:44:37	7304024	A7J300253	H1
98	J9597D	1	31-OCT-2007	13:45:44	7304024	A7J300253	H1
99	J97FLB	1	31-OCT-2007	13:46:51	7304025	A7J310000	H1
100	J97FLC	1	31-OCT-2007	13:48:07	7304025	A7J310000	H1
101	J95T0	1	31-OCT-2007	13:49:17	7304025	7J30211	H1
102	J95T1	1	31-OCT-2007	13:50:25	7304025	7J30211	H1
103	J95T2	1	31-OCT-2007	13:51:30	7304025	7J30211	H1
104	CK2CCV	1	31-OCT-2007	13:52:38			H1
105	CK1CCB	1	31-OCT-2007	13:53:47			H1
106	J95T3	1	31-OCT-2007	13:55:02	7304025	7J30211	H1
107	J95T4	1	31-OCT-2007	13:56:09	7304025	7J30211	H1
108	J95T6	1	31-OCT-2007	13:57:24	7304025	7J30211	H1
109	J95T7	1	31-OCT-2007	13:58:32	7304025	7J30211	H1
110	J95T7X	1	31-OCT-2007	13:59:40	7304025	7J30211	H1
111	J95T7S	1	31-OCT-2007	14:00:51	7304025	7J30211	H1
112	J95TJ	1	31-OCT-2007	14:01:55	7304025	7J30211	H1
113	J95TK	1	31-OCT-2007	14:03:10	7304025	7J30211	H1
114	J95TL	1	31-OCT-2007	14:04:46	7304025	7J30211	H1
115	J95TM	1	31-OCT-2007	14:06:12	7304025	7J30211	H1
116	CK2CCV	1	31-OCT-2007	14:07:29			H1
117	CK1CCB	1	31-OCT-2007	14:08:34			H1
118	J95TN	1	31-OCT-2007	14:09:45	7304025	7J30211	H1
119	J95TR	1	31-OCT-2007	14:10:52	7304025	7J30211	H1
120	J95TT	1	31-OCT-2007	14:11:57	7304025	7J30211	H1
121	J95TV	1	31-OCT-2007	14:13:11	7304025	7J30211	H1
122	J95TW	1	31-OCT-2007	14:14:18	7304025	7J30211	H1
123	J95TX	1	31-OCT-2007	14:15:24	7304025	7J30211	H1
124	J95VG	1	31-OCT-2007	14:16:31	7304025	7J30211	H1
125	J95VJ	1	31-OCT-2007	14:17:47	7304025	7J30211	H1
126	CK2CCV	1	31-OCT-2007	14:18:57			H1
127	CK1CCB	1	31-OCT-2007	14:20:02			H1
128	CK2CCV	1	31-OCT-2007	14:34:18			H1
129	CK1CCB	1	31-OCT-2007	14:35:23			H1
130	J97FQB	1	31-OCT-2007	14:36:27	7304027	A7J310000	H1
131	J97FQC	1	31-OCT-2007	14:37:32	7304027	A7J310000	H1
132	J95K0	1	31-OCT-2007	14:38:39	7304027	7J30180	H1

(continued)

#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
133	J95K6	1	31-OCT-2007	14:39:44	7304027	7J30180	H1
134	J95K7	1	31-OCT-2007	14:41:01	7304027	7J30180	H1
135	J95K9	1	31-OCT-2007	14:42:06	7304027	7J30180	H1
136	J95LA	1	31-OCT-2007	14:43:20	7304027	7J30180	H1
137	J95LC	1	31-OCT-2007	14:44:41	7304027	7J30180	H1
138	J95LE	1	31-OCT-2007	14:46:01	7304027	7J30180	H1
139	J95LH	1	31-OCT-2007	14:47:19	7304027	7J30180	H1
140	CK2CCV	1	31-OCT-2007	14:48:24			H1
141	CK1CCB	1	31-OCT-2007	14:49:30			H1
142	J95LJ	1	31-OCT-2007	14:50:38	7304027	7J30180	H1
143	J95LM	1	31-OCT-2007	14:51:44	7304027	7J30180	H1
144	J95LN	1	31-OCT-2007	14:52:48	7304027	7J30180	H1
145	J95LT	1	31-OCT-2007	14:54:16	7304027	7J30180	H1
146	J95P1	1	31-OCT-2007	14:55:24	7304027	7J30180	H1
147	J95P2	1	31-OCT-2007	14:56:29	7304027	7J30180	H1
148	J95P4	1	31-OCT-2007	14:57:47	7304027	7J30180	H1
149	J95P6	1	31-OCT-2007	14:59:12	7304027	7J30180	H1
150	J95P7	1	31-OCT-2007	15:00:18	7304027	7J30180	H1
151	J95P9	1	31-OCT-2007	15:01:46	7304027	7J30180	H1
152	CK2CCV	1	31-OCT-2007	15:02:52			H1
153	CK1CCB	1	31-OCT-2007	15:04:41			H1
154	J95QC	1	31-OCT-2007	15:05:47	7304027	7J30180	H1
155	J95QCX	1	31-OCT-2007	15:07:13	7304027	7J30180	H1
156	J95QCS	1	31-OCT-2007	15:08:20	7304027	7J30180	H1
157	J95QCD	1	31-OCT-2007	15:09:31	7304027	7J30180	H1
158	J95QF	1	31-OCT-2007	15:10:47	7304027	7J30180	H1
159	J97FNB	1	31-OCT-2007	15:11:52	7304026	A7J310000	H1
160	J97FNC	1	31-OCT-2007	15:12:56	7304026	A7J310000	H1
161	J95Q8	1	31-OCT-2007	15:14:03	7304026	7J30202	H1
162	J95R0	1	31-OCT-2007	15:15:09	7304026	7J30202	H1
163	J95R1	1	31-OCT-2007	15:16:15	7304026	7J30202	H1
164	CK2CCV	1	31-OCT-2007	15:17:24			H1
165	CK1CCB	1	31-OCT-2007	15:18:30			H1
166	J95R2	1	31-OCT-2007	15:19:38	7304026	7J30202	H1
167	J95R4	1	31-OCT-2007	15:20:45	7304026	7J30202	H1
168	J95R4X	1	31-OCT-2007	15:22:02	7304026	7J30202	H1
169	J95R4S	1	31-OCT-2007	15:23:08	7304026	7J30202	H1
170	J95R5	1	31-OCT-2007	15:24:12	7304026	7J30202	H1
171	J95RD	1	31-OCT-2007	15:25:17	7304026	7J30202	H1
172	J95RE	1	31-OCT-2007	15:26:26	7304026	7J30202	H1
173	J95RG	1	31-OCT-2007	15:27:32	7304026	7J30202	H1
174	J95RH	1	31-OCT-2007	15:28:39	7304026	7J30202	H1
175	J95RK	1	31-OCT-2007	15:29:47	7304026	7J30202	H1
176	CK2CCV	1	31-OCT-2007	15:30:54			H1

---------- (continued) ----------

```
:       Instrument Upload                                    Run Log - Page  5 :
:       Started Thu Nov  1 05:59:44 2007 by LISTM                              :
:       Data File: UPL$CAN_DATA_ROOT:<LHG>HG11031A.PRN;1                       :
```

#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
177	CK1CCB	1	31-OCT-2007	15:32:00			H1
178	J95RL	1	31-OCT-2007	15:33:05	7304026	7J30202	H1
179	J95RM	1	31-OCT-2007	15:34:23	7304026	7J30202	H1
180	J95RN	1	31-OCT-2007	15:35:31	7304026	7J30202	H1
181	J95RP	1	31-OCT-2007	15:36:42	7304026	7J30202	H1
182	J95RQ	1	31-OCT-2007	15:37:59	7304026	7J30202	H1
183	J95RR	1	31-OCT-2007	15:39:17	7304026	7J30202	H1
184	J95RT	1	31-OCT-2007	15:40:42	7304026	7J30202	H1
185	J95RV	1	31-OCT-2007	15:41:58	7304026	7J30202	H1
186	J95RW	1	31-OCT-2007	15:43:05	7304026	7J30202	H1
187	CRA	1	31-OCT-2007	15:44:12			H1
188	CK2CCV	1	31-OCT-2007	15:45:19			H1
189	CK1CCB	1	31-OCT-2007	15:46:24			H1

End of Report

METHOD BLANK REPORT

General Chemistry

Client Lot #...: 7J30202 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids		Work Order #: KAPAT1AA		MB Lot-Sample #:	A7K060000-055	
	ND	10.0	%	MCAWW 160.3 MOD	11/06-11/07/07	7310055
		Dilution Factor: 1				

NOTE(S):

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

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A7J300202 **Work Order #...:** J95RD-SMP J95RD-DUP **Matrix.....:** SO

Date Sampled...: 10/29/07 09:32 **Date Received..:** 10/30/07

% Moisture.....: 17

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids						SD Lot-Sample #: A7J300202-002		
	82.7	80.8	%	2.3	(0-20)	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A7J300202 **Work Order #...:** J95R4-SMP J95R4-DUP **Matrix.....:** SO

Date Sampled...: 10/29/07 11:36 **Date Received..:** 10/30/07

% Moisture.....: 15

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids						SD Lot-Sample #: A7J300202-019		
	85.0	84.8	%	0.28	(0-20)	MCAWW 160.3 MOD	11/06-11/07/07	7310055

Dilution Factor: 1

SRV: J95Q8 = SB-482-0102 [Hg] = 0.063 mg/Kg as reported by the lab.

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: J95P9 Seq: 150 15:01:46 31 Oct 2007 HG
SOLID
Hg .0366 ppb .0000 % .0366

*** Check Standard: 2 Ck2CCV Seq: 151 15:02:52 31 Oct 2007 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		108.3	5.416	5.000	ppb	.0000 %

*** Check Standard: 1 Ck1CCB Seq: 152 15:04:41 31 Oct 2007 HG

Line	Flag	Found	Range(+/-)	Units	SD/RSD
Hg		-.0765	.2000	ppb	.0000 %

*** Sample ID: J95QC Seq: 153 15:05:47 31 Oct 2007 HG
SOLID
Hg -.0318 ppb .0000 % -.0318

*** Sample ID: J95QCX Seq: 154 15:07:13 31 Oct 2007 HG
SOLID
Hg -.0668 ppb .0000 % -.0668

*** Sample ID: J95QCS Seq: 155 15:08:20 31 Oct 2007 HG
SOLID
Hg 1.050 ppb .0000 % 1.050

*** Sample ID: J95QCD Seq: 156 15:09:31 31 Oct 2007 HG
SOLID
Hg 1.139 ppb .0000 % 1.139

*** Sample ID: J95QF Seq: 157 15:10:47 31 Oct 2007 HG
SOLID
Hg .0021 ppb .0000 % .0021

*** Sample ID: J97FNB Seq: 158 15:11:52 31 Oct 2007 HG
7304026
DO NOT UPLOAD
Hg -.1050 ppb .0000 % -.1050

*** Sample ID: J97FNC Seq: 159 15:12:56 31 Oct 2007 HG
SOLID
Hg 5.405 ppb .0000 % 5.405

*** Sample ID: J95Q8 Seq: 160 15:14:03 31 Oct 2007 HG
SOLID
Hg .2945 ppb .0000 % .2945

*** Sample ID: J95R0 Seq: 161 15:15:09 31 Oct 2007 HG
SOLID
Hg .0755 ppb .0000 % .0755

$$\frac{0.2945\ \mu g}{L} \cdot \frac{0.1\ L}{0.6\ g} \cdot \frac{1000\ g}{1\ Kg} \cdot \frac{1\ mg}{1000\ \mu g} = \frac{0.049\ mg}{Kg} / 0.78 = \boxed{0.063\ mg/Kg}$$

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO : **MIKE MARTIN** **DATE:** **DECEMBER 14, 2007**

FROM: **THOMAS JACKMAN** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC AND INORGANIC DATA VALIDATION – BENZO(A)PYRENE / MERCURY / LEAD**
LOCKHEED MIDDLE RIVER FACILITY
SAMPLE DELIVERY GROUP (SDG) – 7J30211

SAMPLES: 19/Solid for Mercury Analysis

SB-301-0203	SB-301-0506	SB-301-0809	SB-301-1112	
SB-486-0102	SB-486-0203	SB-486-0304	SB-486-0506	SB-486-0708
SB-487-0102	SB-487-0203	SB-487-0304	SB-487-0506	SB-487-0708
SB-488-0102	SB-488-0203	SB-488-0304	SB-488-0506	SB-488-0708

4/Solid for Lead Analysis

SB-301-0203	SB-301-0506	SB-301-0809	SB-301-1112

15/Solid for Benzo(a)pyrene Analysis

SB-486-0102	SB-486-0203	SB-486-0304	SB-486-0506	SB-486-0708
SB-487-0102	SB-487-0203	SB-487-0304	SB-487-0506	SB-487-0708
SB-488-0102	SB-488-0203	SB-488-0304	SB-488-0506	SB-488-0708

Overview

This sample set for the LOCKHEED MIDDLE RIVER, SDG 7J30211, consists of 19 environmental soil samples. The samples were analyzed for benzo(a)pyrene, lead, and mercury. No field duplicates were included in this data set.

The samples were collected by Tetra Tech NUS, Inc. on October 29, 2007 and analyzed by Test America. The samples were analyzed by SW-846 Method 8270C for benzo(a)pyrene, by SW-846 Method 7471A for mercury, and by SW-846 Method 6020 for lead.

Summary

Organic Analysis. All samples were successfully analyzed with the exception of sample SB-486-0708. The organic findings in this report are based upon a general review of all available data including: data completeness, system performance, holding times, GC/MS tuning, initial/continuing calibrations, laboratory method blank contamination, surrogate spike, matrix spike/matrix spike duplicate (MS/MSD) results, Laboratory Control Sample (LCS) results, internal standard recovery, compound identification, compound quantitation, and detection limits.

Inorganic Analysis. All samples were successfully analyzed. The inorganic findings in this report are based upon a general review of all available data including: data completeness, holding times, calibrations, laboratory method/preparation blanks, interference check standards, matrix spike

results, laboratory duplicate results, laboratory control sample (LCS) results, ICP serial dilutions, analyte quantitation, and detection limits.

Areas of concern are listed below; documentation supporting these findings is presented in Appendix C. Qualified analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

Major Problems

- The internal standard area count for perylene-d12 in sample SB-488-0708 was very low. The nondetected result for benzo(a)pyrene in this sample is qualified as unreliable "UR". The sample was not re-analyzed by the laboratory.

- Lead was detected in continuing calibration blanks or preparation blanks at the following concentrations

Analyte	Level	Action Level
Lead[1]	0.0044 mg/kg	0.022 mg/kg

[1] Reported in preparation blanks.

An action level of 5X the maximum contaminant concentration was used for lead to evaluate laboratory or field contamination. Dilution factors and sample aliquots were taken into consideration during the application of all action levels, if applicable. No results for lead were qualified because the concentrations in the environmental sample were greater than the action level.

- Positive results reported below the reporting limit (RL) but above the method detection limit (MDL) for the organic analyses were qualified as estimated, "J".

Notes

Because the laboratory did not add benzo(a)pyrene to the blank spike and to the matrix spike analyses, recoveries for these quality control samples could not be evaluated.

Executive Summary

Laboratory Performance: The internal standard area count in the analysis of benzo(a)pyrene for one sample was very low.
Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the "Region III Modifications to the National Functional Guidelines for Organic Data Review" (9/94) and "Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analysis" (4/93). The text of this report has been formulated to address only those problem areas affecting data quality.

Tetra Tech NUS
Thomas Jackman
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 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: 00998

SDG: 7J30211 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-486-0102	nsample	SB-486-0203	nsample	SB-486-0304
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300211001	lab_id	A7J300211002	lab_id	A7J300211003
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	89.0	Pct_Solids	86.0	Pct_Solids	85.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5 ~~370~~	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5 ~~380~~	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5 ~~390~~	U	

PROJ_NO: 00998

SDG: 7J30211 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-486-0506	nsample	SB-486-0708	nsample	SB-487-0102
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300211004	lab_id	A7J300211005	lab_id	A7J300211006
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	81.0	Pct_Solids	86.0	Pct_Solids	90.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6 ~~410~~	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5 ~~390~~	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5 ~~370~~	U	

PROJ_NO: 00998

SDG: 7J30211 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-487-0203	nsample	SB-487-0304	nsample	SB-487-0506
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300211007	lab_id	A7J300211008	lab_id	A7J300211009
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	82.0	Pct_Solids	88.0	Pct_Solids	84.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6 ~~400~~	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5 ~~380~~	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6 ~~390~~	U	

PROJ_NO: 00998

SDG: 7J30211 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-487-0708	nsample	SB-488-0102	nsample	SB-488-0203
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300211010	lab_id	A7J300211011	lab_id	A7J300211012
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	85.0	Pct_Solids	89.0	Pct_Solids	89.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5 ~~380~~	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	9	J	P

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.5 ~~370~~	U	

PROJ_NO: 00998

SDG: 7J30211 MEDIA: SOIL DATA FRACTION: OS

nsample	SB-488-0304	nsample	SB-488-0506	nsample	SB-488-0708
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300211013	lab_id	A7J300211014	lab_id	A7J300211015
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	86.0	Pct_Solids	82.0	Pct_Solids	85.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1,5 ~~380~~	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1.6 ~~400~~	U	

Parameter	Result	Val Qual	Qual Code
BENZO(A)PYRENE	1,5 ~~390~~	UR	N

PROJ_NO: 00998

SDG: 7J30211 MEDIA: SOIL DATA FRACTION: M

nsample	SB-301-0203	nsample	SB-301-0506	nsample	SB-301-0809
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300211016	lab_id	A7J300211017	lab_id	A7J300211018
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	90.0	Pct_Solids	89.0	Pct_Solids	84.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
LEAD	17.7		
MERCURY	0.56		

Parameter	Result	Val Qual	Qual Code
LEAD	2.3		
MERCURY	0.019	U	

Parameter	Result	Val Qual	Qual Code
LEAD	1.9		
MERCURY	0.02		

PROJ_NO: 00998

SDG: 7J30211 MEDIA: SOIL DATA FRACTION: M

nsample	SB-301-1112	nsample	SB-486-0102	nsample	SB-486-0203
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300211019	lab_id	A7J300211001	lab_id	A7J300211002
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	80.0	Pct_Solids	89.0	Pct_Solids	86.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
LEAD	3.3		
MERCURY	0.021	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

PROJ_NO: 00998

SDG: 7J30211 MEDIA: SOIL DATA FRACTION: M

nsample	SB-486-0304	nsample	SB-486-0506	nsample	SB-486-0708
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300211003	lab_id	A7J300211004	lab_id	A7J300211005
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	85.0	Pct_Solids	81.0	Pct_Solids	86.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

PROJ_NO: 00998

SDG: 7J30211 MEDIA: SOIL DATA FRACTION: M

nsample	SB-487-0102	nsample	SB-487-0203	nsample	SB-487-0304
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300211006	lab_id	A7J300211007	lab_id	A7J300211008
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	90.0	Pct_Solids	82.0	Pct_Solids	88.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

PROJ_NO: 00998

SDG: 7J30211 MEDIA: SOIL DATA FRACTION: M

nsample	SB-487-0506	nsample	SB-487-0708	nsample	SB-488-0102
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300211009	lab_id	A7J300211010	lab_id	A7J300211011
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	84.0	Pct_Solids	85.0	Pct_Solids	89.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

PROJ_NO: 00998

SDG: 7J30211 MEDIA: SOIL DATA FRACTION: M

nsample	SB-488-0203	nsample	SB-488-0304	nsample	SB-488-0506
samp_date	10/29/2007	samp_date	10/29/2007	samp_date	10/29/2007
lab_id	A7J300211012	lab_id	A7J300211013	lab_id	A7J300211014
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	89.0	Pct_Solids	86.0	Pct_Solids	82.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.019	U	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

PROJ_NO: 00998

SDG: 7J30211 MEDIA: SOIL DATA FRACTION: M

nsample	SB-488-0708
samp_date	10/29/2007
lab_id	A7J300211015
qc_type	NM
units	MG/KG
Pct_Solids	85.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
MERCURY	0.02	U	

APPENDIX B

Results as reported by the Laboratory

Tetra Tech NUS, Inc

Client Sample ID: SB-486-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J300211-001 **Work Order #...:** J95TJ1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 13:20 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7304332
Dilution Factor: 1
% Moisture.....: 11 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	370	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	70	(24 - 112)
2-Fluorobiphenyl	69	(34 - 110)
Terphenyl-d14	94	(41 - 119)
Phenol-d5	76	(28 - 110)
2-Fluorophenol	75	(26 - 110)
2,4,6-Tribromophenol	83	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-486-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J300211-002 **Work Order #...:** J95TK1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 13:22 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7304332
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	47	(24 - 112)
2-Fluorobiphenyl	49	(34 - 110)
Terphenyl-d14	72	(41 - 119)
Phenol-d5	55	(28 - 110)
2-Fluorophenol	52	(26 - 110)
2,4,6-Tribromophenol	67	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-486-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J300211-003 **Work Order #...:** J95TL1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 13:24 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7304332
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	54	(24 - 112)
2-Fluorobiphenyl	52	(34 - 110)
Terphenyl-d14	75	(41 - 119)
Phenol-d5	60	(28 - 110)
2-Fluorophenol	60	(26 - 110)
2,4,6-Tribromophenol	64	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-486-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J300211-004 **Work Order #...:** J95TM1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 13:26 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7304332
Dilution Factor: 1
% Moisture.....: 19 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	410	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	53	(24 - 112)
2-Fluorobiphenyl	53	(34 - 110)
Terphenyl-d14	89	(41 - 119)
Phenol-d5	60	(28 - 110)
2-Fluorophenol	62	(26 - 110)
2,4,6-Tribromophenol	73	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-486-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J300211-005 **Work Order #...:** J95TN1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 13:28 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7304332
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	46	(24 - 112)
2-Fluorobiphenyl	47	(34 - 110)
Terphenyl-d14	80	(41 - 119)
Phenol-d5	49	(28 - 110)
2-Fluorophenol	50	(26 - 110)
2,4,6-Tribromophenol	62	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-487-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J300211-006 **Work Order #...:** J95TR1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 13:35 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7304332
Dilution Factor: 1
% Moisture.....: 10 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	370	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	57	(24 - 112)
2-Fluorobiphenyl	58	(34 - 110)
Terphenyl-d14	83	(41 - 119)
Phenol-d5	67	(28 - 110)
2-Fluorophenol	65	(26 - 110)
2,4,6-Tribromophenol	72	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-487-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J300211-007 **Work Order #...:** J95TT1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 13:37 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7304332
Dilution Factor: 1
% Moisture.....: 18 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	400	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	50	(24 - 112)
2-Fluorobiphenyl	54	(34 - 110)
Terphenyl-d14	75	(41 - 119)
Phenol-d5	59	(28 - 110)
2-Fluorophenol	57	(26 - 110)
2,4,6-Tribromophenol	67	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-487-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J300211-008 **Work Order #...:** J95TV1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 13:39 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7304332
Dilution Factor: 1
% Moisture.....: 12 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	58	(24 - 112)
2-Fluorobiphenyl	59	(34 - 110)
Terphenyl-d14	81	(41 - 119)
Phenol-d5	71	(28 - 110)
2-Fluorophenol	69	(26 - 110)
2,4,6-Tribromophenol	74	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-487-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J300211-009 **Work Order #...:** J95TW1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 13:41 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7304332
Dilution Factor: 1
% Moisture.....: 16 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	54	(24 - 112)
2-Fluorobiphenyl	46	(34 - 110)
Terphenyl-d14	77	(41 - 119)
Phenol-d5	60	(28 - 110)
2-Fluorophenol	63	(26 - 110)
2,4,6-Tribromophenol	63	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-487-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J300211-010 **Work Order #...:** J95TX1AD **Matrix.....:** SO
Date Sampled...: 10/29/07 13:43 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7304332
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	60	(24 - 112)
2-Fluorobiphenyl	55	(34 - 110)
Terphenyl-d14	82	(41 - 119)
Phenol-d5	67	(28 - 110)
2-Fluorophenol	68	(26 - 110)
2,4,6-Tribromophenol	71	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-488-0102

GC/MS Semivolatiles

Lot-Sample #...: A7J300211-011 **Work Order #...:** J95T01AD **Matrix.....:** SO
Date Sampled...: 10/29/07 14:00 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7304332
Dilution Factor: 1
% Moisture.....: 11 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	**9.0 J**	**370**	**ug/kg**	**1.5**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	51	(24 - 112)
2-Fluorobiphenyl	62	(34 - 110)
Terphenyl-d14	77	(41 - 119)
Phenol-d5	59	(28 - 110)
2-Fluorophenol	53	(26 - 110)
2,4,6-Tribromophenol	71	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Tetra Tech NUS, Inc

Client Sample ID: SB-488-0203

GC/MS Semivolatiles

Lot-Sample #...: A7J300211-012 **Work Order #...:** J95T11AD **Matrix.....:** SO
Date Sampled...: 10/29/07 14:02 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7304332
Dilution Factor: 1
% Moisture.....: 11 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	370	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	53	(24 - 112)
2-Fluorobiphenyl	57	(34 - 110)
Terphenyl-d14	76	(41 - 119)
Phenol-d5	59	(28 - 110)
2-Fluorophenol	57	(26 - 110)
2,4,6-Tribromophenol	73	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-488-0304

GC/MS Semivolatiles

Lot-Sample #...: A7J300211-013 **Work Order #...:** J95T21AD **Matrix.....:** SO
Date Sampled...: 10/29/07 14:04 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7304332
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	380	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	59	(24 - 112)
2-Fluorobiphenyl	59	(34 - 110)
Terphenyl-d14	83	(41 - 119)
Phenol-d5	65	(28 - 110)
2-Fluorophenol	67	(26 - 110)
2,4,6-Tribromophenol	74	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-488-0506

GC/MS Semivolatiles

Lot-Sample #...: A7J300211-014 **Work Order #...:** J95T31AD **Matrix.....:** SO
Date Sampled...: 10/29/07 14:06 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/01/07
Prep Batch #...: 7304332
Dilution Factor: 1
% Moisture.....: 18 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	400	ug/kg	1.6

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	44	(24 - 112)
2-Fluorobiphenyl	45	(34 - 110)
Terphenyl-d14	79	(41 - 119)
Phenol-d5	50	(28 - 110)
2-Fluorophenol	50	(26 - 110)
2,4,6-Tribromophenol	60	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Tetra Tech NUS, Inc

Client Sample ID: SB-488-0708

GC/MS Semivolatiles

Lot-Sample #...: A7J300211-015 **Work Order #...:** J95T41AD **Matrix.....:** SO
Date Sampled...: 10/29/07 14:08 **Date Received..:** 10/30/07
Prep Date.....: 10/31/07 **Analysis Date..:** 11/02/07
Prep Batch #...: 7304332
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzo(a)pyrene	ND	390	ug/kg	1.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	75	(24 - 112)
2-Fluorobiphenyl	63	(34 - 110)
Terphenyl-d14	97	(41 - 119)
Phenol-d5	63	(28 - 110)
2-Fluorophenol	60	(26 - 110)
2,4,6-Tribromophenol	33	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95T6 **Client ID:** SB-301-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 10.454

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Lead	208	0.0017	0.11	17.7		1	ICPMS	11/6/2007	10:53

Comments: Lot #: A7J300211 Sample #: 16

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95T7 **Client ID:** SB-301-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 10.663

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Lead	208	0.0017	0.11	2.3		1	ICPMS	11/6/2007	11:05

Comments: Lot #: A7J300211 Sample #: 17

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95VG **Client ID:** SB-301-0809

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 15.7

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Lead	208	0.0018	0.12	1.9		1	ICPMS	11/6/2007	11:13

Comments: Lot #: A7J300211 Sample #: 18

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95VJ **Client ID:** SB-301-1112

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 19.511

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Lead	208	0.0019	0.12	3.3		1	ICPMS	11/6/2007	11:15

Comments: Lot #: A7J300211 Sample #: 19

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95T6 **Client ID:** SB-301-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025-Hg

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 10.454

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.56		1	CVAA	10/31/2007	13:57

Comments: Lot #: A7J300211 Sample #: 16

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95T7 **Client ID:** SB-301-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025-Hg

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 10.663

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/31/2007	13:58

Comments: Lot #: A7J300211 Sample #: 17

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95VG **Client ID:** SB-301-0809

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025-Hg

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 15.7

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	B	1	CVAA	10/31/2007	14:16

Comments: Lot #: A7J300211 Sample #: 18

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95VJ **Client ID:** SB-301-1112

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025-Hg

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 19.511

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.021	0.12	0.021	U	1	CVAA	10/31/2007	14:17

Comments: Lot #: A7J300211 Sample #: 19

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95TJ **Client ID:** SB-486-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025-Hg

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 10.578

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/31/2007	14:01

Comments: Lot #: A7J300211 Sample #: 1

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95TK **Client ID:** SB-486-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025-Hg

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 13.67

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.12	0.019	U	1	CVAA	10/31/2007	14:03

Comments: Lot #: A7J300211 Sample #: 2

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95TL **Client ID:** SB-486-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025-Hg

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 15.13

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	14:04

Comments: Lot #: A7J300211 Sample #: 3

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95TM **Client ID:** SB-486-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025-Hg

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 18.681

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	14:06

Comments: Lot #: A7J300211 Sample #: 4

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95TN **Client ID:** SB-486-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025-Hg

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 14.395

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.12	0.019	U	1	CVAA	10/31/2007	14:09

Comments: Lot #: A7J300211 Sample #: 5

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95TR **Client ID:** SB-487-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025-Hg

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 10.372

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/31/2007	14:10

Comments: Lot #: A7J300211 Sample #: 6

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95TT **Client ID:** SB-487-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025-Hg

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.56

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	14:11

Comments: Lot #: A7J300211 Sample #: 7

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95TV **Client ID:** SB-487-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025-Hg

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 12.037

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/31/2007	14:13

Comments: Lot #: A7J300211 Sample #: 8

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95TW **Client ID:** SB-487-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025-Hg

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.197

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	14:14

Comments: Lot #: A7J300211 Sample #: 9

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95TX **Client ID:** SB-487-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025-Hg

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 14.658

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	14:15

Comments: Lot #: A7J300211 Sample #: 10

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95T0 **Client ID:** SB-488-0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025-Hg

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 11.142

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/31/2007	13:49

Comments: Lot #: A7J300211 Sample #: 11

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95T1 **Client ID:** SB-488-0203

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025-Hg

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 11.478

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.11	0.019	U	1	CVAA	10/31/2007	13:50

Comments: Lot #: A7J300211 Sample #: 12

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95T2 **Client ID:** SB-488-0304

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025-Hg

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 13.676

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.019	0.12	0.019	U	1	CVAA	10/31/2007	13:51

Comments: Lot #: A7J300211 Sample #: 13

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95T3 **Client ID:** SB-488-0506

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025-Hg

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.876

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	13:55

Comments: Lot #: A7J300211 Sample #: 14

5.21.0

E Serial dilution percent difference not within limits
U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

Test America North Canton

Metals Data Reporting Form

Sample Results

Lab Sample ID: J95T4 **Client ID:** SB-488-0708

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025-Hg

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 14.788

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.020	0.12	0.020	U	1	CVAA	10/31/2007	13:56

Comments: Lot #: A7J300211 Sample #: 15

5.21.0

E Serial dilution percent difference not within limits

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

APPENDIX C

Support Documentation

CASE NARRATIVE

7J30211

The following report contains the analytical results for nineteen solid samples submitted to TestAmerica North Canton by Tetra Tech NUS Inc. from the LMC MR Site, project number 112IC00998. The samples were received October 30, 2007, according to documented sample acceptance procedures.

This SDG consists of (1) laboratory ID's: A7J300211.

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. 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.

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 2.7, 3.3, and 4.1°C.

GC/MS SEMIVOLATILES

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 SB-486-0102 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.

The internal standard areas were outside acceptance limits for sample(s) SB-488-0708 due to matrix effects. (Refer to IS report following this Case Narrative for additional detail.)

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).

GENERAL CHEMISTRY

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

Chain of Custody Record

SEVERN TRENT STL
Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
TETRA-TECH	M. MARTIN	10/29/07	322987
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 2**
20251 CENTURY BLVD #200	301-528-3022		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
GERMANTOWN / MD / 20874	S. HUDLEY	K. IVES	
Project Name and Location (State)	**Carrier/Waybill Number**		
LMC MR	COURIER		
Contract/Purchase Order/Quote No.			
112IL00998			

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: 8270*	Hg	Special Instructions/ Conditions of Receipt
SB-486-0102	10/29/07	1320				X	2						X	X	Block 'H'
0203		1322													* benzo(a)pyrene
0304		1324													
0506		1326													
486-0708		1328													
487-0102		1335													
0203		1337													
0304		1339													
0506		1341													
487-0708		1343													
488-0102		1400													
SB-488-0203	10/29/07	1402				X	2						X	X	* benzo(a)pyrene

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 STND

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	10/29/07	1445	1. Received By	10-29-07	16:45
2. Relinquished By	10-29-07	14:45	2. Received By	10/30/07	0940
3. Relinquished By			3. Received By		

Comments

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

TestAmerica North Canton

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Chain of Custody Record

SEVERN TRENT **STL**

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
TETRA TECH	M. MARTIN	10/29/07	322988
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** 2 of 2
20251 CENTURY BLVD #200	301-528-3022		
City / State / Zip Code	**Site Contact**	**Lab Contact**	
GERMANTOWN / MD / 20874	S. HADLEY	K. IVES	
Project Name and Location (State)	**Carrier/Waybill Number**		
LMC MR	COURIER		
Contract/Purchase Order/Quote No.			
1121C 0099B			

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: LL 8270 *	Hg (SW-846 7471A)	Pb (SW-846 6010B)	Special Instructions/ Conditions of Receipt
SB-488-0304	10/29/07	1404				X	2						X	X		BLOCK 'H'
SB-488-0506		1406														* benzo(a)pyrene
SB-488-0708		1408											X			* benzo(a) pyrene
SB-301-0203		1550												X		
SB-301-0506		1552														
SB-301-0809		1554														
SB-301-1112	10/29/07	1556				X	2									
SB-301-0506 MS/SD	10/29/07	1552				X	2						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 STND

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	10/29/07	1445	1. Received By	10-29-07	16:45
2. Relinquished By	10-29-07	14:45	2. Received By	10/30/07	0940
3. Relinquished By			3. Received By		

Comments

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

HOLDTIME

SDG: 7J30211

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	SB-487-0506	A7J300211009	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-301-0809	A7J300211018	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-301-1112	A7J300211019	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-486-0203	A7J300211002	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-486-0506	A7J300211004	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-486-0708	A7J300211005	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-487-0102	A7J300211006	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-301-0506	A7J300211017	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-487-0304	A7J300211008	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-486-0102	A7J300211001	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-487-0708	A7J300211010	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-488-0102	A7J300211011	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-488-0203	A7J300211012	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-488-0304	A7J300211013	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-488-0506	A7J300211014	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
HG	MG/KG	SB-301-0203	A7J300211016	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-488-0708	A7J300211015	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-487-0203	A7J300211007	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
HG	MG/KG	SB-486-0304	A7J300211003	NM	10/29/2007	10/31/2007	10/31/2007	2	0	2
M	MG/KG	SB-301-1112	A7J300211019	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
M	MG/KG	SB-301-0809	A7J300211018	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
M	MG/KG	SB-301-0506	A7J300211017	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
M	MG/KG	SB-301-0203	A7J300211016	NM	10/29/2007	10/31/2007	11/6/2007	2	6	8
PCS	%	SB-487-0304	A7J300211008	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-488-0506	A7J300211014	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-488-0304	A7J300211013	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-488-0203	A7J300211012	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-488-0708	A7J300211015	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-488-0102	A7J300211011	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-487-0506	A7J300211009	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-301-0203	A7J300211016	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-487-0203	A7J300211007	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-487-0102	A7J300211006	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
PCS	%	SB-486-0708	A7J300211005	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-486-0506	A7J300211004	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-486-0304	A7J300211003	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-486-0203	A7J300211002	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-486-0102	A7J300211001	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-301-1112	A7J300211019	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-301-0809	A7J300211018	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-301-0506	A7J300211017	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
PCS	%	SB-487-0708	A7J300211010	NM	10/29/2007	11/6/2007	11/7/2007	8	1	9
OS	%	SB-486-0304	A7J300211003	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	%	SB-488-0506	A7J300211014	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	%	SB-486-0102	A7J300211001	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	%	SB-486-0203	A7J300211002	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	%	SB-488-0304	A7J300211013	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	%	SB-488-0203	A7J300211012	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	%	SB-486-0506	A7J300211004	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	%	SB-488-0708	A7J300211015	NM	10/29/2007	10/31/2007	11/2/2007	2	2	4
OS	%	SB-488-0102	A7J300211011	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OS	%	SB-487-0708	A7J300211010	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	%	SB-487-0506	A7J300211009	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	%	SB-487-0304	A7J300211008	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	%	SB-487-0203	A7J300211007	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	%	SB-487-0102	A7J300211006	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	%	SB-486-0708	A7J300211005	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	UG/KG	SB-486-0304	A7J300211003	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	UG/KG	SB-487-0708	A7J300211010	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	UG/KG	SB-488-0506	A7J300211014	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	UG/KG	SB-488-0304	A7J300211013	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	UG/KG	SB-488-0203	A7J300211012	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	UG/KG	SB-488-0102	A7J300211011	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	UG/KG	SB-488-0708	A7J300211015	NM	10/29/2007	10/31/2007	11/2/2007	2	2	4
OS	UG/KG	SB-487-0506	A7J300211009	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	UG/KG	SB-487-0304	A7J300211008	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	UG/KG	SB-487-0203	A7J300211007	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	UG/KG	SB-487-0102	A7J300211006	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	UG/KG	SB-486-0506	A7J300211004	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OS	UG/KG	SB-486-0203	A7J300211002	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	UG/KG	SB-486-0102	A7J300211001	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3
OS	UG/KG	SB-486-0708	A7J300211005	NM	10/29/2007	10/31/2007	11/1/2007	2	1	3

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30211

Lab File ID (Standard): 2SMH1102 Date Analyzed: 11/02/07

Instrument ID: A4AG2 Time Analyzed: 0907

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	631202	6.83	581779	8.80	553071	10.26
	UPPER LIMIT	1262404	7.33	1163558	9.30	1106142	10.76
	LOWER LIMIT	315601	6.33	290890	8.30	276536	9.76
	EPA SAMPLE NO.						
01	J98TKBLK	1198330	6.84	1084539	8.82	1060807	10.28
02	J98TKCHK	1024281	6.83	945290	8.80	915900	10.26
03	SB-488-0708	655450	6.83	564158	8.81	3028*	10.27
04							
05							
06							
07							
08							
09							
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11							
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16							
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18							
19							
20							
21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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.

SW846 8270C MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

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

Lab Code: TALCAN SDG No: 7J30211

Matrix Spike ID: SB-486-0102

Lot #: A7J300211 WO #: J95TJ1AF

BATCH: 7304332

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENT. (ug/kg)	MSD % REC	% RPD		QC LIMITS RPD	QC LIMITS REC	QUAL
1,2,4-Trichlorobenzene	740	370	50	18		30	33 - 110	
Acenaphthene	740	470	63	4.6		30	10 - 200	
2,4-Dinitrotoluene	740	600	80	4.6		30	42 - 118	
Pyrene	740	580	78	5.2		30	10 - 200	
N-Nitrosodi-n-propylamine	740	440	60	15		30	30 - 121	
1,4-Dichlorobenzene	740	310	41	32	*	30	26 - 110	p
Pentachlorophenol	740	480	64	1.9		30	10 - 182	
Phenol	740	450	61	13		30	10 - 144	
2-Chlorophenol	740	410	56	16		30	32 - 110	
4-Chloro-3-methylphenol	740	550	74	5.5		30	32 - 117	
4-Nitrophenol	740	510	69	2.5		30	10 - 125	

NOTES(S):

Results and reporting limits have been adjusted for dry weight.

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 11 outside limits
Spike Recovery: 0 out of 11 outside limits

COMMENTS:

Test America North Canton

Metals Data Reporting Form

Initial Calibration Blank Results

Instrument: ICPMS **Units:** ug/L

Chart Number: 110607c.rep

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	QC Std 2 11/6/2007 8:33 AM Found	Q	Found	Q	Found	Q	Found	Q	Found	Q
Lead	208	1	**0.02**	**B**								

5.21.0

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

Test America North Canton

Metals Data Reporting Form

Continuing Calibration Blank Results

Instrument: ICPMS **Units:** ug/L

Chart Number: 110607c.rep

Standard Source: _____ **Standard ID:** _____

Element	WL/ Mass	Report Limit	QC Std 7 11/6/2007 8:51 AM Found	Q	QC Std 7 11/6/2007 10:29 AM Found	Q	QC Std 7 11/6/2007 11:02 AM Found	Q	QC Std 7 11/6/2007 11:36 AM Found	Q	Found	Q
Lead	208	1	0.015	U	0.015	U	0.015	U	**0.021**	**B**		

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

Test America North Canton

Metals Data Reporting Form

Preparation Blank Results

Lab Sample ID: J97FLB

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/31/2007 **Prep Batch:** 7304025

Weight: 1.00 **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Lead	208	0.0015	0.10	0.0044	B	1	ICPMS	11/6/2007	10:47

Comments: Lot #: A7J300211

5.21.0

U Result is less than the IDL

B Result is between IDL and RL

Form 3 Equivalent

CALCULATION WORKSHEET

CLIENT: LOCKHEED MIDDLE RIVER	**SDG No.** 7J30211
SUBJECT: EXAMPLE CALCULATION - BENZO(A)PYRENE - SOIL	
BY: T. JACKMAN	**DATE:** 12/08/07

Sample ID = SB-488-0102
Concentration = 9 ug/kg

Benzo(a)pyrene

EQUATION:

$$C_s = \frac{A_x \times Is \times Vt \times Df}{Ais \times RRF \times V_i \times W_s \times D}$$

Where:

C_s	=	analyte concentration in soil		ug/kg
A_x	=	analyte response	=	35764
Is	=	amount of internal standard	=	2 ng
V_t	=	volume of final extract	=	2000 uL
Df	=	dilution factor	=	1
Ais	=	response of internal standard	=	1115637
RRF	=	response factor of compound	=	1.06425
V_i	=	volume injected	=	0.5 uL
Ws	=	sample weight	=	30.07 g
D	=	percent solids	=	0.89

Therefore: benzo(a)pyrene concentration in soil =

$$\frac{35764 \times 2ng \times 2000uL \times 1}{1115637 \times 1.06425 \times 0.5uL \times 30.07g \times 0.89}$$

C_s = 9.0 ug/kg

Tetra Tech NUS, Inc

Client Sample ID: SB-488-0102

GC/MS Semivolatiles

Lot-Sample #...:	A7J300211-011	**Work Order #...:**	J95T01AD	**Matrix.....:**	SO
Date Sampled...:	10/29/07 14:00	**Date Received..:**	10/30/07		
Prep Date.....:	10/31/07	**Analysis Date..:**	11/01/07		
Prep Batch #...:	7304332				
Dilution Factor:	1	**Initial Wgt/Vol:**	30.07 g	**Final Wgt/Vol..:**	2 mL
% Moisture.....:	11	**Method.....:**	SW846 8270C		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo(a)pyrene	**9.0 J**	**370**	**ug/kg**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	51	(24 - 112)
2-Fluorobiphenyl	62	(34 - 110)
Terphenyl-d14	77	(41 - 119)
Phenol-d5	59	(28 - 110)
2-Fluorophenol	53	(26 - 110)
2,4,6-Tribromophenol	71	(10 - 118)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

STL North Canton

Semivolatile REPORT SW-846 Method 8270

Data file : \\cansvr11\dd\chem\MSS\a4ag2.i\71101A.b\J95T01AD.D
Lab Smp Id: J95T01AD Client Smp ID: SB-488-0102
Inj Date : 01-NOV-2007 17:25
Operator : 046900 Inst ID: a4ag2.i
Smp Info : J95T01AD,71101A.b,8270P,BAP.SUB
Misc Info :
Comment :
Method : \\cansvr11\dd\chem\MSS\a4ag2.i\71101A.b\8270p.m
Meth Date : 02-Nov-2007 08:30 hulat Quant Type: ISTD
Cal Date : 29-OCT-2007 07:15 Cal File: 2SHHH1029.D
Als bottle: 40
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BAP.SUB
Target Version: 4.14
Processing Host: CANPMSSV04

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	2000.000	Volume of final extract (uL)(1000 low, 2
Vi	0.50000	Volume injected (uL)
Ws	30.070	Weight of sample extracted (g)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/kg)
* 1 1,4-Dichlorobenzene-d4	152	3.601	3.595	(1.000)	274856	2.00000	(Q)
* 2 Naphthalene-d8	136	4.501	4.495	(1.000)	1217008	2.00000	
* 3 Acenaphthene-d10	164	5.771	5.766	(1.000)	664081	2.00000	
* 4 Phenanthrene-d10	188	6.866	6.854	(1.000)	1187964	2.00000	
* 5 Chrysene-d12	240	8.842	8.824	(1.000)	1149191	2.00000	
* 6 Perylene-d12	264	10.336	10.301	(1.000)	1115637	2.00000	
146 Benzo(a)pyrene	252	10.265	10.236	(0.993)	95764	0.06024	8.0137
$ 154 Nitrobenzene-d5	82	3.977	3.978	(0.884)	471525	2.55494	339.86
$ 155 2-Fluorobiphenyl	172	5.260	5.254	(0.911)	1230227	3.10117	412.53
$ 156 Terphenyl-d14	244	8.012	8.001	(0.906)	1817779	3.85570	512.90
$ 157 Phenol-d5	99	3.307	3.295	(0.918)	921006	4.45825	593.05
$ 158 2-Fluorophenol	112	2.725	2.713	(0.757)	621309	3.95941	526.69
$ 159 2,4,6-Tribromophenol	330	6.348	6.336	(1.100)	280188	5.29191	703.94
$ 186 2-Chlorophenol-d4	132	3.448	3.442	(0.958)	754483	4.24043	564.07
$ 187 1,2-Dichlorobenzene-d4	152	3.713	3.707	(1.031)	159589	1.40618	187.05

QC Flag Legend

STL North Canton

INITIAL CALIBRATION DATA

Start Cal Date : 29-OCT-2007 07:15
End Cal Date : 29-OCT-2007 09:38
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\cansvr11\dd\chem\MSS\a4ag2.i\71029A.b\8270p.m
Last Edit : 29-Oct-2007 10:31 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						
144 Hexachlorophene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
145 Hexachlorophene product	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
146 Benzo(a)pyrene	1.19388	0.91500	0.94599	1.00463	0.99585	1.06396			
	1.10598	1.11559	1.23742				1.06428	10.275	
148 3-Methylcholanthrene	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
149 Indeno(1,2,3-cd)pyrene	1.22899	1.01257	1.04827	1.12537	1.12255	1.19394			
	1.24288	1.24889	1.38394				1.17860	9.699	
150 Dibenz(a,h)anthracene	1.02002	0.86564	0.89445	0.94052	0.96776	1.01881			
	1.06353	1.07575	1.19310				1.00440	10.044	
151 Benzo(g,h,i)perylene	1.00163	0.91708	0.90740	0.94530	0.95685	1.00796			
	1.03882	1.04345	1.14812				0.99629	7.576	
199 3-Picoline	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
200 N,N-Dimethylacetamide	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
201 Quinoline	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-
202 Diphenyl	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++	+++++	+++++				+++++	+++++	<-

SW846 8270C SURROGATE RECOVERY

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

Lab Code: TALCAN SDG No: 7J30211

Lot #: A7J300211

Extraction: XXA13QL01

	CLIENT ID.	SRG01	SRG02	SRG03	SRG04	SRG05	SRG06	TOT OUT
01	SB-486-0102	70	69	94	76	75	83	00
02	SB-486-0203	47	49	72	55	52	67	00
03	SB-486-0304	54	52	75	60	60	64	00
04	SB-486-0506	53	53	89	60	62	73	00
05	SB-486-0708	46	47	80	49	50	62	00
06	SB-487-0102	57	58	83	67	65	72	00
07	SB-487-0203	50	54	75	59	57	67	00
08	SB-487-0304	58	59	81	71	69	74	00
09	SB-487-0506	54	46	77	60	63	63	00
10	SB-487-0708	60	55	82	67	68	71	00
11	SB-488-0102	51	62	77	59	53	71	00
12	SB-488-0203	53	57	76	59	57	73	00
13	SB-488-0304	59	59	83	65	67	74	00
14	SB-488-0506	44	45	79	50	50	60	00
15	SB-488-0708	75	63	97	63	60	33	00
16	METHOD BLK. J98TK1AA	75	74	93	78	82	65	00
17	LCS J98TK1AC	80	74	91	82	80	75	00
18	SB-486-0102 D	54	60	80	62	56	77	00
19	SB-486-0102 S	65	65	83	73	69	80	00

SURROGATES		QC LIMITS
SRG01	= Nitrobenzene-d5	(24-112)
SRG02	= 2-Fluorobiphenyl	(34-110)
SRG03	= Terphenyl-d14	(41-119)
SRG04	= Phenol-d5	(28-110)
SRG05	= 2-Fluorophenol	(26-110)
SRG06	= 2,4,6-Tribromophenol	(10-118)

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30211

Lab File ID: 2DF1029 DFTPP Injection Date: 10/29/07

Instrument ID: A4AG2 DFTPP Injection Time: 0704

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	34.6
68	Less than 2.0% of mass 69	0.6 (1.5)1
69	Mass 69 relative abundance	40.0
70	Less than 2.0% of mass 69	0.1 (0.4)1
127	40.0 - 60.0% of mass 198	49.9
197	Less than 1.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.4
275	10.0 - 30.0% of mass 198	25.2
365	Greater than 1.0% of mass 198	3.4
441	Present, but less than mass 443	11.5
442	Greater than 40.0% of mass 198	82.3
443	17.0 - 23.0% of mass 442	15.3 (18.6)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD009	L9	2SHHH1029	10/29/07	0715
02	SSTD008	L8	2SHH1029	10/29/07	0739
03	SSTD007	L7	2SH1029	10/29/07	0756
04	SSTD006	L6	2SMH1029	10/29/07	0813
05	SSTD005	L5	2SMM1029	10/29/07	0830
06	SSTD004	L4	2SM1029	10/29/07	0847
07	SSTD003	L3	2SML1029	10/29/07	0904
08	SSTD002	L2	2SL1029	10/29/07	0921
09	SSTD001	L1	2SLL1029	10/29/07	0938
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5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30211

Lab File ID: 2DF1101 DFTPP Injection Date: 11/01/07

Instrument ID: A4AG2 DFTPP Injection Time: 0618

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	35.9
68	Less than 2.0% of mass 69	0.6 (1.6)1
69	Mass 69 relative abundance	41.0
70	Less than 2.0% of mass 69	0.2 (0.5)1
127	40.0 - 60.0% of mass 198	50.5
197	Less than 1.0% of mass 198	0.3
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.5
275	10.0 - 30.0% of mass 198	25.2
365	Greater than 1.0% of mass 198	3.4
441	Present, but less than mass 443	11.2
442	Greater than 40.0% of mass 198	79.6
443	17.0 - 23.0% of mass 442	14.9 (18.8)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD006	L6	2SMH1101	11/01/07	0629
02	SB-486-0102	J95TJ1AD	J95TJ1AD	11/01/07	1359
03	SB-486-0102	J95TJ1AE	J95TJ1AE	11/01/07	1416
04	SB-486-0102	J95TJ1AF	J95TJ1AF	11/01/07	1433
05	SB-486-0203	J95TK1AD	J95TK1AD	11/01/07	1450
06	SB-486-0304	J95TL1AD	J95TL1AD	11/01/07	1508
07	SB-486-0506	J95TM1AD	J95TM1AD	11/01/07	1525
08	SB-486-0708	J95TN1AD	J95TN1AD	11/01/07	1542
09	SB-487-0102	J95TR1AD	J95TR1AD	11/01/07	1559
10	SB-487-0203	J95TT1AD	J95TT1AD	11/01/07	1616
11	SB-487-0304	J95TV1AD	J95TV1AD	11/01/07	1634
12	SB-487-0506	J95TW1AD	J95TW1AD	11/01/07	1651
13	SB-487-0708	J95TX1AD	J95TX1AD	11/01/07	1708
14	SB-488-0102	J95T01AD	J95T01AD	11/01/07	1725
15	SB-488-0203	J95T11AD	J95T11AD	11/01/07	1742
16	SB-488-0304	J95T21AD	J95T21AD	11/01/07	1800
17	SB-488-0506	J95T31AD	J95T31AD	11/01/07	1817
18					
19					
20					
21					
22					

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30211

Lab File ID: 2DF1102 DFTPP Injection Date: 11/02/07

Instrument ID: A4AG2 DFTPP Injection Time: 0856

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	40.4
68	Less than 2.0% of mass 69	0.6 (1.4)1
69	Mass 69 relative abundance	45.0
70	Less than 2.0% of mass 69	0.2 (0.5)1
127	40.0 - 60.0% of mass 198	52.9
197	Less than 1.0% of mass 198	0.5
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	24.5
365	Greater than 1.0% of mass 198	3.2
441	Present, but less than mass 443	9.1
442	Greater than 40.0% of mass 198	65.0
443	17.0 - 23.0% of mass 442	12.5 (19.2)2

1-Value is % of mass 69 2-Value is % of mass 442

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	SSTD006	L6	2SMH1102	11/02/07	0907
02	J98TKBLK	J98TK1AA	J98TK1AA	11/02/07	0929
03	J98TKCHK	J98TK1AC	J98TK1AC	11/02/07	0946
04	SB-488-0708	J95T41AD	J95T41AD	11/02/07	1237
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8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30211

Lab File ID (Standard): 2SMH1101 Date Analyzed: 11/01/07

Instrument ID: A4AG2 Time Analyzed: 0629

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	204046	3.60	864274	4.50	441616	5.77
	UPPER LIMIT	408092	4.10	1728548	5.00	883232	6.27
	LOWER LIMIT	102023	3.10	432137	4.00	220808	5.27
	EPA SAMPLE NO.						
01	SB-486-0102	235564	3.60	1061072	4.50	569646	5.77
02	SB-486-0102	279560	3.60	1304414	4.50	720915	5.77
03	SB-486-0102	279235	3.60	1260801	4.50	694211	5.77
04	SB-486-0203	268212	3.60	1185433	4.50	638192	5.77
05	SB-486-0304	306203	3.60	1369471	4.50	730828	5.77
06	SB-486-0506	285758	3.60	1269695	4.50	669078	5.77
07	SB-486-0708	175821	3.60	775059	4.50	403656	5.78
08	SB-487-0102	264642	3.60	1217850	4.50	670684	5.77
09	SB-487-0203	310725	3.60	1383105	4.50	724600	5.77
10	SB-487-0304	283326	3.60	1303326	4.50	721304	5.77
11	SB-487-0506	273027	3.60	1232278	4.50	666815	5.77
12	SB-487-0708	290566	3.60	1334879	4.50	730605	5.77
13	SB-488-0102	274856	3.60	1217008	4.50	664081	5.77
14	SB-488-0203	286714	3.60	1290905	4.50	695084	5.77
15	SB-488-0304	272556	3.60	1215905	4.50	669050	5.77
16	SB-488-0506	334625	3.60	1457406	4.50	793039	5.77
17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30211

Lab File ID (Standard): 2SMH1101 Date Analyzed: 11/01/07

Instrument ID: A4AG2 Time Analyzed: 0629

		IS4 (PHN) AREA #	RT	IS5 (CRY) AREA #	RT	IS6 (PRY) AREA #	RT
	12 HOUR STD	754632	6.85	692263	8.82	680042	10.30
	UPPER LIMIT	1509264	7.35	1384526	9.32	1360084	10.80
	LOWER LIMIT	377316	6.35	346132	8.32	340021	9.80
	EPA SAMPLE NO.						
01	SB-486-0102	1010234	6.87	917489	8.84	910377	10.33
02	SB-486-0102	1287904	6.87	1251339	8.84	1193758	10.34
03	SB-486-0102	1238024	6.87	1187010	8.85	1150157	10.34
04	SB-486-0203	1155442	6.87	1104608	8.84	1085284	10.34
05	SB-486-0304	1303258	6.87	1208009	8.85	1188346	10.35
06	SB-486-0506	1196792	6.87	1143807	8.84	1130062	10.34
07	SB-486-0708	729899	6.87	700505	8.84	653351	10.34
08	SB-487-0102	1170940	6.87	1122987	8.84	1094027	10.34
09	SB-487-0203	1332121	6.87	1258795	8.84	1105967	10.34
10	SB-487-0304	1287951	6.87	1250248	8.84	1196492	10.34
11	SB-487-0506	1181612	6.87	1124921	8.84	1069183	10.34
12	SB-487-0708	1312611	6.87	1249925	8.84	872666	10.34
13	SB-488-0102	1187964	6.87	1149191	8.84	1115637	10.34
14	SB-488-0203	1222037	6.87	1202256	8.84	1182672	10.33
15	SB-488-0304	1188095	6.87	1134127	8.84	1088475	10.34
16	SB-488-0506	1403424	6.87	1300205	8.84	1283100	10.34
17							
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20							
21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30211

Lab File ID (Standard): 2SMH1102 Date Analyzed: 11/02/07

Instrument ID: A4AG2 Time Analyzed: 0907

		IS1 (DCB) AREA #	RT	IS2 (NPT) AREA #	RT	IS3 (ANT) AREA #	RT
	12 HOUR STD	182072	3.57	759534	4.47	380375	5.74
	UPPER LIMIT	364144	4.07	1519068	4.97	760750	6.24
	LOWER LIMIT	91036	3.07	379767	3.97	190188	5.24
	EPA SAMPLE NO.						
01	J98TKBLK	319562	3.57	1412829	4.47	701394	5.74
02	J98TKCHK	266812	3.57	1189738	4.47	605051	5.74
03	SB-488-0708	180482	3.57	759140	4.47	375244	5.74
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22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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.

8C
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: TESTAMERICA-NORTH CANTON Contract:

Lab Code: TALCAN Case No.: SAS No.: SDG No.: 7J30211

Lab File ID (Standard): 2SMH1102 Date Analyzed: 11/02/07

Instrument ID: A4AG2 Time Analyzed: 0907

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	631202	6.83	581779	8.80	553071	10.26
	UPPER LIMIT	1262404	7.33	1163558	9.30	1106142	10.76
	LOWER LIMIT	315601	6.33	290890	8.30	276536	9.76
	EPA SAMPLE NO.						
01	J98TKBLK	1198330	6.84	1084539	8.82	1060807	10.28
02	J98TKCHK	1024281	6.83	945290	8.80	915900	10.26
03	SB-488-0708	655450	6.83	564158	8.81	3028*	10.27
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22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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.

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Data File: \\cansvr11\dd\chem\MSS\a4ag2.i\71102A.b\J95T41AD.D Page 1
Report Date: 11-Nov-2007 08:18

TestAmerica North Canton

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: a4ag2.i
Lab File ID: J95T41AD.D
Lab Smp Id: J95T41AD
Analysis Type: SV
Quant Type: ISTD
Operator: 046900
Method File: \\cansvr11\dd\chem\MSS\a4ag2.i\71102A.b\8270p.m
Misc Info:

Calibration Date: 02-NOV-2007
Calibration Time: 09:07
Client Smp ID: SB-488-0708
Level: LOW
Sample Type: SOIL

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	182072	91036	364144	180482	-0.87
2 Naphthalene-d8	759534	379767	1519068	759140	-0.05
3 Acenaphthene-d10	380375	190188	760750	375244	-1.35
4 Phenanthrene-d10	631202	315601	1262404	655450	3.84
5 Chrysene-d12	581779	290890	1163558	564158	-3.03
6 Perylene-d12	553071	276536	1106142	3028	-99.45

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 1,4-Dichlorobenze	3.57	3.07	4.07	3.57	-0.00
2 Naphthalene-d8	4.47	3.97	4.97	4.47	-0.13
3 Acenaphthene-d10	5.74	5.24	6.24	5.74	-0.00
4 Phenanthrene-d10	6.83	6.33	7.33	6.83	-0.00
5 Chrysene-d12	8.80	8.30	9.30	8.81	0.07
6 Perylene-d12	10.26	9.76	10.76	10.27	0.11

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.

APPENDIX E - ADMINISTRATIVE REQUIREMENTS

Written Agreement
Block H
Soil Response Action Plan
Lockheed Martin Middle River Complex, Middle River, Maryland

WRITTEN AGREEMENT

If the Response Action Plan is approved by the Maryland Department of the Environment, Lockheed Martin Corporation agrees, subject to the withdrawal provisions of Section 7-512 of the Environment Article, to comply with the provisions of the Response Action Plan. Lockheed Martin Corporation understands that if Lockheed Martin Corporation fails to implement and complete the requirements of the approved plan and schedule, the Maryland Department of the Environment may reach an agreement with Lockheed Martin Corporation to revise the schedule of completion in the approved Response Action Plan or, if an agreement cannot be reached, the Department may withdraw approval of the plan.

Brad W. Owens
Printed Name

Director, Environmental Remediation
Title

Signature

4/14/08
Date

Zoning Certification
Block H
Soil Response Action Plan
Lockheed Martin Middle River Complex, Middle River, Maryland

ZONING CERTIFICATION

Lockheed Martin Corporation hereby certifies that the property meets all applicable county and municipal zoning requirements.

Lockheed Martin Corporation acknowledges that there are significant penalties for falsifying any information required by the Maryland Department of the Environment under Title 7, Subtitle 5 of the Environment Article, Annotated Code of Maryland, and that certification is required to be included in a response action plan for the Voluntary Cleanup Program pursuant to Title 7, Subtitle 5 of the Environment Article, Annotated Code of Maryland.

Brad W. Owens
Printed Name

Director, Environmental Remediation
Title

Brad W.
Signature

4/14/08
Date